Assessment and national report of the UK Healthcare Sector

REPORT: 3.2

DEVELOPING AN EU STANDARDISED APPROACH TO VOCATIONAL QUALIFICATIONS IN HEALTHCARE WASTE

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EACEA Education, Audiovisual & Culture Executive Agency

CONTENTS

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CHAPTER 1 EXECUTIVE SUMMARY

CHAPTER 2 OVERVIEW OF THE HEALTH CARE SECTOR

2.1 General description of the Health Care System

Healthcare in the United Kingdom is a devolved matter, meaning England, Northern Ireland, Scotland and Wales each have their own systems of publicly funded healthcare. A variety of differences exist between these systems, as a result of each region having different policies and priorities. However, each country provides public healthcare to all UK permanent residents that is free at the point of need, being paid for from general taxation. In addition, each also has a private healthcare sector which is considerably smaller than its public equivalent.

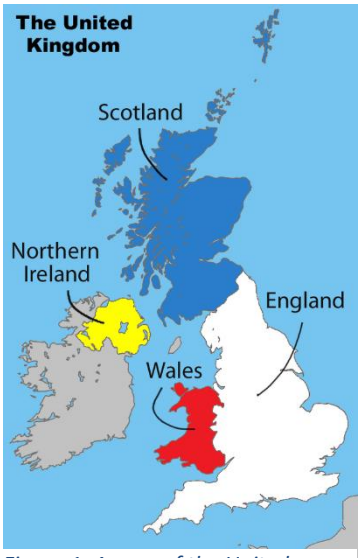


Figure 1: A map of the United Kingdom, in which responsibility for healthcare lies with four executives; Governments of Scotland, England, Northern Ireland and Wales

In their 2014 edition, the Commonwealth Fund's Mirror, Mirror on the Wall report, which ranks the top eleven first world healthcare systems, placed the United Kingdom as first overall taking first place in the following categories: Quality of Care (i.e. effective, safe, coordinated, & patient-oriented subcategories), Access to care, Efficiency, & Equity.

The four publicly funded health care systems in the countries of the United Kingdom are referred to as the National Health Service (NHS). A map of the United Kingdom, in which responsibility of healthcare lies with four executives:

- Government of the United Kingdom responsible for Healthcare in England
- Northern Ireland Executive responsible forHealthcare in Northern Ireland
- Scottish Government responsible for Healthcare in Scotland
- Welsh Government responsible for Healthcare in Wales.

These systems provide a comprehensive range of health services, the vast majority of which are free at the point of use for people legally resident in the United Kingdom. The four systems are mostly independent from each other although some functions might be routinely performed on behalf of the UK Department of Health or for one of the other three systems (e.g. Northern Ireland has no high security mental hospitals and thus depends on using hospitals in Great Britain, otherwise, they operate under different management, rules, and political authority.

The individual systems are:

- National Health Service (England)
- Health and Social Care in Northern Ireland
- NHS Scotland
- NHS Wales

All services are often referred to as "the NHS", although only the English NHS is officially called the "National Health Service". All of the services were founded in 1948, based on legislation passed in 1946, 1947 and 1948. NHS Wales was part of the same structure as England until powers over the NHS in Wales were transferred to the Secretary of State for Wales in 1969, and responsibility for NHS Wales was passed to the Welsh Assembly (now the Welsh Government) under devolution in 1999.

Common features

Each NHS system uses General Practitioners (GPs) to provide primary healthcare and to make referrals to further services as necessary. Hospitals then provide more specialist services, including care for patients with psychiatric illnesses, as well as direct access to Accident and Emergency (A&E) departments. Community pharmacies are privately owned but have contracts with the relevant health service to supply prescription drugs. Each public healthcare system also provides free (at the point of service) ambulance services for emergencies, when patients need the specialist transport only available from ambulance crews or when patients are not fit to travel home by public transport. These services are generally supplemented when necessary by the voluntary ambulance services (British Red Cross, St Andrews Ambulance Association and St John Ambulance). In addition, patient transport services by air are provided by the Scottish Ambulance Service in Scotland and elsewhere by county or regional air ambulance trusts (sometimes operated jointly with local police helicopter services) throughout England and Wales. In specific emergencies, emergency air transport is also provided by naval, military and air force aircraft of whatever type might be appropriate or available on each occasion, and dentists can only charge NHS patients at the set rates for each country. Patients opting to be treated privately do not receive any NHS funding for the treatment. About half of the income of dentists in England comes from work sub-contracted from the NHS, however not all dentists choose to do NHS work.

In England and Wales, the National Institute for Health and Clinical Excellence (NICE) sets guidelines for medical practitioners as to how various conditions should be treated and whether or not a particular treatment should be funded. These guidelines are established by panels of medical experts who specialize in the area being reviewed. In Scotland, the Scottish Medicines Consortium advises NHS Boards there about all newly licensed medicines and formulations of existing medicines as well as the use of anti-microbiotics but does not assess vaccines, branded generics, non-prescription-only medicines (POMs), blood products and substitutes or diagnostic drugs. Some new drugs are available for prescription more quickly than in the rest of the United Kingdom. At times this has led to complaints.

Role of private sector in public healthcare

From the birth of the NHS in 1948, private healthcare has continued to exist, paid for largely by private insurance. Provision of private healthcare acquired by means of private health insurance, funded as part of an employer funded healthcare scheme or paid directly by the customer, though provision can be restricted for those with

conditions such as AIDS/HIV. In recent years, despite some evidence that a large proportion of the public oppose such involvement, the private sector has been used to increase NHS capacity. In addition, there is some relatively minor sector crossover between public and private provision with it possible for some NHS patients to be treated in private healthcare facilities and some NHS facilities let out to the private sector for privately funded treatments or for pre- and post-operative care. However, since private hospitals tend to manage only routine operations and lack a level 3 critical care unit (or intensive therapy unit), unexpected emergencies may lead to the patient being transferred to an NHS hospital as very few private hospitals have a level 3 critical care unit (or intensive therapy unit), putting the patients at greater risk and costing the NHS money.

Whereas the United Kingdom Government is expanding the role of the private sector within the NHS in England, the current Scottish government is actively reducing the role of the private sector within public healthcare in Scotland and planning legislation to prevent the possibility of private companies running GP practices in future.

2.2 Statistical data on the Heath Care System

http://www.nuffieldtrust.org.uk/nhs-numbers

In April 2014 the Nuffield Trust produced a further comparative report "The four health systems of the UK: How do they compare?" which concluded that despite the widely publicised policy differences there was little sign that any one country was moving ahead of the others consistently across the available indicators of performance. It also complained that there was an increasingly limited set of comparable data on the four health systems of the UK which made comparison difficult.

Health spending per head

Health spending per head in 2000/01 was lower in England and North East England than any of the devolved countries; but, by 2012/13, North East England had similar spending to that of Scotland and Northern Ireland (about £2,100), which was 10 per cent higher than that of Wales (about £1,900). Increases in spending on each NHS over that period were: 115 per cent in England; 99 per cent in Scotland; 98 per cent in Wales and 92 per cent in Northern Ireland. The extra funding per head in North East England compared with the average for England increased from six per cent greater to 12 per cent more. Greer (2004, pp. 87–90) points out that Scotland funded the costs of free personal and nursing care for people aged 65 years and over from these sums.

Table 8.1 **Average daily available NHS hospital beds: by sector[1,2,3] per thousand resident population, 2008/09[4]**

United Kingdom — Rates per 1,000 population, numbers

	Sector[3]							
	Acute	Maternity	Mental illness	Learning disability	Geriatrics	General and Other	All beds	Total available beds (000's)
UK	2.1	0.2	0.6	0.1	0.5	0.0	3.4	206.9
England	2.0	0.2	0.5	0.1	0.4	0.0	3.1	160.3
Wales	2.8	0.2	0.7	0.1	0.5	0.2	4.4	13.1
Scotland	2.4	0.2	1.0	0.1	1.1	0.3	5.0	25.8
Northern Ireland	2.4	0.3	0.8	0.3	0.5	0.1	4.3	7.7

The definitions used for this table are different from those published in previous editions of UKHS and so are not directly comparable with earlier editions of this publication.

1 Average daily available beds in which wards are open overnight. Excludes day beds.

2 Independent sector provision is not included; the levels of such provision are known to vary across the UK.

3 A full list of specialties is available online as: Chapter 8 workbook.

4 Calculated using 2008 mid-year population estimates.

Scotland had the highest average daily available beds in NHS hospitals at 5.0 per 1,000 resident population and England had the fewest at 3.1 per 1,000 resident population. In each country the number of beds available in the 'Acute' sector was at least twice as great as in any other sector.

For England and Wales, 'Acute' beds accounted for approximately two-thirds of all available beds; 2.0 and 2.8 beds per 1,000 resident population respectively. The greatest proportions of remaining beds were in the 'Mental illness' and 'Geriatric' sectors. For Scotland and Northern Ireland, 'Acute' beds accounted for approximately half of all available beds; 2.4 per 1,000 resident population in both countries. Again, the greatest proportions of the remaining beds in these countries were in the 'Mental illness' and 'Geriatric' sectors. Differences between countries in the number and type of specialties included in each sector mean that direct comparisons should be avoided.

Health sector staff

Comparisons of the number of staff by type between countries should be treated with caution since there are slight differences in the way in which staff are classified. A list of health sector staff by type is available in the link below. It should be noted that Table 8.2 presents figures on staff employed by the NHS. It excludes staff working in NHS settings (for example hospitals) who are employed by other organisations and staff working for the independent sector but treating NHS patients; the levels of these types of staff are understood to vary across the UK.

A full list of health sector staff by category is available online as: Chapter 8 workbook

For all countries, the greatest proportion of NHS Hospital and Community Health Service staff were classified as 'Nursing, midwifery and health visiting'; ranging from 40.7 per cent in Northern Ireland to 43.0 per cent in Scotland

(Table 8.2). Staff in Medical and dental classifications represented the smallest proportion of NHS staff, ranging from 7.6 per cent in Wales to 9.0 per cent in England.

Staff classified as 'Administration and Estates and other' represented between 30.0 and 34.7 per cent of all NHS Hospital and Community Health Service staff in each country, while less than a fifth of all staff were classified as 'Scientific, therapeutic and technical'.

Expenditure on Health and Personal Social Services

Total UK expenditure on health and personal social services for 2008/09 was £138.6 billion, an average of £2,257 per head of population (Table 8.4). The highest expenditure per head was in Scotland at £2,544 and the lowest was in England at £2,212. It should be noted that these figures exclude private/corporate healthcare and insurance, the levels of which are known to vary across the UK.

Table 8.4 **Total identifiable expenditure[1] on services by Health and Personal Social Services, 2008/09**

United Kingdom — Numbers, percentages

	£ millions	£ per head	Percentage of total UK Health and Personal Social Services expenditure	Population (000's)
England	113,809	2,212	*82*	51,446.2
Wales	7,466	2,494	*5*	2,993.4
Scotland	13,148	2,544	*9*	5,168.5
Northern Ireland	4,136	2,330	*3*	1,775.0
UK identifiable expenditure	138,559	2,257	*100*	61,383.2

1 Total Expenditure on Services (TES) in this period was £138,559 million. TES is the spending aggregate that is allocated to function and covers most expenditure by the public sector that is included in Total Managed Expenditure (TME).

Source: *HM Treasury*

Hospital activity: inpatients

Hospital inpatient and day case activity for spells beginning in 'Acute' specialties in NHS hospitals are presented in Table 6.1: note that each spell ends when a patient is discharged, dies or changes hospital or changes from an acute to a non–acute consultant specialty. The category 'Acute' does not include certain 'Geriatrics', 'Mental Illness', 'Learning disabilities' 'Maternity' and 'General and other' specialisations. Comparisons between countries should be treated with caution due to differences in recording within categories and specialties defined as 'Acute'.

In 2008–09 England had on average 2.0 daily available beds per 1,000 population, in Scotland and Northern Ireland this figure was 2.4 per 1,000 and in Wales there were 2.1 daily available NHS acute beds per 1,000. There were more than 9 million inpatient hospital spells for acute specialties in the UK in 2008–09. England accounted for approximately 7.4 million of these and in Wales, Scotland and Northern Ireland there were

between 236 thousand and 734 thousand spells. The number of hospital spells per available bed varied between countries, as did the average length of stay. In Wales there were 50.1 spells per year per available bed with an average length of stay of 6.3 days. While in England there were 71.7 spells per year per available bed with an average length of stay of 4.3 days.

There were more than 6 million day cases for acute specialties in the UK in 2008/09; 5.1 million of these were in England and there were between 170 thousand and 420 thousand in Wales, Scotland and Northern Ireland.

Table 6.1 **Hospital inpatient and day case activity: acute specialties[1,2,3], 2008/09**

United Kingdom — Rates, thousands, days

	Inpatients				
	Average daily available beds per 1,000 population[4]	Hospital spells per year per available bed[5]	Hospital spells (000's)[5,6]	Average length of stay (days)[5]	**Day cases (000's)[7]**
England	2.0	71.7	7,380.9	4.3	5,124.4
Wales	2.8	50.1	413.1	6.3	240.7
Scotland	2.4	58.4	733.8	5.7	419.6
Northern Ireland	2.4	55.0	236.0	5.5	169.8

Hospital activity: outpatients

In the UK there were approximately 64 million outpatient attendances in 2008–09, the majority of which were in acute specialties, ranging from 89 per cent in England to 86 per cent in Scotland (Table 6.2). See previous link for list of specialties included in each sector by each country.

Scotland had the highest proportion of non-attendance for new appointments; 10.3 per cent, while for Wales this figure was 9.5 per cent and for England and Northern Ireland non-attendance for new appointments was at 7.5 and 7.3 per cent respectively. In Wales, Scotland and Northern Ireland, non-attendance for new appointments was highest for 'Mental illness' ranging from 22.2 per cent in Northern Ireland to 16.8 per cent in Wales; in England non-attendance was highest for both 'General and other'; 9.3 per cent.

2.3 Legislation Applicable to HCWM

England and Wales, Scotland and Northern Ireland have their own sets of laws and regulations which differ from each other. The name of the regulatory instrument is often the same (or similar), although the date when it came into force may vary. It is for this reason that wherever a regulatory instrument is cited in this Health Technical Memorandum, the date has been omitted.

The term "hazardous waste" is used in England, Wales and Northern Ireland to describe waste with hazardous characteristics in line with the List of Wastes (LoW) Regulations, which transpose the European Waste Catalogue (E WC) into domestic legislation and provide codes for all hazardous and non-hazardous wastes. Readers of this guidance in Scotland should use the term "special waste" in line with the Special Waste Amendment (Scotland) Regulations, which implement the requirements of the Waste Directive in Scotland.

The term “dangerous goods” signifies substances with intrinsic hazards posing a potential risk to persons or the environment while in the transport chain. Such substances are classified on the same basis for any mode of transport using United Nations criteria. Transport by road or rail in Great Britain is addressed in the Carriage of Dangerous Goods Regulations (hereafter cited as the Carriage Regulations). Similar road transport legislation applies in Northern Ireland.

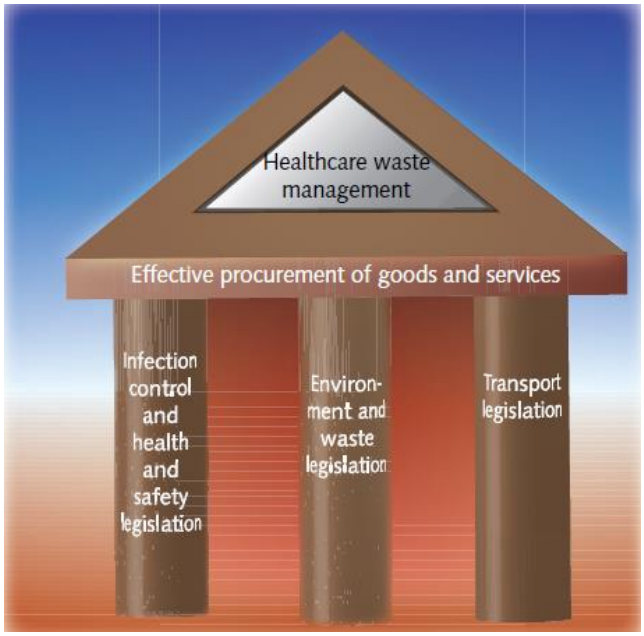
To effectively manage waste generated as a result of healthcare activities, those responsible for the management of the waste should understand and must comply with the requirements of the various regulatory regimes, which include:

a) environment and waste;
b) controlled drugs;
c) infection control;
d) health and safety; and
e) transport

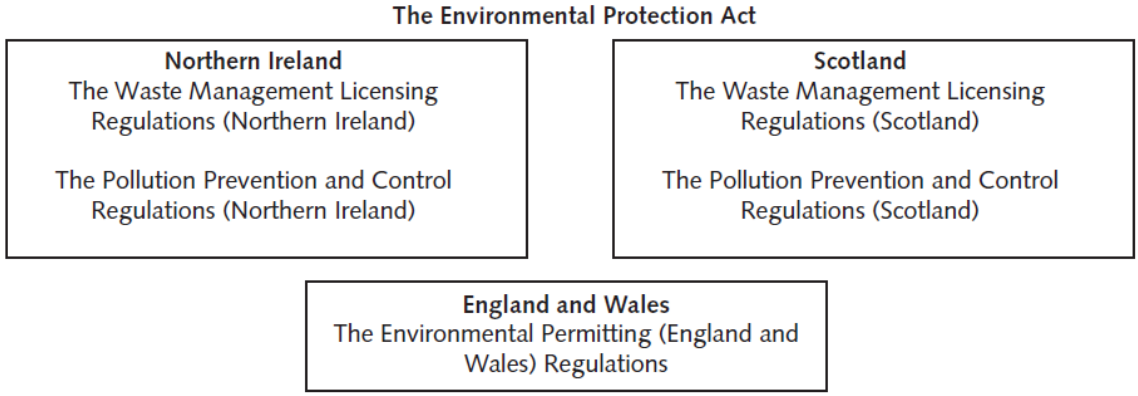
For each of these regimes, there are a number of assessments required. This section provides an overview of each of these regimes with clear steps and information on how to classify healthcare waste in line with legislation.

For waste management practices to comply with these requirements, appropriately authorised or permitted waste management services need to be procured.
Figure 1 shows the relationship between regulatory requirements, procurement practice and effective waste management. The individual pillars of regulation dictate the requirements, while effective procurements take these into account and support waste management practices.

Figure 1 Key regulatory regimes for healthcare waste



Environment and waste legislation



Environment and waste regulation across the UK specifies the roles and responsibilities of those involved in the management of waste.

Waste Framework Directive

The revised Waste Framework Directive (WFD) came into force on 12 December 2008.
In England, Wales and Northern Ireland, the changes to the codes used to represent hazardous groups used in the Hazardous Waste Regulations and the Special Waste Regulations in Scotland, are as follows:

a) New hazardous property "H13 Sensitising", defined as "substances and preparations which, if they are inhaled or if they penetrate the skin, are capable of eliciting a reaction of hypersensitisation such that on further exposure to the substance or preparation, characteristic adverse effects are produced". Category H13 is only applicable "as far as testing methods are available".
b) The existing H13 hazardous property, renumbered H15, that is, waste capable by any means, after

disposal, of yielding another substance (for example a leachate) which possesses any of the characteristics H1 to H14 (see paragraph 3.28, 'Consignment notes' for a summary of the full list). This renumbering means that the hazardous property "ecotoxic" (now H14) has to be taken into account in the assessment of whether a waste displays the hazardous property H15. Article 18(2) of the WFD, which allows mixing of hazardous waste under a permit, requires the mixing operation to conform to best available techniques.

Human hygiene waste

Human hygiene or sanpro waste can sometimes be produced in large quantities in places such as schools, nurseries and motorway service areas. Although such wastes from these sources may be non-hazardous, in quantity they can be offensive and cause handling problems. In these cases, where the premises generate more than one standard bag or container of human hygiene waste over the usual collection interval, it is considered appropriate to package it separately from other waste streams.

Waste Regulations 2011

These regulations implement the revised EU Waste Framework Directive which sets requirements for the collection, transport, recovery and disposal of waste.
The Regulations require organisations to confirm that they have applied the waste management hierarchy when transferring waste, and include a declaration on their waste transfer note or consignment note.

Duty of care and controlled waste

The statutory requirements covering duty of care in waste management are contained in:

- Section 34 of the Environmental Protection Act;
- Section 5 of the Waste and Contaminated Land (Northern Ireland) Order;
- the Environmental Protection (Duty of Care) Regulations (England, Scotland and Wales); and
- the Controlled Waste (Duty of Care) Regulations (Northern Ireland)

Everyone who produces, imports, carries, keeps, treats or disposes of controlled waste is required to fully comply with the "duty of care".
The statutory duty of care applies to everyone in the waste management chain. It requires producers and others who are involved in the management of the waste to prevent its escape, and to take all reasonable measures to ensure that the waste is dealt with appropriately from the point of production to the point of final disposal. This is enforced through the "polluter pays" principle, making producers of waste responsible for its management and disposal.
A key element to the duty of care is the requirement for producers (other than householders) to ensure that a

written description, adequately describing the type and quantity of waste, is provided for transfer of the waste as it is moved from point of production to point of final disposal. Where an annual waste transfer note is used, as long as the initial note contains the details specified in Defra's 'Waste management: the duty of care – a code of practice', the written description will only be required for the initial transfer.

Anyone wishing to carry controlled waste must be registered as a carrier of controlled wastes, as required by the Controlled Waste (Registration of Carriers and Seizure of Vehicles) Regulations. Waste-carrier registration can also be checked online at the Environment Agency website.

Waste can only be handed to such authorised persons as registered carriers, permit/licence holders or someone who is exempt from either being a registered carrier or operating under a permit/licence.

Local authorities' responsibilities

Local authorities have specific duties in relation to healthcare waste. Section 45 of the Environmental Protection Act (in Northern Ireland, Article 20 of the Waste and Contaminated Land Order) states that it is the duty of each waste collection authority to arrange for the collection of household waste in its area.

Schedule 2 of the Controlled Waste Regulations identifies where a charge can be made for the collection of household waste. This includes clinical waste from a domestic property (see the 'Community healthcare' sector guide). These regulations must be read as a whole. Schedule 3, for example, identifies where clinical waste is "industrial" (not household) waste.

Managing compliance

Environmental permitting and waste management licensing

The statutory requirements for environmental permitting and waste management licensing can be represented as in the figure below.

Permits and licences are required for the storage, transfer, treatment and disposal of many different types of waste. Generally, a permit/licence is not required for the storage of waste on the site where it was produced, as this may be covered by an exemption to the regulations (further guidance is provided in Chapter 8, 'Waste management licensing and permitting').

Permitted clinical waste disposal sites in England and Wales are required to obtain pre-acceptance audits from producers of healthcare waste before they can accept the waste from that producer.

Environmental permits and waste management licences (and related exemptions) are regulated by:

- the Environment Agency (EA) in England and Wales;
- the Scottish Environment Protection Agency (SEPA) in Scotland; and
- the Northern Ireland Environment Agency (NIEA) in Northern Ireland

Hazardous waste (England, Wales and Northern Ireland) and special waste (Scotland)

The Hazardous Waste Regulations and the List of Wastes Regulations define and regulate the segregation and movement of hazardous waste from the point of production to the final point of disposal or recovery (similar regulations apply in Northern Ireland).

In England and Wales, the Hazardous Waste Regulations require that most premises producing hazardous waste be registered with the EA. Premises are exempt from the requirement to register if they produce less than 500 kg of hazardous waste in any period of 12 months. Premises registration does not apply in Scotland or Northern Ireland.

This exemption only covers premises registration. All other legislative requirements, including consignment notes for each collection of hazardous waste, continue to apply to waste coming from these premises.

Where premises are shared, each occupant retains their own responsibility for waste under duty of care. However, practical arrangements for the handling and management of waste are illustrated by the following example:

Hospital complexes are often occupied by a number of different organisations that produce hazardous waste. These might for example include acute, primary care, mental health and ambulance trusts, private practices, shops and laboratories. Where these organisations have their own discrete units or areas, they are considered to be separate individual premises for the purposes of producer registration under the Hazardous Waste Regulations. Those that produce 500 kg or more of hazardous waste per year will need to register each of their premises. Those that produce less will remain exempt from registration. An acute hospital trust would not normally need to register more than once as its building, units and departments are likely to fall within a single continuous premises boundary. Other organisations with two or more separated areas (for example two shops) may find that more than one registration is required unless they are adjacent or adjoining.

Each producer can store its own waste on site, or waste can be stored in a shared storage area. As long as it meets the conditions, this storage can benefit from an exemption from an environmental permit for temporary storage at the premises of production. Waste in shared storage areas may be segregated by type rather than producer; however, it is important that clinical waste receptacles are labelled to identify the individual producer. If a producer stores and manages its own hazardous waste, it must complete its own consignment notes for each collection. If a producer transfers its waste to one on-site organisation (for example the acute hospital trust that manages the waste storage and collection), a single consignment note can be completed for a collection of waste. The other producers would need to be identified on part A5 of the consignment note. Each producer would need to ensure that it complies with its duty of care to provide the acute hospital trust with the information they need to complete the consignment note and manage the subsequent transport and disposal of the waste. This is best supported by a memorandum of understanding or partnership papers agreed between all the collaborating organisations.

Consignment notes

Consignment notes are required when transporting hazardous waste. They are available from the respective

environmental regulators (EA, SEPA or NIEA). They may also be supplied by the waste contractor.
The producer is legally responsible for ensuring the accuracy of a consignment note and in some instances it may be appropriate to seek advice from the waste contractor (the form of a consignment note is illustrated in the Hazardous Waste Regulations for England, Wales and Northern Ireland, and the Special Waste Regulations for Scotland).
In Northern Ireland and Scotland, producers (or consignors) of hazardous waste are not required to register with the regulatory authority (NIEA and SEPA, respectively). Instead, they are required to provide 72 hours' prior notification to the relevant regulator of their intention to move hazardous/Special waste. Not every movement has to be notified (this is usually for the first movement in a succession, a "carrier's round" or a one-off movement). Specific guidance is available from NIEA and SEPA on the relevant procedures for Northern Ireland and Scotland.

Owing to the differences in the devolved administrations, the consigning of hazardous waste can vary from one country to another and waste produced in each country is required to be managed in line with the local regulations, regardless of its destination. For example, producers of waste in Scotland should follow the consignment procedure laid down by SEPA for all waste including waste leaving Scotland for treatment and disposal. Any cross-border consignments of waste (from one devolved region to another) should be made by the producer of the waste using both their "home" regulator's guidelines and the "destination" guidelines). This does not apply to "cross-border" movements between Wales and England or vice versa
The Regulations do not provide comprehensive guidance on the classification of waste. The EA, SEPA and NIEA produced a joint guidance document on the interpretation, definition and classification of hazardous waste entitled 'WM2'. This document is based on supporting European Directives and test methods.
In the UK, WM2 uses a colour-coded European Waste Catalogue (EWC) to aid identification of hazardous wastes. Absolute hazardous entries are shown in red with an asterisk. Some wastes have the potential to be either hazardous or non-hazardous depending on whether they contain dangerous substances at, or above, certain thresholds. These are covered by mirror entries, consisting of two or more related entries including a hazardous entry (entries) shown in blue with an asterisk. They are subject to assessment in relation to the hazard groups identified in the Hazardous Waste Regulations.

Non-hazardous entries are shown in black. Only non-hazardous entries that are not part of mirror entries do not require assessment. The hazard groups originate from the Waste Directive and are shown below:

- H1: Explosive
- H2: Oxidising
- H3A: Highly Flammable
- H3B: Flammable
- H4: Irritant

- H5: Harmful
- H6: Toxic
- H7: Carcinogenic
- H8: Corrosive
- H9: Infectious
- H10: Toxic for reproduction
- H11: Mutagenic
- H12: Substances that release toxic gases
- H13: Sensitising
- H14: Ecotoxic
- H15: Waste capable by any means, after disposal, of yielding another substance, for example a leachate, which possesses any of the characteristics H1 to H14. Including H14 for the first time.

European Waste Catalogue (EWC)

The Environmental Permitting (England and Wales) Regulations, the Landfill Regulations (in Scotland and Northern Ireland), the Hazardous Waste Regulations and the List of Wastes Regulations (in England and Wales and Northern Ireland) require producers to adequately describe their waste using both a written description and the use of the appropriate EWC code(s) on both waste transfer and consignment notes.

The EWC is produced by the European Commission to provide common terminology for describing waste throughout Europe. The EWC list is reviewed periodically and incorporates the European Hazardous Waste List pursuant to the Waste Directive 91/689/EEC.

The List of Wastes Regulations 2005 transposed the EWC into domestic legislation for England, Wales and Northern Ireland. In Scotland, the Special Waste Amendment (Scotland) Regulations 2004 transposed the EWC into Scottish legislation.

The EWC categorises waste into 20 chapters. Each chapter is defined by either the source of the waste or waste type. Within each chapter, each type of waste is described using a six-digit numerical code: • the first two digits of the code relate to the EWC chapter;

- the second two digits relate to any sub-grouping within the chapter; and
- the final two digits are unique to the waste.

The EWC is hierarchical and some chapters and entries have precedence over others. The list should be used in accordance with the rules set out in appendix A of WM2. Chapter 18 of the EWC provides a list of codes specifically for the healthcare sector.

Controlled drugs

Controlled drugs are subject to special legislative controls as they are potentially harmful. The Misuse of Drugs Regulations lists the medicines that are classified as controlled drugs. There are five schedules that dictate the level of control applied to each medicine – Schedule 1 having the most controls and Schedule 5 the fewest.

The regulations set out the regime of control that governs the various legitimate clinical activities associated with controlled drugs, for example:

- which professionals are allowed to prescribe, order, supply or administer the drugs;
- destruction and/or disposal procedures;
- associated record-keeping requirements

The Misuse of Drugs (Safe Custody) Regulations list additional requirements in terms of safe storage (for example lockable cupboards of sufficient strength).

Destruction/disposal

Under the Misuse of Drugs Regulations, all Schedule 1 and 2 stock-controlled drugs can only be destroyed in the presence of a person authorised under those regulations to witness destruction. When a stock-controlled drug is destroyed, details of the drug must be entered into the controlled drugs register. This should include:

- the name of the drug;
- its form;
- its strength and quantity;
- the date it was destroyed; and
- the signature of the authorised person who witnessed the destruction, and the person witnessing it (that is, two signatures)

Once issued/dispensed to a patient, the requirements for witnessed destruction do not apply, although there is a general duty of care to ensure the appropriate disposal of waste medicines that are returned by patients to their local GPs.

Healthcare organisations should be aware of who within their organisation is authorised to witness destruction. Further guidance and details of the categories of people currently authorised are available on the Department of Health's website (see 'Standard operating procedures' below).

Standard operating procedures

The Health Act requires healthcare organisations to have written standard operating procedures (SOPs) on the use and management of controlled drugs within their organisation. These should cover:

- ordering and receipt of controlled drugs;
- assigning responsibilities;
- where the controlled drugs are stored;
- who has access to the controlled drugs;
- record-keeping; and
- who should be alerted if complications arise

Links to associated legislation and guidance can be found on the controlled drugs section of the Department of Health's website. Producer responsibility

The general requirements of the revised WFD further develop the principle of "extended producer responsibility", whereby producers, usually brand owners or suppliers, are required to take responsibility for the environmental impact of their products, especially when they become waste. This includes regulations governing:

- waste electrical and electronic equipment (WEEE);
- waste batteries;
- waste packaging; and
- end-of-life vehicles

The broad aim is to address the environmental impacts of the items and to encourage separate collection and subsequent treatment, reuse, recovery, recycling and environmentally-sound disposal.

For redundant electronic items, healthcare waste producers will likely fall within the "business-to-business" element and will need to take responsibility for their electronic and electrical equipment waste either by returning the waste to the producer from whom it was purchased (or their compliance scheme) or by disposing of it directly (see Health Technical Memorandum 07-05: 'The treatment, recovery, recycling and safe disposal of waste electrical and electronic equipment'. See also paragraph 7.36, 'Batteries including those used for implants/medical devices').

Further information and requirements for the management of WEEE are provided in Chapters 8 and 9 of the Department for Business Innovation and Skills' (BIS) guidance on the WEEE Regulations.

Infection control

Good infection prevention and control are essential to ensure that people who use health and social care services receive safe and effective care. Effective prevention and control of infection must be part of everyday practice and be applied consistently by everyone.

Good management and organisational processes are crucial to make sure that high standards of infection prevention and control are set up and maintained. Key points to take account of (Note – whilst these are taken from the Health and Socail Care Act 2008: Code of Practice, the general issues will be applicable throughout the

UK):

a. The risks from waste disposal should be properly controlled. In practice, in relation to waste, this involves:
   (i) assessing risk;
   (ii) developing appropriate policies;
   (iii) putting arrangements in place to manage risks;
   (iv) monitoring the way in which arrangements work; and
   (v) being aware of legislative change.

b. Precautions in connection with handling waste should include:
   (i) training and information;
   (ii) personal hygiene;
   (iii) segregation of waste;
   (iv) the use of appropriate personal protective equipment (PPE);
   (v) immunisation;
   (vi) appropriate procedures for handling such waste;
   (vii) appropriate packaging and labelling;
   (viii) suitable transport on-site and off-site;
   (ix) clear procedures for dealing with accidents, incidents and spillages; and
   (x) appropriate treatment and disposal of such waste

c. Systems should be in place to ensure that the risks to service-users from exposure to infections caused by waste present in the environment are properly managed, and that duties under environmental law are discharged. The most important of these are:
   (i) duty of care in the management of waste;
   (ii) duty to control polluting emissions to the air;
   (iii) duty to control discharges to sewers; and
   (iv) obligations of waste managers

Health and safety legislation

The Health and Safety Executive (HSE) is the regulatory body with responsibility for enforcing health and safety in the workplace legislation in Great Britain. The Health and Safety Executive for Northern Ireland (HSENI) is the lead body responsible for the promotion and enforcement of health and safety at work standards in Northern Ireland.

Health and safety legislation is based on the assessment of risk. COSHH and the Management of Health and Safety at Work Regulations, in line with health and safety at work legislation, specifically require those dealing with potentially infectious substances (including waste) to assess the risk to the public and staff that may come into contact with it. In practice, this involves the development of risk assessment policies and procedures and

putting in place arrangements to manage the risks effectively.

Arrangements for managing healthcare waste need to be part of an employer's overall health and safety management system. A number of guidance documents are available in relation to the management of infectious waste, including:

- 'Biological agents: managing the risks in laboratories and healthcare premises' produced by the Advisory Committee on Dangerous Pathogens and published on HSE's website;
- 'Infections at work: controlling the risks' produced by the Advisory Committee on Dangerous Pathogens and published on HSE's website.
  (This guidance is aimed at those who may be inadvertently exposed to microorganisms rather than those deliberately working with them.) Management responsibilities

Employers are responsible for complying with health and safety legislation. Even if staff are self-employed for tax or national insurance purposes, they are treated as employees for health and safety purposes. If any doubt exists about who is responsible for the health and safety of a worker, this should be clarified and included in the terms of a contract. However, legal duties with respect to health and safety at work legislation cannot be passed on by means of a contract.

Control of Substances Hazardous to Health (COSHH)

COSHH sets out the duty of employers to manage the risk of exposure to hazardous substances, including healthcare waste. COSHH – key points:

Employers must, among other things:

- assess the risks to employees and others from hazardous substances, including healthcare waste;
- make arrangements for reviewing the assessment as and when necessary, but at no less than two-yearly intervals – and sooner if there is any reason to suggest the risk assessment is no longer valid;
- aim to eliminate or prevent these risks, and if this is not possible to adequately control the risks;
- provide suitable and sufficient information, instruction and training for employees about the risks;
- provide health surveillance and immunisation, where appropriate

Health and safety at work

The Management of Health and Safety at Work Regulations and its associated Approved Code of Practice (ACOP) provide a framework for managing risks at work, including risks from healthcare waste, not covered by more specific requirements such as COSHH.

The Management of Health and Safety at Work Regulations – key points: Employers must among other things:

- make a suitable and sufficient assessment of the risks to employees and others. If they have five or more employees, they must record the significant findings of the assessment;
- take particular account in their assessment of risks to new and expectant mothers and their unborn and breast-feeding children;

- take particular account in their assessment of risks to young people;
- make arrangements for the effective planning, organisation, and control of risks;
- monitor and review any precautions;
- provide health surveillance where appropriate;
- have access to competent health and safety advice;
- provide information for employees;
- cooperate with other employers who may share the workplace

Consulting employees

The Health and Safety (Consultation with Employees) Regulations and the Safety Representatives and Safety Committees Regulations deal with consultation of employees directly and via recognised trade unions. Employers must consult employees and their representatives about aspects of their health and safety at work, including:

- any change which may substantially affect their health and safety;
- the employer's arrangements for getting competent health and safety advice;
- the information provided on reducing and dealing with risks;
- the planning of health and safety training;
- the health and safety consequences of introducing new technology

By incorporating health and safety requirements in healthcare waste policy, employers are able to provide staff with information relevant to their job or role (further details on waste policies are provided in Chapter 6, 'Managing compliance'). The policy can then be used as a basis for training and discussions, and this can in turn support a safer working environment through continuing engagement with all employees.

Transport and carriage legislation

Transport and carriage legislation is based on the principles of hazard and risk assessment, and substances (including waste) are classified according to their primary hazard. These are classified as dangerous goods and are assigned to different classes depending on the predominant hazard. Dangerous goods are liquid or solid substances and articles containing them, which have been tested and assessed against internationally-agreed criteria.

Carriage Regulations

The carriage of dangerous goods is subject to regulatory control under the Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations (known as the Carriage Regulations), and these apply throughout the UK. The Carriage Regulations are intended to reduce, to reasonable levels, the risk of harm or

damage to people, property and the environment posed by the carriage of dangerous goods.
In the UK, these regulations implement the requirements of the 'European agreement concerning the international carriage of dangerous goods by road' (commonly known as ADR). The Carriage Regulations make direct reference to ADR and RID. Both documents are revised every two years, and the updated versions are incorporated into the UK by the Carriage Regulations.

Other European and international regulations apply to the movement of dangerous goods by air, sea, and inland waterway. Producers should seek specialist advice if healthcare waste is to be transported by means other than road transport. In the UK, the vast majority of dangerous goods are carried by road.
The Carriage Regulations do not specifically regulate waste materials. They apply to all dangerous goods regardless of whether a substance is waste or not. Goods are assessed on their hazardous characteristics and, if applicable, are classified into one of nine classes of dangerous goods. The nine classes are shown, along with examples of healthcare waste in each, in Chapter 7, 'Transport packaging and operations'.
Once goods have been classified into their appropriate class, this information is used to identify appropriate packaging, labelling and transport requirements. The packaging and labelling in relation to the Carriage Regulations is discussed in greater detail in Chapter 7, 'Transport packaging and operations'.
Carriage Regulations – key points: The regulations cover (by reference to ADR) among other things:

- training of personnel involved in the chain of distribution;
- substance classification and identification;
- packaging;
- marking, labelling and documentation;
- safety advisor, equipment and emergency procedures;
- safe loading;
- vehicle specification and operation.

Duties are imposed on parties at all stages of the supply chain, including manufacturers, consignors, carriers and receivers. The Carriage Regulations may require healthcare organisations to appoint or contract a dangerous goods safety adviser (DGSA). The requirement regarding DGSAs is a duty on the employer and is in large part dependent on the type/quantity of dangerous goods transported (see 'Transport packaging and operations' for further details).
The HSE is the regulatory body responsible for enforcing transport legislation in Great Britain (the HSENI in Northern Ireland). Police officers and the Vehicle and Operator Services Agency (VOSA) (in England, Wales and Scotland only) carry out "on the road" enforcement under an agency agreement with the HSE.
All publicly-funded organisations must ensure that all contracts established to collect and treat waste conform to the Public Contracts Regulations.

Procurement guidance

Further information on the EC public procurement regulations and how to develop and competitively tender waste collection and disposal contracts is available from the following organisations:

- in England – Department of Health, NHS Procurement Policy Team;
- in Northern Ireland – the Regional Supplies Service;
- in Scotland – National Procurement;
- in Wales – Welsh Health Supplies (now NHS Wales Shared Services Partnership – Procurement Services)

Note

When undertaking waste transport/disposal arrangements, it is advisable to consider the benefits of joining with other organisations for a consortia-type contract, which is likely to attract management, and financial benefits through economies of scale. This will have further advantages of attracting waste-to-energy solutions as part of the legal hierarchy of waste approach with double benefit of reducing waste and energy costs. Clinical Waste Consortium – a case study from NHS Wales Welsh Health Supplies (now NHS Wales Shared Services Partnership – Procurement Services) established the All Wales Clinical Waste Consortium in the early 1990s to manage the collection and disposal service for clinical waste from NHS trusts in Wales. The Consortium approach was adopted in order to ensure that all hospitals were able to take advantage of a professionally procured and managed contract with a single service provider and that a single nationwide pricing structure was agreed, ensuring consistency of pricing irrespective of geographical location and size of facility. Benefits of the consortium approach to clinical waste contract management have included improved commercial terms through the increase in economies of scale when negotiating as a consortium rather than as individual entities. This has resulted in a notable increase in value for money being achieved for NHS Wales. The consortium's inclusive approach has also provided a powerful forum for discussing contractual issues and sharing best practice between participating NHS organisations and engaging with the contractor to drive service level improvements through a partnership approach including positive support and collaboration with environmental regulators.

The Consortium model has provided NHS Wales with significant benefits over many years, and the approach still stands scrutiny with the increasing collaborative policy across the Welsh Assembly Government and wider Welsh public sector. Important information for vets Animal by-products from healthcare (for example research facilities) have specific legislative requirements for disposal and treatment. They are defined as "entire bodies or parts of animals or products of animal origin not intended for human consumption, including ova, embryos and semen". The Animal By-Products Regulations are designed to prevent animal by-products from presenting a risk to animal or public health through the transmission of disease.

This aim is achieved by rules for:

- the collection, transport, storage, handling, processing and use or disposal of animal by-products; and
- the placing on the market, export and transit of animal by-products and certain products derived from

them

The regulations divide animal by-products into three categories:

Category 1 is the highest risk category and must be disposed of. It includes carcasses and materials infected or suspected of being infected by a transmissible spongiform encephalopathy (TSE), the carcasses of zoo and pet animals.
Category 2 is also high-risk material, and includes, for example, diseased animals, animals that die on farms and which do not contain "specified risk materials" (SRM) at the point of disposal, and animals which are not slaughtered for human consumption.
Category 3 is essentially material which is fit (but not intended) for human consumption. It includes parts of slaughtered animals, blood, raw milk, fish caught in the open sea, and shells. The permitted disposal methods vary for each category.

2.4 Hospital Waste Management – best practice

Clinical waste

Some wastes from healthcare (also called clinical waste) may prove hazardous to those that come into contact with them and are subject to stringent controls.
Clinical waste is the term used to describe waste produced from healthcare and similar activities that may pose a risk of infection or may prove hazardous. It has different meanings to different people and can be defined in different ways. The most commonly used definition can be found in the Controlled Waste Regulations 1992.

In practice, clinical waste can be divided into two categories of materials:

- waste which poses a risk of infection
- medicinal waste

Clinical waste should be segregated from other types of waste and be treated/disposed of appropriately in suitably permitted, licensed or exempt facilities on the basis of the hazard it poses.

Assessing and classifying clinical waste

Healthcare wastes can be found in sub chapters 18 01 (wastes from natal care, diagnosis, treatment or prevention of disease in humans) and 18 02 (wastes from natal care, diagnosis, treatment or prevention of

disease in animals) of the European Waste Catalogue (EWC).

Clinical waste may be hazardous or non-hazardous and like all wastes it must be classified and assessed appropriately. Guidance on the classification and assessment of clinical waste as special (hazardous) waste can be found in the guidance document 'Hazardous Waste: Interpretation of the definition and classification of hazardous waste (WM2)'.

The Scotland and Northern Ireland Forum for Environmental Research (SNIFFER) has produced a guidance document which provides assistance to those managing hygiene waste produced as a direct result of healthcare and non-healthcare activities.

The NHS has also produced guidance on the safe management of healthcare waste.
Clinical waste can be hazardous to anyone who comes into contact with it. Clinical waste may contain:

- human or animal tissue
- blood or other body fluids
- excretions
- drugs or other pharmaceutical products
- used swabs or dressings
- used syringes, needles or other sharp instruments

Clinical waste also includes any other waste that could pose a risk of infection and may be produced by:

- medical, nursing, dental, veterinary, pharmaceutical or similar practices
- investigation, treatment, care, teaching or research
- collecting blood for transfusion

Clinical waste can be a health risk to anyone who comes into contact with it. It can be treated to be made safe.

The general requirements for the management of clinical waste are outlined below;

- You must separate clinical waste and non-clinical waste.
- You should assess each type of material for hazards before you segregate it, and dispose of it correctly.
- Keep records of your clinical waste
- You must track your clinical waste and keep records of when you receive and dispose of it. You will usually need to complete hazardous / special waste consignment.
- Research alternative materials and practices to reduce clinical waste.

- Consider if you can reuse or recycle your clinical waste. For example, you may be able to use it in an energy-from-waste plant.
- You must ensure that clinical waste is stored and transported in suitable containers. Regularly check that storage containers are intact and that there is no risk of pollution.
- Label containers adequately and securely with the name of the producer and source of the clinical waste.
- If you deal with clinical waste you must ensure that you comply with your duty of care for waste.
- Treat clinical waste as hazardous/special waste
- All clinical waste is hazardous/special waste with two exceptions:
  - medicines that are not cytotoxic or cytostatic
  - clinical wastes that are not associated with healthcare such as drug litter
- If you produce store or transport most types of clinical waste you must comply with the hazardous/special waste regulations.
- Use authorised carriers and facilities
- Your waste carrier must transfer your clinical waste to a facility authorised to accept it. The facility must hold either:
  - pollution prevention and control permit
  - waste management licence or exemption
- If you transport your own waste, you must take it to a site that is authorised to accept it.

Waste can be tracked using:

- a service delivery note signed by the haulage business that took your waste, with details of the type and quantity of containers collected and the date of the next proposed collection
- a waste acceptance record sheet signed by the driver and the waste site operator, with details of the type, quantity and weight of waste delivered
- a certificate of safe destruction signed by the treatment or disposal operator with details of when your waste was processed, the quantity and description of the waste

Cytotoxic Waste

Cytotoxic substances are harmful to cell structure and function and can kill cells. Cytostatic substances prevent or limit cell growth. These substances are found in some pharmaceutical products. You should check if your waste contains these substances.

It is good practice to check that both the carrier that is used and the treatment facility where the waste is taken to are authorised to handle clinical waste.

Checking that your waste is taken to an authorised site is a good way to show that you have taken all reasonable steps to ensure your waste is being handled and disposed of legally.

If the clinical waste includes dead animals, or parts of animals, then the animal by-products controls will need to be applied.

If the clinical waste contains radioactive substances or is contaminated by radioactive materials, the healthcare facility must have the correct authorisation from their environmental regulator and comply with the radioactive substances and wastes regulations. Radioactive materials are often used in diagnostic medical imaging and cancer treatments.

Management of waste types – best practice

Compostable Waste

Recyclable Waste

Hygiene/SanPro Waste

Clinical Waste

Radioactive Waste

General Waste

Other Waste (e.g. WEEE,

CHAPTER 3 SKILLS, COMPETENCES AND TRAINING OF INVOLVED PERSONNEL IN HEALTH CARE WASTE MANAGEMENT

3.1 Required Skills & Competences

3.2 Training Programmes Available for Health Care Waste Managers

CHAPTER 4 REMARKS – CONCLUSIONS

ANNEXES