

The production and service of meals to older individuals is, in reality, a food service business and must be operated as such. A food service business is a complex organization, and food service operations are often difficult for someone not trained or experienced in food services to understand.

BACKGROUND

Home-delivered and congregate nutrition programs for older individuals may be provided by an agency which offers multiple services to older individuals in addition to nutrition. Although the nutrition programs may be the major component of the services array, the agency's focus has to be on the overall "big picture" of their operations. Thus, management of the nutrition programs may be just one area of a person's administrative responsibilities, and this person may or may not have a background or experience in food service operations. There are many ways in which a food service business can fail to meet "customer" expectations or to generate sufficient revenue to sustain operations. Someone managing a meal program who does not have food service experience may not recognize problems occurring within the program until it is "too late," leading to potential program failure.

Food quality should be emphasized in today's senior nutrition programs. As the baby boomers age and become participants in congregate and home-delivered nutrition programs, participant quality standards will change. Nutrition programs need to consider the price/value relationship between the price that they pay for raw foods or meals and the quality (value) of the food or meal they are receiving. Programs can no longer purchase items because they are "cheap" or seem like a "bargain." Both product quality and the yield from the purchased product need to be considered in order to attract program participants and meet the competition that is entering the market to provide meals for older individuals.

A FOOD SERVICE SYSTEM

A food service business is a system comprised of multiple integrated components. These components represent a flow of product from procurement to service to the program participant. For a food service to be successful, attention must be given to the activities incorporated into each of the system components.

Procurement, Receiving, Storage, Production, Serving & Transportation

Procurement

Successful product procurement, or purchasing, means having a purchasing process in place that leads to the program having the right quality of the right product being received at the right place at the right time. Purchasing the right quality product for the purpose for which it is to be used is essential for a meal program to be successful. To maintain product quality, purchase specifications are needed for all products.

***Specification:** A concise description of the quality, size, weight, count, and other quality factors desired for a particular item.*

The purchasing process entails having someone designated as the "purchasing agent" who is the only one authorized to place purchase orders for needed products. After an inventory of on-hand items is taken, a written purchase order is prepared which the purchasing agent communicates to the selected supplier or suppliers. Once the order is placed with the appropriate supplier, a copy of each purchase order is provided to the person (for example, storeroom clerk, kitchen supervisor) who will be receiving the products.

***Purchase Order (PO):** A request that the supplier deliver what you want, ideally at the time you want it, at an agreed-upon As Purchased (AP) price and credit terms. A PO may include other conditions, such as minimum order amount, cost of delivery (if any), or discount options.*

Receiving

Product receiving should be done only by a person designated to have that responsibility. This person must know about food/food products and be trained in proper receiving procedures for foods and supplies. Deliveries should be accepted only at times that will not interfere with the meal production and service operations. Suppliers should be made aware of the times that the program will receive deliveries and should be required to meet the program's delivery time limits.

When products are delivered, the person responsible for receiving products should:

- ✓ Check all products against the purchase order to be sure that the product being delivered matches the quality specifications of the product ordered.
- ✓ Check all frozen and refrigerated products for product temperature and any evidence of thawing and refreezing (frozen products). Review local health codes for refrigerated and frozen product delivery temperature requirements.
- ✓ Check all products for broken boxes, leaky packages, swollen or dented cans, signs of pests, dry food that is wet or damp, frozen food that thawed and refroze, and food that has passed its expiration date. If a product is found to be less than perfect do not accept it, send back to supplier. Do not be intimidated by the food provider, you are the customer.
- ✓ Check all products to be sure that the quantity and pack of the products being delivered matches what was requested on the purchase order.
- ✓ Verify the products being received against the invoice provided by the delivery driver. Any discrepancies with the invoice should be rectified prior to the driver leaving the program site.
- ✓ Once products have been received and the invoice verified, the products should be moved into the appropriate storage areas as quickly as possible to prevent product quality deterioration and possible theft or other product loss.

Invoice: A bill from a supplier for goods or services, often presented as the goods are delivered or after the services are performed.

Invoice Receiving: Common type of receiving procedure. Involves comparing the invoice with the order record (the PO) and then proceeding to check quality, quantity, and the AP prices of the items delivered.

Storage

An adequate amount of dry, refrigerated, and frozen storage is needed to maintain product quality and prevent product loss from spoilage or theft. The temperatures of the storage areas are important factors in maintaining product quality.

Storage areas need to be equipped with non-corrosive metal racks with open-slotted shelves to facilitate air circulation. Products can be stored a minimum of four inches off the floor, and at least 18 inches below the ceiling (or below sprinkler heads) and not flush against the walls. Storage areas for dry stores need to be well-ventilated. It is advisable to review local health codes for dry storage area requirements.

Storage Area Temperatures

Dry Storage: 50 – 70°F

Refrigerated Storage: 32 – 40°F

Frozen Storage: 0°F or below.

Items should be dated when they are received and placed on storage shelves with the older product in front of the newer product to help ensure that products are properly rotated and the older products are used first. Overcrowding of shelves should be avoided so that product inventories are taken correctly.

A system to control product issues from storage is needed for adequate inventory control. Ideally, one person should be responsible for issuing items with the issues being made on the basis of written requisitions. At a minimum, if storage areas are open to all employees, anyone taking an item from a storage area should record what is taken (item and quantity) at the time they take the items from storage. A computerized inventory management system is highly desirable for all nutrition programs.

Production

Planning for food product production should be done at least a day prior to the day the food is to be produced in the kitchen. The use of a food production worksheet is recommended for production planning.

There should be space on the worksheet so that, after the product has been prepared and packaged or served, the kitchen staff can record the amount that was actually prepared, the number of portions served, the amount left over or short, and what was done with any left-overs.

Items to be used for the day's food production should be issued from storage on the previous day. Items for each recipe should be grouped together, if possible, so that the kitchen staff's time can be used efficiently without a lot of "hunting and searching" for items needed for the recipes they are preparing. It is particularly important to issue frozen items at least the day ahead so that there is time for the items to thaw in a refrigerator prior to their use.

A Food Production Worksheet Should Indicate:

- ✓ Each product to be prepared
- ✓ The amount of each product to prepare
- ✓ The recipe to be used
- ✓ The time the product is to be ready to package or serve
- ✓ The person responsible for each product's preparation

Standardized recipes are needed for all menu items prepared in the production kitchen as they are needed to:

- ✓ Maintain product consistency, including quality consistency.
- ✓ Control the cost of prepared food items.
- ✓ Enable the required menu nutritional analysis to be completed.

Standardized Recipe: *A set of precise procedures used to produce a food or beverage menu item. The recipe includes such things as a list of ingredients, the amount of each ingredient by weight or volume, preparation methods, yield, and portion size.*

Once items are prepared, they must be held at an appropriate temperature until needed for packaging or serving. Holding temperatures vary depending on the product and how it is to be used. It is important to remember, though, that holding times for foods held at hot temperatures should be minimized as much as possible as both the quality of the product and the nutritional value deteriorate when foods are held at high temperatures for long time periods.

Serving

Portion control is a critical factor when serving food or dishing food into meal trays for packaging. Portion control is enhanced when proper portioning tools, such as "spoodles," "ice cream" scoops or ladles, are available for the staff to use when serving the meals. Measured serving utensils will ensure adequate serving sizes are served. Without good portion control, the meals served may or may not meet the nutritional requirements for meals for older individuals. When the nutritional requirements are not met, the meals may not qualify for cost reimbursement or payment to the program from the funding agency.

Meal costs are also affected when portion control is not monitored carefully. When the portions served are larger than planned, meal costs increase, and it is possible to run out of the food item before everyone has been served or all the needed meals have been packaged. While serving portions that are too small may seem like a way to save on food costs, the participants will not receive all of the food that they need to meet their nutritional requirements, meal quality deteriorates, and the kitchen could end up with leftover product for which they have no use. Leftovers frequently become food waste which adds to meal costs without providing any food to anyone.

If meals are to be packaged for home-delivered meals, the plating and packaging of the meals is best done on an automated packaging line. It is important to "match" the packaging materials used to the specification set by the manufacturer of the packaging line if problems such as poor sealing of the trays are to be avoided. Packaged

meals should be labeled with the name of the meal and the date the meal is packaged as part of the packaging process. The packaging date is particularly important to be sure participants are not served outdated meals, as well as to help monitor how long participants have kept meals in their refrigerators with the intention of eating them “later.”

Transportation

Whether food is to be transported in bulk (e.g., not portioned into individual meals) to congregate sites or as individual meals for home-delivered meal clients, the food must be packed into appropriate transport equipment. Generally, that equipment will be insulated containers of some type of which there are a number of options available on the market. However, the food might also be transported in various types of containers that will heat or chill the foods using the transport vehicles electrical system during the transportation time.

Regardless of the transport equipment used, transport routes and times should ideally be kept as short as possible for the program. Although traditionally the delivery of hot meals to participants has been the “gold standard” of senior nutrition programs, today consideration should be given to the delivery of chilled or frozen meals to participants if they are capable of heating the meals in their homes or if the route time is excessive. Many foods in hot meals are significantly over-cooked by the time the meal reaches the client; thus, the food quality is poorer than it is in chilled or frozen meals that the participants heat themselves. The nutritional value of the meal also deteriorates as many nutrients, such as vitamin C, are heat sensitive and are lost from food that is held hot for the length of time required to package and deliver hot meals.

DEFINING FOOD SERVICE SYSTEMS

There are two key elements that define a food service system and set parameters on the structure of the system. These elements are the menu and the operating budget.

The Menu

The menu is the “starting point” for defining a food service system. The food items on the menu determine the products that will need to be purchased, the product storage requirements, how the food production operations will be accomplished, how the food items will served or plated, and the transportation equipment that will be required. Menus for senior nutrition programs are becoming more complex as the demand for ethnic foods, menu variety, and modified diet requirements are increasing. Menu choice is already an important component of menu development for enhanced participant satisfaction with the meals. As the menus change, there will be a need for programs’ food service systems to make system modifications which will enable the system to produce and serve high quality meals which meet the revised menu structure.

As the population changes, so must the menu options offered. Many nutrition programs are using offer versus. serve method of serving. This method permits participants to take only the menu components they are willing to consume. In the offer versus serve method, menu developers must monitor preferences (i.e., what is left on the serving line) and make changes to the menu to ensure all menu items are as well received as possible. For example, if every time green peas are served there is excess waste, then the menu developer should investigate why the peas are not consumed. Menu items not consumed are generally due to poor preparation, not culturally accepted or not the participant’s preference.

The Operating Budget

The operating budget is the primary tool for controlling the costs of a food service system’s operations. The operating budget sets cost standards for the system. For example, meeting the budget standards means that food products must be carefully evaluated for factors such as quality and yield relative to the price paid. It also means that food storage, inventory management, production, and service must be carefully controlled to avoid food waste and other food

product losses, as well as excess labor usage, while still meeting the required quality and portion standards for the program's meals.

FOOD SAFETY AND SANITATION

The importance of maintaining high standards for food safety and sanitation cannot be over-emphasized. Senior nutrition programs are preparing meals that are frequently served to a population that is at high risk for complications from foodborne illness. Many older individuals are immune, compromised or have an increased risk for illness and do not have the physical reserves to "bounce back" from an incidence of foodborne illness.

Programs need to operate their food services in accord with the United States Food Code food safety and sanitation standards or in accord with their state standards when the state standards do not match with the Federal Food Code. One of the best ways to identify potential food safety problems within a food service system is to conduct a HACCP analysis and, from that analysis, develop a plan to maintain food safety throughout all of their food service operations.

Hazard Analysis Critical Control Point System (HACCP System): *HACCP is a process used by food services to ensure food safety. The process identifies the areas at which foods are most susceptible to contamination and recommends procedures that can be used to prevent contamination from occurring.*

Food holding times and the temperatures at which foods are held are especially of concern to senior nutrition programs because of the need to transport the food and the packaged meals from the kitchen to the program participants. Most foods prepared for senior nutrition programs fall into the potentially hazardous food category. These foods need to be kept out of the temperature danger zone of 41°F to 135°F as much as possible. (Note: Some states use a slightly different temperature range for their temperature danger zone; so, programs should check their local regulations.)

- ✓ Time/Temperature Control for Safety (TCS): These are foods that require time-temperature

control to prevent the growth of microorganisms and the production of toxins. These foods contain moisture and protein and have neutral or slightly acidic pH.

Because of the difficulty of holding hot foods (hot meals) at an appropriate temperature, unless delivery routes are very short, programs are encouraged to consider providing chilled or frozen meals to their participants. It is easier to hold cold food within an acceptable temperature range, and the time period that cold foods can be in temperature danger zone (though below 70°F) is longer than the safe time period for hot foods.

TIME/TEMPERATURE CONTROL REQUIREMENTS FOR HOLDING FOODS

- ✓ Potentially hazardous hot food must be held at an internal temperature of 135°F or higher.
- ✓ Hot food originally at 135°F or higher can be held at a lower temperature for a maximum of FOUR hours. Food held in the temperature danger zone for more than four hours must be discarded.
- ✓ Potentially hazardous cold food must be held at an internal temperature of 41°F or lower.
- ✓ Cold food originally at 41°F or below can be held at a higher temperature for up to SIX hours, provided that the food's temperature does not exceed 70°F.

Cooling cooked foods that are, or are going to be, packaged into chilled or frozen meals must be carefully monitored. The cooling is a two stage process as indicated in the box below.

These foods must be cooled from 135°F to 70°F within TWO hours. Then, the foods must be cooled from 70°F to 41°F or lower within the next FOUR hours.

When considering these cooling times, it must be remembered that foods for senior nutrition programs are being prepared and cooled in large quantities, quantities which are not easily cooled if the foods are just placed into a refrigerator in a large container or if multiple meals are stacked together with no opportunity for cold air flow around each of the meals.

When deciding how best to cool potentially hazardous foods, keep in mind the following factors:

- ✓ The size or amount of food being cooled;
- ✓ The density of the food – a broth is less dense than a casserole; and
- ✓ The container in which the food is being stored – shallow pans cool foods faster than deep pans.

In order to facilitate the rapid cooling of cooked foods, the following methods are recommended by the

Food Code:

- ✓ Placing the food to be cooled in shallow pans
- ✓ Separating the food to be cooled in smaller or thinner portions
- ✓ Using rapid cooling equipment, such as “blast chillers;”
- ✓ Stirring the food to be cooled in a container placed in an ice bath;
- ✓ Using containers that facilitate the transfer of heat;
- ✓ Adding ice as an ingredient to the cooked food; or
- ✓ A combination of the above methods.

For more information about operating a food establishment, contact your local health department.

IMPLICATIONS AND CONCLUSIONS

Food services are complex systems comprised of multiple components that must be well integrated if the food service is to be a success. Failure to recognize that senior nutrition programs are food service businesses is likely to lead to program inefficiencies, poor use of resources – including available revenue – and may lead to potential program failure.

It should be remembered that food that is improperly handled at some point within the system has the potential to cause foodborne illness among program participants. Such a situation can be catastrophic for the program in terms of legal liability. Further, a foodborne illness situation can ruin a program’s reputation within the community as the program participants and their caregivers lose confidence in the safety of the food provided by the program.

Today, for-profit businesses are entering the market of providing meals for older individuals. As these for-profit businesses generally provide only a meal to their “customer” (the program participant) via a delivery service and are not concerned about providing the “human contact” that is an integral part of the traditional home-delivered and congregate nutrition programs, they can often price their meals lower than most programs’ cost. Although their meals may be lower in cost, there is no direct contact with their “customer;” thus, there is no check on the well-being of the older individual who is receiving those meals. Working with the local community to help them understand the importance of the price/value relationship for the meals provided to the community’s older individuals is a key factor for a program’s success. Value incorporates both the personal contact with the participant and the quality of the meal. It is not always the cheapest meal that is the best. Rather it is the meal that offers the best value for the price.

Still, these for-profit firms are now significant competition to the traditional programs, making it even more important than ever that the program is operated as an efficient, cost-effective food service business that will be competitive in the marketplace. Managers and staff with management responsibilities relative to programs’ food service operations should take advantage of every opportunity to learn about the food service industry and the operation of a food service business.

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