NHS Estates

Managing food waste in the NHS

DH Department of Health

NHS

efm-standards

DH INFORMATION READER BOX

Policy	**Estates**
HR / Workforce	Performance
Management	IM & T
Planning	Finance
Clinical	Partnership Working

Document Purpose	Best Practice Guidance		
ROCR Ref:		**Gateway Ref:**	4619
Title	Managing food waste in the NHS		
Author	NHSE Hospitality		
Publication Date	March 14th 2005		
Target Audience	Directors of Estates and Facilities		
Circulation List	Facilities Managers, Hotel Services Managers, Catering Managers, Dieticians. Nutritional Link Nurses		
Description	Best practice guidance relating to the cost-effective management and reduction of food waste in healthcare facilities' catering services.		
Cross Ref	N/A		
Superseded Docs	Reducing Food Waste in the NHS, 2000		
Action Required	N/A		
Timing			
Contact Details	Graham Jacob Hospitality NHS Estates, Trevelyan Sq Boar L:ane, Leeds LS1 6AE 0113 254 7052		
For Recipient's Use			

Managing food waste in the NHS

efm-standards

© Crown copyright 2005

Contents

1 Introduction page 2

2 Summary and recommendations page 3

3 Staff responsibilities page 4

4 Reasons for food waste page 7

5 Managing food waste page 10

6 Definitions of terms page 14

7 Legislation page 15

8 Managing food waste in the NHS project group page 16

Appendix 1 – Best practice checklists page 17

About NHS Estates guidance and publications page 30

1 Introduction

This document identifies the reasons why food wastage occurs in the ordering, distribution and service of food at ward level and suggests how this waste may be effectively managed in a cost-effective way. It is intended as best practice guidance for modern matrons, doctors, dietitians, catering managers, ward housekeepers and ward-based teams.

This guidance has been produced in response to the Audit Commission's 'Acute Hospital Portfolio survey of catering', 2001 and updates 'Reducing food waste in the NHS', 2000. The appendices contain best practice checklists that may be adapted for use at local level.

This document provides guidance on:

- identifying the reasons for food wastage and definitions of food waste;
- developing universally accepted tools to identify levels of food waste in order to enable effective comparisons between trusts;
- reducing the volume of food supplied or cooked but not served;
- explaining why patients do not eat food served to them and developing appropriate action in response;
- identifying the responsibilities for reducing food waste amongst members of the wider healthcare team.

Food waste during service process, purchasing of ingredients and meals, storage and food production are not covered by this document.

2 Summary and recommendations

The inherent uncertainties and fluctuations in demand for food services mean that waste cannot be eliminated completely. However, with careful planning, consideration for patients' needs and co-operation from all those involved, healthcare providers may reduce food waste whilst still providing a quality service.

Suggested procedures for reducing food wastage include:

- timely and accurate meal ordering;
- assistance for patients in selecting and ordering;
- continual monitoring and setting of objectives to reduce food waste;
- observing "protected mealtimes" (periods without interruptions from scheduled ward activities);
- presenting food well in an environment conducive to eating;
- providing flexible catering services designed to meet individual needs.

In order to be effective, a waste management system should aim to ensure that patients are:

- provided with timely information on the catering service, meal ordering systems and access to alternative or additional food;
- offered flexibility in choice, type and portion size of dishes;
- required to order no more than two meals and, ideally, no more than two hours in advance;
- given assistance with meal ordering/selecting and eating (as appropriate) without delays;
- offered the opportunity to order/select from the published menu for their first meal following either admission or a change in "nil by mouth" procedures;
- served promptly and without delays;
- served during "protected mealtime" periods only;
- provided with a mealtime environment that is conducive to eating.

An effective catering system should:

- be able to adjust meal orders at short notice to take account of admissions, discharges, "nil by mouth" procedures or changes in patients' appetites;
- routinely record and report on the levels and reasons for food wastage, set objectives to reduce it and implement them;
- ensure effective communication between healthcare professionals to establish "need" and identify responsibilities within the wider healthcare team for reducing food wastage;
- supply meals not in excess of the number of patients actually eating;
- ensure, as far as practicable, additional food is only supplied following confirmation that demand cannot be met from neighbouring wards.

3 Staff responsibilities

Mealtimes may provide patients with a welcome break in hospital routines. It is the responsibility of the healthcare team to ensure mealtimes remain "special" and support patients to enjoy food and the mealtime experience.

Food waste caused by un-served meals is usually the result of poor communication between ward-based and catering teams. Responsibilities may vary in different healthcare environments, but all healthcare professionals providing food and nutritional care to patients have a responsibility to manage and reduce food waste effectively. Modern matrons have a key role to play in achieving this.

All healthcare staff with responsibility for serving of food and the nutritional care of patients should be appropriately trained and able to demonstrate competence in the following:

- food service, including meal ordering;
- food safety;
- basic nutrition;
- communication skills;
- customer care;
- team working;
- diversity and equal opportunities;
- health and safety.

"Nutritional care depends on teamwork between healthcare workers in different disciplines, the scope and contribution of whose work should be recognised" ('A doctor's responsibility', Royal College of Physicians, 2002).

For details of best practice measures which enable food waste to be reduced see 'The Essence of Care – patient-focused benchmarking for healthcare professionals', DH, 2001 and Appendix 1 (3).

To help reduce food wastage, **modern matrons, nurses, ward housekeepers and ward-based staff** should:

- work with speech and language therapists, doctors and dietitians to provide the catering department with timely information affecting meal orders, such as ward closures, patient/client movements and changes in conditions that may affect diet or the ability to eat;
- limit patient/client meal orders to only those patients who are on the ward and able to eat food;
- encourage and assist patients to choose their own meal and portion size whenever possible and appropriate. This process should take place as close to the mealtime as possible, but no more than two meals in advance;
- ensure, in advance of the meal delivery/regeneration, that an appropriate number of staff are available to serve meals promptly and without delays;
- ensure patients are made comfortable prior to the service of meals and supplied with dentures and eating aids if required;
- ensure meals are presented attractively and served to the requested portion size;
- positively promote food and food choices at mealtimes;
- place meals within the patient/client's reach and provide assistance (without delays) with eating food, if and when required;
- observe the principles of "protected mealtimes";
- assist with the investigation into food wastage by recording food waste and providing feedback on unpopular or unsuitable menu items;
- take responsibility for the control and use of ward provisions, whether they form part of the ward budget or not.

Doctors and the wider healthcare team should:

- observe the principles of "protected mealtimes" and ensure the service and consumption of meals is not interrupted by ward rounds or routine tasks which could take place at other times;
- where possible, schedule X-rays and other procedures so that patients do not miss meals;

- prior to each meal service, review and confirm the need for a patient/client to remain “nil by mouth”.

Dietitians and speech and language therapists should:

- work with doctors, modern matrons, nurses, ward housekeepers and ward-based teams to provide timely information affecting meal orders, such as ward closures, patient/client movements and changes in conditions that may affect diet or the ability to eat;
- assist in the compilation of menus for patient/client catering services;
- ensure accurate and timely summary of “special diet” menu cards;
- observe the principles of “protected mealtimes” and ensure the service and consumption of meals is not interrupted by routine tasks which could take place at other times (the assessment and monitoring of a patient’s eating, drinking and swallowing is appropriate during a “protected mealtime”);
- provide feedback on unpopular or unsuitable menu items;
- observe the principles of “protected mealtimes”.

Catering staff should:

- work with speech and language therapists, doctors, modern matrons, nurses, housekeepers and dietitians to identify, prior to the meal service, patients’ meal and “special diet” requirements;
- confirm the number of meals ordered with each ward immediately prior to meal service;
- ensure appropriate serving utensils/dishes are available at the point of service;
- provide clear guidance on portion sizes;
- provide food of a consistently high quality;
- provide the full range of dishes from the published menu without substitutions or omissions;
- present food attractively and supply appropriate and complementary sauces or garnishes;
- maintain nutrient content, temperature, quality and palatability of hot food during distribution.

Staff with responsibility for the distribution of food should:

- deliver meals in accordance with a mealtime schedule that takes account of patients’ needs and ward routines, as agreed between ward-based teams and the catering department;
- distribute food as quickly as possible.

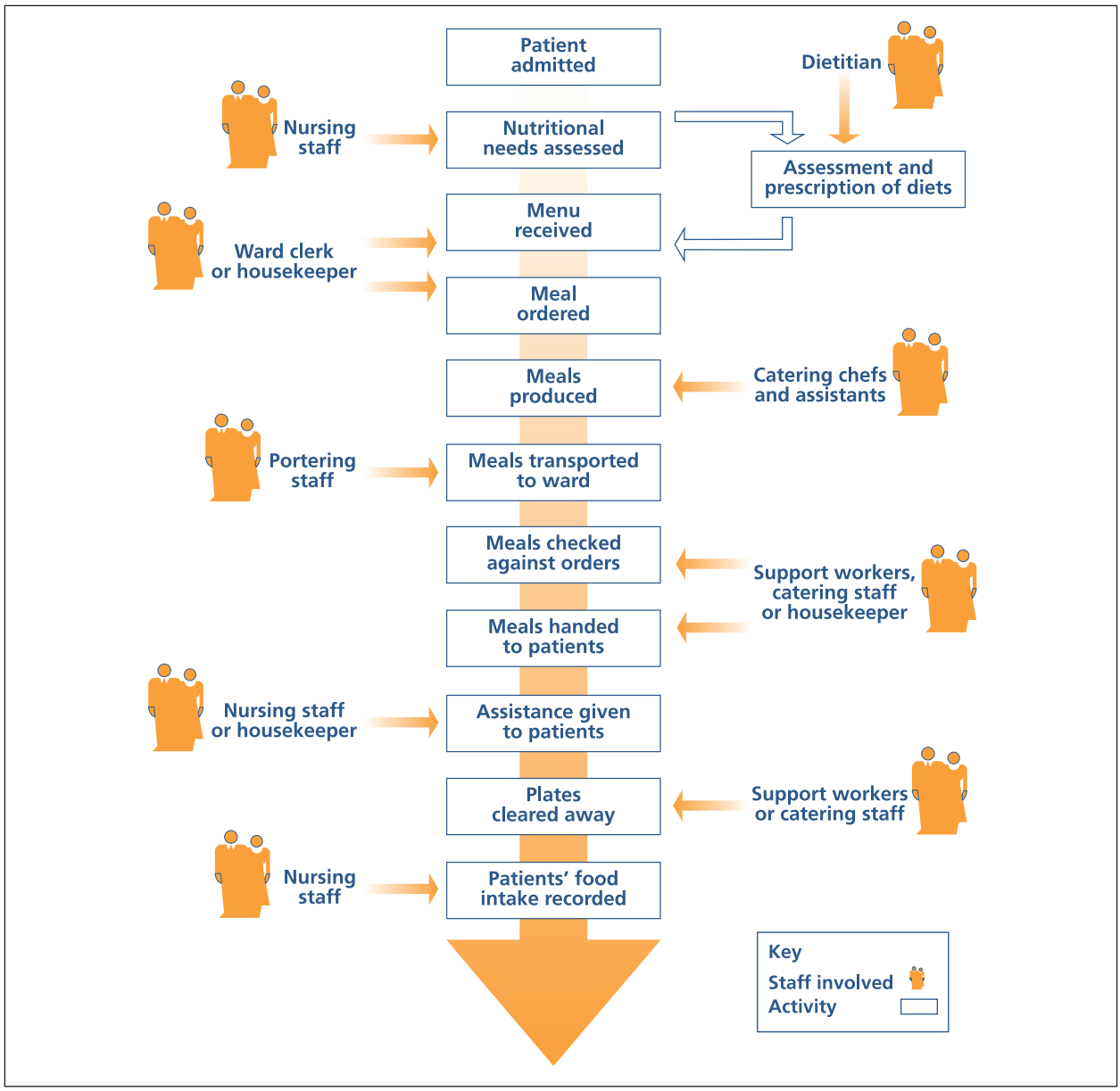

Figure 1 Staff involved in food service delivery to patients (Audit Commission, 2001)

4 Reasons for food waste

Food waste levels can be affected by a number of factors.

FOOD DELIVERY SYSTEMS

In general, bulk food service systems produce a higher number of un-served meals but lower levels of plate waste than plated meal systems. When both plate waste and un-served meals are calculated together the total quantity of food waste is likely to be greater in bulk food systems.

Bulk food systems, however, allow patients to have amounts of food on their plate that more accurately reflect their appetite. Patients/clients may eat all the food served to them, thus reducing plate waste, but may have only chosen a small amount of food initially. Accordingly, food waste measurement tools cannot be used to determine a patient/client's nutritional intake.

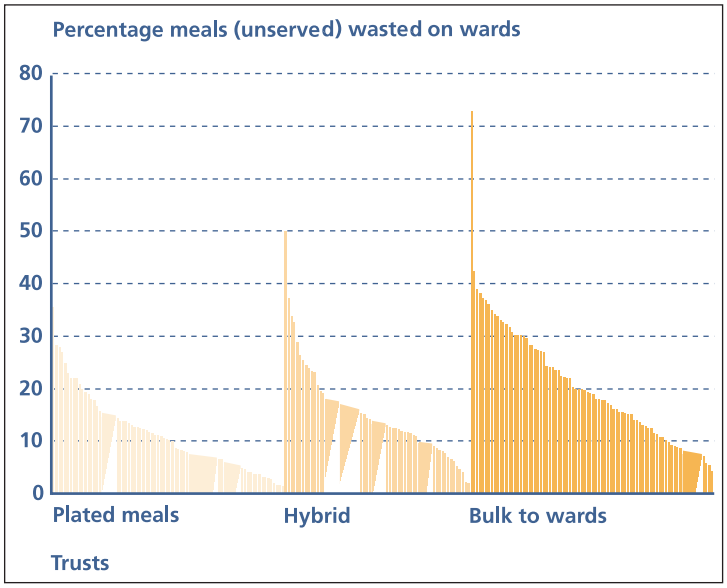

Figure 2 Percentage food wastage (un-served meals) by service delivery method (Source: Audit Commission, 2001)

"Trusts using the bulk service method experience considerably higher wastage rates because food is served in trays of a set size and if the tray contains eight portions then eight portions are produced even though only (say) six have been ordered. This problem has been overcome in some Trusts by using different sizes of trays" (Audit Commission Acute Portfolio, 2001).

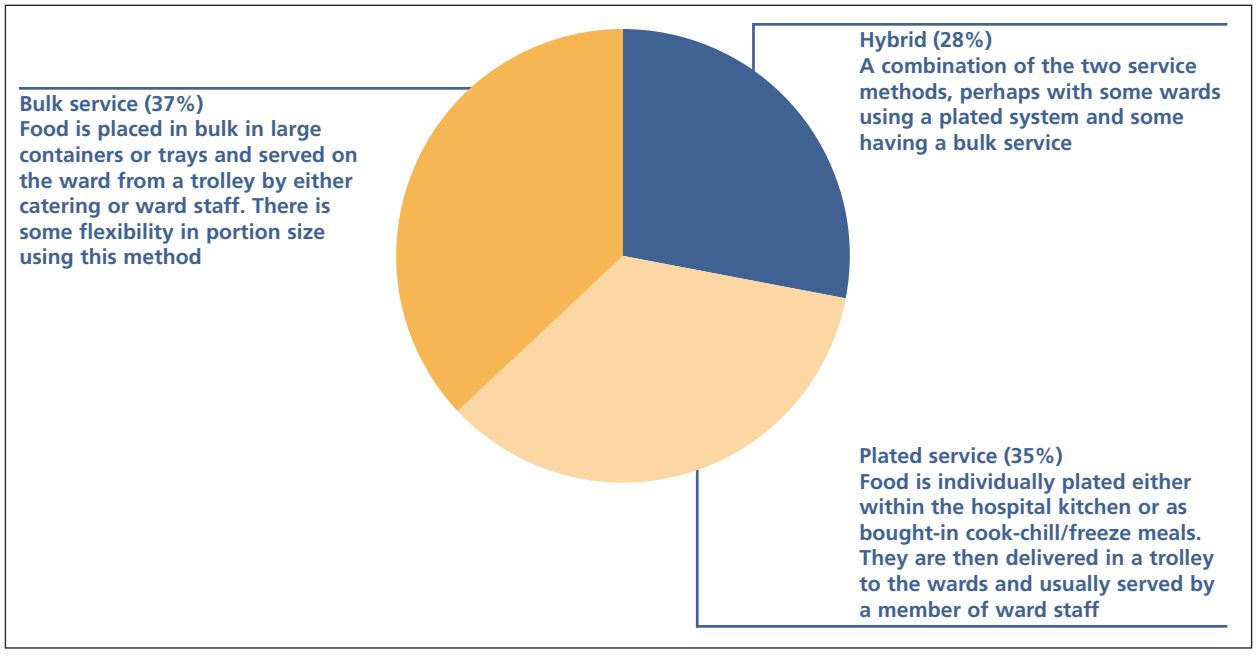

Figure 3 Percentage of Trusts using the different methods of meal service (Source: Audit Commission, 2001)

It is recognised that different patient/client groups may have differing nutritional needs and consequently require larger portion sizes. Accordingly, in some healthcare environments, an eight-portion tray of pre-prepared meat may only provide six portions and in others the reverse of this may be true.

Plated food systems provide patients with the opportunity of ordering a meal size that suits their appetite. But, where components of the meal are not required in the same quantities, plate waste may occur.

Therefore, conclusions about the most effective food service method cannot be based on food waste results alone. The quality and cost of the service should also be considered, together with what is most appropriate for the healthcare environment and the patient/client group.

ORGANISATIONAL FACTORS

Inappropriate length and timing of meals, inability to select food as close as possible to mealtimes, and disturbances during mealtimes, such as rounds by medical personnel, may all affect patient/client satisfaction and have a negative effect on the amount of food eaten.

"Delivering food to the patient is one thing – ensuring it is eaten is another. Many patients become malnourished in hospital because they are not given enough help with feeding themselves. For all patients the responsibility for ensuring appropriate and adequate feeding rests with the nursing staff" ('Managing Nutrition In Hospital – a recipe for quality', Nuffield Trust, 1999).

Where a lack of ownership by ward-based teams exists during mealtimes, the service of food and food quality may be regarded as unacceptable by patients. Delays in serving food and incorrectly assembled or wrongly portion-sized meals may not encourage patients to eat or view hospital food positively. Ward housekeepers may be best placed to effectively address these issues as clear ownership should result in an improved food service.

High food waste levels may reflect patients' lack of confidence in the catering service to deliver additional or alternative food items at short notice. This lack of confidence can give rise to "just-in-case" ordering of meals that are then wasted.

FOOD AND DRINK

Patients/clients who are not given a menu or an opportunity to select their own meal choices may regard the food supplied less favourably and be unable or unwilling to eat.

If "special" diets are incorrectly prepared, high levels of food wastage can occur. Where a patient/client is required to consume either a high number of calories or a high protein diet the quantity of food provided might be greater than the patient/client's ability to consume. The same may apply to texture modified (minced or puréed) diets if these are extended with the addition of water or a sauce such as gravy.

Wastage can vary between the different components of a meal. The volume of food wasted can increase when a large portion is selected, as all components of the meal are served in equally large portions.

"A patient questionnaire revealed that 42% of elderly patients thought their meal portion was too large. The portions were therefore reduced by 20% and the energy density increased. These measures resulted in a 30% reduction in waste and an increased intake" ('Food Provision, Wastage and Intake in Elderly Hospital Patients', Stephen, AD et al, 1997).

THE PATIENTS

There are a number of reasons that patients may not eat.

Clinical reasons patients may not eat include:

- prescribed drugs or treatments resulting in poor appetite;
- stress from medical treatment;
- pain and discomfort;
- poor motivation to eat;
- disease-related effects, such as nausea;
- bereavement, loneliness and depression;
- mental health conditions such as confusion and/or memory loss;
- inability to recognise food;
- ill-fitting dentures or poor dentition;
- inability to swallow or consume food with dignity;
- food or diet provided identifies the patient/client as "different" from others;
- inappropriate and/or prolonged use of "nil by mouth" procedures.

Assistance-related reasons patients may not eat include:

- the opportunity to exercise choice in ordering or selecting meals is not given;
- assistance with meals is not provided as needed;

- cutlery, crockery or environment is not suitable to meet patient/clients' individual needs;
- insufficient encouragement is given to eat;
- no assistance is given with opening packets or removing lids;
- food is placed out of patients' reach.

Environmental reasons patients may not eat include:

- uncomfortable eating position, cramped or cluttered conditions;
- unpleasant smells, excessive or intrusive noise;
- disturbances and interruptions during food service times;
- lack of privacy or lack of social interaction.

"The presence of other people is fundamental – it affects how long we eat, how much we eat and what we eat" ('Food Service Technology', edited by Herbert L Meiselman and John SA Edwards, 2003).

Meal service-related reasons patients may not eat include:

- cultural and/or personal food preferences;
- unfamiliar and unclear routines and systems;
- menu fatigue;
- meals served at inappropriate times;
- meals missed due to investigations/appointments during mealtimes;
- patients left waiting for food whilst others eat;
- insufficient time given to slow eaters;
- lack of awareness of the meal's arrival;
- lack of opportunity to freshen up prior to eating;
- inappropriate or unsuitable tableware or meal tray appearance;
- negative attitude of those serving the food;
- activities such as childcare or attending to visitors are given priority over the consumption of food;
- the meal supplied differs from that which the patient/client ordered or selected;
- poorly presented meals;
- too much or too little food on the plate results in the inability to eat the quantity of food served;
- food served is unsuitable for the patient/client's diet.

Food-related reasons patients may not eat include:

- absence or presence of condiments or seasonings;
- dishes are unfamiliar or inadequately described on the menu;
- cooking methods are unfamiliar;
- food is unappetising in appearance;
- food is not served at the correct temperature;
- unpleasant, unfamiliar or inappropriate smells, colours or textures;
- concern that the food is not safe to eat;
- inappropriate, poor quality food or incorrect preparation;
- food not prepared in accordance with religious beliefs or dietary requirements.

5 Managing food waste

It is important to recognise that some food waste is inevitable in all catering environments. Levels of food waste can be considered acceptable when any attempt to reduce them would compromise quality, patient/client choice and nutritional intake or when the cost of monitoring and addressing exceeds the financial value of waste itself.

The management of stock and assets and the need to effectively manage waste are core functions of the management team. High levels of food waste can be seen as an indicator of bad practice.

To assist in identifying, managing and reducing food waste, checklists are provided in Appendix 1.

EMPOWERING PATIENTS

Measures designed to empower patients, and thus support them to eat, can help reduce levels of food waste.

Increased access to better quality food, provision of food service information and opportunities to eat away from the bedside can result in more food eaten and less food waste. The Better Hospital Food programme, launched in May 2001, introduced new recipes, extended the variety of food choices and made provision for food and drink to be available 24 hours a day.

Pictorial menus may support patients with selecting meal choices. Menu-less food service systems (where patients are able to select food at the point of service) may also lead to a reduction in food waste although such food service systems require those serving meals to promote ("sell") remaining food choices.

Attempts should be made to address the public perception of food service in healthcare environments. If patients have high expectations of the food they are served they are likely to have a more positive experience of eating it. To this extent, low levels of food waste can be seen as a measure of consumer acceptability. Ward housekeepers can have a positive effect on promoting hospital food and food services which can lead to greater patient/client satisfaction.

"We can't improve the quality of institutional food until we address people's expectations of it" (Dr Herbert Meiselman, US Army, 2003).

Methods used to determine funding for catering services should be examined. When funding arrangements are based on the number of patient/client meals served, without adjustments for the number of patients actually eating, high levels of food waste can occur.

Limiting food choices, or serving food in smaller portion sizes, may reduce food waste but will have implications for the nutritional value of meals, variety and choice, acceptability and overall quality of the food service and are likely to be counter-productive. Portion sizes for patient/client meals should always be agreed with and monitored by dietitians.

MEAL SERVICE

Times of meals should be agreed with modern matrons, ward-based teams and published and communicated to all catering chain providers. Mealtimes should be "protected" and patients given assistance in an environment that is conducive to eating. See Appendix 1 and 'Best Practice – Curtailment of inappropriate activity at mealtimes eg cleaning, ward rounds', DH, 1999.

Timing of meals within each patient/client area should be:

- socially acceptable for the majority of patients, taking into account their needs and expectations;
- agreed with modern matrons and ward-based teams;
- published and communicated to patients and all catering chain providers;
- during periods "protected" from unnecessary and avoidable interruptions;
- monitored and reviewed;
- flexible, to meet the changing needs of patients.

"Protected mealtimes" are designed to ensure patients are given assistance and support to eat by ensuring the environment is prepared in advance for the service of food and is conducive to eating. Tasks such as cleaning,

maintenance and clinical activity should take place outside planned mealtimes, wherever possible.

Protected mealtimes assist patients to eat, leading to an increase in food intake and a reduction of food waste. An observational audit tool for mealtime care is provided in Appendix 1 (9).

"Interruption of patients' mealtimes by ward rounds and procedures should be minimised and each ward should have a clear policy in this respect. The environment at mealtimes should be made as conducive to eating as possible" (British Association for Parenteral and Enteral Nutrition, 'Hospital Food as Treatment', 1999).

MANAGEMENT SYSTEMS

It is recommended that a multidisciplinary team, including modern matrons, should complete the management checklist in Appendix 1 (1) following any significant changes to the catering service and at least **once per year**.

It is recommended that a multidisciplinary team, including modern matrons, should complete the operational checklist in Appendix 1 (2) following any changes to the catering service and **on a monthly basis**.

As healthcare environments differ, these tools should be tailored to achieve the objective of reducing food waste. The tools may be used to audit a ward, hospital site or clinical directorate.

Following completion of the audit checklists it is recommended that any resulting action be agreed, communicated and monitored.

Healthcare providers should regularly record and report levels of, and reasons for, food wastage and resources should, subsequently, be correctly targeted. Objectives should be to set and communicated to relevant staff.

Information systems providing accurate and timely information on meal requirements are paramount to the effective management of the catering service. Forecasts, or predicted uptakes, of patient/client meals should only be used to support purchasing decisions or the production of meals.

Where a meal ordering system is used, the number of meals supplied to wards should match, and not exceed, patient/client meal requests. Where no meal ordering system is used, the number of portions supplied for each menu item should be reviewed at the end of each meal service and the information used to determine future food provision. Records should be kept and staff encouraged to provide feedback on both popular and unpopular dishes.

Systems should be put in place to ensure efforts are made to identify surplus food, before additional food supplies are sought. Surplus food may be available on adjoining wards. Efforts should be made to ensure that delivery times and environments, presentation and portion size of meals suit patient/client expectations.

MONITORING FOOD WASTE

Measuring the quality of food and food service should be part of any catering contracts and service agreements. Suppliers should then undergo periodic audits to ensure compliance with requirements and to identify any scope for improvement.

Healthcare providers should regularly measure patient/client satisfaction concerning the quality of meals and food service, by means of patient/client and staff surveys. Independent, unannounced checks should be made at mealtimes, including during weekends and bank holidays.

The volume of food waste can vary between each mealtime (breakfast, lunch and supper) and this should be taken into account when monitoring both plate waste and untouched meals.

Where the volume of food waste is high but the monetary value of the meal is low, financial loss may not be significant. Similarly, where the volume of waste is low but the financial value of meals is higher in comparison, costs may not be prohibitively high. An example is given below.

	Healthcare provider A	Healthcare provider B
Patient/client meal costs per day	£3.25	£1.63
Volume of food waste	4%	8%
Total (£) value of food waste	£0.13	£0.13

Care should always be taken when comparing the financial values of food waste between healthcare providers as the cost of prepared meals will include the cost of overheads to produce, store and deliver meals. These overhead costs may not always be included in the meal cost of food prepared on a hospital site.

MEASURING FOOD WASTE

There are various methods of calculating food waste. All the methods discussed within this document are intended to support the reduction of food waste and do not provide an accurate measurement of a patient/client's nutritional intake.

Certain un-opened, pre-packaged foods should not be regarded as food waste. These include items such as

cartons of yoghurt and fruit juice which have been delivered to a ward but never served, have remained under temperature control (where appropriate) and are within use by/best before dates. These items may be retained on the ward for consumption later.

Food retained at ward level, to be served at a later time but later discarded un-served, is not included within these audit tools, but is nevertheless food waste.

Measurement methods

Visual estimation. This method is effective but can lead to a degree of inaccuracy.

Measuring the financial loss of food waste by "high cost, high protein" items. This method may disguise the true effectiveness of controls.

Weighing food waste. This may provide a benchmark. However, this method:

- may be impractical as food waste must be weighed ward by ward;
- does not identify what foods have been wasted and opportunities to reduce waste in the future may be lost;
- cannot identify patterns in the types of food not consumed;
- may be impractical as different food components of a meal must be weighed;
- mis-identifies low volumes of food waste as foods differ in weight (for example, fish dishes are light);
- does not take into account dry menu items which may be served with sauces or gravy;
- includes unavoidable food waste such as bones, skin and peel;
- can be misrepresentative as levels can vary for each meal.

Monitoring plate waste. For meaningful results the quantity of food originally served to each patient/client needs to be identified. It is recommended that a designated member of staff monitor a sample of meals served on a daily basis. An audit tool is provided in Appendix 1 (8) to assist in identifying the reasons for high levels of plate waste. It is recommended that resulting action be developed following the audit to address trends or patterns.

The observational audit of plate waste, whilst respecting patients' privacy, requires some assistance from patients in understanding the reasons why food has not been eaten.

In some healthcare environments it may not be possible to complete this assessment.

Even when the reasons for plate waste cannot be determined, the observational audit of plate waste provides healthcare teams with information on the quantity of plate waste.

Unusually high levels, trends or patterns in the types of foods or menu items not consumed should be reported to the manager responsible for catering services.

"Nutritionally at risk" patients require a more appropriate form of nutritional monitoring.

Patients/clients may order/select only a few items of food (in a bulk food service these may be in differing quantities), rather than a complete meal. Therefore, one patient/client's half-consumed meal may be twice the size of an untouched meal.

Monitoring untouched meals. Generally this is an indication of poor communications between ward staff and the catering department and an unnecessary source of food waste. This information should be shared with modern matrons and ward managers.

A ward food waste and daily record summary sheet to record untouched meals in a plated food service is provided in Appendix 1 (4).

A ward food waste daily record sheet to record untouched meals in a bulk food service is provided in Appendix 1 (5), together with a ward summary sheet for bulk food service in Appendix 1 (6).

GUIDELINES FOR FOOD WASTE AT WARD LEVEL

Food waste should be recorded for the full duration of the menu cycle, or for 14 days where a menu cycle is not used. The findings results should be expressed as a percentage of the total food supplied.

	Upper level	Measured by
Plated meal systems		
Un-served meals	6%	Numbers of whole main course meals
Plate waste	*10%	Visual inspection
Bulk trolley systems		
Un-served trolley waste	12%	Number of main courses remaining
Plate waste	*10%	Visual inspection
* 'Hospital catering, delivering a quality service', 1996, NHS Executive		

NB Benchmarking should be undertaken between similar healthcare settings.

Food wastage audit tools

The following food waste audit tools are based on methodology developed by the Audit Commission.

This management tool is based on observation rather than the weighing of individual meals. It is designed to routinely monitor food waste on wards. It aims to:

- quantify the number of un-served meals;
- quantify levels of plate waste;
- identify the variation in food waste levels across wards and mealtimes (breakfast/lunch/dinner);
- identify the reasons for food waste and assist in action planning improvements and reductions in food waste.

OBSERVATIONAL AUDIT OF FOOD WASTE

Step 1 Set up the survey

The following should be identified:

- who is to carry out the assessment of food waste;
- which type of food waste is to be measured (plate waste and/or un-served meals);
- the mealtime to be assessed and/or the duration of the assessment;
- the wards to be assessed (a representative sample or all in-patient wards).

Step 2 Complete menu items list (bulk food service only)

List the main course menu items on the ward food waste daily record sheet, see Appendix 1 (5), and complete a separate sheet for each ward area. This information may be available from a computerised summary of ward menu cards.

Step 3 Enter the information onto the ward summary sheets

Upon completion of the food service identify any additional meals supplied in addition to the original ward food order and enter this information together with the number of un-served meals, onto the ward record sheet.

For bulk food service see Appendix 1 (4) and for plated meal service see Appendix 1 (6).

Step 4 Review ward waste

Results for a plated meal service are detailed on the ward food wastage daily record and summary sheet, see Appendix 1 (4). This may be completed for any given period, such as weekly or monthly.

For bulk food service complete the ward food waste summary sheet, see Appendix 1 (6).

This may be completed for any given period, such as weekly or monthly.

Step 5 Review wastage across healthcare facility

Enter ward waste results from the ward summary sheets onto the healthcare facility (hospital/unit/directorate) food waste summary sheet, see Appendix 1 (7).

Step 6 Observational audit of plate waste

Identify the reasons for plate waste, by speaking to patient/client's ward housekeepers and ward-based teams and record these onto the observational audit of plate waste, see Appendix 1 (8). Reasons for plate waste are given at the base of the form (see Chapter 4, 'Reasons for food waste' for a full list); these reasons are identified as:

C clinical;

A assistance;

E environment;

M meal service;

F food issues.

An efficient way of recording waste is to note down un-served meals on the printed ward summary sheet and then write the plate waste for each of the menu items on the actual patient/client menu cards that were returned with the plates to the trolley. These can then be summarised and entered on to the ward summary sheets.

6 Definition of terms

Bulk food service systems. Food delivered to in-patient areas in bulk, ready for plating in the ward or dining area.

Bulk food service waste. The number of remaining main course meals (based on a visual inspection) at the end of the mealtime, expressed as a percentage of the total number of main course meals provided and available at the start of the mealtime.

Catering waste. All waste food, including used cooking oils.

Food loss. Those parts of food that cannot be eaten for any reason, for example bones or fruit peel.

Food wastage. An amount of food wasted or the process of waste.

Food waste. Food purchased, prepared, delivered and intended to be eaten by patients but that remains un-served or uneaten at the end of the meal service. (The distinction between food loss and food waste is important if food waste is determined by weight at the end of meal service.)

Meal. For the purposes of food wastage analysis, this is defined as one of the following:

- a protein dish served with complementary potatoes, rice or bread and/or vegetables;
- a main course salad served with a protein;
- a round of sandwiches.

Plated meal systems. Food plated away from the ward or dining area.

Plated meal waste. The number of untouched/un-served patient/client meals remaining at the end of the meal service period, expressed as a percentage of the total number of meals provided and available at the start of the mealtime.

Plate waste. Food served to a patient/client but left uneaten on the plate. Expressed as a percentage of the meal served.

7 Legislation

European Community (EC) regulation No 1774/2002 lays down “health rules concerning animal by-products not intended for human consumption” and came into force on 1 May 2003. The regulation’s purpose is to safeguard public and human health and ensure the safe disposal (including collection, transport, storage, handling, processing and use) of animal by-products.

Article 2 defines animal by-products as “entire bodies or any part of an animal carcase, or any material of animal origin, not intended for human consumption”. This definition includes former foodstuffs and catering waste.

The Animal By-Products Regulation 2003 (SI No 2003/1482) came into force in England on 1 July 2003 and is available from the website of the Department of Environment, Food and Rural Affairs – http://www.defra.gov.uk.

Catering waste means all waste food including used cooking oils. Catering waste is controlled by these regulations if it is destined for animal consumption. If it is disposed of to landfill or incineration, it is not controlled by the regulations, provided that livestock and birds do not have access to it.

Waste from plates can be disposed of by landfill or incineration so long as livestock and birds do not have access.

One of the main issues with catering waste is the ban on using catering waste in feed for pigs and poultry.

The three EU institutions agree on the ban on intra-species recycling (cannibalism). This means that catering waste should not be fed to pigs as it may contain porcine material and will not be consistent with the ban on cannibalism.

“Former foodstuffs” means “former foodstuffs of animal origin, or former foodstuffs containing products of animal origin, other than catering waste, which are no longer intended for human consumption for commercial reasons or due to problems of manufacturing or packaging defects or other defects which do not present any risk to humans or animals”.

The UK secured a transition period to the end of 2005 to allow former foodstuffs, other than raw meat, to continue to go to landfill. This should allow time for the measures and equipment to be put in place to enable the foodstuffs to be collected and transported in separate containers, or for the installation of equipment to remove the packaging prior to treatment, or for the development of treatment plants which can deal with the unseparated material. The types of facilities mentioned are intermediate plants, biogas, composting and other oleochemical plants and incinerators.

Until 31 December 2005 it is permissible for former foodstuffs to be disposed of to landfill providing measures are taken to exclude raw meat and raw fish which must be disposed of to approved routes such as rendering and incineration (as covered under previous legislation).

The local authorities (Trading Standards) are responsible for the enforcement of the Animal By-Products Regulation. The Environment Agency will continue to be responsible for licensing under Waste Management Licensing Regulation.

8 Managing Food Waste in the NHS project group members

Professor John Edwards
Bournemouth University

Stella Gardener
Southampton University Hospital NHS Trust

Ron McKenzie
County Durham & Darlington Acute Hospitals NHS Trust

Graham Walker
Guy's & St Thomas' NHS Trust

John Hughes
Nottingham City Hospital NHS Trust

Paul Hatcher
The Royal West Sussex NHS Trust

June Levick
NHS Estates

Ian Robinson
NHS Estates

Appendix 1 – Best practice checklists

1. MANAGEMENT CHECKLIST

This checklist aims to identify areas or processes which can lead to high levels of food waste. It is recommended that a multidisciplinary team (including modern matrons) use the checklist following any changes to the catering service and at least **once per year**. The checklist may be used for either whole hospital sites or individual wards.

Ward or hospital site audited . . . . . Date					
Completed by . . . . . Position					
Completed by . . . . . Position					
Completed by . . . . . Position					
Completed by . . . . . Position					
Monitoring and reporting		Yes	No	N/A	Comments, action
1	Is the value of food waste at ward level regularly measured and reported to Trust boards expressed both as a cost (£) and as a percentage of meals served?				
2	Are seasonal peaks, holidays and ward closures taken into account when forecasting food requirements?				
3	Do catering managers have daily returns of patient/client occupancy?				
4	Are times for the principal meals agreed with modern matrons, adhered to and monitored?				
Meal ordering/selecting		Yes	No	N/A	Comments, action
5	Is an explanation of the meal ordering system given to patients?				
6	Do arrangements exist that make obtaining alternative dishes an easy and expected feature of the food service?				
7	Do arrangements exist to transfer patient/client meal orders from one ward to another?				
8	Do arrangements exist to cancel patient/client meal orders at short notice?				
9	Do arrangements exist to order meals, at short notice, for new patients?				
10	Does the menu provide an acceptable choice of appropriate meals in terms of food combinations and preferences for a range of religious beliefs, nutritional and therapeutic needs?				
11	Does the menu provide an acceptable choice of appropriate meals in terms of food combinations and preferences for all other patients?				
12	Do menus support patients who require frequent, small volume, energy-dense foods and snacks?				
13	Do menus reflect seasonal food preferences?				
14	Are menus available in languages other than English (where appropriate)?				
15	Are diet codes and symbols used on menus clearly explained?				
16	Are all principal dishes accurately and meaningfully described on the menu, including their principal ingredients and cooking method?				
17	Is a specially prepared and attractive menu offered to children (where appropriate)?				

Service		Yes	No	N/A	Comments, action
18	Are meals served at socially acceptable times?				
19	Does the style and method of meal service for each group of patients provide the best achievable quality for both presentation and service flexibility?				
20	Is the appearance, taste and texture of all food prepared for “special” diets planned and controlled to ensure that it is attractive and palatable as well as nutritionally appropriate?				
21	Have menus been reviewed to ensure that dishes can be served correctly and attractively, given the equipment, staff numbers and skills that are available?				
22	Have staff who are serving food been trained in meal service and customer care?				
23	Are staff who are involved in the presentation and service of meals been made aware of their responsibilities and of the achievement levels relevant to their role?				
24	Is food presented in individual portions at the point of service, whenever possible?				
25	Are mealtimes “protected” from avoidable interruptions?				
26	Are arrangements in place to record uneaten meals?				
Controls		Yes	No	N/A	Comments, action
27	Are controls in place to ensure that food quality is consistent?				
28	Are the quality, temperature, taste, texture and appearance of dishes regularly checked at the point of service?				
29	Are standard portion sizes used when forecasting the volume of food required?				
30	Are patient/client forecasts based on historical records and current occupancy levels?				
31	Is the yield from the food served compared with expected yields?				
32	Are patient/client meal selections/requests used to assist in the development of future menus?				
33	Has each weekly menu been analysed to identify any undue repetition of dishes, ingredients or cooking methods?				
34	Do arrangements exist to ensure patients receive their meal request at the first meal following a “nil by mouth” procedure or admission?				

Action should be identified in the comments section for all “no” answers.

Action completed

Date . . . . . Signed . . . . . Position . . . . . .

2. OPERATIONAL CHECKLIST

The following checklist seeks to identify areas or processes which can lead to high levels of food wastage. It is recommended that a multidisciplinary team, including modern matrons, undertake the operational checklist following any changes to the catering service and on a **monthly basis**.

Ward or hospital site audited . . . . . Date					
Completed by . . . . . Position					
Completed by . . . . . Position					
Completed by . . . . . Position					
Completed by . . . . . Position					
Monitoring and reporting		Yes	No	N/A	Comments, action
1	Are meals ordered 'just in case' actively discouraged?				
2	Are ward visits carried out on a regular basis by catering managers?				
Meal ordering/selecting		Yes	No	N/A	Comments, action
3	Are alternatives to the published menu made known to patients when either pre-ordering or selecting meals?				
4	Are patients encouraged and supported to exercise choice when ordering/selecting meals?				
5	Are patients routinely offered all food items on the published menu without substitutions or admissions?				
Service		Yes	No	N/A	Comments, action
6	Are tables/trays prepared with the correct tableware, cruets (where appropriate) and napkins?				
7	Are meal service trays, cruets, crockery and cutlery clean?				
8	Are suitable modified items of cutlery and other equipment provided (where necessary) to assist patients with physical impairment?				
9	Are ward staff encouraged to check with individual patients, before food service commences, that their previously chosen meal matches their current appetite?				
10	Are differing portion sizes that match patients' appetite routinely offered?				
11	Are smaller plates used for patients with small appetites?				
12	Are standard serving utensils provided to ensure portion sizes can be accurately served?				
13	Are dishes presented in a way which helps service staff correctly portion and serve food attractively and without waste?				
14	Are complementary accompaniments and sauces routinely offered to patients?				
15	Is the meal service courteous, efficient and prompt?				
16	Is food served attractively on the plate and garnished appropriately?				
17	Are meals accurately plated in accordance with patients' requests?				
18	Is food served promptly and efficiently to ensure quality remains unaffected and hot food does not reduce in temperature?				
Assistance		Yes	No	N/A	Comments, action
19	Are patients made ready and comfortable to eat before the meal service commences?				
20	Are beds, tables and chairs positioned to ensure patients are able to eat comfortably?				
21	Where patients are unable to exercise choice in advance is a selection of food offered at the point of service?				
22	Are patients supported with dietetic advice when selecting/ordering meals?				
23	Are patients who require assistance with eating identified prior to the service of food?				
24	Is sufficient help available without delay for patients who require assistance or motivation to eat?				
25	Do staff identify and report to the responsible nurse, patients that do not eat?				
26	Are ward staff encouraged to check with patients that they have had enough to eat?				

Controls		Yes	No	N/A	Comments, action
27	Is the number of portions actually required compared with the forecast?				
28	Are any forecasting errors recorded and used to improve future forecasting accuracy?				
29	Are patient/client meal orders checked (prior to each meal service) against occupancy and any any discrepancies investigated?				
30	Are patients' name identified on each menu card, avoiding anonymous terms like 'new patient'?				
31	Are meal orders taken no more than two meals in advance?				

Action should be identified in the comments section for all "no" answers.

Action completed

Date . . . . . Signed . . . . . Position . . . . . .

3. FOOD AND NUTRITION BENCHMARK

Taken from 'The Essence of Care – Patient-focused benchmarking for healthcare professionals', DH, 2001

Agreed patient/client-focused outcome	
Patients/clients are enabled to consume food which meets their individual needs	
Indicators/information that highlight concerns which may trigger the need for benchmarking activity:	
• patient/client satisfaction surveys; • complaints figures and analysis; • audit results – including catering audit, nutritional risk assessments, documentation audit, environmental audit (including dining facilities); • contract monitoring, for example wastage of food, food handling and food hygiene training records	• ordering of dietary supplements/special diets; • audit of available equipment and utensils; • educational audits/student placement feedback; • litigation/clinical negligence scheme for trusts; • professional concern; • media reports; • Commission for Health Improvement (CHI) reports
Factor	Benchmark of best practice
Screening/assessment to identify patients nutritional needs	Nutritional screening progresses in place that further assess all patients identified as "at risk"
Planning, implementation and evaluation of care for those patients who required a nutritional assessment	Devise, implement and evaluate plans of care based on ongoing nutritional assessments
A conducive environment (acceptable sights, smells and sounds)	An environment conducive to enabling the individual patients to eat
Assistance to eat and drink	Patients/clients receive the care and assistance they require with eating and drinking
Obtaining food	Patients/clients/carers (whatever their communication needs) have sufficient information to enable them to obtain their food
Food provided	Food that is provided by the service meets the needs of individual patients
Food availability	Patients/clients have set mealtimes, are offered a replacement meal if a meal is missed and can access snacks at any time
Food presentation	Food is presented to patients in a way that takes into account what appeals to them as individuals
Monitoring	The amount of food patients actually eat is monitored, recorded and can trigger action over causes for concern
Eating to promote health	All opportunities are used to encourage patients to eat to promote their own health

4. WARD FOOD WASTE DAILY RECORD AND SUMMARY SHEET FOR PLATED FOOD SERVICE

Ward:		Sheet Number:					
Period from:			To:				
Date	Mealtime B, L, D*	Number of meals ordered	Number of additional meals supplied	Total number of meals supplied	Total number of un-served meals	% of un-served meals	Average % of plate waste
Totals							
Total % of ward wastage							

* B – breakfast, L – lunch, D – dinner

5. WARD FOOD WASTE DAILY RECORD SHEET FOR BULK FOOD SERVICE

Date:			Ward:		
Menu cycle:			Meal time:		
Main course menu items	Number of portions ordered	Additional portions supplied	Total number of portions supplied	Total number of un-served portions	% of un-served portions
Average % of un-served meals					
Average % of plate waste					
Total % of ward waste					

6. WARD FOOD WASTE SUMMARY SHEET FOR BULK FOOD SERVICE

Ward:		Sheet Number:		
Period from:			To:	
Date	Mealtime B, L, D*	Average % of un-served portions	Average % of plate waste	Total % of ward wastage
Totals				
Total % of ward wastage				

* B – breakfast, L – lunch, D – dinner

7. HEALTHCARE FACILITY FOOD WASTE SUMMARY SHEET

Hospital/unit/directorate:			
Date:		Sheet Number:	
Period from:		To:	
Ward	% Of un-served meals	Average % of plate waste	Total % of ward waste
Total % of food waste			

8. OBSERVATIONAL AUDIT OF PLATE WASTE

Date:	Ward:		Completed by:		
Menu cycle:		Meal time:		Sheet number:	
Bed	Patient's/ client's name **or** bay and bed number	Meal served, portion, size S/M/L*	% of plate waste	Reason for waste (see codes)	Action/ comment
Average % of plate waste					

Reasons for not eating, see 'Reasons for food waste' for the complete list	**Codes**
Clinical reasons – the effect of treatment/drugs, swallowing or dental problems, nausea/vomiting, diarrhoea or poor appetite	C
Patients/clients requiring assistance with food and packets, unable to reach food, unable to consume food without assistance	A
The environment – interruptions, uncomfortable or unpleasant environment	E
The meal service – unacceptable food choices, insufficient time given to eat, patient/client not on ward at mealtime, too much food on the plate	M
Food issues – unfamiliar dishes, lack of sauces/condiments, food cold or of poor quality, incorrect or unfamiliar textures	F

* Portion size: S – small, M – medium, L – large

9. OBSERVATIONAL AUDIT OF MEAL SERVICE

Date:			Ward:		
				Comments	
1	Number of beds				
2	Number of patients				
3	Number of patients not eating (fasting, TPB/NG fed)				
4	Number of patients requiring a meal				
				Comments	
5	Time trolley left kitchen				
6	Time trolley arrived on ward				
7	Time service commenced				
8	Time service completed				
		Number of patients eating in this environment	Facilities available? Yes/No	Comments	
9	In bed				
	At bedside				
	At table in bay				
	Communal dining room				
	Preparation	All	Most	Some	None
10	Were patients offered help with using the toilet or washing their hands?				
11	Were bed tables and eating areas cleared before service?				
12	Were attempts made to reduce “clinical” aspects of environment, for example removing urinals?				
Comments					
	Meal checking	All	Most	Some	None
13	Was the meal trolley large enough to carry all hot foods?				
14	Were temperatures of food recorded on any of the services at ward level?				
15	Were the meals delivered (including specialised diet) and checked against what had been ordered?				
16	Did the patient/client receive his/her menu card with the meal?				
Comments					

Note either the total number of patients who received support when required and/or which groups of staff participated in the following form:

	Meal service	All	Most	Some	None
17	Meal service carried out in a pleasant manner?				
18	Appropriate crockery and utensils available?				
19	Patients/clients on diets (kosher, halal, diabetic) correctly identified?				
20	Patients/clients correctly seated (for example, assisted to sit up and out of bed)?				
21	Meals left within patients'/clients' reach?				
22	Lids/cling film removed?				
23	Assistance given to cut up food?				
24	Nutritional intake noted?				
Comments					
	Beverages	All	Most	Some	None
25	Was water made available?				
26	Was the meal accompanied by a choice of hot beverages?				
27	Was the beverage served with the meal?				
Comments					
	Interruptions	All	Most	Some	None
28	Did routine medical rounds disrupt the patient/client's meal?				
29	Did the medicine trolley inappropriately disrupt the patient/client's meal (some medicine should be taken with food)?				
30	Did blood tests or investigations disrupt the patient/client's meal?				
31	Had patients finished eating before meals were collected?				
Comments					

This audit is partially based on an audit tool contained within the 'Eating Matters' guide published by The Centre for Health Services Research, University of Newcastle upon Tyne. Its implementation will enable healthcare providers to:

- assess the effectiveness of meal services;
- identify any weaknesses in the service;
- identify any areas where patients are dissatisfied with the service;
- gather information to inform actions that could take place to improve the service.

Procedure

- Catering managers, nursing managers and dietitians should agree which wards should be audited and who should be present.
- At least two wards should be audited during breakfast, lunch and dinner as arrangements can differ significantly.
- Preparation and service should be observed at each mealtime and notes made on the audit form.
- Staff on each ward should be interviewed regarding roles and responsibilities for catering, meal service and nutrition.
- Findings should be summarised and discussed with catering staff, ward housekeepers, nursing and support staff and dietitians.
- Action for improving the service should be agreed.

Abbreviations for use in audit

SR = Sister/charge nurse

HCA = Healthcare assistant/nursing auxiliary

RN = Qualified nurse

HS = Hotel services/domestic

SO = Student nurse

WC = Ward clerk

WH = Ward housekeeper/hostess/waitress

X = None

N/A = Not applicable (some patients will not require assistance)

10. OBSERVATION AUDIT OF MEAL PROVISION – STAFF INTERVIEW

Ward:	Date:

Question to sister/charge nurse: "Who is accountable and responsible for the following aspects of meal service on this ward?"

		Accountable	Who carries out the task?
A	Meal ordering – for example, diet order form and bulk order, if applicable		
B	Menu completion on behalf of individual patients		
C	Preparation of ward environment for meals		
D	Preparation of patients for meals		
E	Ensuring patients receive the correct meal/diet		
F	Distribution of meals		
G	Assisting patients with feeding		
H	Monitoring food consumption of individual patients		
I	Collection of plates		
J	Dealing with complaints/feedback of catering issues		

Question to other staff involved in meal service on the ward: "Do you carry out any of the following?" (Yes or No)

		SR	RN	SO	HCA	HS	WC	WH
A	Meal ordering – for example, diet order form and bulk order, if applicable							
B	Menu completion on behalf of individual patients							
C	Preparation of ward environment for meals							
D	Preparation of patients for meals							
E	Ensuring patients receive the correct meal/diet							
F	Distribution of meals							
G	Assisting patients with feeding							
H	Monitoring food consumption of individual patients							
I	Collection of plates							
J	Dealing with complaints/feedback of catering issues							

About NHS Estates guidance and publications

The Agency has a dynamic fund of knowledge which it has acquired over 40 years of working in the field. Our unique access to estates and facilities data, policy and information is shared in guidance delivered in four principal areas:

Design & Building

These documents look at the issues involved in planning, briefing and designing facilities that reflect the latest developments and policy around service delivery. They provide current thinking on the best use of space, design and functionality for specific clinical services or non-clinical activity areas. They may contain schedules of accommodation. Guidance published under the headings Health Building Notes (HBNs) and Design Guides are found in this category.

Examples include:

HBN 22, Accident and emergency facilities for adults and children
HBN 57, Facilities for critical care
HFN 30, Infection control in the built environment: design and planning

Engineering & Operational (including Facilities Management, Fire, Health & Safety and Environment)

These documents provide guidance on the design, installation and running of specialised building service systems and also policy guidance and instruction on Fire, Health & Safety and Environment issues. Health Technical Memoranda (HTMs) and Health Guidance Notes (HGNs) are included in this category.

Examples include:

HTM 2007, Electrical services supply and distribution
HTM 2021, Electrical safety code for high voltage systems
HTM 2022 Supplement 1
Sustainable development in the NHS

Procurement & Property

These are documents which deal with areas of broad strategic concern and planning issues, including capital and procurement.

Examples of titles published under this heading are:

Estatecode
How to cost a hospital
Developing an estate strategy

NHS Estates Policy Initiatives

In response to some of the key tasks of the Modernisation Agenda, NHS Estates has implemented, project-managed and monitored several programmes for reform to improve the overall patient experience. These publications document the project outcomes and share best practice and data with the field.

Examples include:

Modernising A & E Environments
Improving the Patient Experience – Friendly healthcare environments for children and young people
Improving the Patient Experience – Welcoming entrances and reception areas
National standards of cleanliness for the NHS
NHS Menu and Recipe Books

The majority of publications are available in hard copy from:

The Stationery Office Ltd
PO Box 29, Norwich NR3 1GN
Telephone orders/General enquiries 0870 600 5522
Fax orders 0870 600 5533
E-mail book.orders@tso.co.uk
http://www.tso.co.uk/bookshop

Publication lists and selected downloadable publications can be found on our website:
http://www.nhsestates.gov.uk

For further information please contact our Information Centre:
e-mail: nhs.estates@dh.gsi.gov.uk
tel: 0113 254 7070

Core guidance feedback

Please complete this feedback form and return it to NHS Estates. The information provided will help in the assessment of the value of this document and in the planning of future Agency guidance.

Title:

. . . . . .

Series and series number if applicable (eg Health Building Note 57):

. . . . . .

1. How useful is this document to you/your organisation?

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

Not at all useful — Very useful

2. Are you aware of other sources of the information contained in this document?

☐ Yes ☐ No

If Yes, please state below:

. . . . . .

3. Did you feel the content was:

☐ Too prescriptive?

☐ Too ambiguous?

☐ About right?

4. Was the amount of technical content in the document:

☐ Too high?

☐ Too low?

☐ About right?

5. How would you rate the length of the document?

☐ Too long

☐ Too short

☐ About right

Please return this form to:

Standards and Knowledge Management
NHS Estates
Windsor House
Cornwall Road
Harrogate
HG1 2PW

Thank you