

ON-SITE FOOD SERVICE

Courtesy of Sodexo, Copyright 2009.



THE PURPOSE OF THIS CHAPTER

This chapter discusses the important and significant segments of the food service industry that make up the on-site segment. Some of the characteristics of this component of the hospitality industry are unique. Yet the increasing emphasis on marketing and use of brand names in the on-site sector would suggest that the lines between on-site food service and so-called commercial segments are becoming increasingly blurred. The on-site segment (including both contracted and self-operated units) offers excellent compensation, good opportunities for advancement, and often more stable working hours than traditional restaurants. Because many companies operate in both the commercial hospitality industry and the on-site sector, it is an area that you may come into contact with even if your plans now are to work in hotels or restaurants. It is, in short, an area of the industry that deserves careful examination and more attention than it traditionally receives.

THIS CHAPTER SHOULD HELP YOU

1. Describe the five major segments of on-site food service operations and the employment opportunities each offers.
2. List the differences between self-operated food service facilities and those operated by managed-services companies.
3. Explain the distinction between client and guest in the on-site food service environment.
4. Understand the advantages of providing on-site food service in business and industry.
5. Identify the challenges of providing food service in higher education and how on-site food service managers are responding.
6. Describe how food service is organized in the health care segment.

7. Appreciate the evolution of food service in schools, including recent changes such as government subsidies and a move to healthier food that includes sustainable ingredients.
8. Describe the recreation and correctional segments of the on-site market.
9. List the advantages that vending offers in meeting guest and client needs.

COMPARING ON-SITE AND COMMERCIAL FOOD SERVICES

Any discussion of the **on-site** sector, to those more familiar with traditional restaurants, requires that one expand preconceptions of what the food service industry encompasses. Even the terminology used to describe this segment tends to be different. For instance, several terms are used to describe this segment—on-site being one of the more current terms in use (although one still hears the terms *institutional* and *noncommercial* too). Also, the sector is so broad and encompasses so many different types of operations that to attempt to group all of these different businesses under one umbrella does the sector a bit of an injustice. This point will become clear as the different subsegments—including business and industry, health care, education, recreation, and corrections—are discussed.

Another reason that discussions of this segment require looking beyond the traditional restaurant model is because of the different types of companies that operate within the segment. For instance, an important distinction within on-site food service is between managed-services companies, which manage a food service facility for a third party, and organizations that operate their own food service (hereafter, **self-ops**).



On-site food service operators can plan the number of meals to serve with more certainty than can commercial restaurants. (Courtesy of Sodexo.)

Finally, dividing the larger food service industry into commercial and on-site segments is somewhat artificial and misleading, as some firms that profit from providing institutions with food service also operate in other areas of the hospitality industry. A global leader in on-site foodservice, ARAMARK, for instance, also operates hotels in national parks and has a line of business that supplies uniforms. Sodexo Inc. is a member of the Sodexo Group, which is based in France and includes operations in some 80 countries. Compass Group, currently the largest on-site provider on the planet (followed closely in size by Sodexo and ARAMARK), has a division that operates upscale restaurants. As one quickly discovers, numerous companies operate in sometimes completely different hospitality environments simultaneously, as evidenced by the preceding examples.

Returning our focus specifically to the on-site food service sector, we should first attempt to define it. Simply, it consists of all food outlets in business and industry, schools, universities, hospitals, skilled-nursing centers, eldercare centers, correctional facilities, recreation facilities such as stadiums, and child care centers.¹ This definition obviously includes a significant number of locations, and indeed, the sector is quite large and varied. This fact will become clear as we delve further into on-site food service. One way to articulate what this segment is all about is to make comparisons with the more visible restaurant industry.

Significant differences exist between restaurants and on-site food service, and students should be aware of these. One important difference is that whereas on-site food service once represented a “captive market,” restaurant customers have always had a range of choices, including choices of facilities and menus. This distinction still exists, but to a much lesser extent. On-site food service providers, both self-operated and managed, have found that, with certain exceptions, guests do have a choice in the long run. As a result, food service operators have found that a marketing approach that views patients, company employees, and students as guests and focuses on their preferences is one that tends to win more friends than the old eat-it-and-like-it institutional attitude.

Success is also measured a bit differently, by the **participation rate** of the guests. University students who don't like the food withdraw or cut back on board plans; patients who have a choice of hospitals often choose the institution with superior food service; and even prison inmates find ways to assert their food preferences. In an age of consumerism, moreover, even guests who can't “vote with their feet” and go someplace else don't hesitate to complain. Therefore, competition among the various food service **contractors** is often decided on the basis of marketing techniques as well as management skills.

Another major difference between traditional restaurants and on-site services relates to their primary functions. Even though many companies provide both restaurant and on-site food services and use similar marketing and managerial techniques in both areas, the major difference between the two markets is that the food service in institutions

is a small part of a larger operation with a greater purpose of overriding importance. Consider Microsoft, for instance. The primary business has nothing to do with food yet the cafes at the corporate campus are numerous and necessary. In a commercial restaurant, the challenge is to please the guest. In the on-site environment, it is necessary to meet the needs of both the guests and the client (i.e., the institution itself).

The distinction between client and guest is important. The client is the institution (bank, university, etc.) along with its managers and policy makers. These are the people who ultimately award the contract or, when the institution operates its own food service, hire and fire the food service director. Pleasing the guest (i.e., the individual diner, patient, student, or resident) is important, but the client must be pleased as well. Evidence suggests that the food service operator must do what is necessary to keep the client happy. Sometimes this isn't so easy. There may be a substantial difference in an institutional setting between the needs and wants of the guests and those of the client. In school food service, for instance, the client's (i.e., the school's) goal is to provide not only adequate meals but also nutrition education by showing students what a nutritionally balanced meal is like. Obviously the goals of a young schoolchild may be quite a bit different.

If the food service is operated by a managed-services company, the two parties must agree on the type of contract to be followed as well as negotiate the terms of that particular contract. Contracts can take a variety of forms. Contracts sometimes call for the institution essentially to allow the contractor to operate on a break-even basis and to pay the contractor a fee every period for the management of the operation. Other contracts allow the contractor to operate solely on a profit-and-loss (P&L) basis, where the contractor covers its own expenses and manages the revenues, taking sole responsibility for the profit (or loss) at the end of each period. Other contracts might be a hybrid of these two, depending on the scope of the operation. However, in most segments, the movement seems to be more toward profit-and-loss-type contracts. Whether the operation is subsidized, break-even, or for-profit, however, there is always some budgeted performance target that must be met regardless of who operates the service. Even for self-operated institutions, the trend is for them to become more self-sufficient, with a greater degree of fiscal responsibility.

Finally, the two segments (commercial and on-site) have very different operating challenges. For example, the number of meals and portion sizes are much easier to predict in on-site operations. Because of this greater predictability, these food service operations often operate in a less hurried atmosphere than that in restaurants, in which customer volume and menu popularity often fluctuate. (It should be noted that this is not as true as it once was, though, as many operations move more toward a retail model.)

Moreover, although managers tend to work long hours in commercial food service, the working hours in on-site food service are usually shorter, or at least more predictable.

International Perspectives

Although the discussion of on-site food service in this chapter is primarily limited to examples in the United States, this should in no way imply that such operations are limited to this country. Companies, hospitals, colleges, and the like in every part of the world have provided food service to their associates/ students/customers for a very long time. One look at the top food service management companies in this sector in North America indicates just how truly international this market is. Current leaders, are ARAMARK, Sodexo, and Compass Group. Sodexo (www.sodexo.com) is a French-based company that has had a presence in the United States since the mid-1980s. The Compass Group (www.compass-group.com), which operates several subsidiaries including Canteen and Chartwells, is based in England and operates in over 55 countries worldwide and is the largest food service employer on the planet. Finally, ARAMARK's (www.aramark.com), which is based in Philadelphia, operates in 22 countries and is ranked number one in *FORTUNE* magazine's "World's Most Admired Companies" in this industry.

This is particularly true in environments that have discrete operating periods, such as colleges and universities, and most businesses.

Although a guest may visit a restaurant frequently, few of them eat as regularly in their favorite restaurant as do the guests in on-site operations. Thus, varying the menu for a guest who must eat in the same place for weeks, months, or even years at a time can be a demanding task.

As discussed throughout this chapter, many other differences exist between the two segments. One major distinction that students should keep in mind is the international reach of some of the major companies in this sector, as discussed in Global Hospitality Note 7.1. Further distinctions are discussed next as we examine the two primary types of operations.

SELF-OPERATED FACILITIES

Many institutions see no reason to pay to a contract company the overhead and profits that they potentially could garner. This attitude is perhaps most prevalent in primary/secondary school feeding and in health care, where many institutions still operate their own food service facilities. Operating on the assumption that their own employees can manage as efficiently as a contract company can, these institutions choose to keep the overhead and profit they otherwise would have to pay to an outside company. As a result, these institutions can more directly control their operations, and

to some extent, they can limit the staff turnover traditionally associated with managed-services companies, which frequently promote or transfer their employees. “If we like a person,” said one university official, “we might lose him to a contract company. In our own operation, if we treat him right, we have a good chance of keeping him—of maintaining staff stability.” There are some unique characteristics of self-operated units, not the least of which are related to human resources. The number of self-operators is decreasing, however, as institutions begin to focus more on their core functions and as managed-services companies continue to gain market share. (It is interesting to note that some 85 percent of food service in business and industry is outsourced.)

MANAGED-SERVICES COMPANIES

Managed-services companies (or contract management companies) feel that their method of operation offers advantages to institutions of all sizes. True, unit managers may be, and are, transferred. We should note, however, that a contract company provides the client with two kinds of managers: the unit manager and the regional and district managers who train, evaluate, and supervise the unit manager’s work and ensure management continuity. That continuity is an important offset to the possibility of transfer. Perhaps even more important, the transfer is part of a process of career progression. People who want to advance are drawn to that kind of opportunity. Thus, a contract company is likely to attract aggressive managers. Managers who choose to stay with institutional operators are likely to have less opportunity for advancement, although they will have other advantages, such as stability in where they live.

Another area in which managed-services companies offer advantages is that of purchasing. Selection of the best, most cost-effective purveyor offers major potential for savings. So does knowledgeable negotiation on the client’s behalf by national buyers with broad experience. Contract companies conduct audits of suppliers’ invoices to ensure accurate billing, an expenditure of effort and money that might not be practical for an individual client. Finally, because contract companies buy on a regional or national scale, they can consolidate purchasing for several clients, thus achieving significant economies. In recent years, however, institutional operators have made moves that can offset this advantage by forming cooperative buying groups and passing the volume discount advantages on to the member institutions.

Managed-services companies also offer to their clients, at cost, extensive facilities planning services. These services include operational design (equipment), interior design, procurement, supervision of construction, and equipment installation. Specialized accounting and market planning services may also be offered to clients.

TABLE 7.1**Ten Largest Managed-Service Companies**

Compass Group	www.compass-group.com
Sodexo	www.sodexo.com
ARAMARK	www.aramark.com
Delaware North Companies	www.delawarenorth.com
Centerplate	www.centerplate.com
Guest Services, Inc.	www.guestservices.com
AVI Food Systems, Inc.	www.avifoodsystems.com
Guckenheimer Enterprises	www.guckenheimer.com
Thompson Hospitality Services	www.thompsonhospitality.com
Boston Culinary Group, Inc.	www.bostonculinarygroup.com

Source: Mike Buzalka, "Food Management's Top 50 Foodservice Companies—2009," *Food Management*, November 11, 2009.

Finally, contract companies offer the collective experience of management and marketing in many markets. Marketing programs can be tailored to individual clients, for instance, yet also draw on national marketing programs developed by the contractor. This method has proved especially helpful in areas such as nutritionally oriented marketing programs. The top ten managed-services companies are identified in Table 7.1.

PROS AND CONS OF MANAGED SERVICES

To all of this, the large institutional operator will likely respond that a sizable institution (medical center, university, or school district) is big enough to achieve most or all of these advantages on its own. A smaller institution might add that voluntary buying co-ops and judicious use of consultants can also achieve a good part of these effects. Both would emphasize that the institution is able to retain full control over the operation, which reports directly to the institution's top management.

No doubt, contract companies would make responses to each of these points. Our purpose is not to settle the issue in any final way or to suggest that one approach is "better" than the other. There really is no one answer to the debate. What we want is to suggest the outlines of the competition between institutional operator and managed-services company for your consideration.

The contract companies' share is substantial and growing in most segments. Although exact figures are difficult to determine, Table 7.2 shows that contract food service companies currently manage a significant number of on-site food services. **Health care** is

TABLE 7.2**The On-Site Food Service Market**

	ESTIMATED SALES BY SEGMENT	DEGREE OF PENETRATION BY CONTRACT COMPANIES
Business and industry	26%	85%
Colleges and universities	11%	60–65%
Hospitals	16%	45%
Recreation	6%	40%
Skilled nursing and extended care	7%	23%
Primary and secondary schools	22%	25%
Corrections	7%	15%
Retirement centers	5%	15%

Source: Dennis Reynolds, *On-site Foodservice* (Hoboken, NJ: John Wiley & Sons, 2003)

one area in which contract companies have relatively low market penetration, but even this area is increasing as a result of health care facilities wishing to outsource their food service, and other support services, in an effort to focus on their core function—care for patients. Contract companies have also had success with public schools in recent years. The two areas in which the contract companies are well established are colleges and universities and business and industry. Each of the four major divisions within on-site food services has unique characteristics. Moreover, the factors that affect the outlook for each vary. We will consider each of them briefly.

BUSINESS AND INDUSTRY FOOD SERVICE

Business and industry (B&I) food service provides food for the convenience of both the guests (the company associates) and the client (the employer). The client wants inexpensive food with enough variety and quality to satisfy the associates, as the client knows that food can directly affect morale. Quick service is also important, because the time for coffee breaks and lunch is limited. Finally, it is in the best interest of most companies to keep their employees on the premises during food service breaks in order to maximize productivity.

Two of the underlying forces that drive the B&I market are the size of the workforce and the level of employment. The size of the workforce affects the long-term outlook.

Large companies such as Microsoft® provide on-site cafeterias for the convenience of their employees. (Courtesy of the Microsoft Corporation. Microsoft, Windows, and the Windows logo are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.)



When it was growing, during the years when the baby boomers were leaving school and entering employment, the workforce was a strong positive force. Now that the surge is over, however, the Bureau of Labor Statistics estimates that the workforce will increase at a more modest rate. To put this into perspective, there are approximately 141 million employed workers in the United States, a number far less than the 153 million working in the pre-2007 recession. Within the workforce, the trend is toward an economy increasingly dominated by service industries that employ more office and white-collar employees. The volume of food service in commercial and office buildings is growing at a significantly faster pace than it is in manufacturing plants. In periods of relatively high unemployment (over 9 percent), such as is the case currently, B&I volume may decline. However, B&I is especially sensitive to upturns in employment.

In recent years, the telecommunications, computer, and automotive industries have all lost many thousands of jobs, which has affected the food service operations servicing these industries. Recent downsizings have caused companies to take a close look at their food service operations and to take the necessary measures to streamline and, increasingly, outsource them. The National Restaurant Association indicates that health care, university, and school food service sales (managed by contract companies) experienced slow but positive growth in 2009, but other on-site sectors will experience no and even slightly negative growth.¹ Cuts, such as those in automotive plants, have resulted in the need to reduce food service staff and rethink service strategies.

B&I food service is also increasingly feeling the effects of outside competition from restaurants. Even with the limited time available, employees may choose to go off-site for their meals. When one considers that the majority of businesses are located near malls, industrial centers, city centers, and the like, one realizes the number of dining options that are available to employees.

All is not doom and gloom for this segment, however. Difficult times have resulted in opportunities for both managed-service companies as well as self-ops. As a result, they are becoming much more creative in their approaches. Each of the five major on-site segments is combating these competitive forces in its own way, but the B&I segment has been one of the most aggressive. One very effective strategy that managed-services companies, in particular, have adopted has been to develop food service concepts or **brands** of their own or to use established commercial franchise brands. For example, ARAMARK's strategy has been to develop its own brands, such as Bène Pizzeria, Grille Works, Home Zone, Miso Noodle Bar, Tortilla Fresca, and Montague's Deli. Likewise, Compass Group, North American Division, offers Ritazza Coffee, Not Just Donuts, and Upper Crust (sandwiches) of its own. Brand-name units are themed much like any other chain operation, and the brand is promoted within the client's establishment. ARAMARK finds a high level of consumer acceptance for their brands, as evidenced by large increases in sales in units where they are established. The other advantage is that no franchise royalties are paid. This results in savings that can be passed on to both guest and client. ARAMARK also makes extensive use, however, of major national franchise brands, as does Compass and Sodexo, which have partnered with franchise brands such as Pizza Hut and Nathan's Famous. Other brands that have partnered with managed-services companies include Wendy's, Little Caesars, Dunkin' Donuts, I Can't Believe It's Yogurt, Chick-fil-A, and Starbucks, among many others.

The advantages of the brand-name specialty restaurant format, whether the brand is proprietary or franchised, are startlingly similar to the advantages that food service has in the commercial restaurant business.

- The operation has an identity that helps secure patronage from an increasingly brand-conscious food service customer.
- The facility is simpler to build than is a full-menu concept, and the investment required can be significantly less.
- Operating costs are lower, too, because of the simpler menu and because customers are accustomed to self-busing in fast food.
- Fast food is fast—in-plant feeding at General Motors plants takes only 3 minutes, compared with 12 minutes under earlier formats.

One of the most important considerations when introducing a branded concept is the expected increase in the participation (or capture) rate. Other techniques for increasing the participation rate are described in Industry Practice Note 7.1.

The purpose of employee food service operations changes, however, with different employee levels. Many companies maintain executive dining rooms boasting fancy

Measuring Guest Participation

In the commercial food service sector, most activity is driven by sales, and vice versa. In on-site food service, whether self-operated or overseen by a management company, the critical factor is the participation (or capture) rate. If company associates, college students, and so forth choose not to participate in the on-site food service, neither the client nor the food service operator will be satisfied. This fact holds true whether the facility is located in a hospital, ballpark, university, or industrial park. The only exception is in correctional feeding, where participation is pretty much guaranteed owing to the situation.

Food service operators go about managing the participation rate in a variety of ways. One thing is for certain, however—more and more, the strategies that managers are employing closely resemble those used by managers of commercial operations. New services, positioning, branding, quality, attractive pricing, providing innovative menus, offering variety, and merchandising are but a few of the ways that managers attempt to influence the participation rate of guests.

Not too long ago, it would have been hard to imagine being able to order upscale Chinese food in the company cafeteria, find a food court in a hospital, or order a microbrewed beer at the ballpark. Yet with operators focusing ever more attention on customizing their products and services to meet the desires of customers, the battle over participation rate will rage on.

menus and elegant service. Such dining rooms are often used to entertain important business guests—customers, prospective employees, the press, and politicians. Executive dining room privileges can be an important status symbol among managerial employees. Further, even though tax law changes have generally lowered the rate at which business meals may be deducted (to 50 percent), meals served to employees at their place of work remain 100 percent deductible under certain conditions. Clearly, there are several legitimate reasons that speak to providing meals to line employees as well as executives.

Some companies (self-ops), such as SAS, Corning, and MCI just to name a few, take their employee food service programs very seriously. SAS attributes its employee loyalty, at least in part, to its food service program. Food service at the company headquarters includes three cafeterias, day care feeding, break centers, and extensive catering. As early as 2003, the company had reported \$1 million in annual food service revenue (partially subsidized by SAS).²

Many of the changes that are occurring in this segment are driven by the increasing emphasis of host companies on the bottom line. As a result, more and more companies are **outsourcing** the management of their food service operations to management companies. A good example is Motorola, which operated its own food service program with revenue of \$56 million per year. The company's food service is today operated

by Compass Group. Recall from Table 7.2 that penetration in this segment is the highest of any of the four primary segments (over 85 percent). This finding has boded well particularly for the big-three contract management companies (ARAMARK, Compass, and Sodexo), which dominate and hold almost one-third of the market. But smaller companies also have respectable market share (among contracted accounts) in this segment. One such company is Guckenheimer Enterprises, Inc. This company is the largest independently owned company specializing on the B&I market. Based in California, Guckenheimer started as a regional company but is now across the United States. This company has approximately 350 corporate (B&I) accounts including John Hancock, Sun Microsystems, and McGraw-Hill. The company has established its reputation on service and creativity, resulting in over 35 years of growth. It is an example of a company that believes that it pays to specialize in a particular segment. Others that specialize in B&I include All Seasons Services, CulinArt, and American Food and Vending.

In summary, changes continue to occur in the B&I segment. Aggressive marketing, streamlined operations, more options, better value, increasing usage of branded concepts, innovative menus, increasing employer subsidies (again), and packaged food that is ready to eat (grab and go) are driving this sector. Penetration by contract companies continues to increase as well.

COLLEGE AND UNIVERSITY FOOD SERVICE

The college and university food service segment is very different from B&I. To understand college food service, one must first understand the board plan. Students eating in residence halls may be required to contract for a minimum number of meals over a term or semester. The food service operator benefits from this arrangement in two ways. First, the absentee factor ensures that some students will miss some meals they contracted for, which permits the food service operation to price the total package below what all the meals would cost if every student ate every meal there. This makes the package price attractive.

Second, and more important, the board plan provides a predictable volume of sales over a fairly long period—a term, a semester, or a year. At the start of that period, the operator can closely estimate what the sales volume will be. Because attendance ratios and the popularity of various menu items are fairly predictable, the operator can also estimate how much food to prepare for each meal.

Full board plans were once the rule rather than the exception, particularly on purely residential campuses. Although some colleges and universities still offer only a full board plan (three meals a day, seven days a week while school is in session), flexible

The introduction of branded concepts has successfully increased sales in college and university food service operations. (Courtesy of Sodexo.)



board plans have become more and more popular. A recent article in *Food Management* highlights the food service operations of Notre Dame, where the board plan is still mandatory for all students in residence. Notre Dame offers 14-meal and 21-meal options (per week) for students. Gonzaga University, too, requires all freshman and sophomores to participate in a board plan. Such restrictions are becoming more uncommon, however. Some plans at other colleges and universities exclude breakfast, whereas others drop the weekend meals. With a flexible plan that invites students to contract for only the meals they expect to eat, the absentee rate goes down and the average price charged per meal goes up, because of the lower absentee rates. Nevertheless, in plans that drop a significant number of meals, the total price of the meal contract also drops. In any case, both the full board plan and the flexible plan generally charge students on the basis of the average number of meals they consume.

Some schools, such as New Mexico State University (where the food service is operated by ARAMARK), don't have a mandatory board plan and instead allow students to use their campus identification card (the Money\$Card) to purchase food anywhere on campus. The use of such cards is becoming more common. With most card programs, students contract for some minimum dollar value of food service and receive a cash card with the amount they have paid credited to the card. As they use the debit card, the card is scanned and the amount of each item (or full meal) is electronically deducted from the balance. Students usually receive the food purchased through their card at some discount from what competitive commercial operations charge, and so it is still a bargain. The contracts, however, give the operator a basis for projecting the demand for the school year for scheduling, purchasing, and general budgeting, and they also guarantee some minimum level of sales volume. Some schools are even allowing students to use these same cards at selected off-campus locations.

As in the B&I segment, colleges and universities are also trying to market their services more. Flexible board plans and the use of debit cards represent just a small part of a total marketing approach, which adapts the services available to the guests' needs and preferences. Only about one-fifth of college and university students, however, live on campus. Roughly half live off campus, and the remaining students live at home with their parents. The need to attract off-campus students as customers heightens the competitive nature of college food service.

Both self-operated and managed operations recently have recognized how brand-conscious students tend to be. As a result, the use of brand names and franchised concepts has taken hold in college and university food service. The acceptance of students' preferences for quick-service outlets and the use of familiar branded concepts have achieved major improvements in sales. At San Diego State University, for instance, while enrollment fell nearly 25 percent, food sales actually rose from \$4.3 million to \$4.8 million when ten branded concepts were introduced. One-third of colleges and universities now offer branded options, and brand franchisors are becoming more flexible in reducing menus, adapting hours of operation, and reducing the amount of space required as they seek to get their brand in place in institutions. Evidence continues to suggest that brands increase awareness and purchases.

The use of brand names is by no means limited to contract companies, however. Self-ops have had success with this tactic, too. In fact, the National Association of College and University Food Service (NACUFS) has been instrumental in assisting self-operated institutions to capitalize on the branding trend. NACUFS has developed a series of brands for use by its members. Institutional operators can and do have national franchise brands as a part of their operation as well.

The management companies have been very effective with branding in colleges and universities. ARAMARK initially introduced its Pan Geos concept on 44 university campuses. Pan Geos is based on a cluster design offering various contemporary, international cuisines. The result included various units with higher customer counts, increased check averages, and lower food costs. With the success of Pan Geos and similar concepts, it can be anticipated that more management companies (and self-ops) will develop similar offerings.

One final note with regard to branding—where the national brands were once limited to larger campuses, they are starting to appear at smaller institutions, some having as few as 400 students.

COLLEGE STUDENTS AS CUSTOMERS

College students are generally pleasant to deal with, but at times they can be very demanding. They need to be consulted in planning, and patient attention to complaints is important too. An unhappy group of college students—with a natural bent

for boisterousness—can be difficult to deal with. College food service operators stress the need for a strong communication program between the food service staff and the students. All agree that, in addition to good food and tight cost controls, a successful college food service operation must have “people skills”—that is, be able to deal effectively with guests. An example of this occurs at Glendon College in Toronto (Glendon is the French-speaking campus of York University). Stephanie Fontaine, the Food Service Director for Chartwells there, holds monthly meetings with students as a way of maintaining open communication.

The 16- to 24-year-old portion of the population declined in the 1990s but has been increasing in more recent years. As a result, college and university enrollments are expected to increase between 2010 and 2020 and beyond.³ In fact, according to the National Center for Educational Statistics, total undergraduate enrollment increased from 7.4 million in 1970 to 15.6 million in 2007 and is projected to grow to 17.5 million in 2018.⁴ The average age of the college population continues to climb as well. Adult participation in higher education is expected to continue to increase—perhaps, in part, because of increased competition in the job market. Older students are more likely to live off campus, which means that retaining their business on campus is a more competitive proposition. The trend in this segment has been for colleges and universities to outsource their food service to food service management companies. In fact, the National Restaurant Association reports the growth rate for management companies in this area was over 7 percent in 2006.⁵ Interestingly, however, many of the largest state universities remain self-operated, including Pennsylvania State University, Michigan State University, Purdue University, Washington State University, and the University of Massachusetts (all of which have hospitality management programs). Many private universities, too, are self-ops. Harvard University, for example, has one of the largest self-op foodservice systems with annual revenue in excess of \$51 million. The ten largest self-operated university campuses are listed in Table 7.3.

In summary, the college and university segment appears to be a healthy one, although students continue to become more demanding and sophisticated, suggesting greater challenges ahead for food service operators. As a result of increased participation rates and a growing population group, however, college and university food service seems likely to be a growth segment for nearly a generation to come. In addition, nontraditional opportunities are beginning to surface for food service operators. These opportunities might include extending food service responsibilities (such as to arenas, research parks, or catering services), opening “supermarkets,” and/or taking on a wider range of responsibilities across college campuses, including the management of mail services, campus bookstores, and facilities management. In short, just like the other segments, the entire food service environment is changing on college campuses.

TABLE 7.3
Ten Largest Self-Operated Universities

UNIVERSITY	FOOD SALES (\$000)	ENROLLMENT (IN THOUSANDS)
Michigan State University (East Lansing, MI)	\$75,289	46.0
Penn State University (University Park, PA)	\$72,703	42.0
University of Massachusetts (Amherst, MA)	\$55,200	26.0
Harvard University (Cambridge, MA)	\$51,279	19.7
University of Notre Dame (South Bend, IN)	\$51,219	10.3
Rutgers–University (New Brunswick, NJ)	\$51,216	50.0
Syracuse University (Syracuse, NY)	\$47,656	16.0
University of Connecticut (Storrs, CT)	\$44,953	20.2
Miami University (Oxford, OH)	\$40,929	16.0

Source: Foodservice Director Self-Op College Census, 2006–2007.

HEALTH CARE FOOD SERVICE

As changes are occurring in both B&I and colleges and universities, changes are occurring at perhaps an even greater rate in the health care environment. This section discusses some of these changes and provides a general overview of this unique food service segment.

Health care facilities can be divided into three general categories: large hospitals (over 300 beds), small to medium hospitals, and skilled nursing centers. In all three of these settings, health care professionals—dietitians, along with such paraprofessionals as dietetic managers and **dietetic technicians**—play important roles. Some of the key positions in hospital food service operations are described next.

THE DIETETIC PROFESSIONAL

According to the International Committee of Dietetic Associations, a dietitian is “a person with a legally recognized qualification [in Nutrition and Dietetics], who applies the science of nutrition to the feeding and education of groups of people and individuals in health and disease.”⁶ In the health care food service setting, there are different types of dietitians. The largest group within the profession is made up of

clinical dietitians, concerned principally with the problems of special diets and with educating patients who have health problems that require temporary or permanent diet changes. Administrative dietitians are concerned principally with the management of food service systems, for the most part in health care. (Dietitians also work in education and non-health-care food services, and their commitment to community nutrition is growing rapidly as well.)

Dietitians who complete a bachelor's degree program and a supervised practice program (either in an internship program or in a coordinated program that combines both academic class work and supervised practice) and who pass a national registration examination are considered **registered dietitians (RDs)** by the Commission on Dietetic Registration (CDR), which is the credentialing agency for the American Dietetic Association (ADA). Registered dietitians are required by hospital accreditation standards and government regulations to supervise health care food services either on a full-time basis or as consultants.

Large hospitals generally employ a number of *clinical dietitians* whose primary responsibility is the provision of medical nutrition therapy (MNT) for inpatients as well as outpatients. Medical nutrition therapy is the nutrition therapy component within the medical treatment and management of disease. An important part of the dietitian's work is planning and implementing the nutrition therapy so that the patient and family are able to continue the treatment after discharge.

In a smaller hospital or in a skilled nursing center, the food service manager is somewhat less likely to be a *registered dietitian*. In such cases, however, a consulting registered dietitian will provide professional guidance.

Employees in health care food service operations play an important role in meeting the dietary needs of patients. (Courtesy of Sodexo, Copyright 2009.)



THE DIETETIC TECHNICIAN

A somewhat newer role in health care is that of the dietetic technician. Qualification for this designation requires completion of an appropriate associate degree program. Technicians occupy key roles in medium and large hospitals, working under the direction of registered dietitians. Dietetic technicians screen and interview patients to determine their dietary needs or problems and, in large hospitals, often have supervisory responsibilities. In smaller hospitals, technicians may run food service departments under the periodic supervision of consulting registered dietitians. One of the most important areas of opportunity for dietetic technicians is in life care facilities, such as nursing homes, where technicians serve as food service managers under the supervision of a consulting registered dietitian. Technicians must take a registration exam, and fully qualified technicians are registered as DTRs, that is, dietetic technicians–registered.

THE DIETARY MANAGER

The **dietary manager** also has an important role in health care food service. These managers must have had a considerable amount of on-the-job experience and must also have completed a course of instruction covering subjects such as food service management, supervision, and basic nutrition. A separate organization, the Dietary Managers Association, provides for their education and certification as certified dietary managers (CDMs). Certified dietary managers are not credentialed by the CDR and are not members of the ADA. Dietary managers are employed principally in skilled nursing centers. Some dietary managers have completed the dietetic technician's more extensive two-year course of instruction and may use either title.

HEALTH CARE FOOD SERVICE DEPARTMENT ORGANIZATION

The organization of the food service department should be considered in the context of the overall health care facility organization. However, presenting an organization chart of a "typical" hospital would be self-defeating, because hospitals vary greatly in size, are organized differently, and are currently in the midst of wholesale restructuring. Readers should be aware of two trends, however, in the organization of hospitals: (1) organizations are generally becoming flatter, and (2) more and more support services are being outsourced. With this being said, the food service department must fit in with what tends to be a large and complex organization. Other functions and professional services in a hospital would include nursing, laboratories, X-ray services, ambulance services, environmental services, fiscal services, administrative services, and pharmacies, among others. The food service department probably would be found in the general services division

Patients have many more menu choices than ever before. (Courtesy of Sodexo, Copyright 2009.)



along with other support services, such as plant engineering and housekeeping. The fiscal services division includes functions such as accounting, receiving, and storage. Thus, in some hospitals, receiving and storage may be carried out for food service by another support unit. Administrative services include the personnel and purchasing functions. Here again, note that another division may assume these functions for the food service department. This already complex organization is further complicated by the medical and surgical staffs—the professionals on whose services the entire institution is centered.

Work in hospital food service is fast-paced, and many employees find the medical atmosphere exciting. The organizational complexity and need for nutrition care (the provision of special therapeutic diets) as a separate concern makes health care food service one of the most complex and demanding of the food service careers.

The organization of the food service department will vary in its assignment and reporting relationships according to the size and function of the hospital. The main functions appear in Figure 7.1.

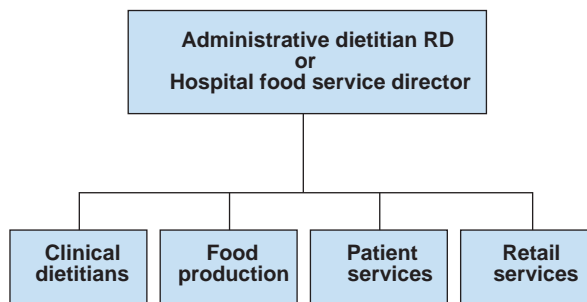


Figure 7.1

Functional organization of the food service department.

The same kitchen usually prepares the food for all the employees, patients, and visitors, although this can vary. Some hospitals maintain a separate special-diet kitchen; others allow the same crew to prepare the special diets following appropriate recipes. Some hospitals even utilize decentralized pantries to assemble patient meals. In the traditional model, however, patient food service personnel deliver the food to the floors and return dishes and other equipment to the kitchen after the meals. One trend that is occurring in patient feeding is perhaps best illustrated by what all of the major contract companies are doing in their health care accounts. In an effort to develop a more efficient system, the companies have modified their patient meal plan by moving more toward the airline feeding model. These companies have all but eliminated written menus and instead offer patients a choice of two items, which are brought up to the floors and held in warming boxes. Patients then indicate their choice, and the meal is brought into the room immediately. Although last-minute modifications can still be made and special diets accommodated, the average patient is fed in a much more efficient manner, resulting in fewer late trays and higher levels of patient satisfaction. Another major trend is to adopt a “restaurant-style” menu. Here, patients have a menu (reflecting any dietary restrictions they may have) that has a long list of offerings. They can then order what they want, when they want it. This method results in reduced waste and great patient satisfaction.

In addition to patient feeding, hospitals may have a variety of other food service outlets: For example, cafeterias serve the staff, visitors, and, in some cases, ambulatory patients. There may also be special dining areas limited for use by the doctors and/or senior staff. Additionally, many hospitals provide catering for in-house events. Others are even branching out and doing off-premise catering for non-hospital-related events. A report by *Restaurants & Institutions* states that “hospital food service departments have blossomed into hospitality businesses where 68% of meals are served to staff, visitors, and guests in stylish serveries.”⁷

Skilled nursing centers, smaller hospitals, and extended-care facilities (discussed in a later section) perform these similar functions on a smaller scale. Thus, such an institution may employ only a consulting dietitian and may combine food production and patient food service. Or the cafeterias in some skilled nursing centers may be expanded to serve all ambulatory patients, often in traditional dining rooms.

TRENDS IN HEALTH CARE FOOD SERVICE

In the past, health care was a recession-proof food service segment with strong growth potential. Although health care is still less sensitive to economic conditions than are many other food service segments, regulation by government agencies, which reimburse hospitals for many health care expenditures, complicates administration. Regulators

have capped costs by limiting the length of stay that is covered. Private health insurance plans have established similar limits. As a result, hospital occupancy and revenue are limited too. Hospitals are reacting in several ways, including developing networks, affiliations with other hospitals, and their own health maintenance organizations (HMOs). Health care, in general, has had to learn to live with less. This has had a dramatic impact on food service departments.

So far, lower hospital occupancy levels have led to greater competition for patients, and the food service department often plays a key role in this competition by offering special services and frills. Hospitals have also found ways to reduce costs and boost revenue. These often include taking a marketing-oriented approach and building sales. It should be noted, though, that the growth in the number of beds was very small between 2000 and 2010. If this trend continues, it will obviously have a long-term impact on food service operations.

LOWERING COSTS. With skyrocketing daily charges for hospital rooms and pressure from government and insurance companies for shorter hospital stays, hospitals have developed alternative arrangements for those patients needing less intensive care. Hospitals have converted facilities to hotel-type accommodations or developed arrangements with nearby hotels to house discharged patients who still need to remain near the hospital. These alternative accommodations are more affordable for the patient, and where in-house space is used, they provide revenue to the hospital.

Another strategy for cost reduction involves consolidation of food production facilities. One large unit takes on responsibility for basic production for several nearby facilities. This centralized location may then employ a cook-chill food production system. An example of this is the Carilion Health System in Virginia. It consolidated the production of food for its health care system (including eight hospitals) into one central processing kitchen (CPK). Carilion was able to outsource the CPK while retaining operation of the eight food service facilities. The facility serves 1.5 million meals each year and has achieved a significant cost savings.⁸

Most hospitals that operate their own food service also purchase supplies, including food service products, through cooperative purchasing organizations or **group purchasing organizations (GPOs)**. Pooled purchasing volumes, often in the hundreds of millions of dollars, secure lower unit costs. In addition, hospital food service, like all other food service organizations, has carefully examined its employee scheduling practices and product use to ensure maximum efficiency.

One hospital specializing in short-stay elective surgery, for instance, converted completely to frozen prepared foods, eliminating its production kitchen entirely. The production activity is limited entirely to reconstituting frozen foods and portioning prepared salad greens for distribution to the floors.

ENHANCING REVENUE. Most hospitals serve more nonpatient than patient meals; the current estimates indicate that fewer than one-third (32 percent) of meals served in the health care environment are patient meals. Not surprisingly, therefore, the nonpatient side of hospital food service has offered major opportunities for increasing sales. Hospitals have upgraded their public dining facilities to attract more business from staff and visitors in the hospital. Like colleges and universities, some hospitals are adding national brands to their offerings, although not to the same extent. These brands not only offer greater market appeal to customers but also lower operating costs.

In addition, hospitals have broadened their food service activities to target customers outside the hospital. Some hospitals have begun offering off-site food delivery programs. Others, as mentioned above, are offering national brands that have helped broaden their customer base. Methodist Hospital in Dallas was an early adopter of this and added a Sonic Drive-in to its product mix in 1999, dramatically increasing revenues and reducing operating costs as a result.⁹ Still other programs and services currently being offered by hospitals include Meals on Wheels and providing meals to day care centers.

Additionally, some hospitals offer what is, in effect, commercial catering—handling weddings and other functions both on and off the premises. This is a growing trend: A study conducted by *FoodService Director* magazine found that 73 percent of hospitals offer some kind of catering services and that almost half of these expect to grow their catering services in the near future.¹⁰ It is important to note, however, that with the current economic downturn, catering activities have been reduced in most regions. Other services offered by hospitals include baking services, theater cooking, and home meal replacement. Hospital bakeries offer freshly baked breads and pastries, including wedding cakes, to the public. The Medical Center at Ohio State University offers special cooking events for patients. Others offer regular takeout meals, delicatessens, even on-premise convenience stores. In general, hospitals are becoming very creative in adding revenue-enhancing services. One New Orleans area hospital, East Jefferson General Hospital, has added meeting and conference space to its facility in an effort to capitalize on a perceived need in the local market.

In summary, health care institutions have been subject to cost pressures that result both from government regulation and from competitive pressures. Health care institutions have responded with efforts to contain costs and to enhance revenues with a better mix of services aimed at a broader spectrum of customers—that is, with an improved marketing program. Much of the burden has fallen on the food service directors of these facilities, who are taking on more and more responsibilities through expanded roles and increased services. We should end this section by noting, in addition, that health care is expected to be one of the fastest-growing areas in the global economy well into the twenty-first century.

SCHOOL AND COMMUNITY FOOD SERVICE

The fourth major segment of the on-site sector is **school and community food service**. This segment is quite different from the previously discussed segments in several ways, including the high degree of self-operators and the goals and objectives of the segment. The segment is also facing some of the same challenges as the others in the way of tight budgetary constraints. There are also differences in terms of scale. Although there are obvious challenges associated with food service in every environment, consider the challenges of handling over 1 million customers each day, as New York City schools must do. But first, a little history of the segment is in order.

The earliest government food service programs began around 1900 in Europe.¹¹ Programs in the United States date from the Great Depression, when the need to use surplus agricultural commodities was joined to concern for feeding the children of poor families. During and after World War II, the explosion in the number of working women fueled the need for a broader program. What was once a function of the family—providing lunch—was, in effect, shifted to the school food service system. The National School Lunch Program is the result of these efforts. The program is designed to provide federally assisted meals to children of school age. From the end of World War II to the early 1980s, funding for school food service expanded steadily. Today it helps to feed children in almost 100,000 schools (and residential child care) across the United States. Its first function is to provide a nutritious lunch to all students; the second is to provide nutritious food at both breakfast and lunch to underprivileged children. If anything, the role of school food service as a replacement for what was once a family function has been expanded.

The U.S. Department of Agriculture (USDA) regulations have, for many years, required that school lunches conform to a basic pattern. Schools that receive federal subsidies must establish their meal plans based on the calorie, nutrient, and fat content of foods instead of on food groups, as was the previous practice. These changes are based on the new dietary guidelines developed by the USDA, which in turn are based upon the Dietary Guidelines for Americans. (By law, these guidelines must be reviewed by the government every five years.)

A significant portion of the cost of school food service is met by subsidies in cash and kind provided by federal and state governments and the local school board. Children who qualify according to a means test receive a free lunch and breakfast. The majority of children participating in the school breakfast program qualify as disadvantaged. Schools are reimbursed on the basis of the number of meals that they serve. Reimbursement costs vary in terms of the school's location and the number of students who qualify. In 2010, the average reimbursement rate for a free lunch was \$2.70.¹² Other reimbursement rates apply to reduced-price lunches, breakfasts, and snacks.

Funding restrictions, however, have presented difficulties for school food service programs. The most obvious response to reduced government funding is to raise prices, but this often results in reduced participation rates. In conversations with school food service managers, as well as with members of the American School Food Service Association, it would appear that the operating premise that many managers abide by is that for every cent that student costs increase, participation drops by 1 percent. School districts have reacted to reduced funding in much the same way that other institutions have: by increased marketing activity and, to a lesser degree, by diversification of activities to gain more revenues.

An additional challenge facing school food service programs has been the requirement of nutritious selections. The most successful response to this requirement has been to develop menu offerings that closely resemble fast-food menus yet meet the USDA guidelines. Pizza, Mexican foods, chicken nuggets, and popular sandwiches such as hamburgers and hot dogs play a major role in such menus. In effect, these menus give the consumers what they want. They are often criticized, however, for not doing the educational job of teaching students what they *should* eat. Nevertheless, given pressure to sell food at higher prices to maintain their economic viability, schools have had to embrace a marketing approach to survive.

School food service districts have also expanded their operations to outside customers. Efforts to build sales volume include catering and selling take-out items, including freshly baked goods, as well as selling prepared foods to other institutional customers in the community.

Marketing efforts are not limited to menu and format alterations. To meet the need to communicate with customers, student advisory councils are formed in schools. School lunch dining areas are upgraded and remodeled to make them more attractive. Self-service speeds service while reducing cost and giving the customer the sense of having a choice. Food bars, buffets, and scramble systems—with stations scrambled throughout the area—are seeing greater utilization in schools.

THE SCHOOL FOOD SERVICE MODEL

The accumulated experience of school food service suggests a model for public sector food service programs, known as the **school food service model**. The first element in that model is that it meets clearly defined social needs that attract broad public support. School food service provides nutritious meals to needy children who might otherwise go hungry, and it helps make well-balanced meals available to all students.

The second element in the school food service model is that it pools subsidies. The federal subsidy usually requires matching state or local funds. Because the subsidies from the various levels of government are pooled, the result constitutes a bargain.

Nutrition is one of the elements on which school food service focuses. (Courtesy of Sodexo.)



The student's lunch, even if he or she paid the full price, is less expensive than it would be if purchased anywhere else—even if it were brought from home.

The attractiveness of this bargain encourages participation, and participation ensures the third element of the model, a high volume. This high volume makes the meal program more efficient, and it results in further economies. In short, it improves the bargain.

The pattern of administration is the fourth and final element. There is general monitoring of the fairly broad guidelines at the national and state levels, but most operational decisions are made entirely at the local level. Technical advice is always available. Thus, the model encourages adaptation to local tastes and conditions.

The bargain that the program offers to young consumers and their families has never been completely dependent on federal subsidies. Both state and local governments (and, in some communities, charitable organizations) have contributed to the cost of school lunches in direct subsidies of varying amounts.

Increasingly, the school is being seen not just as an educational institution but as a social agency in the community that can use its physical plant—buildings, kitchens, dining areas—and its other resources—such as experienced administration, skilled cooks, and backup custodial staff—to serve a variety of population groups. Schools around the country are now getting involved with the feeding of seniors, food service at day care centers, off-site feeding such as at public parks during the summer, and various other community support services.

CONTRACT COMPANIES IN SCHOOL FOOD SERVICE

A relatively new market for contract companies is the school (elementary and secondary schools) market. The lower penetration of contract companies among the five segments is in school food service, and many of the largest school systems in the

United States are still self-operated. Facing tighter budgetary restrictions, many school boards, however, are finding it advantageous to bring in a company with specialized food service expertise to take on what is, for them, an activity only indirectly related to education, which is the school system's principal mission and expertise. Because such a high percentage of the market is self-operated, there is a huge opportunity for contract companies. Although its profit margin is not as high as for some other on-site sectors, school food service is a logical addition to a contract company's operations. Contract companies do not just take over one or two schools when they receive an account. Rather, the numbers can run into the hundreds, as is the case in Chicago, where school lunch programs are available at over 650 different locations and include 280,000 lunches served each day. The food service program is overseen by the Department of Food Services for the Chicago public school system, but individual units are managed by three different contract companies.¹³ In addition, in many cases, the contract company finds it can serve a school board not only with food service but also in other areas, such as grounds maintenance and custodial services.

In an interview in which she discussed career opportunities with contract companies in the school food service area, Beth Tarter, human resources manager for Sodexo, pointed out that there are a number of advantages to this area. Because it is growing, there are numerous opportunities for advancement. The excitement of a very large account—\$5 million or \$6 million—is more likely to come at an earlier stage than in other areas of food service. School food service also has quality-of-life advantages. This is an area that offers a professional career in food service with a five-day week. Night and weekend work occurs occasionally, usually in connection with a special event at a school, but such an event is the exception. Moreover, many people in school food service have ten-and-a-half-month contracts that give them summers off. One manager whose main joy in life is sailing pointed out that he could find no better job to match his professional expertise and his leisure interest. He spends his summers on a sailboat. Clearly, there are some advantages for students who might choose this segment of the industry.

TRENDS IN SCHOOL FOOD SERVICE

Growth in school enrollment has declined in recent years, resulting in stabilization of the food services in this area. Growth is expected, however, in the relatively new breakfast program, where there are government dollars to support school-provided breakfasts for underprivileged children. Perhaps the biggest issue that is facing food service in schools, though, is the concern surrounding child obesity. This is likely to affect the choices offered to students as well as the vending options, as has already happened in some jurisdictions. Many cities, including New York City and Seattle, have banned candy and soda from vending machines in schools. Finally, the trend toward healthier food,

sourcing local ingredients, and operating in a more sustainable fashion is key in this segment too. The good news is that food sales in schools don't decline when healthier meals are served, and they have the added benefit of teaching good eating habits.¹⁴

SERVICE PROGRAMS FOR THE AGING

One of the fastest-growing segments of our population for the foreseeable future will be people over the age of 65. Although many people in this age bracket are healthy and active, not all of them are. Similarly, many but not all of the people over the age of 65 are comfortable financially. Although retirement incomes for most are not as high as for working people, neither are financial needs. Many live in homes already paid for and have significant savings on which to draw. Yet not all elderly persons are affluent. Many must live on their social security checks and limited savings. People over 75 are more likely to fall into this category. They are more likely to be financially needy and to require assistance to survive. The rapid growth of this group is one reason for the increasing demand for government supportive services for the elderly population.

People over 65 commonly have disabilities related to their age. By age 65, for instance, over two-thirds of individuals have at least one chronic condition. Fourteen percent of individuals age 65 and over have difficulty performing at least one of six activities of daily living (ADLs).¹⁵ Once they reach the age of 85, almost one-half experience some difficulty with daily activities, such as bathing or dressing. Disabilities such as these tend to be concentrated among those in the latter age group and are even greater among institutionalized individuals.

The Census Bureau predicts continuing growth for those in both the 65-and-older age group and the



Centralized preparation of food provides considerable economies of scale. (Courtesy of Sodexo, Copyright 2009.)

85-and-older age group. Its predictions suggest that by 2050, the population of elderly persons will increase more than twofold. Those age 65 and older will constitute 20 percent of the population.¹⁶ Certainly, this is a population group that will be growing for the foreseeable future and one that has a set of unique needs. In this section, we look briefly at programs to meet the needs for food service in this area. We also examine the growing life-care institutional segment, in which hotel companies such as Hyatt figure prominently.

COMMUNITY-BASED SERVICES

The ideal arrangement for elderly people is to live independently in their own homes. As their physical, cognitive, and mental abilities deteriorate, however, they begin to require assistance. Many Americans provide help to elderly friends or family members without pay, but this does not occur without complications and difficulties. As a result, community agencies have come into being to provide help to people living independently and to families who are helping an elderly relative or friend.

The Older Americans Act (OAA), Title III-C, provides funding for elderly meal services, much of it through the Meals on Wheels program. Funding enables thousands of volunteers in every state to serve meals to seniors through congregate meal sites and in their own homes. Over 3 million seniors will benefit from these services this year, according to the Administration on Aging (AOA).¹⁷

The national nutrition program for elderly people is designed to provide older Americans, particularly those with low incomes, with low-cost, nutritionally sound meals. Emphasis is given to providing these meals in group settings. The nutritional projects provide at least one hot meal a day (meeting one-third of the daily nutritional requirements) five days a week to older citizens (60 and over) and their spouses of any age.

Although participants would be given an opportunity to pay for their meals, “no means test will be made and no one will be turned away on the basis of their inability to pay for a meal.” **Congregate meals** are funded by the AOA and by state and local agencies and supported by volunteers and private donations.

Meals on Wheels (www.mowaa.org) and similar programs also receive direct and indirect support from all levels of government and from local private agencies. The programs deliver meals to people living in their homes who have difficulty getting out. In addition to funding from governmental and private agencies, these programs often rely on local volunteers to assist in fulfilling their mission.

SENIOR LIVING CENTERS AND COMMUNITIES

A number of firms, including hotel companies such as Hyatt with their Classic Residence by Hyatt, provide senior living communities targeted to more affluent senior citizens.



Retirement residences are now available with many different levels of service and care. (Courtesy of The RiverWoods Company at Exeter.)

Some seniors choose to live in a **continuing care retirement community (CCRC)** that provides the independence of apartment living along with the security of having long-term health care and professional services available without needing to move to another facility. Others desire to live in an environment that provides them with a higher level of assistance with daily activities. Such facilities obviously provide much more than just food service; in fact, they incorporate many components of various hospitality services discussed in this and other chapters.

Different levels of accommodations and services are provided in senior living communities. These are often categorized as follows:

- *Independent living.* Private apartment living allows residents to enjoy an independent lifestyle with the security of knowing that whatever services or professional assistance they may need are readily available.
- *Assisted living.* Private apartment living is also available for residents who can maintain an independent lifestyle but need limited assistance with day-to-day activities, such as dressing, grooming, bathing, or monitoring of medication.

- *Licensed nursing or skilled nursing.* Private and semiprivate rooms are available for residents who need long-term or short-term intermediate and/or skilled nursing care and supervision that may include rehabilitation or end-of-life care (hospice).
- *Memory support or cognitively impaired.* These facilities, embedded in either a CCRC community or an assisted living/skilled nursing facility, offer specific long-term care for those with senile dementia; Alzheimer's disease comprises about 70 percent of the cases of senile dementia.

These describe the four basic models under which many senior living communities may operate, although an individual operation may fall anywhere along this continuum. Most facilities at this time are of the free-standing, assisted-living variety (40 percent of all facilities) or skilled nursing (each with memory support or cognitively impaired available).¹⁸ There is currently a movement in the senior living industry toward developing more CCRCs. Sometimes called life-care communities, CCRs provide all levels of care under one roof where residents may age in place. Residents typically pay a fairly significant entrance fee with a monthly maintenance fee and are guaranteed different levels of long-term care as they age and as their health conditions require.

Hyatt Corporation operates more than 6,000 units in various types of senior-living communities, which include high-end retirement communities under the Classic Residence banner, the senior living affiliate of Hyatt Hotels (www.hyattclassic.com). Hyatt



Many retirement residences closely resemble the surroundings that residents were familiar with in their own homes. (Courtesy of The RiverWoods Company at Exeter.)

facilities offer a range of services and in some cases are CCRCs. They are located in selected markets in 11 states. The company was founded in 1987 and currently houses over 6,000 residents and employs almost 4,000 people. Most of the units are classified as independent living. They also have assisted living, memory support/Alzheimer's care, and skilled nursing units. Aside from receiving the hospitality expertise that Hyatt is known for, residents receive special privileges at Hyatt Hotels.

Other hotel companies have ties to senior living operations including Marriott, which operated 150 Senior Living Services facilities until early 1993. It has since sold off the ownership and management of the facilities. When Sunrise Senior Living purchased Marriott's senior living division, it became the largest provider of assisted living facilities. Another hotel company also divested of its senior living division: Choice Hotels was associated with Manor Care, Inc. until 1997, when the companies separated. Manor Care is a leading owner and operator of long-term care facilities. It remains to be seen if and when additional lodging companies will expand into the senior living market.

The largest single operator of senior living centers is Sunrise Senior Living (www.sunriseseniorliving.com), which operates over 400 communities in North America and Europe. The company was started by Paul and Terry Klaassen (and is now a public company). The communities offer the full range of services from short-term stays for those with temporary needs to care for Alzheimer's patients.

Many other service companies operate in this unique segment, including Alterra Healthcare Corp., Emeritus Assisted Living, and Atria Retirement and Assisted Living. The top ten companies in the industry own or manage over one-half of all available units. However, in addition to the major management companies, there are also many smaller regional, independently operated retirement communities. One such facility is Heritage Pointe (www.heritagepointe.org), a retirement facility located in Mission Viejo, California. The mission of Heritage Pointe is "To provide residential services for the elderly incorporating Jewish tradition and lifestyle; to offer a continuum of service, and to provide financial assistance to those in need, to the extent provided by the community." Heritage Pointe admitted its first resident in 1990 and has since developed a waiting list for its 178 units. It is a unique operation, according to Rina Loveless, the head administrator. For one thing, it is the only Jewish facility in Orange County and only one of two nonprofit facilities in the area. The other is a Presbyterian-based facility. (The total number of religious-based facilities is very small.) Jewish traditions drive the mission at Heritage Pointe—food service is Kosher, Friday-night and Saturday-morning religious services are held, all Jewish holidays are observed, and classes are offered to residents in Jewish culture, among other topics. Most of the residents do not need assistance with ADLs but do receive housekeeping and food service. Assisted living services are provided to those who need it. Finally, scholarships are provided to applicants who qualify—about 25 percent of residents are on scholarship. Heritage Pointe is strongly supported by the local Jewish community.

In the early 1990s, the senior living centers and communities sector of hospitality was characterized by high business failure rates. Some of the problems experienced by operators included lack of operating know-how suited to the specific market, poor location choices, overly rapid expansion, a nursing shortage, and increasing government regulation. Since that time, new companies have entered the market and the failed projects have been absorbed. As a result, industry analysts view this segment very favorably in terms of business development. The only question that remains is whether supply can continue to meet the ever-increasing demand. One last point must also be made: Depending on the type of facility, some residents may move in at the relatively “young” age of 55. For instance, that is the minimum age requirement at Hyatt’s Classic Residence. As a result, people can age a good deal after moving in to a senior living environment. For this reason, the trend is to be able to accommodate people’s needs and to recognize their desire for some to “age in place.” This is accomplished by offering more of a mix-and-match choice of services—assuming the need for additional services increases as one ages.

OTHER SEGMENTS

In addition to the business and industry, health care, and education segments already discussed, a variety of other segments are sometimes less visible than their higher-profile counterparts yet still are deserving of attention. Unfortunately, it is beyond the scope of this chapter to cover all of the different types of businesses that could conceivably fall into this category, but some very important types of services are discussed next. As evidenced by the large size of the organizations in these sectors, each is an important element in the food service sector and related industries.

RECREATION

Recreational food service is one of the widest reaching of all the segments discussed thus far. This segment can include food service in such diverse facilities as stadiums and arenas, convention centers, zoos and aquariums, campgrounds, and even fairs and expositions, among others. As with other segments, facilities may be managed or self-operated.

One managed-services company, ARAMARK, has its own division devoted to this segment. ARAMARK’s Sports and Entertainment Services division presents a profile of a company with involvement in a variety of recreational activities, including food service in convention centers, stadiums (including Major League Baseball teams), arenas, and racetracks; and a variety of state and national parks. Other companies that specialize in

recreation feeding include Compass Group; Sportservice, a division of Delaware North; Sodexo; and CulinArt. The latter company recently took over food service operations at the Philadelphia Zoo. More and more, companies seem to be recognizing this segment for its dynamic operating environment as well as for the opportunities it affords. Recreation feeding plays the enviable role of complementing some of life's pleasures, such as a day at the state fair, the zoo, or the ballpark. In fact, it seems that entertainment is nearly as important to stadium operators as a winning team, so we see more and more of a Disneyland kind of format that emphasizes enjoying the experience of coming to a ball game as much as the sport itself. Hospitality services, particularly food service, have an important role to play in delivering the experience.

As in other institutions, brand names are becoming increasingly important. National names such as McDonald's are prominent in stadiums, but often local or regional brands are represented as well. Although hot dogs, soft drinks, and beer are still the most popular items, ballparks and other recreation sites are expanding their menus to include more upscale foods. (The tiramisu at the FleetCenter in Boston is rumored to be very good.) As the entertainment and recreation sector continues to thrive, so, too, should the food services associated with it.

CORRECTIONAL FACILITIES

It is an unfortunate reality that the United States has the highest documented incarceration rate in the world, with an average of 2.3 million people behind bars. (China ranks second, but has only about 18 percent of the U.S. incarceration rate.) To put it in perspective, consider that the United States, which has less than 5 percent of the world's population, has almost one-quarter of its prisoners.

Prior to recent history, people in prison were treated like to animals; they were given scraps and water—just enough to sustain life. In many cases, the people responsible for feeding prisoners had little to eat for themselves. It was not uncommon for prisoners to survive only if their families brought food to them.

Today, food service in correctional facilities is approached very differently. Many of the recent changes were fueled by the bloody 1971 Attica Prison riot in New York, which resulted in the deaths of 43 inmates and guards. One of the leading causes behind the uprising was poor food quality. In 1977, the American Correctional Association developed standards for food service in correctional facilities that include specifications on nutrition, quality, and portion control.

For most of the twentieth century, most correctional facilities in the United States were operated by the federal, state, or local government. Today, privatization is becoming more common owing largely to the financial challenges in managing this business. One of the biggest challenges is feeding inmates in a responsible yet cost-effective manner.

In response, many managed-service companies have expanded to include divisions dedicated to food service in correctional facilities. Not surprisingly, ARAMARK, Compass, and Sodexo are included in this group. The biggest challenge—whether outsourced or self-op—is cost. In some municipalities, budgets provide only \$1.50 per day to feed each inmate.

PRIVATE CLUBS

A segment not totally unrelated to the recreation segment is the one consisting of private clubs. Private clubs are just that: recreational, social, and/or dining facilities available for the exclusive use of their members. Clubs are characterized by their independence, exclusivity, and unique qualities. In fact, it has been said many times that no two clubs are exactly alike. This segment includes city clubs (which tend to focus on dining services), yacht clubs, swimming clubs, tennis clubs, golf clubs, and country clubs (which tend to be full service), among others. In reality, there may be a club devoted to just about any activity that you can think of but, more often than not, food service constitutes a large part of what the clubs offer to their members. Clubs provide a home away from home for their members, and as a result, they are often characterized by a high level of personal service.

Clubs may be owned by their members (in which case the club usually hires a professional manager). These types of clubs tend to be run on a not-for-profit basis. Clubs may also be owned independently or by a corporation, in which case they would be operated on a for-profit basis. Finally, as with other segments within the larger institutional sector, there are companies that specialize in the management of clubs (such as ClubCorp and others). ClubCorp runs such famous clubs (and resorts) as Pinehurst in



Private clubs such as Pinehurst have a great deal of distinction. (Courtesy of ClubCorp.)

North Carolina, the Firestone Country Club in Ohio, and Indian Wells Country Club in California. In total, it owns and/or operates almost 200 facilities.

Although the majority of successful club managers have extensive food and beverage experience, students should be aware that, in order to be successful, a manager must be a jack-of-all-trades. Managing a large club usually means overseeing many different types of departments and requires a unique level of expertise. Clubs truly combine all of the best things that the hospitality industry has to offer, all under one roof. In recent years, more and more managers of private clubs have begun to come out of hospitality management programs.

TRANSPORTATION

In the United States, transportation food service is usually synonymous with airline (or **in-flight**) food service. Of course, there is food service associated with other forms of transportation, including rail and ferry, but the industry is dominated by food service geared to air passengers. As with other segments, some companies operate their own food service, and other companies specialize in in-flight feeding (e.g., Dobbs International Services, a part of Gate Gourmet). Many of these companies are quite large and regularly appear on lists of the largest food service companies.

The airline food service business is fast-paced and requires people who work well under pressure. The uncertain number of passengers on an outbound flight, sudden cancellations or additions to the airlines' flight schedules, and the various equipment configurations used in different aircraft make in-flight food service a challenging field. Add to this the fact that the production area is often located some distance away from the airport, and one can imagine some of the challenges associated with this type of food service.

As with every other segment, however, airline food service is changing. The trend is to consider transportation food service more of a commodity business and less as an on-site food service business. This is due largely to the airlines, where domestic flights commonly sell prepackaged meals. Even on international flights, the food service is specialized and is becoming increasingly different from how we define on-site food service.

VENDING

Vending is not really a segment of on-site food service but a method of delivering food service that is used across segments. It is an effective means of making food and beverage (and other products) available to customers. Even the casual observer will have noticed vending machines dispensing a variety of products in schools, businesses,



Many vending operations have incorporated smart card technology. (Courtesy of Evergreen Vending.)

attractions, malls, and on the street. The first vending machine dates back to 215 B.C., when a device was used to dispense holy water in Egyptian temples. More recently, vending started to become popular in 1888, when the Thomas Adams company installed Tutti-Frutti gum machines on New York elevated train platforms. It has since evolved to the point where industry leaders believe there are tremendous opportunities for this segment. In fact, because of the recent advances in technologies, sophistication of machines, variety of products offered, and improvements in merchandising, this “channel of distribution” is now commonly referred to as vending commerce or V-commerce.

To provide some background, over 50 percent of all vending operations are located in manufacturing facilities or office environments. Others are found in schools, lodging, restaurants, hospitals, military bases, and the like. As the majority of machines (and profits) are found in work settings, the health of the industry fluctuates directly with the level of unemployment in the United States. The industry suffered during early 2000 when jobs were being lost across industries and even more during the recessionary conditions that began in 2007. Still, vending represents some \$44 billion in sales when all types of vending services are included.¹⁹

The variety of products that vendors sell is growing and improving. About half of the companies offering vended food services have their own commissaries, and their vending outlets usually are equipped with microwave ovens.

Vending is clearly a part of the eating market, as defined in Chapter 3, rather than the dining market. Vending companies have found that if they offer manual vending (i.e., a cafeteria staffed by “real, live” people) during some of their hours of service, all of their products are more likely to be accepted. One vendor speculated that this is true because the personal touch allows guests to associate the vended food with the people who provide food services in the more traditional cafeterias.

Vending offers the hospitality industry a means of extending food service hours to meet the convenience of guests and to provide acceptable service where it would be economically impossible to provide full manual food service.

Perhaps the most significant change that is taking place in vending is not with the food products at all but with the management of the machines. New “smart” machines are now available. These new machines allow customers to use cards for payment and help operators track inventory and collect meaningful data on sales trends. The potential for these machines seems limitless.

In the on-site sector, vending is most common in the college and university segment and the business and industry segment; it is least common in schools (where there are increasing restrictions on what can be sold). Beyond discussing vending’s presence, we need to consider its function for clients and the advantages (and disadvantages) it presents to guests.

Since vending operates under a different business model from many other businesses, it is often “contracted out” to vending specialists, although some food service companies (such as Compass) have vending divisions. Many vending companies are smaller and regional in scope (generating \$1 million or less each year). Vending operations require a complete support system that includes route drivers, office support, technicians, sales staff, warehouses to store products, currency management systems, and general management. As a result of the support needed, it is generally not economically feasible for a vending operation to operate in an environment where there are fewer than 100 potential customers.

Most vended food falls in the snack and beverage categories. A significant portion, however, constitutes main meal service, particularly breakfast and, to a lesser degree, lunch. Technological advantages are improving the variety and quality of product offered through vending. The number and types of products that vending has been able to offer has increased in recent years. Food products (aside from snacks and beverages) generally break down into frozen or fresh. At least one of the name brands of popular frozen foods will look familiar from earlier chapters: White Castle hamburgers. Other popular frozen food products (which are developed to be reheated in microwave ovens) include products by Nestlé and Pierre Foods. Fresh food products (which represent a smaller but growing segment) include soups, salads, desserts, fruit and vegetable cups, and sandwiches. In addition, the snacks and beverages are commonly used to supplement main meals brought from home.

In many sites, and particularly on college and university campuses, vending is seen as a complementary service to offer to customers (students). Since dining halls are rarely open 24 hours a day or available on all parts of campus, vending offers options at different “access points” across campus as well as at all hours of the day and night. Further, the product options to students (and others) continue to increase to include healthier eating options. Students can also purchase work supplies, such as pencils and

calculators, for study purposes. Vending, therefore, plays an important role in the overall food service business.

Finally, there have been new developments in the way of merchandising (glass-front machines), eating options (healthier foods), and quality (coffee). Guests are rarely enthusiastic about vending, but the impersonal nature of the machines can be reduced by attended vending and by the environment. In some cases, vending attendants can provide change, give refunds, and handle complaints. Still, vending remains primarily a mechanical, self-service process. Further, vending is convenient, can solve economic and operational problems for building and plant managers, and can increase food service variety.

SUMMARY

It should be clear at this point that the on-site sector is a wide-reaching and incredibly varied segment with many unique qualities. Although host units may have a greater hold on their market because of convenience, restaurants provide a lively alternative and plenty of competition for most. In addition, on-site food service must serve the needs of both the client and the individual guest. Managed-service companies have the largest market share in business and industry food service and in college and university food service. On-site operators have the dominant role in health care and school food service, although contract companies' share of those markets has been increasing. Brand-name concepts and aggressive marketing are important in all sectors of on-site food service.

We discussed major segments and found that the largest food service program is school food service. Its long experience in serving young people and their families suggests a model for other public sector activities. That model is based on acknowledged social need, pooling of subsidies, concentration of activity to achieve high volume, and flexible administration that permits local initiatives.

Retirement housing communities provide affluent older people with as much independence as they can manage but also afford them support, such as health care, without requiring them to move elsewhere. Other areas discussed were recreation, correctional facilities, and a somewhat unique segment—private clubs.

Vending is an important method of delivering food service, particularly in places that are not large enough to support a full food service operation or where the investment in facilities and operating support needed by food service cannot be made.

The principal arguments regarding the choice between an institutional operation and a contract company involve questions of scale, control of operations, and management expertise.

Key Words and Concepts

On-site	Clinical dietitians
Self-ops	Registered dietitians (RDs)
Participation rate	Dietary manager
Contractors	Group purchasing organizations (GPOs)
Managed-services companies	School and community food service
Health care	School food service model
Business and industry (B&I) food service	Congregate meals
Brands	Continuing care retirement communities (CRCCs)
Outsourcing	Correctional food service
College and university food service	In-flight
Board plan	Vending
Dietetic technicians	

Review Questions

1. What do on-site and commercial food services have in common? How are they different?
2. How do guest and client interests differ? What interests do they have in common?
3. Who operates the food service in your institution? Do you think an institutional operator or a managed-service company will do the best job of providing for the needs of the guest? Of the client? Why?
4. What characteristics are important to each of the five major divisions of on-site food service?
5. What opportunities do you see for extending hospitality services to elderly people? What facilities are available in your community for independent living for the aging population?
6. What do you think might be some of the challenges associated with the management of a member-owned club?
7. What are the advantages and drawbacks of vending for the client? For the guest?

Internet Exercises

1. **Site name:** ARAMARK

URL: www.aramark.com

Background information: ARAMARK is a global leader in professional services. It provides food, hospitality, facility management services, and high-quality uniforms and work apparel.

Site name: Compass Group

URL: www.compass-group.com

Background information: Compass Group is one of the world's leading food service companies. It specializes in providing food, vending, and related services on its clients' premises in over 90 countries. It prides itself on developing and delivering original food and service solutions whether in the workplace, schools and colleges, hospitals, at leisure, on the move, or in remote environments.

Site name: Sodexo

URL: www.sodexo.com

Background information: Sodexo is a leading food and facilities management services company worldwide. Every day, Sodexo employees work to improve the quality of daily life for their clients and customers around the world. Sodexo offers a full range of outsourcing solutions to the corporate, health care, education, government, and defense markets.

Exercises: Review all three of the above corporate Web sites, and compare each organization based on the following characteristics:

- a. What markets do they serve?
- b. What hospitality services do they provide?
- c. What job opportunities are available to hospitality management graduates with these companies?
- d. How many different countries do they serve worldwide?
- e. In which country is each company headquartered?

2. **Site name:** The National Association of College & University Food Services

URL: www.nacufs.org

Background information: The National Association of College & University Food Services (NACUFS) is the trade association for food service professionals at more than 600 institutions of higher education in the United States, Canada, Mexico, and abroad.

Site name: National Automatic Merchandising Association (NAMA)

URL: www.vending.org

Background information: NAMA is the national trade association of the food and refreshment vending, coffee service, and food service management industries including on-site, commissary, catering, and mobile establishments.

Site name: Association of Correctional Food Service Associates

URL: www.acfsa.org

Background information: Headquartered in Burbank, California, the Association of Correctional Food Service Associates is a professional association created to develop and promote educational programs and networking activities for those working in the correctional food service setting.

Exercises:

- a. Who are the primary members of these associations?
- b. What are the benefits of membership in these associations?
- c. What educational opportunities do they provide for members?
- d. What other services do they provide for members?
- e. What are the goals/mission of the association?
- f. Do they list job opportunities on their Web sites? If so, what types of jobs are listed?

3. Site name: *Food Management* magazine

URL: <http://food-management.com/>

Background information: *Food Management* provides ideas for foodservice directors, managers, dietitians, and chefs through coverage of industry issues and events, operational topics, and food trends pertaining to on-site food service.

Exercises: Click on the “management” link and read some of the recent posts pertaining to on-site food service.

- a. What are the current trends in on-site food service?
- b. What are the issues facing this segment of the food service industry, and how are they similar/different from the restaurant industry?
- c. Discuss what you consider to be the future direction of on-site food service in each of the five primary segments.

4. Site name: CBS Interactice Business Network

URL: www.findarticles.com

Background information: Find Articles has articles from thousands of resources, with archives dating back to 1984. That means you can search for exactly what you need, from millions of articles not found on any other search engine.

Exercises: Choose health care food service, school food service, or food service in retirement communities and use the embedded search engine to locate

articles. Choose an article to read and lead a class discussion regarding these criteria:

- a. In what ways would this article benefit managers who work in your chosen sector of the food service industry?
- b. If you were a manager, would your behavior change as a result of reading this article? If so, how?
- c. What other changes, if any, do you believe will occur as a result of this article?

5. Site name: Meals On Wheels Association of America

URL: www.mowaa.org

Background information: The Meals On Wheels Association of America represents those who provide congregate and home-delivered meal services to people in need. Its mission is to provide visionary leadership and professional training, and to develop partnerships that will ensure the provision of quality nutrition services.

Exercises:

- a. What factors contribute to hunger among the elderly population?
- b. What is being done about hunger among elderly people?
- c. What is the importance of nutrition programs for elderly people?
- d. What are the benefits of belonging to this association?

Notes

1. Dennis Reynolds, "Managed-Services Companies," *Cornell Quarterly* 37, no. 3 (1997): 88–95.
2. Mike Buzalka, "Food Management's Top 50 Foodservice Companies—2009," *Food Management*, November 11, 2009.
3. "Chronicle of Higher Education Almanac, 2009," www.chronicle.com.
4. National Center for Education Statistics. "Condition of Education 2009."
5. National Restaurant Association, "Foodservice Forecast 2006," www.restaurant.org.
6. International Committee of Dietetic Associations, November 10, 2003, www.dietitians.ca/icda.
7. Scott Hume, "HealthCare," *Restaurants & Institutions*, September 15, 2003.
8. Mike Buzalka, "Outsourced Production," *Food Management* (August 2002).
9. "Hospital offers fast food," *FoodService Director*, August 15, 2000, p. 44.
10. *Ibid.*, p. 60.
11. For an authoritative, extended treatment of the school food service program, see Gordon W. Gunderson, "The National School Lunch Program: Background and Development," www.fns.usda.gov/cnd/Lunch/AboutLunch/ProgramHistory.htm.
12. USDA *Federal Register* Notices, July 15, 2009, http://www.fns.usda.gov/cnd/care/Program-Basics/Rates/ReimbursementRates_Current.htm.

13. Chicago Public Schools, www.cps.edu, November 5, 2009.
14. Barbara Wagner, Benjamin Senauer, and C. Ford Runge, "An Empirical Analysis of and Policy Recommendations to Improve the Nutritional Quality of School Meals," *Review of Agricultural Economics* 29, no. 4 (2007): 265–284.
15. National Center for Health Statistics, "Data and Statistics," August 31, 2010, www.cdc.gov/DataStatistics/.
16. Ibid.
17. Administration on Aging, www.aoa.gov/.
18. Joan Raymond, "Senior Living," *American Demographics* (November 2000).
19. Richard Judy and Jane Lommel, *The Future of the Vending and Foodservice Industry 1998–2013*. National Automatic Merchandising Association, Chicago, IL.