

MINISTRY OF HEALTH

GUIDELINES FOR
INPATIENT FOOD
SERVICE SYSTEM IN
BHUTAN

2013

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INTRODUCTION

Why is food service system important?

Food service system is a system where food is prepared, transported, and served or dispensed, as in a health facility. In a Health facility food and nutrition is very important for patient recovery and well-being. Food service quality in the health centers can influence patients' satisfaction with their overall experience. Clean, adequate and safe food intake is an important part of healing the in-patient in any health facility. Food in the health care setting needs to meet individual nutritional requirements and be appropriate for different age groups, social backgrounds as well as for different medical conditions. It also needs to be affordable so that it does not put any major financial strain on the facility.

Health Facility Food Service System in Bhutan

Food in the health facility of Bhutan is provided at Basic Health Unit (BHU) grade 1s, District Hospitals, Regional Referral hospitals and the National Referral Hospital. In most health facilities the food service system is still very traditional where food is prepared and cooked on site and distributed to the wards in bulk. Only one type of menu is served to the patient irrespective of their requirements and preferences. In a resource constraint country like Bhutan this system is ideal. However there are also many disadvantages to this system the chief among which individualizing meal to patients requirement becomes impossible.

At this stage the health facilities in Bhutan cannot go for the tray line system used in resource rich countries, where food is assembled on a moving tray in an assembly line and served to the patients. To do this would require some major reworks which would have very big financial implications. On the other hand the health care facilities also cannot remain stuck in an old system. The food Service System should innovate to accommodate Bhutan's limited resources while at the same time maximizing the efficiency, quality and safety of the foods provided.

What is the purpose of this document?

Health care in Bhutan including in-patient diet is provided free of cost to all its citizens and the need to provide quality services with limited resources is vital. Therefore optimizing the available resources and providing safe, adequate and appropriate food to inpatients is a key fundamental in improving the food service system in the health facilities of Bhutan. This purpose of this document is to give basic guides and standards (including food safety) on food service system management for health facilities. Food safety standards in this document are based on the standards defined by Bhutan Agriculture and Food Regulatory Authority (BAFRA) of the Ministry of Agriculture, *Codex recommended International Code of Practice, Hazard Analysis Critical Control Point (HACCP) system* and other relevant documents. This document should be adopted by the health facilities in Bhutan to achieve safe, adequate and appropriate diet for the in-patients of Bhutan.

OBJECTIVE

To achieve safe, adequate and appropriate foods for the in-patients in the health facilities of Bhutan

THE FOOD SERVICE SYSTEM

THE PLANNING PROCESS

Good menu planning is the corner stone in running the food service system. The menu controls the food costs and determines the food items to be purchased, the equipment and the personnel needed, the work schedules and the supervision required.

- Every six months a meeting should be conducted involving the management, Kitchen in charge/store in charge, cooks and Dietician/Nutritionist (if available) and other relevant staffs
- The kitchen in charge/store in charge should plan the meeting and discuss the inpatient menus, food purchase (quality, specifications and based on procurement rules) and other relevant issues related to the food service system.

THE KITCHEN STAFFS

The number of staffs needed in a kitchen would depend on many factors including the size of the health facility, the in-patient turnout, presence of specialized services etc. The health facility must ensure that appropriate numbers of staffs are recruited to man the food service effectively.

Staffs in the kitchen and their responsibility are given but the responsibilities are not exclusive. The responsibilities listed only apply to the responsibilities in the food service system.

Core Staff

I. The kitchen in charge/Store in charge

Responsibilities:

- Planning the menus for inpatients
- Planning the purchase orders for food items
- Planning, directing, supervising and monitoring the preparation and service of meals and snacks for inpatients

- Taking charge of effective storeroom control such as storeroom requisition, issuance and inventory of storeroom items. Updating the file of monthly and quarterly consumptions and costs of commissary items etc.

II. Cooks

Responsibilities:

- Receiving the food indent from wards, planning, cooking, transporting and serving the food to the in patients
- Cleaning and ensuring that food establishment including the storage rooms and toilets are clean, free from pests and has minimum risk of contamination
- Receiving feed- backs related to food from inpatients and passing on the information to kitchen in charge

Other staffs

I. Dieticians/Nutritionist (if available)

Responsibilities:

- Prescribing diet and making dietary modification to inpatients based on their disease status
- Planning and periodic monitoring of the food service system to ensure that the establishment follows the best practice

II. Physician

Responsibilities:

- Prescribing diet to inpatients based on their disease status

III. Nurse in charge

Responsibilities:

- Filling out the diet request form and handing the form to the cooks

IV. Management

Responsibilities:

- Planning and periodic monitoring of the food service system to ensure that the establishment follows the best practice

THE BULK TROLLEY SYSTEM

Bhutan's Food Service system should still follow the traditional method but innovate to accommodate additional menus meant for patients who require "special diets". The food Service System can be called a "**BULK TROLLEY SYSTEM**" where the foods are prepared and cooked onsite in bulk and distributed to the in-patients.

The health facilities should be able to provide **Regular Diet, Soft Diet, Therapeutic Diet and Special Supplements** the inpatients. The details are given below:

i. Regular Diet

Purpose: Most inpatients in the health facilities would require this type of diet. This type of diet should be served to those patients who do not have special needs due to conditions such as heart disease or diabetes and that are able to chew and swallow regular foods. The regular diet aims to provide a variety of nutrients, including protein, carbohydrates, vitamins and minerals to patients. It should consist of moderate amounts of fat and sodium. Its purpose is to nourish patients, help them heal and get them used to eating regular foods.

Menu:

MEAL	STAPLE	Side dish 1	Side dish 2	Side dish 3	Soup/Drink
BF	Fried rice/Bread	Fruit	-	-	Tea
LUNCH	Rice	Curry	Boiled Egg	Salad/Eze	Dal
Tea	Tea / Green tea				
DINNER	Rice	Curry	Mix Veg	Salad/Eze	Dal
Lean Meats(beef/fish/chicken) can be served 3 times a week(if available)					

- The choice of the ingredients can depend on the availability. Recipes should be planned and developed by individual health facilities taking into consideration patient number, available resources (including manpower), food availability, healthy alternatives etc.
- Lean meats which can include lean beef, fish, chicken etc. can be served three times a week provided that it is available. In places where meats are not available it can be substituted with protein substitutes like soya bean (*nutrella*), cheese etc.
- The health facilities could also serve *roti or tea momo* as a substitute for Rice but it should depend of the availability of resources and manpower.

1. Soft Diet

Purpose: This should be meant for patients who are post-surgery, patients who have digestive and absorptive disorders or to those patients who have difficulty chewing and swallowing etc. Soft Diets are given to recover from illness, surgery or when something in the mouth is compromised to have a regular diet. It should consist of foods that are bland, moderately low in fat and soft in texture.

Menu:

MEAL	STAPLE	Side dish 1	Side dish 2	Side dish 3	Soup/Drink
BF	<i>Rice/kabche porridge</i>				Tea
LUNCH	<i>Rice/kabche porridge</i>				
SNACKS	<i>Tea / Green tea</i>				
DINNER	<i>Rice/kabche porridge</i>				

- The choice of the ingredients can depend on the availability. Recipes should be planned and developed by individual health facilities taking into consideration patient number, available resources (including manpower), food availability etc.
- Meat can be excluded in the recipe and proteins should come from eggs, cheese and dal (which should be included in the recipe). High fat, spicy, tough and foods that contain whole seeds, sharp edges should not be given to the patients. Raw fruits and vegetables (except for lettuces, bananas and mangoes) should not be given to the patients.

2. Therapeutic Diet

Purpose: This type of diet would be required for patients who with specific conditions such as heart disease, diabetes, obesity etc. These diets are restricted in salt, cholesterol, saturated fat and sugar. These diets are used to treat and prevent a variety of health-related conditions.

Menu:

MEAL	STAPLE	Side dish 1	Side dish 2	Side dish 3	Soup/Drink
BF	Fried rice or bread	Fruit			Tea
LUNCH	Rice	Curry with nutrella (no meat)	Boiled egg	Salad	Dal
SNACKS	<i>Tea / Green tea</i>				
DINNER	Rice	Mixed veg	Curry	Salad	Dal

- The choice of the ingredients can depend on the availability. Recipes should be planned and developed by individual health facilities taking into consideration patient number, available resources (including manpower), food availability etc.

- Meat can be excluded in the recipe and proteins should come from soy proteins (nutrella), eggs and cheese.

3. Special Supplements

Purpose: This is not a diet in technical sense but a supplementation to the inpatient diets to improve or address the nutrition requirements. It is meant for those that cannot get their required nutrition from the regular diet alone. It's purpose is to modify calorie intake, such as patients that need high calorie to promote weight gain and encouraging high protein intake for those who require high protein. Some of the diseases in which these supplement can be used include cancer, burns, failure to thrive etc.

Supplements:

Supplements	Purpose
Ensure B-protein Protein-X	High protein, high calorie supplement used for adults
D-proteins	High protein supplements for Diabetics
Kids-pro Prosure	High protein supplements for children
Lactogen	Milk substitute

- The Supplements can depend on the availability. Even extra egg can be given to improve the protein and calorie intake.
- They can be given either orally or through the feeding tubes. However these formulas should only be prescribed by the physician and or by nutrition professionals.

THE FOOD INDENTING AND DISTRIBUTION PROCESS

In order to provide the best services it is very important that the health facilities adhere to a very efficient indenting process that accounts for the exact requirement and minimizes inefficiencies to a minimum.

- The Indenting process should start at the In-patient wards. The Nurse in-charge should make account for the entire patient in the ward including their ailment. At the end of each day, the nurse should indent a **Diet Request Form (appendix 1)** once a day preferably in the night specifying the type of diet and patient bed number. This should be based on the diet prescription given by the physician and or the nutrition professionals during the day. If the diet is not specified they can give the regular diet until changed.
- They should then distribute the following color coded cards to each patient depending on the type of diet requirement.

Regular Diet	: Blue colored card
Soft Diet	: Pink colored card
Therapeutic card	: Yellow colored card
Supplement	: White colored with specified supplement

- The cooks should pick up the request form in the morning and hand over the request form to the Store/kitchen In-charge who would then release the required raw material and supplements from the stores for cooking. The raw material should be released according to the following quantity standard.

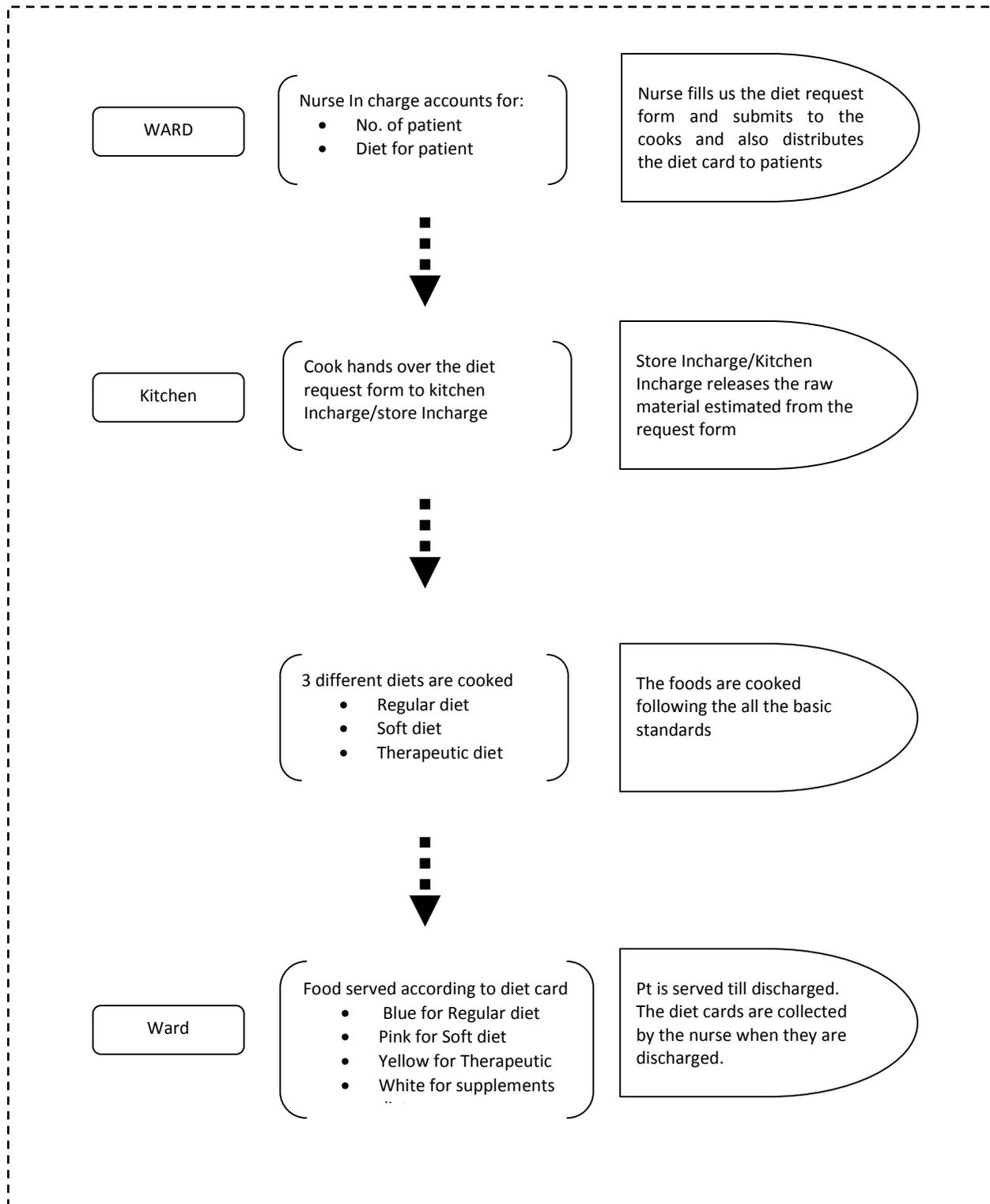
Table: Raw material quantity needed for different diets

Description	Normal diet	Therapeutic Diet	Soft Diet
Rice (Raw)/head	250 gm/day	200 gm/day	200 gm/day
Dal (Raw)/head	100 gm/day	100 gm /day	100 gm /day
Milk powder /head	22 gm /day	22 gm /day	22 gm /day
Sugar / head	24 gm /day	12 gm/day	12 gm/ day
Tea leaves*	500 gm total per day		
Cooking oil / head	20 gm / day	10 gm /day	10 gm / day
Egg / head	1 pc /day	1 pc/day (unless specified)	1 pc / day (unless specified)
Bread	1 pkt for 4 persons daily		
Chilly powder*	200 gm total per day		
Haldi*	100 gm total per day		
Jeera powder*	100 gm total per day		
Fruits	4 times/week		
Vegetable / head	200 gm daily	200 Daily	
Meat	100 gm/person (if available)		

These ingredients are based from 350 bedded patients: the ingredients can be adjusted according to the patient head in the health facility.

- After cooking the foods should be distributed by the cooks in a bulk trolley system. The foods to be distributed should be transported in clean containers. They should have different containers for each of the different diets. Food should then be served according to the cards the patient carry: Blue for Regular, Yellow for Therapeutic and pink for soft respectively. They should also provide the supplements if prescribed.
- When the patient gets discharged from the wards the Nurse In charge should collect the diet cards.

Figure showing Schematic diagram of food indentation and distribution process



THE RECEIVING PROCESS

Food receiving is an important operational step to food safety. At receiving, the main concern is contamination from pathogens and the formation of harmful toxins. Two recommended control measures of importance during this operational step include –

- Receiving the food at proper temperatures and getting perishable food into cold storage quickly
- Obtaining food, ingredients, and packaging materials from approved sources (suppliers who are regulated and inspected by appropriate regulatory authorities)

Food received or used in food service establishment must be from sources approved by the management. It must be clean, wholesome, free from spoilage, misbranding, and safe for human consumption.

The foods that fall into the following categories should be rejected –

- Foods that have damaged packaging or are incorrectly labeled or have reached the expiration date etc.
- The delivery vehicle is unclean or is carrying chemicals or other matter that may contaminate food

THE STORING PROCESS

DRY STORAGE

Food must be stored in an appropriate environment to protect it from contamination and to maintain the safety and suitability of the food. Contamination can be the result of pests (cockroaches, rats, flies etc); cleaning chemicals stored above or next to foods; or from excessive humidity.

Food in dry storage areas also needs to be rotated by applying the principle of first in first out. This is to prevent stocking old supplies of food at the back of shelves or cupboards.

Examples of dry products include cereals, flour, rice and canned products.

The following measures must be taken in storage area –

- Making sure that no pest breeds in the storage room

- Storing opened packaged products in clean, sealed food grade containers or adequately resealing the package
- Cleaning the dry storage area regularly (for example once a week)
- All food is stored 6 inch off the floor
- Foods that are contaminated, rotted or have signs of pest infestation should be discarded

COLD STORAGE

Potentially hazardous foods are foods that might contain food poisoning bacteria and are capable of making people sick if the foods are not stored at correct temperatures.

Examples of potentially hazardous foods including raw and cooked meats, curries etc

Some health facilities may not have cold storage where in that case the foods must be consumed as soon as possible. Food that is damaged, deteriorated or perished should never be used.

The following measures must be taken in storage area –

- Potentially hazardous foods need to be stored below 5°C when in cold storage
- Cleaning the cold storage area regularly (once a week)
- If the cold storage equipment is found to be faulty the equipment should be serviced/repaired
- Foods that are contaminated, deteriorated, perished or deemed unfit for consumption should be discarded

THE PREPATION PROCESS

Even the freshest raw food contains bacteria right from the start, so it's important to take measures listed to help prevent food-borne illness. Preparation means preparing food for cooking and serving.

The measures taken to prevent the food-borne illness include –

- Ensuring that food handlers have appropriate skills and knowledge for each food preparation task
- Making sure that food preparation surfaces, equipment and utensil are cleaned before use
- The food handlers should be made to wear clean uniform before preparing food
- Not allowing anybody to touch the food without proper hand washing
- Minimising the time that potentially hazardous food is above 5°C
- Making sure that ready-to-eat food is kept apart from raw ingredients during preparation.

This can only be achieved when the food handlers are trained in safe handling of food when first recruited and subsequent refresher course every two years as specified in food handlers section.

THE COOKING PROCESS

The safety of food is usually achieved through cooking and the cooking step must be adequate to achieve this.

- Potentially hazardous foods like meats should be thoroughly cooked
- Always using clean equipment and utensils during cooking

Three different types of food (regular, soft and therapeutic diet) should be cooked by the hospital. These foods should be cooked based on the recipes agreed upon by individual health facilities.

THE SERVING PROCESS

This activity covers transporting the food from the kitchen to the serving area and serving the food to the patients.

- Equipments used to transport food should be designed and constructed to protect the food
- All food for transport must be covered or packed to protect the food from becoming contaminated and hot foods must be maintained above 60° C.
- There should be separate container each for regular diet, Soft diet and Therapeutic diet
- Separate serving utensils should be used for each of the different diets. Soiled serving utensils should always be replaced with clean ones
- Foods that are contaminated (with dirty equipments, raw foods, foreign objects, chemicals etc.) should not be served

CLEANING THE ESTABLISHMENT

Keeping the food establishment clean and sanitary at all times is very important. Good cleaning habits can break the chain of infection from the source of the disease to the customer and employees.

- The establishment should be cleaned at least three times a day. After breakfast, after midday meal and after closing.
- Cleaning should be done during periods when the least amount of food is exposed

FOOD PREMISES AND EQUIPMENT

- Health facilities are required to ensure that their food premises, fixtures, fittings, equipment and transport vehicles are designed and constructed so as to allow ease of cleaning.
- Facilities must also ensure that the premises are provided with the necessary services of water, waste disposal, light, ventilation, cleaning and personal hygiene facilities, storage space and access to toilets.

WASTE MANAGEMENT

The facility must have capacity to hold all the garbage on the food premises until collection or removal. They must not provide a breeding ground for pest and must be capable of easily and effectively cleaned.

- Garbage should be segregated into bio-degradable and non-biodegradable waste.
- Bio-degradable waste can be composted in a pit near the health facility provided that proper technique is applied ensuring that the waste are not accessible to pests
- All garbage bin must be lidded so that pests cannot get access to the garbage
- Leftovers should be treated as waste and should not be served as it can cause food borne illness

FOOD HANDELERS

Food handlers are required to have skills and knowledge in food safety and food hygiene that is appropriate to the activities they perform.

- The food handlers should attend a training course conducted or approved by BAFRA on food safety once every two years.
- The food handlers must also provide a document proving *Health Status and proof of knowledge on food safety of food handlers* as specified in FOOD RULES AND REGULATIONS OF BHUTAN 2007 by Ministry of Agriculture

Food handlers' personal hygiene practices and cleanliness must minimise the risk of food contamination. They should:

- Wear clean outer clothing (uniform) consisting of clean apron, mouth cover, headgear, and clean food-grade plastic gloves while handling food.
- Make sure bandages or dressings on any exposed parts of the body are covered with a waterproof covering

- Do not eat over unprotected food or surfaces likely to come in contact with food
- Do not sneeze, blow or cough over unprotected food or surfaces likely to come into contact with food
- Do not spit or smoke where food is handled
- Wash their hands whenever their hands are likely to touch food

It is very important that people who may be suffering from or carrying certain illnesses or suffering from some conditions do not handle food or food contact surfaces. This is particularly important if they are likely to contaminate food while they are working. They must get a health clearance before being employed, annually after they are employed and after they have recovered from an illness.

MONITORING

In order to ensure that the food service system functions to the highest standards, it is important that there be a constant monitoring of the food service system.

- The kitchen in charge/store in charge must inspect and monitor kitchen every day to ensure compliance and proper management.
- Dietician/ Nutritionist must do a weekly round of the kitchen and use the Check list (appendix 2) to ensure that all aspects of the Food Service System are in accordance to this document. In places where the Dietician/Nutritionist is not available the Kitchen in charge/ Store in charge must do the weekly evaluation.
- The health facility management must also inspect and monitor the food service system at least twice a year.

APPENDIX 2

CHECKLIST

Date _____ Observer _____

Directions: Use this checklist weekly. Determine areas in your operations requiring corrective action. Record corrective action taken and keep completed records in a notebook for future reference.

PERSONAL HYGIENE

	Yes	No	Corrective Action
• Employees wear clean and proper uniform including shoes.	<input type="checkbox"/>	<input type="checkbox"/>	_____
• Hands are washed properly, frequently, and at appropriate times.	<input type="checkbox"/>	<input type="checkbox"/>	_____
• Employees appear in good health.	<input type="checkbox"/>	<input type="checkbox"/>	_____
• Hand sinks are unobstructed, operational, and clean.	<input type="checkbox"/>	<input type="checkbox"/>	_____
• Hand sinks are stocked with soap and other cleaning agent	<input type="checkbox"/>	<input type="checkbox"/>	_____
• Employee restrooms are operational and clean.	<input type="checkbox"/>	<input type="checkbox"/>	_____

FOOD PREPARATION

	Yes	No	Corrective Action
• All food stored or prepared in facility is from approved sources.	<input type="checkbox"/>	<input type="checkbox"/>	_____
• Food equipment utensils and food contact surfaces are properly washed, rinsed before every use.	<input type="checkbox"/>	<input type="checkbox"/>	_____
• Procedures are in place to prevent cross-contamination.	<input type="checkbox"/>	<input type="checkbox"/>	_____
• Food is handled with suitable utensils	<input type="checkbox"/>	<input type="checkbox"/>	_____

CLEANING

	Yes	No	Corrective Action
• Water is clean and free of grease and food particles	<input type="checkbox"/>	<input type="checkbox"/>	_____
• Food establishment is cleaned 3 times a day	<input type="checkbox"/>	<input type="checkbox"/>	_____
• Clean is done when least amount of food is exposed	<input type="checkbox"/>	<input type="checkbox"/>	_____

REFRIGERATOR

	Yes	No	Corrective Action
• Thermometers are available and accurate.	<input type="checkbox"/>	<input type="checkbox"/>	_____
• Food is stored 6 inches off floor or in walk-in cooling equipment.	<input type="checkbox"/>	<input type="checkbox"/>	_____
• Refrigerator and freezer units are clean and neat.	<input type="checkbox"/>	<input type="checkbox"/>	_____
• The FIFO (First In, First Out) method of inventory management is used.	<input type="checkbox"/>	<input type="checkbox"/>	_____

FOOD STORAGE

Yes No Corrective Action

- All food and paper supplies are stored 6 to 8 inches off the floor. Yes No _____
- Open bags of food are stored in containers with tight fitting lids and labeled with common name. Yes No _____
- The FIFO (First In, First Out) method of inventory management is used. Yes No _____
- There are no bulging or leaking canned goods. Yes No _____
- Food is protected from contamination. Yes No _____

UTENSILS AND EQUIPMENT

Yes No Corrective Action

- All small equipment and utensils, including cutting boards and knives, are cleaned and between uses. Yes No _____
- Work surfaces and utensils are clean. Yes No _____
- Can opener is clean. Yes No _____
- Drawers and racks are clean. Yes No _____
- Clean utensils are handled in a manner to prevent contamination Yes No _____

GARBAGE STORAGE AND DISPOSAL

Yes No Corrective Action

- Kitchen garbage cans are clean and kept covered. Yes No _____
- Garbage is segregated into bio-degradable and non-biodegradable Yes No _____
- Bio-degradable waste is composted Yes No _____
- Garbage cans are emptied as necessary. Yes No _____
- Boxes and containers are removed from site. Yes No _____
- Loading dock and area around dumpster are clean. Yes No _____
- Dumpsters are clean. Yes No _____

FOOD SERVICE SYSTEM

Yes No Corrective Action

- All three type of diets and supplements are provided Yes No _____
- All equipments and facilities in the premises are functioning well Yes No _____
- Feed backs & comments (if any) from the patients and Staffs are taken into account Yes No _____
- Other issues: _____
