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# Foodservice perspective in institutions

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## **Abstract**

In Western countries around 10-15% of all foodservice meals are provided in institutional settings such as hospitals, nursing homes, prisons, schools, military settings and workplace canteens. This chapter describes the different types of meals and foodservice systems used in these institutional settings, including the menus used, nutritional standards, food waste, meals times, methods of counting meals and possible future trends.

## **Keywords**

hospital meals, prison food, military rations, school meals, food waste, food service

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# Meals: Science and Practice

## Chapter 4 – The food service perspective in institutions

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## 4.1 Introduction

Throughout the western world today, more and more meals are being consumed away from the home. Edwards (2000) has pointed out that this can be for pleasure (e.g., in restaurants) or through necessity, in settings where individuals, given a choice, would perhaps choose not to be. Batstone (1983) has made a similar distinction between 'domestic meal provision', where meals are provided to meet principally social goals and personal needs, tastes and comforts, and 'functional meal provision', where meals are provided in a context or rules governing work and especially time constraints.

This latter category encompasses a wide range of food services, which can together be considered as institutional settings, including:

- Healthcare settings (hospitals, nursing homes)
- Prisons
- Schools and child care organisations
- Military settings (canteens and combat rations)
- Meals on Wheels
- Workplace canteens.

There are no comprehensive international data on the size of the institutional foodservice market, but it was estimated to be worth £3.3 billion in the UK in 2003 (IGD, 2004) and \$64.1 billion in the US in 2000 (Price, 2002). In western countries, the institutional sector provides between 10 and 15% of all foodservice meals. Over the

decade from 1987 to 1997 in the US, non-commercial foodservice sales grew 46% (Price, 1998). Some of the greatest growth areas were childcare facilities (186%) and educational institutions (72%), driven by large number of baby boomers' children making their way through the education system. Sales declined in only one sector: hospital foodservice dropped 7%, which could be due to a trend to more day surgery and shorter lengths of stay. However, despite this growth, as a proportion of all foodservice, institutional meals in the US have been progressively declining over the past 50 years, from 30.8% in 1955 to 14.6% in 2005 (USDA, 2007). This pattern is likely to be worldwide because of the much greater growth in non-institutional meals from fast food outlets and the general trend to more out of home recreational dining.

The meal experience is significantly shaped by the individual living arrangements in institutions (Sydner and Fjellstrom, 2005) and it has even been suggested that the word 'meal' may be inappropriate to some experiences (such as Meals on Wheels), where food is provided, but the social and emotional contexts of eating are missing (de Raeve, 1994). Nonetheless, in all of these settings one can distinguish two goals that they have in common with all other meal service settings – (1) meeting customer expectations and needs (e.g., safety, taste, price, service), and (2) providing physical sustenance (e.g., satiation and nourishment). However in the institutional settings there are three other important roles that may inform the goals and objectives of the

meal service, which may be considered under the headings of 3 “M”s: Morale, Manners, or Medicine.

#### **4.1.1 Morale-centred meals**

In the morale-centred meal services, there is a particular emphasis on planning the meal service to prevent boredom, provide familiar and perhaps comforting foods to people in otherwise deprived circumstances, or to demonstrate that the employer cares for the wellbeing of the clients. Food provided to military staff serving in combat zones is an example of this type of service, as are some workplace canteens, especially in isolated locations (e.g., offshore oil platforms, or remote mining camps) where there are few or no alternatives sources of meals other than those provided in the workplace. Prisons also demonstrate some of the aspects of the morale-based service. Meals become very important social occasions in prison as an escape from the boredom of daily routine, and the ability to prepare some home-made and culturally specific food is highly prized (Godderis, 2006a). Complaints about food can be a significant focus of unrest in prisons. Most prison riots begin at meal times in canteens because they are occasions when inmates can congregate and interact (Valentine and Longstaff, 1998), and meeting minimum expectations of service quality is important to help maintain a harmonious environment.

#### **4.1.2 Manners-centred meals**

In a manners-centred meal service one of the articulated roles of the meal time is to ensure appropriate behaviour is taught and good behaviour reinforced, while inappropriate behaviour is corrected. Childcare and school settings provide examples of this, where the importance of providing children with opportunities to try a wide variety of foods, to learn and display appropriate social interactions with other children, and even learn some food preparation and service skills, can be part of the explicit aims of the meal occasion.

In prisons, inmates are often employed in the preparation and service of meals and, as in schools, there can be some socialisation and rehabilitation activities based on meal time interactions. Conversely the lack of control over meals by inmates can be seen as part of the process of reinforcing their lack of power and identity within the institution (Godderis, 2006b). One of the complaints that women prisons in particular have made at times is that they can lose important domestic management skills and confidence if they are not involved in the service of meals (Smith, 2002). However issues of cost control and security often severely inhibit the menu, food preparation and meal delivery options in correctional institutions (Stein, 2000; Gater, 2003).

Even in healthcare settings, the norms of acceptable behaviour at mealtimes can be reinforced. It has been noted that elderly patients in care strive to behave at meals according to what they think is

acceptable in an institution. Patients with disabilities or handicaps that limit their ability to handle normal crockery and cutlery may be given special equipment to allow them to eat independently with dignity (Sidenvall, 1999).

#### **4.1.3 Medicine-centred meals**

This type of meal can be seen in hospitals, nursing homes and to some extent in home-delivered meal services such as Meals on Wheels. From Hippocrates in the 4<sup>th</sup> century BC to Florence Nightingale in the 19<sup>th</sup> century, the provision of food suitable for sick patients has been recognised as an important part of their care (see also Chapter 15 by Edwards and Hartwell). In hospital the food provided to patients is not just another hotel function (like cleaning and laundry): it is part of the treatment, and providing meals that are of high quality and which meet the individuals' specific nutritional needs is an essential goal (Allison, 1999). However if food is regarded as medicine, often necessary dietary modifications (e.g., liquid or pureed food, low salt or low protein diets) can make meals particularly unappealing. It is recognised that in these cases the medical requirements must outweigh the normal culinary expectations.

There are several significant features of institutional meal occasions that differentiate them from meals in commercial foodservices (summarised in Table 1). Some of the more important factors are discussed in the following sections.

## **4.2 Types of meals in institutions**

In institutional food services the meals may be delivered to the customers or clients in a variety of ways.

### **4.2.1 Cafeteria style service**

In workplace canteens, many military settings, universities and some schools, nursing homes or prisons, meals are usually served in a traditional cafeteria style (either self-service or with serving staff), so that food choices can be made by the customer immediately before consumption. This system has the advantages of allowing the final food choices to be on display for review and assessment by the customer, and also allowing individual client preferences about the portion sizes or combinations of meal ingredients to be met (e.g., asking for sauces to be added or not). This type of service is usually very cost efficient for the meal provider, since there are minimal staff required to deliver or clear meal trays, and it also does not require any special equipment to maintain meal temperatures between service and consumption. It enables last minute menu changes to be made easily, since there are no printed menus distributed in advance of the meal time. The main disadvantage of this type of service is that the number of choices available will be necessarily limited to those that can be displayed in the available service area. Furthermore, usually food is not made to order and there can be deterioration in the quality of food if hot items are held for long periods of time before service.

#### **4.2.2 Delivered meal trays**

In many healthcare institutions the meals are delivered on individual trays for consumption in bed or in nearby dining areas. The meals may be served in the ward itself from a bulk food trolley, or meals may be served in a central kitchen location, with trolleys of plated meals delivered to the patient areas. This system is particularly suitable for non-ambulatory patients or those who need to be kept isolated for medical reasons from other patients. A significant advantage of the central plating system is that a much greater range of menu choices can be made available – particularly if a cook-chill or cook-freeze meal system is employed. In some hospitals with this system an unchanging a la carte menu with a large number of choices is used (up to 30 entrée choices for example), which allows patients to select from a wide range of foods that are suitable to their current state of health and or appetite. However, while centralised meal service can provide greater menu choice, and perhaps more careful supervision of the accuracy of service (an important factor for many special diets), there are many disadvantages.

The greatest challenge for most tray delivery services is in maintaining a safe and acceptable temperature of the food (both hot and cold).

Often there are considerable distances between a central meal plating area near the kitchen and the ward areas. Furthermore, there is also an

expectation that all patients will be served a particular meal within prescribed limited time frame (typically a one hour period).

Three main approaches have been adopted to overcome the problem of maintaining meal temperatures:

- 1) Insulated trays or plate covers that passively maintain the temperature of the meals. Such systems can be adequate for periods of up to 30 minutes.
- 2) Heated and cooled meal delivery carts, with the separate hot and cold meal components assembled on to the tray immediately before service.
- 3) Reheating chilled meal components and tray service in ward areas. A range of alternative means of reheating can be used including traditional convection ovens, microwave, infra-red and induction heating of plated meals.

Unlike the cafeteria service, with a delivered meal tray all the components for the meal - including tray cloths, napkins, condiments, cutlery, and beverages - need to be provided at the point of service.

This can increase the levels of waste: for example, usually sugar, salt and pepper portions will be routinely provided, even to those clients who do not wish to use them.

Another factor likely to increase waste with a tray service system flows from the fact that normally patients make their menu choices well in

advance of the actual meal time (often up to 24 hours ahead), without the advantage of being able to see the food beforehand. Patients' appetites can change rapidly, and there is a tendency for many to order all possible items for their trays even though they are unlikely to eat all the food. Furthermore, often serving sizes are standardized and it has been suggested that frail older patients, who may only want small serves, can be put off eating by overly large meals presented to them on their trays (Walton et al., 2006).

In pre-plated tray service systems that use the cook-chill system, a third disadvantage is the general requirement to standardise portion sizes and the amount of food on plates as much as possible; e.g., baked potatoes may have to be cut into smaller pieces to facilitate even reheating (Light and Walker, 1990). Menu choices can also be affected. To prevent drying out of meats, almost always they need to be served covered with a sauce or gravy. Wet entrée dishes that reheat well are usually favoured when cook-chill systems are used over dishes such as grilled meats or eggs, which are more likely to dry out. For these reasons, it has been reported that hospital using cook-fresh systems are significantly more likely to offer choices of portion size and optional sauces and gravies with meat compared to cook-chill hospitals (McClelland and Williams, 2003).

A last significant disadvantage of the tray service system is the physical challenges for patients trying to eat in bed, particularly if they

have problems with mobility or limbs. In a healthcare setting it is recognised that giving and receiving food is a crucial part of the caring and healing process. Yet concern has been expressed at erosion of the emphasis on this role for nurses in particular, and the devolution of non-nursing duties to other staff. *'Tray meals, with standard serving sizes, plastic containers of butter and jam, and stubborn seals on milk capsules, served by food service staff who sweep in and out, are a far cry from the essentially social occasions of mealtimes in the past'* (Pearson, 1994, p325). If patients cannot reach their trays easily, or cannot easily open small portion control packages commonly used for items such as drinks, milk, jams and butter, they may not be able to eat all the food provided. Two alternatives have been trialled to overcome these problems and give patients more assistance to eat: (1) offering mobile patients the option of eating in a dining room setting (Edwards and Hartwell, 2004), and (2) using volunteers to assist patients at meal times (Simmons et al., 2001; Walton et al., 2008).

#### **4.2.3 Ration packs**

Whenever possible, a cafeteria-style service is normally used for feeding groups of military personnel. However, considerable research has been invested to develop acceptable individually packaged military ration packs (combat rations) which can be used when mission or tactical operational reasons prevent group feeding (Rock et al., 1998), and to examine the factors influencing food acceptance (Meiselman and Schutz, 2003). Rules of field feeding often forbid consumption of

locally procured food, to ensure safety (USARIEM, 2006). The rations provide single meals - ready to heat foil pouches, canned and dehydrated items - which can be consumed hot or cold, with specialty versions designed to meet increased nutritional requirements imposed by exposure to extreme environments (such as extreme cold). They have to be light weight and stable in a wide range of environments, but providing familiar home-type foods. One of the particular problems for these meals is that over time the monotony of repeated consumption of the same food can lead to inadequate nutritional intakes (Hirsch et al., 2005). See Chapter 24 by Darsch and Moody for more information on the US rations.

#### **4.2.4 Supplementary feeding**

Mid-meals (i.e., beverage and snacks consumed between the main meals) are an important part of institutional food service, especially in healthcare settings. They can be an important occasion at which to increase the nutritional intake of vulnerable clients who may have poor appetites and they can provide more than a quarter of the daily energy intake of patients (Walton et al., 2007). One Australian survey found that most hospitals regularly provided patients with three mid-meals: 98% served morning tea, 99% served afternoon tea, and 95% served supper, and 19% even offered a pre-breakfast early morning hot beverage (Mibey and Williams, 2002).

In addition to normal food items provided at these mid-meal breaks (tea, coffee, milk beverages, biscuits, cake), patients requiring additional nutritional support are often prescribed specially fortified nutritional supplements: typically these are commercially packaged milk-based cold beverages to be drunk from a pack with a straw, although hot versions (soups) are also available. Such supplements may be consumed at normal mid-meal times, or may be delivered in smaller prescribed doses by nurses as part of a drug round to encourage compliance with their consumption. Such supplements would not traditionally be regarded as meals – perhaps because they are not served by foodservice personnel from the kitchen – but they can add substantially to nutritional intakes. One trial of the prescription of a 120 mL sip feed three times daily (providing more than 2200 kJ and 22 g protein) resulted in significantly better energy intakes and weight gain in patients at nutritional risk (Potter et al., 2001).

Another special group of patients are those who for various reasons cannot swallow normal food items and are fed either enterally by tube into the digestive system, or nourished parenterally directly into the veins. For such patients, normal meal times are largely irrelevant since infusion is usually continuous throughout the day.

#### **4.3 Menus**

In institutions that provide all the daily meals for the clients (e.g. hospitals, boarding schools), it is most common to provide three main meals per day (breakfast, midday, evening), plus a number of mid-meal or snack options. The latter may be served on trays, or from a beverage and snack trolley wheeled around the ward areas. In other institutions, the mid-meals are less likely to be delivered, but supplies may be available for self-service in common dining areas.

An increasing proportion of hospitals are now offering a continental breakfast only. This trend remains a concern because there is evidence that patients may have poorer nutrient intakes when a hot breakfast is not available (Coote and Williams, 1993). Other hospitals have moved away from the traditional pattern of three main meals to one offering four or five meals throughout the day (Puckett, 2004). A typical meal pattern of this kind is shown in Table 2, and this can have cost advantages since all hot items can be prepared in one cook's working shift.

In most institutional foodservices, the menus are either an a la carte type (offering a wide range of choices, but remaining the same each day), or a cycle menu (a series of daily menus on a weekly or longer cycle, after which the cycle is repeated). Cycle menus are commonly used in healthcare, prison and school settings to offer variety with some degree of predictability for ordering, budgeting and production scheduling (Spears and Gregoire, 2007). One or two week cycles are

common in acute hospitals; 3-4 week cycles are more common in longer-care facilities.

#### **4.4 Nutritional standards for meals**

In many settings, the clients are dependent on the institutions to provide all, or a large proportion, of the food they consume and therefore the nutritional content of meals assumes greater importance than in other commercial foodservice operations (Glew, 1980).

Furthermore, the clients are often at higher nutritional risk than the general population. For example, in hospitals or nursing homes a high proportion of patients may be malnourished or have special needs due to their medical conditions (Thomas et al., 2002) and therefore the nutritional content of the meals needs to be more carefully considered than in a restaurant or cafe. Malnutrition in hospitals is significant problem, and concerted action is needed to ensure meals are not only acceptable to patients but also nutritionally adequate (Beck et al., 2001). Studies suggest more than 40% of hospital patients may have their meals supplemented by food brought in by visitors, but nonetheless meals must be planned to provide at least the recommended dietary allowances for all essential nutrients (Hickson et al., 2007).

In the US, Military Recommended Dietary Allowances (MRDAs) establish standards for the nutritional content of military rations. The

MRDAs are based on the recommendations of the Food and Nutrition Board of the National Research Council. This Board establishes the Recommended Dietary Allowances (RDAs). For some nutrients, the MRDAs have a higher requirement than the RDAs because soldiers are typically more physically active than their civilian counterparts.

A summary of the nutritional standards used for school meal provisions in England and other Western countries has been provided by Harper and Wells (2007). Most countries offer a free school meal to children from poorer backgrounds and some offer a free meal to all pupils regardless of ability to pay. Many countries (including the USA, England, France and Sweden) have nutrient-based standards, typically requiring the school meal to provide around 30% of the estimated daily energy, vitamin and mineral requirements, with no more than 11% energy from saturated fat (Crawley, 2005; CDC, 2006). In the US, federally funded programs such as the National School Lunch Program and the School Breakfast Program aim to address the concurrent problems of food insecurity and an increase in the prevalence of overweight among children and adolescents with both nutrient-based standards and requirements for meals to conform with the Dietary Guidelines for Americans (American Dietetic Association, 2006).

#### **4.5 Food waste with institutional meals**

Levels of meal waste can commonly be as high as 30-40% in hospitals (Williams et al., 2003), and the health status and type of modified diet

that patients are prescribed can influence this significantly. Hirsch et al. (1979) reported that the percentage of calories wasted by patients on a regular diet was less than those on a modified diet. Patients ordered high energy/high protein diets are often sent large quantities of food in order to encourage higher energy intakes, but this can result in large quantities wasted (Walton et al., 2007). Patients ordered modified texture meals are another group more likely to have greater levels of plate waste, because of the unappealing nature of the food.

In other institutional settings the normal levels of meal waste are significantly lower. In a retirement living centre it was reported to be 20% (Nichols et al, 2002), similar to the levels of 17% in a university dining hall environment, which is probably typical of levels in most cafeteria settings with healthy clients (Norton and Martin, 1991). This compares with levels of 9-11% in some school foodservices (Engstrom and Carlsson-Kanyama, 2004) and 7% in community-based feeding centres for the elderly (Hayes and Kendrick, 1995).

#### **4.6 Timing of meals in institutions**

In healthcare institutions, mealtimes can provide benchmarks that help patients structure their day and give a sense of predictability and security (Holloway et al, 1998). Yet it is a common experience of patients in hospital that the times the meals are served do not reflect when they would normally be consumed home. In particular the evening meals are usually served quite early, so there can be a long

period of time overnight without food. In two Australian surveys in 1993 and 2001 it was reported most hospitals began serving the breakfast meal between 7am and 8am, the midday meal was served between 12.00 noon to 12.30pm, and the evening meal times were spread over two and a half hours from 3.30pm to 6.00pm with most meal service being between 5.00pm and 5.30pm (Mibey and Williams, 2002). Similar meal times can be seen in hospitals in the US and the UK.

The early evening meals lead to long periods of 12 -14 hours without access to food, which nurses themselves recognise can be a significant problem (Kowanko et al., 1999). While the reasons for this are partly to enable patients to be ready early for their evening visiting times, another factor is also to reduce the span of foodservice operating hours, as a cost saving strategy. In prisons meal times can be even more atypical and unwelcome, with evening meals served before 4pm to allow inmates to be locked into cells early (Williams et al., 2006). In other institutions such as university colleges or workplace canteens the meal times are more likely to reflect normal experience, and the clients have greater freedom to supplement their food intakes outside the fixed meal service times.

#### **4.7 Methods of counting meals**

Counting meals is an important control point for financial and performance management in institutions. Typical performance

indicators that might require a census of the number of meals include costs per meal and meals per full time equivalent staff.

Most healthcare institutions attempt to keep a daily census or count of the number of meals served to patients and non-patients. One method is to count the number of trays actually prepared for each meal and this has been recommended as the most accurate method to use (Puckett, 2004). However, this method is time consuming and does not include other snacks or supplements that might be provided at the ward level rather than on delivered trays.

A 'meal equivalent' is often used in healthcare settings where patients are provided with many supplementary nourishments in addition to normal main meals. It has been suggested that dividing the number of nourishments by 6 yields a satisfactory number of meal equivalents (Spears, 2000). Another standardised method is to calculate four standard 'meal unit equivalents' per occupied bed day, assuming that each patient receives three mid-meals (that together may be similar in cost to one main meal) plus three main meals (Institute of Hospital Catering, 1995). Such equivalents do not necessarily equate to the normal concept of a meal, but are used for performance reporting in order to assess trends in efficiency over time and make benchmarking comparisons between institutions possible, without the burden of cumbersome recording of meal numbers.

The methods used to determine the number of non-patient meals served each day vary from one institution to another and depend on the method of payment system employed (eg a cash payment system, or whether employees purchase monthly meal vouchers, or are provided free of charge to certain groups). In a cash payment cafeteria, a tray census method may be used, but this does not distinguish between customers who buy a full meal, and those choosing only a beverage or snack item. A common method is to divide the total daily cash sales by a standard price per meal to determine a daily meal equivalent (Sneed and Kresse, 1989). The standard meal price may be based on the average price of each meal component at the midday meal (for example, entrée, vegetable, salad and dessert) or may be based on amounts defined in industrial employment awards, that set prices that a standard meal must be provided to staff.

#### **4.8 Future trends**

In healthcare feeding throughout the second half of the 20<sup>th</sup> century there was move away from patient meal service using bulk delivery trolleys in the ward areas (with food served by nursing staff) toward centralised meal plating and distribution of individual trays by food service staff. Recently, there has been some reversal of this trend with several recent trials of a return to bulk food trolleys – particularly in nursing home situations. Such systems may result in less waste and greater patient satisfaction but it is unclear how they affect nutritional

intake (Kelly, 1999; Shatenstein and Ferland, 2000; Wilson et al., 2001; Hickson et al., 2007).

Other changes that are being trialled in a number of centres are moves away from selective paper-based menus to bedside spoken meal orders, with food service staff entering orders directly into hand held electronic devices after interviewing patients (Folio et al., 2002). This allows for meal selections much closer to the time of the meal, without the need for manual tallying of meal orders. A more radical (and more costly) approach is to offer hotel-style room service (enabling patients to order at any time of the day from a restaurant-style menu, with food cooked to order and delivered within 45 minutes). Such systems are being implemented in order to provide a more client-oriented service and improve patient satisfaction (Sheehan-Smith, 2006).

Greater attention is also being paid to the meal ambience in the dining experience of long stay residents in healthcare settings. Changes in the physical environment (e.g., flowers on tables; background music), meal service (removal of trays and meal covers from dining tables; serving only one course at a time) and nursing practices (e.g., nurses sitting at tables with patients; separating medications from meal times) have been shown to significantly improve client health status and quality of life (Mathey et al., 2001).

In school settings, there is a worldwide trend to impose greater restrictions on the food available for consumption at meal times and between meals. Policies to limit the foods that can be sold in canteens are being implemented in the UK (Golley and Clark, 2007) and Australia (New South Wales Department of Health, 2006), and in the US research is demonstrating the beneficial dietary outcomes when access to high energy snack foods are limited (Cullen et al., 2000; Cullen et al., 2008). At the same time there is a move to upgrade school foodservices with healthier food options and to introduce more authentically ethnic food that recognises the cultural diversity of the population (Schuster, 2007).

From a menu planning viewpoint, in institutional settings the greater availability of novel functional foods may provide new opportunities for better matching the foods offered to clients with their specific nutritional needs (Williams, 2005). Another trend has been the introduction of familiar branded menu items on institutional menus. Product branding is often used as a sign of quality (Vranesevic and Stancec, 2003) and in a study conducted on institutionalised stereotyping (Cardello et al., 1996), when individuals were asked to rate their anticipated acceptability of two identical samples of sweetcorn the unbranded sample was rated lower for both the anticipated and actual acceptability. Some US hospitals have even begun offering branded menu choices such as Pizza Hut pizzas.

Lastly, in all foodservice settings there is increasing consumer demand for greater attention to the nutritional quality and environmental impact of the food being offered (Euromonitor International, 2007; Sloan, 2007a). Organic menus have started to appear in the hospital sector and environmental concerns may well have longer term impacts on the technologies employed for meal production and delivery. Recent trends to greater use of cook-chill foodservices, and more portion packaged food and disposable tray items (in order to reduce dishwashing) have not been made with much awareness of the consequences for energy consumption or environmental impact. These are factors that are likely to have increasing prominence, with a demand for the use of more locally sourced food, recycling and improved energy efficiency (Sloan, 2007b).

#### **4.9 Sources of further information and advice**

Aside from the specific references given in this chapter, the following general texts provide good overviews of the structure and management of institutional foodservices and the issues of meal planning and delivery.

Payne-Palacio J and Theis M (2005). *Introduction to foodservice* (10<sup>th</sup> ed). Upper Saddle River NJ, Prentice Hall. - a good general introductory text

Spears MC and Gregoire MB (2007), *Foodservice organisations: a managerial and systems approach* (6<sup>th</sup> ed), Upper Saddle River NJ, Prentice Hall - emphasises organisational and management issues

Puckett RP (2004). *Food service manual for health care institutions* (3<sup>rd</sup> ed). San Francisco CA, Jossey-Bass. – focuses on hospital and nursing home foodservice

McVety PJ, Ware BJ and Levesque C (2008). *Fundamentals of menu planning* (3<sup>rd</sup> ed). New York, John Wiley & Sons. – contains plenty of detail on the differing menu formats and constraints in an institutional setting.

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**Table 4.1 Comparison of meals in institutional and commercial foodservices**

	Institutional	Commercial
Meals provided	All daily meals to clients	Usually only one meal per day to a client
Meal times	Fixed or narrow limits	Flexible and broader range
Meal location	May be in bed or private room	Usually in dining room or cafeteria
Menu type	Typically cycle menus used	A la carte or daily menu
Menu choice	Sometimes only limited choice at any one meal	Emphasis on providing customer choice
Food service system	Cook-chill or convenience systems more common	Usually cook-fresh
Production staff	May have limited professional training	Usually professionally trained
Budget	May be limited by owners	Limited only by customer preparedness to pay
Clients	High proportion may have special dietary needs	Normal population
Legislated or other external standards	Highly regulated - especially nutrition standards	Only food safety standards of concern.
Payment	Meals provided as part of a package of service or employment	Meals paid for by client at time of consumption
Accepted level of food waste	High	Low
Feeding assistance	May be provided	Not available

**Table 4.2 A sample 4 meal per day menu pattern for hospitals**

8am	11.30am	4pm	7pm
Breakfast	Brunch	Main meal	Supper
Juice	Main hot dish (eg, lasagne)	Main hot dish (eg roast meat)	Soup
Cereal	Salad	Vegetables	Snack (eg cheese and crackers)
Bread item (eg muffin)	Bread	Dessert	-