

Hospital Central Catering; Global Experiences, Local facilities

An overview on Hospital central catering experiences in the world and Challenges for national interventions

Parisa Torabi. Manager of Clinical Nutrition in Nutrition Department . Deputy for Health. Ministry of Health and Medical Education. Tehran. Iran

Zahra Soltani Rezvandeh. Head of Clinical Nutrition unit. Iran University of Medical Sciences. Deputy for Treatment. Tehran. Iran

Introduction

Central catering is a food service package that aimed to prepare and transfer food packages from central kitchen to more than one target center in community. In this study we are going to review main equipment, facilities and activities in central catering, introduce two international experiences in the case and evaluate existing possibilities to food supply for Iranian hospitals by this mechanism.

The kitchen as the heart of central catering usually is a vast space equipped with complex facilities. When building a new central kitchen or renovating an existing building, there are a multitude of factors that must be considered to ensure its efficiency and effectiveness. Issues that a foodservice manager would need to consider in planning of central kitchen include:

◆ Human resource, ◆ Layout and design of the facility, ◆ Equipment, ◆ Maintenance, ◆ Purchasing, ◆ Warehousing, ◆ Communications, ◆ Transportation, ◆ Waste management, ◆ Computer systems, ◆ Miscellaneous operational issues, ◆ Challenges/problems in operating a central kitchen, ◆ Changes directors would make in their central kitchen

The basic nature of the work in a central kitchen differs from that of a conventional onsite kitchen. Characteristics of the central kitchen work environment include:

◆ Heavy Lifting, ◆ Repetitive and Monotonous, ◆ High noise levels, ◆ Larger equipment results in more reaching, ◆ Refrigerated work environment and ◆ Rigorous standards.

Here, some of these most important issues for setting up a central catering for hospitals are discussed:

Training

Training of employees for the central kitchen will be important for the success of the operation. Training is one strategy to ease employees' apprehensions about change and improve their ability to adapt to change. Even if employees have lots of foodservice experience, the equipment and procedures used in a central kitchen will be different. There will need to be initial training on use of equipment and on the SOP to be used. Training also will be needed to ensure that employees know and follow the SOP related to HACCP. This is important because of differences in food handling procedures and the increased potential impact of a foodborne illness. In addition, ongoing training will be needed to restore foods' nutritional values and to ensure that the operational goals and standards are met.

Scheduling

The scheduling of employees in a central kitchen differs from that of on-site kitchens. Many central kitchens operate 23 or 24 hours per day in most of the countries. In some communities, they are the only employer who runs a 3-shift operation. Bakers may begin work at 3 a.m. while other workers may begin work at 6 a.m. The goal of a central kitchen is to utilize the facility as much as possible.

Computer Systems

Computer systems are very important for central kitchen operations; however, there appears to be a lack of integrated software programs that meet the needs of central kitchens. The central kitchen must be connected to the HIS of under the cover Hospitals. These equipment is needed to transfer and regulate patients, along the patients and hospital personnel's diet organized by several Hospitals' dietitians included regular and treatment diet.

Staffing

The staffing for a centralized foodservice system for hospitals differs from that required for conventional kitchens. In centralized foodservice systems, there usually are fewer staff hours needed at the satellites and more staff needed at the central kitchen. Likewise, the skill level of the staff may shift. There may be fewer skills required at the satellites and more skills required at the central kitchen.

Some of the position titles that might be expected for a central kitchen include:

Central Office Staff: • Foodservice Director, • Quality Control/Sanitation Supervisor (food hygiene worker), • Nutrition and Food Service Process Manager (Nutritionist), • Purchasing Agent , • Area Managers (Hospitals), Field Supervisors and • Accounting Clerk

Central Kitchen Production Staff: • Cooks, Assistant Cooks, Production Workers, • Bakers, Bakery Assistants and • Packaging/Assembly Workers

Warehousing/Transportation Staff: • Warehouse Supervisor, • Warehouse Workers, • Forklift Operator and • Truck Driver

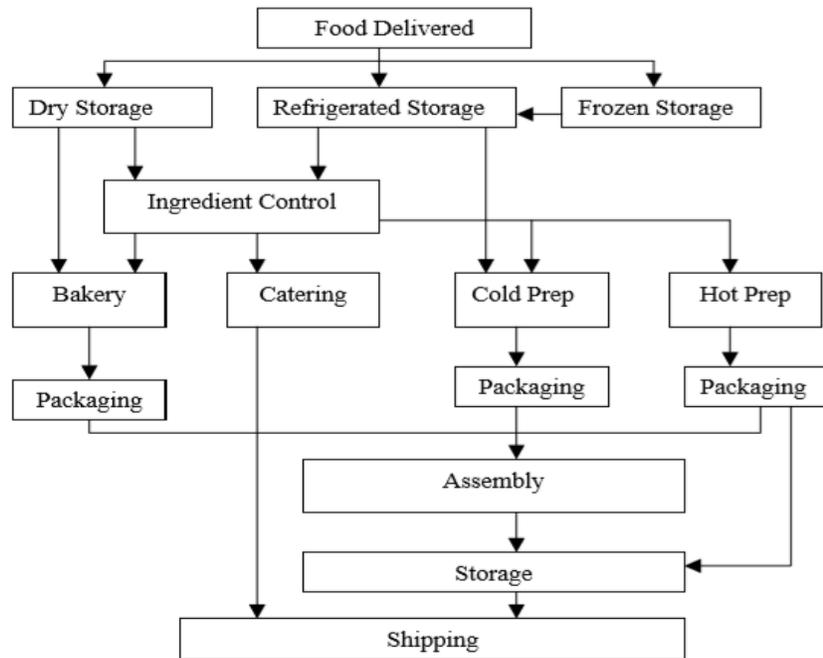
Maintenance/Sanitation Staff: • Maintenance Workers, • Custodians/Sanitation Workers, • Ware washing Workers and • Laundry Workers

Layout and Design of the Facility

The layout and design of the central kitchen is based on the following factors:

- Efficient flow of work, • Ease of movement of products through the facility, • Productivity of employees,
- Functional areas, • Equipment, • HACCP, • Durability, • Special purpose space and • Other considerations

Flow Chart of Food in a Central Kitchen Using Cook/Chill



Introduction a case (1): The Johns Hopkins Hospital Central Catering

- **Ownership:** The Johns Hopkins Hospital, part of Johns Hopkins Medicine, a \$6.5 billion integrated global health enterprise that operates 6 academic and community hospitals, 4 suburban healthcare and surgery centers, and has more than 2.6 million outpatient encounters per year
- **Headquarters:** Baltimore
- **The Johns Hopkins Hospital Foodservice operated by Sodexo:** All patient foodservice, retail foodservice and catering in a total of nine buildings

- **Opened:** The central kitchen opened in January 2012 with staff training and service of patients in the Weinberg building. Full operation began in late April 2012.
- **Scope:** The kitchen serves The Johns Hopkins Hospital, which is licensed for 1,051 beds; the new \$1.1 billion, 1.6 million-square-foot patient care building with dual 12-story towers opened in April 2012. The kitchen and its older counterpart, another 30,000-square-foot kitchen, prepares nearly 13,000 meals daily for inpatients and for customers in the non-external-branded food venues.
- **Size of the Central Kitchen:** 30,000 sq. ft., located in the sublevel of the Orleans Street Garage
- **Size of Employee Break Room:** 1,400 sq. ft.
- **Total Annual Sales:** Not available
- **Central Kitchen Operating Hours:** 5:30 a.m. to 10 p.m.
- **Staff:** Not available
- **Cost of Central Kitchen and Weinberg galleys:** Not available
- **Equipment Investment:** Not available

Team members: Operations Manager, Chief Clinical Coordinator/Clinical Nutrition Manager (RD), Director and Executive Chef, Central Nutrition Services, Managing Director, Support Services.

The clinical nutrition services cover a wide range of activities and focus on a comprehensive plan of care for the patient/resident. Staff dietitians are available 7 days a week to assess patients, chart a nutrition care plan, provide outpatient counseling services, conduct community health discussions and demos among many other tasks.

The net result is that the hospital's foodservice systems now operate at a heightened level of technological advancement. The kitchen's design helps improve customer satisfaction by enhancing food quality and offering various forms of service, including patient room service. The hospital's contract foodservice provider, Sodexo, provides more than 13,000 meals daily to patients on 125 specialized diets as well as to employees and visitors dining in the employee break room and various non-external-branded retail operations. Directing this massive operation is Leo Dorsey, foodservice director of the department of food and clinical nutrition, and resident district manager for Sodexo.

The new central kitchen, located on Orleans Street on the south side of campus, also supplies meals to patients in the Weinberg building. Another kitchen, built in the 1960s, serves about 400 patients daily in 4 other buildings. The new central kitchen also provides bulk food to the old kitchen, to the employee break room located across a hallway from the central kitchen and to retail operations located throughout campus.

They installed the most technically advanced food-processing equipment, including machines that can peel and chop vegetables and fruit in record time, such as peeling a melon in six seconds. No longer must employees perform this and other such functions by hand."

In addition, cook-chill equipment allows Johns Hopkins to store food for up to two weeks, and computer software enables staff to fulfill individual patients' dietary needs while avoiding foods to which they are allergic. *"We now accommodate 125 different types of diets and have seen a growing number of patients with food allergies — even allergies that we haven't seen before — that we have to track carefully,"* says Julie Branham, MS, RD, LDN, project manager for the department of food and clinical nutrition.

Room Service

The hospital offers "At Your Request," a proprietary, Sodexo-developed, room service-style meal plan available 12 hours a day for oncology, medical, pediatric and obstetric patients and their visitors. Patients order from a call center, and staff deliver within one hour. "We're limited only by the patients' health," says Jake Fatica, executive chef at Johns Hopkins and also with Sodexo. "Patients can order as if they were dining at a restaurant." If patients aren't able to use the call center, nutrition assistants help them order and send their meal requests wirelessly to the kitchen using a tablet computer. The hospital also

offers traditional tray service for patients who are unable to take advantage of room service for various health reasons.

"Since the space dedicated for the central kitchen as well as the multi deck parking garage was already built, our approach in developing an efficient layout centered around three major points of service: delivery of products, distribution of prepared food, and waste management," Khouw continues. "The location of the two service elevators dictated where we would locate our central dry and refrigerated storage. The point where finished products are distributed to various locations throughout the hospital grounds is dictated by access to the towline, used to transport prepared food in hot/cold insulated carts to multiple points of service. Finally, soiled trays and other waste products returning via the towline are received directly near the ware washing and trash-holding area. The design ensured that soiled products will never cross and possibly contaminate food-preparation and production areas."

The entire central kitchen sits below grade under a multi deck parking garage, which was built as part of the master plan for the new towers and campus revitalization. It is accessible to the rest of the Johns Hopkins campus via a series of tunnel connections and the programmable towline system, which carries carts with dirty trays and dishes from the buildings to the kitchen, transports bulk food to the older kitchen

in what is called the "historical" part of campus, distributes bulk food to retail and catering operations, and delivers other items such as linens and medical supplies.

Working in a prebuilt space required some manipulation of the area. A crawl space was created by raising the entire kitchen floor by approximately 16 inches from its base foundation. This crawl space allowed all the utilities, including plumbing, electrical and gas connections, to be run from below.

In addition, a single-duct chase was designed to run all exhaust ventilator ducts out of the kitchen space and through eight levels of a multi deck parking garage.

Production at the Pods

Four cooking pods, all the same design, allow staff to work within defined spaces that hold everything they need for tray assembly and require minimal movement on their part to place items in their proper places. Staff use a reach-in freezer, fryer battery, six-burner range, flattop griddle, charbroiler, pasta cooker, microwave oven, toaster and double-stacked and single-speed ovens to cook requested items. Shelving holds condiments while refrigerators hold yogurt, beverages and other cold items that staff assemble on trays and place in carts.

Two pods support a traditional tray-assembly model that works in tandem with a spoken menu. For this service style, hosts on patient floors help patients make selections and enter the orders using tablet computers, which transmit the information to a call center. The call center releases information to a printer in the kitchen, which prints out the order for staff to use in preparing meals.

To prepare the patient trays, staff place hot items on a plate heated with a pellet, and choose from cold and ambient temperature items nearby. They place trays in a hot/cold cart that other staff members walk to support rooms on the floors. Once at the patient floor units, carts are attached to a docking station that helps to both boost the temperatures of the hot food and chill the cold food before the patients receive their meals.

The other two pods support Sodexo's at Your Request room service-style model. With this system, patients look at menus in their rooms and phone their selections into a call center that resides in the central kitchen. Call center attendants type orders into a computer, press a button and the order prints at the appropriate pod. Golf cart-style vehicles powered by electricity then tow the carts to the patient floors. They have to use this process because the meals are time sensitive. Foodservice guarantees — unless there is an emergency — no more than one-hour delivery time from a patient's call to final delivery. Support rooms have speed ovens for heating late trays and nontraditional meals.

Introduction a case (2): Contract catering: The future of private hospitals 2007

Sodexo Healthcare's success in securing the contract to cater for 39 Nuffield hospitals throughout England and Scotland heralds a significant change in the private healthcare market.

"It's important to be able to understand the medical terminology and the relationship between consultants and their patients to be able to build business." The catering manager, Anderson says. "The expectation of patients is very high and I understand what their demands are."

The Nuffield contract involves feeding all patients, visitors and staff at its 39 hospitals – 38 of which are in England, with one in Glasgow. All food is freshly prepared at each hospital.

A new patient menu has been introduced, offering a wider and healthier choice of dishes, alongside new cutlery and bone china crockery. Sodexo works with dietitians and with Nuffield to ensure all food is prepared using methods which enhance its nutritional value.

A number of dishes are standardized across all 39 hospitals. However, the head chefs in each hospital are also encouraged to introduce regional dishes to their menus.

Specific emphasis has been placed on improving the consistency and quality of the food, which has resulted in a major investment in training staff. "Taking on Nuffield employees and developing them has been the most daunting, challenging and stressful part of the process".

Of particular importance is the service of food to the patients. The hostesses who deliver the food all have food-handling training and are given details of the preparation and content of all dishes so they can provide the correct information to patients. Presentation is intended to be equal to that found in room service at a five-star hotel, with strong emphasis on appeal, color and the correct temperature.

The food is served, one course at a time, from *hot trolleys* which are plugged in at the ward after being delivered direct from being prepared and cooked in the hospital kitchen. Each dish is cleared before the next course is served.

"Food is such an essential element of a patient's recovery and wellbeing that it's vital we get it right," says Anderson. So far, feedback from patients is positive. Anderson has spoken to three or four patients at each of the nine hospitals he has visited and reports that comments he has received all describe the food as "first-class".

Visitors can select a meal from the patients' menu. As well as lunch and dinner, they can choose from a selection of salads and sandwiches throughout the day and evening. A pay-as-you-go system, introduced for employees in July, started slowly and is gradually beginning to build. Staff previously had free food and have been financially compensated by Nuffield for the loss of the perk



Challenges in Operating a Central Catering for national hospitals

Because of high cost, lack of trained human resources and high technology of equipment requirement of central catering system; also existing facilities in all of hospital caterings, setting up the central catering for the hospitals in the country as national program, needs a pilot study to assay the weaknesses, threats and compatibility of hospitals' hoteling with the new services. SWOT analysis is one of the best methods for predicting outcomes of this services before implementing in the field. Based on experiences of clinical nutrition managers in the universities, we developed a comprehensive analysis of implementing central catering in the hospitals. Review of these experiences provides for hospital managers a clear view to consider all aspects of food supply outsourcing of the hospitals before action and to plan and control pitfalls. These challenges are relate to: patients as customers, employee/labor, equipment/facilities, transportation, food security and safety and operations.

Strengths:

1. Reduce direct supervision and authorities of hospitals administrators and clinical nutrition unit
2. Require less manpower compare with satellite hospital kitchens
3. Omit the personal opinions of hospitals managers in food service management
4. Integrity of food services in all of under the cover Hospitals
5. Save in hospital costs because does not need to buy the kitchen new equipment and other consumer cost
6. Reduce total service price due to the high workload of cook in each hospital

Weakness:

1. Lack of a proper system of mechanized and healthy transportation of food from the central kitchen to hospitals on a specified schedule based on national protocols for the prevention of Food poisoning in the patients and the staff.
2. Lack of satisfaction from contracting due to the current low contractors' experience in that will lead to the problems in the supply the menu and distribution of diet foods, especially in specialized hospitals
3. Lack of the possibility of direct supervision of hospitals' nutritionist and the environmental health workers on the steps of the process of preparing food that is definitely reduce the optimal satisfaction of patients and staff.
4. Lack of the necessary control and monitoring of performance in the central kitchen, so get out of the framework of indicators, processes, policies and conditions of MOH regulatory and accreditation of environmental health and nutrition.
5. Failure to match with article 19 of established regulations and operation of hospitals that make the kitchen part of the essential component of the hospital.
6. Dispersion and distance covered by some hospitals in some universities and other low number of hospitalized beds.
7. Restrictions on the supply of nutritionist and environmental health workers in central kitchen for all the time and the lack of the possibility of the withdrawal of these experts from hospitals in order to monitor the Central kitchen.
8. Unable to prepare the food at any time of the day for hospitals admission, especially in patients whose diet changes, due to change of diet orders by physicians.
9. Lack of access to a standardized vehicle for the transfer of warm foods to hospitals in hot chain without reheating the food in target hospitals.
10. Absence of the investor to set up central kitchen in a number of small geographic areas of some cities
11. Lack of continuous control of the food contractor obligations to the hospital

12. Unstable atmospheric conditions in some areas and as a result unsuccessful central kitchen services.
13. Industrial expensive central kitchen equipment.
14. Possibility of reducing quality of cooking and distribution of food because of overload of work.
15. Absence of electronic communication network between central catering and HIS for food supply of patients in hospitals.
16. Lack of ability for implementing specific and encoded diets due to the high workload and untrained personnel.
17. High cost of the breakfast supply by central catering

Opportunities:

1. Increasing coverage of nutrition consultation for outpatient and inpatient in hospitals with reduction in responsibilities being related to food service management
2. Employing of nutritionists interested in the field of food service management in central catering
3. Releasing physical space of hospital kitchen with allocation to the other hospital required spaces, such as inpatient units
4. Opportunity of employing academic educated chef
5. Taking advantage of produce variety of foods, the decor and the variety of side dishes
6. Perfect team cooperation between nutritionists, environmental health personnel, food industry and culinary and hospitality
7. Escaping from the kitchen with a worn and non-standard structures

Threats:

1. Food poisoning because of non-compatibility of the condition with article 13 of established regulations of foods and drinks, to keep food warm at a suitable condition during transferring from central catering to the hospital
2. Lack of standardized packaging system of foodstuffs for transferring from catering to hospital units
3. Possibility of mismatching of prepared dietary foods with the foodstuffs analysis according to nutritionists diet regulation
4. Delay in the timely payment of claims in terms of administrative bureaucracy to catering contractor and it influences on the quality of the diet foodstuffs or timely food supply
5. Most likely the lack of provision of food in due time, in terms of traffic problems and accidents, particularly in large cities, such as Tehran.
6. Delay or impossibility of food transfer from central catering to hospitals in critical situations such as earthquake
7. Reduce the quality of the food service because of lack of commitment to the contract that make food dissatisfaction
8. Lack of coordination between hospitals' nutritionists and central catering, particularly in the menus-and-snack
9. Selection of contractor by announcing, based on the lowest price proposal and thus fail to deliver low quality service
10. Lack of decisive and legal clash with central catering because of unconventional support of contractors
11. Lack of timely payment of claims by hospitals to contractors of central catering
12. High probability for a central kitchen to fail supplying and incomplete implementation of the diet of patients adjusted by the diet regulated by nutritionist and the patient's choice menu

