BDA The Association of UK Dietitians

The Nutrition and Hydration Digest

Improving outcomes through food and beverage services

UPDATED FOR 2019

- New IDDSI framework
- Easy to chew coding
- Neutropenic diets
- Renal diets

2nd Edition

Produced by The Food Services Specialist Group
in consultation with The British Dietetic Association

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Foreword

The prevention and treatment of malnutrition in hospitals and within the community requires a multi-professional and multi-agency approach in order to achieve successful outcomes for the end-user. As Honorary Chairman of the British Dietetic Association (BDA) it is my privilege to welcome you to the second edition of this (in)credible evidence-based resource for dietitians, caterers, nurses and others working within health and social care.

The Nutrition and Hydration Digest is a fundamental resource for all involved in the provision of quality nutrition and hydration services and is framed within the fast evolving field of food and beverage services. I am heartened to note that this edition retains its breadth and richness of content, complemented with updated referencing and reformatting for ease of access to information.

I would like to take this opportunity to congratulate the multi-professional working group for their attention to detail and hard work in revising and publishing this second edition. I would also like to thank all of you who work tirelessly within your practice to provide nutritious food and optimal hydration for people within your care.

Siân O'Shea RD MSc FBDA
Honorary Chairman BDA

Introduction

A group of Dietitians and representatives from the Hospital Caterers Association have been revising the Digest, which began with our launch event in November 2016. To begin with we agreed to streamline the document and bring the reference deck up to date. However as we reviewed the chapters we felt that most of the information was still relevant and did not want to remove information that will be used by our colleagues on a regular basis.

The major changes we have made to the document therefore include:

- re-ordering the chapters to support a logical flow
- reducing repetition
- adding in new and current information, particularly relating to staff and visitor catering and therapeutic diets
- restructuring the chapter outlining therapeutic diets to ensure this is user friendly.

Whilst the document is still long we understand that users will refer to the chapters that they need at a moment in time and it is designed to be used as a 'toolkit' of information.

The group has worked tirelessly to provide an ongoing and up to date resource, which I hope will continue to be used for the next 5 years.

Helen Ream
Chair Digest Review Working Group

Glossary

B

BAPEN British Association for Parenteral and Enteral Nutrition
BDA British Dietetic Association
BNF British Nutrition Foundation

C

CAMHS Child and Adolescent Mental Health Services
CEO Chief Executive Officer
CIEH Chartered Institute of Environmental Health
CoE Council of Europe
CoFiDS Composition of Foods integrated Data Set
CQC Care Quality Commission
CQUIN Commissioning for Quality and Innovation
CWT Caroline Walker Trust

D

DH Department of Health
DEFRA Department for Environment, Food and Rural Affairs
DRV Dietary Reference Values
DMS Delivered Meal System

E

E Menu code for higher energy
EAR Estimated Average Requirements
EC European Commission
ESPEN European Society for Clinical Nutrition and Metabolism
EU European Union

F

FF menu code for finger foods
FIC Food Information for Consumers
FIR Food Information Regulations
FODMAP Fermentable Oligosaccharides Disaccharides Monosaccharides and Polyols
FoP Front of pack
FSA Food Standards Authority

G

GF Menu code for gluten free
GBS Government Buying Standards

H

H Menu code for healthier eating
HACCP Hazard Analysis Critical Control Points
HCA Hospital Caterers Association
HCPC Health and Care Professions Council
HIS Healthcare Improvement Scotland
HLS Healthy Living Award (Scotland)
HRS Healthcare Retail Standard (Scotland)

I

IBW Ideal Body Weight
IDDSI International Dysphagia Diet Standardisation Initiative

M

MAOI Monoamine Oxidase Inhibitor
MUST Malnutrition Universal Screening Tool
MW McCance and Widdowson

continues >

N

NACC National Association for Care Catering
NHS National Health Service
NICE National Institute for Health and Clinical Excellence
NPSA National Patient Safety Agency

O

OJEU Official Journal of European Union
ONS Oral Nutritional Supplement

P

PHE Public Health England
PLACE Patient Led Assessments of the Care Environment
PENG Parenteral and Enteral Nutrition Group (of the BDA)
PQQ Pre-qualification Questionnaire

R

RS Menu code for renal suitable
RCN Royal College of Nursing
RCPsych Royal College Psychiatrists
RNI Reference Nutrient Intake
RSPH Royal Society for Public Health

S

SACN Scientific Advisory Committee on Nutrition
SSB Sugar Sweetened Beverages

V

V Menu code for vegetarian
VG Menu code for vegan

W

WHO World Health Organisation

Definitions of Frequently Used Terms

Entrée – protein element of main course, e.g. minced beef or omelette
Main course – typically made up of protein, starchy carbohydrate and vegetables
Main meal – two or three course meal at lunch and supper

Executive Summary

Chapter 1: International, National and Local Influences

In care settings, food and beverage service systems are influenced by an increasingly broad range of legislation and guidance, both international and national, of which all UK clinicians and those with responsibility for food provision and catering services should be aware.

This chapter summarises the relevant documents providing this guidance and legislation. Its main message is that the application of these policies in care settings needs to be relevant, with the focus being on appropriate food and beverage provision for the end user. Multi-disciplinary working is also discussed and there are summaries of international, national and local influences that impact on food and beverage services.

Chapter 2: Nutrition, Hydration, Eating and Drinking

Food provision is essential to the prevention and treatment of malnutrition. All too often in hospitals nutritious food remains uneaten resulting in patients being unable to meet their nutritional needs. This chapter highlights the causes and effects of malnutrition and includes common strategies to ensure optimal provision of nutrition and hydration in every care setting.

Chapter 3: Catering for Staff and Visitors in the NHS

Health and Wellbeing within the workplace has become an increasing priority since the first issue of the Nutrition and Hydration Digest was launched, which is why in this edition there is a chapter dedicated to catering for staff and visitors in the NHS.

Statistics indicate that over 700,000 NHS employees are obese and that over half of all the food provided in NHS hospitals is sold to staff and visitors. The NHS is in the middle of a step-change to make hospitals beacons of good practice in supporting staff and visitors to make healthier choices when buying food and drink sold on NHS premises. Various initiatives have been brought in to support these plans including the Five Year Forward View, the Hospital Food Standards, a 'Healthier Food for NHS Staff and Visitors' CQUIN and voluntary reduction targets to reduce the sale of sugar sweetened beverages across the NHS.

Chapter 4: The Role of the Dietitian in Food Service

Providing an excellent food provision for hospital patients or residents in nursing and care settings is complex, and it is often challenging to appreciate all aspects of the food service. Success depends on a close and effective collaboration among a number of people who may have very different priorities and on limited resources being best targeted. A robust food chain will contribute to a good food service and within hospital settings, this will work best when there is good communication between the various disciplines of all staff, from chef to nurse and from store-man to food service assistant at ward level; everyone has a role to play. All dietitians can play a key part in this process, but there is a recommendation for a dedicated catering liaison dietitian in every care setting to lead development, conduct training and manage processes.

Chapter 5: Food Service Delivery and Planning

At a local level, it is essential that dietitians, clinical teams and caterers value and make time to talk to one another, to discuss issues in a timely way (Power of 3). Work should take into account:

- Food and Drink Strategies (Whole Trust)
- Innovation and sustainability of the catering service
- Service needs including gaps in services, waste, out of hours' meals and snacks
- Potential service requirements
- Health and Wellbeing of staff and visitors.

In this way, everybody can plan their patients' food and beverage services taking into account any site constraints. Guidelines and standards for food service are readily available in other documents, but the true benefits to patients' health will only be realised by dietitians, clinical and caterers working closely together in the ethos of the 'Power of 3'.

Where there is a need to improve, or expand the service, dietitians can help caterers by generating a business case to support any bid for additional funding requirement. This will maximise the service availability, and ensure that what is offered to the patient by the dietitian is actually feasible and, more importantly, is delivered.

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Chapter 6: Catering Specifications and Contracts

Catering specifications can at first appear complex and daunting to the untrained eye. This chapter explains how to interpret these complex, and often contractual documents. It is essential that every catering specification has a nutritional element and that dietitians are involved in the creation and implementation of services arising from within it. All too often dietitians are involved in contract and quality monitoring yet without access and/or input to the catering specification, it will be impossible to ascertain the under or indeed over performance of a catering service.

The reader is guided through the tendering process and all those involved in it are encouraged to treat the nutritional aspects of these with the utmost importance.

Chapter 7: Food Composition, Labelling and Recipe Analysis

One of the most fundamental requirements for a dietitian is to understand the composition of food. Understanding where it is from, what it contains and how it is grown, prepared or manufactured as well as packaged. Consideration should be given to food costs and environmental factors and dietitians should be involved in the procurement of food.

More detail has been included on the requirements under the Food Labelling Legislation for both nutrition and allergen information considering now what is mandatory and voluntary.

The definitive method for nutritional analysis has been included again for consistency but with further detail on tolerances and rounding to emphasise that declared values shall be "average" values to be used in a practical setting such as menu planning or providing therapeutic dietary advice. The importance of standard recipes and recipe analysis is also covered as well as the limitations. Finally, the recipe analysis software has been reviewed (none have been endorsed; nor is the list exhaustive).

Chapter 8: Menu Design and Content

This chapter revisits the key aspects of menu planning and aims to streamline the information by presenting it in a user-friendly format for easy reference. It includes menu design, differing clinical needs such as renal and oncology, local policy making and consideration of different client groups such as maternity and the elderly.

There is also guidance on the suggested content of a local food and health policy, menu planning process and the multi-disciplinary team involved.

The second half of this chapter starts with food based guidance and discusses the Eatwell Guide as a tool to aid menu planning and in particular it relates to the varying needs of the two categories of people in our care; the nutritionally well and nutritionally vulnerable.

Chapter 9: Nutritional Standards; Day Parts Approach

Food for people in hospital and care settings often gets criticised for not following typical healthier eating messages and as food service providers, dietitians often have to defend the higher calorie choices our menus require. Here, the principles of two categories of people are discussed; those who are nutritionally well and those who are nutritionally vulnerable as are the nutritional requirements for each of these two categories.

Previous nutritional guidelines for food provision have quantified the calories, protein and other nutrients required in the menus and targets per meal were used to benchmark the suitability of menus from a nutritional perspective. The existing guidelines were very precise, and some argued that they were too rigid and in some cases unfair. The 'Day Parts Approach' shows the contribution of protein and energy across all the eating and drinking events of the day and that an adequate intake for the whole day is provided. This method should be used to demonstrate menu capacity and thus influence menu planning.

Chapter 10: Analysing Menu Capacity

This chapter illustrates worked multi choice menu examples following the 'Day Parts Approach'. The menu nutrition analysis examples demonstrate the capacity of menu to deliver on the recommended day part percentages for major nutrient markers i.e. energy and protein spanning from the nutritionally well to nutritionally vulnerable. These reports provide stakeholders, clinicians and service providers with evidence of compliance with nutritional standards, service agreements and national/local targets. Practical tips also guide users on how to approach analysis and highlights some of the potential pitfalls when analysing menus.

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Chapter 11: Diets, Patient Groups and Menu Coding

This chapter provides guidance for dietary provision and the dietary coding commonly needed on hospital in-patient menus for groups of people.

Guidance is included for:

- Provision and coding of healthy eating, higher energy, easy to chew and vegetarian diets
- Religious, cultural and personal dietary choices: Halal, Kosher, Asian vegetarian (Inc. Hindu, Sikh and Jain diets) and Vegan
- Therapeutic diets including texture modified, finger foods, renal disease, decompensated liver disease, food allergies, gluten free, low FODMAP and neutropenic
- Other patient groups: critical care, obesity, cancer patients, paediatrics, mental health dementia/cognitive impairment and older people.

Enhanced sections in this revision include finger foods, vegan, paediatrics and religious/cultural diets with a brand new section on low FODMAP. Thanks are extended to the various BDA specialist groups who contributed to this revision.

When coding menus for in-patients it is important to interpret the coding within the compliance guidance given by DH on the EC Regulations and a link to the guidance is given.

1

International, National and Local Influences

In care settings, patient food and beverage service systems are influenced by an increasingly broad range of legislation and guidance, both international and national.

All UK clinicians with responsibility for food provision and catering services should be aware of the international and national regulations and recommendations for nutrition and food provision e.g. Council of Europe (CoE) and World Health Organisation (WHO). The application of such policies to hospital food provision needs to be appropriately patient-focused food and beverage services especially for the nutritionally vulnerable. The principles of nutritional standards and their monitoring can equally apply to other care settings and when commissioning services in these settings, it is important the same standards are applied.

International

In Resolution ResAP (CoE, 2003), the CoE recommended that governments implement national recommendations on food and nutritional care in hospitals based on nutritional assessment and treatment by nutritional care providers, food service practices, hospital food and health economics costs. This report applies across the UK and contains over 100 recommendations. Of the 100 recommendations, 10 key characteristics are relevant to all care settings across the UK.

National

Throughout this document, there is a bias towards practices used in England – it is recognised that all home countries take a synergistic approach but each country has developed population-specific guidance for their own food and beverage services, which are outlined in this chapter.

Dietitians have been active contributors to policies affecting nutritional care across the UK within the modernisation of the NHS and the improvement of care. The Better Hospital Food programme (2000), reinvigorated the quality of hospital food, including its nutritional content and led the way forward for nutritional standards to be introduced in the format of the Delivering Nutritional Care through Food and Beverage Services (British Dietetic Association (BDA), 2007).

In England, food labelling law is the joint responsibility of the Department for Environment, Food and Rural Affairs (DEFRA), the Food Standards Agency (FSA) and the Department of Health (DH). In Scotland, Wales and Northern Ireland, all domestic standards legislation is the responsibility of the Food Standards Agency (FSA). Food labelling law in all four home countries is subject to Regulation (EU) No 1169/2011 The Provision of Food Information to Consumers (FIR) (The European Parliament and the Council of the European Union, 2011). All pre-existing food labelling regulations were combined into this regulation and most of the legal requirements of this directive, (including allergen information) came into force in December 2014. All caterers must provide allergen information, including for food sold loose. In March 2016, Public Health England launched the Eatwell Guide, (PHE, 2016) a refreshed version of the UK's healthy eating model to replace the Eatwell plate (See Chapter 8, figure 8.3).

From December 2016, it became mandatory for the majority of food labels to include a specific nutritional declaration. This applies to all packaged foods, including those for sale to mass caterers. To facilitate compliance, the BDA Food Services Specialist Group in collaboration with the Hospital Caterers Association (HCA) produced and launched a toolkit that addresses food allergies/intolerances within healthcare catering settings (BDA, 2014).

The national implementation of nutrition screening (National Institute for Health and Clinical Excellence (NICE), 2006 – CG32) emphasised the importance of screening for malnutrition by healthcare professionals with appropriate training. The core objective of this is achieving appropriate nutritional intake for all hospital patients taking into consideration nutritional status, length of stay and clinical situation.

Local

Dietitians and clinical colleagues should lead on the development, implementation and monitoring of nutrition related policies as part of clinical governance, developing relevant and workable guidelines, protocols and training to support service improvement on nutritional care. Many healthcare organisations have contracts with external providers for food and catering services, or service agreements with internal providers. Dietitians working for healthcare organisations and catering providers should take part in the planning and negotiation of these documents. To do this, both provider and hospital dietitians must be familiar with the relevant national and local standards and implement monitoring processes to evaluate food provision.

It is important that healthcare organisations have established nutrition steering groups, with representation from a multidisciplinary team including catering, dietetics, nursing and clinical staff. Each Trust will have their own governance arrangements to monitor and link in with activities undertaken on their behalf by the nutrition steering group; this is an important aspect for Trusts in ensuring the quality and safety of nutrition services for their patients. It is good practice to operate these services within the governance framework of the Trust and ensure that there is regular feedback to the Trust Board. Joint working that impacts catering is discussed in more detail in Chapter 5 and an example of this illustrated in Figure 1.1.

Figure 1.1: An Example of Multi-Disciplinary Working
(Reproduced from: British Association for Parenteral and Enteral Nutrition (BAPEN, 2007) Report on Organisation of Food and Nutritional Support in Hospitals)

	Medical	Nursing	Dietetics	Pharmacy	Catering
Ward	Doctors	Nurses	Dietitians	Pharmacists	Ward Hostess
Supervisory	Patient's Consultants	Nurse Consultants	Specialist Dietitian	Specialist Pharmacist	Catering Management
Organisational	**HOSPITAL NUTRITION STEERING COMMITTEE**				
	Clinical Directorate	**Hospital Nursing Leads**	**Lead Dietitian**	**Lead Pharmacist**	**Lead Caterer**
Hospital Governance	Medical Director	Chief Nurse	Dietetics Director	Pharmacy Director	Catering Director

Key **Food and Drink Strategy**

England

Hospital Trusts are now regulated under the Care Quality Commission (CQC), which regulates Outcome 5 of Regulation 14 (CQC, 2015). These goals were assessed by the Healthcare Commission, and previously embodied in the Standards for Better Health (DH, 2006), until 2010 when the CQC's new registration process ensured the safe and effective provision of services. In 2015, the CQC's essential standards of quality and safety were replaced by guidance for providers on meeting the regulations. The NHS Plan is no longer the DH policy direction as this was superseded by the NHS Health & Social Care Act 2012.

Where food is provided, healthcare organisations should have systems in place to ensure:

- A choice of suitable, nutritious food and hydration, provided in sufficient quantities to meet the service users' needs
- Food and hydration that meet the reasonable requirements arising from a service users' religious or cultural background
- Ensure adequate finance to provide for food and drink
- Food and hydration includes oral nutritional supplements and artificial nutrition in the form of intravenous fluids when appropriate
- Help with eating and drinking is given to those people identified as vulnerable.

Hospital Food Standards Panel Report

The Hospital Food Standards Panel published a report which identified five food standards with which all hospitals should comply with, in order to provide the highest quality and nutritional value of food for NHS patients, staff and visitors (DH, 2014). The standards are:

- 10 Key Characteristics of Good Nutritional Care (NPSA, 2009)
- Nutrition & Hydration Digest (British Dietetic Association, 2012)
- Malnutrition Universal Screening Tool or equivalent (British Association of Parenteral and Enteral Nutrition, 2011)
- Healthier and More Sustainable Catering- Nutrition Principles (for staff and visitor catering) (Public Health England, 2017)
- Government Buying Standards for Food and Catering Services (DEFRA, 2015).

Since April 2015, these standards have been included in the NHS Standard Contract and are legally binding. The Panel also recommended that standards should be monitored via the annual Patient Led Assessments of the Care Environment (PLACE) and PLACE audits now include a more comprehensive evaluation of the taste, flavour and presentation of hospital food. Many hospitals carry out mock PLACE audits and CQC inspections to support their ongoing progress towards compliance to these requirements.

The Government Buying Standard (GBS) for Food and Catering Services (DEFRA, 2015) part of the Hospital Food Standards (DH, 2014) outlines the standards required in order to procure food and catering services. This includes areas such as food produced to higher environmental standards, animal welfare and ethical trading considerations as well as the impact catering services have on the environment, e.g. food waste and energy management. Nutritional standards are outlined as mandatory e.g. reducing salt, increasing fruit and vegetable consumption or best practice e.g. smaller sized savoury snacks and confectionery. Implementing the Government Buying Standards is compatible with the 'eating for health' approach mentioned in the hospital food panel report, supporting dietitians to take a balanced and considered view in regard to nutritional criteria and ensure specialist dietetic requirements for those patients who require them are still met e.g. sugary drinks in the treatment of hypoglycaemia, use of fat such as cheese or cream to meet the nutritional needs of a patient at risk from malnutrition.

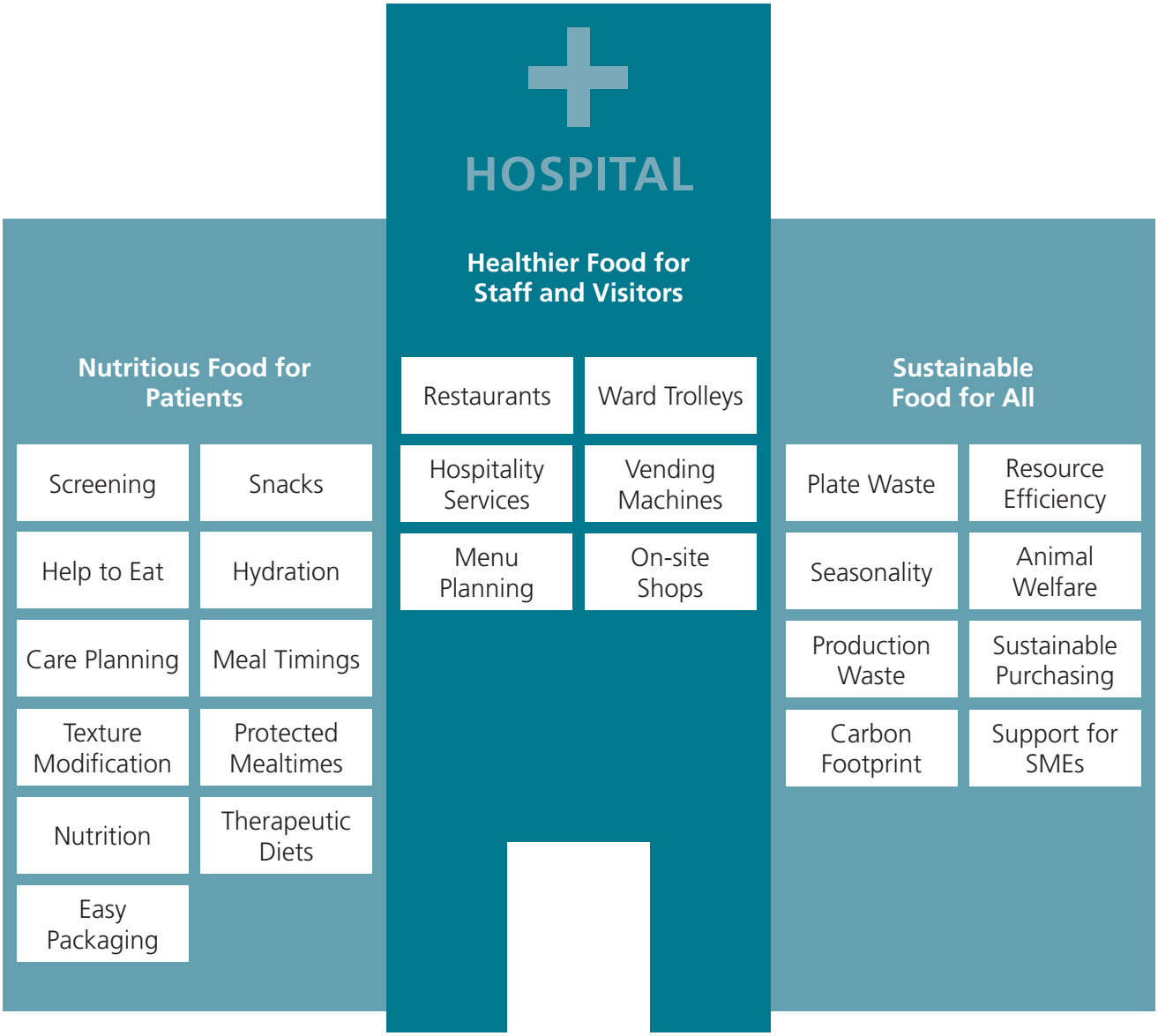
A subsequent DH report has shown substantial progress across NHS hospitals with regard to compliance with the recommended standards (DH, 2017), with over half of NHS hospitals now fully compliant with the standards and well over 90% of hospitals confirmed they are working towards them.

The DH recommends that all NHS Hospitals should develop and maintain a food and drink strategy (DH, 2014) and this recommendation has been included in NHS Standard Contracts from 2015 (NHS England, 2016). A toolkit was produced to support the development of a food and drink strategy within each NHS Trust (Figure 1.2). The toolkit provides guidance regarding each of the key areas a food and drink strategy should assess:

- The nutrition and hydration needs of patients
- Healthier eating for the whole hospital community, especially staff
- Sustainable procurement of food and catering services.

Meeting patient nutrition and hydration needs includes those of nutritionally vulnerable patients who require texture modified diets. Texture modified meals when provided in all care settings should comply with the IDDSI framework (IDDSI.org) and these are discussed in further detail in chapter 11.

Figure 1.2: A Toolkit to Support the Development of a Hospital Food and Drink Strategy (adapted from DH, 2016)



A recent change to the national CQUIN program is the introduction of a new health and wellbeing national CQUIN, part of which is related to the provision of food for staff and visitors. These were launched in April 2016 (NHS England, 2016). With estimates by Public Health England that the annual cost to the NHS of staff absence due to poor health is £2.4bn a year, the goal of this CQUIN is to improve support available to NHS staff to help promote their health and wellbeing in order for them to remain healthy and well. This is discussed in more detail in Chapter 3.

Northern Ireland

The Department of Health, Social Services and Public Safety published "Promoting Good Nutrition, A Strategy for the Good Nutritional Care of Adults in all Care Settings in Northern Ireland 2011-2016" (Department of Health, Social Services and Public Safety, 2011).

This document builds on and incorporates the initiatives published by the Chief Nursing Officer, in conjunction with the Royal College of Nursing (RCN), in the "Get your 10 a Day. Nursing Care Standards for Patient Food in Hospital" (Department of Health, Social Services and Public Safety, 2007).

Prior to this, there were two documents which specifically detailed guidance on the nutritional content of meals provided for older people and those with learning disabilities respectively, whether in a nursing home, residential home or cared for in the community. These documents continue to be used by the Regional Quality and Improvement Authority, the statutory regulator for nursing and residential care homes.

The Strategy, which is focused on malnutrition, adopts and translates the 10 Key Characteristics into a framework for action describing what good nutritional care looks like for each characteristic. The overall vision of the strategy is the prevention, identification and management of malnutrition in all health and social care settings including the person's own home.

The Strategy is based on a series of core principles:

- Prevention, anticipatory management and timely intervention is vital to achieve best outcomes
- Any adult identified as at risk of malnutrition should have a nutritional care plan appropriate to their needs
- Nutritional care should be provided in a manner that respects the equality and diversity of people
- The promotion of Food First as the preferred option for the majority with direction to support effective nutritional intervention where food or food alone is not appropriate
- The significant contribution of family, carers and volunteers as well as the independent, community and voluntary sectors should be recognised, valued and taken into consideration.

A regional implementation group has been established by the Public Health Agency to develop and prioritise an action plan to realise the vision of the strategy.

Scotland

The focus for nutritional care in NHS Scotland is provided by Healthcare Improvement Scotland (HIS) Food, Fluid and Nutritional Care Standards published in October 2014. They are based on research and development and reflect on the whole patient journey with respect to nutritional care and not just food provision.

The purpose of HIS is to drive improvements that support the highest possible quality of care for the people of Scotland. There are six standards:

- Policy and strategy
- Assessment, screening and care planning
- Planning and delivery of food and fluid
- Provision of food and fluid to patients
- Patient information and communication
- Education and training for staff.

These standards are mandatory. Health Boards are responsible for their implementation and are required to consider Food, Fluid and Nutritional Care under the clinical governance agenda. In 2008, The Scottish Government published 'Food in Hospitals – National Catering and Nutrition Specification for Food and Fluid Provision for Hospitals in Scotland.' This was revised in March 2016 and sets out the food and nutrient based standards including menu planning guidance alongside guidance for therapeutic dietary provision. The specification provides NHS Boards with the rationale and necessary practical guidance to allow compliance with the HIS Food Fluid and Nutritional Care Standards – particularly standards 3, 4 and 5.

Wales

Nutrition and Catering Standards for Food and Fluid Provision for Hospital Inpatients were made mandatory in 2012. In order to aid practical implementation of the standards, an all Wales Menu Framework group has been operating to develop a suite of nutritionally analysed recipes that meet the standards, so that Health Boards can devise menus utilising the recipes from the framework. This is continually monitored and revised with new and revised recipes added at intervals following piloting and evaluation by an operational planning group. Other work that has come from the group are an All Wales approach to patient satisfaction with a survey of food provision and catering services and an accredited nutrition and food skills module for ward- based staff serving food to patients.

The hospital nutrition and catering framework encompasses the Nutrition Care pathway which states that ''within 24 hours of admission to hospital all patients should be weighed and screened for risk of malnutrition using a validated nutritional screening tool" and also details the pathway for the nutritional care throughout their hospital admission. The pathway is supported by the All Wales Food Record Chart and Fluid Chart with accompanying online training for nurses.

An All Wales nutrition coordinators group led by nursing with dietetic and catering representation monitors the implementation of the nutrition care pathway and associated standards. These approaches to nutrition and hydration are encompassed within the NHS Wales Health and Care Standards which set out the Welsh Government's common framework of standards to support the NHS and partner organisations in providing effective, timely and quality services across all healthcare settings. Standard 2.5 relates to Nutrition and Hydration and guidance supports self-assessment of the range of nutritional care standards (Welsh Government, 2015).

In addition, a unique lead dietitian role has been established within the NHS Wales food procurement service and has achieved a number of positive outcomes in relation to nutritional quality and rationalisation of food procured for the NHS, as well as having an advisory role to support Health Boards.

Table 1.1: International, National and Local Influences that Impact on Food and Beverage Services

	Guidance/Organisation	Link
International	Council of Europe	www.coe.int/
	World Health Organisation	www.who.int/
	ESPEN European Society for Clinical Nutrition and Metabolism	www.espen.org
National	DH responsibility for Patient-Led Assessments of the Care Environment (PLACE) and Food Standards Agency (England)	www.dh.gov.uk
	Guidance – Commissioning Excellent Nutrition and Hydration 2015-2018 (NHS England 2015).	www.england.nhs.uk
	Care Quality Commission (England)	www.cqc.org.uk
	NICE Guidance: Nutritional support (CG32) (Not Scotland)	www.nice.org.uk
	Hospital Caterers Association Good Practice Guide - Healthcare Food and Beverage Service Standards (HCA, 2013)	www.hospitalcaterers.org
	Hospital Food Standards Panel Report (DH, 2014) (England)	www.gov.uk
	NHS staff health and wellbeing CQUIN (England)	www.england.nhs.uk
Local	Service Level Agreements for service provision (BAPEN, 2007)	www.BAPEN.org.uk
	NHS Trust or Health Board Nutritional Steering Groups	
	NHS Trust or Health Board Food and Health Policies / Nutrition Policy/ Food and Drink Strategy	
	CQUIN - Commissioning for Quality and Innovation (England)	www.england.nhs.uk
	Regional targets relating to Nutrition	
	Voluntary groups	

Table 1.2: National Standards

Country	Controlling Body	Regulations/ Standards	Service delivery	Link
England	Department of Health (DH) Patient-Led Assessments of the Care Environment (PLACE)	Hospital Food Standards	Catering services (NHS and other)	www.dh.gov.uk
	Care Quality Commission (CQC)	Regulation 14 (Outcome 5)	Hospital bed bases and Nursing Homes	www.cqc.org.uk
Scotland	Healthcare Improvement Scotland (HIS)	Mandatory standards for which health boards are responsible for the implementation	Health boards	Health care Improvement Scotland: http://www.healthcareimprovementscotland.org/default.aspx?page=11926 http://www.healthcareimprovementscotland.org/our_work/patient_safety/improving_nutritional_care/nutritional_care_standards.aspx
Wales	Directorate of Heath Policy, Welsh Government	Mandatory Nutrition and Catering Standards for Food and Fluid Provision for Hospital Inpatients Health boards responsible for implementation and self-assessment against NHS Wales Health and Care standards	Local health boards, catering dietetic services and nursing services and national food procurement services	http://gov.wales/docs/dhss/publications/120305nutritioncateringstandard-sen.pdf http://www.wales.nhs.uk/governance-emanual/how-the-health-and-care-standards-are-st
Northern Ireland	Department of Health	Council of Europe standards as part of nutrition coalition	Health and social care settings	https://www.health-ni.gov.uk/publications/promoting-good-nutrition-strategy-and-guidance

Table 1.3: Local Service Requirements

Local Provision	Service Level Agreements	Outcomes
Service planning and support	Catering Specifications Staff training Provision for therapeutic diets	Provision of nutrition to meet all service users' clinical and personal needs and agreed locally
Service provision	• Protected meal times and red tray initiative • Managing the dining experience and environment • Guidance and protocols on using the service • Compliant menus and guidance for managing special diets • Liaison with modern matrons, ward staff and food service assistants	The meal service and environment meets service users' needs and agreed local standards
Service Monitoring and Audit	• Service users satisfaction questionnaires • Audit of service level agreement	Positive patient experience illustrates service users' needs are met to agreed levels

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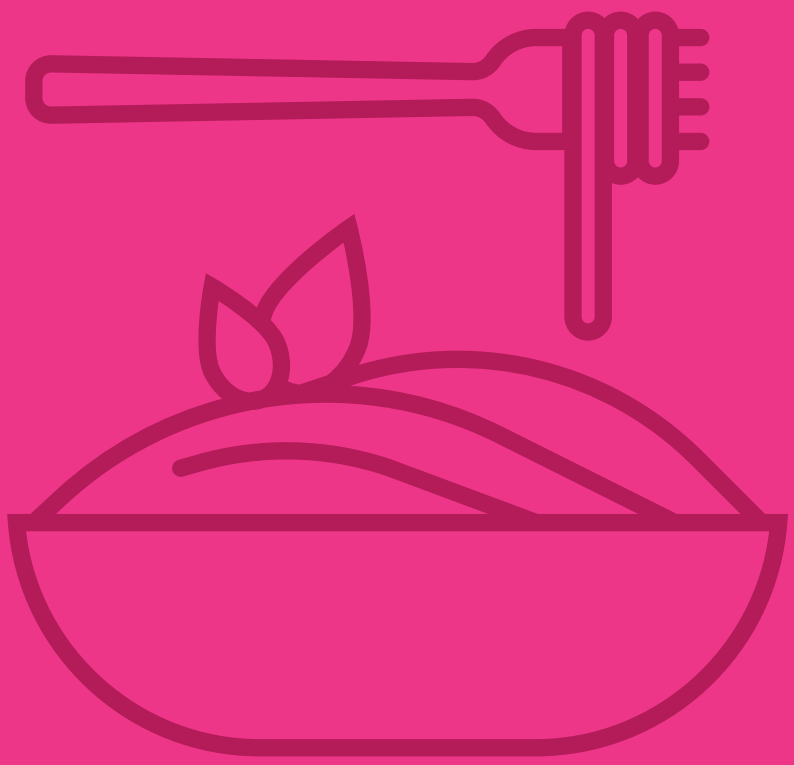
2

Nutrition and Hydration, Eating and Drinking



The nutritional value of food left uneaten is nil.

Malnutrition: 'a state of nutrition in which a deficiency or excess (or imbalance) of energy, protein and other nutrients causes measurable adverse effects on tissue/ body form (body shape, size, composition), body function and clinical outcome' - Marinos Elia, 2000.

The opening statement to this section underpins the importance of ensuring adequate nutrition and hydration through providing pleasurable and appropriate assistance with eating and drinking. All too often in hospitals nutritious food remains uneaten resulting in patients being unable to meet their nutritional needs and creating food waste. For this reason, an appreciation of food waste is important due to the impact upon an individual's nutritional status; see chapter 5 for further information.

The BAPEN Nutrition Screening Surveys (2015) highlighted that malnutrition in the community is widespread. Screening for malnutrition should be completed on admission to hospitals and residential care to identify high risk individuals and ensure a nutrition care plan is in place. Instigation of a nutrition care plan is a clinical role and it should support the needs of the patient (NPSA, 2009), leading to the provision of higher energy or healthier choices and suggesting initiatives to help address malnutrition (NICE, 2012). In the community, the Malnutrition Universal Screening Tool ('MUST') is also recommended to identify those at risk. Following early signs of eating difficulties or signs of weight loss, food first advice can be given and where appropriate referral to a dietitian can prevent admission to hospital (BAPEN, 2011).

In the majority of cases, an adequate nutritional intake can be provided via 'good food' as long as any additional support needed is provided, for example physical support with eating or alternative composition diets (NICE, 2006). However, Age Concern (2006) reported a lack of appropriate food and absence of support with eating and drinking as one of the most frequently raised issues by older people's relatives following a hospital admission.

Oral nutrition support provides additional nutrition, which can be via food fortification- enhancing the energy and protein intake of foods without increasing the volume using foods such as milk powder, butter and cream (Appendix 1), extra snacks, nourishing drinks or oral nutritional supplements. 'Food First' approaches are strongly encouraged and aim to optimise nutritional intake (Table 2.1). These approaches have been shown to positively impact upon a patient's nutritional status (Elia, 2015). Oral nutrition support should consider micronutrients in addition to energy and protein and it is important to ensure restrictions on intake are minimised and meals are not missed (NICE, 2006 and see Protected Mealtimes, Chapter 5).

Table 2.1: 'Food First' Approaches

'Food First'
• Using high energy and high protein foods added to the diet without increasing the volume of foods consumed (e.g. cheese, full fat milk, butter, cream)
• Small, frequent meals consisting of nutritionally dense foods
• High energy and high protein snacks between meals
• Nourishing fluids should be maximised (milky drinks, soups, powdered supplements)
• Aim to overcome barriers to oral intake (e.g. pain, poor dentition, need for a texture modified diet, environmental and social problems)
• Consideration should be given to micronutrients. A multivitamin maybe required.

Using the above techniques can improve nutritional intake whilst ensuring inappropriate nutrition support is avoided.

Those identified as at high risk of malnutrition through a malnutrition screening programme should be referred for specialist advice via locally agreed pathways. For an individual, the dietitian reviews him/her and has first-hand information about their medical history and condition, their dietary needs and an understanding of personal food likes and dislikes. The best strategy for treating malnutrition should be based on each individual patient. Use of oral nutritional supplements (ONS) should not be used as a substitute for the provision of food. Poor food consumption can be the result of a number of causes but often poor health per se leads to the loss of appetite and the subsequent risk of malnutrition. Dietitians' recommendations may include prescribing supplements for people unable to meet their nutritional requirements from food alone along with clear indications, goals, anticipated timespan, monitoring and planned review which is communicated within care settings (NICE, 2012 Quality Standard 24).

More information on these strategies can be found at http://www.bapen.org.uk/nutrition-support/nutrition-by-mouth/food-first-food-enrichment. Food provision is essential to the prevention and treatment of malnutrition. This document provides guidance on best practice and auditable standards, with the aim of ensuring energy and protein requirements of malnourished individuals in care settings are met. Conversely, the nutritional needs of those who are overweight or obese must also be met during a hospital admission. The physical and financial implications of an increasingly overweight population are discussed in chapter 3. It is suggested that patients are more likely to make dietary changes following an acute admission, and that hospitals should do all they can to support these changes (DH 2014). To meet the nutritional needs of patients assessment of the nutritional content of menus is essential (see chapter 10 for analysing menu capacity).

Causes and Effects of Malnutrition

Malnutrition often results from both consequences of disease and an altered food intake (Scheutz *et al*., 2014). There are many social, physical and medical factors which contribute to an altered oral intake (table 2.2). At least 25% of people admitted to hospital are at risk of malnutrition.

If an individual is unable to provide themselves with adequate nutrition and becomes malnourished, they are more susceptible to disease. This can cause further deterioration, impairing their recovery. This is vicious circle is demonstrated by the 'Malnutrition Carousel' (BAPEN, 2016) (figure 2.1).

Table 2.2: Risk Factors that Increase the Risk of Malnutrition

Social Factors	Physical	Medical
• Living in isolation • Limited knowledge of nutrition • Limited cooking skills • Alcohol or drug dependency • Poverty • Limited mobility or lack of transport resulting in difficulty to get food	• Poor dentition • Loss of appetite due to loss of smell or taste • Physical disabilities which reduce an individual's ability to cook or shop for themselves	• Conditions causing a lack of appetite (such as cancer or liver disease) • Mental health conditions • A condition that reduces the body's ability to absorb or utilise nutrients • Dementia • Dysphagia • Vomiting or diarrhoea • Eating disorders

Figure 2.1: The Malnutrition Carousel (BAPEN, 2016).

Medical evidence demonstrates that malnutrition affects every system in the body, resulting in (BAPEN, 2016):

- Reduced ability to fight infections
- Increased risk of pressure ulcers
- Inactivity and reduced ability to self-care
- Inability to regulate salt and fluid, leading to over-hydration or dehydration

- Falls
- Heart failure
- Impaired wound healing
- Low mood, self-neglect, social deterioration
- Reduced muscle mass
- Impaired temperature regulation
- Reduced fertility
- Specific micronutrient deficiencies.

There is but a small window of opportunity to act swiftly and appropriately to prevent someone's physical decline due to decreased nutritional intake exacerbated by illness and associated clinical interventions. Malnutrition can be life-threatening if poor nutritional intake or an inability to eat persists for several weeks (NICE, 2006).

Hydration

Water is essential to health, but is often overlooked. This can result in vulnerable individuals missing out on the support they need to help maintain a healthy level of hydration.
The medical evidence for good hydration shows that it can assist in preventing or treating ailments such as:

- Pressure ulcers
- Constipation
- Urinary infections and incontinence
- Kidney stones
- Heart disease
- Low blood pressure
- Diabetes (management of)
- Cognitive impairment
- Dizziness and confusion leading to falls
- Poor oral health
- Skin conditions.

‘Water is fundamental for life and health. The human right to water is indispensable for leading a healthy life in human dignity. It is a pre-requisite to the realisation of all other human rights’

United Nations Committee on Economic,
Cultural and Social Rights - 27 November 2002

Hydration Best Practice toolkits are available for both health and social care environments and provide further information on the medical evidence for good hydration (Water UK, 2007). Within these documents it is quoted that "In a wholesome diet, water must be considered as one of the six basic nutrients. It might properly be called the 'first nutrient', since all of the body's important chemical reactions – such as the production of energy – take place in it. Chilled water should be available at ward level for patients throughout the 24-hour patient day". Improving hydration brings well-being, better quality of life and improved health outcomes for individuals. It can also reduce use of medication and prevent illness which will benefit all healthcare providers.

In the UK drinking plain tap water is a good way to keep hydrated. Tea and coffee are also popular, especially for the older adult population who are at particular risks of urine infections and falls. However, tea and coffee do contain caffeine and certain groups such as pregnant women should be aware how much caffeine they consume.

High sugar fluids such as fizzy drinks are recommended to be taken in small amounts only (BDA, 2017). Fruit juices and smoothies, although high in sugar, do provide water and other nutrients. Only one small portion (150ml) of fruit juice or smoothies per day is recommended (PHE, 2017).

It is a strong possibility that for many patients, a large quantity of fluid at mealtimes could potentially reduce food consumption. The key message is that for patients without fluid restrictions it is good practice to offer drinks with or after meals and still ensure that fresh water is available throughout the day. This is also discussed in the HCA Good Practice Guide (2013).

With grateful thanks to Caroline Lecko for her original contribution to 'Hydration'.

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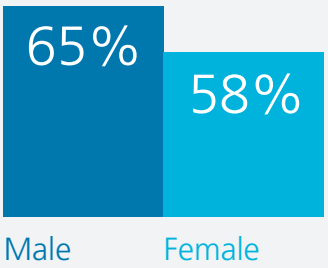
3

Catering for Staff and Visitors in the NHS

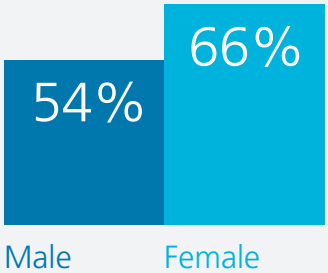
Overweight and obesity is a national problem with the short and long-term health consequences costing the NHS around £6.1 billion a year.

Number of NHS staff described as overweight or obese

% of population overweight or obese



% of population with high or very high waist circumference



Data from the 2012 – 2014 Health Survey for England (2014)

Type 2 diabetes

Cost of Type 2 Diabetes to NHS

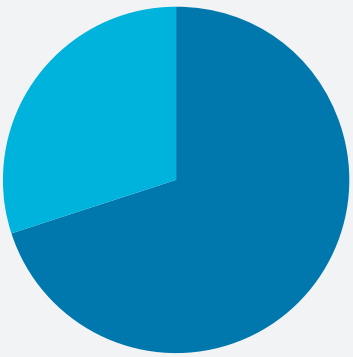
£8.8bn

Cost of obesity to UK economy

£27bn

Source: NHS England, 2017

It is predicted that by 2034 70% of adults in the UK will be obese.



Introduction

- Overweight and obesity is a national problem with the short and long-term health consequences costing the NHS around £6.1 billion a year
- There is a high prevalence of overweight and obesity within the NHS itself, with an estimated 700,000 NHS staff being overweight or obese
- In the last five years, significant steps have been taken by the NHS to help change the food environment within staff and visitor restaurants in the NHS so that they can become beacons of good practice in supporting staff and visitors to make healthier choices
- NHS staff and visitor outlets within Wales, Scotland and Northern Ireland are not governed by the same health and wellbeing initiatives as in England
- This chapter is specifically in relation to the food and drink served to staff and visitors within the NHS, not patients.

Background

Data from the 2012 – 2014 Health Survey for England (2014), identifies that 65% of men and 58% of women are overweight or obese and that 66% of women and 54% of men have a high or very high waist circumference. It is predicted that by 2034 70% of adults in the UK will be obese.

The consequences of obesity on individual health is well documented with obese individuals more likely to suffer from:

- Type 2 Diabetes
- Heart Disease
- Stroke
- Cancer
- Osteoarthritis and Back Pain
- Liver Disease
- Cancer
- Depression & Anxiety
- Sleep Apnoea
- Asthma
- Reproductive Complications

(World Health Organisation, 2016)

As a result of this, obesity costs the NHS approximately £6.1 billion per year. Type 2 diabetes, one of the main consequences of obesity, costs the NHS £8.8 billion annually and estimates put the cost of obesity to the wider economy at £27 billion a year (NHS England, 2017).

Looking more specifically at the NHS, it is estimated that around 700,000 NHS staff are overweight or obese (Royal College of Physicians, 2013). NHS England's 'Five Year Forward View' (NHS England, 2014) marked the recognition by the NHS that a radical upgrade in prevention and public health was needed and set the scene for the gear shift the NHS needed in this area.

It is not just the NHS that has taken notice of the obesity statistics however, with the Government releasing its Childhood Obesity Plan in the summer of 2016 (HM Government, 2016).

With over half of all the food provided in NHS hospitals being served to staff and visitors (DH, 2014), hospitals have roles, whether the food is provided in-house or by an outside contractor, to be beacons of good practice in supporting staff and visitors to make healthier choices and the food and drink sold in these locations is a powerful message to the public about healthy consumption. As a result, there is a shifting approach in this area and since 2014 there have been several important initiatives introduced into the NHS to help improve the health and wellbeing of staff and visitors.

Health and Wellbeing Initiatives within the NHS

Hospital Food Standards (DH, 2014)

The 'Hospital Food Standards Panel's report on standards for food and drink in NHS hospitals' was released in 2014. The panel involved in its conception was an independent group, established by the DH and led by Dianne Jeffrey, Chairman of Age UK.

The Hospital Food Standards are now part of every NHS Standard Contract and through its five standards (see Chapter 1), the report looks at how nutrition and hydration can be improved within in-patient settings but also how we can ensure NHS staff and visitors have a healthier food experience, where a selection of sustainable food and drink is offered that meets daily nutritional needs and reduces the risk of later ill-health.

Standards 4 and 5 relate specifically to staff and visitors:

Standard 4 – Healthier and More Sustainable Catering for Staff and Visitors: Nutrition Principle (Public Health England, 2017)

The nutrition principles laid out in the document underpin the development of a framework for both food and nutrient based standards. The food-based standards are based on the governments Eatwell Guide and the nutrient-based standards for the general public are based on advice from the Committee on Medical Aspects of Food and Nutrition Policy (COMA) and the Scientific Advisory Committee on Nutrition (SACN).

By catering teams using these food and nutrient-based standards when planning menus, the Government wants individuals who regularly obtain their food within NHS premises to have confidence that the food they are able to buy is helping them meet their dietary recommendations. It is always recommended that where possible, a Registered Dietitian is part of the menu planning process.

Standard 5 – Government Buying Standards for Food and Catering Services (DEFRA, 2015)

Whilst much of the Government Buying Standards (GBS) is focused on food sustainability through methods such as reducing waste, embedding high standards of farm and food production and reducing the amount of food miles used where possible, it also has a set of best practice and mandatory guidelines which are focused on nutrition, the principles of which again tie in with the recommendations set in the Eatwell Guide.

Commissioning for Quality and Innovation (CQUIN)

CQUINs make a proportion of healthcare providers' income conditional on demonstrating improvements in quality and innovation in specified areas of patient care.

In 2016, the first ever Staff Health and Wellbeing CQUIN was released which focused on NHS establishments delivering on three key improvement areas around a) introducing health and wellbeing schemes b) introducing healthy food for staff, visitors and patients and c) improving uptake in flu vaccinations (NHS England, 2016).

With the 'Healthier food for staff, visitor and patient' CQUIN, NHS England is wishing to create a change in organisational behaviour and culture towards the food and drinks sold on NHS premises by focusing on ensuring that healthier alternatives are available 24 hours a day and that foods high in fat, saturated fat, salt and sugar are not:

- Sold near or around till points
- Price promoted
- Advertised

The 2017/18 and 2018/19 Staff Health & Wellbeing CQUIN have since been released. Providers will be expected to build on the 2016/17 CQUIN by maintaining the four changes that were required in 2016/17 but also to introduce three new changes to food and drink provision. These requirements are focused around ensuring that a certain proportion of food and drink sold to staff and visitors meets certain calorie and nutrient targets.

Whether it falls to the Contract Caterer or the in-house catering teams to implement the Health & Wellbeing CQUIN will provide different challenges for each organisation. For example, Contract Caterers are currently under no direct obligation to fall in line with CQUIN, though there are many reasons why some choose to. These include that Health & Wellbeing is at the forefront of many Contract Caterers ethos and of course, by helping Trusts unlock CQUIN related funding, they will be building positive relationships between client and contractor. If the catering operation is in-house then it is necessary to have investment in time and resources to deliver such an initiative. Either way a Registered Dietitian has an important part to play in understanding the CQUIN criteria and supporting Trusts to deliver these most effectively, including assessing products to determine whether they meet the criteria or not. As a result of these new initiatives food businesses are producing new products to meet these criteria and they are likely to be marketed as meeting the CQUIN criteria.

Reduction of Sugar Sweetened Beverages in NHS Premises

In addition to the National Sugar Levy, which is a key part of the Government's Childhood Obesity Plan and due to come into force in April 2018, NHS England announced details of a proposal to reduce the sales and consumption of sugary drinks sold in hospitals, either through a sugar levy or an out-right ban on Sugar Sweetened Beverages (SSB) being sold in an NHS premises (NHS England, 2016).

Based on the responses to this proposal and following discussions with key suppliers and retailers, in April 2017, NHS England announced it would be launching a 'twin tracked approach', the first of which would be to launch a voluntary sales reduction scheme where by sales of sugary drinks would be expected to reduce to 10% of total drink sales by March 2018. NHS England have stated that non-compliance may result in an out-right ban of SSB on NHS premises being considered (NHS England, 2017).

The evidence behind why NHS England feel that such a strategy is needed, is that excess calorie consumption, which increases the risk of weight gain and obesity, has been shown to be linked to high sugar intake. Soft drinks (excluding fruit juice) are one of the largest sources of sugar in the diet of adults and the largest single source of sugar or children aged 11-18 years (Public Health England, 2015).

Health and Wellbeing in Scotland, Wales and Northern Ireland

With regards to staff and visitor health, Scotland, Wales and Northern Ireland are not governed by the same Health & Wellbeing policies as England. A brief outline of their initiatives is detailed below:

Scotland – the Healthy Living Award (HLA) and the Healthcare Retail Standard (HRS)
The HLA is a national award for the food service sector in Scotland. The Award helps food outlets prepare and promote the sale of healthier food options and recognises and rewards caterers who reduce the amount of fat, salt and sugar in food they provide and make healthy options more easily available. Over 95 per cent of all NHS hospital restaurants and Scottish Prisons have the award (Scottish Government, 2017).

The HRS applies only to those retail outlets (i.e. where food is not prepared on-site but is ready for immediate purchase) within healthcare buildings. The HRS consists of specific criteria that retail outlets must meet, similar to that of the National CQUIN run in England. Mixed outlets offering a combination of catering and retail provision need to comply with both the HLA and the HRS (Scottish Government, 2015).

Wales – The Corporate Health Standard
The Corporate Health Standard is a free service which is funded as part of the Welsh Government's 'Healthy Working Wales' programme. It is the national quality framework and award for employers to improve health and well-being in the workplace. There is a standard for healthy eating within the workplace with specific criteria for workplaces with on-site catering facilities (Public Health Wales, 2017).

Northern Ireland – Minimum Nutritional Standards for Catering in Health & Social Care
Through the Regional Obesity Prevention Implementation Group, the Public Health Agency, Food Standards Agency and *safe*food, Northern Ireland have produced minimum nutritional standards for catering for staff and visitors in Health and Social Care. The standards have been modelled on the Eatwell Guide and based on Public Health England's (PHE) publication "Healthier and More Sustainable Catering: A toolkit for serving food to adults" and apply to all facilities that serve food or beverages to staff or visitors operating within Health and Social Care settings (*safe*food, 2017).

Health and Wellbeing for Patients

This chapter relates specifically to healthier eating principles for staff and visitors within the NHS. The requirements of in-patients are more diverse, with hospital menus needing to accommodate for patients who are nutritionally vulnerable as well as nutritionally well. The different meal options can be clearly identified to patients via the recognised dietary coding system (see chapter 11). Regardless of the meals calorific or protein value however, all meals served to patients should still offer a balanced meal choice, based on the principles of the Government's Eat Well Guide (for more details see chapter 8).

The Role of the Registered Dietitian

It is important that Registered Dietitians have dedicated time to play a key role in the execution of any health and wellbeing strategies within the NHS, whether they relate to staff and visitors or patients as they are well placed to not only unpick the detail behind the policies but also to help communicate these messages effectively to the public and NHS workforce.

Work in this area also provides opportunities for Registered Dietitians to work closely with key Government bodies, such as Public Health England and NHS England, to help ensure that the dietetic workforce is considered as key stakeholders in any public health policy planning of this nature.

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Role of the Dietitian in Food Service

Dietitians should promote improvement through food and beverage services that are cost-effective, good quality, safe, nutritionally adequate and appropriately patient-focused.

It is generally understood that food is vitally important for recovery and maintenance of health in all individuals and it embraces both their health and enjoyment. At best, mealtimes can provide both an enjoyable experience and the nutrients to support recovery and promote health including psychological well-being. Dietitians should promote improvement through food and beverage services that are cost-effective, good quality, safe, nutritionally adequate and appropriately patient-focused.

Providing the best possible food service for hospital patients is complex, and may be a difficult and unremitting task. It depends on a close and effective collaboration between a number of people who may have very different priorities (Donelan, 1999). Menus must have the capacity to meet all nutritional needs and must also be appealing. Patients will not eat food that is unfamiliar or that they do not like, especially when they are feeling unwell and have poor appetites.

In care settings people are unable to make their usual food choices and it may be difficult and undesirable for them to obtain food elsewhere. They are deprived of the normal consumer power and are left dependent on hospital food and beverage provision, and decisions that other people make about it. Where possible patients and service users should be involved in menu design. In addition, menu planners must be able to step into the patients' shoes and use local knowledge and feedback to inform menu choices.

The Dietitian's Role

Dietitians have the skills to be involved at every level of care setting food and beverage services; they have a unique overview of food services and knowledge of how food and beverage services impact on nutritional care and clinical outcomes. They work directly with patients and with clinical and catering staff. Catering dietitians are well placed to identify and work to improve strengths and identify weaknesses in a food provision chain. They may have specific responsibilities for many of the elements that support the chain, from developing policies and procedures, through service and menu planning, to day-to-day problem solving and amendments.

A dedicated catering liaison dietitian is recommended for every department to lead developments and act as the main interface between catering and clinical services. This should be a senior post, and funded as such so that the dietitian has sufficient authority and experience to lead developments and initiate resolution of problems. A catering dietitian has a unique insight as the role is exposed to all areas, whether it is ward level, supplier level, finance and governance. As well as catering supplier or department liaison, the catering dietitian can bridge the gap between nursing, estates, catering, supplier and therapy departments.

The dietetic-catering link should be used at every opportunity, updating and working with the service to ensure consistent practice and understanding of food and beverage services by the rest of the dietetic team.

The Health Care Professions Council (HCPC) Standards of Proficiency for Dietitians (2013) and standards of conduct, performance and ethics (HCPC, 2016) provides expectations of the ways in which dietitians work in relation to the provision of food and beverage services, to:

- Develop and maintain good working relationships with staff at all levels
- Lead the multidisciplinary team in developing best practice standards and policies
- Be aware of practical constraints
- Be able to communicate effectively
- Apply negotiating and problem-solving skills
- Engage in evidence-based practice, evaluate practice systematically and participate in audit procedures
- Be able to use nutritional analysis programs to analyse food intake, records and recipes and interpret the results
- Advise on menu planning, taking account of food preparation and processing, nutritional standards and requirements of service users.

Dietetic Working in Partnership

Dietitians employed by commercial food suppliers and catering contractors should work together with dietitians in health and care settings, in an atmosphere of mutual trust and respect. To manage the interface, both need an awareness of the range and diversity of the populations served, and must endeavour to meet the needs and preferences of all groups, by:

- Assisting in the development of submission bids as part of catering tenders to ensure that nutrition and dietetic needs are clarified and addressed (see Chapter 6)
- Providing information on food, recipe and menu analysis as part of the submission bid and contract management and ensuring the needs of patients requiring special diets are met
- Collaborating on recipe and dish development to meet the needs of clinical dietetics, hospital nutrition and public health, as appropriate
- Developing evaluated training for food and beverage service staff
- Providing information on relevant legislation
- Working to implement health and wellbeing standards for staff and visitor food services.

There may be more than one provider in the food service chain. All stakeholders need to develop and sustain good working relationships with all staff in the food chain, in order to negotiate change or work within constraints and to promote continuing improvement in a manageable and realistic way.

Training for Food Service Staff

Dietitians should help to ensure that all staff involved in the food chain have access to training so they can provide a patient-centred food service that promotes good nutritional care and encourages appropriate patient choices from a varied menu which contains dishes that might meet a variety of dietary needs. This may involve dietitians developing and delivering training packages, planning training in collaboration with others and evaluating training to ensure it achieves objectives.

Topics should include:

- Basic nutrition and the provision of a nutritionally balanced diet for people who are nutritionally well in addition to a higher calorie diet for those who are nutritionally vulnerable
- Allergy awareness
- Importance of hydration
- Menu ordering for special diets
- Meeting religious, ethnic and cultural dietary choices
- Basic food hygiene and food safety
- Training in the use of equipment trolleys/probing/timings
- The timeliness of serving meals (to ensure the food is at an appropriate temperature)
- Portion control, taking into consideration peoples' individual needs
- Food presentation
- Helping patients e.g. with difficult packaging and cutting up food
- Communicating positive attitudes towards food and beverages
- Protected Mealtimes
- The importance of good nutrition in the healing and recovery process
- Identifying people who require assistance with eating and drinking by using red or distinctive mats, trays, napkins and jugs. However, this should not be relied upon as plenty of people still need to be observing at mealtimes, taking responsibility and acting on what they observe.

The 'Last 9 Yards' multidisciplinary campaign spearheaded by the Hospital Caterers Association is an initiative aimed at food service teams to ensure an excellent mealtime service for every patient, every time. This forms a key area for training of food service staff. This campaign surrounds the last leg of the food journey from the kitchen to the patient, the area in which all of the planning and good work can fail unless the best possible service is provided. Training on the 'Last 9 Yards' may include food presentation, use of appropriate menus, suitable crockery, 24/7 food availability and water jugs. This campaign has led to multiple initiatives and a wide range of improvements to patient choice in various locations (see Chapter 5).

Menu Planning

Patient Led Assessments of the care provision (PLACE) report (2017) and the Hospital Food Standards Panel Report (2014) clearly state it is the responsibility of dietitians to set and monitor nutrition standards for hospital menus. They need to collaborate closely with catering managers to ensure incorporation of these standards into menu planning to meet the needs of their patients (see Chapter 8).

Dietitians must bring to the process a thorough knowledge of:

- The relevant evidence base and reports
- Nutritional analysis and therapeutic dietetics
- The population to be served, its complexities and diversity – including local, cultural and religious needs
- The practicalities of large scale catering.

Planning hospital menus brings together many conflicting demands and interdisciplinary skills in both motivation and negotiation may be needed by everyone involved.

Service Provision

A. Patient Information

Patients and staff need comprehensive and up to date information about the food service to empower them to make the best use of it. Patients should be provided with relevant information in order to make informed choices. Dietitians should work with colleagues on the development of user-friendly and patient-centred information using a variety of media and formats, for example:

- Written and pictorial menus and information on the full range of foods and beverages available
- Information in the languages most familiar to users
- Electronic and interactive information and ordering
- Staff skilled in verbal communication, and who are knowledgeable about the food and beverages service and able to communicate with service users
- Guidance and information about appropriate food choice.

Further information can be found in the most recent guidance documentation, Patient Led Assessments of the care provision (PLACE) report (2017) and the Hospital Food Standards Panel Report (2014).

B. Managing the Eating Environment

The multidisciplinary team including catering dietitians should work with ward teams including ward managers, nurses and housekeepers to achieve the best possible eating experience for patients. They should promote improvement by providing evidence on the importance of the physical environment, appropriate equipment and staff behaviour. It is essential that dietitians are able to participate in protected mealtimes by being present to observe practical aspects of the food service and to measure adherence to policy.

C. Managing Therapeutic Diets

Dietitians must work closely with caterers to ensure that therapeutic diets:

- Meet the requirements of clinical treatment
- Meet appropriate nutritional standards
- Suit the preferences of the patient
- Are timely
- Are appetising and served appealingly
- Are safe (CQC, 2015).

As part of a multidisciplinary team, dietitians should be actively involved in developing service specifications that ensure best practice in planning, ordering and delivery systems for therapeutic diets. They should provide advice to caterers on menu planning, dish selection and products to be stocked to meet therapeutic diet needs. Dietitians will ensure that systems, such as diet manuals, are in place so that caterers are able to meet needs for therapeutic diets that may arise when there is no dietitian available to give advice.

D. Dietitian's Role in Monitoring and Audit

- Food and beverage services and nutritional care need to be performance managed
- Dietitians should work with multidisciplinary monitoring teams to support the development of appropriate performance indicators and maintain formal structures for auditing them
- Patient representatives must be part of the team
- Dietitians should identify appropriate audit questions, and ensure audits are completed regularly and the findings acted upon
- Monitoring should include the staff involved and users of the service
- There should be an effective procedure for reporting back on action taken in response to user and staff comments
- Formal reviews, undertaken at least 6 monthly are essential to this process
- Audits may not be comparable due to design and method variation. Results for internal audits may not reflect external audit results. Different audit times and questions create considerable variation. Dietitians must be able to interpret survey results to compare like for like.

The objectives are to:

- Drive continuing improvement
- Ensure standards are met
- Manage resources effectively
- Identify and solve problems quickly
- Prevent problems recurring
- Make adjustments as needed
- Report back promptly on action taken as a result of comments
- Identify and secure necessary resources
- Gather information for future service planning.

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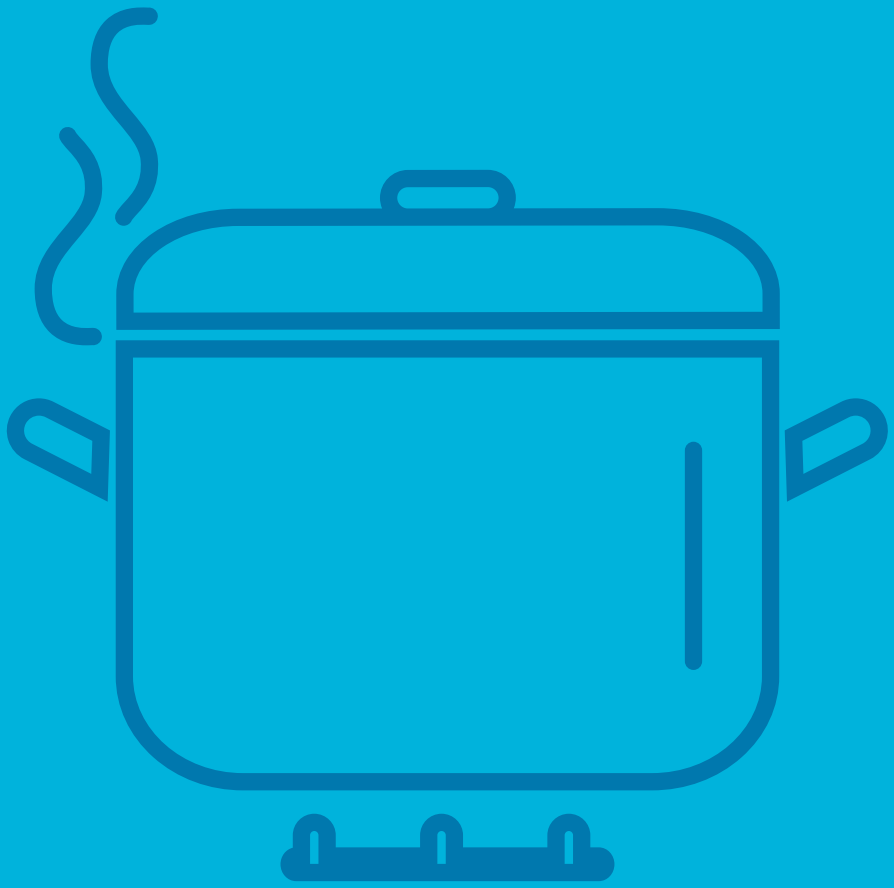
Food Service Delivery and Planning



At a local level, it is essential that dietitians, clinical teams and caterers value and make time to talk to one another, to discuss food services in a positive and timely way.

Working Together – Power of 3

The Hospital Caterers Association 'Power of 3' campaign is the coming together of catering (the HCA), nursing (the National Nurses Nutrition Group) and dietetics (the BDA) with the aim of improving nutritional outcomes for patients. This collaboration allows a more holistic approach to nutrition and hydration, ensuring these groups of professionals can work together to deliver excellence, taking into account:

- Food and Drink Strategies (whole Trust)
- Innovation and Sustainability of the catering service
- Service needs including gaps in services, waste, out of hours' meals and snacks
- Potential service requirements
- Health and wellbeing of staff and visitors

In this way, everybody can plan their patients' food and beverage services taking into account any site constraints. Guidelines and standards for food service are readily available in other documents (see further reading), but the true benefits to patients' health will only be realised when dietitians, clinical teams and caterers work closely together in the ethos of the 'Power of 3'.

Where there is a need to improve, or expand the service, dietitians can help caterers by generating a business case in support of any bid for additional funding. This will maximise the service availability, and ensure that what is offered to the patient by the dietitian is feasible and, more importantly is delivered.

Examples of co-operative working include:

- Joint monitoring and publishing of results and audit trends
- Setting the Food and Drink Strategy
- Food and beverage focus groups
- Theme days/weeks
- Collaboration on preparing and presenting Board reports
- Showcasing and serving patients food to the Board
- Shared staff induction and work shadowing
- Joint presentations about Eating for Good Health
- Joint poster presentations for conferences/forums
- National events and campaigns e.g. Hospital Caterers Association's 365-day Nutrition and Hydration Awareness Campaign and Nutrition and Hydration Week (https://nutritionandhydrationweek.co.uk)

- Media promotion of fun food events
- Hospital open days
- Setting up joint databases and libraries to manage the technical information available from a variety of suppliers etc.
- Partnership working with government organisations and initiatives.

Protected Mealtimes: Provision of a Patient-Focused Meal Service

The patient experience is critical, involving all elements of care, and one important aspect of this is ensuring that protected meal times are nationally implemented (NPSA, 2007). Protected mealtimes involve positively avoiding all interruptions, allowing patients time to enjoy their meals, which can contribute so much to their wellbeing. In this way, along with clinical staff, we can help ensure improved outcomes of patients

Where possible, dietitians should assist the promotion and roll out of such nutritionally focused hospital initiatives to ensure adequate training of volunteers. This is a scheme which should be seriously considered by all organisations, with dietitians integral to the initiative. Some caution may be needed to ensure the perception is not that hospitals are using volunteers in place of nurses.

A useful resource is the series of 10 factsheets produced by the NPSA based on each of the 10 key characteristics of good nutritional care in healthcare environments (NPSA, 2009). These originate from the Council of Europe (2003).

Communication between nurse, carer, caterer and any food service assistants at ward level is vital to ensure that people receive the appropriate meal. A mechanism should be in place which ensures privacy and dignity but it should not overwhelm patient safety.

In hospital, patient moves are inevitable. Whether it is from one bed to another in the same ward or from one part of the country to another, the principles should be the same. Relevant information and any dietary considerations must accompany them and are as important as their other treatment and medication. Food waste can be avoided if the food follows the patient as they move within the same establishment.

At mealtimes, all ward activity should focus on the meal service and there should be an awareness of key issues in the eating environment as highlighted by Burke (1997), Age Concern (2006) and in the Still Hungry to be Heard (7 steps to end malnutrition in hospital) campaign (Age UK, 2010).

"Nothing shall be done on a ward whilst patients are having their meal"

Florence Nightingale (1859)

These include:

- Allowing people to access dining area and to be alerted to the pending mealtime
- Suitable and appropriate positioning
- Hand wipes available prior to meal service and after service or the facility to wash hands in hot soapy water
- Ask if a person requires assistance in eating or help with packages. This could be indicated by a tick box on a menu. "Do you need help with packaging?" A relative or carer could also complete.

Positive and encouraging behaviour when handling and serving food provides invaluable support which is instrumental in persuading many unwell and anxious people to eat. This important input from food service staff should be complemented by the same positive attitude to the food and beverage services from nursing and other clinical staff.

A sample protected mealtimes policy, developed in conjunction with the RCN, is available on the HCA website (HCA, 2004).

Food Service Systems

It is increasingly common for hospital units to be planned without kitchen or cooking facilities, saving the cost of setting up and managing traditional cooking facilities and releasing more space for clinical activity. In these circumstances, availability from the caterer may be limited to those which are available from their suppliers, and there may be a lead-time between ordering and delivery, causing potential problems for special requests. In this situation, the dietitian and caterer must plan to hold a limited stock of food to cover most of the anticipated therapeutic diet requirements in the short term. It may be prudent to plan for an on-site facility for the preparation of special meals for those patients that are not easily served by prepared meal arrangements; staff restaurant 'on call' catering can be utilised if the cooks have adequate training. Dietitians should be prepared to advise and support such an initiative if it benefits the needs of their patient population.

It is essential that the food service system in place is capable of providing for the nutritional needs of the individuals served. If it does not then it should be changed. Changing an entire food service system is an expensive and resource-intensive process, not to be undertaken lightly. However, over time the needs of particular establishments can change and it is extremely difficult to meet the needs of the patient group if the underlying food service system is not fit for purpose.

Meal Distribution and Service

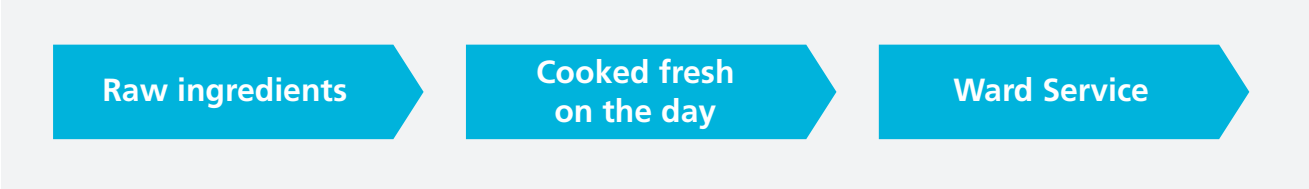
Within the food service options, there are also a range of methods of distribution and service of food. The two most common forms are plated meal services and bulk meal services. Plated meals are served in the main kitchen and either plated hot for immediate service, or cold for re-generating on the ward just prior to service. Similarly, with the bulk system food may be delivered hot to the wards for immediate serving, or delivered chilled/frozen for regeneration at ward level.

No matter what type of catering service is being used, the food needs to be at its best at the point of service to ensure that the patient receives their food at the height of its quality. All teams must link together to ensure that systems work effectively and that all staff are aware of their responsibilities. Supplier involvement is also critical and this will create confidence for the patient and service teams. This creates a "Last 9 yards" approach that meets quality standards at the final point of delivery.

The following are very simplified overviews of the differences in the available systems, although every hospital will have its own variation, according to local circumstances and patient groups.

The food could be produced on site (using traditional methods).

Figure 5.1: Illustration of Simplified Traditional (Cook and Serve) System



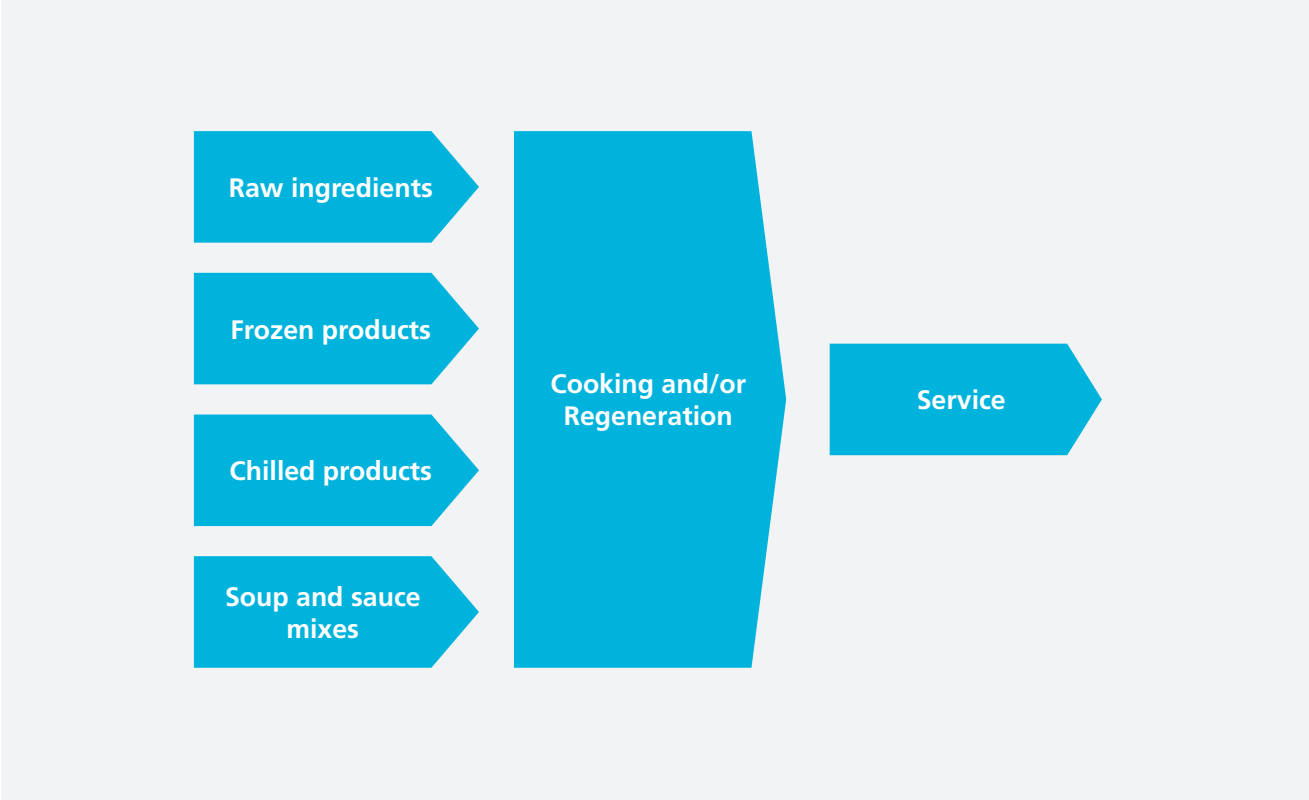
It can also be produced at a Central Production Unit (CPU), either on or offsite, either by cook-chill or cook-freeze in-house team or manufacturer (delivered meals system) and delivered to a hospital catering department for picking and packing, or in some cases delivered directly to the ward for re-generation and service.

Systems and Food Safety

Some systems retain elements of cook-serve as part of a hybrid system, producing a menu, which also uses pre-made ingredients (soups and sauces etc.), lighter ingredients (scrambled eggs, jacket potatoes), combined with DMS Style Meals frozen and chilled products to produce the menu.

Figure 5.2 Illustration of Simplified Delivered Meal System (DMS)

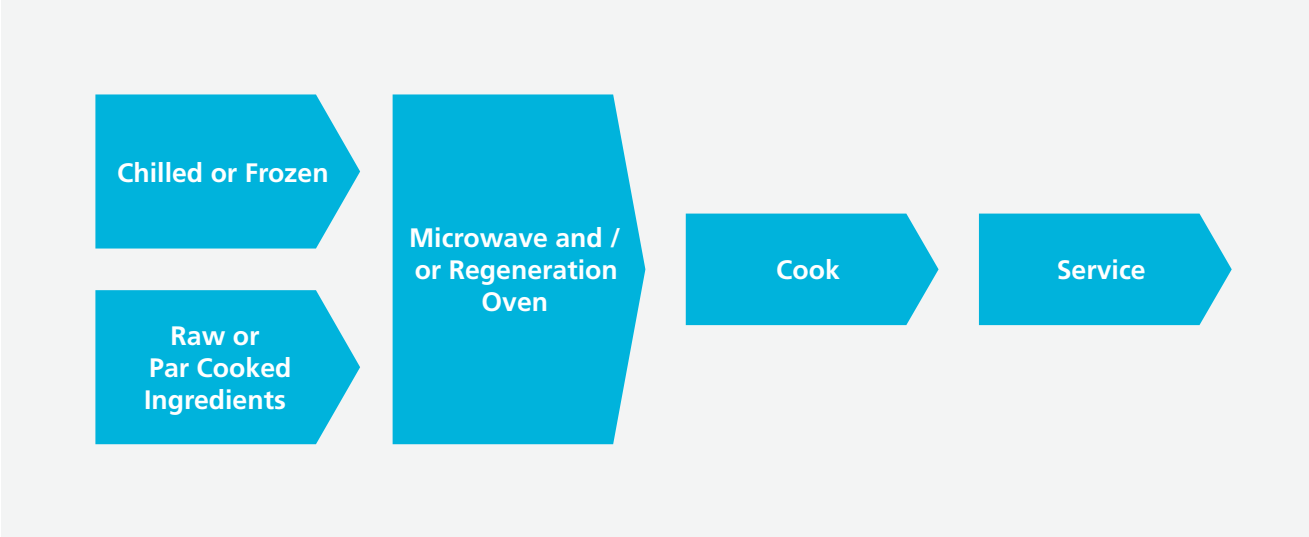
Figure 5.3: Illustration of Simplified Hybrid System (Bulk or Plated)



Pre-Plated - Delivered Meals

This approach to catering is the use of pre-assembled microwavable/regeneration oven plated meals, some of which utilise steam and pressure technology. These meals are available in either chilled/frozen form. Some use a combination of fresh/raw food, (particularly raw fish and vegetables) and meals are cooked in either a microwave or regeneration oven. In systems where the bespoke packaging may include a film with a valve, perforations or vent, the quality and temperature of the meal is controlled by the steam pressure valve or special film.

Figure 5.4: Illustration of Individual Meal Process



Control of Food Service Delivery

It is important to understand that we ALL have a key role to play in the delivery of the meal service to the wards from the Power of 3 to ensuring the patient/service user receives the meal at its best – this is the Last 9 Yards of the service but the one that sets out to ensure that that the meal is eaten and enjoyed, ensuring, for example, that service users receive:

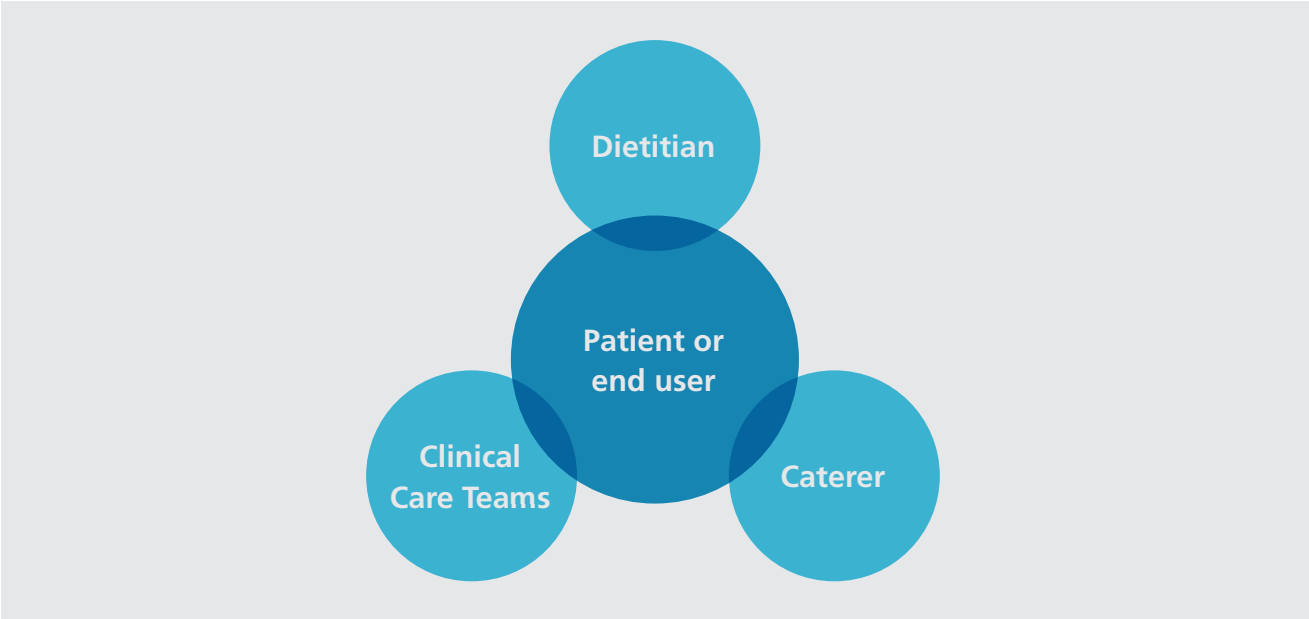
- Clean tray, crockery and utensils
- Correct condiments
- Correct cutlery
- Correctly garnished meals.

In some cases, the catering manager may not have direct control of the people involved in serving the food, and may be located many miles away. This can result in the caterer being distanced from the patient, and the dietitians' messages not being translated into action at the service point. This poor communication model creates a situation that is unsatisfactory as the team members are not able to work in a cohesive way.

Throughout the hospitality industry there are fewer qualified and experienced caterers; the NHS is no exception. In order to address some of this an NVQ qualification has recently been launched by the HCA, NACC and Institute of Hospitality, specifically for health and social care caterers, to enhance their understanding of these complex systems. Dietitians may be able to influence management arrangements, particularly by being proactive in setting contract specifications before the contract is tendered and facilitate close working with the catering and clinical teams to ensure the service is seamless 'Power of 3'. This should improve the situation, so that the patient becomes the focus point as shown in figure 5.5, with full multi-way communication channels, with the dietitian in a pivotal position having professional access to both the caterer and the clinical care teams.

Many staff involved in food service may not speak English as their first language. There may be a need for instructions and training to be produced in a form, which can be easily understood and used to prevent delays and misunderstandings. In any training situation, from Universities and Catering College to ward staff training, dietitians have the skills to seize opportunities to promote food and beverage services in the way most appropriate to their audience to realise the patient-focus shown below in figure 5.5.

Figure 5.5: Illustration of a Patient Focused Food Service Model (Power of 3)



Food Waste

Food waste takes three forms:

Production waste
Production waste is waste that remains after the cooking process. This translates to a caterer's budgetary concerns, as money allocated to food is being unnecessarily eroded.

Un-served waste
Un-served waste is waste that remains either on the tray line / the servery in the kitchen (plated meal services) or on the trolley at the ward (bulk meal services). It is food that is not served. This translates to a caterer's budgetary concerns and is one that should also concern the clinician, as money allocated to food is being unnecessarily eroded.

Plate waste
Plate waste is the uneaten food left on the plate after the meal is served. This information then translates to food consumption, which is a dietitian's major concern.

Dietitians and caterers take care and pride in presenting menus which meet nutritional targets and yet often we do not consider subtracting the nutritional content of the food which is not eaten! Malnutrition in hospitals is very prevalent; BAPEN 2016 report at least 25% of patients admitted to hospital were found to be at risk of malnutrition, most of them at high risk.

Working on the principle that food not eaten has no nutritional value, better nutritional intake means improved outcomes for many patients. Food waste, particularly plate waste is simply food which is not eaten.

All too often nutritious and appealing food is left uneaten. Nutritional requirements cannot be met when people fail to eat their meals as served. Although waste is unavoidable it is beneficial to all involved in the food chain if it can be measured.

"Food waste is defined as food purchased, prepared, delivered and intended to be eaten by patients but that remains un-served or uneaten"

(Managing Food Waste in the NHS, 2005)

Table 5.1: Food and Supplement Waste Management

Reasons for un-served waste	Reasons for plate waste / reduced food consumption
• Over-production in excess of the need to provide choice • Over-ordering of meals (such as ordering a meal for someone who is Nil by Mouth, just in case their dietary status changes) • Poor communication systems • Poor stock control • Poor yield management and portion control • Patient movements and discharges	• Meal was not the person's choice (often the case with a new admission) • No suitable 'special or personal diet choice' • Meal ordering too far in advance • Preference had changed • Person may not have been feeling well due to medications, environment or pain • No help given to a person unable to eat without assistance • Meal was unsuitable because it did not meet their dietary needs • Menu does not meet the needs of the patient groups • The diet was restrictive and person did not like the food provided • Portion size was too large • Person was asleep, away from the bed, in an awkward position or interrupted
Supplements	
Wastage of oral nutritional supplements should be given equal weighting to wastage of food. Provision systems and audit must consider: • Effect of giving supplements too close to mealtime(s) • Personal acceptability due to flavour, sweetness, texture, temperature • People may only be able to manage small volumes • Whether they are being given as prescribed especially if there is no clinical procedure in place (as with drug charts) • Systems to ensure good stock control that track out of date items and those that never reach the patient or are inappropriately stored • Help with packaging and serving	

For dietitians and other clinicians, monitoring food consumption has nutritional and health implications. Monitoring food waste is equally vital to the caterer, because of the cost implications. Waste is an issue at all levels and should be carefully considered in any food service operation. Be aware that food intended for patients may also be inappropriately consumed by others for whom it is not intended.

Understanding the reasons for food waste on the ward is critical to understanding patients' food consumption. Table 5.1 summarises the reasons for food waste.

Actions that organisations can take to manage food waste are included in the document Managing Food Waste in the NHS (2005) and include:

- Documenting all food waste at all stages of the food chain
- Developing practices and policies such as Protected Mealtimes
- Considering all aspects of the meal service including timings and environment
- Ensuring that meals served reflect peoples' needs

Waste Policy

It is important that procedures are in place to ensure that money spent on hospital food and food products is delivering an adequate nutritional intake to patients. Measurement of plate waste is an important indicator of food consumption. High levels of plate waste indicate low levels of consumption and should be investigated. All hospital food and beverage services should implement a waste policy that is regularly reviewed with the aim of reducing waste at all levels.

Waste audits, both qualitative and quantitative are used to measure cost, food acceptability and nutritional intake. A standard audit tool should be utilised to ensure consistency and enable results to be compared (DH, 2005).

An auditor can actively weigh food or visually estimate portion sizes. An audit should include documented observations of the reasons for waste. Patients and patients' representatives should be involved in audits and in-patients' opinions sought by asking routine questions about their food whilst in hospital. Agreed acceptable waste levels should be established locally. There should be regular patient satisfaction questionnaires on the quality of food as evidence for the Care Quality Commission (England) (CQC, 2012) and integral to the Hospital Food Plan (NHS England, 2000).

The aim for both the dietitian and the caterer is the same; that the patient consumes their food and gains the nutritional benefit from it.

Managing Food Waste in the NHS (DH, 2005) set targets for England, which are as follows:

- 6% for un-served waste in plated meal services
- 12% for bulk trolley services
- 10% plate waste at ward level

The dietitian may use a food and drink record chart for teams to monitor an individual's food intake. When interpreting the results from food charts and nutrition screening, the dietitian acts as the link to liaise with the catering team, highlighting the consequences of nutritional risk and instigating special meals, snacks or supplement products if appropriate. This may also include providing menus or recipes for a special diet.

It is critical that ward teams, both clinical and food service, understand their responsibility and that food not eaten is a wasted opportunity to meet and/or improve food intakes. Patients and other service users have individual needs and although they may not feel like eating, adequate nutrition will help improve their recovery. Those screened as high risk of malnutrition should have a nutrition plan as part of their clinical treatment.

Food Hygiene and Safety

Many patients are extremely ill and/or immuno-compromised whilst they are in hospital, and would not be able to fight off the effects of food poisoning, should this ever happen. The caterer is responsible for ensuring that the food is safe and that food safety is not compromised (see Chapter 11 on Neutropenic Diets).

Anyone involved in handling food should receive appropriate food safety training. Depending on the level of risk this can be either at a local level or by a course accredited by an organisation such as the Chartered Institute of Environmental Health (CIEH) or Royal Society of Public Health (RSPH).

All caterers are legally required to carry out a full risk assessment of their food production, service procedures and practices, and to put in place management systems and control measures to reduce the major risks in food manufacture. These set out what is, and what is not, permissible, and will take account of issues such as staffing and equipment availability in each individual unit.

This management system is known as Hazard Analysis and Critical Control Point (HACCP). HACCP identifies and prioritises controls to eliminate the potential risks wherever possible, or to reduce them and maintain them at safe levels. Checks are concentrated at certain points that are critical to the safety of the food.

All points of potential risk, from the selection of suppliers and product specification, through all the preparation, cooking, storage and delivery processes, right up to the point of service to the patient would have been assessed. The local Environmental Health Officer (EHO) will have been involved and approved the HACCP system. HACCP not only deals with all food safety risks but also risks due to food allergens.

The dietitian has a role to play in the assessment team, by providing specialised advice to the caterer about the vulnerability of specific patient groups. Foods that by their nature contain bacteria, such as probiotic drinks and yoghurts, may be unacceptable for immuno-compromised and other groups of vulnerable patients. Organically produced foods carry higher levels of organisms due to the use of manure as a fertiliser. If used they will need thorough processing to ensure food safety and they should not be eaten raw.

HACCP at Ward Level

The caterer conducting HACCP can only take account of and assess risks that he/she is aware of at the time the analysis is carried out. What is possible to do in one unit might not be safe to do in another, due to differing systems. The procedure manuals and staff training will all be based on the original hazard analysis and the assumption that the control systems remain unchanged at ward level.

The cooking process does not kill all food poisoning bacteria spores, and those that do survive are then controlled by the rigid time and temperature controls imposed by the HACCP procedures, so that their potential for growth is kept within safe limits. To maintain these rigorous standards, the ward service team must not be asked to make any changes to their routine or further process food, such as putting it through a blender, without first discussing it with the caterer who is in charge of the HACCP for the unit/ward.

Changes to the way that food is processed, may undermine risk control; thus, making a product unsafe. At worst, this could result in the death of a patient and the prosecution of the Trust, the caterer and other staff involved.

Eggs: A Common Issue in Food Safety

The caterer will always do their best to respond to any requests, within limits. For example, previously there were stringent regulations around the use of shell/fresh eggs for hospital patients, or for any use within a hospital kitchen, so a request for soft-boiled eggs would have ensured that they followed the Trust's policy. Scrambled eggs or omelettes were usually made from pasteurised eggs.

However in October 2017, the Food Standards Agency announced a change to its advice about eating eggs - infants, children, pregnant women and elderly people can now safely eat raw or lightly cooked eggs that are produced under the British Lion Code of Practice. This revised guidance only applies to Lion Eggs (FSA, 2017).

In summary, food should do no harm but it should also do good, as in the safe provision of nutrients and promotion of wellbeing.

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6

Catering Specifications and Contracts

It is essential that dietitians take a pro-active role jointly with catering and clinical colleagues, to ensure that acceptable standards for food and beverage services are not put at risk and that the budget is adequate to provide the nutritional needs of the individual.

Barriers to Good Practice

Efficiency gains are often required of food services through tight budgetary control, often paired with rigid contractual conditions. The downside to this is reduced flexibility and often limited, if any, funding available to support developments; this is unacceptable and a potential barrier to good practice. It is essential that dietitians take a pro-active role jointly with catering and clinical colleagues, to ensure that acceptable standards for food and beverage services are not put at risk and that the budget is adequate to provide the nutritional needs of the individual.

Catering Specifications

Every hospital and care setting requires suitable nutritional specifications; a food service specification and/or Service Level Agreement (SLA) defines the quality of delivery. Whether the catering service is in-house or contracted out, dietitians must have executive input before a specification is issued and not just advisory influence. The contents of this Digest document form a minimum framework of requirement for nutritional standards for food in hospitals and care settings, and as such must be incorporated into the specification for any contract or service level agreement.

The clearer and more robust the specifications, then the easier it is to ensure that all requirements will be met. Dietitians must ensure the specification explicitly calls for the provision of food and beverage services appropriate for the patient/client group including cultural and religious and/or allergen meals which may cost more, together with a full breakdown of the menu items including ward issues and snacks to enable complete nutritional analysis. Some specifications are written as open specifications, e.g. "provide our patients minimum three meals a day"; and some are much more detailed. In worst case scenarios, with an 'open' specification there could be protracted arguments about what is and what is not provided in the contract.

Within the NHS the Lord Carter report (2016), must be used when developing specifications. The main focus of this report is about cost versus quality, ensuring that we have value for money, without compromising the nutritional value of the meal choice. All catering teams who are part of Facilities Teams, should reflect this when developing a specification and/or SLA.

Submission returns to meet specifications may be on a 'cost per patient per-day basis (these may be broken down per meal in some specifications to meet Lord Carter's report recommendations), or on a 'fixed price' contract.

- 'cost per patient per-day'; dietitians will have to take account of what is included and whether this will be adequate, and understand the cost implications of requesting changes to the contract specification for individual patients (and who pays)
- 'fixed price' contracts; again, what is included must be clearly understood. Additional funding may be needed if there are service developments.

Dietitians will use the specification as a basis for continued liaison, monitoring and auditing. The dietitian must have the right to be informed of any changes that the contactor or In-House caterer wishes to make in the future.

Catering Contracts

For NHS hospitals trusts, boards, Local Authority and other publicly funded organisations the first step of the tendering process is to publish an invitation to tender in the Official Journal of the European Union (OJEU, 2012). Catering consultants are often engaged to assist organisations to develop food service contracts; this can include writing specifications, overseeing the tendering process, appointing the contractor and monitoring contracts for compliance.

Pre-qualification questionnaires (PQQs) with objective criteria and parameters are used to determine which operators will be invited to tender. Tenderers then submit a full confidential competitive tender against the specification. A further reduction in tenderers can occur during the negotiation or any competitive dialogue process.

Short-listed tenderers are then invited to make a single or series of presentations to the key decision-makers to show their understanding of all aspects of the specification. Price should become a factor in the contract award only after ensuring that the tenderers have satisfactorily met all the nutritional and other service requirements in the contract specification. Contracts are then awarded to the most economically advantageous in terms of the criteria stated in the specifications and there are procedures for appeal. Contracts are time-limited but many have potential for extensions as a variation to the contract. In certain cases, it is possible to outsource services from an existing service provider who can provide the best value.

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7

Food Composition, Labelling and Recipe Analysis

"There are two schools of thought about food tables. One tends to regard the figures in them as having the accuracy of atomic weight determinations; the other dismisses them as valueless on the ground that a foodstuff may be so modified by the soil, the season or its rate of growth that no figure can be a reliable guide to its composition. The truth, of course, lies somewhere between these two points of view."

Widdowson and McCance, 1943

Nutritional Content

The nutrition and allergen content of food must be known so menus can be developed that:

- Meet legislative requirements
- Meet Estimated Average Requirements (EARs) and Reference Nutrient Intakes (RNIs)
- Consider the specific therapeutic dietary requirements of different patient groups
- Consider personal dietary requirements such as religious, vegan or allergy aware
- Can be given appropriate dietary codes
- Consider nutrition priorities in public health enabling staff and visitors to make informed decisions when making food choices
- Demonstrate that they meet contractual requirements.

Food Costs

The cost of food is often determined by world commodity prices and currency movements. Environmental factors also have an impact on crop harvests and subsequent yield and food prices can fluctuate by a significant amount as a result. Changes in demand for some products will also affect the catering team's budget and this is coupled with the pressure to produce more food to feed a growing world population in a sustainable way. Dietitians should be aware that food is getting more expensive therefore menus should provide good nutritional 'value for money' and the promotion of food as medicine should be the mainstay.

Procurement of Food

It is essential that the dietitian works with the catering, procurement and supplier teams to ensure menu requirements can be met.

There are a number of mandatory particulars that businesses (suppliers) must provide to enable them to meet food information regulations (FIC, 2011) and these can be presented in a form accompanying the product such as a product specification. This includes:

- Name of the food
- List of ingredients, with quantities
- Net quantity of the food
- Minimum durability or the 'use by' date

- Storage conditions and/or conditions of use
- Name of business and address
- Country of origin/place of provenance (where necessary)
- Instructions for use
- Nutrition declaration.

The product specification information will also support the dietitian in undertaking any analysis work.

Packaging

Packaging for single portioned food and beverage products that are patient or service user facing should be designed to be accessible and easy to open e.g. butter portions, sandwiches, juice cuplets. More detail can be found on the HCA website.

There are requirements under PLACE for healthcare organisations to review their purchasing decisions in relation to packaged foods for provision to patients. Where necessary they must amend the appropriate products to stipulate 'easy-opening' packages (PLACE, 2017).

Food Labelling Legislation

Regulation (EU) No 1169/2011 on the provision of Food Information to Consumers (EU FIC) became law in December 2011 (FIC, 2011). EU FIC brought EU rules on general and nutrition labelling together to simplify and consolidate existing legislation into one single regulation.

Allergen Information

From December 2014, it has been a mandatory requirement for 14 allergens, identified by the EU as most likely to cause harm, to be made known to consumers buying any prepacked or non-prepacked food and/or beverage item. The 14 allergens listed in the legislation are: cereals containing gluten (namely wheat (such as spelt, Khorosan wheat/Kamut) oats, rye and barley); crustaceans; eggs; fish; peanuts; soya; milk; nuts (almonds, hazelnuts, walnuts, cashews, pecan, brazil nuts, pistachio, macadamia); celery; mustard; sesame seeds; sulphur dioxide; lupin; molluscs.

For prepacked items, there are strict guidelines as to how and where the allergen information must be displayed.

For non-prepacked food such as foods sold loose by healthcare caterers there is some flexibility to how the information can be provided. Further information on implementing an effective allergen management program, training staff and how to communicate accurate and consistent information on allergens can be found on the Food Standards Agency website.

Nutrition Information

Most labelling only impacts on packaged foods (commonly referred to as "back of pack" nutrition labelling) and under EU FIC it has been **mandatory** to provide nutrition information on all prepacked food, regardless of whether a nutrition or health claim is made, from December 2016. The mandatory declaration comprises of the seven nutrients as shown in Table 7.1 (FIC, 2011), therefore all food suppliers must be able to provide this information.

Table 7.1: Order of Seven Mandatory Nutrients Under FIC 2011 (Except Annex V Exceptions)

Nutrient	Units	Useful Calculations
Energy	kJ kcal	kJ (F x 37) + (CHO x 17) + (P x 17) + (fibre x 8) kcal (F x 9) + (CHO x 4) + (P x 4) + (fibre x 2) kcal x 4.2 = kJ
Fat (F)	g	
of which saturates	g	
Carbohydrate (CHO)	g	
of which sugars	g	
Protein (P)	g	
Salt	g	Sodium (g) x2.5

Supplementary Nutrients

Under article 30 (FIC, 2011) the mandatory nutrition may be supplemented (voluntary) with one or more of the following:

- mono-unsaturates
- poly-unsaturates
- polyols

- starch
- fibre
- any specified vitamins or minerals present in significant amounts

If a nutrition or health claim regarding any of the supplementary nutrients is made, the nutrient must be included.

This mandatory information includes the important nutrients needed for menu planning and analysis but unfortunately some micronutrients that are used in therapeutic diets may not be available e.g. potassium and phosphate, nutrients of concern in the treatment of renal conditions. In this case the dietitian may be able to access the information direct from the manufacturer if available or use ingredient lists (full ingredient lists are mandatory under FIC). An ingredient list could be used to identify good or poor sources of micronutrients as this is generally the basis of advice given to patients. Ingredient lists are in descending order and for key ingredients there will be a quantitative declaration giving the percentage in the recipe. The use of the ingredients for food-based guidance is important in care home and community settings. McCance and Widdowson's The Composition of Foods Seventh Summary Edition (MW7) (PHE, 2014) can also be used for guidance.

There is no requirement for nutrition information to be provided for food sold non-prepacked however in healthcare catering settings this information is often provided voluntarily to support dietitians in the clinical or public health setting and used for menu planning and dietary coding. In this case the information must meet the requirements set out in the EU FIC, namely:

- Energy value (both kJ and kcal) only
- Energy value (both kJ and kcal) + 4 (fat (g), saturates (g), sugars (g) and salt (g))
- Its provision must meet legibility and font size requirements

This information can be provided:

- per 100g/ml only;
- per 100g/ml and per portion; or
- on a per portion basis only (applies only in the case of energy + 4).

Front of Pack Nutrition Labelling also includes:

- Where information is provided per portion only for the four nutrients (energy + 4), the absolute value for energy must be provided per 100g/ml in addition to per portion (there is no requirement to express per 100g/ml for non-prepacked foods)

- Percentage reference intakes (%RIs) can be given on a per 100g/ml and/or per portion basis.
- Where % RI information is provided on a per 100g/ml basis, the statement 'Reference intake of an average adult (8400kJ/2000kcal)' is required.
- Additional forms of expression are allowed if they meet requirements set out in the EU FIC

Voluntary front of pack nutrition labelling cannot be given in isolation; it must be provided in addition to the full mandatory ("back of pack") nutrition declaration. This is Energy value (both kJ and kcal) + fat (g), saturates (g), carbohydrate (g), sugars (g), protein (g) and salt (g) (DoH, 2016).

Nutritional Analysis

The declared values shall be average* values based on:

- the manufacturer's analysis of the food;
- a calculation from the known or average values of the ingredients used; or
- a calculation from generally established and accepted data (FIC, 2011)

* Average refers to figures which best represent the respective amounts of the nutrients which a given food contains, taking into account natural variability, seasonal variability, patterns of consumption and any other factor which may cause the actual amount to vary (EC, 2012).

Chemical Analysis

The manufacturer's analysis of the food will be derived from chemical analysis, which is often used by the food industry for labelling purposes especially in products bearing health claims or declaring content of vitamins and minerals (EuroFIR, 2015) and should not be established at either extreme of a defined tolerance range (EC, 2012). Chemical analysis is also used by government bodies and in some research settings. It is an expensive procedure that must be undertaken by an accredited laboratory. A single analysis is only valid for that particular food item, grown, transported, stored, prepared and cooked under those specific conditions.
The UK Nutrient Databank which is the basis for nutritional analysis systems is based on such chemical analysis.

Tolerances and Rounding

It is not possible for foods to always contain the exact levels of energy and nutrients that are labelled, due to natural variations and variations from production and during storage

(EC, 2012). Therefore, under mutual consent of the member states guidelines for tolerances for nutrition labelling purposes were agreed and published in the "Guidance Document for Competent Authorities for the Control of Compliance with EU Legislation on ... the setting of tolerances for nutrient values declared on a label" (EC, 2012). The tolerances for the nutrition declaration on foods other than food supplements can be seen in Table 7.2.

Table 7.2: Tolerances for Foods other than Food Supplements

Nutrient	Tolerance (includes uncertainty of measurement)
Carbohydrate Sugars Protein Fibre	<10 g per 100 g: ±2 g 10-40 g per 100 g: ±20% >40 g per 100 g: ±8 g
Fat	<10 g per 100 g: ±1.5 g 10-40 g per 100 g: ±20% >40 g per 100 g: ±8 g
Saturates Mono-unsaturates Polyunsaturates	<4 g per 100 g: ±0.8 g ≥4g per 100 g: ±20%
Sodium	<0.5 g per 100 g: ±0.15 g ≥0.5 g per 100 g: ±20%
Salt	<1.25 g per 100 g: ±0.375 g ≥1.25 g per 100 g: ±20%
Vitamins	+50%** -35%
Minerals	+50% -35%

**for vitamin C in liquids, higher upper tolerance values could be accepted
Source: Guidance document for competent authorities for the control of compliance with EU legislation with regard to the setting of tolerances for nutrient values declared on a label (EC, 2012)

Rounding guidelines have also been given with regard to the number of significant figures or decimal places in order not to imply a level of precision which is not true. Table 7.3 shows Rounding Guidelines for the nutrient declaration in nutrition labelling of foods.

Table 7.3: Rounding Guidelines for the Nutrient Declaration in Nutrition Labelling of Foods

Nutritional element	Amount	Rounding
Energy		to nearest 1 kJ/kcal (no decimals)
Fat*, Carbohydrate *, Sugars*, Protein*, Fibre*, Polyols*, Starch*	≥10 g per100 g or ml	to nearest 1 g (no decimals)
	<10 g and > 0.5 g per 100 g or ml	to nearest 0.1 g
	no detectable amounts are present or concentration is ≤ 0.5 g per 100 g or ml	"0 g" be declared
Saturates*, Mono-unsaturates* Polyunsaturates*	≥10 g per 100 g or ml	to nearest 1 g (no decimals)
	<10 and > 0.1 g per 100 g or ml	to nearest 0.1 g
	no detectable amounts are present or concentration is ≤ 0.1 g per 100 g or ml	"0 g" be declared
Sodium, not now declared but guide to values from analysis	≥1 g per 100 g or ml	to nearest 0.1 g
	<1 g and > 0.005 g per 100 g or ml	to nearest to nearest 0.01 g
	no detectable amounts are present or concentration is ≤ 0.005 g per 100 g or ml	0 g
Salt	≥1 g per 100 g or ml	to nearest 0.1 g
	<1 g and > 0.0125 g per 100 g or ml	to nearest 0.01 g
	no detectable amounts are present or concentration is ≤ 0.0125 g per 100 g or ml	"0 g" be declared
	Where there is no added salt but declared salt is >0.0125 the following statement shall be used underneath the nutrition table	The salt in this product is entirely from naturally occurring sodium

*Not applicable to sub-categories
Source: Guidance document for competent authorities for the control of compliance with EU legislation with regard to the setting of tolerances for nutrient values declared on a label (EC, 2012)

Calculated Analysis

Calculation for the nutritional values of recipes uses weights of ingredients used in the preparation of the food and could be generally established and accepted data. This is done using generic and manufacturers' data and is the mostly widely used and accepted method in industry, schools and healthcare settings.

The nutritional data commonly used for calculation in the UK software includes McCance and Widdowson's the Composition of Foods Integrated Dataset (CoFIDS) (PHE, 2015). A subset of this data is published in MW7 (Finglas *et al*, 2015).

All foods in the latest McCance and Widdowson's Composition of Foods publications have been reviewed to check nutrient values are representative of foods on the market at time of publication. Data from recent analytical surveys has been included as well as that from other sources e.g. herbs and spices from US data. Manufacturers' data has also been used many of which reflect product reformulations in line with government public health policy including the reduction of salt, sugar, saturated and trans fatty acids as well as fortification e.g. of breakfast cereals. All recipes have also been recalculated using updated ingredient composition and standard portion sizes and new foods have been included e.g. blueberries, baby spinach (PHE, 2015).

Standard Recipes

Standard recipes must be followed to ensure consistency of quality, nutrition and allergen data as well as control of costs and safety of the food especially for specialist requirements.

Recipe Analysis

Recipe analysis should only be undertaken and/or supervised by experienced registered dietitians or registered nutritionists, who can appropriately interpret both the input data and the results, are aware of food regulations and the limitations of their software. To find dietitians able to do analysis, check one of the various freelance dietitian websites such as the BDA Freelance Dietitians specialist group (and also the Health and Care Professions Council) to check that dietitians are registered.

In order to produce a standard recipe and complete a full analysis the following information shown in Table 7.4 is required.

Each recipe component will need its own analysis (see Figure 7.1).

Table 7.4: Information for Completing a Recipe Analysis

Information	Details
Recipe Code	A code number that identifies the recipe
Recipe Name	Each recipe must be given a unique identification and a descriptive title e.g. poached haddock with cheddar cheese sauce
Ingredients	The full list of recipe ingredients, including fluid and seasoning
	Clearly define each specific ingredient in the recipe and ensure the corresponding ingredient from the dataset is selected e.g. milk either dried or fresh; whole; semi-skimmed, skimmed
Weights	All weights should be specific and given in metric units not household measures
	Liquid content must be converted from volume to weight, based on individual specific gravities (PHE, 2014)
	Dry mixes and ingredients need to be entered as dry weight with additional water in recipe or 'as served' weight, e.g. lentils, rice, pasta and soup powder
Method	Instructions for preparing and cooking – so the recipe can be replicated, including equipment and serving utensil details
	Preparation methods need to be known - the edible portion weight e.g. the drained weight for canned foods, fruit and vegetables after peeling
	Cooking methods need to be known e.g. frying, baking
Food Safety	Hazard analysis critical control points (HACCP) should be documented e.g. cooking temperatures and times
Recipe Yields	The relationship between batch size and portion yield should be established by testing the recipe, or seeking advice from a knowledgeable chef. In a traditional kitchen, yields will vary slightly due to the natural variation in foods
Portion Size	Ensure the single portion size (volume or weight) for the recipe is appealing and nutritionally appropriate and give feedback to the recipe owner if this is not the case. The food portion size book may be useful for this (FSA, 2005)
Nutritional Analysis	The nutrient composition should be given per 100g and also per portion. In traditional catering practice calculating per recipe or batch is likely to be the method used. Most nutritional analysis packages convert to 100g values but ensure that cooking losses and gains have been accounted for (see below).

Further useful details on recipe development can be obtained from Food in Hospitals: National catering and nutrition specification for food and fluid provision in hospitals in Scotland under menu planning guidance (The Scottish Government, 2016).

Methodological Limitations

Cooking losses and gains can be significant and difficult to calculate. An assessment of cooking losses/gains is given in MW7 Appendix, section 4.3 (PHE, 2015) and most analysis software programmes can account for these losses or gains. It is important to take a pragmatic approach.

For the purposes of menu analysis, the loss may not be nutritionally significant. Examples of these are:

- Water loss during chill and frozen storage
- Water loss during reheating/regeneration

Where nutrient losses are significant this should be taken into account. Examples of these are:

- Fluid lost during baking of sponges or open cooking of meat or fish dishes. This results in a concentration of the nutrients (as only water is lost) and may affect the weight and portion size of the finished dish
- Fat and water lost during grilling of meats and meat products

Missing Data

In the case of missing food composition data, suppliers should be contacted for this information. This data may be calculated or derived by chemical analysis and should still be checked in terms of reliability and compatibility. If the source of data is not MW7/CoFIDS it must be identified within the software dataset. Should an alternative database, such as USDA, be used to assess 'missing values', these must be clearly referenced (USDA, 2015).

Vitamin Losses

Vitamin loss may be significant for heat-labile vitamins such as vitamin C, folate and thiamine. These can be assessed manually or through nutritional analysis software. In practice, menus should be designed to provide reliable sources of these less heat stable vitamins (see Chapter 8).

One of the problems when considering vitamin retention in hospital food services is the lack of comprehensive published work since the Platt and Eddy Report (1963). There have been only two major review papers (Hunt, 1984; Williams, 1996) and few textbooks (Light and Walker, 1990) on chilled and frozen food preparation. This lack of information means that it is difficult to make any comparisons with conventional methods.

Vitamin losses in prepared meals have been investigated by Hunt (1984) and reviewed by Williams (1996). The authors conclude that there is a lack of comparable studies: "…that one must balance loss of nutrients against the other advantages that accrue from meal systems."

Cooking Gains

When cooking in fat or water, these may be absorbed by the ingredient and any gains should be accounted for.

- Fat uptake during frying is very difficult to estimate e.g. fried potatoes. Fried values from CoFIDS should be used where necessary. You will need to estimate the cooked weight if only the raw weight is known
- Fat uptake for ingredients fried before incorporation into recipes needs to be included in the calculation for the final dish
- Dry foods such as cereal, pasta, rice (as a starchy side option) and pulses will absorb water. Cooked values can be used if cooked weight is known. Uncooked pasta or rice (in a recipe) e.g. risotto or lasagne can be added as dry weight as they will absorb the fluid from other ingredients when cooking.

Recipe Types

The approach to recipe calculation will differ depending on the type of dish. The following section provides a description of the methods used.

Simple Recipe

Analyse recipe from given ingredients (to include water) using data for EITHER raw or cooked ingredients (state which) depending on the known weights in the recipe.

Assess cooking losses or gains, either by test weighing the finished product before and after cooking or by using data as supplied by CoFIDS (PHE, 2015). It is important to realise that variations in finished weight are inherent in traditional catering practices.

Composite Recipes

These are multi-layered dishes composed of more than one recipe combined to form a composite. Calculate each part of the recipe as a simple recipe as described above and then create a recipe, which is the final make-up of the dish. An example of this is given for a beef lasagne recipe, see figure 7.1.

Figure 7.1: Example of Layered Dishes such as Beef Lasagne

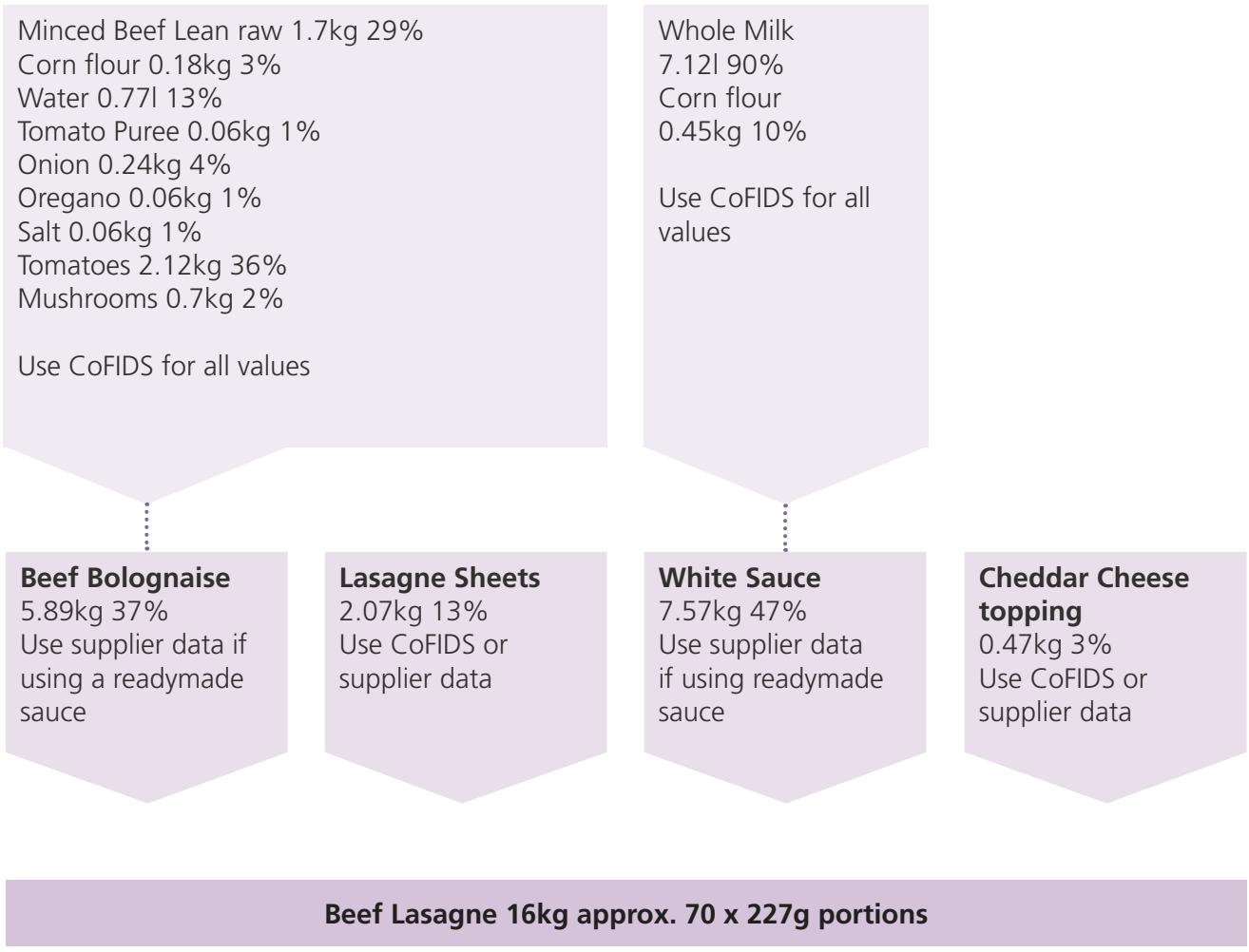

Table 7.5: Nutritional Value of Beef Lasagne in FIC Order

Nutrients	Nutrition per 100g	Nutrition per 227g portion
Energy	504kJ/121kcal	1144kJ/275kcal
Fat	6.6g	15g
of which saturates	3.4g	7.7g
Carbohydrate	9g	20g
of which sugars	3.7g	8.4g
Protein	6.3g	14g
Salt	0.51g	1.2g

Recipe Analysis Software

It is essential that when choosing or using software, the methods and limitations for calculating the nutritional delivery of a menu are assessed. Different methods produce different results. Dietitians need to ascertain the food composition data contained in them as well as outputs of any analysis package, as applied to 'real life' choices and the ability to replicate the method.

There are a number of dietary analysis software packages available for calculating the nutritional content of recipes. Examples of these are given in Table 7.6. The list is not exhaustive and is based on a survey of Food Services Specialist Group member dietitians of which software systems they are using. It is in alphabetical order and we do not endorse any particular system. It is also important to pay particular attention to the on-going technical support each company can provide in terms of a system's guide or training, software updates and development and/or maintenance of the software system.

Table 7.6: UK Nutritional Analysis Software

Software System	Supplier
Dietplan 7	Forestfield Software Limited http://www.foresoft.co.uk/
Microdiet	Downlee Systems Limited http://www.microdiet.co.uk//index.php
Nutmeg	Nutmeg http://www.nutmeg-uk.com/
Nutrimen	https://www.nutrimen.co.uk
Nutritics	https://www.nutritics.com/p/home
Saffron	Fretwell-Downing Hospitality http://fdhospitality.com/
Starchef	Fourth Limited https://www.fourth.com/en-gb

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Courses

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8

Menu Design and Content

Catering and food services must be capable of providing food and beverages suitable for all patients in their care. Patient needs and type of menu are two of the first considerations in menu design.

Menu Design

Patient Needs

There are several local differences in hospitals and care settings in terms of patient population. Firstly, dietary needs for the patient group must be assessed in terms of:

- Age
- Gender
- Nutritional requirements (see menu planning for more detail)
- Physical needs – specialist eating equipment
- Food preferences
- Length of stay – acute (generally short stay), long stay e.g. community hospitals, mental health settings
- Clinical needs
- Cultural needs and food beliefs.

Then groups of people and their different needs and routines will need to be considered, for example:

- Children
- Elderly
- Maternity
- Mental health
- Learning difficulties

The requirements of clinical specialities need to be assessed and considered in detail, for example:

- Renal
- Oncology
- Cystic Fibrosis
- Dysphagia
- Cognitive decline

À la carte Menus

À la carte menus are often used in healthcare settings and are particularly helpful for the comparatively small but important groups of people who require meals that cannot be integrated into the standard menu such as allergy, modified texture or menus for religious and cultural requirements.

Such menus can be based on a complete meal (chilled or frozen) and should include enough choice to provide for the client group. The menu usually utilises plated meal solutions but is not exclusive to this. The number of choices will often depend on the healthcare setting and how often that menu is required. For example, in some settings an allergy menu is likely to be used much less than a modified texture menu.

Advantages of à la carte Menus Include

- Greater choice of dishes available daily
- Greater likelihood of patient receiving a dish they like, hence creating satisfaction
- Good for short stay patients
- The provision of this type of menu allows for such meals to be planned.

Cyclical (or Cycle) Menus

Traditionally, cyclical menus have been used in healthcare settings with a likely turnover time between one to four weeks. Advantages of cyclical menus include:

- Adjustable portion size (if multi-portion rather than plated)
- More choice over meal accompaniments
- Perception of greater choice and variety of meals, therefore better for long stay patients.

Whichever approach is chosen, it is crucial that the menu design meets the dietary needs of the people who are to use it to optimise its overall success. The longer the length of patient stay the more important food becomes (Miller, 2005) hence menus for longer stay and residential settings should reflect the need for appealing food choices with seasonal variation. Risk of menu fatigue may be reduced if an à la carte menu is used to supplement a cyclical menu where this is possible. The risk of menu fatigue should be considered when planning any menus and strategies for combatting this discussed at the planning stages.

Menu Structure

Menu structure will vary between healthcare settings. The NHS Plan, Better Hospital Food (BHF) Programme (2000) required patients to be served:

- Breakfast, lunch and evening meal
- Snacks at least twice a day
- Regular hot and cold drinks (at least 7 beverages a day and access to chilled water 24 hours a day)
- Flexibility to accommodate small and frequent meal patterns.

It is expected that menus for nutritionally well patients should also be based on The Eatwell Guide that reflects the Government's healthier eating guidelines (PHE, 2016); this was further supported in the Hospital Food Standards Panel's report on Standards for Food and Drink in NHS hospitals (2014).

When planning menus:

- Consider the structure of the patient day and meal timings e.g. a maternity unit might like to be more flexible in meal choice and service whereas an elderly care unit may prefer a later breakfast and a mental health unit may like a later dinner service. If possible involve representatives from the patient care team at the planning stages
- Provide adequate choice to cover the majority of patients including higher energy and healthier eating choices
- Provide a meal replacement if a meal is missed
- Further reference information can be found at the HCA Good Practice Guide to Ward Level Services which provides a framework for nurses and other healthcare practitioners at all levels (HCA, 2013)
- Meet the Hospital Food Standards Panel's report on Standards for Food and Drink in NHS hospitals (2014)
- Reflect the local contract requirements set out in the Catering Service Specification or hospital Nutrition Policy
- As well as menu items take account of the total beverage and food offer, including kitchen store items and deliveries of items used such as milk, bread, condiments, beverage choices, including decaffeinated and cold beverages
- Take into account patient requirements for out of hours meals and snacks.

Standard Menu Structure

A sample format for both standard cyclical and standard à la carte menus is suggested below.

Table 8.1: Standard Menu Structure

	Cyclical Menu	À la carte Menu
Early morning	Beverage: Tea, coffee, squash, water	Beverage: Tea, coffee, squash, water
Breakfast	Fruit juice Cereal (lower fibre and higher fibre varieties) e.g. Cornflakes, bran flakes Porridge or instant oat cereal Cooked breakfast where served Bread/bread roll/toast (a choice of white and wholemeal) Butter/unsaturated spread portion Preserve portion Beverage	Fruit juice Cereal (lower fibre and higher fibre varieties) e.g. Cornflakes, bran flakes Porridge or instant oat cereal Bread/bread roll/toast (a choice of white and wholemeal) Butter/unsaturated spread portion Preserve portion Beverage
Mid-morning	Beverage + snack	Beverage + snack
Midday & evening meal	A minimum of two courses must be provided **Starter** Fruit juice/soup Roll/bread with butter/unsaturated spread **Main Course** Main course 1 (meat or fish based) Main course 2 (composite dish e.g. cottage pie, lasagne) Main course 3 (vegetarian) Salad (meat/fish/vegetarian) Sandwich (meat/fish/vegetarian) Potato/starchy alternative e.g. Rice Vegetables **Dessert** Hot dessert and custard e.g. fruit crumble, milk pudding Cold dessert e.g. yogurt, mousse, fresh fruit, cheese & biscuits Beverage	A minimum of two courses must be provided **Starter** Fruit juice/soup Roll/bread with butter/unsaturated spread **Main course** A choice of hot meals* *hot meal = meat, fish or vegetarian based entrée+ potato/starchy alternative e.g. rice, pasta, + vegetable (s) or composite dish e.g. cottage pie, lasagne A sandwich choice (meat/fish and vegetarian filling choices) A salad choice (meat/fish/vegetarian) **Dessert** Selection of hot desserts e.g. fruit crumble and custard Selection of cold desserts e.g. yogurt, mousse, fresh fruit, cheese & biscuits The number of choices depends on the population catered for and risk of menu fatigue Beverage
Mid-afternoon & late evening	Beverage + snack e.g. biscuits, cake, fruit and additional sweet and savoury items	Beverage + snack e.g. biscuits, cake, fruit and additional sweet and savoury items

Exceptions to Standard Menu Structure

À la carte menus such as those used for special and therapeutic diets should strive to meet the above standards but it is recognised that this may not always be possible with very restrictive diets; dietitians should be involved and input from the end user should be sought. These menus can be infrequently used and/or used in a population of high turnover. Type of meal provided, food storage and ordering procedures need to be carefully considered in these situations. Particular care should be taken to ensure that these menus are designed to provide an appropriate range of options and at all times should be sufficient to avoid menu fatigue.

Menu Planning

Menu planning is the multidisciplinary process of combining menu design and structure to produce a menu. It is recognised that menu planners must achieve the often-difficult task of meeting the key dietary requirements of the end users whilst working within the resources available to them. Beginning the process with a multi-disciplinary menu planning team should ensure that all key factors are considered from the outset. However, menus need to be deliverable and enticing. There is no nutritional value to meals that are unappealing and unappetising and are put on a menu to reduce cost or repetition. There should be a focus on nutritious and popular choices that deliver nutrition and patient satisfaction within budgetary constraints.

Key dietary requirements of the population to consider:

- Proportion of nutritionally well vs. nutritionally vulnerable patients
- Main meal preference at lunch, supper or both
- Need for snacks and type
- Therapeutic diets
- Religious, cultural and personal needs e.g. Halal, vegan
- Notifiable allergies
- Modified texture diets.

There should be a local catering and nutrition policy document available.
Operational issues to consider:

- Availability of kitchen space and food storage facilities
- Type of contract and input to contract negotiations
- The delivery of safe food

- Delivery to site
- Existing staff levels and rosters
- Financial resources, total budget per patient meal/day/week
- Food production methods
- Food service equipment
- Kitchen and cost of related equipment (central, satellite and ward)
- Method of distribution and style of service
- Procurement of food
- Service specifications
- Site logistics, including locations, storage, chiller and freezer capacity
- Staff resources and staff skill level
- Sustainability
- Type of unit
- Ability to process ad hoc requirements.

The Process of Menu Planning

The steps in the menu planning process below are general in nature and remain based on the Guidelines for Hospital Catering (DH, 1995); however, they give a good general overview of the steps required and figure 8.1 demonstrates why menu planning should be a multi-disciplinary process, including a dietitian.

Menu planning should involve all those responsible for food provision and its safe delivery. It should start with the Catering Manager and should include an extensive multi-disciplinary team. A team approach will ensure that all stakeholders are involved from the beginning and that all client requirements are met, see figure 8.2.

Menu Content

Food Based Guidance

Menus should be based on The Eatwell Guide (PHE, 2016). This model is widely recognised and used in many healthcare and educational (health promotion) settings throughout the UK. Using it can provide scope for describing and teaching to a considerable depth, and equally, those with only basic training in catering or nutrition can successfully use it. It can accommodate menus designed to meet the needs of the nutritionally well as well as the nutritionally vulnerable and adapted for minority groups.

Figure 8.1: The Process of Menu Planning

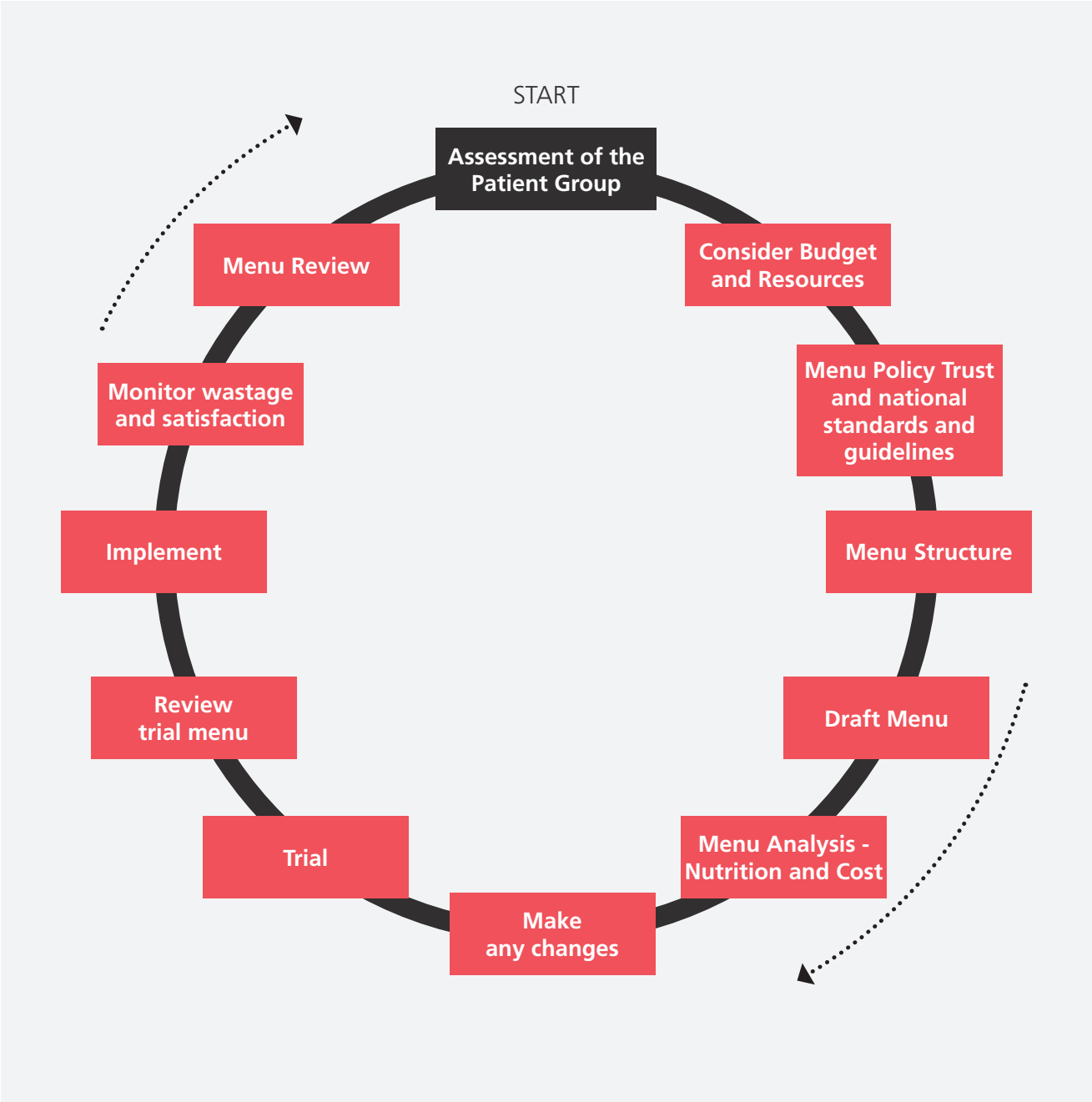


Figure 8.2: Team Approach to Menu Planning

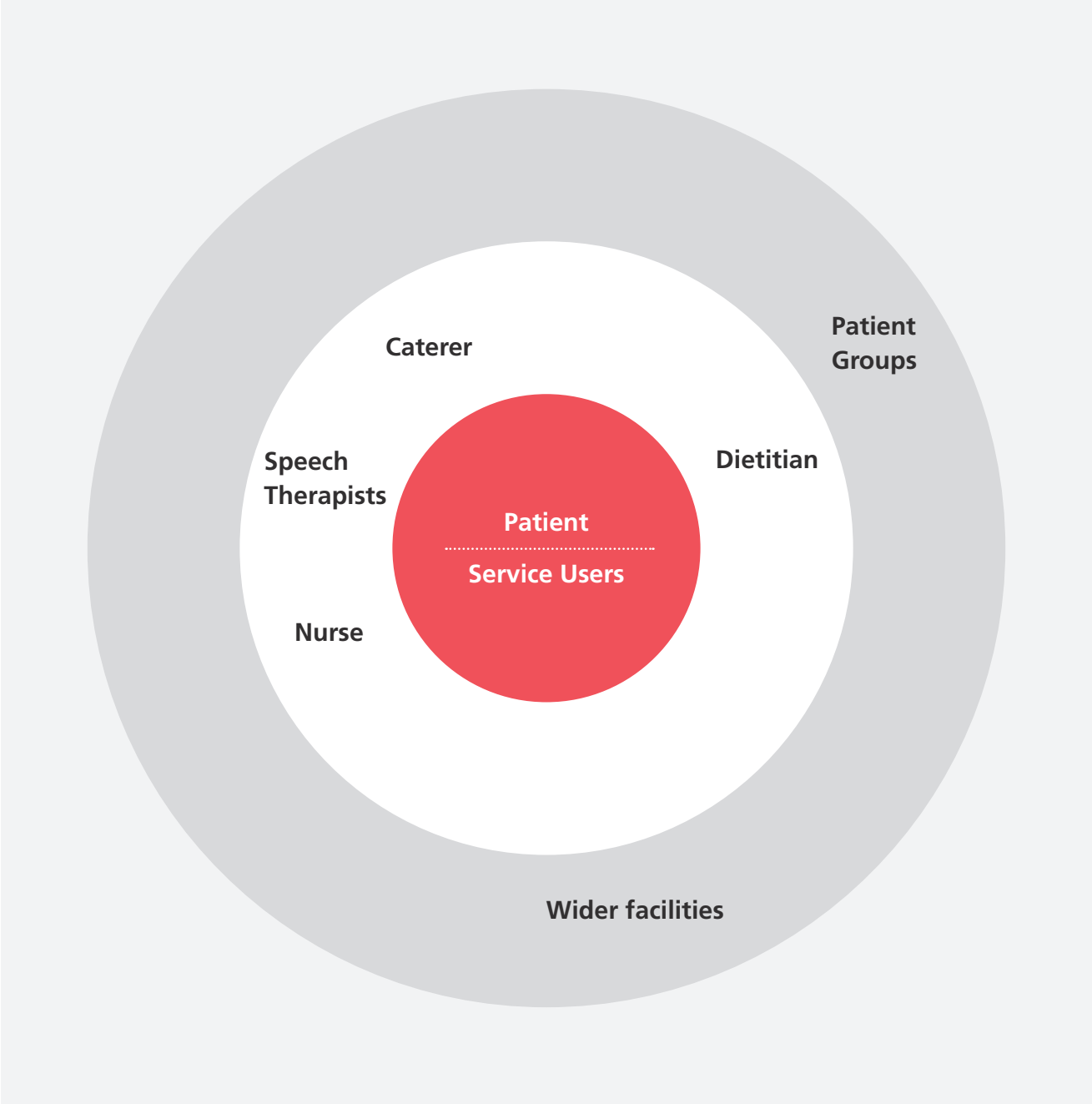
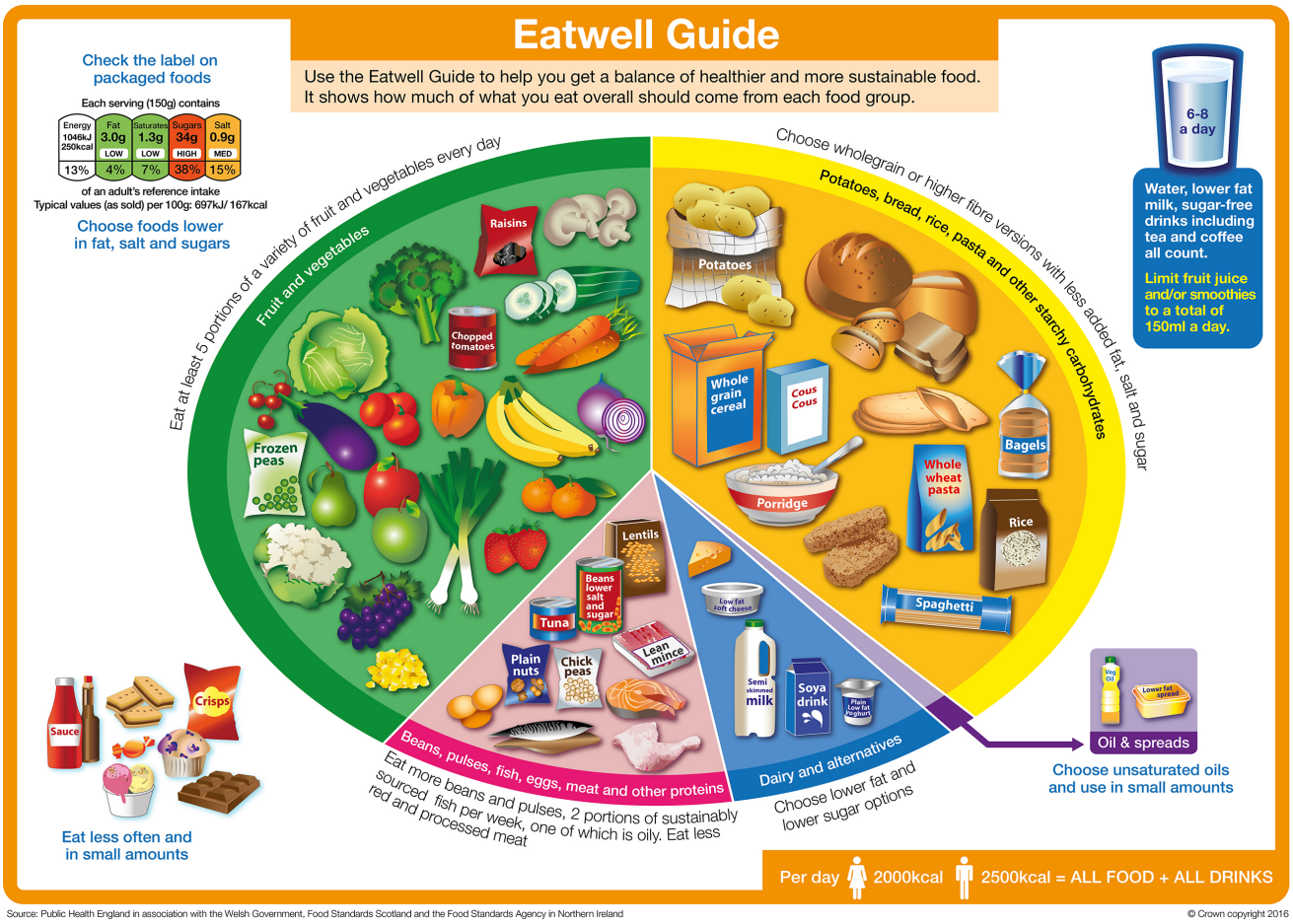


Figure 8.3: The Eatwell Guide



Source: Public Health England in association with the Welsh Government, Food Standards Scotland and the Food Standards Agency in Northern Ireland

Eatwell Guide must be acknowledged as Crown copyright and the following statement included to identify the source: Public Health England in association with the Welsh government, Food Standards Scotland and the Food Standards Agency in Northern Ireland. https://www.gov.uk/government/publications/the-eatwell-guide

As a minimum and in order to ensure that requirements for protein, minerals and micronutrients are met, menus should be able to provide the following each day:

• Fruit and Vegetables	5 servings
• Bread, rice, potatoes and starchy food	5 servings
• Milk and Dairy	3 servings
• Meat, Fish and alternatives	2 servings
• Foods with a high fat or sugar content may be offered but the emphasis will be different depending on individual needs. Choices providing important nutrients should always be given priority. However, in the case of the nutritionally vulnerable group, fat and sugar may make a useful contribution to the overall requirements and this should be carried out with dietetic input to navigate the calorie requirements being met in the most appropriate way	
• Portion size should be determined locally to meet local standards.	

The Scottish document entitled Food in Hospitals provides practical food based guidance and support to those responsible for planning menus for any patient or client group (The Scottish Government, 2016).

Menu Based Guidance

The following menu based guidance should support the decisions on actual menu content in relation to food(s) and beverages.

Breakfast
Breakfast is generally a continental style choice to start the day and as a minimum the standard breakfast should offer:

Fruit juice: A range of juices should be offered either as a daily choice or a rotating choice on the menu e.g. pineapple, orange and apple. 150ml of unsweetened 100% fruit juice is equivalent to one portion.

Cereals: A range of cold cereals e.g. cornflakes, rice krispies, branflakes and wheat biscuits, and one hot cereal choice should be offered as a daily choice.

Bread/Toast: The provision of white and wholemeal sliced bread or rolls is set as the minimum standard. Where it is operationally feasible and where quality can be assured, bread should be offered to patients toasted. Patients may choose to have more than one slice of bread.

Unsaturated spread and butter: Both to be offered as a daily choice but use unsaturated spreads where a preference isn't stated.

Preserves: Assorted jam and marmalade, both to be offered as a daily choice.

Breakfasts may be provided at ward level via ward provision as opposed to via catering services. Catering teams need to consider that the supply chain is able to offer all areas the same choice and there is clarity of processes regarding the delivery of dry goods.

Nutritionally Well Breakfast

The minimum breakfast menu should provide on average 400kcal and 10g protein, which can be seen in Table 8.2: Average Nutritional Content of a Minimum Breakfast. This is assuming a choice of fruit juice, cereal and milk, bread (one slice), spread and preserve as can be seen in Table 8.4: Minimum Breakfast Assumptions.

Nutritionally Vulnerable Breakfast

A breakfast for a nutritionally vulnerable patient with increased nutritional needs can be supplemented with an extra slice of bread, spread and preserve to exceed targets as outlined in Table 9.3: Menu Day Parts for Food and Beverages in Care Settings. However, not all patients would be able to eat normal or extra quantities so for those with a poor appetite, energy and protein intake could be enhanced by offering pastries, croissants, full fat yogurt or a cooked breakfast as appropriate to the individual patient needs and/or care setting. Food fortification methods such as adding cream, skimmed milk powder to milk, extra sugar, butter or preserves to breakfast choices may also be useful. Food fortification examples can be seen in Appendix 1.

Table 8.2: Average Nutritional Content of Minimum Breakfast

	Portion size	Energy per portion (kcal)	Protein per portion (g)	Average energy (kcal)	Average protein (g)
Branflakes*	30g	100	2.9		
Cornflakes *	30g	114	2.1		
Rice krispies *	30g	112	1.7		
Weetabix – 2 biscuits **	37.5g	136	4.5		
Ready Brek **	30g	106	3.3	115	3.0
Semi skimmed milk *	100ml	46	3.5		
Whole milk *	100ml	63	3.4	56	3.4
White Bread *	36g	85	3.1		
Wholemeal Bread *	36g	78	3.4	79	3.1
Polyunsaturated spread *	10g	75	0.0		
Butter *	7g	50	0.0	64	0.0
Jam*	20g	52	0.1		
Marmalade*	20g	52	0.0	51	0.1
Fruit juice cuplet **	85ml	40	0.3	35	0.4
Nutritional content of minimum breakfast				400kcal	10g

Food Composition data based on: * McCance & Widdowson The Composition of Foods, 7th edition (FSA, 2014)
** Supplier Data 20 May2017

Table 8.3: Example of Nutritionally Vulnerable Breakfast

	Portion size	Average energy (kcal)	Average protein (g)
Weetabix – 2 biscuits **	37.5g	136	4.5
Whole milk *	140ml	88	4.8
Wholemeal Bread * 2 slices	72g	158	6.8
Polyunsaturated spread * 2 portions	20g	150	
Fruit juice cuplet **	85ml	35	0.4
Nutritional content of nutritionally vulnerable breakfast example		567 kcal	16.5g

(Target for nutritionally vulnerable breakfast 545 calories 16g protein).

Table 8.4: Minimum Breakfast Assumptions

Fruit Juice Cuplet	Based on supplier data, average of apple, pineapple and orange juice 85ml cuplet
Cereal	Based on average of each of the above cereals Weetabix = 2 each (37.5g serving)
Milk	Based on average serving of whole and semi skimmed milk
One (1) Slice of Bread	Based on average of 1 x medium slice wholemeal bread and 1 x medium slice white bread
Unsaturated Spread/ Butter	1 packet per slice bread/toast
Jam/Marmalade	1 packet per slice bread/toast

Meal Starters

The nutritional delivery of different meal starters will need to be considered at menu planning stage. Menu planners need to meet targets as outlined in Table 9.3: Menu Day Parts for Food and Beverages in Care Settings.

Fruit juice offers a refreshing starter and some areas may use the larger poly cups or decant fruit juice from a larger container into individual glasses. It is probably best to avoid the use of grapefruit juice due to the number of drug interactions that can occur.

Soup is comforting and can stimulate the appetite when served in small portions at an agreeable temperature. Menu planners need to make sure that the general soup choice does not satiate patients who have small appetites. For ill people, soup should not be relied upon to deliver significant nutrition, unless it is specifically fortified or is designed as a 'nourishing soup' i.e. one that offers a level of nutrition over and above a standard 'packet soup'. Such a soup will have cost implications. For a soup to be considered 'nourishing' it should provide over 3g protein and 100kcal per serving. The following Table 8.5: Meal Starters Nutrition provides information for menu planners.

Table 8.5: Meal Starters Nutrition

	Energy	Protein	Notes
Soup or Fruit Juice	<100kcal	<3g	Minimal protein and calories likely to be a packet soup. Not suitable for nutritionally vulnerable
Nourishing Soup	>100kcal	>3g	Designed to provide an adequate source of protein and calories likely to be a chilled, canned or frozen soup but not intended to replace a main course
Fortified Soup	> 200kcal	7g	Specialist fortified soup mixes for individual patients identified as needing enhanced nutrition, it is not intended to be used as a meal without dietetic or nursing consultation as won't provide full calorie and protein intake.

Sandwiches

Sandwiches may be selected by the patient as an alternative to a hot main meal. The nutritional value therefore should be adequate to meet either a healthier choice or a higher energy choice, based on the complete meal nutrient standards. A sandwich menu option may require the addition of a side dish e.g. coleslaw, potato salad or crisps, to boost the nutritional value of the meal.

Considerations

Where sandwiches are sourced from a supplier, they need to provide the same nutritional targets for protein and calories as the main meal choice, if a sandwich falls below these then accompaniments should be used to ensure targets are met, for example, crisps may be used to provide extra calories. It is also worth remembering that sandwiches can be difficult to eat for some patients and full portions may not be eaten, for example crusts on bread.

A minimum specification for a sandwich is

- Protein: 10g (range 10g – 16g)
- Kilocalories: 300kcal (300 – 500kcal)

It is important therefore to consider the fillings and breads to ensure popular and nutritious choices. There should be a minimum choice of white and wholemeal breads.

Exceptions for Clinical Needs

Sandwiches such as plain ham, chicken or cheese maybe required as a flexible component to the food offer for special groups such as children or those on special diets such as low residue, bespoke allergen variations, this needs to be considered when putting the food offer together at the planning stages so that flexibility is maintained.

Soup and Sandwiches as a Single Meal Option

'Soup and sandwiches' may be seen as a cost-effective single meal option and may be used in very limited settings such as day patient units. While this may be a reasonable choice for someone who is nutritionally well, it is difficult to meet the nutritional requirements of nutritionally vulnerable hospital patients and is therefore strongly discouraged as a sole choice.

A soup and sandwich single meal option should meet the same agreed complete meal targets for both 'healthier' and 'higher energy' needs but catering services will also still need to provide for specific menu solutions. For example, for those needing various texture modifications, some people on frequently modified intakes such as can occur with some renal diets, for those needing gluten free meals and for the cultural populations served. The cost of incorporating and providing suitable 'one-off' items may then become disproportionately high and operationally difficult due to staff shift savings (when rosters are changed to reduce staff costs). There are likely to be both groups of patients and individuals for whom this is not a suitable option, so alternative provision will be required for them, which may further undermine cost-effectiveness.

To provide adequate nutrition, menu choices should include:

- Suitable items for easy to chew, healthier, higher energy and vegetarian choices
- A soup that provides the nutritional levels of a 'nourishing' soup, i.e. a minimum of 3g protein and 100kcal per portion
- Sandwich accompaniments to boost the nutritional delivery to the level of a meal, such as crisps and /or mayonnaise-based 'pot salads' e.g. coleslaw and potato salad, especially when plain-filled sandwiches are served and where higher energy choices are needed
- The availability of suitable items (or à la carte menus) for people who require texture modification, cultural meals or therapeutic diet choices to meet gluten free, allergy and renal requirements etc.
- For 'healthier' choices a salad accompaniment should be available
- Sandwich choices must be appealing and easily unpackaged and eaten by those to whom the meal is served - some of whom are likely to have poor appetites
- For the overall meal to reach nutritional recommendations, a substantial dessert choice will need to be offered e.g. starchy item such as a fruit pie, served with custard or ice cream.

Salads

A salad meal is a welcome addition to a menu, especially in summer months. By its very nature a salad may be lower in calories and considered a healthier eating choice e.g. tuna, oily fish or chicken salad, so offering a range of oil-dressed or mayonnaise-based salad accompaniments e.g. coleslaw, potato salad should be considered. Conversely, the salad can provide for a higher energy choice if it is based on items such as cheddar cheese, quiche or Scotch egg.

A suitable starchy accompaniment should be offered with all salads e.g. pasta salad, potato and/or bread roll, as a directed choice on the menu. The nutritional value of a main salad meal (protein + salad +/- side dish + starch) should therefore be adequate to meet either a healthier choice or a higher energy choice, based on the complete meal nutrient standards.

Vegetables

It is recommended that people are able to choose from at least two different vegetables at a meal time. Most menu planners plan vegetables at each meal by different colour and texture i.e. one green, one orange/yellow and also one of these as easy to chew (as defined in the standard, special and therapeutic diets chapter) e.g. carrots (easy to chew) and peas or broccoli (easy to chew) and sweetcorn. The minimum portion size for a vegetable serving is 80g and menus should be planned to allow a patient to meet the requirement for 5 portions of fruit and vegetables a day, should they wish to do so (NHS Choices, 2012).

To entice and encourage vegetable consumption, popular varieties should be routinely planned into menus and consideration to increasing the variety a person is able to choose needs to be discussed when putting the food offer together. Higher protein vegetables such as peas and sweetcorn should be planned into cyclical menus when lower protein main courses are a choice, as it will improve the overall meal protein value.

Starchy Foods

Starchy carbohydrate accompaniments should complement the main entrée component(s) and this should be considered at menu planning stages.

Sauces/Gravy

Sauces and gravy should complement and improve the overall palatability of a meal. They should not be relied on to improve nutritional delivery but more to support people's choices, likes, medical needs and/or overall meal acceptability. A full range of complementary garnishes should be available for example, offering a slice of lemon and tartare sauce with fish and chips, offering stuffing or Yorkshire pudding with a roast dinner, apple sauce with pork or mint sauce with lamb or extra gravy or sauce to improve the moistness of a dish. Be aware that some people do not like sauces of any kind and plainer meals without sauce should also be offered.

Desserts

The nutritional value and eating enjoyment contributed by desserts on a menu is significant. Desserts that offer over 300kcal and 5g protein when served with either custard or ice cream are very important especially for those individuals who are nutritionally vulnerable. Menus should offer dessert choices that span the scope from healthier eating (such as fresh fruit, tinned fruit, custard, yogurt or ice-cream) to higher energy (such as fruit crumble, sponge with

chocolate or jam, trifle or crème caramel). Consideration should be given as to how ice cream and other frozen desserts will be stored pre-service and should only be offered if they can be guaranteed still frozen at the point of service.

Desserts that make little nutritional contribution such as jelly or sugar free jelly need to be considered within the context of the overall menu choice. They may have a use as part of some special diets but will contribute little to the calorie and protein intake of patients.

Alcohol as a Recipe Ingredient

Dietitians and caterers are aware that alcohol is evaporated during cooking processes. Alcohol is an ingredient which may enrich the flavour of a dish. However, when alcohol is used in recipes for health and care settings, there are some considerations.

To ensure that the needs of all people are met, it is good practice to always include the alcohol ingredient in the dish name, e.g. Steak and Ale pie, that way; there is no uncertainty about whether alcohol has been included as a dish ingredient. Some people, for example, those in liver disease treatment centres or maternity and paediatric and adolescent units or individuals whose religious or cultural beliefs prohibit alcohol, will appreciate such transparency and it enables hospitals which have alcohol-free policies to confidently plan menus that do not contain any alcohol.

Snacks

At least two snacks a day should be provided, either mid-morning or afternoon and one in the evening. A choice should be offered, suitable for a range of diets spanning from healthier eating to higher energy including modified texture, gluten free, renal and groups such as children. Minimum values for higher energy provision for two snacks a day are 300kcal and 4g protein in total. It is important to note that some snacks for those that are nutritionally well will contain a lot fewer calories than those that are recommended for individuals that are nutritionally vulnerable. This is particularly important for those who are eating normally and would benefit from a healthier eating choice. Snack selection should include choices for vegetarians, special diets and vegans. For example, healthier eating choices may include fruit, plain biscuits or plain sponge cake, whereas those for higher energy choices may include muffins, cakes, flapjacks, custard pots, fortified soup or cheese and crackers.

It is desirable to provide a range of snacks that meet a range of nutritional needs. Where snacks are not routinely provided, the menu will have to be the sole source of nutritional delivery.

24-hour Meal Provision

The concept of a 24-hour meal and snack service was introduced to the NHS by the Better Hospital Food programme in 2000. Hospitals typically offer snack bags or boxes containing chilled and ambient products with selections from individual wrapped items suited to their round-the-clock food and beverage service arrangements.

If they are a meal replacement, snack boxes should be capable of providing the same level of nutrition as a main meal i.e. a minimum of 15g protein and 500kcal. A range of specially designed snack boxes or complete meals should also be available to meet the more common dietary needs e.g. gluten free, renal and modified textures. These could be in the form of frozen microwavable meals and desserts. For nutritionally vulnerable people, the nutritional value of the 24-hour meal service solution should reflect their increased needs.

Snack boxes should be available to supplement intake of those patients with additional nutritional needs and offered in addition to the full menu, for example patients with cystic fibrosis have increased needs and may benefit from being able to access a 24-hour meal provision to meet their nutrition targets and suit a grazing style of eating.

Beverages

The HCA Good Practice Guide (HCA, 2013) recommends offering as a minimum seven beverages over the day. In addition to tea and coffee, squash, milk-based hot drinks and fresh water must also be readily available. These should include decaffeinated tea and coffee, sugar free squash options and consideration to the provision of fruit teas. Best practice would be indicated by hot and cold drinks being available at all times. The provision of beverage choice should reflect the needs of the population served.

400ml of milk as a minimum should be allowed for beverages. This excludes milk for breakfast where a minimum of 100ml should be allocated. Where patients are nutritionally vulnerable whole milk should be provided as standard. Children under the age of 2 years should not be given skimmed or semi skimmed milk. A milk alternative, fortified with calcium, should be supplied for vegan or patients with a cow's milk protein allergy or intolerance.

Analysing the Menu

Dietitians and others may want to seek assurance that as well as protein and calorie targets that specific nutrient targets are met; the targets for vitamin and mineral ranges for the well population can be found at https://www.gov.uk/government/publications/the-eatwell-guide [Last accessed 27.10.17]. Some nutrients to consider may include:

- **Vitamin A** - Good sources from cheese, margarine and vegetable sources of carotene can be converted to Vitamin A from carrot and other red or yellow vegetables
- **Folate** - Heat labile but widely found in green leafy vegetables essential for metabolism
- **Vitamin C** - Heat labile but widely found in green leafy vegetables, citrus fruits and juices
- **Vitamin D** - Vitamin D - manufactured through the action of sunlight on skin. Some foods contain small amounts of vitamin D such as oily fish, eggs, fortified breakfast cereals and margarines but generally requirements can not be met through food. More information can be found at http://www.nhs.uk/Conditions/vitamins-minerals/Pages/Vitamin-D.aspx [Last accessed 26.10.17]
- **Calcium** - Required for teeth, bones and normal cell functioning; good sources are milk, cheese and other dairy products
- **Iron** - Required for production of haemoglobin; good sources include red meats which have haem iron. Vegetable sources e.g. lentils and dark green leafy vegetables have the non-haem iron. The body absorbs haem iron more easily than non-haem iron
- **Zinc** - Important for healing and mainly found in meat.

Menu Assessment Checklist

It may be useful for teams to compile a checklist for assessing their local menu provision; this may vary depending on the needs of the people served. It makes good sense to continually receive user feedback and audit the service provided to enhance the next cycle of menu planning, checklists can reflect this It would also be useful to keep updated with national feedback CQC reports and PLACE data.

An example of a Qualitative Menu Assessment Checklist is given in Appendix 2.

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9

Nutritional Standards: Day Parts Approach

Standard menus should provide choice for nutritionally well and nutritionally vulnerable patients.

Hospital patients can be broadly categorised into the following two groups:

- 'Nutritionally well' - normal nutritional requirements and normal appetite or those with a condition requiring a diet that follows healthier eating principles
- 'Nutritionally vulnerable' - normal nutritional requirements but with poor appetite and/or unable to eat normal quantities at mealtimes; or with increased nutritional needs.

Standard menus should provide choice for patients from both the nutritionally well and nutritionally vulnerable groups.

Each standard menu should reflect current government public health messages tailored to the patient population; however, menu planners should be mindful that a diet promoting longer-term health may not be appropriate in times of acute illness. Dietitians are best placed to judge where the implementation of a healthier menu is a useful adjunct to patient treatment.

The balance of healthier and higher energy choices should reflect the needs of the patient population it will serve, for example taking into consideration clinical needs and length of stay of particular units. Identification of such needs is a clinical responsibility (see Chapter 2 for information on Nutritional Screening).

Nutritional Targets

The nationally recognised DRVs for energy (SACN, 2011) apply to a healthy population or those who are nutritionally well in an acute setting. BAPEN has suggested these DRVs need to be amended to meet the needs of the unwell, or nutritionally vulnerable, population in hospital (Allison, 1999). Following this rationale and the Eatwell Guide (Chapter 8) will ensure that micronutrients targets are achieved.

Table 9.1: Nutrient Standards for Adults

Nutrient (/day)	Nutritionally Well	Nutritionally Vulnerable	Provided
Energy (kcal)	1840 – 2772		Daily
Protein (g)	56*	66-83	Daily

*For females of the same age bracket the RNI is 45g.

Nutritionally Well

The energy target range for nutritionally well individuals is based on the Estimated Average Requirements (EARs) for energy from the DRVs for Energy for the United Kingdom (SACN, 2011) (Appendix 3). This target accounts for the lowest and highest energy requirements for adult men and women aged 19+ years, with the lowest target being women aged 75+ years at 1840kcal and the highest target being men aged 19-24 years at 2772kcal.

The protein targets for nutritionally well individuals are based on the Reference Nutrient Intake (RNI) for protein, using 0.75g/kg body weight/day for adults. A weight range of 60-75kg was used to calculate the targets (45-56g protein/day) (DH, 1991).

Nutritionally Vulnerable

BAPEN's recommendations by Allison (1999) suggests that energy requirements are 1.3 to 1.5 times resting energy expenditure. This equates to 30-35kcal/kg body weight/day (1800-2100kcal/day for a 60kg individual and 2250-2625kcal/day for a 75kg individual) (Allison, 1999). These BAPEN recommendations fall within the energy target range for nutritionally well patients (from SACN, 2011). It is recognised that there are certain groups of patients in hospital who may need higher energy targets (such as an elderly male patient) and menus should be designed in order to meet the upper end of the energy targets for nutritional well patients.

The protein target for nutritionally vulnerable individuals is based on the PENG recommendations (PENG, 2011). This recommends at least 1.1 g/kg body weight. This equates to a minimum target of 66 – 83g per day based on a 60-75kg individual.

Menu Capacity

Menus should be capable of providing the nutrient standards for both nutritionally well and nutritionally vulnerable adults.

There may be some people, such as those requiring reduce calorie diets, that may need less energy than that stated in Table 9.1.

It is likely that some patients will require a protein intake greater than 1.1g/kg/day (PENG, 2011), such as those in critical care or patients with liver condiitions.These patients will need at least three meals (breakfast, lunch, dinner) and two higher energy snacks but may need additional nutritional supplements.

Complete Mealtime Offer

Whilst the span of 'healthier' to 'higher energy' choices should provide from 1840-2772kcal a day, achieving this does not have to rely solely on the main course part of the meal. When assessing the capacity of a menu to provide this span of calories, the contribution of the starter and the dessert should always be considered. Thus, a complete meal that reaches a total of approximately 800kcal from all its components (starter + main course + dessert) provides for 'higher energy' needs and one that provides approximately 500kcal provides for a 'healthier' choice. Main courses alone should aim to be at least 300kcals (see example below for what constitutes as a main course).

For those patients who may be nutritionally vulnerable and for whom complete meal options may not be realistic (i.e. those patients recommended to follow 'little and often' advice), a grazing style menu should be encouraged. Items on the menu should allow patients to meet their protein and energy targets throughout the day. For information about salad, sandwich or snack box meals please refer to the relevant sections in Chapter 8.

Whether vegetarian or non-vegetarian, a complete meal must provide adequate energy and protein to meet the nutrient standards for the population it is designed to meet. This includes any starter, main course and dessert that are on the menu at lunch and dinner.

Example

Starters
Such as soup or fruit juice

Main Meals
This could include:
Main menu 'offer' or (composite meal +/- side dish) OR
Entrée + starch + vegetable (s) +/- sauce/gravy OR
Protein + green salad +/- side dish + starch OR
Sandwich +/- side dish

Desserts
Any hot or cold dessert with accompaniment if appropriate such as custard or ice-cream

Energy

Menus should demonstrate that an average complete meal (starter + main + dessert) comes to approximately 500kcal, whilst recognising practicalities and exceptions for the menu capacity to be outside this.

Meals may be less than 500kcal and this is acceptable due to the nature of a multi-choice menu covering a broad range of meal types, dietary eventualities and choices to cover personal tastes and the inherent nature of food. Therefore, on a multi-choice menu, patients will usually be able to select a lower energy combination of foods than may be desirable. It is expected however, with guidance, that patients are encouraged to enhance these meals with higher calorie elements and side orders in order to meet the minimum 500 kcals target.

Therefore, considering minimum and maximum values is part of the menu capacity analysis and is considered the 'gold standard'.

Protein

The minimum protein content for any main meal i.e. a starter, dessert and a main course that is based on meat, fish, eggs, cheese, pulses or other vegetarian ingredient, must reach 15g. On a menu where some desserts such as fruit or jelly may contribute negligible protein, the 15g minimum protein level will therefore need to be provided by the starter and main course.

In hot meal services, the judicious use of accompaniments such as dumplings and Yorkshire puddings, vegetables such as peas and sweetcorn and /or suitable sauces e.g. parsley or cheese sauce may be required to balance the protein element of the meal.

Dietitians must exercise judgment about the menu capacity for nutritionally vulnerable people to ensure that suitable higher energy and protein choices are available to provide targets of at least 25g protein and 800kcal for a complete meal.

Several items that regularly feature on menus such as ready prepared dishes (e.g. sausage rolls, fishcakes, pastries) and pulse-based vegetarian/vegan meals generally have a lower protein content per serving. It is recommended that suitable high protein accompaniments such as mushy peas, peas, sweetcorn or baked beans are available on the menu. This ensures the capacity of the menu still offers adequate protein. Vegan diets are further considered under the Standard, Special and Therapeutic Diets section Chapter 11.

Table 9.2: Nutrient Targets for Practical Menu Planning

Complete Meal Targets (Starter + Main + Dessert) for midday and evening meals	Nutritionally Well	Nutritionally Vulnerable
Energy (kcal)	500	800
Protein (g)	15	25

'Day Parts' Model

The 'Day Parts' model divides the day in to meal parts. It allows flexibility to divide the eating events of the day as appropriate for the individuals for whom the menu is being assessed, e.g. having small frequent meals throughout the day or the inclusion of a cooked breakfast.

To enable the planning of balanced patient menus for the general hospital population, the Digest uses a structure that reflects the contribution of protein and calories across all eating events of the day to provide an adequate overall intake for the whole day: Day Parts.

Day Parts uses the DRV RNI for protein as a reference point and the span of 1840-2772 kilocalories in order to cover the majority of the nutritional requirements for the general adult population. The day parts approach is similar to the method used in nutritional standards in other sectors e.g. schools (Caroline Walker Trust, 2005). Individual needs should be assessed and addressed on an individual basis and are the responsibility of all involved in the care of individuals.

Using the Day Parts model, the combination of choices at both of the day's complete meals should have the capacity to contribute adequate energy and protein for the population they are designed to meet (i.e. both midday and evening meal). Protein is an important proxy for other important vitamins and minerals. As long as a suitable combination for meeting both protein and kilocalories can be identified, the menu is likely to be satisfactory.

Please note the figures in table 9.3 are calculated from DRVs. For practical day to day use, please see table 9.2 which includes rounded figures for applying to patient menus.

Table 9.3: Example of Menu Day Parts Model for Food and Beverages in Care Settings

Day Parts	% age of daily nutrition (approx.)	Nutritionally Well		Nutritionally Vulnerable	
		Energy (kcal)	Protein (g)	Energy (kcal)	Protein
Breakfast **Nutritionally Well** • Fruit juice • Cereal and milk • 1 x bread • Preserve portion • Butter or fat spread portion **Nutritionally Vulnerable** e.g. as above + extra slice of bread, spread and preserve or cooked breakfast items or pastries or use of enriched milk for cereals and milk based drinks		400	10	545	16
Snacks Minimum of two daily recommended **Nutritionally Well** Healthier **Nutritionally Vulnerable** Higher energy		150	2	300	4
Milk for beverages 400ml minimum **Nutritionally Well** Semi skimmed milk **Nutritionally Vulnerable** Whole milk		184	14	264	13
Total (Fixed)	**40%**	**734**	**26**	**1109**	**33**
Midday Meal • Starter • Main Meal (Entree + starch + vegetable (s) + sauce/gravy OR sandwich OR main salad) • Dessert **Nutritionally Well** **Nutritionally Vulnerable**					
Total	**30%**	**552**	**15**	**831**	**25**
Evening Meal • Starter • Main Meal (Entree + starch + vegetable (s) + sauce/gravy OR sandwich OR main salad) • Dessert **Nutritionally Well** **Nutritionally Vulnerable**					
Total (for evening meal)	**30%**	**552**	**15**	**831**	**25**
Total Variable (for main meals)	**60%**	**1104**	**30**	**1662**	**50**
Total (40% Fixed + 60% Variable)	**100%**	**1840**	**56***	**2772**	**83**
Targets (from Table 9.1)		**1840**	**56**	**2772**	**66-83**

This table indicates how a multi-choice menu can meet the targets from Table 9.1. Within this range, the BAPEN recommendations for nutritionally vulnerable can also be met. *please note the higher RNI for protein has been used in this table.

The Day Parts model should be applied to ensure the nutritional needs of the local population can be met through the whole menu. For example, if a lighter breakfast is routinely served, snacks and main meals should be adjusted accordingly. A maximum/minimum menu capacity calculation for both an à la carte and a cyclical menu is shown in Chapter 10.

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Further reading

BAPEN (2004) Summary of Hospital Food as Treatment. http://www.bapen.org.uk/resources-and-education/education-and-guidance/clinical-guidance/hospital-food-as-treatment?showall= [Last accessed: 06.03.17]

10

Analysing Menu Capacity

The process of menu analysis requires an understanding of menu design, structure, planning and content. It is not all about number crunching; both qualitative and quantitative aspects of menus are equally important.

This section illustrates two worked examples based on multi choice standard menus to meet the individuals' needs covering the nutritionally well and the nutritionally vulnerable. Both examples illustrate how the minimum/maximum method of menu analysis is used to achieve this.

Tables 10.1, 10.2 & 10.3 depict a sample day from a 2-week cycle menu.
Tables 10.4, 10.5 & 10.6 depict a sample à la carte menu.

Dietitians can apply the method used in these examples to evaluate the range and capacity of their menus.

Menu capacity analysis reports for NHS healthcare settings following the suggested methodology provide satisfactory evidence of compliance to meet Hospital Food Standards Panel Recommendations (DH, 2014). The report depicts that the menu should be capable of delivering the day parts standards for major nutrient markers i.e. energy and protein. It is recommended to carry out analysis at each substantial menu change.

Methodology

1. A minimum choice for the nutritionally well may be calculated in the following way:

- Breakfast: Select the appropriate energy and protein from Table 9.3 and insert under breakfast
- Snacks and beverages: Select the appropriate energy and protein from Table 9.3
- Lunch and supper: Assign the energy (kcal) and protein for lunch and supper for each item along with their dietary coding. This data will either be available from the food supplier or calculated in-house on a software analysis package based on food composition tables.

2. Study the whole day menu and pick the appropriate minimum choice (i.e. providing the lowest energy) for lunch depending on menu structure and specifications.

3. In table 10.1, a starter + main meal (entrée, starch, vegetables) + cold dessert / fruit at lunch and a hot main meal (entrée, starch, vegetables) + cold dessert has been chosen as the possible lowest kcal choices replicating a possible realistic choice (see Table 10.2).

4. **A maximum choice covering the nutritionally vulnerable may be calculated in the following way:**

- Breakfast: Select the appropriate energy and protein from Table 9.3 and insert under breakfast
- Snacks and Beverages: Select the appropriate energy and protein from Table 9.3
- Lunch and Supper: Study the menu and pick the appropriate maximum choice (i.e. providing the highest energy) for lunch and supper depending on menu structure and specifications

5. **Analysing 3 random days and including one weekend day of the cycle would give a good indication of the figures. Including a Saturday or Sunday ensures consistency of meeting nutritional capacity over the entire week. Cold choice items such as salads and sandwiches can skew the results so it is recommended to analyse them separately to identify the capacity of cold options. The nutrient standards for cold meal option remain the same. The worked examples illustrate the day parts approach. They can be adjusted to suit different circumstances.**

6. **When analysing menus for a healthcare setting it may be beneficial to analyse 3 lowest and 3 highest meal choices for minimum/maximum examples to give a more realistic span replicating the average length of stay in an acute care setting.**

7. **It is also important to remember that menu capacity figures are based on 100% consumption and food intake records are a more appropriate method to measure the actual food intake of the patient (Bingham, 1987).**

The following worked examples show how this process of menu capacity analysis can be applied to a cycle and à la carte menus. The choices shown provide the highest possible kcal combination illustrating one possible realistic choice. Table 10.2 shows a worked example of a day to demonstrate menu capacity for energy and protein from a cook chill production cycle menu (menu A).

Diet Symbols
Higher Energy **E** Healthier ♥ Vegetarian **V** Easy to chew ★

Data source:
* In house items + cold items /drinks calculated by Wisp nutritional analysis software v4 based on McCance & Widdowson 7th Edition
** Anglia Crown Nutrition & Diet Code Documents
*** Third party food supplier data

Table 10.1: Nutritional Breakdown Cycle Menu A

Menu structure	Menu items	Portion size	Energy (kcal) / portion	Protein (g)	E ♥ V ★
Breakfast					
	Breakfast for Nutritionally Well (Table 9.3)		400	10	♥ V
	Breakfast for Nutritionally Vulnerable (Table 9.3)		545	16	E V
Lunch					
Starter	Fruit juice*	85ml	40	0.4	♥ V ★
	Creamy Tomato soup**	130g	111	3	E V ★
	Vegetable Soup**	130g	96	3	V
	Bread Roll White*	45g	114	4	E V
	Butter Portion*	7g	52	0	E
Main meat	Chilli Con Carne**	170g	199	15	♥
Main vegetarian	Vegetable Crumble**	200g	452	15	E V
Sandwiches	Egg Mayo sandwich (white) *	170g	450	15	E V ★
	Chicken Salad Sandwich ***(wholemeal) *	175g	330	23	♥
Gravy	Gravy **	100ml	29	1	♥ ★
Carbohydrate	Boiled Rice **	100g	144	3	♥ V ★
	Mashed Potato **	120g	108	2	V ★
Vegetables	Broccoli**	110g	48	4	♥ V ★
	Sweetcorn**	110g	96	3	E ♥ V
Cold desserts	Fruit Cake **	100g	342	5	E V
Ice cream	Ice Cream***	80ml	78	1.3	♥ V ★
Yoghurt	Low fat yoghurt***	100g	89	5	♥ V ★
Fresh seasonal fruit	Fresh Fruit - Banana	100g	95	1	♥ V ★
Cheese & biscuits	Crackers (12g) + butter portion (7g) + cheese* portion (20g)	41g	198	6	V
Supper					
Main meat 1	Macaroni & Smoked Haddock & Herbs**	170g	264	12	★
Main meat 2	Sausage Hotpot**	200g	310	14	E
Main vegetarian	Chunky Vegetable Casserole with dumpling**	230g	263	11	♥ V
Main salad 1	Turkey salad (protein+ coleslaw+ fresh salad)*	225g	236	20	♥
Main salad 2	Vegetarian quiche salad (quiche+ coleslaw+ fresh salad)*	405g	434	10	E V
Carbohydrates	Mashed Potato **	120g	108	2	V ★
	Jacket Wedges **	90g	137	3	E V
Vegetables	Garden Peas**	110g	89	5	E ♥ V
	Sliced Carrots**	110g	55	0.5	♥ V ★
	Side Salad*	80g	13	0	♥ V
Gravy	Gravy **	100ml	29	1	♥ ★
Hot dessert	Chocolate Sponge	90g	290	3	E V ★
Custard	Custard**	110g	85	1	E V ★
Hot pudding	Rice pudding**	160g	167	3	♥ V ★
Yoghurt	Full fat yoghurt**	110g	115	5	V ★
Cold dessert	Fruit mousse*	100g	108	2	★
Fruit in natural juice	Fruit in natural juice*	113g	55	0	♥ V
Other menu day parts					
2 snacks	Snacks for nutritionally well	Varies	150	2	♥
	Snacks for nutritionally vulnerable	Varies	300	4	E
7 Beverages					
(semi-skimmed)	400ml milk for drinks including evening milky drink	400ml	184	14	V
7 Beverages					
(full fat)	400ml milk for drinks including evening milky drink	400ml	264	13	E V

Table 10.2: Worked Example from Cycle Menu A

	Daily Minimum Nutrition Choice in Table 10.1	Total energy (kcal)	Total protein (g)	% of daily energy based on menu day parts#
Fixed	Nutritionally Well Breakfast	**400**	**10**	
	Snacks	**150**	**2**	
	Beverages	**184**	**14**	
	Fixed Total	**734**	**26**	**40%**
Daily Variable	**Lunch**			
	Starter (Fruit Juice)	**40**	**0.4**	**29%**
	Main Entree (Chilli Con Carne) + Starch (Boiled Rice) Vegetables (Broccoli)	**391**	**22**	
	Dessert: Fresh Banana	**95**	**1**	
Daily Variable	**Supper**			
	Main Entree (Macaroni & Smoked Haddock & Herbs) + Starch (Mashed Potato) + Vegetables (Sliced Carrots)	**427**	**14.5**	**31%**
	Gravy and Condiments	**29**	**1**	
	Dessert: (Fruit Mousse)	**108**	**2**	
	Total Minimum Choice For The Day 3 Meals + Snacks + Beverages	**1824**	**67**	**100 %**

	Daily Maximum Nutrition Choice in Table 10.1			
Fixed	Nutritionally Vulnerable Breakfast	**545**	**16**	
	Snacks	**300**	**4**	
	Beverages	**264**	**13**	
	Fixed Total	**1109**	**33**	**33%**
Daily Variable	**Lunch**			
	Starter (Tomato Soup + Bread Roll + Butter Portion)	**277**	**7**	**39%**
	Main Entree (Vegetable Crumble) + Starch (Mashed Potato) + Vegetables (Sweetcorn)	**656**	**20**	
	Gravy and Condiments	**29**	**1**	
	Dessert: (Fruit Cake)	**342**	**5**	
Daily Variable	**Supper**			
	Main Entree (Sausage Hotpot) + Starch (Mashed Potato) + Vegetables (Peas)	**536**	**22**	**28%**
	Gravy and Condiments	**29**	**1**	
	Dessert: Chocolate Sponge with Custard	**375**	**4**	
	Total maximum choice for the day 3 meals + snacks + beverages	**3353**	**93**	**100 %**
	Daily Average Nutrition Menu Capacity	**2588**	**80**	

calculated using the energy values in the worked example

Table 10.3: Worked Example from Cycle Menu A - (Lighter and Vegetarian Choices)

	Daily Lighter Choice in Table 10.1	Total Energy (kcal)	Total Protein (g)	% of daily energy based on menu day parts#
Fixed	Nutritionally Well Breakfast	**400**	**10**	
	Snacks	**150**	**2**	
	Beverages	**184**	**14**	
	Fixed Total	**734**	**26**	**40%**
Daily Variable	**Lunch**			
	Starter: Vegetable Soup	**96**	**3**	**34 %**
	Main Meal: Chicken Salad Sandwich Wholemeal	**330**	**23**	
	Dessert: Cheese and Biscuits	**198**	**6**	
Daily Variable	**Supper**			
	Starter			**26%**
	Main Meal: Vegetarian Quiche Salad with Coleslaw and Side Salad	**434**	**10**	
	Dessert: Fruit in Natural Juice	**55**	**0**	
	Total Lighter Choice for The Day	**1847**	**68**	**100 %**

	Daily Vegetarian Choice in Table 10.1			
Fixed	Nutritionally Well Breakfast	**400**	**10**	
	Snacks	**150**	**2**	
	Beverages	**184**	**14**	
	Fixed Total	**734**	**26**	**29%**
Daily Variable	**Lunch**			
	Starter (Tomato Soup + Bread Roll + Butter Portion)	**277**	**7**	**40 %**
	Main Entree (Vegetable Crumble) + Starch (Mashed Potato) + Vegetables (Sweetcorn)	**656**	**20**	
	Dessert: Fresh Fruit - Banana	**95**	**1**	
Daily Variable	**Supper**			
	Starter			**31%**
	Main Entree (Chunky Vegetable Casserole with Dumplings) + Starch (Mashed Potato) + Vegetables (Sliced Carrots)	**426**	**14**	
	Dessert: Chocolate Sponge with Custard	**375**	**4**	
	Total Vegetarian Choice for The Day 3 Meals + Snacks + Beverages	**2563**	**72**	**100%**

calculated using the energy values in the worked example

Table 10.4: Nutritional Breakdown À La Carte Menu B

Menu structure	Menu Items	Portion Size	Energy (kcal)	Protein (g)	E ♥ V ★
	Breakfast for Nutritionally Well (Table 9.2)		400	10	♥
	Breakfast for Nutritionally Vulnerable (Table 9.2)		545	16	E
Starter	Fruit juice*	85ml	40	0.4	♥ V ★
Soup	Leek & Potato Soup **	120g	107	3	E V
Soup	Minestrone Soup **	120g	60	1.5	♥ V
Bread roll	Bread Roll White*	45g	114	4	E V
	Butter Portion*	7g	52	0	E V
Meat 1	Roast Beef with roast potatoes, carrots sprouts and gravy**	360g	309	22	♥
Meat 2	Chilli Con Carne with white rice, sweetcorn & peas**	350g	434	20	
Meat 3	Lamb Casserole with mashed potatoes, peas, swede & carrots**	390g	507	24	E
Meat 4	Shepherd's Pie with carrots and peas **	410g	361	18	
Meat 5	Pork Meatballs & penne pasta in herb tomato **	380g	485	21	E ★
Meat 6	All day breakfast with potatoes & baked beans **	354g	563	31	E
Meat 7	Sweet & Sour Chicken with white rice, red peppers and peas**	370g	389	25	♥
Meat 8	Chicken Curry served with yellow rice, red peppers and peas**	405g	520	23	E
Fish 9	Fish Mornay with parsley potatoes, carrots and broccoli**	405g	437	26	★
Fish 10	Battered Fish with fried diced potato and minted mushy peas**	325g	450	18	
Fish - oily 11	Salmon Provençal parsley potatoes, carrots & Romano beans**	365g	326	22	♥
Vegetarian 12	Cheese & Tomato Omelette, diced potato & mixed vegetables**	375g	525	21	E V
Vegetarian 13	Vegetable Curry with yellow rice and an onion bhaji**	360g	515	15	E V
Vegetarian 14	Butternut Squash & butterbean stew, rosemary roast potato & peas**	425g	382	15	♥ V
Vegetarian 15	Macaroni Cheese with broccoli, peas, carrots and sweetcorn**	330g	489	21	E V
Vegetarian 16	Spicy Bean Casserole - potato wedges, peas, sweetcorn and broccoli **	435g	402	14	♥ V
Sandwich 1	Beef Salad Sandwich ***	176g	312	18	Average 390 kcal 17g protein
Sandwich 2	Chicken Mayo Sandwich***	150g	419	22	
Sandwich 3	Turkey Sandwich ***	180g	296	16	
Sandwich 4	Cheese & Tomato Sandwich ***	180g	473	15	
Sandwich 5	Egg Mayo Sandwich *	170g	450	15	

Table 10.4: Nutritional Breakdown À La Carte Menu B continued

Menu structure	Menu Items	Portion Size	Energy (kcal)	Protein (g)	E ♥ V ★
Salad 1	Ham Salad (protein + coleslaw + fresh salad) *	240g	307	20	Average 331kcal, 17g protein
Salad 2	Tuna Salad (protein + rice salad + fresh salad) *	245g	213	18	
Salad 3	Vegetarian Quiche Salad (quiche + coleslaw + fresh salad) *	405g	434	10	
Salad 4	Cheddar Cheese Salad (protein + potato + fresh salad) *	230g	462	17	
Salad 5	Chicken Salad + (protein + pasta + fresh salad) *	245g	239	21	
Gravy	Gravy **	100ml	29	1	♥ ★
Hot dessert 1	Jam Sponge**	145g	314	1.7	E V ★
Hot dessert 2	Bread & Butter Pudding **	155g	257	3.6	E V
Hot dessert 3	Blackcurrant Pie	150g	274	2.9	E V
Hot dessert 4	Sticky Toffee Pudding **	160g	355	2.9	E V
Hot dessert 5	Lemon Sponge**	130g	230	2.1	E V ★
Hot dessert 6	Bakewell Tart**	142g	354	2.7	E V
Hot dessert 7	Plum & Cherry Crumble**	169g	369	3	E V
Custard	Custard *	110g	83	2	♥ V ★
Cold dessert 1	Rice Pudding **	160g	188	5	♥ V ★
Cold dessert 2	Plain Jelly *	160g	60	2	♥ ★
Yoghurt	Low Fat Yoghurt***	100g	89	5	♥ V ★
Fresh fruit	Selection of fruit (banana) *	110g	95	1	♥ V ★
Fruit in natural juice	Fruit in natural juice* Selection of Pears, Fruit Cocktail, Peaches and Pineapple in natural juice *	113g	55	0	♥ V
Cheese & biscuits	Crackers (12g) + butter portion (7g) + cheese portion (20g) *	41g	198	6	V
2 snacks	Snacks for Nutritionally Well	Varies	150	2	♥
	Snacks for nutritionally Vulnerable	Varies	300	4	E
7 Beverages (semi-skim)	400ml milk for drinks including evening milky drink	400ml	184	13	V
7 Beverages (full fat)	400ml milk for drinks including evening milky drink	400ml	264	14	E V

Diet Symbols

Higher Energy **E** Healthier ♥ Vegetarian **V** Easy to chew ★

Data Source:

* In house items + cold items /drinks calculated by Wisp nutritional analysis software v4 based on McCance & Widdowson 7th Edition

** Apetito Nutridata online Accessed May 2017

*** Third party food supplier data

Table 10.5: Worked Example from À La Carte Menu B

	Daily Minimum Nutrition Choice in Table 10.4 In Table B	Total Energy (kcal)	Total Protein (g)	% of Daily Energy Based on Menu Day Parts#
Fixed	**Nutritionally Well Breakfast**	**400**	**10**	
	Snacks	**150**	**2**	
	Beverages	**184**	**14**	
	Fixed Total	**734**	**26**	**40%**
Daily Variable	**Lunch**			
	Starter (Fruit Juice)	**40**	**0.4**	**26%**
	Complete Meal (Roast Beef with Roast Potatoes, Carrots Sprouts and Gravy)	**309**	**22**	
	Gravy and Condiments	**29**	**1**	
	Dessert: Fresh Fruit (Banana)	**95**	**1**	
Daily Variable	**Supper**			
	Starter (Minestrone Soup + Roll)	**174**	**5.5**	**34%**
	Complete Meal (Salmon Provençale with Parsley Potatoes, Carrots and Romano Beans**)	**326**	**22**	
	Gravy and Condiments	**29**	**1**	
	Dessert: (Low Fat Yoghurt)	**89**	**5**	
	Total Minimum Choice for the Day 3 Meals + Snacks + Beverages	**1825**	**84**	**100%**

	Daily Maximum Nutrition Choice in Table 10.4 Menu B	Total Energy (kcal)	Total Protein (g)	
Fixed	**Nutritionally Vulnerable Breakfast**	**545**	**16**	
	Snacks	**300**	**4**	
	Beverages	**264**	**13**	
	Fixed Total	**1109**	**33**	**31%**
Daily Variable	**Lunch**			
	Starter (Leek & Potato Soup + Bread Roll + Butter)	**273**	**7**	**36%**
	Complete Meal (All Day Breakfast with Potatoes and Baked Beans)	**563**	**31**	
	Gravy and Condiments	**29**	**1**	
	Dessert: Sticky Toffee Pudding with Custard	**438**	**5**	
Daily Variable	**Supper**			
	Starter (Minestrone Soup + Roll + Butter)	**226**	**4.5**	**33%**
	Complete Meal (Chicken Curry Served with Yellow Rice, Red Peppers and Peas)	**520**	**23**	
	Dessert: (Plum and Cherry Crumble with Custard)	**452**	**5**	
	Total Maximum Choice for The Day 3 Meals + Snacks + Beverages	**3610**	**110**	**100%**
	Daily Average Nutrition Menu Capacity	**2718**	**97**	

calculated using the energy values in the worked example

Table 10.6 : Worked Example from À La Carte Menu B (Lighter and Vegetarian Choices)

	Daily Lighter Choice in Table 10.4	Total Energy (kcal)	Total Protein (g)	% of daily energy based on menu day parts#
Fixed	Nutritionally Well Breakfast	**400**	**10**	
	Snacks	**150**	**2**	
	Beverages	**184**	**14**	
	Fixed Total	**734**	**26**	**40%**
Daily Variable	**Lunch**			
	Starter (Fruit Juice)	**40**	**0.4**	**28%**
	Lighter Option (Average Value Figure for Sandwiches)	**390**	**17**	
	Gravy and Condiments			
	Dessert: Low Fat Yoghurt	**89**	**5**	
Daily Variable	**Supper**			
	Starter (Minestrone Soup + Roll)	**174**	**4.5**	**32%**
	Salad (Average Value Figure for Salad Choices)	**331**	**17**	
	Dessert: Fresh Fruit (Banana)	**95**	**1**	
	Total Lighter Choice for The Day 3 Meals + Snacks + Beverages	**1853**	**71**	**100%**

	Daily Vegetarian Choice in Table 10.4	Total Energy (kcal)	Total Protein (g)	% of daily energy based on menu day parts
Fixed	Nutritionally Well Breakfast	**400**	**10**	
	Snacks	**150**	**2**	
	Beverages	**184**	**14**	
	Fixed Total	**734**	**26**	**29%**
Daily Variable	**Lunch**			
	Starter (Fruit Juice)	**40**	**0.4**	**21%**
	Complete Vegetarian Meal Lowest Calorie: Butternut Squash and Butterbean Stew with Rosemary Roast Potato and Peas**	**382**	**15**	
	Dessert: (Low Fat Yoghurt)	**89**	**5**	
Daily Variable	**Supper**			
	Starter (Leek & Potato Soup +Bread Roll + Butter)	**273**	**7**	**50%**
	Complete Vegetarian Meal Highest Calorie (Cheese & Tomato Omelette with Diced Potato and Mixed Vegetables)	**525**	**21**	
	Dessert: (Plum and Cherry Crumble with Custard)	**452**	**5**	
	Total Vegetarian Choice for the Day 3 Meals + Snacks + Beverages	**2495**	**79**	**100%**

calculated using the energy values in the worked example

- Table 10.2 (cycle) and 10.5 (à la carte) menus show a sample average calculation of various combinations achievable through menu analysis depicting the capacity of both types of menus adopting the day parts approach. It shows that it meets the nutrient targets target per day spanning from 1840-2722 kcal and 56-83g protein.

The sample calculation shown in Tables 10.2 and 10.5 demonstrates minimum/maximum choices possible illustrating the values for the extremes of the menu. The remainder of the menu choices are based on the assumption that the values of kcal and protein would lie between these two extremes replicating potential choices.

While choosing healthier options like roast meats and fresh fruit will inevitably decrease the calorie or protein capacity of the menu, it may replicate the choice of a nutritionally well person who is on a healthier meal plan.

Useful Documentation

The following documentary evidence can be used to demonstrate compliance with standards, service agreements and local/national targets:

- Copies of written menu cycle for standard and à la carte menus in a healthcare setting. Provide evidence that the menu structure is capable of meeting the span of peoples' diverse needs.
- The Menu Checklist (See Appendix 2) may provide documentary evidence that the menu has been assessed for micronutrients.
- The menu analysis figures provide evidence that the menu is nutritionally balanced and able to meet the needs of service users.
- It is also recommended that special and therapeutic menus i.e. texture modified menus, paediatrics, finger foods and allergy menus undergo menu capacity exercise to ensure energy and protein needs are met satisfactorily across the spectrum of menus. Micronutrient capacity is covered by the Menu Checklist (Appendix 2) but sometimes long stay mental health units may require an enhanced analysis and this can be carried out under local variation contract agreement between the food service provider and NHS.

References

Bingham, S. (1987) The dietary assessment of individuals; methods, accuracy, new techniques and recommendations. Nutrition Abstract Reviews; 57:705-742

Department of Health (2014) The Hospital Food Standards Panel's Report on Standards for Food and Drink in NHS hospitals. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/523049/Hospital_Food_Panel_May_2016.pdf [Last accessed: 17.08.17]

Further reading

Biro, G., Hulshof, K., Ovesen, L., and Amorim Cruz, J. (EF-COSUM group) (2002) Selection of methodology to assess food intake. European Journal of Clinical Nutrition; 56: S25-S32

11

Diets, Patient Groups and Menu Coding

All special diets should be based upon the normal requirements of the individual... If one food substance must be restricted, the diet must in all other respects be adequate.

Rose Simmonds, Handbook of Diets (1937)

Food and Beverage Dietary Descriptors

Teams should work together to devise a standard menu to meet the nutritional needs of the majority of the population. Other menus for complementary diets and for specific patient groups can usually be met by an à la carte menu or a cyclical menu and should be available where possible.

Hospital food should support the health of all patients. Eating for health should form the basis of the standard menu. Hospital menus should have the capacity to meet the needs of both the nutritionally well and nutritionally vulnerable (sufficient food in sufficient amounts, Health and Social Care Act 2008 (Regulated Activities) Regulations 2014).

Table 11.1: Food and Beverage Dietary Descriptors

	Type of Diet	Description
1.	Standard Diets	Meet the nutritional needs of the majority of the population spanning nutritionally vulnerable to nutritionally well
2.	Religious, Cultural, Personal and Lifestyle Considerations	Cultural or religious including vegan and meeting reasonable personal preferences
3.	Therapeutic Diets	Modifications as a prescribed part of the treatment of a medical condition e.g. renal, liver, texture modified, neutropenic
4.	Specific Patient Groups	Nutritional requirements will vary from the standards specified e.g. children, mental health, dementia
5.	Test or Investigation Diets	Temporary diets

Dietary Coding Guidance

Dietary coding provides information for patients, carers and staff to enable them to make an informed choice whilst in hospital. The purpose is to highlight dishes that are suitable for patients' specific requirements.

Patients requiring more specialist therapeutic diets should be catered for via a specialist à la carte menu so as not to limit choice for the majority of other patients.

The four key diets that should be identified on standard inpatient menus are:

- Healthier Eating
- Higher Energy
- Easy to Chew
- Vegetarian

1. Standard Diets

The following diets should be met by the standard menu.

Healthier Eating

Diet	Healthier Eating
Menu Diet Code	H or ♥
Recommended Menu Type	Standard
Patient Groups Suitability	General population Type 1 or Type 2 Diabetes Dyslipidaemias and cardiovascular risk Weight management Hypertension
Rationale for Diet	To maintain good general nutrition and meet DRVs To support public health messages on eating to protect and promote health and wellbeing To support the clinical management of patients with the above medical conditions
Nutritional Criteria for Diet Coding	Main Meals The following criteria is recommended as best practice.
	Table 11.2: Healthier Eating Main Meal Breakdown (Maximum figures shown)

	Fat (g)	Saturated Fat (g)	Sugars (g)	Salt (g)
Starters	5.3	1.7	n/a	0.3
Main course	16	5	n/a	1.5
Desserts	5.3	1.7	18	n/a
TOTAL	26.6	8.4	18	1.8

Table 11.3: Healthier Eating Main Course Breakdown (Maximum figures shown)

	Fat (g)	Saturated Fat (g)	Sugars (g)	Salt (g)
Entree	16	5	n/a	1.5
Starch	no added	n/a	n/a	no added
Veg	no added	n/a	n/a	no added

	Breakfast – Please refer to the Nutritionally Well Breakfast section of chapter 8 for more information. Snacks – Please refer to the Snacks section of chapter 8 for more information.
References	The Nutrition and Hydration Digest (BDA, 2012) Food in Hospitals (NHS Scotland, 2016) http://www.hfs.scot.nhs.uk/publications/1479818118-Food%2520in%2520Hospitals%2520-%2520revised%2520March%25202016.pdf [Last accessed 10.06.19] The Eatwell Guide (PHE, 2016) https://www.gov.uk/government/publications/the-eatwell-guide Healthier and Sustainable Catering: Nutrition Principles (PHE, 2017) https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/648744/healthier_and_more_sustainable_nutrition_principles.pdf [Last accessed 10.06.19] http://www.nhs.uk/Livewell/Goodfood/Pages/reference-intakes-RI-guideline-daily-amounts-GDA.aspx [Last accessed 10.06.19]
Further Reading	Healthier and Sustainable Catering: Nutrition Principles (PHE, 2017) https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/648744/healthier_and_more_sustainable_nutrition_principles.pdf [Last accessed 10.06.19]
Source	Food Services Specialist Group (FSSG)

The total figures for fat, saturated fat, and salt in Table 11.2 are based on the recommended daily proportions per main meal from the Healthier and Sustainable Catering: Nutrition Principles. The nutrient breakdowns of these in Tables 11.2 and 11.3 are based on dietetic judgements. The sugar value is based on an appropriate proportion of the reference intake.

Higher Energy

<table>
<tr><th>Diet</th><th>Higher Energy</th></tr>
<tr><td>Recommended Menu Diet Code</td><td>E or ↑</td></tr>
<tr><td>Recommended Menu Type</td><td>Standard</td></tr>
<tr><td>Patient Groups Suitability</td><td>Patients with a small or poor appetite
Patients with increased energy (and protein) requirements (including major trauma such as head injury, burns or cancer and undernourished)
These patients can make up to a third of hospital admissions (BAPEN, 2016).</td></tr>
<tr><td>Rationale for Diet</td><td>To improve general nutrition and meet or exceed DRVs
To promote energy intake in those patients with small appetites
To provide a high intake of protein, vitamins, minerals and other essential nutrients
To provide a diet which can meet increased nutritional requirements in modest portion sizes and presentations which are appealing and easy to eat</td></tr>
<tr><td>Nutritional Criteria for Diet Coding</td><td>Main Meals
The following criteria is recommended as best practice.
Aim for 800kcals per mealtime (lunch and evening meal) to ensure the day part energy figures are met for nutritionally vulnerable patients

Table 11.4: Higher Energy Suggested Coding Criteria:
<table>
<tr><th>Meal type</th><th>Energy (kcal/portion)</th></tr>
<tr><td>Soup</td><td>>100</td></tr>
<tr><td>Main course</td><td>>450</td></tr>
<tr><td>Dessert</td><td>>250</td></tr>
<tr><td>Total</td><td>800</td></tr>
</table>
Or Table 11.5: Higher Energy Suggested Coding Criteria:
<table>
<tr><th>Meal type</th><th>Energy (kcal/portion)</th></tr>
<tr><td>Main course</td><td>>500</td></tr>
<tr><td>Dessert</td><td>>300</td></tr>
<tr><td>Total</td><td>800</td></tr>
</table>
Breakfast – Please refer to the Nutritionally Vulnerable Breakfast section of chapter 8 for more information.
Snacks – Please refer to the Snacks section of chapter 8 for more information.</td></tr>
<tr><td>References</td><td>The Nutrition and Hydration Digest (BDA, 2012)

Scottish Government (2016) FOOD IN HOSPITALS. National Catering and Nutrition Specification for Food and Fluid. Provision in Hospitals in Scotland. Revised March 2016 http://www.hfs.scot.nhs.uk/publications/1479818118-Food%2520in%2520Hospitals%2520-%2520revised%2520March%25202016.pdf [Last accessed: 10.06.19]

BAPEN (2016)
http://www.bapen.org.uk/screening-and-must/must/must-toolkit/the-must-itself [Last accessed: 10.06.19]</td></tr>
<tr><td>Source</td><td>Food Services Specialist Group (FSSG)</td></tr>
</table>

Easy to Chew

Diet	Easy to Chew
Recommended Menu Diet Code	A star ★ or 7 EASY TO CHEW (Some hospitals may wish to use **EC** to support the transition from the extinct 'soft' terminology to get people used to using "Easy to Chew".)
Recommended Menu Type	Standard
Patient Groups Suitability	This menu code (L7EC) can be used to signpost your patients towards meals that are easy to chew within a regular texture (International Dysphagia Diet Standardisation Initiative (IDDSI) level 7) i.e. normal, everyday foods of soft/tender texture. **People who are unsafe to eat without supervision are not considered suitable for this texture level.** Primarily, this menu code can be used on the standard menu but also included in religious and cultural menus as well as therapeutic diet menus (excluding modified texture menus). This level is for people with enough chewing ability to break down soft/tender foods into pieces without help and those with weaker chewing muscles for hard/firm textures, but who can chew soft and tender food without tiring easily. It is only for patients who have no increased risk of choking and do not have problems swallowing food. (It is possible to have a problem swallowing *thin* liquids, but still be able to manage L7EC.) For example: • Those who have difficulty chewing or coping with firm foods, due to problems such as no teeth, poor teeth, badly fitting dentures or sore mouths, but do not have such severe problems that they need a more specific modified diet (e.g. IDDSI level 6 'soft and bite-sized') • Those who tire easily, but do not have such severe problems that they need a more specific modified diet (e.g. IDDSI level 6 'soft and bite-sized') • Those who have no related physical problems, other clinical reasons or disabilities that affect their ability to easily manage food. Some patients with no clinical requirement, may simply prefer to choose Easy to Chew items which is why it is recommended to signpost suitable dishes on appropriate menus (as referred to above). Other patients may be prescribed Level 7 Easy to Chew by a Speech and Language Therapist but it should only be used for people who are safe to eat *without supervision*.
Rationale for Diet	It is imperative we have only one system for describing food and drink modification. The International Dysphagia Diet Standardisation Initiative (IDDSI) has developed a standard terminology with a colour and numerical index to describe texture modification for food and drink. Easy to Chew foods are softer food choices that fall within Level 7 regular and are intended for those who do not require particle size restriction to help reduce choking risk. Details of the IDDSI Framework, Descriptor and Testing Method documents can be found on the IDDSI website as well as resources to describe all the levels including the new Level 7 Regular Easy to Chew.

Easy to Chew continued

Diet	Easy to Chew
Rationale for Diet (continued)	Since the NHS Improvement Patient Safety Alert (27th June 2018), there has been a directive not to use the imprecise term 'soft diet' due to confusion about what this actually means and the subsequent risk to patient safety. A key aim is that we do **not** have two systems, one for people who have dysphagia and one for people who do not. A clinical decision will have been made by Speech and Language Therapist regarding any people who need any kind of texture modification based on their assessment. Healthcare assistants and catering staff must not make decisions about who has or has not dysphagia nor be able to assess food textures. This should be done by a multidisciplinary team when menu planning.
Guidance for Diet Coding	Normal, everyday foods of soft/tender texture that break apart or squash easily (and do not regain shape) or can be cut using the side of a fork or spoon. Food piece size is not restricted in Level 7; therefore, foods may be a range of sizes. **Do not use foods that are:** hard, dry, tough, chewy, fibrous, crispy, crunchy, sharp, spiky, sticky, have stringy textures, pips/seeds, bones or gristle. A list of suitable foods and which to avoid can be found here: https://iddsi.org/resources/
References	IDDSI Framework, IDDSI Testing Methods, FAQ and IDDSI Evidence Documents (http://iddsi.org/resources/framework/). [Last accessed: 10.06.19] IDDSI Level 7 Easy to Chew Handouts, January 2019 https://iddsi.org/resources/ [Last accessed: 10.06.19] NHS Improvement Patient Safety Alert, June 2018 https://improvement.nhs.uk/documents/2955/Patient_Safety_Alert_-_Resources_to_support_safer_modification_of_food_and_drink_v2.pdf [Last accessed: 10.06.19]
Source	http://iddsi.org/ [Last accessed: 10.06.19]

Vegetarian

Diet	Vegetarian
Recommended Menu Diet Code	V
Recommended Menu Type	Standard
Patient Groups Suitability	Lacto-ovo vegetarians (those who eat dairy and eggs)
Rationale for Diet	This is the most common type of vegetarian diet.
Guidance for Diet Coding	Excludes all meat, poultry, fish, shell fish, crustaceans and ingredients or products derived from these e.g. gelatine and rennet. Eggs, milk and dairy products are suitable. Care should be taken to identify hidden ingredients that may contain animal by products such as rennet or gelatine when coding vegetarian menus. This can be done by careful checking of food labels. Items to be aware of include: Desserts: yoghurts, cheesecakes, ice cream and other set desserts; cheeses; soups; condiments & other table sauces Ensure meals contain adequate protein, good sources for vegetarians include: beans, peas, nuts and lentils, tofu, or meat substitutes such as soya mince or texture modified protein.
References	Vegetarian Society https://www.vegsoc.org [Last accessed: 10.06.19] Going Veggie: What to Eat Guide Vegetarian Society (2016) Going veggie: What to Eat https://www.vegsoc.org/wp-content/uploads/2019/03/Going-Veggie-What-to-Eat.pdf [Last accessed: 10.06.19]
Source	Food Services Specialist Group (FSSG)

2. Religious, Cultural, Personal and Lifestyle Considerations

The following special diets are typically met by separate à la carte menus.

Religious and Cultural

Food is an important element of many religious faiths and cultural practices. CQC (2015) Regulation 14 (England) requires that the reasonable requirements of patients for food and hydration arising from their personal preferences or their religious or cultural background should be met. These nutritional standards also apply to dishes and menus based on out-sourced specialist cultural menus. The role of food and drink is complex and varies among individuals and communities. Seeking the guidance of a local religious or cultural advisor is strongly recommended. Be mindful that food practices and preferences are highly individual choices that can vary enormously between people of the same faith, especially those developed within families who have adapted to living in western societies. There is no 'one size fits all' solution.

When serving cultural meals to people of a certain faith, staff must be trained to food service standards akin to those applied to 'allergy meals' so as to avoid unacceptable cross-contamination. Many people with dietary concerns can be suspicious of the food served in hospital (or of any food they have not prepared themselves). Hence appropriate labelling of food in hospital is vital to help them feel safe and secure that whatever they are choosing does not contain any 'forbidden' ingredients.

In any care setting, menus must meet the diversity and equality needs of the population and must be understandable. Typical examples of cultural diets within the UK include Chinese, African, Caribbean and Eastern European.

Halal

Diet	Halal
Menu Diet Code	Approved Halal signs from a Food Authority usually have the word "Halal" in English and will be printed on food packaging.
Suggested Menu Type	À la carte or included as standard choice dependent on the demographics of healthcare setting.
Patient Groups Suitability	A Halal diet is followed by individuals of Muslim faith. Diets for complex medical conditions will also need to be made available as suitable Halal options. E.g. Halal gluten free, allergy diets, Halal low potassium diets or Halal Dysphagia Diet.
Rationale for Diet and Menu Planning Guidance	The word "Halal" is an Arabic term meaning "permissible" and refers to a food which is safe to consume by Islamic teachings while non-halal (Haram) refers to food that are forbidden to consume in a Muslim Diet Meat is the most strictly regulated of food groups and only halal meat is allowed. e.g. beef, mutton, goat, lamb, farm birds such as chicken etc. These animals are slaughtered while pronouncing the name of God "Allah" whilst the carotid artery is severed. Fish is considered Halal and does not need to be slaughtered. **Foods that are forbidden to consume under the Islamic dietary law include:** Alcohol as a drink or as a food ingredient Pork and pork products, ingredients and derivatives e.g. ham, bacon, lard, gelatine products and certain food additives Meat not slaughtered by Halal methods, meat of already dead animals Birds of prey Blood and any by-products As best practice for Halal menus an approved Halal food supplier which uses a labelling scheme should be used for all main meals. There may be elements of the main meal service that will be suitable Halal options e.g. pre-packed dairy products like cheese, milk and yoghurt, and most vegetarian options. Food preparation and cooking procedures form an important part of Islamic teachings and should follow good HACCP controls. Service users may enquire about the food origin, supplier information and preparation procedures and if not satisfied may refuse to eat food which may nutritionally compromise already vulnerable service users. (continues on next page)

Halal continued

Diet	Halal
Rationale for Diet and Menu Planning Guidance	Food handlers and food service providers need to be aware of the dietary practices of this religious group in order to ensure optimum food intake at all meal and drink occasions. They must follow procedures and have documentary evidence of all meals and ingredient lists must be readily available. Service users may refuse food if there is no assurance. **Annual Fasting Month- "Ramadan"** This falls in the 7th month under the lunar Islamic calendar. As a pillar of Islam, Muslims fast (sawm) during the month of Ramadan and abstain from all food and drink between sunrise and sunset. Food service staff should be aware of this and be able to accommodate and cater for meals during this month as they may be outside the normal meal times. The 2 meals are taken before sunrise "Sahoor" and after sunset ("Iftar") and there should be abstinence from all food and drink during this period. Some patient groups may choose not to fast because they are elderly, children, acutely ill, pregnant or lactating mothers.
References	Halal Food Authority http://halalfoodauthority.com/faqs/definition-of-halal [Last accessed: 10.06.19] Culture, religion and patient care in a multi ethnic society: A handbook for professionals (Henley & Schott, 1999)
Source	Food Services Specialist Group (FSSG)

Kosher

Diet	Kosher
Suggested Menu Type	À la carte
Patient Groups Suitability	People of the Jewish faith
Rationale for Diet	The term 'Kosher' means a food is fit to consume and follows principles of 'Kashrut' - a set of Jewish dietary laws that determines which foods are suitable to be eaten and how they should be prepared. Food that is not Kosher is referred to as 'trief'. The application of the terms 'Kosher' can only be applied to permitted animal products or their dishes that have been correctly handled throughout the food chain.
Menu Planning Guidance	Jewish dietary laws are complex, but one of the main principals is the practice of keeping meat and milk separate. In Kosher kitchens, different sets of cutlery, crockery, cooking utensils and washing up bowls should be made available for meats and for dairy meals. Food that is neither milk nor dairy is called parev (neutral) and can be eaten with meat or milk dishes. It is customary to leave an interval after eating meat before eating dairy foods; the time can vary but for most Anglo- Jewish people this is between three and six hours. In addition to this, many foods are not allowed but foods that are usually permitted include: • Meat from animals that chew the cud and that have cloven hooves e.g. goat, sheep and cattle • Poultry e.g. chicken, turkey, goose and duck • Fish must have fins and easily detachable scales to comply with Kosher requirements e.g. tuna, cod, salmon and herring. All shellfish e.g. shrimps, crabs, mussels and lobsters are forbidden • Eggs must be checked to ensure no blood spots are present • Milk that is certified kosher should be made available to orthodox patients The following products must also be certified to be fit for consumption. Generally, these are available from kosher meal suppliers or kosher food shops: • Cheese • Bread, biscuits & cakes • Margarine Due to the very strict dietary laws and the stringent rules that apply, it is not possible to source kosher ingredients to then cook in a hospital kitchen. Individual kosher meals must therefore be purchased from a recognised kosher meal provider with the required credentials and where food production must be overseen to ensure strict compliance to the Jewish dietary laws. (continues on next page)

Kosher continued

Diet	Halal
Menu Planning Guidance	**Practical tips** It is preferable that a suitable menu is compiled to ensure patients can select a meal of their choice. Meals should be cooked according to their instructions and due to religious requirements, patients should be served their meal in its original packaging without breaking the seal. Manufacturers of these meals double wrap them to ensure their seals are not compromised. Sealed, disposable cutlery should be offered. Help may be offered with opening the packaging if the patient wishes it but this should be done in front of the patient. For orthodox patients, sundry items such as bread and milk may need to be purchased in addition to kosher certified meals. There are several major festivals that occur during the course of the calendar year. Each festival has its own special significance, rituals and customs and even special foods. In particular, special meals suitable for the 8-day festival of Passover must be provided. There are also implications for artificial nutritional support including tube feeding. There is a list available from London based kosher meal supplier - The Hospital Kosher Meal Service - of dietary products and meal replacements that are suitable; feeds containing glycerine, lactose and gelatine are all animal based and would not be permitted.
References	The United Synagogue – London Beth Din https://oukosher.org/what-is-kosher/ [Last accessed: 10.06.19]
Source	With grateful thanks to Sharon Patashnik of Hospital Kosher Meals Service for her contribution to this section.

Asian Vegetarian

Diet	Asian Vegetarian
Menu Diet Code	Diet Symbols may vary according to the NHS Trust
Suggested Menu Type	A la carte or included as standard choice dependent on the demographics of healthcare setting
Patient Groups Suitability	Vegetarian Hindus, Sikhs and Jains South Asian Community belonging to Indian subcontinent – especially from Punjab and Gujarat East African Communities
Rationale for Diet and Menu Planning Guidance	**Hinduism** Hinduism teaches that all form of life is sacred and interdependent on each other and subject the laws of rebirth. Under this belief a strict vegetarian individual is considered at a higher spiritual level though there is no requirement to follow a vegetarian diet. Hindu vegetarians consume plants based diets based on pulses, grains, vegetables and fruits. Most Hindus are lacto-vegetarians and therefore all dairy food and products are acceptable. Egg or egg containing foods are not consumed as egg is considered a source of life. Beef is strictly prohibited as the cow is considered sacred in Hindu Religion. This also includes any beef products or derivatives i.e. beef stock. Less orthodox younger age service users may eat lamb, mutton, chicken or fish. Vegetarian fat is used in cooking and preparation. Hot and cold food items such as desserts i.e. cakes, snacks such as biscuits or nutritional supplements may contain egg based ingredients and therefore service staff should be aware of how to read ingredient lists. Look for the appropriate signs and the protocol being followed at the healthcare environment on distinguishing between vegetarian and Hindu vegetarian meal choices. As with other orthodox service users of other religions, documentary evidence and certification by food suppliers and caterers, supplier ingredient lists and HACCP procedures should be available for the reassurance that no prohibited food (meat) has been in contact with vegetarian food during food preparation, cooking and service. Despite all the measures some conservative service users may only drink filtered water and food bought from home and refuse any that is served in hospitals which can compromise their nutrition and hydration status. Familiar food is of importance especially in times of illness and capable of providing the necessary nutrition for recovery and healing. Therefore, it is important that all religious and cultural service user groups are provided appropriate meal choices to encourage uptake and enhance recovery. (continues on next page)

Asian Vegetarian continued

Diet	Asian Vegetarian
Rationale for Diet and Menu Planning Guidance	**Sikhism** Most Sikhs are devout vegetarians who do not eat meat, fish and egg products or any derivatives. Halal meat, beef and pork is also unacceptable to Sikhs. **Jainism** Jainism is more strict form of religion which covers many ethical principles covering every aspect of daily life. There most important principle is 'AHIMISA' which means killing is strictly forbidden. Jains tend to be very orthodox vegetarians. One of the beliefs is that certain single celled creatures" NIGODAS" exist. These are not visible to us but may be abundant in certain foods which are forbidden: No animal foods are eaten meat, fish, eggs and usually cheese No root vegetables in the diet i.e. potatoes, onion, ginger, carrots and beetroot or any derivatives of these Alcohol, honey or various substances which involve fermentation Water: Jains prefer to drink boiled water Yoghurt: May need to be warmed to stop the multiplication of single celled creatures. (yoghurt cultures) Timings: Jains prefer not to eat any food before sunrise or after sunset. Fresh Food: No leftovers are served for next day. Most Asian/ Hindu vegetarian food that do not contain these root vegetables are generally acceptable. Fresh food from home is sometimes bought for orthodox individuals for ensuring it does not contain any prohibited materials Due to this severe restriction, vegetables, fresh fruits, grains and Jain dairy products need to combine together for a nutritionally balanced meal. At times, this is a challenge for food service providers and especially for patients who are on complex diets such as modified texture diets where binders and thickener products may be used for achieving desired consistencies. For all groups, any missed meal opportunity may contribute to further malnutrition and therefore all measures should be adopted for suitable meal choices available.
References	Culture, religion and patient care in a multi ethnic society: A handbook for professionals (Henley & Schott, 1999) Scottish Government (2016) FOOD IN HOSPITALS. National Catering and Nutrition Specification for Food and Fluid. Provision in Hospitals in Scotland. Revised March 2016 http://www.hfs.scot.nhs.uk/publications/1479818118-Food%2520in%2520Hospitals%2520-%2520revised%2520March%25202016.pdf [Last accessed: 10.06.19]
Source	Food Services Specialist Group (FSSG)

Vegan

Diet	Vegan
Menu Diet Code	VG
Recommended Menu Type	Consider making some dishes available on standard menu because vegan options are suitable for most people If unable to make available within main menu, provide an à la carte menu
Patient Groups Suitability	Suitable for vegans, vegetarians and people who eat meat and fish Suitable for people with allergies to milk and/or eggs if free from those allergens
Rationale for Diet	In 2016, it was estimated that over 542,000 people in Britain eat a vegan diet, and nearly half of vegetarians would like to reduce their consumption of dietary animal products. Vegan options provide greater variety for vegetarians. Veganism is a belief system, and freedom of thought, belief and conscience is protected by human rights legislation. Ethical, environmental, health, cultural and/or religious factors may influence someone's decision to be vegan. A strong vegan offering is one that provides choice, including options for both nutritionally well and vulnerable people. This ensures that nutritional care can be provided in a way that respects equality and diversity, and meets the Care Quality Commission's standards: "When a person has specific dietary requirements relating to moral or ethical beliefs, such as vegetarianism, these requirements must be fully considered and met. Every effort should be made to meet people's preferences…". A strong vegan offering can also have a positive impact on sustainability, which is part of the Government Buying Standards for Food and Catering. For example, vegan diets have been associated with the lowest emissions of carbon dioxide. Vegan options tend to be high in fibre and low in saturated fat, which makes them particularly valuable for staff, visitors and patients who are nutritionally well (continues on next page)

Vegan continued

Diet	Vegan
Menu Planning Guidance	Energy and protein requirements are the same as for non-vegan meals (i.e. minimum 500kcals and 15g protein for a three-course meal). It is recognised that lower quality sources of protein, such as beans and pulses, will not provide as much protein per gram as higher quality sources, such as vegan Quorn, soya mince etc, however, the above targets should be achieved. Free from animal products, including meat, fish, eggs, milk and honey. Cross-contamination with non-vegan foods during storage, preparation, cooking or serving is avoided as far as is reasonably practicable. Ensure availability of milk-free spread and fortified milk alternative.
References	The Vegan Society (2016) Find out how many vegans are in Great Britain https://www.vegansociety.com/whats-new/news/find-out-how-many-vegans-are-great-britain [Last accessed: 10.06.19] Council of Europe (2010) Convention for the Protection of Human Rights and Fundamental Freedoms http://www.coe.int/en/web/conventions/full-list/-/conventions/rms/0900001680063765 [Last accessed: 10.06.19] Care Quality Commission (2015) Regulation 14: Meeting nutritional and hydration needs http://www.cqc.org.uk/content/regulation-14-meeting-nutritional-and-hydration-needs#guidance [Last accessed: 10.06.19] DEFRA (2015) Sustainable procurement: the GBS for food and catering services https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/418072/gbs-food-catering-march2015.pdf [Last accessed: 10.06.19] Scarborough P. et al. (2014). Dietary greenhouse gas emissions of meat-eaters, fish-eaters, vegetarians and vegans in the UK. Climatic Change 125:179-192.
Further Reading	www.vegansociety.com [Last accessed: 10.06.19]
Source	Heather Russell, Registered Dietitian, The Vegan Society

3. Therapeutic Diets

The details here are given so that any changes to the general standards can be considered and incorporated at the menu planning stage. The following therapeutic diets are typically met by separate à la carte menus.

Modified Texture Diets

Diet	Modified Texture
Menu Diet Code	
Suggested Menu Type	À la carte
Patient Groups Suitability	Patients with oro-pharyngeal dysphagia (may be a symptom following a Stroke, or of a neurodegenerative disease such as Multiple Sclerosis, Motor Neurone Disease, Parkinson's disease, or Huntington's chorea, or patients undergoing radiotherapy for a head and neck cancer or with dementia) Patients at risk of choking
Rationale for diet	The rationale of a modified texture diet is to reduce the risk of choking and aspiration, where food goes down the trachea into the lungs rather than the stomach, which can have severe health consequences. Since the Nutrition and Hydration Digest 2nd edition was published, this section has been updated to reflect the new nationally adopted IDDSI Framework. The International Dysphagia Diet Standardisation Initiative (IDDSI) was founded in 2013 with the goal of developing new globalised standardised terminology and definitions to describe texture modified foods and thickened fluids used for individuals with dysphagia of all ages, in all care settings, and all cultures. IDDSI developed an evidence based framework for describing and testing different textures with standardised names, descriptors and colours for each level. An Expert Reference Group (ERG) in the UK was set up in 2015 to look at the appropriateness of implementing the IDDSI framework. Following extensive consultation with members, the British Dietetic Association (BDA) and Royal College of Speech & Language Therapists (RCSLT) independently and formally announced that they supported the adoption of the IDDSI framework. It was agreed that a transition period would begin in April 2018 with adoption by April 2019.

Modified Texture Diets continued

Diet	Modified Texture
Menu Planning Guidance	The framework provides eight different levels (0-7) of textures for fluids and foods. **Figure 11.1: The IDDSI Framework** (Reproduced from The International Dysphagia Diet Standardisation Initiative 2016)  The modified textures applying to fluids are as follows: Level 0 – Thin Level 1 – Slightly Thick Level 2 – Mildly Thick Level 3 – Moderately Thick Level 4 – Extremely Thick The modified textures applying to food are as follows: Level 3 – Liquidised Level 4 – Pureed Level 5 – Minced & Moist Level 6 – Soft & Bite-Sized Level 7 is Regular texture (not modified) as per Standard Menus and includes the 'Easy to Chew' subcategory. For more information on this please see page 176.

Modified Texture Diets continued

Diet	Modified Texture
Menu Planning Guidance	While the IDDSI guidelines recognise that it is faster, safer and more accurate for patients to progress through all the food texture levels in the framework (as appropriate), it is accepted that not all organisations will be able to offer all levels. Therefore, the levels offered should be agreed locally depending on the needs of the patients and working alongside the Speech and Language Therapy team. IDDSI have provided resources for each level providing a definition, examples, and foods to avoid. More information and resources can be found at https://iddsi.org/resources/ Special consideration should be given to menus for paediatrics as choking hazards in children differ to adults due to their smaller trachea size. Again, IDDSI have provided detailed guidance on their website. People who are clinically at risk should be provided with a suitable menu after their assessment by a Speech and Language Therapist. It is the role of the dietitian to ensure that suitable choices are available, including snacks, to provide the necessary daily nutrition within budget and planned in liaison with the catering and care staff.
Menu Planning Guidance (continued)	If the texture modified diet is produced in house, great care needs to be taken to ensure the consistency of the finished product. Unless the resulting product is highly processed or sieved, texture modification may not be uniform due to the natural variability of foods, the method of processing, and temperature at which the food is served. Consistency of texture modified foods varies due to the base components, e.g. the texture of the carrots and macaroni cheese will modify more smoothly than fish (muscle fibres) and peas (husks). When prepared from fresh ingredients, texture modified foods, in common with all foods, can differ slightly according to batch, variety and season. Dietitians, speech and language therapists, nurses and caterers should work closely to ensure that people have the most appropriate and safe texture suitable for their swallowing abilities. If the consistency of the product cannot be guaranteed when produced in house, it may be necessary to purchase texture modified meals from a specialist provider whose meals comply with the IDDSI framework.
References	https://iddsi.org/ [Last accessed: 10.06.19] https://iddsi.org/resources/ [Last accessed: 10.06.19] IDDSI image used courtesy of The International Dysphagia Diet Standardisation Initiative 2016 https://iddsi.org/framework/ [Last accessed: 10.06.19]
Source	We are grateful to the Food Services Specialist Group Committee for updating this section and the BDA Older People's Specialist Group for their original contribution.

Finger Foods

Diet	Finger Foods
Recommended Menu Diet Code	FF
Recommended Menu Type	À la carte or standard
Patient Groups Suitability	Dementia Children Stroke
Rationale for diet	When planning menus for children or certain groups e.g. dementia, offering finger food choices that can be easily eaten with dignity but without cutlery, using the hands instead, can improve food intake. Hand hygiene is an essential part of preparing a finger food meal or snack. As some may also have chewing or swallowing difficulties, items must be safe for their capability. Some people are content to take a long time over eating finger foods, and this can be accommodated by serving foods picnic-style in appropriate containers.
Menu Planning Guidance	Practical tips • Cold items can be useful for between meal snacks and include sandwiches, cakes, sausages rolls and chopped prepared fruit • Dry foods can be obvious choices at mealtimes however they may lack the moistness and flavour of products cooked and served in gravy or sauce. Moist products need to be served carefully, e.g. fruit cocktail drained of juice, meatballs drained of sauce • Vigilant hand care is required for sticky or coloured items e.g. tomato and cheese pizza slices or quiche fingers • Drained roast meats are best served rolled, and some other items are better cut into smaller pieces e.g. bacon, chicken or fish goujons, omelette strips, fish cakes, jacket and boiled potatoes • Care should be taken to serve hot finger foods at a comfortable/suitable temperature e.g. chips, sausages, cooked carrot fingers, Bakewell tart • Avoid menu being only "party food" at both main mealtimes.
References	Patient-led assessments of the care environment: Organisational questions – food (NHS England) 2014 https://www.england.nhs.uk/ourwork/qual-clin-lead/place/ [Last accessed: 10.06.19]
Further information	Further ideas for finger foods and a sample finger food menu can be found at https://www.cwt.org.uk/wp-content/uploads/2014/07/EW-Old-Dementia-Practical-Resource.pdf [Last accessed: 10.06.19]
Source	Food Services Specialist Group (FSSG)

Renal Suitable

Diet	Renal Suitable
Recommended Menu Code	RS
Recommended Menu Type	Specialist menu or code the standard menu for suitable choices
Patient Groups Suitability	Patients who are receiving dialysis (Haemodialysis or Peritoneal Dialysis) Patients with Chronic Kidney Disease Stages 3-5 who are not on dialysis Patients with high blood potassium levels
Rationale for diet (bullet points)	There is no single 'Renal Diet'. At different stages of kidney disease different dietary modifications may be necessary. Input from a specialist renal dietitian who has a good understanding of these patients' dietary needs is essential. Patients with renal disease may need to follow diets that modify any or all of the following: Protein, Potassium, Phosphorus, Salt, Fluids. Some dietary restrictions may be more critical than others depending on the patient's medical condition at the time. Patients on renal dietary restrictions may need alternatives and additional snacks to meet their energy and protein requirements. Although healthier eating options should be available, when introducing restricted diets, it is imperative that the overall energy and protein content of the meal is not compromised. Many of these patients will be in the nutritionally vulnerable group due to the nature of their illness and compounded by the renal-specific dietary restrictions some patients may be following. As kidney disease progresses, the risk of malnutrition also increases. These patients' needs may vary between units depending on local demographics and the renal treatment they are on. It is important to take into account the age of the patient, ethnicity, length of stay, dialysis modality and the numbers of nutritionally compromised patients. Menus should be designed to enable them to achieve a nutritionally complete diet within these constraints. Close working and agreement between caterers and renal dietitians are needed to ensure the needs of this challenging group of patients can be met.
Nutritional Criteria for Diet Coding	Please note that the parameters for sodium and potassium are expressed in mg. You may need to convert this to mmol for use in clinical practice if this information is required. **Energy** The SACN recommendations for energy should meet the energy needs of renal patients (see Table 9.1, page 148). **Protein requirements** The protein requirement for patients is based on their Ideal Body Weight (IBW) and will be a minimum of 0.8-1.0g protein per kg IBW. For patients on renal replacement therapies, requirements are in keeping with protein requirements recommended by SACN for the nutritionally vulnerable group of patients (1.1g/kg IBW/d) (see Table 9.1). Therefore, menus should be based on meeting the nutrient targets provided in Table 9.2 (page 152). Table 11.6 below provides details of the recommended nutritional parameters to be used when planning renal menus.

Renal Suitable continued

Table 11.6: Recommended parameters for renal meals

	Energy (kcal)	Energy (kcal)	Protein (g)	Protein (g)	Sodium (mg)	Potassium (mg)
	Nutritionally Well	Nutritionally Vulnerable	Nutritionally Well	Nutritionally Vulnerable	Max	Max
Main Meal	300	500	12	19	644	1092
Dessert	200	300	3	6	161	312
TOTAL (Complete meal)	500	800	15	25	805	1404

Caveats

Additional protein items may need to be provided for vegetarians and vegans, those on fluid restrictions and renal replacement therapies.

It is recognised that a large majority of renal patients will fall in the nutritionally vulnerable category, and menus should reflect this wherever possible.

Meeting high protein needs

40% of the protein requirements of the nutritionally vulnerable group are typically met by breakfast, snacks and milk (approximately 1 pint or 550mls in total = 20g protein). However, on a fluid restricted diet only ½ pint milk or 275mls is allowed, which causes a deficit of 10g protein. This deficit must be replaced and is best achieved by increasing the protein portion of the main meals. If this is not possible, for example where the protein portion of a plated meal cannot be increased, having milky puddings such as yoghurts, custard or rice pudding available which can be given out during the snack rounds, or the option of a cooked breakfast, should be considered.

Potassium restricted menu

Some patients will require a lower potassium diet. This will usually be the equivalent of 60-80mmols (or 2340-3120mg) per day, based on their IBW. Generally, the allowance is 1mmol potassium per kg IBW, but practice does vary.

Some vegetable and potato products may not be suitable depending on cooking methods. In general, cooking methods should leach rather than conserve potassium when preparing and cooking potatoes, fruits and vegetables. These items should be boiled before being offered to patients on a lower potassium diet. Local renal dietitians will advise on suitable low potassium cooking methods and dishes.

The availability of the estimated potassium content of dishes is necessary to allow accurate coding of the menu. The availability and accuracy of this information does pose challenges as suppliers are not required to declare this by law under the Food Information Regulations and due to expensive analysis methods it is likely to be calculated from food data tables.

Salt substitutes containing potassium chloride should not be used.

Where poor appetite and potassium restrictions combine to make meeting requirements difficult, an à la carte menu allowing individualised choices may prove very helpful.

As a guide, to ensure suitable lower potassium main course options are available, meals should be planned with the aim to provide a maximum of 28mmol (1092mg) per main course and 8mmol (312mg) per dessert. The following table shows an example of how this can be broken down:

Renal Suitable continued

Table 11.7: Potassium Main Meal Breakdown

Meal Element	Guide Portion Size	Nutritionally Well Example Energy Content (kcal)	Nutritionally Well Example Protein Content (g)	Nutritionally Vulnerable Example Energy Content (kcal)	Nutritionally Vulnerable Example Protein Content (g)	Example Potassium Content (mg)
Entrée	150-200g	150	7	250	11	<468
Starchy food	80-120g	100	3	200	4	<312
Vegetables	80-160g	50	2	50	4	<312
Dessert	100-200g	200	3	300	6	<312
Total (Complete Meal)		500	15	800	25	<1404

Entrees with higher potassium levels can be served but ideally with lower potassium accompaniments, such as rice, pasta, or bread, as opposed to potatoes. The potassium content given above for vegetables is based on two 80g servings, i.e. 4mmol (156mg) from each serving. Regardless of the type or amount of carbohydrate or vegetables served, the priority should always be on ensuring the total meal does not exceed the maximum potassium recommendation.

Phosphorus restricted menu

Some patients will require a lower phosphorus diet to help control serum phosphate levels. Recommendations suggest that a low phosphorus diet should contain no more than 1400mg (45mmol) of phosphorus per day. However, this will often pose challenges for patients requiring a higher protein diet. Alternative high protein choices need to be provided to replace the following higher phosphorus foods when they are on the menu:

- Hard and processed soft cheese
- Kidney, liver
- Fish with edible bones
- Processed meats – e.g. ham, corned beef
- Chocolate
- Malted milk drinks
- Nuts
- Foods containing baking powder (e.g. scones).

Please note our reference to dietary phosphorus and serum phosphate. To avoid patient confusion around phosphorus and phosphate, dietary phosphorus is often referred to as phosphate in patient leaflets.

Salt intake

The aim for salt intake in renal disease is less than 6g day, which is in line with general guidance for salt intakes. If a higher salt option is on the menu, e.g. meat pies, sausage, ham or other processed items, it should be balanced by also offering menu choices lower in salt.

Renal Day Patients

Suitable dietary choices should be available for renal day patients where necessary (such as those on haemodialysis units), or in-patients requiring food outside standard meal times. Suggested suitable items would be:

- Sandwich with suitable filling (e.g. egg, tuna, chicken)
- Fruit: apple, satsuma, drained tinned fruit
- Plain cake or biscuit
- Yoghurt or fromage frais.

References

British Dietetic Association (2011) Guidelines for adults on haemodialysis and peritoneal dialysis. https://www.bda.uk.com/publications/professional/rng_protein_executive_summary [Last accessed: 10.06.19]

Source

We are grateful to the BDA Renal Nutrition Group for their original contribution and revision of this section.

Liver Disease (Decompensated)

Diet	Liver Disease (Decompensated)
Menu Diet Code	N/A
Suggested Menu Type	Standard or à la carte
Patient Groups Suitability	Patients with decompensated liver disease
Rationale for Diet	Malnutrition is extremely common in people with liver disease occurring in up to 60% of those with advanced disease (Saunders et al., 2010). The need to meet higher energy and protein requirements is paramount and fat or protein restriction is no longer advocated in most situations. Where these are required a Dietitian can use healthier eating choices from the menu or advise the patient on the number of protein portions per day from the standard menu.
Menu Planning Guidance	Practical tips • Menus should provide sufficient protein (1.2-1.5g per kg body weight/day) • Ensure the menu contains high energy meals • Offer snacks between meals (to meet elevated requirements) • Provide an additional snack/drink containing 50g carbohydrate in the evening. Those reviewed by a dietitian should be advised on suitable choices although any liver patient with protein - calorie malnutrition would benefit from an evening snack. Fasting is nutritionally detrimental and these snacks prevent long periods of fasting and improve utilisation of nitrogen (Swart, 1989) • People with diabetes mellitus should choose from the standard menu with the addition of snacks and evening 50g carbohydrate snack. Diabetic medication should be adjusted to maintain normoglycaemia if necessary • Sodium restriction may be required for some patients. This should not be restricted lower than 80mmol sodium per day (1840mg sodium or 4.6g salt) and higher energy and protein requirements should still be met • A renal diet may also be required for patients with liver and renal disease.
References	Saunders J, Brian A, Wright M *et al* (2010) Malnutrition and nutrition support in service users with liver disease. Frontline Gastroenterology 1: 105-111 Swart GR, Zillikens MC, van Vuure JK et al (1989) Effect of a late evening meal on nitrogen balance in patients with cirrhosis of the liver. BMJ; 299:1202-3
Source	We are grateful to Julie Leaper and Susie Hamlin (Clinical Liver Leads for the BDA Gastroenterology Specialist Group) for their original contribution to this section and Dianne Wild for her contribution to the revision of this section.

Food Allergy (Hypersensitivity)

Diet	Allergy
Suggested Menu Type	À la carte
Patient Groups Suitability	Patients with allergies (and/or intolerances) to any one or combination of the following: • Cereals containing gluten, wheat, oats, rye, barley, spelt, Khorasan wheat / Kamut • Crustaceans (e.g. prawns, crabs, lobster) • Eggs • Fish • Peanuts • Soya • Milk (including lactose) • Nuts (including almonds, hazelnuts, walnuts, cashews, pecan, brazil nuts, pistachio, macadamia) • Celery • Mustard • Sesame seeds • Sulphur dioxide (where added at >10mg/kg or 10ml/L in the finished product) • Lupin • Molluscs (e.g. clams, squid, oysters, scallops) • Patients may also suffer from an allergy to foods not on the list above.
Rationale for Diet	Food allergies can be life threatening for individuals and must be taken seriously by catering services. In December 2014, the allergen labelling rules changed that have implications for catering. The allergen rules require food caterers such as hospital catering services to be able to provide information to patients, staff and visitors about the presence or use of any of the 14 specified allergens as ingredients in any of the food that they serve, including any food item served to patients at ward level and any food item sold in retail outlets. Caterers must also be able to evidence the exact ingredients used, such as by brand names and pack sizes, or other information that details what is normally used or that of any replacement. They must also take note of any precautionary 'may contain' labels on packaging. It is vital that a system is implemented to ensure that information relating to peoples' food allergies is collected as early as possible and that this information is communicated quickly and effectively to hospital caterers, ward staff and hospital dietitians. Most healthcare settings will have an allergy policy in place.
Menu Planning Guidance	It is vital that suppliers provide product specifications including the full ingredient lists that include the allergens. Failing that, the allergen information contained on the food labels can be used. Food labels should be checked on receipt into a unit to check that their allergens have not been changed. All foodstuffs, from complete meals to individual recipe ingredients e.g. tomato sauce, breakfast cereals, that are brought into a hospital should have their ingredients checked and any of the 14 allergens identified, using either their specifications or food labels. This also applies to meals that are brought in readymade (delivered meals systems), which may not always have full details on the label. If this is the case the information needs to be sought by other means e.g. specification sheets (BDA, 2014). (continues on next page)

Food Allergy (Hypersensitivity) continued

Diet	Allergy
Menu Planning Guidance	Catering staff should be proficient in allergen management, including the provision of allergen information, the risks of cross-contamination and cleaning methods. They should also understand the importance of appropriate food service systems including ensuring that the right meal reaches the correct patient. Information including online training can be obtained from the Food Standard Agency to support catering staff. **Some general tips for caterers include**: Keep and refer to as necessary accurate and up-to-date ingredient lists from suppliers. Have allergen management procedures in place in all steps of the food service pathway from receipt of ingredients to serving the patient with their meals. If major allergens are included in a dish, the name of the dish should reflect this. Refer to Food Standards Agency for Guidance. Major allergens should not be used where you would not expect to find them. For example, cashew nuts should not be used in pesto sauce or peanut flour in korma. Precautionary warnings for allergen labelling that food "may contain" or is 'not suitable for' should only be used after a thorough risk assessment and the risk of cross-contamination cannot be eliminated or managed safely and poses a real risk to the patient. They should not be used as a substitute for good allergen management practices. If a product has 'may contain' statement this information should be passed onto the patient. Further information regarding application of precautionary allergen labelling see https://www.food.gov.uk/business-guidance/allergen-labelling-for-food-manufacturers [Last accessed: 10.6.19]. Standard menus should state that the information is available but information on menus should be kept to a minimum so as not to clutter or confuse. For this reason, allergen information should not be printed on standard menus for patients, instead include a statement on the standard menu such as: "Further information regarding food allergens is available upon request; please ask your ward host/ess or nurse". Special menus can be used to highlight allergen information, e.g. an 'Allergy Aware' menu that doesn't feature any of the 14 allergens. However, menu information can be held in a matrix, so meal suitability can be ascertained depending on the allergy/allergies that the patient has.
References	British Dietetic Association (2014) Allergen Toolkit for healthcare catering
Further information	Allergy Training (http://www.allergytraining.com/) [Last accessed: 10.06.19] Anaphylaxis UK (https://www.anaphylaxis.org.uk/2015/07/20/dietary-requirements-catering-for-customers-with-allergies-and-intolerances/) [Last accessed: 10.06.19] Food Standard Agency for Guidance (http://www.food.gov.uk/business-industry/allergy-guide) [Last accessed: 10.06.19] (http://www.food.gov.uk/business-industry/allergy-guide/allergen-resources) [Last accessed: 10.06.19]
Source	We are grateful to The Anaphylaxis Campaign for their original contribution to this section and allergy UK for their feedback and comments to this edition.

Gluten Free

Diet	Gluten Free
Menu Diet Code	GF
Suggested Menu Type	Standard or à la carte
Patient Groups Suitability	Coeliac disease Dermatitis herpetiformis
Rationale for Diet	A gluten free diet is the only medical treatment for coeliac disease and the skin condition dermatitis herpetiformis. In addition, some patients may request a gluten free meal to alleviate other health issues, for example gluten sensitivity, irritable bowel syndrome or they may have coeliac disease but not have a medical diagnosis. Commission Implementing Regulation (EU) 828/2014 covers the labelling of gluten free foods and applies to food businesses within the UK. The gluten labelling rules cover foods served in catering establishments as well as pre-packaged food. By law, the term 'gluten free' may be applied only to food which has 20 parts per million (ppm) or 20 mg/kg or less of gluten.
Menu Planning Guidance	For people with coeliac disease or dermatitis herpetiformis in a care or healthcare setting where their personal choice is restricted, a menu with gluten free choices must be made available. Depending on your food service system there are different options for delivering this. Whichever solution or combination of solutions is used, it is important that front line food service assistants, catering and nursing staff are aware of the different nomenclature used on menus and should receive training to enable their complete understanding of the subject. Pre-packaged gluten free meal solutions - this may involve buying in a complete meal solution from a specialist dietary meals supplier or meals from regular suppliers that are labelled gluten free. Meals labelled gluten free must contain no more than 20ppm gluten. This also applies to all items on a menu, for example cereals, soups, yoghurts, desserts and biscuits. Prepared meals - Depending on your production environment, you may be able to prepare gluten free meals in house to provide more choice for patients. Production of meals in a diet preparation area requires training of staff and separation of processes, equipment and ingredients as well as certification from ingredient suppliers about gluten levels. Meals can be produced with acceptable gluten levels of 20ppm or less when conditions and procedures are put in place to control cross contamination. Coeliac UK has produced guidance on preparing gluten free meals for caterers in collaboration with the Food Standards Agency (Coeliac UK, 2017). Available at: https://www.coeliac.org.uk/food-industry-professionals/caterers-and-restaurateurs/ [Last accessed: 10.06.19] (continues on next page)

Gluten Free continued

Diet	Gluten Free
Menu Planning Guidance	Hospitals need to ensure that ingredients used to prepare gluten free meals do not contain gluten. Ingredient suppliers must provide you with information on all the main allergens in the ingredients and products you purchase from them. This includes cereals containing gluten. They should also follow Food Standards Agency guidance on communicating risk of contamination with allergens during manufacture. Identifying individual meals as NGCI on menus or using coding is not permitted. However, it is acceptable to produce a separate menu listing dishes that do not contain any gluten containing ingredients and where controls are in place to avoid cross contamination with gluten containing ingredients, for example a 'No gluten containing ingredients' (NGCI) menu (Coeliac UK, 2016). **Allergen Policy for Gluten** Healthcare establishments must: • Have a written policy for providing gluten free meals. This should cover the meals and snacks available to patients requiring a GF diet, the menus available for patients to choose from and the controls in place to ensure GF meals and snacks are sourced, prepared and served to eliminate cross contamination • Ensure a policy is in place to cover training for all staff involved in providing meals i.e. Dietitians, front line food service assistants, catering and nursing staff • Provide written materials for patients that help support informed choices and reflect what catering staff have been trained on and are able to provide. Care should be taken to ensure cross contamination does not occur at any stage of food preparation, for example: Gluten free bread must be toasted using a clean grill or toaster bags due to the risk of cross contamination. In a catering environment where bulk multi-portions are used, if the meals from the supplier are coded gluten free then they must be served with care taken to avoid cross contamination with gluten containing ingredients and utensils. Each hospital will have and need different controls and processes to consistently produce meals for patients requiring a GF diet.
References	Coeliac UK (2016) Gluten-free and NGCI from July 2016 http://www.coeliac.org.uk/food-industry-professionals/gluten-free-and-the-law/gluten-free-and-no-gluten-containing-ingredients-from-july-2016/ [Last accessed: 10.06.19]
Further information	For further information on catering training and to download free guidance refer to the Coeliac UK website www.coeliac.org.uk/catering [Last accessed: 10.06.19]
Source	We are grateful to Norma McGough and Coeliac UK for their contribution to this section.

Low FODMAP

Diet	Low FODMAP
Suggested Menu Type	À la carte
Patient Groups Suitability	Patients with irritable bowel syndrome
Rationale for Diet	A low FODMAP (Fermentable, Oligo-saccharides, Disaccharides, Mono-saccharides And Polyols) diet is a diet restricted in short-chain fermentable carbohydrates and is often used for people with irritable bowel syndrome when general lifestyle and dietary advice have been trialled and symptoms still exist. A low FODMAP diet can be an effective treatment for gut symptoms such as bloating, abdominal pain and altered bowel habit.
Menu Planning Guidance	Foods to avoid when following a low FODMAP diet include: Oligosaccharides (fructans, galacto-oligosaccharides) – wheat, barley, rye, onion, leek, white part of spring onion, garlic, shallots, artichokes, beetroot, fennel, peas, chicory, pistachio, cashews, legumes, lentils and chickpeas Disaccharides (lactose) – milk, custard, ice cream and yoghurt Monosaccharides (fructose) – apples, pears, mangoes, cherries, watermelon, asparagus, sugar snap peas, honey and high fructose corn syrup Polyols (sorbitol, mannitol, maltitol, xylitol) – apples, pears, apricots, cherries, nectarines, peaches, plums, watermelon, mushrooms, cauliflower and sugar free chewing gum/ mints/sweets It is important to try and establish which stage of the diet patients are on, if they are at a reintroduction stage they may be able to consume foods from the groups above without problems and the diet will be less restrictive. Close liaison with a Dietitian trained in Low FODMAP diets and the catering department will be required for patients following the above diet.
Further Information	http://www.drschaer-institute.com/uk/irritable-bowel-syndrome/therapy-1079.html [Last accessed: 10.06.19]
Source	We are grateful to Adele Thompson Gastroenterology Dietitian for her contribution to this section.

Neutropenic Diet

Diet	Neutropenic
Menu Diet Code	N/A
Suggested Menu Type	À la carte
Patient Groups Suitability	Some cancer patients Haematology patients Bone marrow transplant (haematopoietic stem cell transplantation*) patients e.g. For the treatment of leukaemia, lymphomas, some solid tumours, other haematological conditions such as severe aplastic anaemia or autoimmune or hereditary immune disorders Organ transplant patients Those with Acquired Immunodeficiency Syndrome (AIDS). *Haematopoietic stem cell transplantation, sometimes phrased as 'bone marrow transplant', is a complex procedure involving high dose chemotherapy conditioning which in some cases may include total body irradiation (TBI). This is then followed by the administration of stem cells. Following transplantation patients will experience a period of neutropenia (low neutrophil count) and will be advised to follow a neutropenic (clean/low microbial) diet
Rationale for Diet	A neutropenic diet is sometimes referred to as a 'clean diet' or 'low microbial diet'. It is used for patients who are immuno-suppressed and therefore at an increased risk of infection. Dietary restrictions are recommended to reduce the risk of infection but nutrition must not be compromised.
Menu Planning Guidance	These patient groups are frequently in-patients for prolonged periods and may have regular readmissions for treatment so menu fatigue can occur. Where possible these patients should be offered the widest choice with a variety of menus and food service styles to combat menu fatigue and altered taste perception. **Practical Information** Particular care needs to be taken to protect neutropenic (immuno-compromised) patients from pathogenic bacteria and the risk of food poisoning: • Catering/serving staff may require additional training regarding the specific needs of patients with neutropenia • Wash hands thoroughly prior to serving neutropenic patients. • Make sure trays and cutlery are scrupulously clean. They should preferably have been through a dishwasher rather than hand washed in order to reach temperatures high enough to kill harmful bacteria • Always serve these patients first to ensure their meals are as hot as possible. Any hot food served should be thoroughly cooked, reaching a temperature of at least 75°C • Check all foods and drinks served are within their use by/best before dates • Do not use damaged packets or dented tins • Do not use food from overloaded fridges and freezers as it may not be cold enough • Even chilled items should be eaten soon after purchase as Listeria can multiply at low temperatures in refrigerators • All food should be consumed within the 'best before' and 'use by' dates. (continues on next page)

Food practices vary widely and below are some of the most common precautions:

Table 11.8: Common Foods to Avoid and Alternatives for Neutropenic Diets

Avoid	Alternatives
Soft ripened cheese e.g. Brie, Camembert, goats cheese, paneer and labnah	Processed cheese e.g. Dairylea, Kraft, Philadelphia, mesh and halloumi
Blue veined cheese e.g. Danish blue and Stilton	Vacuum - packed pasteurised and hard cheese e.g. cheddar and Edam
Raw or lightly cooked shellfish	Well-cooked shellfish e.g. prawn curry
Raw/undercooked meat, poultry or fish e.g. meat which is still pink, sushi; smoked items e.g. salmon or Parma ham, salami, caviar and oysters	Well cooked meat, poultry and fish; vacuum - packed cold meats such as turkey and ham; tinned meat and fish
Raw eggs or undercooked eggs e.g. homemade mayonnaise, homemade ice cream, mousse, eggnog, meringue and hollandaise sauce	Hard boiled eggs: shop bought mayonnaise, ice cream and other products made with pasteurised egg
Probiotics, live or bio products e.g. supplements and drinks containing probiotics	Pasteurised plain, fruit yoghurts e.g. thick and creamy or Greek yoghurts, live yoghurts or yoghurt products e.g. lassi
Pâté	Pasteurised pâté and paste in tins or jars that do not need to be refrigerated.
All unpasteurised dairy products e.g. unpasteurised cheese such as parmesan or milk sold from local farms	Any pasteurised milk, soya milk, jersey milk, UHT milk and cheese products

Stricter guidelines for patients with profound neutropenia

These guidelines are particularly strict and are only relevant for patients with a severely compromised immune system. These should be followed in addition to the guidance above. You will need to be aware of local policy guidelines.

Table 11.9: Common Foods to Avoid and Alternatives for Stricter Neutropenic Diets

Avoid	Alternatives
Raw unpeeled fruit and vegetables including salad items, damaged or over-ripe fruit and vegetables	Good quality fruit and vegetables that are well cooked; peeled oranges and bananas; tinned fruit
Unpasteurised or freshly squeezed fruit or vegetable juice or smoothies	UHT or long-life fruit juices - in cartons or jars; pasteurised smoothies
Raw dried fruit - products containing these e.g. muesli, Bombay mix, confectionery	Cooked dried fruit e.g. fruitcake, flapjacks or cereal bars
Uncooked herbs, spices and pepper	Cooked herbs, spices and pepper
Unpasteurised or 'farm fresh' honey and honeycomb	Pasteurised or heat-treated honey
Unnecessarily large packets of food items from pick and mix, universal /shared jars; 'deli counter' foods e.g. olives, houmous, shawarma and baklava	Ideally packets should be for personal use only e.g. butter, sweets, pickles, small packets of food, houmous and baklava

Notes:
Some hospitals request that only disposable cutlery and plates are used
Some hospitals may require the staff to wear a fresh apron and gloves when serving these patients. Neutropenic patients are usually accommodated in isolation rooms. Other hospitals will only allow nursing staff to enter the room of neutropenic patients

Some hospitals may allow microwave-cooked meals for patients as long as the local Hazard Analysis Critical Control Point (HACCP) (see Chapter 5 for further HACCP information) is followed and core temperature has been carefully checked and noted, and they are cooked strictly to manufacturer's guidelines.

Check with your hospital for their policy regarding foods brought in by visitors.

Check your hospital's supplier of ice cream.

Drinking Water
Due to contamination of bottled mineral water by coliforms and Listeria, freshly run tap water is recommend for neutropenic patients. Commercial quality water filtration is recommended where institutional tap water is at risk of contamination from Legionella. There is no evidence that sterilised water would be of benefit to immuno-compromised patients. You should liaise with your hospital Microbiology Department with regards to local guidelines.

Further Information	Bloodwise (2017) Eating well with neutropenia https://bloodwise.org.uk/sites/default/files/documents/Eating_Well_With_Neutropenia_2017_0.pdf [Last accessed: 10.06.19] British Dietetic Association (2016) Haematology policy statement for dietary advice in neutropenic patients www.bda.uk.com/improvinghealth/healthprofessionals/neutropenic_dietary_advice_for_haematology_patients [Last accessed: 10.06.19]
Source	We are grateful to the Haematology Sub Group of the BDA Oncology Specialist Group for their original contribution to this section and Natasha Jones - Chairperson of the Haematology Sub Group of the BDA Oncology Specialist Group for her contribution to the revision of this section.

4. Specific Patient Groups

There are a number of special groups within the general hospital population whose nutritional requirements may vary from the standards already specified. These may include but are not limited to children, critical care and mental health patients and those most vulnerable or high risk such as those highlighted through nutritional screening (BAPEN,2006). Menus need to be planned or additional options offered to take varying requirements into consideration. Operational and cost issues need to be considered in these cases.

Children

The principle of nutritionally well and nutritionally vulnerable inpatients applies to children in hospital as much as it does to adults. Therefore, menus should provide a range of options to cater for both types of patient.

Objectives

To ensure that all children and young people admitted to hospital:

- have options available to allow them to eat a well-balanced diet of healthy food, as outlined by national guidelines
- have available sufficient food of good quality to meet their nutritional requirements

Recommendations

Good eating habits can be encouraged by the hospital menu and by the availability of healthy snacks, including good quality fresh fruit and drinks, including water. The Eatwell Guide (see Figure 8.3) shows the five food groups and the balance to aim for throughout the day.

Although this does not apply to children under the age of two years as they have different nutritional needs, children between the ages of two and five years should gradually move towards eating the same foods as the rest of the family, in proportions as shown in The Eatwell Guide.

Healthy eating recommendations for those aged over five years are:

- total fat should not provide more than 35% of dietary energy
- saturated fat should not provide more than 11% of dietary energy
- free sugars should not provide more than 5% of dietary energy.

For hospitalised children and young people, the relative proportions of the food groups in The Eatwell Guide may not be appropriate (as they may have a greater reliance on energy dense foods and snacks – high in fat and/or sugar).

The focus of nutritional provision from hospital food should be on achievement of an adequate energy intake. An average day's intake from breakfast, two main meals, two to three snacks and milk (or a suitable alternative), should meet the Estimated Average Requirement (EAR).

Nutrient Provision

The UK Department of Health's Dietary Reference Values can be used as a guideline for nutritional requirements, although it must be remembered that these are applicable for healthy groups of children and may not necessarily be appropriate for individual sick children.

Following a day parts approach as recommended in this document (Table 9.2) and Eating Well at School (CWT, 2005) the following guidelines on energy, protein and salt can be extrapolated for hospital menus. In line with recommendations for adults, hospital menus for children should offer five portions of fruits and vegetables a day and at least one serving of oily fish a week.

Table 11.10: Nutrient Provision Guidelines for Children

	Breakfast	Lunch	Snacks & Drinks	Supper
Energy % EAR	20%	30%	20%	30%
Protein % RNI	20%	30%	20%	30%
Salt % SACN recommendations	20%	30%	20%	30%

The following table suggests average nutrient guidelines for lunch and supper for nutritionally well children. This is based on the SACN (2011) Estimated Average Requirements for Children, SACN (2003) salt targets for children, and the Reference Nutrient Intakes (RNIs) for protein.

It is advisable that menus for children in hospital have the capacity to meet both the minimum and maximum nutritional requirements.

Table 11.11: Average Nutrient Guidelines for Lunch and Supper for Nutritionally Well Children

Gender	Mixed (average)	Mixed (average)	Mixed (average)	Mixed (average)
Age	4-6 years	7-10 years	11-14 years	15-18 years
Energy (kcal)	429	528	675	675
Fat (g)	17	21	26	26
Saturated fat (g)	5	6	8	8
Free sugars (g)	5	7	9	9
Protein (g)	6	9	13	15
Salt (g)	0.9	1.5	1.8	1.8

The NHS document Better Hospital Food (NHS Estates, 2003) suggests that the main emphasis should be on assessing whether the hospital meals provide adequate energy, as protein requirements are nearly always met when the energy requirements are achieved.

Analysis of free sugar provision from main meals may not be helpful, as sugar may be a useful source of energy in hospitalised children who have increased energy requirements and/or reduced appetite. Similarly, sick children may need a higher fat intake than healthy children in the community.

Full nutritional adequacy and hydration can only be met by offering three main meals, snacks and drinks. Patient and parental food choices from the menu will influence the nutritional adequacy of the individual child's diet.

Younger children (under four years) may obtain more of their nutrition spread across frequent meals, snacks and drinks. The above guidelines cannot be used for this age group.

We are grateful to Louise McAlister, Specialist Paediatric Dietitian at Great Ormond Street Hospital (GOSH) for her contribution to this chapter.

Critical Illness

During critical illness, the body initiates an inflammatory response which can have significant effects on metabolism increasing the calorie and protein requirements throughout the intensive care (ICU) stay and the recovery process. Many patients admitted to the ICU may already be malnourished and significant weight loss and muscle wastage can occur during critical illness, with patients losing as much as 2% muscle mass per day in the first 7 days (Puthucheary *et al*., 2013).

As a patient moves into the recovery phase following critical illness their energy and protein requirements remain increased so it is vital that adequate nutritional care is provided as these patients move to the ward setting to aid their recovery.

Many patients may continue to have feeding tubes in situ, post ICU, to help them to meet their requirements but many will attempt to start taking an oral diet. A recent qualitative study (Merriweather et al., 2016) identified several barriers to achieving adequate nutritional intake in patients following critical illness. These included:

- Poor appetite
- Early satiety
- Taste changes
- Weakness resulting in inability to feed oneself
- Dysphagia may also be experienced in some patients (Scoretz *et al*., 2010).

It is therefore vital to ensure that food provided is high in calories and especially protein and of the appropriate consistency for the patient. (See section on high risk of malnutrition earlier in this chapter for strategies to enhance the nutritional care of these patients).

Many patients will often continue to need additional support from oral nutritional supplements or NG feeding but by providing the appropriate diet once they are on the ward should help aid the transition to oral intake and less need for reliance on artificial nutrition support.

We are grateful to Lucy Morgan Chairperson of the BDA Critical Care Specialist Group for their contribution to this section.

Obesity

Given the increasing prevalence of obesity among children and adults, it is likely that many patients will be overweight or obese. Whilst the needs of individuals may vary, some general principles apply.

The most preferable menu option for most obese people will be the healthier eating choice. However, people cannot be forced to choose it, although they should be made aware that it is the most appropriate option for them. For some obese people, it is likely that eating from the hospital menu will result in lower energy intake than is usual for them.

Sensitive guidance about suitable snack foods and drinks should also be given to overweight and obese individuals and their visitors, to minimise the possibility that high calorie food and drink snacks will be given to them. As well as providing suitable guidance in a sensitive way, the way in which the issue of weight is raised initially is fundamental and could have a substantial influence on how any subsequent information is received.

The new national Eatwell Guide (PHE, 2016) recommends water and low-calorie drink choices for all the population, and this is especially relevant for those who are already overweight or obese. In all hospitals and healthcare premises there should be:

- Readily available water
- Reduced availability of high calorie/sugar drinks
- Available guidance for families and visitors on appropriate drinks choices.

Maintaining adequate hydration is very important particularly on wards which are often very warm. Those with reduced mobility (e.g. very overweight) may be reluctant to drink adequate quantities in order to reduce their need for the toilet, and may need encouragement to drink adequate quantities of suitable drinks. They may also need assistance in accessing adequate quantities of drinks.

Those who are overweight or obese are likely to have at least one co-morbidity, which may affect their nutritional requirements. The nutritional status of all overweight and obese individuals should be regularly monitored, in line with the accepted practice recommended by the tool used to assess nutritional status. The principle that it is possible to be undernourished with regard to vital nutrients, while carrying excess body fat, applies. Likewise, it is possible that an overweight person may already have lost or be losing substantial body weight, and still be classified as overweight.

Bariatric patients will be covered under the specific guidance of the bariatric unit, with the advice and guidance of the bariatric team including the dietitian; this group falls outside of the scope of this guidance.

With overweight children, the general principle of ensuring the availability of familiar foods, whilst avoiding encouraging unhealthy habits, should be applied. For children over the age of 5 years, general healthy eating principles apply, although any special dietary requirements

resulting from medical conditions will take priority.

We are grateful to Hilda Mulrooney & Helen Croker and the Obesity Group of the British Dietetic Association for their contribution to this section.

Older People

The nutritional recommendations for the majority of people aged 65 or over are to follow similar patterns of eating and lifestyle to those advised for maintaining health in younger adults. However, the older persons requirements need tailoring in this life stage as they are not a homogenous group, having very diverse health and nutritional needs being nutritionally well or nutritionally vulnerable at times.

For older people living with diabetes the nutritional requirements can differ to the general recommendations for people with diabetes. Healthier eating options may reduce energy intake further for those who are underweight. Higher energy, higher protein options may be more appropriate for some patients. Dietitians can provide advice for specific individual requirements and discussion with the healthcare team may be indicated.

Selecting the most appropriate fluids is also important in this group e.g. water would be fine for those who are nutritionally well, and milkshake or fortified milk may be more appropriate choices for nutritionally vulnerable.

We are grateful to the BDA Older People's Specialist Group for their contribution to this section.

Dementia/Cognitive Impairment

People who have dementia have been found to account for ten times more admissions to hospitals when compared to age-matched controls (Natalwala et a.,l 2008). Patients may experience a number of stages in the disease, from early difficulties with complex tasks to the terminal phases where patients become increasingly immobile and bed bound. The risk of malnutrition increases as dementia progresses (Alzheimer's UK 2016). A recent meta-analysis found an individualised patient centred approach to address peoples' different needs to be the most beneficial (Abdelhamid et al., 2016).

New guidelines related to providing care for patients with dementia has been released by NHS Improvement, which includes guidelines for nutrition (NHS improvement, 2017).

Practical Information

To enhance nutritional intake for patients with dementia consider the following strategies:

- Ensure food and fluid is available 24 hours/day. People may be more alert at different times of day and may wish to eat at different times
- Ensure texture modified foods are available for those who experience dysphagia
- Adapted crockery and cutlery may make it easier for those who have physical or visual impairment
- Food fortification/High energy meals and snacks for those who are nutritionally vulnerable
- Ensure dietary needs (food consistency, level of assistance, likes and dislikes) are assessed on admission and a care plan is completed and regularly updated with any changes
- Activities and good communication with staff, family and volunteers may engage a person who has dementia and therefore they may eat more if they are feeling content
- Music may help.

Further Information

More information including practical strategies to address behavioural issues and sample menus can be seen in The Eating Well: Supporting Older People and older People with Dementia (2011) accessed at http://www.cwt.org.uk/wp-content/uploads/2014/07/EW-Old-Dementia-Practical-Resource.pdf [Last accessed 10.06.19].

We are grateful to Kirsty Robinson & the BDA Older People's Specialist Group for their contribution to this section

Cancer

People with cancer are at high risk of weight loss and under-nutrition because of both the physical and psychological effects of the disease and the treatment of it. Many oncology patients may experience difficulties swallowing either due to the cancer itself obstructing their swallow or due to the treatment they are receiving causing side effects such as dry or sore mouths. Common side effects include:

- Loss of appetite
- Tiredness
- Nausea and vomiting
- Sore/dry mouth

- Sore throat
- Taste changes
- Diarrhoea
- Constipation
- Weight loss.

Side effects vary from person to person but the benefits of good nutrition throughout the phases of treatment and recovery must not be underestimated. The food a patient with cancer may require will change over time and it is important to adapt food intake to cope with the body's changing needs. Good nutrition helps wounds and damaged tissues heal better, improve the body's immune function and helps people maintain an optimum nutritional status. Even if there are no nutritional problems identified, the importance of good nutrition by means of a healthy, well balanced diet cannot be overlooked and should be reflected in the patient menu.

Practical Information

Catering provision should be flexible and may include:

- Offering smaller portioned main meals
- Making available appropriate high calorie/ high protein foods
- Provision extra snacks and nourishing drinks e.g. Meritene, Complan or full fat milk
- Provision of moist meals with extra sauces or gravy and dessert sauces such as custard
- Texture modified meals for those with severe swallowing difficulties.

Some patients believe in alternative or complementary diets in treating cancer. A complementary diet uses specific foods or practices as part of the usual dietary intake. Examples include organic foods or higher fibre foods. Alternative diets are a form of diet that is used instead of the standard dietary recommendations. Such alternative diets may claim to cure cancer and as such may have possible harmful effects because they are often so restrictive that it is impossible to obtain adequate nutrition.

There is no scientific evidence for such diets. It would be important to work with the hospital Dietitian and act on any specific dietetic instruction in a responsible manner. For some patients, the wish to follow an alternate diet may be as much about nurturing hope as health.

We are grateful to the BDA Oncology Specialist group (Haematology sub group) for their original contribution to this section and the BDA Oncology Specialist group for the review for the current publication.

Mental Health

Mental health in-patient services provide care for patients with a wide range of psychiatric diagnoses, and include acute psychiatric care, secure care through to recovery and rehabilitation services. Patients may be detained under the Mental Health Act or may choose to be admitted informally, and length of stay can vary from days to years. Child and Adolescent Mental Health Services (CAMHS) inpatient services are highly specialised for treating young people with the most complex needs.

Good nutritional care is a core responsibility for the physical and mental health of all patients and Hospital Food Standards and principles of good nutritional care will apply to these services as in any other setting. The Mental Health Act; Code of Practice (DH, 2015) stipulates that 'Every food provider should have a food and drink strategy that covers; nutrition and hydration needs of patients; healthier eating for the whole hospital community and sustainable procurement of food and catering services.' There is also additional guidance for specific units such as Eating Disorder Units (RCPsych, 2013) and secure services (RCPsych, 2016).

As well as the potential to present with any therapeutic dietary need found within the general population, patients often fall into either of two groups: those who are undernourished, or at high risk of under-nutrition; or those who are overweight, obese or at risk of unhealthy weight gain (NICE, 2012).

People with mental health problems are vulnerable to developing chronic conditions such as obesity, diabetes and dyslipidaemias (NICE 2011, 2014). Rates of obesity are much higher in people with severe mental health problems than in the general public, and people diagnosed with schizophrenia are reported to have a 2–3 times greater premature mortality rate than the general population, mainly due to cardiovascular disease (PHE, 2017). The food service and environment play an integral part in supporting patients in making informed choices for good health.

Timing of meals and snacks should be carefully considered as patients may rise late, missing breakfast and go to bed late, so becoming hungry during the evening and tending to snack. Medications used in the treatment of many mental health conditions are associated with increased thirst and hunger, therefore lower calorie snacks should be provided and low-calorie sweeteners and drinks should be available. The DH (2014) has highlighted the role hospitals have as beacons of good practice in supporting healthier choices and the importance of healthier eating for the whole hospital community. This applies to staff restaurants and the wider hospital environment such as on-site shops and vending machines. To best meet peoples' needs, some services may limit availability of food; they should have written guidance on this to ensure least restrictive practice is considered.

Older people with mental health needs, such as dementia, where weight loss is a concern, may benefit from a menu that includes easy to chew high energy options and the provision of finger food snacks between meals. Poor condition of teeth and gums may reduce consumption of fruits and vegetables; therefore, the daily provision of vitamin C containing juices each day is of value.

Finger foods and food which does not need cutting up may also be needed for those who have been assessed as unsafe to use cutlery. Paper spoons can be sourced for these circumstances. Dysphagia may be relatively common in the mental health in-patient setting, and some service users may require a modified texture diet on a long-term basis.

Patients with Autistic Spectrum Disorder (ASD) may present with very limited food preferences. Menus should be clear in their descriptions and offer simple as well as composite dishes. For those who are very mentally unwell, distorted eating patterns and restrictive eating may result so a flexible approach to food provision will be needed to ensure nutritional adequacy.

The importance of a positive mealtime experience is increased in long stay settings where the environment may be restricted. Attention should be given to adequate staffing and possibility of shared mealtimes, especially in CAMHS units where role modelling has real value in shaping future behaviours and social eating.

Medication may adversely affect bowel function and a higher fibre intake, encouragement towards physical activity and ensuring adequate fluids should be encouraged. Occasionally weight loss medication may be prescribed for patients with obesity and a low-fat diet may be required.

Monoamine Oxidase Inhibitor (MAOI) medications, are used to treat depression, however these have largely been superseded by newer medications. These stop the breakdown of tyramine leading to very high blood pressure and if prescribed for an individual, refer to patient information for guidance on foods to avoid with the specific drug.

Secure standards require facilities for patients to make their own hot and cold drinks and snacks. They also stipulate that patients are to be provided with meals which offer choice, ensure a balanced diet and provide for specific dietary requirements and which are also sufficient in quantity. Meals should be varied and reflect the individual's cultural and religious needs.

Practical Information

Tailor menus to take account of the clinical priorities of the patient population and provide appropriate choices, while still ensuring provision for individual needs.

Pictorial menus are a useful way to involve patients with cognitive or communication difficulties with making their own mealtime choices.

Menu fatigue can be problematic for long stay patients, so menus should offer as many choices as can be practicably achieved and be reviewed regularly, involving patients were possible.

Ensure healthier eating options are available at all mealtimes and clearly identified on menus to help support patients making positive lifestyle choices.
The 'Eatwell Guide' (PHE, 2016) or principles of the Mediterranean Diet are appropriate as a basis for educating patients on eating well for their mental health.

Nutrients that have a specific function in supporting mental health, cognitive function and physical health including omega-3 fatty acids (specifically EPA and DHA), and a wide range of vitamins and minerals provided by a micro-nutrient rich diet should be well represented in the food provision (Mental Health Foundation, 2017).

Patients on medications that increase sun sensitivity requiring a high factor sunscreen, and long stay patients, who may spend a significant part of their day indoors, may be particularly at risk of Vitamin D deficiency and may require Vitamin D supplementation (DH, 2012, NICE, 2014).

We are grateful to the BDA Mental Health Specialist Group for their contribution to this section.

5. Test or Investigation Diets

Some diets are temporary and are not necessarily nutritionally adequate. They are usually required for a test or investigation such as food or fluid items for a swallow assessment, a laxative treatment or a 'fluids only' diet pre or post-surgery.

Low Residue/Restricted Fibre Diet

Commonly these diets are used for reducing fibre in the diet. General information about what low residue/restricted fibre diets contain can vary. Therefore, local guidance should be used for these diets.

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Further Reading

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National Nurses Nutrition Group
(http://www.nnng.org.uk/) [Last accessed: 3.10.17]

Halal Monitoring Committee UK
(https://halalhmc.org) [Last accessed: 3.10.17]

Appendices

A

Appendix 1: Using Food as Fortification Agents

Practical Ways to Fortify Foods in Hospital

General

Additional fillings in sandwiches e.g. cheese and ham plus coleslaw with full fat mayonnaise
Provide milk based sauces e.g. cheese sauce, white sauce to accompany vegetables, meats and pasta dishes

Adding Extra Fat

- Add skimmed milk powder to liquid milk, milk puddings, soups and sauces
- Single /double cream portions or condensed milk added to breakfast cereals, porridge, puddings, hot drinks and soups
- Butter or unsaturated spread portions to add to vegetables and potatoes
- Grated cheese portions to add to mashed potato, soups and to sprinkle over main dishes
- Additional fat by deep frying, e.g. pineapple fritters
- Condiments such as mayonnaise and salad cream sachets for adding to salads or jacket potatoes
- Choose cooking methods that include adding oil or fat e.g. shallow frying, roasting
- Use whole milk for all food and beverages allowances and full fat milk products e.g. yoghurts.

Adding Extra Sugar

- Sugar sachets added to fruit juice, stewed fruit, desserts and cereals
- Serving fruit in syrup instead of fruit in natural juice; offer with cream for an even greater impact
- Honey or jam for addition to desserts, porridge and breakfast cereals
- Sauces added to ice cream.

https://www.bda.uk.com/foodfacts/MalnutritionFactSheet.pdf [Last accessed 16.05.17]

Appendix 2: Example of Menu Assessment Checklist

1	Starches and Carbohydrates	Yes	Comment
a	Is there a choice of higher and lower fibre cereals at breakfast?		
b	Is there a selection of breads available to accompany all mealtimes? e.g. white and wholemeal		
c	Is there a healthier plain starchy carbohydrate at each main meal? e.g. boiled potato, rice		
d	Is there a higher energy (i.e. added fat) starchy carbohydrate at each main meal? e.g. chips, roast or creamed potatoes		
e	Is there an appropriate source of carbohydrate in modified texture meals?		
2	**Fruit and Vegetables**	**Yes**	**Comment**
a	Is the total food offer including snacks, capable of providing at least 5 servings of fruit and vegetables throughout the day?		
b	Does the food offer include fresh fruit throughout the day, at main meals and as a snack option		
c	Can a patient choose from 2 vegetables or vegetable and salad at each main meal?		
d	Is there an easy to chew vegetable at each main meal? e.g. carrots, swede, broccoli		
e	Do modified texture meals include fruit and vegetables?		
3	**Meat, Fish, Eggs, Beans and other sources of protein**	**Yes**	**Comment**
a	Is a cooked breakfast available for identified patients		
b	Is there an identified source of protein in the vegetarian option at each mealtime?		
c	Is the menu capable of providing 2 portions of fish every week, one of which should be oily?		
4	**Milk and Dairy Foods**	Yes	Comment
a	Is 400mls milk for beverages allocated per day?		
b	Is semi skimmed milk available for beverages?		
c	Is whole milk available for beverages?		
d	Is semi skimmed milk available for breakfast?		
e	Is whole milk available for breakfast?		
f	Are milk-based desserts available at each main meal? E.g. custard, milk puddings		
g	Is additional milk available for nutritionally vulnerable patients e.g. for milky drinks or for mixing appropriate supplements		

5	Fats and Sugars	Yes	Comment
a	Is butter available?		
b	Is unsaturated spread available?		
c	Are standard preserves available?		
d	Is fruit or a fruit based dessert available at each main meal? E.g. fruit crumble, apple Charlotte		
e	Is orange juice available at each mealtime?		
6	**Overall Choice Standard Menu**	**Yes**	**Comment**
a	Is there a higher energy choice available on the menu at each main meal?		
b	Are pastry products available no more than once per course per mealtime or less?		
c	Is there a healthier eating choice each main meal?		
d	Is there an easy to chew choice at each main meal?		
e	Is there a hot vegetarian choice available at each main meal?		
f	Are there vegetarian options available, other than cheese and egg-based ones?		
g	Is there significant choice on the menu during the cycle with limited repetition?		
h	Is the menu capable of meeting the food preferences of the end users?		
7	**Other Menus**	**Yes**	**Comment**
a	Are arrangements in place for meeting dietary needs that cannot be provided from the standard menu?		
b	Is there a menu capable of catering for different religious or cultural groups? If not, how are these meals provided?		
c	Is there a menu (s) capable of meeting the needs of specific groups identified through menu consultation?		
8	**24 Hour Provision including allergen provision**	**Yes**	**Comment**
a	Is there an out of hour's menu?		
b	Is there sufficient provision of fluid and beverages to meet people's hydration requirements? Including decaffeinated beverages and cold drinks		
c	Are there appropriate snacks provided in-between meals to meet dietary and special needs?		
9	**Service Provision**	**Yes**	**Comment**
a	Is there a range of condiments available to complement all meal services? e.g. tomato sauce, brown sauce, vinegar, mustard, salad cream and pepper?		
b	Is suitable gravy/sauce available at all meal services?		
c	Is it clear how food is portioned and what the menu portions are?		

10	Catering Department and Service Information	Yes	Comment
a	Is appropriate ingredient information available at the point of service?		
b	Is appropriate allergen information available at the point of service?		
c	Is appropriate nutrition information available per portion at point of service?		
d	Can food items for special diets and food allergies be accessed 24/7?		
e	Is the menu in a format that is easy to understand by the patient's using it?		
f	Is there evidence of user and MDT input in the menu design?		
g	Is the menu analysis compliant with BDA guidance for nutritionally well and nutritionally vulnerable patients?		
h	Are all food items on the menu expressed in clear non-ambiguous language?		
i	Are there clear guidelines on food storage at ward level?		
j	Are snacks offered to patients during the day that meet the nutritional specification in BDA Digest?		
	Other local considerations		

Appendix 3: Revised Population Estimated Average Requirement (EAR) Values for Adults

Age Range (Years)	Men		Women	
	Height cm [a]	**EAR MJ/d(kcal/d)** [b]	**Height cm** [a]	**EAR MJ/d(kcal/d)** [b]
19 - 24	178	11.6 (2772)	163	9.1 (2175)
25 – 34	178	11.5 (2749)	163	9.1 (2175)
35 - 44	176	11.0 (2629)	163	8.8 (2103)
45 - 54	175	10.8 (2581)	162	8.8 (2103)
55 - 64	174	10.8 (2581)	161	8.7 (2079)
65 - 74	173	9.8 (2342)	159	8.0 (1912)
75+	170	9.6 (2294)	155	7.7 (1840)
All Adults	175	10.9 (2605)	162	8.7 (2079)
[a] Values for illustration derive from mean heights in 2009 for England (Health Survey for England 2009) (NHS IC, 2010)				
[b] Median PAL = 1.63				

Endorsements

NHS England welcomes the refresh of the 'The Nutrition and Hydration Digest: Improving Outcomes through Food and Beverage Services' which is better known as 'The Digest' . Regardless of the care setting, nutrition and hydration is the most fundamental and basic of all our needs; we are beholden to get this right for the people it matters most to. Our hope is that this resource continues to provide the needed spotlight on nutrition and hydration in a way that equips practitioners to consistently deliver high quality nutritional care, day in and day out.

Jane Cummings,
Chief Nursing Officer, NHS England

Neil Churchill,
Director for Participation and Experience, NHS England

Food and drink provided for patients in care settings is an essential element of care, and the benefits of improving nutritional care and providing adequate hydration are considerable. Patients tell us that they value food that tastes good and is served at the right temperature, and having choice in the food they are offered. We welcome this latest edition of the Digest, and are hopeful that it will help to ensure all patients get food and hydration to meet their needs.

The Patients Association

Nutrition and hydration are the foundations of good health and wellbeing. Everyone that works within health and social care services must be mindful of both, whilst also meeting the individual needs and preferences of patients and residents. The National Association of Care Catering is dedicated to raising awareness of the importance of good nutrition and hydration in care environments and supporting care caterers with information and guidance to ensure compliance with legislation and regulations and best practice. We therefore welcome resources, like the Nutrition and Hydration Digest, that also support social care providers in this area.

Neel Radia
National Chair, National Association of Care Catering

The Parenteral and Enteral Nutrition Group (PENG) of the BDA are delighted to support the publication of the revised Nutrition and Hydration Digest. PENG strives to support Dietitians in the delivery of excellence in nutritional care through appropriate oral, enteral and parenteral nutrition. Within a care setting the provision of appropriate food and fluid is at the heart of this. Dietitians are uniquely placed to be involved in each stage of food and fluid provision within care environments and this publication will assist in the effective delivery of nutritional care. The Digest is therefore a key document for dietitians which focuses on good practice in the provision of food and fluid within a care environment. In view of this it is relevant not just for dietitians but also as a reference point for all members of the healthcare team who have a role in food and fluid provision. The hard work which has gone into the successful revision of this document should be commended.

Jacklyn Jones PhD, RD, FHEA
Clinical Lead for Research and Audit, Parenteral and Enteral Nutrition Group of the BDA.

Eating and drinking is a basic human need and getting it right, ensuring we have the correct nutrients in our diet, is pivotal to our health, wellbeing and happiness. Without proper nutrition and hydration, we cannot survive. The human body from inception to end of life needs a balanced diet to grow and build, repair and heal, reproduce successfully, repel illness and infections, and avoid weight-related health problems.

As a clinician, a speech and language therapist, I have always known the vital contribution of food and drink in the care of individuals, whether that be in their development, recovery, rehabilitation or/and wellbeing, and been mindful of ensuring delivery of this in my practice. However, when I had a recent hospital stay the stark reality of the importance of this hit home. During my stay the food was delicious, well balanced and well presented. The people involved in delivering these food and beverage services whilst I was in hospital did a good job. I don't underestimate how highly complex the delivery of such was and is.

The Nutrition and Hydration Digest is a comprehensive resource which supports the essential delivery of such services, vital for people like me and many, many others who need to receive a basic need for health, wellbeing and happiness.

Dr Joanne Fillingham
Clinical Director Allied Health Professions and Deputy Chief Allied Health Professions Officer, NHS Improvement

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Members of the Working Group

Without doubt, it is the membership of any team which drives its direction and shapes its end result; the members of the Digest Review Working Group have worked tirelessly to make this document what it is. This team of experts have given of their expertise in order to produce a document that the rest of the dietetic and catering profession can be proud. In addition, we have been supported by dietetic representatives from the home countries and our various stakeholder groups.

Core Team

Name	Role	Organisation
Helen Ream (Chair)	Healthcare Dietitian	White Oaks, Compass Group UK and Ireland
Lisa Baker	Healthcare Dietitian	Medirest, Compass Group UK and Ireland
Lauren Bowen	Head of Patient Catering, RD	ISS Facility Services
Maxine Cartz	Healthcare Dietitian	Medirest, Compass Group UK and Ireland
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Rebecca Deeley	Nutrition and Dietetic Manager	Tillery Valley Foods
Anne Griffiths	Chief Dietitian	University Hospital North Midlands NHS Trust
Lorraine Holden	Dietetic Team Leader	Bolton NHS Foundation Trust
Anna-Maria Holt	Company Dietitian	Pelican Procurement Services
Andy Jones	Catering Consultant	AJ Associates MD
Saachi Patel	Company Dietitian	Serco
Lesley Russell	Chief Dietitian	University Hospital North Midlands NHS Trust
Sadaf Saied	Registered Dietitian	NHS and Freelance Food Service Dietitian
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Ruth Smith	Company Dietitian	Anglia Crown
Angela Tella	Freelance Dietitian	Illumina Lifestyle Consulting

Conflicts of Interest; Sourcing of Funding and Authorship

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Any remaining costs were borne by the Food Services Specialist Group but we managed to keep these to a minimum thanks to financial ‘ownership’ by all the team members.

All members of the working group signed conflicts of interest forms during the development of these guidelines. Signed copies are retained by the Chair of the working group and can be inspected by any interested party.

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Wales
Judith John
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Critical Readers

Name	Role	Organisation
Mabel Blades	Freelance Dietitian	Member Food Services Specialist Group
Anne Donelan	Registered Dietitian	Honorary member Food Services Specialist Group
Eileen Steinbock	Registered Dietitian	Honorary member Food Services Specialist Group

Stakeholder Groups and Organisations

Thanks goes to Debbie Sutton, the Chair of the Food Services Specialist group who organised and managed the dialogue with our key stakeholders for this second Edition. Our stakeholders were invited to provide comments and suggested changes to the document where they felt that this was required.

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BDA DHIVA
BDA DOM
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BDA MHG
BDA MNG
BDA Oncology Group
BDA Paediatric Group
BDA Renal Group
Coeliac UK
GOSH (Great Ormond Street Hopsital)
Hospital Caterers Association
National Association of Care Catering (NACC)
NAGE
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BDA The Association of UK Dietitians

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