The Long-Term Care Environment

Long-term care (LTC) can be described as care that is rendered over a period of time. Long-term care is not environment-specific. Although LTC is commonly thought of as being synonymous with the nursing home, the nursing home is only one of many LTC environments. LTC may be institutionally based in the traditional nursing home setting — now referred to as nursing facility — or it may be based in a wide array of semi-institutional, community-based, or home-like settings with tremendous opportunities for growth in care designed for less-dependent individuals.¹⁹ (Table 4-1)

| Table 4-1 |
The Spectrum of Long-Term Care |
| Hospital |
| Subacute care |
| Nursing facility – skilled nursing facility |
| – intermediate care facility |
| Psychiatric hospital |
| Intermediate care facility for the mentally retarded |
| Community-based care |
| Adult congregate living |
| Adult day care |
| Home health care |
| Community mental health centers |
| Hospice |
| Senior centers |
| Retirement housing |
| Correctional facilities |
| Home care |
| Independent community living |

Long-term care is not age-specific. It is provided to patients of all ages — the elderly, young victims of motor vehicle accidents and children who are chronically ill. At each level, the acuity and/or intensity of care and the needs of the patient vary. Increasingly, LTC is thought of as a continuum of care that encompasses ambulatory, home-based care through acute hospital care. Individuals move through various levels of care depending on the type of services they require. The ability to move up and down the continuum reflects a health care system that is increasingly flexible and responsive to individual needs.
As LTC continues to evolve, each LTC provider will be part of an integrated network. Through the integration of the various levels of services for the aged into a comprehensive care network, older adults will have easier access to health care, and health care providers can maintain a healthy census.

The hallmark of LTC is continuity of care and services. It features ongoing assessment and follow-up of the patient's condition and response to therapy in order to achieve and maintain the highest practicable physical, mental, and psychosocial well-being, and to maximize the individual's independence and quality of life.

Another important feature of LTC is its interdisciplinary nature. It incorporates the services of a wide variety of individuals, from family members and nonprofessional caregivers to licensed health professionals, including physicians, pharmacists, nurses, administrators, social workers, mental health workers, physical therapists, dietitians and others. The consultant pharmacist is an integral member of this interdisciplinary health care team in NFr and other LTC environments.

Economics is the main force driving the shift from acute care to LTC. Since many therapeutic interventions can be provided in NFr and other LTC environments at a lower cost than in hospitals, overreliance on the hospital can no longer be justified. The average daily private room rate in 1993 was $111 for skilled nursing care and $96 for unskilled care, while the average daily charge for one day of hospitalization is $700 to $1,000.

Cost is also a major factor in determining where LTC will be provided. LTC expenditures in the US are expected to nearly double over the next 25 years, from $105 billion in 1993 to more than $200 billion in the year 2018. Nursing home care will be replaced by a wide variety of less-expensive alternatives: assisted living, adult day health care, home health care, respite care and others.

### Acute Care Hospitals

In 1983, Medicare reimbursement for hospitalization was changed from a cost-based to a prospective payment system, where the hospital is reimbursed based on diagnosis-related groups (DRGs). This change was intended to encourage efficiency and reduce cost. Rather than paying for longer stays, hospitals are reimbursed a fixed amount for Medicare patients based on the patient's diagnosis, regardless of the actual cost of care. This major change in hospital reimbursement had a substantial impact on patient length of stay.

DRGs created an incentive for hospitals to discharge patients as soon as reasonably possible, and have shifted the care of many acutely ill patients from the hospital to the nursing home for relatively short rehabilitative or recuperative stays.

In 1980, the average length of hospital stay for a patient over age 75 was 11.4 days; by 1992, that figure had fallen to 8.7 days.
Since elderly hospitalized patients are at increased risk for developing complications such as decubiti, pneumonia and clotting disorders, it is in the best interest of the hospital and the patient to provide effective treatment and subsequent discharge as soon as it is feasible. As a result, many patients are being admitted to NFs for post-acute care, recuperation and/or rehabilitation.

In 1992, the median occupancy rate for all US hospitals was 49%. This was due, in part, to the continued growth in the volume and variety of outpatient hospital services, including long-term care.⁶

Many hospitals are entering the LTC market and this trend will continue. Twenty-five percent of hospitals — approximately 1,600 — own and operate skilled nursing facility (SNF) beds, referred to as Acute Affiliated Nursing Facilities (AANF) either through the conversion of existing underutilized beds or through the purchase or construction of free-standing nursing facilities.⁷⁻⁹ The availability of SNF beds in or near the hospital benefits the hospital by providing ready access for placement of discharged patients. The high rate of NF occupancy and the reluctance of traditional community-based NFs to accept patients in need of high-technology or specialized nursing care makes finding NF placement difficult, and is a problem for hospital discharge planners.¹⁰

Hospital-based SNFs are designed primarily for the short-term, subacute patient who needs clinical and rehabilitative services, for patients who need continuous care that may not be available in all NFs for problems such as stroke, orthopedic conditions, and chronic obstructive pulmonary disease, or for patients requiring parenteral therapy or postsurgical wound care.¹¹ The average length of stay in these facilities is 12 days.³

The cost-based Medicare reimbursement for NF residents may also be attractive to an acute care hospital, providing continued income for the care of patients whose need has extended beyond that covered by the Medicare DRG fixed payment for hospital patients. Hospital-based SNFs are paid for skilled care patients at a rate that is considerably higher than the rate paid for free standing nursing facilities, though this rate varies by region.¹²

Hospitals providing LTC must meet the same licensing and certification requirements as NFs, including drug regimen reviews (DRR) performed by a pharmacist. Hospital administrators and staff are frequently unfamiliar with these requirements and may need assistance from other professionals experienced in the provision of LTC. This creates opportunities for consultant pharmacists who can help hospitals comply with the various federal and state regulations governing nursing facilities.

Pharmacy services to the AANF could be provided by the hospital pharmacy, or the hospital may contract with an outside consultant pharmacist to provide specific services or to be responsible for all pharmacy services. In rural areas, consultant pharmacists may be contracted by hospitals to provide specific services to their acute care patients.¹³
Nursing Facilities

Skilled Nursing Facilities (SNFs) and Intermediate Care Facilities (ICFs) are governed by the same federal regulations and are referred to as NFs. SNFs provide medical and nursing care plus restorative therapy, physical therapy, and occupational therapy.

Intermediate Care Facilities (ICFs) may provide regular medical, nursing, and social services for persons not capable of independent living. In general, the level of nursing care in ICFs is less than that provided by SNFs.

Although the number of NFs increased substantially in the late 1960s, the growth rate has been modest in the last two decades.\textsuperscript{4,13,14} (Table 4-2). There are approximately 17,000 NFs in the US that care for more than 1.7 million residents. The average occupancy rate is 90%. The majority are for-profit facilities.\textsuperscript{4,10} (Figure 4-1)

**Table 4-2**

<table>
<thead>
<tr>
<th>Year</th>
<th># facilities</th>
<th># residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1964</td>
<td>6,500</td>
<td>172,000</td>
</tr>
<tr>
<td>1969</td>
<td>15,000</td>
<td>879,000</td>
</tr>
<tr>
<td>1974</td>
<td>16,000</td>
<td>1,200,000</td>
</tr>
<tr>
<td>1980</td>
<td>17,000</td>
<td>1,700,000</td>
</tr>
</tbody>
</table>

**Figure 4-1**

Types of Ownership of Nursing Facilities\textsuperscript{1}

- For Profit: 72.5%
- Church-Related: 6.2%
- Not For Profit: 16.4%
- Government-Owned: 4.8%
The average cost for NF care is more than $35,000 a year per resident, and private NF care may exceed $80,000 a year. The majority of these costs are borne by the patient or paid by Medicaid. (Table 4-3)

<table>
<thead>
<tr>
<th>Source</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicaid</td>
<td>58.3</td>
</tr>
<tr>
<td>Private pay</td>
<td>33.7</td>
</tr>
<tr>
<td>Private insurance</td>
<td>1.2</td>
</tr>
<tr>
<td>Medicare</td>
<td>5.1</td>
</tr>
<tr>
<td>HMOs</td>
<td>0.1</td>
</tr>
<tr>
<td>Veterans’ Affairs</td>
<td>1.2</td>
</tr>
<tr>
<td>Other</td>
<td>0.5</td>
</tr>
</tbody>
</table>

The number of beds will grow, but not in proportion to the expected dramatic increase in the elderly population. By the year 2000, NF beds are expected to increase to approximately 2 million and may increase to 5.3 million by the year 2030.

NF care was a $1 billion industry in 1960. Between 1980 and 1990, US expenditures for NF care rose from $20 billion to $53 billion, an increase of 165%. The industry grew to $66 billion in 1993, employing 1.6 million full-time and 400,000 part-time workers and grew to $95.5 billion in 1994. Significant increases are predicted over the next few years.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Healthcare Spending billions</th>
<th>Nursing Facility Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>1965</td>
<td>41.6</td>
<td>1.7</td>
</tr>
<tr>
<td>1980</td>
<td>250.1</td>
<td>20.0</td>
</tr>
<tr>
<td>1990</td>
<td>675.0</td>
<td>53.0</td>
</tr>
<tr>
<td>1994</td>
<td>1,060.0</td>
<td>85.5</td>
</tr>
</tbody>
</table>

The length of stay in an NF can vary greatly. Between 26% and 45% of nursing home stays last fewer than 3 months. One half of these short-stay residents are able to return to their homes. Those who remain in the facility for less than 6 months are generally admitted for rehabilitation and subsequent discharge, or are seriously ill with a short life expectancy.

Residents remaining in an NF longer than 2 years — about one-fourth of nursing home residents — generally suffer from some cognitive or physical impairment.
Approximately five percent of all persons age 65 and older reside in NFs; this percentage increases to 15% of men and 25% of women over the age of 85. (Table 4-5) It is estimated that 43% of those reaching the age of 65 in 1990 will require nursing home services sometime during their life.\textsuperscript{28} (Figure 4-2) Thirteen percent of all women and 4% of men are expected to reside in a nursing home for 5 years or more. Of those who enter nursing homes, 55% will have a total lifetime use of at least 1 year, and 21 percent will have a total lifetime use of 5 years or more.\textsuperscript{29}

NFs provide care for younger residents;\textsuperscript{27} however, most nursing facility residents are elderly — 90 percent are age 65 and older\textsuperscript{28} and 45% are over the age of 85.\textsuperscript{29} By 2040, there could be as many as 5.9 million nursing facility residents over the age of 65; almost two-thirds will be 85 or older.\textsuperscript{30}

\textbf{Table 4-5}

<table>
<thead>
<tr>
<th>Age</th>
<th>Men (percent)</th>
<th>Women (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;65</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>65-74</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>75-84</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>≥85</td>
<td>15</td>
<td>25</td>
</tr>
</tbody>
</table>

\textbf{Figure 4-2}

Projected Nursing Home Use for Persons who Reached 65 Years of Age in 1990\textsuperscript{30}
It is estimated that 50% of NF residents suffer from dementia. Many others have physical impairments and are bedfast or unable to ambulate without help. Two-thirds of residents over 65 need help with four or more activities of daily living (ADL). Figure 4-3: Ambulatory Status of Nursing Facility Residents.

NFS are currently undergoing a radical transformation that presents a tantalizing mix of challenges and opportunities. No longer the institutional custodian of the elderly, the industry is being propelled into the next century by a dizzying array of services and specialties that were unthinkable a decade ago.

The NF as a place where the sick or terminally ill elderly are placed to live out the last days of their lives is becoming a thing of the past. Today's nursing home care places greater emphasis on the restoration and maintenance of functional capabilities and issues of autonomy, quality of life, comfort and dignity. Progressive NFs provide active patient care with the goal of treatment, rehabilitation, and discharge. Approximately one third of residents who are admitted to nursing facilities are discharged to either their own home or to a caregiver's home.

As long-term care continues to develop as a continuum from hospital to home care, NFs are reaching out to both sides of that continuum by offering care for sicker residents, as well as providing services to those in the community.
NFs are becoming more like hospitals, caring for older people with more complex medical problems. Residents are being admitted to NFs from hospitals "sicker and quicker" — they have more serious conditions and have shorter hospital stays than in the past. Patients are also being transferred back to acute-care hospitals more frequently during the first month in a nursing home, suggesting the possibility of a more unstable population of patients.

Nursing facilities, in the traditional sense, will not be the focal point of long-term care services. Individuals who once would have been admitted to NFs will receive care in home and community-based settings, assisted living facilities and senior housing, coupled with supportive services. Nursing homes will serve patients with more complex care and rehabilitation needs, including intravenous fluid and medication therapy, nutritional tube feedings, postoperative care, ventilator care, respiratory therapy, cardiac rehabilitation, renal and peritoneal dialysis, cancer chemotherapy, physical rehabilitation following stroke and fractures and a variety of other therapies.

NF providers interested in continuing to offer more traditional LTC services will likely branch into adult day care, home care, assisted living and retirement communities.

NFs will probably develop more formal medical staff systems based on hospital models, and may evolve into comprehensive geriatric centers with on-site physician involvement. Credentialing or certification of long-term care professionals will become a more important issue in NFs. The shift of services from custodial to acute care may give long-term-care facilities the opportunity to provide an intermediate level of care somewhere between the level of hospital care and that provided in the community.

Many NFs interested in providing a highly skilled level of care are exploring options for developing home care programs, hospice programs, subacute care services, and designating distinct parts of facilities for special services such as Alzheimer's, AIDS, and rehabilitation units for the elderly and the young.

Nearly 15% of NFs — usually those with more than 140 beds — offer some type of special care unit amounting to almost 65,000 beds. More than 1,200 facilities have Alzheimer's units, approximately 300 provide units for special rehabilitation. Others have units for ventilator services, hospice care, head trauma, pediatrics and AIDS.

Elderly residents often require unique nursing, rehabilitative, and/or pharmacologic interventions for proper management. For example, specialty care units for patients with Alzheimer's disease may be designed with areas that allow patients the freedom to walk about without stairs, obstacles, or access to the outside environment where they could get injured or lost. This approach helps keep Alzheimer's patients relaxed, safe, and independently functioning as long as possible. The avoidance of chemical and physical restraints, appropriate staff training and the provision of activities results in fewer behavioral problems in Alzheimer's patients.
NFs also provide care for short-stay residents by offering physical, occupational and/or speech rehabilitation for conditions including head injuries, strokes, spinal cord injuries, amputations, orthopedic and neurologic impairments and other traumas and diseases. Some NFs have a transitional rehabilitation center within the facility to help residents reach their maximum functional and psychological potential following treatment for illnesses such as strokes, hip fractures and cardiac failure. They may also offer some of their services to nonresidents, including physical therapy, meals on wheels, adult day care, occupational therapy, health screening evaluation, and home health care.

NFs may also offer special programs including pet therapy, a rehabilitative cooking program, holiday room, birthday club, happy hour, and family support groups.

With facility residents more seriously or acutely ill than in the past, the need for qualified consultant pharmacists to monitor increasingly complex drug, intravenous fluid and nutritional therapy has been heightened. The revolution that is now occurring in the NF environment is presenting many new and exciting challenges for consultant pharmacists.

Bolstered by their success in nursing facilities — and with the recognition that many features of consultant pharmacy practice apply to all long-term care environments — many consultant pharmacists now provide services to patients in a variety of care settings in the long-term care continuum. At present, long-term care facilities other than NFs generally do not qualify for participation in the Medicare and Medicaid programs and, therefore, are not governed by federal regulation. They may be regulated by state law. As the LTC environment evolves, state and federal regulations governing this environment are certain to increase, along with additional requirements for consultant pharmacy services.

Respite Care

The provision of constant care for a relative or friend by a caregiver can cause burnout and family breakdown. Some NFs offer respite care as planned, short-term admissions to provide a break for the individual’s usual caregiver. Respite care is a preventive health care measure that offers relief to the caregiver, thereby enhancing their ability to continue providing quality care.

While a patient is a resident in the respite program, consultant pharmacists can review his or her drug therapy or make suggestions to maximize its efficacy. This can ease the caregiver’s role in managing drug therapy when the individual returns home.

During their stay, respite care residents are exposed to new people and activities. A positive respite care experience may lead these individuals to trust new caregivers and develop a good attitude about using NF services in the future.
Subacute Care

Technological advances in medicine, explosive increases in the geriatric population and growing cost constraints within acute care settings have combined to significantly increase the demand for medical and rehabilitative services offered outside the hospital. This has resulted in the development and formalization of a new step in the long-term care continuum referred to as subacute care.

Subacute care is a comprehensive inpatient program designed for the individual who has had an acute event such as surgery, illness, injury, or exacerbation of a disease process; has a determined course of treatment; and does not require intensive diagnostic and/or invasive procedures. The severity of the individual’s condition requires an outcome-focused interdisciplinary approach utilizing a professional team to deliver complex medical and/or rehabilitative clinical interventions.

Subacute care involves “high-tech” drugs, fortified therapies, and state-of-the-art medical equipment to care for patients who require 24-hour care but not the technology and equipment offered by an acute care hospital. Subacute care does not involve emergency or operating rooms, intensive care, or esoteric diagnostic services.

Care in the subacute environment is intended to be short term for patients who can improve their functioning and then be discharged back into the community. The patients are sicker than the typical NF resident but usually stay for 90 days or less.

It is estimated that more than three-fourths of the demand for subacute care will be for short-term care (3 to 30 days), for patients with the potential for medical or functional improvement in condition; twenty percent will be for intermediate term care (31 to 90 days), which may encompass people with multiple co-morbidities and slower progress towards improvement. A small percentage will need longer term care (91 days to 2 years).

Subacute care units are for patients with orthopedic problems, stroke, brain injury, arthritis and cardiac conditions. They provide neuromuscular/neurologic rehabilitation for patients with spinal cord injuries and provide rehabilitation for amputees. They care for patients with severe pain, respiratory conditions, wounds or complications of AIDS, and provide both simple and complex IV administration, ventilator care, postsurgical care, renal and peritoneal dialysis, complex care that is due to co-morbidity, cancer and infectious disease, and other medically complex patients.

Development of subacute care has been based on the belief that 10 to 40 percent of patients typically treated in acute medical, surgical, or rehabilitation hospital units can be treated in less costly settings.

Subacute care that is clinically and therapeutically comparable to that available in acute care hospitals can be provided by acute or long-term care hospitals or by freestanding SNFs for 40% to 60% of the costs generated in the acute setting.
The economics of subacute care are attractive. The average cost for an acute care hospital is $700 to $1000 a day, $850 a day for an acute–rehabilitation hospital, and only $300 to $550 for subacute nursing facilities.5

Subacute care is growing fast, with new beds hitting the market every day. The best estimate is that there are 10,000 to 15,000 beds now, with the average subacute unit consisting of 20 to 30 beds. With the average daily census of 600,000 hospital patients, there could be 132,000 beds in subacute care.4 Currently, 60% of subacute beds are located in free-standing NPs; the remainder are hospital-based.56

It has been estimated that billions of Medicare dollars can be saved through shorter hospitalizations or by avoiding hospitalizations altogether.57

Today the subacute market is estimated as a 3 to 5 billion dollar business. It is predicted to reach $10 billion by the end of the decade, and perhaps $30 billion in the future.58

Subacute care is not a market for all long-term care providers. It requires a high degree of clinical expertise.58 The key to the provision of subacute care is staff training: clinical skills assessment, clinical training and education, ongoing evaluation of clinical competency and interdisciplinary team teaching.59 NPs must make extensive changes to develop subacute programs, define the scope of services, develop clinical protocols for medical and rehabilitation diagnoses, implement an internal case management system to comply with managed care contracts and make an organizational commitment to staff training and recruitment.59

The role of consultant pharmacists in subacute care is not yet defined but it is likely that they will play an important clinical and educational role in this new environment. Rather than performing monthly drug regimen reviews, consultant pharmacists serving subacute care facilities will face challenging clinical situations and complex drug therapy. These will require 24-hour pharmacy services and the provision of pharmaceutical care on an ongoing basis more closely resembling a hospital than an NP.58

The continued growth of subacute care is likely, and future national health care policy may include provisions for subacute care in skilled nursing and rehabilitation facilities.53 In addition, the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) and the Commission on Accreditation of Rehabilitation Facilities (CARF) are developing subacute program standards that emphasize clinical training and competency-based evaluation of staff.59 Several states are now looking at licensing requirements and reimbursement criteria for subacute facilities.

Intermediate Care Facilities for the Mentally Retarded

Because of their unique problems, mentally retarded individuals are not cared for in the traditional nursing home environment. They receive their care in a variety of specialized facilities, including intermediate care facilities for the mentally retarded (ICFs–MR), foster homes, group residences, semi-independent living programs, and state institutions.
There are approximately 15,000 facilities for the mentally retarded, 3,500 of which are ICFs–MR. The total number of mentally retarded or developmentally disabled residents in all facilities is approximately 250,000; of these, 7.5% are over the age of 65.\textsuperscript{63,64}

**Community-Based Care**

As America’s elderly population continues to grow, so does the demand for a full range of long-term-care services. Hospitals, nursing homes, and subacute units will play an important role in caring for the sicker elderly. Cost constraints, the lack of availability of nursing home beds,\textsuperscript{65} increasing attention to primary and preventive care and rehabilitation, and a focus on the quality of life benefits of non-institutional care will continue to drive the development of a wide variety of long-term Community-Based Care (CBC) alternatives.

CBC is long-term care but not like the traditional NF environment. It is the gray zone between institutional LTC and the ambulatory patient.

CBC is less expensive than NF care. It provides an appropriate environment for the growing number of persons, usually elderly, who need some assistance with their activities of daily living: eating, dressing, bathing, transferring from bed to chair, using the toilet, walking, cooking, shopping, managing money, using the telephone and performing light housework.\textsuperscript{66}

Only a small percent of those 65 to 69 need help with activities of daily living (ADL), but this number increases dramatically with age. Twenty percent of people between the ages of 75 and 84 need help, and 45% or more need assistance with at least one ADL by age 85.\textsuperscript{67,68} The number of senior adults needing assistance with ADL will double in the next 30 years to 14.3 million.\textsuperscript{69}

The concept of CBC recognizes that housing services are an important part of the long-term care continuum.\textsuperscript{70} The emphasis of care is on a social rather than a medical model.\textsuperscript{71} This is the type of care that many elderly people want.\textsuperscript{72}

The concept of CBC accepts a certain degree of risk and is sometimes referred to as a "managed risk environment." With increased independence comes both increased responsibility and increased risk. By accepting a certain degree of risk and weighing the options to try and meet the needs of each resident and family members, a balance between risk and quality of life can be achieved.\textsuperscript{73}

Good descriptive data of those who are cared for in CBC are lacking. CBC is provided in too many different forms and models to precisely define or categorize them.\textsuperscript{74} This confusion is compounded by the fact that definitions, regulations, and requirements vary among states.

48 The Long-Term Care Environment
There seems to be no limit to the variety of formats for CBC. Terms such as residential care facility, board and care home, personal care home and domiciliary care are used to describe this environment. (Table 4-6) Between 350,000 and 1.5 million individuals are cared for in this environment. It is estimated that 40% to 60% of these individuals are elderly; the remainder are mentally retarded or developmentally disabled. 20, 21

<table>
<thead>
<tr>
<th>Table 4-6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Terminology Describing Community-Based Care 16, 20</td>
</tr>
</tbody>
</table>

- Residential care facility
- Assisted living home
- Board and care home
- Chronic custodial care
- Congregate care
- Domiciliary care
- Home for adults
- Residential home
- Rest home
- Sheltered housing
- Group home for the mentally retarded
- Adult foster home
- Community-based care facility
- Leisure-care facility
- Retirement housing
- Adult care facility
- Lifecare – continuing care retirement community
- Catered housing
- Personal board and care
- Domiciliary care
- Sheltered care
- Subsidized apartment building
- Residential board and lodging facility
- Senior apartment building
- Personal care home

Some facilities are small and provide care for only a few residents. Other facilities are larger, more formalized, and are frequently run by corporations. Large hotel chains, such as Marriott and Hyatt, are entering this care market. 20, 21
A few states, notably Oregon, have regulations that clearly define the CBC environment. (Table 4–7) As the environment matures, consistency and definition not possible now will evolve.

<table>
<thead>
<tr>
<th>Table 4-7</th>
<th>Community-Based Care – The Oregon Model</th>
</tr>
</thead>
</table>

### Assisted Living
- Room and board in private apartment
- 24-hour supervision and protection
- Organized activities
- Intermittent nursing services
- Medication management
- Assistance with dressing and personal hygiene
- Behavior management (wandering, confusion, etc.)
- Licensed nurse available

### Residential Care
- Room and board
- 24-hour supervision and protection
- Medication management
- Organized activities
- Assistance with dressing and bathing

### Adult Foster Care (Referred to as Board and Care in many states)
- Homelike environment with a family
- Flexible rules and routines
- Safe supervised place to live
- Medication management
- Nursing care
- Dressing and personal hygiene assistance

### In-home Services
- Meal preparation
- Shopping and transportation
- Home health services
- Assistance with medications
- Housekeeping and laundry
- Money management
- Assistance with medical equipment
- Dressing and personal hygiene assistance

Residents cared for in this environment have a high level of medication consumption — approximately 5.5 to 7.5 different medications (including prescription and OTC).1,3 These residents are at considerable risk for experiencing drug-related problems.

In spite of the numerous benefits of CBC, concern exists that inconsistent regulations, untrained personnel and increased medication consumption make a potentially dangerous combination.
The majority of CBC is provided by personnel who, while caring and compassionate, are non-licensed and basically unskilled in the area of medication management. They may have limited formal education, no medical background, and a poor understanding of drug therapy.

Significant problems with drug medication management have been uncovered by an investigation conducted by the US House of Representatives Select Committee on Aging. Among the problems found were improper training of staff, violation of medication-handling regulations, improper maintenance of required records and frequent inappropriate prescribing of medications.

CBC is in desperate need of consultant pharmacists who can furnish specialized drug distribution systems that reduce the incidence of medication errors, improve compliance with drug therapy, develop computer-generated medication records, process new orders directly with the prescriber, and provide emergency service, patient education, and drug therapy evaluation through drug regimen review.

Consultant pharmacists will play a key role in the community-based care environment by educating caregiver staff who need to know how to document the administration of medications, identify adverse drug reactions, evaluate the efficacy of drug therapy and administer medications, depending on state regulation.

The biggest obstacle for consultant pharmacists in these CBC environments is that pharmacy services are not mandated by the federal government as they are in NFs, and third-party reimbursement for consultant pharmacy services is not currently available. However, as the acuity and intensity of care provided in this environment increases, and as drug-related problems are acknowledged, the value of consultant pharmacy services will be increasingly recognized. The value of pharmacy services is already acknowledged by the American Public Health Association, which formally recognizes the importance of pharmaceutical care in these facilities. Many alternative LTC environments already recognize the value of consultant pharmacy services and are contracting and reimbursing for these services.

Consultant pharmacists have been involved in CBC in a variety of ways. They are reducing inappropriate use of psychotropic medication, providing drug regimen review, developing drug distribution systems to fit unique environments, developing straightforward and simplified policies and procedures for caregivers, educating staff and residents about storage and labeling of medication and inspecting all areas where medications are stored.

The American Society of Consultant Pharmacists (ASCP) has developed guidelines for consultant pharmacy practice in residential care facilities. These guidelines detail the qualifications that a consultant pharmacist should possess, specific drug therapy outcomes to achieve, educational competencies and legal and ethical considerations. (Appendix C)
It is likely that guidelines such as these will serve as a basis for the development of standards for the provision of comprehensive pharmacy services. Currently, some states do have regulations governing this environment. As recognition increases and reimbursement becomes available, the role of the consultant pharmacist will become more formalized.

Each level of CBC may have different requirements and, therefore, different needs for consultant's services. Consultants must consider innovative solutions to unique problems. For example, some consultant pharmacists use RNs to provide some drug therapy consulting while providing valuable advice on patient care issues.

In many ways, CBC represents the future of LTC and perhaps even the future of consultant pharmacy practice. With an open mind, a willingness to be flexible and creative, and abundant patience—common characteristics of successful consultant pharmacists—there is almost no limit to the potential impact of consultant pharmacist's services in CBC.

**Assisted Living**

In spite of the overall lack of definition in the community-based care environment, some organization and definition is beginning to emerge. Assisted living lies in the LTC continuum somewhere between NFs and board and care homes. It is broadly defined as individualized, supportive and personal services—but not the skilled medical care provided in a nursing home—for frail elderly persons in a residential setting. There is a primary focus on encouraging independence, privacy, and dignity and on keeping the persons involved as active and empowered as possible. The goal is to help the resident achieve maximum independence through improved functioning.

Assisted living provides for the resident's physical concerns, and encourages the involvement of family, neighbors and friends.

Typically, an assisted living facility (ALF) houses no more than a few dozen elderly residents, with some housing more than 100. Residents live in their own living space but are offered housekeeping, meals, laundry and transportation services and social activities, along with regular visits from nurses and other medical professionals.

Assisted living units vary markedly in their physical amenities. Individual units can be residential and homelike, with individual kitchens and full bathrooms in each unit. Single occupancy is expected unless the resident chooses otherwise. Assisted living settings can be free standing, part of an NF complex, part of a continuing care retirement community, or part of a housing complex. Ownership may be public, private, nonprofit or proprietary.
An estimated 30,000 to 40,000 assisted living residences care for about one million people. Assisted living generally costs 30% to 40% less than an NF. Rates vary widely between facilities but typically range from $900 to $4,300 per month for room and standard offerings such as meals, housekeeping, laundry and social functions. Current annual revenues are estimated at $12 billion and could increase to $30 billion by the year 2000.

Most ALFs provide assistance with medications and help with access to medical care. In some states, modification of nurse practice acts permits unlicensed personnel to be taught to perform nursing care functions. Many states require the use of registered nurses to assist with medications.

Self-administration of medication should be allowed in assisted living facilities. Residents may be prompted and reminded about their medications and assisted with their administration by unlicensed, appropriately trained personnel. This includes providing reminders, opening containers or packaging, handing medications to residents and reading instructions and other label information. Each ALF should prepare a written medication policy that addresses storage of medication, assistance with medications, record keeping, and training and supervision of staff.

Assisted living programs vary in their clientele. Some facilities mainly serve persons with only mild disabilities who require meals and housekeeping, supervision of medications and minimal personal care. Others serve tenants who need supervision of medications and minimal personal care. Still others serve tenants who are almost all nursing-facility certifiable.

Figure 4-4
Residence Prior to Entering an Assisted-living Facility

Percent of Previous Residence

- Private Residence 57%
- With Family 16%
- Retirement Community 14%
- Nursing Facility 13%
Most assisted living (AL) programs accommodate tenants with cognitive impairments, such as people with early and middle-stage Alzheimer’s dementia who have not yet developed serious medical problems, those with mobility problems, and those who need assistance with activities of daily living. Residents may have previously lived independently, with family, or in a different type of long-term care environment. (Figure 4-4)

ALFs can offer short-term programs for clients with distinct needs for a predetermined, limited period of time, usually from several weeks to several months. Examples include patients who are recuperating from illness or injury but who are not yet ready to live on their own or those who live with or near their extended family but are not accompanying them on a vacation.

**Board and Care**

Another area of the CBC environment that is developing some degree of identity is board and care, which is defined as a nonmedical, community-based living arrangement for the elderly and people with mental or physical disabilities. Facilities in this category typically house two or more people unrelated to the operator, and provide shelter, board, 24-hour supervision or protective oversight, and personal care services such as help with dressing or bathing.

States license board and care homes under more than 25 different names. The significance of that cannot be overstated. A common nomenclature does not exist today in the board and care industry.

All states license facilities that fit their definition of a board and care home, but there is tremendous variation across state and licensing agencies in what homes are called and which require a license.

Board and care has a mix of residents. Some are elderly and frail, many with a dearth of monetary and familial resources. Others have cognitive impairment, while others may have mental retardation or developmental disabilities.

An estimated 1 million Americans currently reside in as many as 75,000 licensed and unlicensed board and care facilities; 3.2 million more are at risk of board and care placement.

Approximately one-half of all elderly board and care residents pay for their care with private resources.

In 1990, 32,000 licensed homes comprising 500,000 beds were identified. In 1989, the US House of Representatives Select Committee on Aging estimated the number of unlicensed board and care homes at 28,000. Other estimates of unlicensed homes exceed 100,000.

Residents often have multiple medical problems that may be addressed by several independent private physicians. Residents are transported for physician visits by the facility caretaker or a family member.
There is less control over the source of prescription drugs. Residents may purchase prescription and nonprescription drugs from different pharmacies.

Serious deficiencies in care and medication management have been identified. The current inadequacies of board and care should in no way detract from its promise. Board and care could be organized to fill a large and growing gap in the continuum of care from independence in one’s home to institutionalization.

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Adult Day Care

Adult day care (ADC) is a program of medically supervised health and health-related services that is furnished in an ambulatory group care setting. It cares for adults who are functionally impaired, including residents with dementia and those who are socially needy, in a nonresidential, protective and supervised environment. The care focuses on maintenance and rehabilitation by providing a variety of health, social, recreational, and related support services.

Adult day care is an alternative to full-time institutional care for families caring for an elderly relative who are unable to provide supervision during the day because of employment or other obligations.

ADC centers support caregivers by providing some relief from caregiving responsibilities, and, in some cases, training them in the art of caregiving. The people that ADC centers serve live at home and travel to a central location for services that quite often make the difference between independent living and institutionalization. Without this option, family members might otherwise have no other option but to have their loved one cared for in an assisted living residence or nursing facility.

There are no federal regulations governing ADC, but national standards exist, as does a strong recognition that the provision of more organized training of ADC staff is necessary. ADC program aides have a need to understand the effect of medications on the individuals they care for, and certification of these aides may eventually be required.

Currently, ADC centers in the United States number more than 3,000 with projections of 10,000 by the year 2000. It is likely that ADC will play an increasingly important role in the continuum of care. As this environment develops, considerable opportunities will be presented to consultant pharmacists.

Consultant pharmacy services at adult day care centers include staff, patient, and family education; advice on proper medication storage and use; maintenance of accurate patient medication profiles; and routine DPR to ensure appropriate medication use and reduce the potential for adverse drug reactions.
Home care (HHC) services have been provided since the late 1800s by visiting nurses. The concept behind HHC is simple: most people would like to stay in their own home, or a relative’s home, or even small group settings, receiving periodic assistance rather than living in a nursing home. The health care industry and government are exploring new ventures to treatment – including HHC – as a viable means of providing more affordable health care services to more people. In recent years, the development of alternate site pharmaceutical administration technologies and services that are no longer limited strictly to hospitals has made home therapy a compassionate and cost-effective alternative to prolonged hospital care.

Technology that is new, more advanced, yet easier to use, will have a tremendous impact on the future of home health care. In a sense it will turn back the clock and make a patient’s home the primary health care center as it was in the past.

Since the early 1980s, high-tech home health services have included the provision of enteral and parenteral nutrition, intravenous (IV) therapies including IV fluids, cancer chemotherapy, antibiotics and patient-controlled analgesia, anticoagulant therapy, continuous peritoneal dialysis, inhalation drug therapy and implantable devices that combine electronics with miniaturization, such as insulin pumps. Sophisticated paracentesis infusion devices now allow many drugs and other therapies that were once administered to patients only in the intensive care unit to be administered at home in the home environment. Complex therapies including subcutaneous terbutaline for pre-term labor, IV dobutamine for congestive heart failure and IV blood components for chronic anemia have begun to be administered at home or in some other alternative setting. In addition, home care products include durable medical equipment, incontinence and ostomy appliances, and emergency response systems.

The need for home health care can be attributed to a number of trends, including the steady growth of the aged population, rising health care and nursing home costs, earlier hospital discharges of sicker patients who are still in need of care and the growing desire of older people to remain in their homes.

Home care may be delivered by individual caregivers such as family members, or provided in a more formal manner through a home health care agency. Presently, there are more than 14,000 agencies in the United States, up from 1,000 three decades ago, serving about 6 million home-bound clients. HHC employs almost 900,000 individuals and could provide more than 400,000 new jobs over the next decade.

HHC services include skilled nursing service (80%), personal care (45%), physical therapy (15%), homemaker/companion services (11%), social services (9%) and medications (6%). Charges for home visits average $78 daily.
Home health care is growing explosively. Between 1993 and 1994, HHC expenditures skyrocketed by 34.5% to $22.2 billion.22 Expenditures are forecast to grow at an annual rate of at least 12% through 1996, and may possibly grow tenfold by the year 2001.16

Through contracts or joint ventures with hospitals or freestanding home care agencies, a variety of health care providers, including consultant pharmacists, are working with home health agencies in different capacities to optimize provision of services.

The role of the consultant pharmacist in HHC is not yet mandated, but opportunities exist and involvement is growing.14 Some consultant pharmacists working in HHC have established independent practices or operate as an extension of a hospital-based clinical practice. Others contract their services to home health agencies, HMOs and intravenous (IV) therapy companies.31 In 1993, 19% of home health chains employed their own consultant pharmacists compared to 9% in 1992.4

JCAHO standards for the accreditation of home care became effective in 1988, and participation is voluntary.52 For home health agencies offering pharmacy services, eligibility for participation in certain government-sponsored health benefit programs requires a pharmacist who monitors "ongoing drug therapy." This is to ensure that the prescriber has chosen the right drug; the order does not duplicate other current therapy; the dose is correct; the drug does not interact with other drugs, food or diseases; the patient is taking the drug as necessary and the laboratory tests indicate that the drug is working. Since JCAHO did not adopt its standards until 1988, there is still little data about the cost-effectiveness of drug regimen review in home health care.54

Important clinical services provided to home health care agencies by pharmacists include drug information to nursing staff, continuing education services, 24-hour emergency pharmacy services, patient medication education, ADE monitoring, dosing instructions and schedules, simplification of medication regimens and monitoring for compliance, development of patient-monitoring criteria and drug use reviews.100-107

Some pharmacists have become involved in HHC through the provision of HHC services. Many states have at least one chapter of their board of pharmacy regulations pertaining to home IV pharmacy practices. Such rules often dictate minimum equipment requirements, personnel, staffing and physical requirements, including equipment such as laminar flow hoods and infusion pumps.108

Pharmacists providing home IV services face the question of whether to also provide nursing services. A nurse's knowledge of IV therapy techniques, patient assessment and patient care complements the pharmacist's expertise in drug therapy and administration.109

The future of home health care is bright. Health care reform and a new national health plan will include significant LTC reforms that place emphasis and probable reimbursement on home and community-based care. This type of care is much less expensive than institutional care because it avoids funding a comprehensive package of services for residents who don't require it.109

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Community Mental Health Centers

Consultant pharmacists contribute to care in community mental health centers by providing a variety of clinical functions—such as DRR, taking medication histories, assessing the patient’s response to drug therapy, participating in quality improvement activities, and providing drug information and staff education programs—as well as assisting the facility with the proper storage and handling of medications.16

Community Living Arrangement – Group Homes

Community living arrangements (CLAs) are group homes usually with no more than six people. These people usually have some form of retardation, developmental disability, multiple sclerosis, or cerebral palsy. They are supervised in family living arrangements. At all times, there is a residential manager and a management team that supervises the caregivers. Caregivers provide assistance with the ADL and also oversee medications. Pharmacists can help with education, charting, and documentation accountability, and can provide a distribution system to facilitate administration of medications.17

Hospice

Hospice has come to mean a “concept of care, a program of care, a total philosophy of care, and sometimes a place of care for terminally ill patients and their families.”18 Hospice provides care for patients with terminal illness. Of those cared for by hospice, 78% have a diagnosis of cancer, 10% heart-related, 4% AIDS, 8% other diagnoses.

There are more than 2,500 hospices in the United States that operate independently (33%), as a division of a hospital corporation (29%), a division of a home health agency (22%), as a division of a hospice corporation (3%), or as a division of a nursing home (1%) with 12% operating either under some other arrangement or under an arrangement that was unreported. More than 340,000 patients—mostly elderly—are served annually by hospice. The average length of care is 2 to 3 months but may sometimes be 6 months or longer.19-19

More than 70,000 volunteers contribute more than 5 million hours to hospice work each year. More than 20,000 professionals are employed.19

Many rewarding roles for consultant pharmacists exist as volunteers, employees, or as consultants serving hospice patients. Consultant pharmacists may provide drug information, supplies and equipment, labeling, packaging, disposition, prescription processing and formulary management.19 Many consultant pharmacists who work with a hospice specialize in pain management and the use of combinations of drugs.19 Other activities include meeting with the members of the hospice team to discuss the
Continuing Care Retirement Communities

Continuing care retirement communities (CCRC) provide comprehensive residential and health care services to retirees in a campus-like setting. Conceptually, the CCRC is a hybrid, combining housing, health care and social supports for persons of retirement age with at least mid-level incomes.

The heart of the CCRC resident contract is a guarantee of lifetime access to housing and needed health care in return for a substantial entry fee that serves as an endowment and ongoing monthly fees.

A major advantage of a CCRC is that residents can move from one level of care to another along the continuum of care within their community. This enables them to live in one place as they age ("age in place"). In the typical continuum, individuals are often required to move from place to place as their condition deteriorates, an alternative that is at odds with the wishes of many elderly.

CCRCs typically feature three typical levels of care: preventive services and ambulatory care, usually provided in a special clinic; personal care or assisted living, either in apartments or special units; and skilled nursing for short-term patients recovering from acute illness and for long-term patients with severe chronic disabilities, including Alzheimer's disease.

On-site services may be provided. The facility may provide the following: chaplain, dental clinic, dietician, 24-hour emergency nursing care, IV therapy, laboratory services, medical equipment and supplies, hearing-aids, clinic, hospice services, occupational therapy, consultant pharmacist, podiatrist, respiratory services, social services, speech therapy and x-rays.

Care may be provided on a fee-for-service basis where residents pay for long-term care expenses as they need them. Increasingly, these communities are offering "extensive" care agreements which are payment plans that cover a resident's future long-term care needs at no additional charge beyond the community's basic fees.

CCRC fees vary widely. The entry fee - or endowment - for a one bedroom apartment ranges from $34,000 to $96,000, depending on services included. In some communities, endowments may be higher, ranging from $80,000 to $200,000 or even as much as $600,000 for accommodations in areas such as Hawaii, where real estate is at a premium. Average monthly fees range from $700 to $1,300, based on services needed.
The average CCRC houses 300 residents. The typical resident is an 81-year-old female. Seventy-five percent of CCRC residents are women, although some CCRCs house a high percentage of couples or units shared by relatives and friends. After a decade of steady growth, these communities now number more than 1,000. Some predict that, if encouraged and supported by a national policy focused on maximum functional independence, there could be many thousands of CCRCs by 2010, and perhaps even 10,000 in the future.

Retirement Housing – Senior Living Communities

Many retired senior citizens either are unable or have no desire to manage the large homes in which they raised their families. Retirement housing – essentially rental units without medical services – provides a popular housing alternative. This is an organized, supervised living environment for healthy retired elderly persons who don't need daily health care assistance or assistance with nursing care. Residents pay a monthly fee which covers meals, local transportation and recreational activities. There are 2,500 such communities in the US. The average percentage occupancy among the top 20 retirement housing operators is 95%.

Retirement housing – also called senior living communities or congregate living communities – provides seniors with benefits that probably do not exist in their homes. These include the ability to maintain close connections with the larger community, plan for future aging needs, and the benefit of additional security. Some facilities provide a full range of services and activity options, such as a total fitness program to enhance health and quality of life.

Some offer an option of assisted living, providing a range of services including meals, housekeeping and assistance with activities of daily living. This allows residents who are living independently to be assured that services they may need will be available in the future.

Retirement housing is a popular option for the 25% of America's elderly population living in rural environments whose options are limited. Frequently their only options are to remain in a home unsuited for their changing needs, to move to an urban area where needed services are available, to move into a care facility, or to relocate to another area where children can provide support.

Retirement housing residents are independent and are responsible for the management of their own medications. While there are no formal requirements for pharmacy services, some consultant pharmacists provide medications and counseling to residents of retirement housing.
Psychiatric Hospitals

Psychiatric hospitals provide long-term care for many patients and are usually state owned and operated.

The provision of consultant pharmacy services in psychiatric hospitals represents a challenging opportunity. Consultant pharmacists can provide medications, drug regimen review, quality improvement activities, and infection control, and can serve on committees.

Correctional Facilities

Harsher sentencing and the war on drugs has caused the jail and prison population to more than double in the last decade. There are more than 1.3 million individuals behind bars on any given day.

Jails are facilities operated by local government entities – cities and counties – to detain individuals from the point of arrest through trial. Many jails also hold persons convicted of misdemeanors, as well as felons awaiting transfers to state or federal prisons. The average length of stay in prison for a convicted felon is 2 years.

Inmates of prisons and jails are guaranteed access to health care, but significant problems preventing delivery of quality care include limited resources; serious chronic illnesses such as heart disease, diabetes, high blood pressure; and infectious diseases such as HIV, tuberculosis (including a multi-drug resistant strain) and hepatitis. These problems have implications for staff as well as for inmates, and present serious challenges to the delivery of care.

Most prisoners are under age 40. Inmates in federal facilities tend to be older and may be receiving medications for chronic conditions. The number of inmates over the age of 55 is doubling every 4 years, and is predicted to increase from the 1992 number of approximately 26,000 to 125,000 in 2001. A few facilities specialize in older inmates or have a special unit within a facility. Elderly inmates will have medical problems like any other elderly patient, and will have increasing needs for services of a consultant pharmacist.

Prison pharmacies are often antiquated, disorganized, poorly equipped and woefully inefficient. They are also in desperate need of the services of consultant pharmacists, who can make prison pharmacy services more efficient and cost-effective.

Some innovative pharmacists have developed drug distribution systems adapted to the challenges and special needs of this environment. Examples include poor compliance with therapy, a limited number of medication passes and restrictions on dosage forms, since security considerations restrict prisoners’ possession of glass or plastic.
Consultant pharmacists have initiated major improvements in the facilities they serve by providing drug information, formulary management, staff training, DRR and recommendations to physicians. Common problems that consultant pharmacists can help solve include disorganized and/or improper medication storage, inadequate documentation and accountability, disposition of expired drugs, monitoring of controlled drug use, mislabeled containers and lack of trained staff who administer medications.\textsuperscript{35}

The role of the consultant pharmacist in a correctional facility will vary depending on the type of facility. In a county jail where the average stay is 3 to 5 days, the majority of consultant pharmacist activities will relate to documentation. In a state prison, where the average stay is three to five years, or a federal prison, where the stays are even longer, the consultant pharmacist has a greater opportunity to function as a clinician.\textsuperscript{119}

**Senior Centers**

While not a health care environment per se, senior centers, governed and run by older people, serve a fast-growing population. They act as a service focal point for elderly people living in the community.

They exist in a wide variety of formats. Some are housed in store fronts or church basements; others are offered within departments of recreation and parks. There are an estimated 10,000 to 12,000 senior centers in the US serving between 5 and 9 million elderly a year.\textsuperscript{36}

Senior centers plan and coordinate programs and services for seniors— including social, nutrition, networking and identifying community resources. New standards for senior centers were established in 1990, and accreditation programs will probably be developed.\textsuperscript{37}

Senior centers present opportunities for pharmacists to serve large numbers of elderly people in a local setting. Programs range from lectures to large groups to brown-bag programs designed to review an individual's drug therapy in order to identify and eliminate problems. Consultant pharmacists can work with senior centers to conduct brown-bag programs and provide educational programs.
Independent Community Living

The long-term care environment where the overwhelming majority of the elderly live is independent living in the community, either alone or with spouse, friends, or family. This is arguably the most desirable living environment for the elderly.

Medication use is the rule in this population, which numbers approximately 30 million. Approximately 80% take at least one prescription drug. The chance for inappropriate medication use is great. Consultant pharmacists are faced with the challenge to apply the skills gained from the LTC institutional experience and to adapt their systems to meet the pharmaceutical care requirements of this population, maximizing their chance for independent living and increased quality of life.

Pharmacists can work with older adults living in the community to help them retain their independence through the proper management of their medications. Activities such as a medication management program or a community health education service are appropriate ways of extending consultant pharmacist services to these individuals.

References


