# GUIDELINES

## for Modern Kitchen & Dietary Services

2022

राजेश भूषण, आईएएस
सचिव

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**Department of Health and Family Welfare**
**Ministry of Health and Family Welfare**

## Preface

Ministry of Health & Family Welfare has been constantly striving to improve quality of services in public health facilities. An essential element of quality services is provision of respectful and dignified care for ensuring patient satisfaction. Dietary Services in a hospital is one of such area which contributes to patient satisfaction and supports speedy recovery if these are delivered efficiently.

2. In order to support the States to streamline & standardize the dietary service, the experts from NHSRC visited various health facilities in the country, consulted various dieticians working on the health facilities, took support of professional bodies like Indian Dietetic Association and International Confederation of Dietetic Association. An expert group was then constituted under the chairmanship of Joint Secretary (Policy) and after extensive deliberations, the Guideline on Dietary Services in District Hospitals have been prepared by this expert group. I convey my thanks to all experts, NHM Division of the Ministry and NHSRC for bringing out a comprehensive guideline for establishing dietary services in Public health facilities.

3. I earnestly hope that States will take interest in utilizing these guidelines for establishing a modern kitchen and dietary services at district hospitals and other secondary care health facilities. This will help in planning and Operationalizing quality dietary services at public health facilities and will eventually cater hospitals to the nutritional needs of the patients.

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## Foreword

District Hospitals are of paramount importance in imparting comprehensive secondary care services. Without the aid of support services such as CSSD, Mechanized Laundry, Security and Dietary services, strengthening of clinical services is a distant dream. With rising expectations in public health facilities, it becomes all the more essential to equip such support services with prospective layout plan, technical protocols and adequate human
resource.

Ministry of Health and Family Welfare has prepared technical and operational guidelines for Dietary Services in a District Hospital with a vision to provide ergonomically designed, well equipped modern kitchen so that clean and balanced diet can be delivered to patients visiting our health facilities.

I take this opportunity to express my sincere gratitude to Ms. Preeti Sudan, Secretary Health, Mr. Manoj Jhalani and Ms. Vandana Gurnani, ex-AS&MD for their encouragement, advice, and constant support in developing these guidelines.

My sincere thanks to NHSRC, specially, Dr. Rajani Ved, chairperson of the expert group, Dr. Himanshu Bhushan and his team for drafting these guidelines. I would also like to thank all the national experts from institutes such as Indian Dietetics Association, Anandwan- Community Rehabilitation Centre, AIIMS- New Delhi, Institute of Hotel Management- Pusa Road, MGIMS Wardha, LNJP Hospital- New Delhi etc. for their contribution in framing these guidelines. Their inputs have been valuable.

I sincerely hope that these guidelines will help the states in planning dietary services in their health facilities in order to achieve high quality of services to every patient.

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## Foreword

Food and nutrition are critical for ensuring good health and for preventing morbidities. Maintaining good nutrition during hospitalization is vital because an undernourished body is significantly associated with weak immune system which may lead to increased risk of hospital acquired infections, delayed wound healing, longer hospital stay, higher mortality and morbidity. Therefore, providing good quality dietary services within health care facilities is of utmost importance.

Ministry of Health and Family Welfare has developed guidelines to ensure quality Dietary Services in public hospitals with a vision to equip kitchen so that hygienic and balanced diet can be prepared for the in-patients. These guidelines are a careful documentation of the scientific methods that would aid establishment of high standards for hygienic and nutritious food to hospitalized patients

I am highly grateful to Sh. Rajesh Bhushan, Secretary Health & Family Welfare, and Ms. Vandana Gurnani, AS&MD for their constant support and guidance while preparing these guidelines. My sincere thanks to NHSRC team, state representatives, professional organizations and experts from various institutes for their contributions in drafting these guidelines.

I hope the states adopt and follow the guidelines in the right spirit to facilitate the provision for good quality and hygienic dietary services in District Hospitals as envisaged under National Health Mission.

**(Vishal Chauhan)**

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# Abbreviations

| | |
|---|---|
| AMC | Annual Maintenance Contract |
| ANM | Auxiliary Nurse Midwife |
| ASPEN | American Society for Parenteral and Enteral Nutrition |
| B.Sc. | Bachelor of Science |
| CCTV | Closed Circuit Television |
| CHC | Community Health Centre |
| DGHS | Directorate General of Health Services |
| DGS&D | Directorate General of Supplies and Goods |
| DH | District Hospital |
| FEFO | First Expired First Out |
| FIFO | First In First Out |
| FoSTAC | Food Safety Training and Certification |
| FSDB | Food Safety Display Boards |
| FSSAI | Food Safety and Standard Authority of India |
| GN Pan | Gastronorm Pan |
| GNM | General Nurse and Midwife |
| GOI | Government of India |
| GRS | Grievance Redressal System |
| HAI | Hospital Acquired Infections |
| HR | Human Resource |
| HVAC | Heating Ventilation Air Conditioning |

| | |
|---|---|
| ICU | Intensive Care Unit |
| IPD | In Patient Department |
| IPHS | Indian Public Health Standards |
| JSSK | Janani Shishu Suraksha Karyakaram |
| LED | Light Emitting Diode |
| M.Sc. | Master of Science |
| NBM | Nothing By Mouth |
| NPO | Nill Per Orally |
| NQAS | National Quality Assurance Standards |
| OPD | Outpatient Department |
| PPE | Personal Protective Equipment |
| SDH | Sub District Hospital |
| SOP | Standard Operating Procedures |

# 1

# Introduction

With the launch of Ayushman Bharat, wellness part of the health is increasingly getting more focus and priority. This has comprehensively been integrated as part of primary healthcare at all the health and wellness centres of the country. So, it is incumbent upon the District Hospitals (DH) being epicenter for provision of secondary care services and also to provide preventive and promotive aspect of health for achieving holistic health of the population. Diet plays a vital role in the treatment of patients. Healthy food habits with a balanced diet and dietary therapeutic counselling becomes key for preventing and controlling not only the illnesses but also help promote such practices that sustains a healthy life. Inadequate and improper diets are not only responsible for under nutrition but also contribute to several chronic degenerative diseases such as cardiovascular diseases, diabetes and cancer.

Nutrition services within health care systems have become increasingly important and significant. Indian Public Health Standards (IPHS) defines availability of dietary services as an essential component for the District Hospital (DH). At present the dietary services are mostly available in tertiary care hospitals only. In almost all District Hospitals, the kitchen services are not properly organized and even the availability of dietician is limited.

For efficient dietary services, role of dietician is important. Dieticians not only cater to the patient's food requirement, but also ensure technically correct procedures so that nutritive quality of the food is preserved during process of cooking. They are also responsible for planning, prescribing, and counseling patients about their diet according to their disease conditions. Diet being a therapy, diet-counseling plays a major role in planning and executing diet plan based on the disease conditions of the patients, especially if done in the presence

of the attendants. The diet counselling could include aspects like nutritional assessment, food habits and therapeutic nutritional needs. In-fact, a study highlighted that nutrition has a strong role in reducing COVID-19 related morbidity and mortality in any population, especially in malnourished people. (Hakeem et al. 2020)

As per ASPEN, nutrition intervention and therapy need to be considered as an integral part of the approach towards patients to achieve optimal outcome. Therefore, the quality of dietary services and role of dieticians have been perceived as important intervention for management of COVID patients, particularly in hospital settings across the world.

The dietary services should be provided as in-house support services by qualified and trained staff. The public health facilities providing secondary and tertiary care services should have dietary clinic in OPD and dietary services for admitted patients for better outcomes.

It is therefore needed those hospitals providing dietary clinic and dietary services should have a well-planned infrastructure, infection prevention measures, protocols & process for preparation and distribution of cooked diet, etc. in a systematic way and simultaneously, ensuring quality.

## 1.1 Objectives of the Guideline

- To help administrator/hospital managers/programme managers/dietician to organize and establish dietary services in the hospital.
- To provide guidance for delivering good quality dietary services including counselling and therapeutic diet to all the patients as per norms, standard and protocol.
- To make provision for clean, hygienic and nutritious diet for indoor patients as per their caloric requirements.
- To describe the layout/flow of various processes for hygienic cooking and supportive infrastructural requirement including zoning and protocols for modern kitchen.
- To develop district hospital as training hub for dietary services including Anganwadi workers, mid-day meal cooks etc.

## 1.2 General Principles

1. While planning kitchen services all the core areas like storage, cooking, cleaning, transportation and serving the food should be taken into the account.
2. The flow of services should be maintained as indicated in the guideline. However, there can be flexibility in size, layout plans etc. which will largely depend on bed capacity and available space.

3. Existing services, infrastructure, equipment, HR, etc. need to be assessed and synchronized with IPHS.
4. While preparing layout plan scope for future expansion needs to be considered.
5. Regular mechanism for capacity building of the existing HR, i.e., knowledge upgradation in light of newer interventions and exposure to new technology.
6. The infection prevention protocols, hand washing and hygiene practices need to be adhered.
7. Record of supervisory visits and quality assurance protocols need compliance as per the formats indicated in the guideline.
8. Every kitchen and dietary service area should receive potable supply of water along with good drainage system connected with washing area. The design of the dietary service should be such that provides smooth entry for regular groceries and restrict the movement of staff or patients, allowing entry of only those who are on duty or called for by the dietary staff.
9. Food shall be served to patients with humility, respect, and dignity.

# 2

# Establishing Dietary Services in a District Hospital

In this guideline dietary services for the district hospitals have been described in detail as the establishment of such services will help in achieving IPHS compliance for support services. This chapter covers services offered in OPD and IPD related to diet. The section also covers the flow of dietary services in IPD, (assessment of diet requirement, type of diet, distribution of diet, monitoring, counselling etc.), food service & delivery system, and management of food materials in the kitchen.

It has two distinct service parameters:

a. Establishing dietary OPD clinics
b. Establishing dietary Indoor services
   i. Flow of Services
   ii. Food management and processing

## 2.1 Dietary OPD Clinic

Dietary clinics/OPD can be run either in morning or in afternoon by the dietician. Periodicity can be daily/alternate days depending upon the number and the availability of dieticians in the hospital. In these clinics, patients referred by the clinicians can be seen, assessed and prescribed diets depending on specific disease or illnesses (like diabetes, hypertension, jaundice, renal diseases, etc.) they are suffering from. Diet charts can be prepared as per their food habits and Body Mass Index (BMI) etc.

Such clinics can also run in the health and wellness wing of the hospital where anybody seeking the dietary advice from a dietician either for disease specific conditions or for maintaining healthy lifestyle can consult for dietary counselling and plan.

To promote wellness part of health, dietary department of the hospital should organize periodic outreach sessions to the population living in the community for diet counselling.

### Nutrition counseling

- Dietary counseling is vital for both outdoor and indoor patients. Amongst the several responsibilities of dieticians in a hospital, primary task to be performed by them include diet counseling for providing patients diet charts as per their clinical conditions.
- The services could also be utilized for routine diet counseling to the population and for ensuring healthy lifestyles as a part of preventive and promotive aspect.
- However, many patients do not make use of professional dietic services like dietary counseling and education. So, there is scope to improve utilization of such services by generating nutrition awareness among patients, attendants and the other community members through outreach session, wellness camps, etc. A proper dietary plan provides adequate nutrition and strength to overcome the morbidities which a patient is suffering from.

## 2.2 Dietary Indoor Services

This is one of the most important and major part of dietary services of any hospital. It has a pivotal role in improving the vitality of patients and contributes to reduce their psychological stress. A proper dietary plan provides adequate nutrition and strength to overcome the morbidities, which a patient is suffering from.

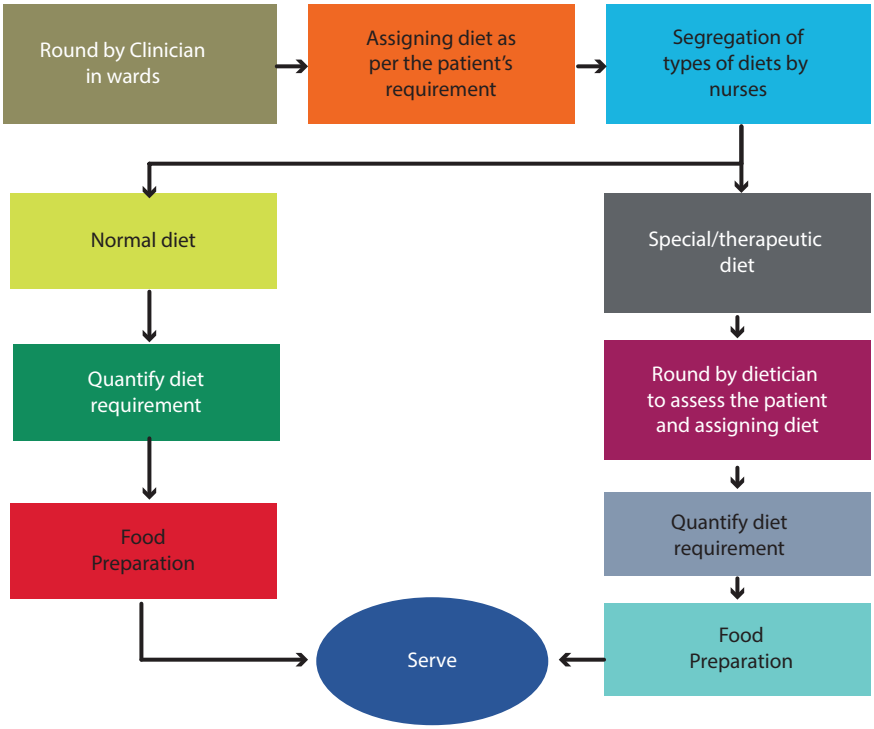
In indoor patients, the nutritional status usually deteriorates because of the illnesses that causes impaired swallowing, appetite, and gastric absorptions. In addition, the unwell patients do not feel like eating and the stress on the body bring changes in substrate metabolism, thus leading to nutrition deficiency and malnutrition. As per a study, approx. 40% of the ICU patients were found malnourished after hospitalization, which leads to poor health outcomes like delayed wound healing, increased risk of hospital-acquired infections (HAIs). (Chakravarty et al 2013)

In IPD, the major challenge is to timely provide four meals a day. Ensuring diet as per their prescription like therapeutic diets for critically ill patients, for maintaining health & hygiene and distribution of food with dignity in public health institutions and this guideline provide solution to such challenges. To begin with, the flow services to be maintained a hospital is given below:

## Flow of Services

- Assessment of clinical condition
- Assigning the type of diet by the clinicians
- Segregation of type of diet by the nurses
- Sending the total number of prescribed diets to dietician for planning and preparing menu
- Forwarding normal diet plan as per the menu to head cook by dietician
- Round by dietician to assess the type of diet according to the nutritional requirement of the patient for special/ therapeutic diet
- The In-charge of the kitchen shall ensure that patients get diet as per defined menu and direction of dieticians
- Cooked food is checked for its quality, thereafter, served to the bed side of the admitted patients.

**After clinical diagnosis & prescriptions of diet, the flow of dietary services is placed below:**




## Assessing Diet Requirements

- During the round of the clinician in the IPD wards, the clinical conditions of the patients will be ascertained for the type of diet required.

- If the patient is required to be restricted from intake of any food or water as nil per orally (npo)/ nothing by mouth (nbm) order, it should be mentioned by the doctor in the patient's case file.
- During the round of the dietician, the therapeutic diet of patients will be determined by the dietician in consultation with concerned doctor based on the clinical condition of the patient and after assessing the food habits.
- The diet recommended by the dietician shall be documented in the IP case file of the patient.

## Types of Diets

- **Therapeutic Diet:** Hospital shall have special/therapeutic diet schedule for the critically ill patients suffering from heart disease, hypertension, diabetes, pregnant women, diarrhea, renal patients, etc.
- **Regular/Normal Diet:** The other patients that do not require therapeutic diet can have regular/normal diet.
- **Special Diet:** Free/Subsidized diet facility for patients and/or JSSK beneficiaries. GoI guideline on dietary services for JSSK beneficiaries may also need to be referred. (https://bit.ly/3xl5tp6)

## Preparing Diet Slip

- The nursing staff shall prepare the diet slip (containing name of the ward, date, diagnosis of the patient, type of diet) according to the doctor's order.
- The diet requirements shall be communicated to the kitchen staff one day prior to the serving of the diet.
- The dietary requirement of the IPD patient shall be sent to kitchen for the upcoming meal to be distributed, immediately after the admission.

## Diet Planning and Quantifying Diet Requirements

- Dietician shall prepare a comprehensive list of diet requirement for the entire hospital based on the diet slips received from various inpatient areas. This shall be documented in a diet register. The list shall contain the ward wise type of diet requirement as well as the aggregated total.
- In case of any further admission/discharge in the ward, the diet addition/ omission shall be communicated verbally and through a written slip by the on-duty nursing staff to the kitchen staff.
- The comprehensive diet list containing type of diet and total number shall be conveyed to the cooks as well as written on the kitchen information/black board for easy reference.

## Menu Planning

Hospital menu must meet the nutritional requirements of diverse patient groups and to facilitate faster recovery. This will also help in maintaining better standards of well-being.

- The menu planning is done for the individual patients under the overall budget sanctioned for each patient.
- While planning menu special needs of the patients as indicated by the clinician is taken into consideration.

Food is prepared as per the menu planned in the hospital kitchen.

## Diet Preparation

- The food preparation is done in the food preparation area. The supplies to these areas will come from pre-preparation area, stores, refrigerators etc.
- None of the authorized staff should enter this zone without changing into clean uniform (washed daily) with protective attire.
- The process of food preparation should be initiated only after washing hands thoroughly. Food shall be prepared by trained staff, ensuring standard practices, as per the menu plan.
- Dietician shall train the staff on the quantity of ingredients to be used, cooking techniques and procedures for hygienic food preparation.

### Prevent cross contamination

**Use the correct colour coded chopping boards and knives**

- Raw meats and poultry only
- Raw fish and shellfish only
- Raw unwashed vegetables, salads and fruits only
- Ready to eat and cooked foods only
- Washed vegetables, salads and fruits only
- Bakery and dairy products only

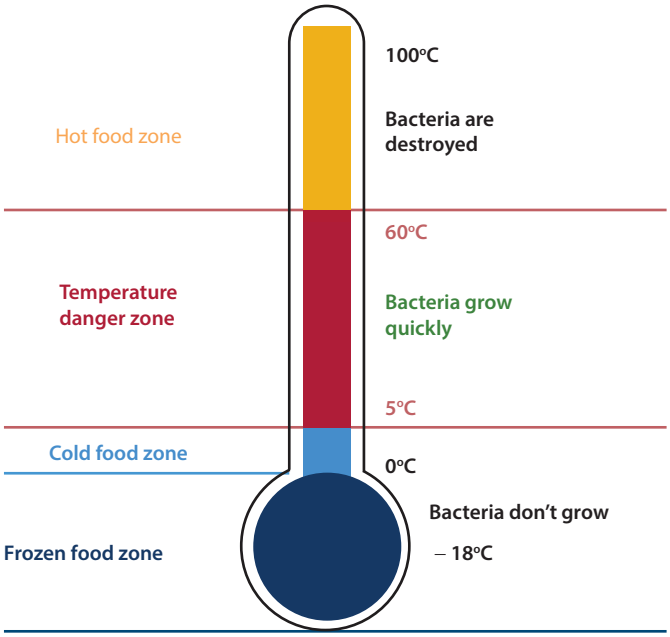
## Key Points

- Raw food/meat/poultry should be kept separately below the ready-to-eat foods in the refrigerator.
- To ensure hand hygiene posters depicting six steps of hand washing technique could be displayed at appropriate places.
- Hands should be thoroughly washed before switching from preparing non-vegetarian products to any other activity.
- Work surfaces, chopping boards and equipment should be thoroughly cleaned (in-tend, clean and sanitize) before the preparing of food starts and after it has been used.
- Separate chopping boards and knives for raw fruits/vegetables/meat/poultry and ready-to-eat food should be used (For ease, color code the knives and boards).
- Staff should be made aware how to avoid cross-contamination.
- The various procedures defined by dietician for preparing the diets should always be adhered to.
- Individuals responsible for specific areas must keep their areas always clean and tidy while cooking.

## Packing of the Food

- As a protocol and good practice, cooked food should not be stored for serving in any further meal rounds. So, while preparing food, the quantity to be cooked should not be more than what is required for serving the indoor patients.
- Repeated change/variation in temperature helps in growth of microbe. Food items kept in refrigerator, once taken out for serving should not be put again in refrigerator. Meaning by, only such amount of refrigerated food should be taken out, which is to be served or consumed.
- After preparation of the food, it shall be transferred into the designated vessels of the food trolley with all necessary precautions to maintain hygiene.
- Alternately, food can be packed into individual trays/insulated tiffin carriers with patient's nametag attached- in service/packing area in the kitchen itself. It is then loaded onto kitchen utility trolleys/ hot food trolleys for tray service; ferried to the wards and distributed to the patients.
- Before transferring the cooked food into the trolley, it should be checked that whether the trolley is clean or not.
- The cooked foods are then stored in adjoining storage space from where food trolleys are filled. The trolleys for different ward are then dispatched.

- The temperature danger zone is between 5°C and 60°C, when it is easiest for harmful bacteria to grow in food
- Minimise the time that food spends at these temperatures in order to keep food safe
- Refrigerated food needs to be kept at 5°C or below
- Hot food needs to be kept at 60°C or above



## 2.3 Food Service and Delivery System

There are two major types of food delivery/service/systems.

These are:

1. Centralized and
2. De-centralized.

In **Centralized delivery** service system, food items are portioned and plated. The trays for individual patients are assembled and prepared in the serving zone of the dietary service area. Alternatively, in the same area food trolleys for different wards are loaded for distribution.

For patients on therapeutic or special diet, centralized food delivery is more appropriate, so that for individual patients the food can be packed under the supervision of dietician.

**Decentralized Delivery** Service System is the one in which food items are sent hot and/or cold to serving pantries or ward kitchens located throughout the facility, from where patients are served hot food (Palachio and Theis, 2012). In public health facility, this system is generally practiced for private ward patients where food items are heated if required or fresh chapatis are prepared in the pantry of private ward. The food service system in hospitals should be adjusted to the patients' needs taking into consideration their physical and mental condition. This often requires different serving systems.

**Ideally, the food service system in hospitals should be adjusted to the patients' need, taking into consideration their physical and mental condition. This often requires different serving systems depending upon the individual hospital protocols, available space, HR, etc.**

### Distribution of diet

- Food shall be transported from kitchen to the ward in covered vessels only.
- The food trolley bearer shall proceed with the food trolleys and the diet list towards each ward for service.
- The food trolley bearer shall always use gloves and clean ladles for serving food to patients.
- Compartment plates provided by the hospital should be used for serving food to the patients.
- Food shall be served to patients with humility, respect, and dignity.
- After serving the diet, food trolley bearer shall collect the plates and keep in trolley ensuring no spillage in the ward.

- Once the distribution of meal and collection of trays have been completed, take acknowledgement signature from the Nurse In-charge/Staff Nurse of the ward on the diet slip/diet register for diet supplied to the ward.
- Before the trays are put in dish washer the left-out food should be collected and segregated for disposal as per the defined protocols.

## Do's & don't to ensure food safety during transporation of cooked foods

### Do's

- ✓ Timely preparation and transportation of foods to their destinations at proper temperatures (outside of the Temperature Danger Zone of 50°C – 63$^0$C). Maintain proper temperatures all the way to the wards: hot foods above 63$^0$C and cold foods below 50$^0$C, till food is consumed.
- ✓ Food served to the patients should be consumed immediately and certainly within prescribed time.
- ✓ Use Clean and sanitize containers throughout the preparation period and during transportation of food.
- ✓ Transit time for food should be minimized (30-40 mins max).
- ✓ Food samples should be tested at set frequency.
- ✓ Throw the food, which was kept in danger zone for 4 hours or more.
- ✓ Personal hygiene of cooks and helpers should be of highest degree.

### Don't

- ✕ Avoid use of soiled and non-insulated food carriers (food contamination, temperature abuse). Use clean delivery vehicles, clean food carriers, and thermometers to monitor hot and cold food temperatures.
- ✕ Avoid bare hands contacting ready-to-eat foods (hand and microbial contamination).
- ✕ Avoid leaving cold food outside for too long which will be transported (due to bacterial growth).
- ✕ Prevent cross-contamination between raw foods and ready-to-eat foods during preparation handling and transport, by using color-coded or dedicated equipment.

### Washing

- Food containers, trolleys, trays, and cutlery after use by patients in different service areas is brought back for cleaning after breakfast, lunch, and dinner.

- The entry trolley will come through cleaning areas and will go directly to washing area.
- The returned trays should be pre-rinsed using hot water to render the items sanitized (wash temperature 65 °C–70 °C, rinse temperature 85 °C–95 °C).
- Rinsing can be done using jet shower/ pressure wash to remove any leftover food/ stain. Rinsing is most effective if these compartments have a slope.
- After removal of leftover food from these trays, they should be moved on to the third sink unit for further cleaning and washing.
- The trays could then be placed on perforated/wired racks for drying.
- Trolleys are parked in trolley bay after washing and cleaning.
- Soiled dish landing tables with garbage chute should be there for stacking soiled trays.

### Quality check of food

- Dietician can undertake a random check on taste and quality of food being served to the patients.
- The records of such inspection and non-conformities of the quality check done shall be maintained in the food quality register.
- For any discrepancies/conformities observed, the cooks shall follow the dietician's order.
- Quality checks should also be undertaken for spices, oils etc. being used for cooking.
- Dietician and Head Cook should keep a check on ensuring that no poisonous/ harmful substances like pesticides/insecticides, kerosene oil or any other such liquid/powder is stored in the same store where either perishable or non- perishable items are kept.

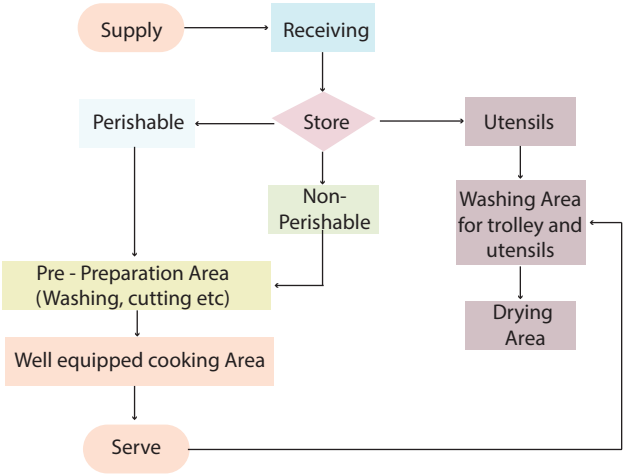
### Monitoring patient's meals

- Monitoring of patient's meals and food intake is helpful and important in improving quality of food services in hospitals.
- Monitoring should include specific characteristics like hygiene maintenance, taste, appearance, color, texture, and temperature of the food served in the hospital.
- Monitoring the quality and taste of food and food services in a hospital is critical for ensuring the overall patient satisfaction for food services. (Sahin et al, 2006).

## 2.4 Management of Raw Food

The design of kitchen is important to ensure the adherence to the procedures and protocols recommended to deliver quality services. This part enumerates the details of supply chain management and the process of food preparation and distribution, for the understanding of the hospital staff which is critical for the efficiency and effectiveness of the dietary services.

## Supply Chain in Dietary Services




## Purchase of Raw Materials

- The purchase shall be done from pre–qualified and selected vendors as per the approved and quoted rates.
- Raw materials shall be purchased daily/monthly as per the menu plan.
- Vegetables, fruits, eggs, bread, paneer, milk and curd are purchased daily. Whereas, grains, pulses, biscuits, spices, and other condiments shall be purchased on monthly basis.
- All the purchase shall be recorded in the stock register (date of purchase, vendor's name, quantity of materials purchased) or barcoding can be done to ensure computerized records and monitoring of stock.

Ideally, at the time of purchase the food should be checked for expiry date. The items with short expiry could not be expected. Both the principles of First-In, First-Out (FIFO) or First Expired-First Out (FEFO) can be followed in the store, based on the type of items. For instance,

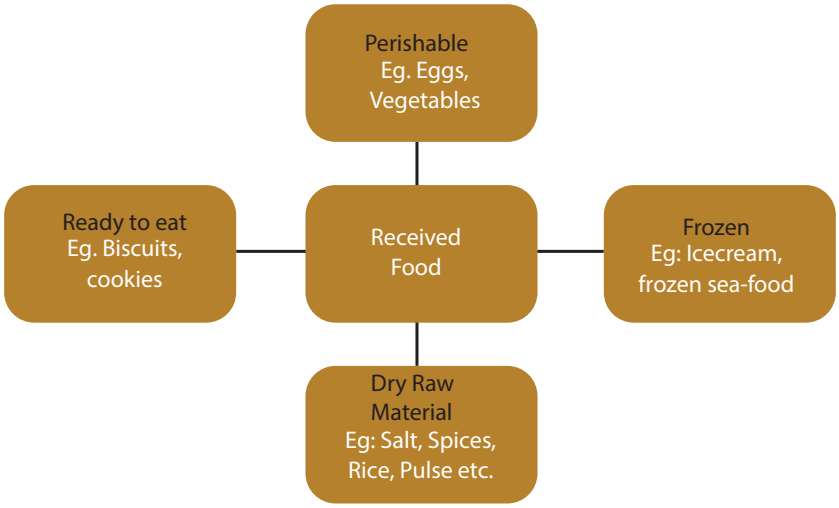
- 'FIFO' for foods like grains, pulses/dal, rice, etc.
- 'FEFO' for foods like fruits, vegetables, oils, flour, paneer, etc.

## Procurement of Raw Materials

- Check the temperature of delivered food-they must be at same temperature as your storage temperature.
- Use only licensed/ grade A eggs, pasteurized milk products and meat from inspected source.
- Do not buy/use cans that have dents and packages that have leakages.
- Check expiry/best before dates.
- Look for signs that frozen food has thawed and been refrozen.
- Check produce for signs of spoilage, insect & dirt.
- Check meat products for freshness (bright color, no odor).
- Buy raw produce as per requirement and storage capacity to avoid food spoilage and waste.

### Sorting of raw materials

At the receiving area, an area is marked for sorting of various stores, perishable and non–perishable items so that various undesirable packing material are sorted there before the materials are taken for storage.



## Storage

- After sorting at receiving area, the material is taken to their respective stores.
- Dry food should be kept at room temperature, chilled or refrigerated food at 1-40°C and frozen food at -18°C or below.
- In refrigerator, keep raw & ready to eat food separate. Raw food should be kept on the lowest shelf in the fridge. (For larger facilities, heavy duty commercial double door refrigerators too could be purchased for storage of dairy, paneer, frozen foods etc.)
- The sequencing of food in refrigerator is important to prevent contamination from raw food to the cooked food. However, it might vary based on the refrigerator manufacturer's instructions in relation to the temperature zone.
- Food stocks should be stored and used as per the concept of First-In, First-Out (FIFO) or First Expired First Out (FEFO) and food beyond its use-by/expiry date should be strictly discarded.
- All the food containers shall be stored above floor level. For example, flour is kept 15 cm above the ground.
- A temperature monitoring device shall be used on the refrigerator and temperature shall be recorded daily on a daily temperature monitoring checklist. The freezer unit should be defrosted regularly (as per the specifications given by the refrigerator manufacturer).
- All items are sorted and kept at their designated place.

## Key Points

- Frozen food must be stored at -18°C (0°F).
- Refrigerators & Refrigerated display units must be 4°C (40°F) or colder
- Dry storage areas should be from 10°C to 21°C (50°F to 70°F).
- Store raw and ready to eat/cooked food separately.
- Never store raw food above ready to eat/cooked food.
- Keep food covered at all the time.
- Keep all foods labelled.
- Rotate stock (FIFO- First in First Out and FEFO- First Expire First Out).
- Store all food 15cm (6 inches) above the floor to facilitate cleaning and deterring pest.
- Keep packaging material covered to avoid contamination.
- Rejected material to be kept separately to avoid cross contamination.

**Note:**

a. Do not store food near chemicals or cleaning supplies are kept.

b. Avoid storing food in janitor closets, under stairways, etc.

| Sequence of veg refrigerator | | | Sequence of non-veg refrigerator | | |
|---|---|---|---|---|---|
| Top shelf | Ready to eat & veg salad | | Top shelf | Ready to eat & non-veg salad | |
| Medium Shelf | Cooked vegetable | | Medium Shelf | Cooked non-veg | |
| Bottom Shelf | Raw vegetable | | Bottom Shelf | Raw non-veg | |

# 3

# Infrastructural Support

**Location**

While deciding the location of kitchen, the following considerations may be kept in the mind:

a. It allows easy access to bulk supply of raw materials,

b. To the extent feasible, the location should be such that it is convenient to serve to the inpatient wards.

Location of gas bank, exhaust vents and drainage should be considered before setting up the department. Wherever dietary department is located outside of main ward areas, a covered passage is to be provided to protect food from rain, sunlight and dust. For easy movement of the food trolley, wherever required, ramps should be available.

**Location shall ideally be away from**

1. Environmentally polluted area.
2. Industrial activities that produce disagreeable odour, wastes, chemical or biological emissions, etc.
3. Areas which are prone to infestations of pests.
4. Areas where industrial wastes cannot be removed effectively.
5. Residential area.
6. Filthy surroundings.
7. Potential sources of contamination like wastewater, toilet facilities,open drains and stray animals.

Protocols related to dietary department have evolved over a period of time. The current design is a modification of DGHS (1989) design, which comprises of dedicated spaces for washing, reception areas etc.

For smooth running of dietary services, three major infrastructural support areas are required. These are:

1. Administrative Area
2. Receiving & Storage Area
3. Preparation, Distribution and Washing Area

Ideally, the kitchen layout in the DHs should have all the three components collocated on the same floor. If the existing kitchen has limited space available, in that case local modification can be done ensuring that the preparation and distribution area are adjacent to each other. If no dietary services are available at the hospital, new infrastructure could be developed ensuring the flow of services as per the sample layout given in **Annexure 1**.

**1. Administrative Area**

a. This area consists of dietician's office, administrative office, meeting and training room, sundry store, washrooms, and janitor room.

b. From this area monitoring and supervision of the entire dietary services is done.

c. Dietician's office should have seating facility for dieticians working in the hospital.

d. The administrative office needs to be equipped with office desk and chairs, computers, camera monitors, steel cabinets for keeping Office records and registers etc. to ensure effective record keeping and monitoring.

e. Sundry store is required for storage of detergents, soaps, cleaning fluids etc. so as to prevent mix up with grocery items.

f. In case of shortage of space in a vertical structure, the administrative area can be established on a separate floor.

g. If established at a distance from the storage and preparation areas, monitoring should be ensured through CCTV cameras and intercom services.

**2. Receiving & Storage Area**

## Receiving Area

a. This area should be accessible to main road of hospital where unloading of trucks can be done without any hindrance to the patients. The entrance door width should be more than 5 feet.

b. The receiving area should be located near the delivery door and should be convenient to the storage areas.

c. Receiving area is to be equipped with a platform scale for weighing ration items.

d. It should have area marked for sorting of various stores, perishable and non–perishable items so that various undesirable packing material are sorted there before the materials are taken for storage. Equipment required in the area: Weighing scale, Trolley to move items from receiving to storage area.

## Storage Area

This consists of storage spaces for perishable (veg and non-veg), dry store and day care store.

- This area should be maintained as clean zone with entry only for authorized person. It should have enough and dedicated stores for storing different type of materials.
- **Dry Store:** It should be a well ventilated, rodent proof room to store non-perishable items like grains, pulses. The items shall be contained in clean airtight containers and kept on racks.
- **Cold Storage area** for perishable items like milk, dairy products, eggs, fruits and vegetables. The perishable items can be stored separately for vegetarian and non–vegetarian items.

Store area should be ventilated and well-lit. All items are sorted and kept at their designated place. The flour is kept 15 cm above the ground.

**3. Preparation, Distribution and Washing Area**

- The zone consists of pre-preparation area, cooking area, storage for cooked food, trolley store, washing area for utensils and trolleys and exit of food trolley.
- Any entry to this zone should only be through change room.

**Equipment** such as mixers, grinder, potato peelers, vegetable washer and a dough kneader could be installed. Examples of equipment with their specifications are **Annexure 6**.

## Packing Area

Serving/Packing area receives prepared food from main kitchen after which the trays are prepared and dispensed. It should have enough space for packing and temporarily storing the food before distribution.

## Washing Area

- This is the area where food containers, trolleys, trays and cutlery after use by patients in different service areas is brought back for cleaning after breakfast, lunch and dinner.
- There should be enough space for the entry trolley to come through cleaning areas and to go directly to washing area.
- After washing and cleaning, trolleys are required to be parked in trolley bay.
- Provision of soiled dish landing tables with garbage chute should be there on which soiled trays can be stacked.
- Washing area would require special three compartment sink: one for pre rinse, one for soaking and third for washing.
- Arrangements to have water showers and pressure jet for cleaning plates, utensils and food trolley are essential, particular to this area.

## Garbage Disposal

Used leftover food brought from wards, peelings of vegetables in preparation area and any other waste material needs to be collected in bags and then put in garbage disposal area for further disposal same day by housekeeping staff. The garbage and any other waste material should be removed twice a day i.e., once after preparation of lunch and once after preparation of dinner.

## Ventilation

In addition to exhaust hoods above the cooking ranges, kitchen should be provided with high powered exhaust fans for taking out smoke and greasy material from kitchen while cooking. It also reduces smell of food and other items. Provision of a fresh air inlet through

centralized duct of kitchen in the dietary department should be there too as it helps bring down the temperature in the kitchen markedly.

## Exhaust Systems

Exhaust systems are made of several interdependent units. Exhaust hoods, exhaust fans, make-up air units, and packaged rooftop HVAC (Heating Ventilation Air Conditioning) units all need to operate within defined parameters to complement one another and to maintain peak performance. The exhaust canopy must cover all cooking appliances with an overhang of 150mm to capture the cooking fumes. An effective exhaust system should get rid of:

• Heat • Particulate matter • Grease laden steam • Cooking vapors.

Exhaust hoods should be placed above cooking equipment and have the ability to capture and contain the airborne waste matter produced by cooking equipment.

Exhaust fans must be capable of removing the collected airborne wastes at a rate equivalent to their generation, and similarly, make-up air units need to be capable of replacing an equivalent volume of the extracted waste fumes. The exhaust systems should be cleaned at defined periodicity for its efficient functioning.

## Air Curtains

Preparation area should be provided with air curtain at the entrance to control Flies, which is a major area of concern in all hospitals. Also having a positive pressure blow of air would prevent dust from going in.

Apart from air curtain, 1-2 luminous anti-fly portable devices should be installed in the food preparation area, storage area and at other places depending upon fly nuisance in Dietary Department. Sliding window that can be opened should have enforcement with wire mesh doors to avoid fly nuisance.

## Clean electric power supply

Distribution of electric load along with load balancing to various equipment and installations in a facility is very important since overloading at any point can result in mishappening like electric fire hazard or can damage the equipment. Similarly, fluctuation in voltage also adversely effects the equipment and hence automatic voltage regulators which regulate fluctuating input power voltage and maintain constant output voltage should be provided. So, putting electrical installation as per electrical layout plan is a specialized job and must be given due importance to ensure proper care with reduced risks to the patient.

Adequate no. of electric points on the various walls (at < 1.5 m height from the floor) needs to be ensured for easy connection. Use of explosion proof plugs, plug connector and socket is essential to ensure safety against explosion.

New electrical appliances should have a minimum 3-star rating from Bureau of Energy Efficiency or equivalent recognized organization to minimize the energy input.

Constant digital display for neutral and earthing should be there. (The voltage between neutral and earthing should not more than 5 volt otherwise, it can harm the semiconductor devices. Hence, digital display should be installed to monitor the voltage between neutral and earthing).

## Lighting requirement

Dietary department particularly kitchen requires good natural light, hence maximum use of windows with heat absorbent films or glasses be installed in dietary department. LED lights are efficient source of power and produce very little heat which perfectly suits the kitchen ambience.

Good illumination must be ensured in food preparation and processing area. This will avoid any undesirable mixing of ingredients and also from the point of view of occupational safety as well. The light of 400-750 lux is generally recommended.

## Water Supply

Water can be a major source of infection if its cleanliness is not maintained. Clean water supply is important for the sick people and also for their preparing diet. So, the hospital management needs to ensure round the clock availability of adequate potable water in the dietary department and kitchen.

- Wherever need be, water purifiers could be installed at appropriate places Cleanliness and periodic maintenance of all equipment, including purifiers needs to be ensured.
- Water sample to be tested periodically and storage tank should be cleaned regularly and record for the same needs to be maintained.

**Other important infrastructural considerations:**

- Floor should be hard having smooth, easy to clean surface but not slippery. There should be good slope for water to drain through the outlet.
- Walls should be smooth, easy to clean and should have no projections to avoid dust collection. Side walls can be of vitrified tiles/tiles which are easy to clean and does not absorb water or moisture.
- Enough number of washbasins and elbow operated taps should be in kitchen area, processing area and in dining halls.
- Pipe connection of cooking gases, solar water heating system, good quality and efficient drainage system is critical support for establishing dietary services

- The floor of the cleaning area should have open piped mesh for easy flow of water.
- It is to be ensured that no food left outs are discarded in cleaning area otherwise it will choke the drainage system.
- Adequate number of toilets and bathrooms with shower facility for the kitchen workers should be planned for maintaining good hygienic environment.
- Dietary department should be painted with bright but soothing color paints to avoid sad and depressing environment. Dark and dull color, brown color, earth colors are no more used or recommended.

### Physical Facilities for Staff

A changing room with locker and cloths hanging facilities should be constructed adjacent to Pre-preparation area. To ensure this strictly; following are recommended:

- Wash Basin - One for 4 employees
- Toilets (Male/Female) - One for 8 employees
- Locker - One for each employee
- Change Room – One (Male), One (Female)

### Converting existing Kitchen as Modern Kitchen for Dietary Services

In the DHs where dietary services are already available, to further strengthen the services, a detailed assessment can be undertaken. To ensure the adequacy of infrastructure, services, protocols and process the checklist (Annexure 8) could be referred. If the gap assessment indicates renovation of the infrastructure then, the general principles of planning dietary services should be adhered to and the availability of all the essential areas as per the sample layout should be ensured.

# 4

# Human Resource & Training

The department should be under direct control of a Dietician. In her/his absence, MS/ Hospital In-Charge should directly control the department for operational purposes. She/ he should be responsible for overall management of dietary services. HR shall be deployed as per norms under IPHS and the number will depend on the bed strength of the facility. For a 200 bedded DH, one dietician and two Assistant dieticians and for 300 bedded DH, two dieticians along with two Assistant Dieticians are recommended. The dietician should be qualified in Food and Nutrition/ Dietetics/Clinical Nutrition/ Nutritional Dietetics/ Home Science with specialization in Food and Nutrition. Experience and level of degree (graduate/ post-graduate should be decided by the respective state for various category of dietician).

## Training

- Food handlers (like storekeeper, cook, food trolley bearer) should be aware of their roles and responsibilities in protecting food from any contamination.
- They should have the necessary knowledge and skills that are relevant to food production, packing, storing and serving food safely.
- All food handlers should be trained by the Food Safety Supervisor as per the FoSTaC programme of FSSAI.
- Periodic assessments of the effectiveness of training, awareness of food safety requirements and competency level shall be made.

District hospitals and public health facilities having more than 200 beds with dietary services as per the GoI guideline can initiate training courses for dieticians and other staff. The Dietary service department can offer internships/ short-term trainings to the students pursuing Clinical Nutrition/Food and Nutrition/Home Science. However, any pre-service courses need to follow the protocols and norms of the respective University giving affiliation for such courses. This will also help to get additional HR for the dietary department of the hospitals.

# 5

# Quality Policy

## 5.1 Statutory Requirements

The design and planning of dietary services will need compliance with mandatory regulations related to local administration such as Municipal Corporation, State Government, Pollution Control Board, Fire Safety Department, FSSAI, Water supply and Drainage department etc. While planning dietary department, provision for future expansion should be borne in mind.

Every hospital should have a well-defined quality policy to support the clinical care and wellness of patient by providing safe, hygienic, and nutritious diet.

The policies should be developed in such a way that they allow customization as per individual specific requirements.

The facility may apply for FSSAI License/Registration Number and if available should display the FSSAI License/Registration Number at food premises and also place Food Safety Display Boards (FSDBs) within the premises.

## 5.2 Quality Objectives

- To provide nutritional standards as per the diet manual.
- To ensure the retention of nutrients by keeping a check on temperature maintenance.
- To check on specific requirements of various types of diets.
- To develop and emphasize on the use of standardized recipe and conducting employee training for the same.

- To ensure cleanliness and hygiene maintenance in the entire kitchen area.
- To provide clean, hygienic, tasteful, and healthy meals for quick recovery of patients, clubbed with warm & efficient service.
- To create an open and healthy working environment.
- To improve the accuracy of inventory system.
- To have a constant approach towards creating an open and healthy working environment.

## 5.3 Operational Management of Dietary Services

**Policies and Procedures:**

1. **Administration:** Management of dietary department is teamwork. Dieticians, Cooks and allied professionals all work together for a long duration in a closed & stressful environment. A high level of motivation is needed for maintaining high output, high degree of infection control and quality assurance. There should be a laid down Standard Operating Procedure (SOP) on functioning of dietary department, duties, responsibilities of staff members, infection control measures, cleaning of kitchen. Normally a dietician is designated as Officer In-Charge of dietary department for daily administration, coordination, and regular maintenance. Dietician is also responsible for daily sequencing of the operations, in consultation with the cook, accordingly, scheduling the activities in the department.
2. **Scheduling:** It is a very important aspect of dietary services department. There is a need for planning of diet schedules, timely preparation of schedules and menu to avoid delay in preparing food, its completion, packaging, and distribution to ward. Punctuality needs to be adhered to for ensuring it.
3. **Menu Planning:** Menu should be planned well in advance and circulated to all concerned. There should not be any cancellation due to management problems. Cancellations should be rare event and review the cancelled menu to prevent any such future events.
4. **Camera:** All service areas and entry points should have in-house camera, which should be linked with dietician's office for continuous monitoring, so that all the technical protocols should be monitored/supervised and adhered. CCTV cameras should be installed with monitors placed in dietician's office/administrative office for efficient management.
5. **Communication:** Both external telephone facility as well as intercom facility connecting dietary department with kitchen, all wards and departments should be installed in the Dietary Department.

6. **Records and Registers:** Every Dietary department needs to be managed systematically and professionally for which maintaining proper records are one of the vital activities. This helps in analyzing and reviewing the performance, cleanliness, adherence to technical protocols, functionality of equipment, availability of equipment etc. and also helps in finding the gaps for corrective actions.
7. **Monitoring and supervision:** Various functions and protocols suggested in the guideline needs to be sustained for ensuring quality in service delivery which can only be ensured through regular rounds of monitoring and surveillance. Daily round of department needs to be taken by Matron, Hospital manager, dietician for ensuring adherence of various protocols. Every Dietary Department needs to be run with a zero tolerance for non-adherence to quality protocols. Maintaining discipline is of prime importance. During rounds, all the staff needs to change the dress before entering the pre-preparation area. This exclusive responsibility of ensuring adherence lies with the dietician.
8. **Certification:** Under the National Quality Assurance Standards (NQAS), the quality measurement tool for assessing District Hospitals includes support areas like dietary services, laundry services, etc. The kitchen should be organized to achieve compliance to the NQAS standards.

## 5.4 Quality Monitors

The following records shall be maintained to ensure monitoring of quality practices in kitchen and dietary services.

- **Tasting Report** – A systemic record for all random checks of quality and taste of food needs to be documented. Every month at least such two random tests must be undertaken. The food tasted shall be assessed for its color, taste, and texture. In case any of these parameters are found to be non-satisfactory, they shall be rectified before distribution.
- **Nutritional Assessment** – On admission, a nutritional assessment form should be used to assess the nutritional status of patients. During the stay of the patient in the hospital, any subsequent changes in the status of the patient should be recorded.
- **Cleaning Checklist** – Dirt in utensils and workplace can act as a nidus and spread food borne diseases hence daily and periodic cleaning done shall be monitored using these checklists given in the annexure.
- **Hand washing & Personal hygiene checklist** – Dirty hands and unhygienic practices can contaminate food and spread diseases. Adherence to hand washing & hygienic practices shall be monitored through checklists given in annexure.

## 5.5 Indicators

- Number of dinner (night meal) served in the month/[indoor admissions (mid night count)- number of new admissions] × 100
- Number of special diets in the month/Total no of diets provided in the month × 100
- Number of patients from whom feedback was taken on quality of food /total number of In-patients ×100
- Number of food sample not approved by dietician/total meals prepared × 100
- Number of external supervisory visits (other than hospital functionaries) taken in month
- Number of internal supervisory visits (other than dietary department) taken in month
- Number of supervisory visits in which staff was not found to be wearing cap, mask and apron
- Percentage of staff vaccinated against enteric diseases in last 6 months
- Percentage of staff medically examined in the last 6 months
- Number of pest control undertaken in last 6 months
- Water testing frequency
- Equipment down-time

## 5.6 Quality Assessment

All the quality parameters will be as per the guidelines of the National Quality Assurance Standards (NQAS) issued by GoI.

- Assessment shall be conducted as per prescribed QA checklist by the designated assessors.
- Before such assessment, the dietician should use the checklist given in this guideline at Annexure-8 as part of routine monitoring. This will help the kitchen and dietary services to be in readiness for quality certification.
- While planning assessment, it should be ensured that the internal assessors do not assess their own activities.
- A Quality Management System procedure for Internal Assessment shall include the following:
  - ✓ Selection of Internal Assessors.
  - ✓ Criteria for Internal Assessors.
  - ✓ Assessment Planning and methodologies.
  - ✓ Assessment recording, non-conformance, and summary report preparation.

Where assessment findings indicate deficiencies or the opportunity for improvement corrective or preventive action should be promptly taken. This should be documented and carried out within an agreed timeline.

- Regular external inspection by Municipal/ FSSAI authorities should also be ensured.

# 6

# Budget

## 6.1 Developing Proposal for Estimating Budget

**A. Key steps in planning and operationalization of dietary services in a hospital**

- Assess the existing dietary services in the hospital.
- Existing in-house kitchen needs to be organized as per this guideline.
- Find the gaps against the services and also in the kitchen as per this guideline.
- If dietary services are not already available, plan for creation of new infrastructure along with various expected services.

**B. Creating new infrastructure**

- Assess the present bed strength and also consider the projected prospective increase in the bed strength.
- Identify site/ place for dietary services while planning for new hospital construction.
- Hire an Architect and prepare a layout and flow plan for various services as per the guideline and explore feasibility of adopting the layout design given in the guideline.
- Once the space is identified and the layout has been prepared all other steps will remain same as explained below (under organizing existing dietary services).

**C. Organizing the existing dietary services**

- Review the existing practices in light of GoI guidelines and plan for changes accordingly.

- Assess the add on requirements of infrastructure, equipment, utensils to maintain the process and protocols.
- An architect can be hired to make a supportive layout plan and interior planning and help in estimating the cost by adhering to the principles laid down to the guideline.
- Assess the available HR against required numbers and their trainings/capacity building.
- Develop a proposal and submit for approval based on total estimated cost.
- Ensure implementation as per specifications and quality control.

## 6.2 Infrastructure

Most of the kitchens in present district hospitals are either non-existent or in poor shape. At some places, it is outsourced but the quality always remains an issue. Every district hospital should organize/plan for modern dietary services with adequate infrastructure to meet the flow and plan suggested in the guideline.

Need based renovation/strengthening can be undertaken wherever the available infrastructure is adequate to meet the flow and plan indicated in the present guideline. Kitchen needs adhere and hygiene & infection prevention practices maintain protocols of various zones since the food prepared here is served to both critical & non-critical patients & as such it should not become a source of infection. Thus, kitchen in a district hospital should be part of overall infrastructural strengthening of the existing District Hospital.

While reflecting budgetary demand for kitchen, justification should be clearly reflected on the lines suggested above. The total square meters/feet which is to be constructed and renovated also needs to be clearly mentioned along with equipment, racks, wall fittings, etc. The infrastructural cost will vary for renovation and new construction. As such, it is not being estimated here.

## 6.3 Human Resource

For smooth running of dietary services of a district hospital, adequate number of various types of staff along with other support staff including cleaning and security staff are crucial. So, the budgetary requirements for hiring of additional staff needs to be reflected here as per the positions indicated in IPHS.

## 6.4 Equipment

A suggestive list of equipment for running dietary services have been indicated here in the guideline. However, all these equipment reflected will need customization depending upon

the size of kitchen, number of patients and type of menu planned. So, while reflecting demand for equipment, it is essential to indicate upfront the commitment for improving quality of dietary services envisaged. The gap analysis in terms of what is available and what is required needs to be undertaken along with quantity and estimated price. The equipment can be purchase through GeM portal (one stop Government e-Market Place hosted by DGS&D) so that the genuineness and quality of the equipment could be ensured.

## 6.5 Capacity Building

The staff posted in the kitchen particularly the dieticians, managers, and cooks are professionally trained. However, all the staff will need trainings and orientation on infection prevention and biomedical waste management, hand washing, Team building, leadership, behavioral management, workplace management, equipment maintenance etc. as reflected under capacity building plan. Budgetary requirement for this need to be reflected in the PIP.

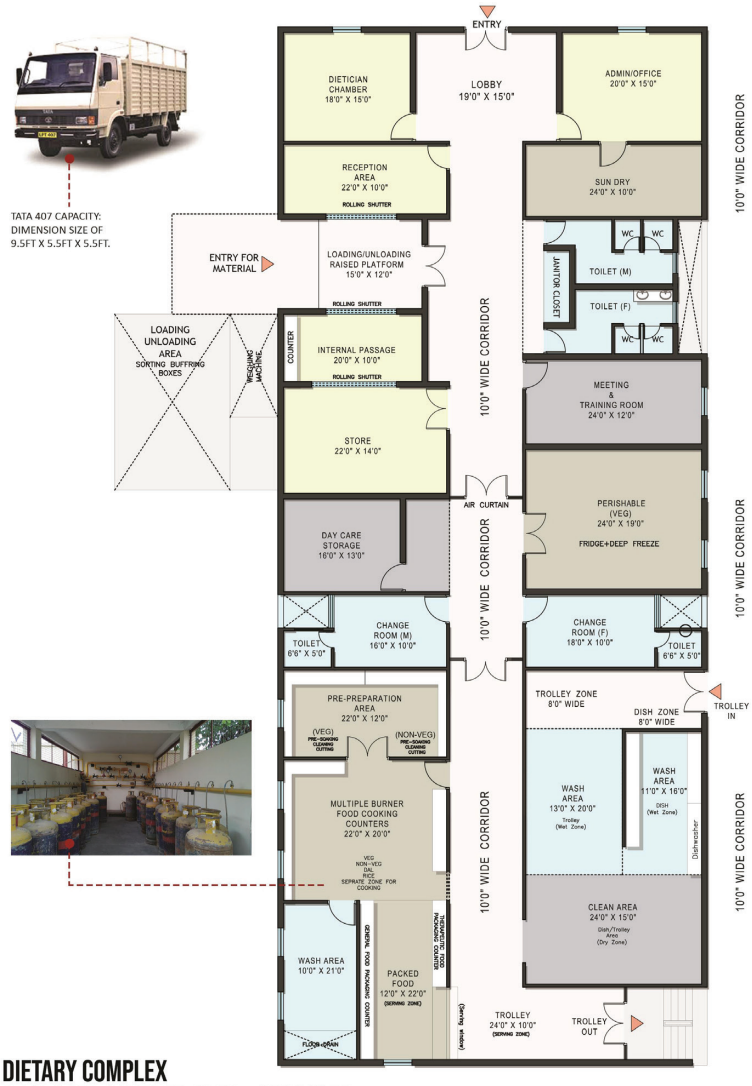
It is difficult to give indicative budget for renovation/strengthening of presently functional kitchen or a new construction since it will depend upon its size, type and extent of renovation/ construction and prospective plan for improving the quality of services, availability of equipment etc. So here in this guideline, only processes for assessing the need and reflecting the budgetary requirement has been explained.

# Annexures

## Annexure 1: Layout Design



TATA 407 CAPACITY:
DIMENSION SIZE OF
9.5FT X 5.5FT X 5.5FT.






**DIETARY COMPLEX**
**PROPOSED COVERED AREA - 8500SQFT**

# Annexure 2: Infection Control

## A. General requirements for food preparation area

The place where food is manufactured shall comply with the following requirements:

- The premises shall be located in a sanitary place and free from filthy surroundings.
- Overall hygienic environment shall be maintained.
- The floor and skirted walls shall be washed daily with a disinfectant/detergent after every shift.
- The premises should be kept free from all insects by an insecticidal spray and using anti-fly measures. No spraying shall be done during cooking/food distribution.
- Windows, doors and other opening suited to screening shall be fly-proofed.
- Continuous supply of potable water shall be ensured in the premises. Potable water should be used for cooking.
- Chemical and bacteriological examination of the water shall be done at regular intervals at any recognized laboratory. In case of intermittent water supply, adequate storage arrangement shall be made.
- Equipment and machinery when employed shall be of such design, which will permit easy cleaning.
- Arrangements for cleaning of containers, tables, working parts of machinery, etc. shall be provided.
- All equipment shall be kept clean, washed, dried and stacked away from patient area.
- No vessel, container or other equipment, the use of which is likely to cause metallic contamination or is injurious to health shall be employed in the preparation, packing or storage of food. (Copper or brass vessels shall have proper lining).
- There should be efficient drainage system and there shall be adequate provisions for disposal of refuse.
- The workers working in food preparation shall use PPE.
- Scratching of body parts, hair shall be avoided during food handling processes.
- All food handlers should avoid wearing jewelry, false nails or other items that might fall into food.
- The trolley used to transport foods must be maintained in good repair and kept clean.
- Insecticides/disinfectants shall be kept and stored away from food manufacturing / storing/handling areas.

## B. Sanitary and Hygienic requirements for units other than food preparation area

- Location shall be away from rubbish, wastewater, toilet facilities, open drains and animals.
- Dustbin with cover shall be provided.
- Working surfaces of storage racks shall be hygienic, impermeable, easy to clean (like stainless steel), 60 to 70 cm. from ground.
- Cooking utensils and crockery shall be clean and in good condition. It should not be broken/ chipped.
- All containers shall be kept clean, washed and dried at the end of the day to ensure freedom from growth of mold/ fungi and infestation.
- Transported drinking water shall be in protected containers of at least 20 liters.
- Cooking, storage and serving shall not be done in utensils of copper, cadmium, lead, non-food grade plastic and other toxic materials.
- Utensils shall be cleaned of debris, rinsed, scrubbed with detergent and washed under running tap water after every operation.
- Wiping utensils shall be done with clean cloth. Removing dust or crumb shall not be done by blowing on the plates or utensils.
- All articles that are stored shall have proper cover to avoid contamination.
- Adequate number of racks shall be provided for storage of articles of food, with clear identity of each commodity.
- Proper compartment for each class of item shall also be provided wherever possible.

## Cleaning practices in Kitchen

**General cleanliness:**

- Good food is closely associated with good housekeeping. To maintain kitchen, all the premises should be clean.
- Outdoor clothing shall be stored in lockers provided for that purpose in the change room (if applicable).
- Routine and periodic cleaning shall be carried out to ensure that a high standard of cleanliness is maintained at all times.
- Premises shall be subjected to pest control measures and a record shall be maintained for the same.
- Daily cleaning of utensils shall be practiced; food preparation and serving should be carried out in clean utensils only.

- There should be housekeeping checklist and it should be regularly monitored by housekeeping supervisor, hospital manager and Manager (quality and services).
- All garbage shall be kept covered at all the times.
- Facilities for personal hygiene, toilets and hand wash units shall be kept clean at all the times.
- The kitchen garbage shall be collected in the black garbage bag lined plastic drums with lid in various areas of the kitchen and dishwashing. The areas where bins shall be placed include Cafeteria, Main Kitchen and Service Area.
- The garbage shall be collected twice daily and when required otherwise and disposed of to the temporary waste collection area.
- The waste disposal agency shall collect the garbage on a daily basis and take it out of the hospital premises for disposal.

**Cleaning Schedule**

| Area | Frequency |
|---|---|
| Offices | Twice a day |
| Washrooms | Every 4 hourly |
| Stores and non – perishable stores | Twice a day |
| Perishable stores | Thrice a day |
| Core kitchen area | Morning & night and after every food preparation |
| Trolley and utensils | After every use |
| Surroundings of the kitchen | Every morning and evening |
| Exhaust hood and fans | Once daily |

**Detailed Area wise cleaning protocols are placed below:**

| Area | Cleaning |
|---|---|
| Administrative Area | Floor should be mopped after every shift or twice a day. |
| | Dusting should be done on daily basis. |
| | Furniture, operating lights, cupboards and other equipment should be wiped weekly with detergent and cloth. |
| Receiving Area | Area should be cleaned after each unloading or twice a day |
| | After cleaning dust and other settled particles, the floor should be cleaned with a cloth dampened with detergent followed by cleaning with a clean cloth to remove any left-over detergent. |
| | Waste should be removed twice a day and when bags are 3/4th full |
| Storage Area | Perishable store should be cleaned with normal water on daily basis |
| | Non – perishable store should be cleaned weekly and as per the requirement with detergent dampened clothes and floor should be dried after washing. |

| Area | Cleaning |
|---|---|
| Pre-preparation Area | Area should be cleaned twice a day and after every use. |
| | The floor should be cleaned with a cloth dampened with detergent. |
| Exhaust System | The exhaust hood should be cleaned daily. |
| Disposal of waste | Waste should be removed twice a day and when bags are 3/4th full. |

**Use of PPE & Maintaining Personal hygiene**

- Kitchen is a place for making hygienic food for patients.
- The Dietician should periodically check the personal hygiene of the kitchen staff, and all service staff.
- Cooks shall keep their nails clipped short, and hair covered.
- All kitchen staff must put an apron & cap while on duty and should be in authorized dress which must be kept clean all time. Two pairs of uniform should be provided to the staff.
- No jewelry/watch should be worn in hands by cook or service staff while on duty.
- The toilets etc. of the kitchen should not be used for staff other than those on duty.
- All service staff and cooks should be instructed to take daily bath before coming for work.
- Staff with open cuts, wounds or burns shall be required to take medical advice for treatment and if allowed cover such cuts & wounds with suitably waterproof dressings before starting to cook/work.

**Maintaining Hand hygiene**

- The cook and service staff should be trained on hand hygiene practice and steps of hand washing.
- The staff should always wash their hands before handling any with food material.
- The Dietary/Kitchen In-charge should monitor for the adherence to hand hygiene practice

## Regular Staff Health Check-up

**Immunization & Health Check up**

- The kitchen and service staff employees shall be subject to medical examination before recruitment; these employees shall also be regularly screened for being carrier of any communicable diseases, Dysentery or Diarrhea, and worm infestations etc.
- All food service employees must also be free of any active diseases like skin lesions, boils, gastrointestinal or respiratory infection or chronic cases of salmonella or shigella.

- All staff shall be vaccinated for all mandated vaccinations.
- Kitchen staff, especially the food handlers should be dewormed every 3 months.

**Reporting Employee Illness and Injury SOP**

All employees working in dietary department/kitchen employees should report illness and injury, and should be restricted from working with food, as necessary to prevent the contamination of food.

**Procedures:** All nutritional services employees must

1. Report to the manager before working, any of the following:
   a. Vomiting
   b. Diarrhea
   c. Jaundice
   d. Sore throat with fever
   e. Exposure to or diagnosis of foodborne illness caused by:
      i. Salmonella Typhi
      ii. Shigella spp.

iii. Shiga toxin-producing E. coli
iv. Hepatitis A virus
v. Norovirus

2. If become ill while working, report condition to manager
3. Report any cuts, burns, boils, sores, skin infections or infected wounds to the manager
4. Stop working if food or equipment could become contaminated
5. Cover any open wounds with a clean, dry and leak proof bandage; wear disposable gloves over bandages on hands

**Corrective Action:**

1. Restrict the employee from working with or around food if the food handler has a sore throat with fever.
2. Grant leave to the employee in case vomiting or has diarrhea; allow the individual to return to work only if he or she has been asymptomatic for twenty-four hours or has a written clearance from a medical practitioner.
3. Similarly, the employee suffering from jaundice should be allowed to return to work if he or she has a written release from a medical practitioner.
4. Exclude the employee from the duty roster and notify the administration if the food handler has been diagnosed with a foodborne illness caused by:
   a. Salmonella Typhi
   b. Shigella spp.
   c. Shiga toxin-producing E. coli
   d. Hepatitis A virus
   e. Norovirus
5. Work with the medical staff and the administration to determine when the person can safely return to work.
6. Cover any open wounds with a clean, dry and leak proof bandage and disposable gloves over bandages if on hands.
7. Record corrective action in Personnel File.
8. Discard food that may have become contaminated due to employee illness and injury.
9. Record product name and reason for discarding food on Production Record.
10. Providing alternate duty/ giving sick leave/ sending for health checkups etc. shall be decided by the in-charge depending upon the type and nature of illness.

**Pest Control**

- All the food articles should be kept covered and special precautions should be taken to control flies, mosquitoes and cockroaches.

- Periodic pest control sprays shall be conducted at the facility and a register maintained for the same to document the details.
- Care shall be taken to avoid entry of stray animals inside kitchen premises.
- Dispose of garbage quickly and correctly;
  a. Keep garbage containers clean, in good condition, and tightly covered in all areas.
  b. Clean up spills around garbage containers immediately.
  c. Wash and rinse garbage containers regularly.
- Report any sign of pests to the dietician /supervisor immediately.
- Keep all exterior openings closed tightly.
- Report any damaged screens, openings around pipes, and cracks or broken seals in floors and walls to kitchen in-charge/supervisor.
- Cover garbage containers.
- When pesticides will be applied, prepare the area by removing all food and movable food-contact surfaces and cover equipment and food-contact surfaces that cannot be moved.
- Wash, rinse, and sanitize food-contact surfaces after the area has been sprayed.

# Annexure 3: Role and Responsibilities

## Roles and Responsibilities for Kitchen

| S. No. | Important checklist | Person Responsible |
|---|---|---|
| 1 | Overall In-charge of the kitchen and dietary services | Dietician/Assistant Dietician |
| | Taking daily rounds of wards, interaction with the admitted patients. | |
| | Preparing menu plan for dietary services particularly of those who have been prescribed therapeutic diet. | |
| | Inspect meals served for conformance to prescribed diets and standards of palatability and appearance | |
| | Monitor food service operations | |
| | Maintain and physically verify the store. | |
| | Address complaints relating to quality of the food or service | |
| | Involvement in planning and designing of kitchen and equipment | |
| | Member for diet-related tender committee | |
| | Organize training sessions for ANM/GNM on basic nutrition guidelines for healthy cooking, personal hygiene and basic aspects of food safety. | |
| | Study and analyze current, scientific nutritional studies to improve the quality of dietary services | |
| 2 | Supervise the work of the kitchen support staff | Cook |
| | Preparing food as per the dietary plan/menu given by the dietician | |
| | Check wastage and spoilage of food | |
| | Care and maintenance of the equipment | |
| | Ensure sanitation and cleanliness | |
| | Maintain safety standards, hygiene and conformance to nutrition and quality during food preparation | |
| | Ensure timely service of meals | |
| | Perform other duty assigned to him/her from time to time. | |
| 3 | Receive, weigh/check, store and maintain record of supplies | Head Cook |
| | Check the bills, verify and maintain records and stock books up to date. Submit the records to the dietician every 15 days.. | |
| | Physical Verification of the store to be done every fortnight. | |

| S. No. | Important checklist | Person Responsible |
|---|---|---|
| | Perform any other duty assigned by the Head of the Department of Dietetics. | |
| 4 | Sorting and timely transportation of food trolleys respectfully to and from patient care areas as per distribution slips. | Trolley Bearers |
| | Carry out any other duty that may be assigned by the Head Cook from time to time | |
| 5 | Disposal of garbage as per the defined protocol | Cleaning Staff |
| | Cleaning, mopping and scrubbing of floors and walls | |
| | Thorough Cleaning of utensils | |
| | Stack and return the utensils to the storage area | |
| | Other assigned cleaning | |
| 6 | Ensuring Tender with quality check. | Hospital Manager |
| | Analysis and review of patient feedback. | |
| | Monthly review of quality indicators at District Quality Assurance Committee. | |
| | Co-ordinate with architect and dietician in preparing plan and operationalization of dietary services in the district. | |
| | Ensuring that the space allocated for kitchen & dietary services should have uninterrupted power supply and water supply. | |
| | Ensure timely payment. | |
| | Support in procurement of equipment. | |
| 7 | Assessment of existing dietary services at DH/SDH/CHC. | State Program Officer |
| | Planning and mapping of the district hospital for identification of site for Kitchen & dietary services. | |
| | Hiring up of architect for establishing kitchen & dietary services at district hospital as per the norms. | |
| | HR recruitment, their induction and other trainings along with performance appraisal. | |
| 8 | Estimation of budget and reflecting the requirement in state or NHM PIP. | |
| | Releasing the budget on time to districts | |
| | Ensuring Rate Contract of the equipment with quality check. | |
| | Issue guidelines including translation of guidelines/ manuals into the local language. | |
| | Analysis of patient feedback and quality indicators. | |
| | Drawing up timelines and monitoring the progress of the establishment of kitchen & dietary services. | |

## Annexure 4 : Training Plan for Dietary Services

1. **Training Objective:** Participants should know process flow and Basic functions of Dietary Services, Supervise and maintain Dietary Store, equipment, Safety precautions, Quality indicators
2. **Duration:** One day
3. **Participants:** All team members of the dietary Department

| S. No. | Theme | Component | Duration | Methodology |
|---|---|---|---|---|
| 1 | Knowledge | Principles of Hospital Based Dietary services and importance of Diet for In-patients (Diet plan, Storage), | 1Hr | Lecture |
| | | Pest and rodent control, Biomedical and municipal waste (segregation, transport, disposal etc.), cleaning and infection prevention | 1 Hr | Lecture |
| | | Specification of Equipment/appliances used in Dietary services | 30 Min | Lecture |
| | | Documentation in Dietary department | 30 Min | Lecture |
| 2 | Skill | Use and maintenance of Equipment | 1 Hr | Demonstration |
| | | Safety measures including fire safety in Kitchen area | 30 Min | Demonstration |
| | | Hand hygiene | 30 Min | Demonstration |
| 3 | Attitude | Communication principles with team and patients | 1 Hr | Group work and Game |
| 4 | Quality Policy | Quality standards | 1 Hr | Lecture and Demonstration |
| 5 | Pre and post test | How to prepare a diet plan, Cleaning of utensils, distribution of food and management of store and inventory. | 1 Hr | Post format |

## Annexure 5: Registers/Records

| S. No. | Name of the Register | Key Information Recorded in the Register | Frequency of Updating | Person Responsible | Supervisor |
|---|---|---|---|---|---|
| 1 | Stock & Issue register | | | | |
| 2 | Pest control register | | | | |
| 3 | Staff attendance register | | | | |
| 4 | Daily cleaning checklist of different sections of kitchen | | | | |
| 5 | Personal hygiene & medical record checklist of staff | | | | |
| 6 | Electrical & civil complaint register | | | | |
| 7 | Daily diet sheets & Diet Summary of wards | | | | |
| 8 | Staff training register | | | | |
| 9 | Daily duty register of staff | | | | |
| 10 | Equipment Maintenance | | | | |
| 11 | Daily exhaust and Hood cleaning | | | | |
| 12 | Accounting and expenditure registers | | | | |

## Annexure 6: List of Equipment

Dietary department is highly equipment oriented. Due to technological advancement and growth in the field of hospitality industry, now most of the food processing and cooking equipment are automated, easily function on Cooking Gas or power supply. Automatic equipment saves time, energy and improve the quality of food preparation. Most of the equipment are customizable and based upon requirement, the institute can place order. Following equipment are required for a kitchen:

| S. No. | Equipment Name | Equipment Sizes | | | |
|---|---|---|---|---|---|
| | | Length (Mm) | Width (Mm) | Height (Mm) | B/S |
| Storage/Receiving Area | | | | | |
| 1 | Platform Weighing Scale | 600 | 600 | | |
| 2 | Work Table with Three Sides Cross Bracing Front Open | 1800 | 850 | 850 | 150 |
| 3 | Vegetable Washer | 1800 | 850 | 850 | |
| 4 | Cold Room for Vegetables | | | | |
| 5 | S.S. Cold Storage Rack with Five Shelves | 900 | 600 | 1800 | |
| 6 | Pallet | 800 | 600 | 150 | |
| 7 | S.S. Potato/Onion Bin | 900 | 750 | 900 | |
| Pre-Preparation | | | | | |
| 1 | Vertical Refrigerator | 740 | 830 | 2050 | |
| 2 | Vertical Freezer | 740 | 830 | 2050 | |
| 3 | Work Table with Two Under Shelves | | | | |
| 4 | Two Sink Unit with Three Sides Cross Bracing Front Open Sink Size : 450 x 450 x 250 | | | | |
| 5 | Vegetable Cutting Machine | | | | |
| 6 | Wet Masala Grinder 15 Liters | | | | |
| 7 | Potato Peeler 15 kg | | | | |
| 8 | Pulveriser | | | | |
| 9 | Dough Kneading Machine | | | | |
| 10 | Three Door Under Counter Refrigerator | 1885 | 700 | 850 | 150 |
| Dish Wash/Trolley Wash/Pot Wash | | | | | |
| 1 | Soiled Dish Landing Table with Garbage Chute and Glass Rack Both Side, Three Sides Cross Bracing Front Open | | | | |
| 2 | Pre Rinse Spray Unit | | | | |

| S. No. | Equipment Name | Equipment Sizes | | | |
|---|---|---|---|---|---|
| | | Length (Mm) | Width (Mm) | Height (Mm) | B/S |
| 3 | Three Sink Pre Wash Unit with Three Sides Cross Bracing Front Open Sink Size 450 x 450 x 300 mm | 1800 | 750 | 850 | 150 |
| | Option | | | | |
| | Dish Washing Machine | 1750 | 750 | | |
| 4 | Vapour Hood for Dish Wash Machine | | | | |
| 5 | Unloading Clean Dish Table with Two Under Shelves | | | | |
| 6 | Clean Dish Storage Rack with Five Shelves | | | | |
| 7 | S.S. Pot Rack with Three Shelves | 1100 | 600 | 1650 | |
| Kitchen Bulk Cooking | | | | | |
| 1 | Work Table with Two Under Shelves | | | | |
| 2 | Stock Pot Stove with all Sides Cross Bracing | 900 | 900 | 600 | |
| 3 | Single Sink Table with Cross Bracing Under Sink and Space for Garbage Bin Rest Half Space for Under Shelf Sink Size 400 x 400 x 250 mm | | | | |
| 4 | Tilting Bulk Cooker | | | | |
| 5 | Three Door Under Counter Refrigerator | 1885 | 700 | 850 | |
| 6 | Tilting Braising Pan | | | | |
| 7 | Pick Up Table With Two Under Shelves | 1800 | 600 | 850 | 150 |
| 8 | Four Door Vertical Refrigerator | 1480 | 830 | 2050 | |
| 9 | Bulk Frying Range | | | | |
| | Option | | | | |
| 10 | Deep Fat Fryer | 600 | 600 | 850 | |
| 11 | Four Burner Cooking Range with One Under Shelf | 800 | 800 | 850 | 150 |
| 12 | Masala Trolley | 450 | 600 | 700 | |
| | Depending Upon Food Habits | | | | |
| 13 | Dosa Plate with One Under Shelf | 1200 | 600 | 850 | 150 |
| 14 | Idly Steamer Cap. 54 Idly | | | | |
| Food Packing Area | | | | | |
| 1 | Cold Bainmarie with One Under Shelf | | | | |
| 2 | Hot Bainmarie with One Under Shelf | 1800 | 700 + 300 | 850 | |
| EXHAUST HOOD | | | | | |
| 1 | EXHAUST HOOD IN SS 430 GRADE SS SHEET IN 18 SWG | | | | |

| S. No. | Equipment Name | Equipment Sizes | | | |
|---|---|---|---|---|---|
| | | Length (Mm) | Width (Mm) | Height (Mm) | B/S |
| 2 | Vapour Hood For Combi Oven | 900 | 900 | 500 | |
| Drain Grating | | | | | |
| 1 | S.S. Grating With Trough | 900 | 300 | 70 | |
| Pantry | | | | | |
| 1 | Work Table with Two Under Shelves | | | | |
| 2 | Sandwich Griller | | | | |
| 3 | Microwave | | | | |
| 4 | Work Table with Ledges | 1300 | 700 | 850 | 150 |
| 5 | Combi Oven | | | | |
| 6 | Pizza Make Line with 5 Nos. 1/3 Gn Pan | 1510 | 700 | 850 | |
| 7 | Salamander 1/1 Gn Pan | | | | |
| 8 | Beverage Table with Drain Channel and all Sides Cross Bracing Front Open Sink Size 450 x 450 x 250 mm | | | | |
| 9 | Water Boiler | | | | |
| | Milk Warmer | | | | |
| 10 | Tea Coffee Dispenser 25 ltrs | | | | |
| Miscellaneous | | | | | |
| 1 | Bussing Trolley | | | | |
| 2 | Platform Trolley | | | | |

## Procuring the equipment

The photographs of the equipment shown here are only illustrative examples for planning purposes. Any procurement of equipment should be based on its generic specification, outcome expected and quality parameters envisaged along with clauses for service warranty and maintenance. High end and costly equipment need to be avoided since this also requires very sophisticated handling and maintenance which most of the times are not adhered to or supervised by the senior staff. So, if such type of equipments are purchased to maintain hygiene, efficiency and quality, in that case, SOPs for handling and maintenance of such equipment should be clearly defined. Dieticians and managers must ensure its adherence.

**Refrigerator**

**Modular Kitchen**

Burner

Chapatti making machine

Three sink unit

Dough Kneader

Wet Grinder

Chapatti cum puffer plate

Platform Trolley

Compartment plate

Hot food distribution trolley

Potato Peeler

Hot food Bain Marie

The above equipment list is only indicative and can differ from the facility to facility.

## Equipment maintenance

- Kitchen equipment shall be cleaned daily after use and as per the daily/weekly cleaning schedules.
- For all these a maintenance system will be made. AMC (Annual Maintenance Contract) to be signed with the concerned companies to do the periodic check and preventive maintenance after 1 or 2 years of warranty procured as the case may be.
- Other than the periodic check, regular follow-up shall be maintained with the in- house maintenance staff for minor repair of the equipment. All the records for periodic checks will be maintained.
- The department coordinates closely with stores for the indent of or purchase of the new item/accessories of present equipment.
- Checking of the equipment (electrical or mechanical) shall be done at the beginning of each shift. It is the responsibility of the kitchen In-charge & the Cook on duty to monitor this.
- The In-charge on duty checks for any loose or naked wires visible in the electrical equipment.
- If any irregularities /problems/faults are identified the maintenance department shall be intimated over telephone to attend the fault.
- Critical faults such as massive breakdowns or breakages shall be informed to the external agency responsible for AMC.
- Actions taken shall be recorded after the work is done.

## Annexure 7: Sample Format for Kitchen

Room No:

Timings:

| Time | Activity done |
|---|---|
| 6-7.30 am | Breakfast preparation |
| 7.30 – 8.30 am | Breakfast distribution |
| 9.30 –11.30 am | Preparation of lunch |
| 11.30 am – 12.30 pm | Lunch distribution |
| 2.30 –3.00 pm | Evening tea preparation |
| 3.00 – 3.30 pm | Evening tea distribution |
| 4.30 – 6.00 pm | Dinner preparation |
| 7.30 – 8.30 pm | Dinner distribution |

Cleaning starts 1 hour before breakfast preparation and is done after every meal preparation

### Employees in the Room

| Designation (as applicable) | Name |
|---|---|
| Dietician and assistant dietician | |
| Manager quality and services | |
| Cook | |
| Helper | |
| Others | |

### Cleaning Protocol

| S. No. | Name of the Articles Present in the Room (in kitchen number of utensils need not be mentioned.) | Number | Frequency of Cleaning | Material Used to Clean | Person Responsible |
|---|---|---|---|---|---|
| | Utensils for cooking | | | | |
| | Utensils for serving food | | | | |
| | Trolley and utensils for carrying food | | | | |

## Performance Chart

| S. No. | Indicators | Previous month | Current month |
|---|---|---|---|
| 1 | Number of dinner (night meal) served in the month/[indoor admissions (mid night count)- number of new admissions] × 100 | | |
| 2 | Number of special diets in the month /Total no of diets provided in the month × 100 | | |
| 3 | Number of patients from whom feedback was taken on quality of food /total number of In-patients × 100 | | |
| 4 | Number of food sample not approved by dietician/ total meals prepared × 100 | | |
| 5 | Number of external supervisory visits (other than hospital functionaries) taken in month | | |
| 6 | Number of internal supervisory visits (other than dietary department) taken in month | | |
| 7 | Number of supervisory visits in which staff was not found to be wearing cap, mask and apron. | | |
| 8 | Percentage of staff vaccinated against enteric diseases in last 6 months. | | |
| 9 | Percentage of staff medically examined in the last 6 months. | | |
| 10 | Number of pest control undertaken in last 6 months. | | |
| 11 | Water testing frequency | | |
| 12 | Equipment up-time | | |

# Annexure 8: Checklist for Modern Kitchen & Dietary Services

## Section A: Structure

| Checkpoints | Yes | No | Comments (Mention Which is Not Present in the Facility) |
|---|---|---|---|
| 1. Availability of signage's- Restricted area signage, storage area, cooking area, etc. | | | |
| 2. The facility displays:<br>2.1. Updated duty roster<br>2.2. Standard operating procedures<br>2.3. Comprehensive diet list containing type of diet<br>2.4. FSSAI License/Registration Number at food premises and place Food Safety Display Boards (FSDBs) | | | |
| 3. Receiving area with accessibility to main road of hospital where unloading of trucks can be done without any hindrance to the in-patients. Check the location for any objectionable odour, smoke, dust & other contaminants | | | |
| 4. The facility has a layout and demarcated areas as per the functions<br>4.1. Administrative Area<br>4.2. Receiving & Storage Area<br>4.3. Preparation, Distribution and Washing Area | | | |
| 5. The facility ensures safe, comfortable environment and essential infrastructural components<br>5.1. The Non-structural components in the facility are properly secured(cupboard,cabinets and hanging objects).<br>5.2. Floor and walls of the facility are hard having smooth, easy to clean surface but not slippery. There should be good slope for water to get out of outlet drainpipe.<br>5.3. Windows & other openings are free from accumulated dirt, those which open are fitted with insect-proof screen.<br>5.4. The facility has 24*7 supply of water and electricity (with 2-tierbackupwithUPS) | | | |

| Checkpoints | Yes | No | Comments (Mention Which is Not Present in the Facility) |
|---|---|---|---|
| 5.5. Good illumination in food preparation and processing area. (The light of 400-750 lux is generally recommended) | | | |
| 5.6. Functioning of Exhaust hoods, exhaust fans, make-up air units, and packaged rooftop HVAC (Heating Ventilation Air Conditioning) units | | | |
| 5.7. Pipe connection of cooking gases, solar water heating system | | | |
| 5.8. Efficient drainage system | | | |
| 6. Security arrangements (Security personnel, CCTV, etc.) | | | |
| 7. Complaint box is available/ display of toll-free number or 104 for GRS call center | | | |
| 8. Availability of Food trolley | | | |

## Section B: Process

| Checkpoints | Yes | No | Comments (Mention Which is Not Present in the Facility) |
|---|---|---|---|
| 1. Kitchen service is available as per the schedule mentioned in the guidelines | | | |
| 2. There is a defined procedure before entering the main Kitchen area | | | |
| 2.1. Changing of external footwear | | | |
| 2.2. Changing of clothes and wearing uniforms | | | |
| 2.3. Washing hands | | | |
| 2.4. No jewelry/watch should be worn in hands by the cook or service staff when on duty. | | | |
| 3. Immunization and Regular Screening of the Staff for any disease | | | |
| 4. Random check provided by Dietician on taste and quality of food being served to the patients | | | |

| Checkpoints | Yes | No | Comments (Mention Which is Not Present in the Facility) |
|---|---|---|---|
| 5. Dietary plan by the dietician to be documented in the IP case file of patient | | | |
| 6. Segregation of different category of waste as per guidelines | | | |
| 7. There is a procedure for disinfection of:<br>7.1 General items and equipment<br>7.2 Disposable items | | | |
| 8. There is an established procedure for documentation and reporting of various activities on daily basis of the following:<br>8.1. Each procedure as per SOP<br>8.2. Each cycle should be done<br>8.3. Maintenance and functionality of Utensils (including Trolley, Exhaust hood and fans)<br>8.4. Stock maintenance for the consumables<br>8.5. Daily cleaning of the utensils as per the cleaning schedule<br>8.6. Pest control activities | | | |
| 9. Monthly review of quality indicators at District Quality Assurance Committee | | | |
| 10. Nutritional assessment of patient done as required and directed by the doctor | | | |
| 11. There is procedure to monitor the quality and adequacy of outsourced services regularly | | | |
| 12. Hospital has standard procedures for preparation, handling, storage and distribution of diets, as per requirement of patients | | | |
| 13. Food is being served with humility to the patients | | | |

## Section C: Outcome

| | CHECKPOINTS | COMMENTS |
|---|---|---|
| 1 | Diet prepared for the number of patients per day | |
| 2 | Special diet prepared for the number of patients per day | |
| 3 | Monthly review of quality indicators | |
| 4 | Number of rounds by the Dietician in the ward per day | |
| 5 | Number of the trained staff out total staff | |

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| 8 | Dr. Harsh Sharma, APD, UPHSSP |
| 9 | Ms. Ritu Sudhakar, Chief Dietician, Dayanand Medical College hospital, Ludhiana, and Chapter Head of IDA Ludhiana |
| 10 | Mr. Sudeep Bose, H.O.D.(Food Production) Institute of Hotel Management, Pusa |
| 11 | Dr. Anshu Singh, Senior Lecturer, Ph.D.(Food Science & Nutrition) Institute of Hotel Management, Pusa |
| 12 | Mrs. Mamta Bisht, Institute of Hotel Management, Pusa |
| 13 | Ms. Anuja Agarwal, Senior Dietician, AIIMS, New Delhi and National Executive Committee Member, IDA |
| 14 | Ms. Monita Gahlot, Dietician, AIIMS, New Delhi |
| 15 | Ms. Priya Sharma, Dietician, DistrictHospital,Namchi, Sikkim |
| 16 | Dr. Poonam Varma Shivkumar, Prof.&HoD- Obs& Gyn MGIMS, Wardha |
| 17 | Dr. Arun Kumarendu Singh, Professor, Department of Neonatology, AIIMS Jodhpur |

| S. No. | Name |
|---|---|
| 18 | Dr. Pankaj Arora, Assistant Professor, Department of Hospital Administration, PGIMER Chandigarh |
| 19 | Dr. Parmeet Kaur, Senior Dietician, AIIMS, New Delhi |
| 20 | Mohd. Shoeb Alam, Architect |
| National Health Systems Resource Centre | |
| 1 | Maj Gen (Prof) Atul Kotwal, SM, VSM, Executive Director |
| 2 | Dr. J.N. Srivastava, Advisor, Quality Improvement |
| 3 | Mr. Prasanth KS, Senior Consultant |
| 4 | Dr. Smita Srivastava, Senior Consultant |
| 5 | Dr. Aashima Bhatnagar, Senior Consultant |
| 6 | Mr. Ajit Kumar Singh, Former State Facilitator |
| 7 | Dr. Kalpana Pawalia, Consultant |
| 8 | Dr. Poonam, Consultant |
| 9 | Ms. Neelam Tirkey, Consultant |
| 10 | Ms. Diksha, Consultant |
| 11 | Ms. Ashu Ranga, Jr. Consultant |
| 12 | Dr. Shuchi Soni, Former Consultant |
| 13 | Dr. Ashutosh Kothari, Former Consultant |
| 14 | Ms. Vasundhra Bharti, Former Short Term Consultant |
| 15 | Dr. Diksha Dhupar, Former Fellow |
| 16 | Dr. Sonali Bhattacharya, Former Fellow |

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