

# Assessment and National Report of Healthcare Waste Manager, Skills, Competencies and Qualification Frameworks



## DEVELOPING AN EU STANDARDISED APPROACH TO VOCATIONAL QUALIFICATIONS IN HEALTHCARE WASTE

With the support of the Lifelong Learning Programme of the European Union

Grant Agreement No 541982-LLP-1-2013-1-UK-LEONARDO-LNW

Deliverable number	3.2
Dissemination level	Four (Public)
Delivery date	31/09/2014 v.1
Status	Version 1
Author(s)	ICERMS Limited



"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein."

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## Chapter 1 Executive Summary

There were two distinct outputs expected from this process. Firstly it was to learn from current waste managers what their job roles entailed, how they got these jobs and what qualifications and skills they had which made them candidates for the post of healthcare waste manager.

Secondly it was to get their collective opinions on a draft list of units which would make up the new award on healthcare waste management and treatment. In addition they were also invited at this point to suggest additional titles which they thought would be better suited to their job roles. The project team could then create a benchmark for the person specification fulfilling the role of healthcare waste manager and also the job specification for the role.

In addition the project team would also have a set of units which current healthcare waste managers recommended for the content of the award. In this regard the project team started with a draft list of 20 unit titles. At the end of the process the finished award has a final draft list of 25 unit titles.

Due to the nature of the role of healthcare waste manager and the different aspect of the role in terms of responsibility levels it will be necessary to create pathways within the suite of units in order that prospective candidates can select the unit titles most relevant to their particular role within a given healthcare facility.

The exercise has however demonstrated the varied role of healthcare waste manager is not just between partner member states BUT even from healthcare facility to healthcare facility. A typical example of the need for clearly defined pathways would be the example of a healthcare waste manager working at a healthcare facility where they actually treat their own waste on site. The needs of such a manager would obviously include VET units on HCW treatment whereas a manager who has the waste removed off site for treatment by a contractor would not necessarily require to undertake HCW treatment units.

The finalised group of units comprising the award reflects all the inputs from the healthcare waste managers who completed the questionnaire and not surprisingly there was a commonality in terms of suggested additional units from the healthcare waste managers surveyed.

## Chapter 2 Overview of the Competencies Questionnaire

The idea of the questionnaires was to gather information about the post and role of a healthcare waste manager as well as a set of draft unit titles for an award in healthcare waste management and treatment.

The form below was distributed to a group of defined stakeholders within each partner member state. This group would then become the basis of the project partner's professional networks.

### EU-HCWM Questionnaire

Name of HCW Manager:

Date:

Healthcare Facility:

Project Rep:

Q.1. What qualifications do you currently hold? Can you briefly outline your work experience?

Q.2. How long have you held the post of healthcare waste manager?

Q.3. How was your current post advertised and what were the requirements for the post?

Q.4. Do you have a job description and/or contract of employment? May we have a copy of the job description?

Q.5. What type of training, if any, did you receive from the hospital when you first started in this job as healthcare waste manager?

Q.6. Does your employer provide training opportunities for you and if so in what subject areas and how often do these training events occur?

Q.7. Do you provide training or awareness raising in regard to healthcare waste management issues at your healthcare facility and if so to whom, on what subject areas and how often does such sessions take place?

Q.8. Do you follow a formal Continuous Professional Development (CPD) programme? If yes, when did you last formally update your skills and knowledge in terms of that CPD programme?

Q.9. Please take a look at the following list of units that are proposed for a new EU HCWM VET Award. Please indicate the units which are most relevant in your opinion to the post of healthcare waste manager.

Q.10. Are there any areas of your role as healthcare waste manager which are not addressed by the list of units? If yes what areas are they?

### Healthcare Waste Management and Treatment Award

1. Control the collection of hazardous and non-hazardous waste at a healthcare facility
2. Control the movement, sorting and storage of hazardous and non-hazardous wastes

3. Manage the movement, sorting and storage of recycled materials and vehicle movements at a healthcare facility
4. Monitor the procedures to control risks to health and safety of the waste management function at a healthcare facility
5. Control site operations for the transfer of hazardous and non- hazardous healthcare waste at a healthcare facility
6. Control the reception of infectious wastes at a healthcare waste treatment facility
7. Control site operations for the treatment of infectious healthcare waste at a healthcare facility
8. Control the disposal of outputs and residues from infectious healthcare waste treatment operations at a healthcare facility
9. Control maintenance and other engineering operations at an infectious healthcare waste treatment facility
10. Control the disposal of outputs and residues from hazardous and non- hazardous waste transfer
11. Control improvements to waste management operations at a healthcare facility
12. Ensure protection of the environment at healthcare facilities treating or transferring hazardous waste
13. Support the efficient use of resources
14. Manage a budget
15. Select and manage sub contracted services
16. Implement and manage contracted service or supplies
17. Manage cleaning services at a healthcare facility
18. Contribute to the selection of personnel for activities
19. Review the performance of teams and individuals
20. Create effective working relationships

The recipients of the questionnaire were required to complete the first half of the questionnaire and then to rate the award units titles in order of relevance to their job role. In the following chapter there is an overview of the results from each of the partner member states. The composite of those individual results was the basis for the final version of the award title list.

## CHAPTER 3 Skills, Competencies and Training of Healthcare Waste Management Personnel

### Former Yugoslav Republic of Macedonia (FYROM)

#### Findings from the Questionnaire HCW Manager

All the interviews it was confirmed that the directors are responsible by the law for healthcare waste management in healthcare facilities; at an operational level, though, each facility appoints or delegates to a specific person the management of healthcare waste.

The manager is in charge to manage the waste flow in the facility and to report to the authorities and the Committee for infection control. The manager, together with the infections control nurse are setting and monitoring the health and safety procedures inside the hospital.

Below a summary of the answers to the questionnaire is provided.

#### ***Q.1. What qualifications do you currently hold?***

All interviewed persons who perform duties of a HCW manager are medical nurses or sanitary technicians. They have been selected from the present staff to take over the HCWM responsibilities.

#### ***Q.2. How long has you held the post of healthcare waste manager?***

Each hospital that produces over 250kg hazardous waste annually shall appoint a HCW manager. According to the job systematisation of the healthcare facility the head nurse or sanitary technician is usually appointed as a HCW manager.

#### ***Q.3. How was your current post advertised and what were the requirements for the post?***

The job of a HCW manager is posted through an internal appointment, or a suitable person is simply nominated to replace the previous HCW manager; thus this job is not filled in under any public job announcement. A HCW manager may be a sanitary engineer or can possess similar technical / healthcare knowledge.

#### ***Q.4. Do you have a job description and/or contract of employment? May we have a copy of the job description?***

Specific duties of a HCW manager are:

- Main activities are: waste management, disinfection, pest control, clean water, wastewater, hospital external space management, and cleaning and transport system. In addition, the HCW manager will take over the following duties:
- Cooperation with the infection control committee in setting of guidelines for waste segregation / collection / temporary storage, before wastes are taken over by the licensed contractors;
- Organisation of trainings of other staff involved in HCWM as well as monitoring and developing suitable guidelines;
- Organisation of supplies of material for waste collection/ logistics.
- Preparation of reports on waste generation and handling as well as reporting to the Authorities.

#### ***Q.5. What type of training, if any, did you receive from the hospital when you first started in this job as healthcare waste manager?***

Since 2007 waste managers are certified by the MOEPP after attending training provided by an authorised training centre and successfully passing an exam. Interviewees attended different courses and some of them were trained

by an authorised training centre. Regardless of the type of received training, HCW managers also receive in-house training which is provided or organized by the head nurse:

- Infection control and hand hygiene
- Professional hygiene (personal, patient and environmental)
- Segregation, labelling and packing of the waste
- Occupational Health and safety

***Q.6. Does your employer provide training opportunities for you and if so in what subject areas and how often do these training events occur?***

Training opportunities are supported and allowed by the management of the healthcare facility. In last few years an effort has been made for provision of continuous training for infection control, sterilization and disinfection that are performed at least 4 times per year. Trainings for introduction of new technologies and practice are not a part of any continuous learning programme.

***Q.7. Do you provide training or awareness raising in regard to healthcare waste management issues at your healthcare facility and if so to whom, on what subject areas and how often does such sessions take place?***

The HCW manager works on awareness raising by delivering various trainings and developing specific guidelines, in tandem with the committee for infection control and head nurse. They target the medical and support staff.

Additionally, trainings are done for new employees or when some problems/issues are noticed in the practice. Refreshing trainings are organized from time to time (not scheduled).

***Q.8. Do you follow a formal Continuous Professional Development (CPD) programme? If yes, when did you last formally update your skills and knowledge in terms of that CPD programme?***

Due to the fact that majority of the HCW managers have a medical background, while the HCWM constitutes only part of their job description, they are more often following CPD in accordance with their main profession. There are no CPD in waste management established in the country

***Q.9. Please take a look at the list of units that are proposed in Appendix 1 for a new EU-HCWM VET (Vocational Education and Training) Award. Please indicate the units which are most relevant in your opinion to the post of healthcare waste manager.***

The interviewers considered that the list of units covers overall waste management.

***Q.10. Are there any areas of your role as healthcare waste manager which are not addressed by the list of units? If yes what areas are they?***

- Practical guidelines,
- Standard operating procedures
- Accidents management

Skills – Competences

Most frequently the waste manager is person that is most commonly educated and experienced environmental issues, however for Healthcare Waste manager, in specific the candidate should have technical / biological / chemical and health related knowledge/education (e.g. high graduated nurses, other engineers, etc.).

Most commonly the HCWM are sanitary technicians, qualified and educated in the sanitary engineering field. Sanitary Engineer performs all forms of medical-ecological control, coordinates the sanitary work in the field of drinking water supply and waste management and sewage.

The competency of the sanitary technician includes different knowledge in the domain of medical, ecological, hygienical and epidemiological field. He or She also carries out all forms of medical-ecological control in the areas of preventive health activities, manages and coordinates the activities with public institutions, companies and institutions in the fields of supply of drinking water, food, waste, sewage, hazardous materials, and participates in the control of the hygienic-epidemiological and ecological problems; and carry out professional work in the field of disinfection, disinfestation, rat extermination and decontamination.

### Existing Training on Health Care Waste Management

Ministry of Environmental protection and spatial planning of Republic of Macedonia has developed and published the programme and examination procedures for obtaining status of a waste manager, form of the license and the payment of examination fee (OGRM No. 105/05, 109/05, 133/07, 39/09 and 139/09).

In 2012 the Ministry of Environmental protection and spatial planning of Republic of Macedonia has selected and permitted four training centres that can organize and provide training for waste managers. The training program for waste management is realized in total of 50 training hours, in particular 20 hours of general legislation and regulative for waste management and 30 hours on regulations and procedures for management of specific waste streams

During the training the Laws for waste management, packaging waste, batteries, WEEE and accompanying sub legal acts are considered and worked trough. Beside mentioned, a lot of attention is focused on the Environmental legislation, in particular the IPPC licensing. The training is supported by some practical examples, relevant for the candidates and special attention is given on the preparation of reports and reports forms as well as the preparation of waste management programs and plans.

At the end of the training the candidates are obligated to do the exams, which are evaluated by nominated commission by the Authorities and Regulatory bodies, and if passed the candidate are awarded with certificate for waste manager approved by the Ministry of Environment. The certificate is valid for candidate to perform the duties of waste manager for all waste streams (solid, liquid, hazardous and non-hazardous) and is valid for all waste management operations (collection, transport, transfer, treatment and land filling).

### National Qualification Framework – Award Units

In 2012 the Ministry of Environmental protection and spatial planning of Republic of Macedonia has selected and permitted four training centres that can organize and provide training for waste managers. The training program for waste management is realized in total of 50 training hours, in particular 20 hours of general legislation and regulative for waste management and 30 hours on regulations and procedures for management of specific waste streams



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## Duties and Responsibilities

Here below is the recommendation for the duties and responsibilities for the position Healthcare Waste Manager

Responsibilities: Person responsible for organization, supervision, and managing the healthcare waste management in the healthcare facility

Duties: Development, establishment and supervision of comprehensive program for healthcare waste management and including awareness rising and capacity building among the employees

Responsible to: Infection control committee, director of the hospital and authorities (MOH and MOE) and regulatory bodies (inspectorates)

### 1. Duties and Responsibilities

#### A) Control and supervision

- Annual revision of the HCWM policy in coordination with the Director, the Committee for infection control and Head Nurse
- Data Collection and analysis on infections and outbreaks that are result of not proper HWW management
- Control and implementation of the equipment for waste management and logistics, Proper usage of PPE, carrying out of regular audits and inspections, supervision of waste management procedures and reporting
- Evaluation of the HCWM system
- Supervision of the personnel responsible for handling of the HCW
- Preparation of quarterly reports on actual HCWM situation and prepare recommendations for improvement
- Supervision of accidents and incidents related with HCW management and prepare report
- Problem identification related with waste management and recommendation of action plan for improvement

#### B) Training and Capacity building

- Provision of comprehensive training program for segregation, environmental protection, occupational health and safety and managing hazardous materials and wastes
- Develops and coordinate specific training programs for each department related with hazardous materials, policies, activities and regulations related with HCWM
- Controls the documentation for mandatory trainings and education

- Verifying the competence of the employees and their achievements during the training
  - Informing the personnel and public about the infection control and HCWM
  - Educate new employees and other personnel on HCWM in order to avoid irregularities arisen from lack of information flow
- C) Safety and communication:
- Observes all questions related with bio safety with the infection control committee and the OHS responsible
  - Controls the programs for spillages management and emergency procedures
  - Maintain data on materials safety and coordinate with procurement department about procurement of necessary materials
  - Cooperate with governmental and other accredited agencies for provision of licenses and acceptances.
  - Gives recommendations for legal, operative, professional and public issues as support to the institution.

#### Criteria

The person on this working position should:

- Have extensive ability for management, experience in administration works and needs to be able to report on medical and administrative issues.
- Be deeply devoted to infection control and have extensive knowledge in prevention and control of communicable diseases.
- Minimum medical high school education, biochemistry, sanitary or laboratory technician, preferably university education.
- At least 2 years of working experience in related field or in healthcare institution
- Concluded special training program for waste management in an authorised training centre
- To be a certificate holder for waste management issued by relevant institution
- Have ability to lead and train not qualified personnel
- Have ability to face and overcome everyday situation where will be exposed to blood and human tissue of not confirmed infection risk and other hazardous materials
- Prepared not to become emotionally engaged in the difficult situations

#### Training needs detected

Due to the fact that HCWM is a very wide topic it is necessary to develop tailor made training program for HCWM. Based on the analysis made in 2008 it was concluded that there is a lack of knowledge in the following segments.

- Organization of Waste management system



- Sharps management
- HCW Accidents response
- Logistics and Transport of hazardous waste

## Slovenia

### Findings from Questionnaire – HCWM Manager Slovenia

All the interviews carried out in Slovenia confirmed that the legal responsibility for healthcare waste management in healthcare facilities is attributed to the directors however each facility appoints for and delegates to a specific person the management of healthcare waste.

This manager is in charge to manage the waste flow in the facility and together with Commission, Physician and Nurse responsible for the control of nosocomial infections takes care for health and safety procedures inside the facility.

It emerged that the person in charge of managing the healthcare waste attends continuous training in the areas of quality, health and safety, and that training in the area of healthcare waste is usually attended in case of changes in the legislative framework.

All the feedbacks received have been summarized in relation to each of the question addressed by the questionnaire.

#### ***Q.1. What qualifications do you currently hold?***

- Sanitary engineer B.Sc.
- Sanitary engineer B.Sc. and MSc Environment protection
- Sanitary engineer B.Sc. and Training for hospital hygiene
- Nurse –high graduation
- Mechanical engineer B.Sc. and Management M.Sc.

#### ***Q.2. How long has you held the post of healthcare waste manager?***

- 4 years
- 4 years
- 15 years
- 12 years
- 15 years

#### ***Q.3. How was your current post advertised and what were the requirements for the post?***

The people have been assigned the post through internal appointment and/or through a public job announcement or just nominated from the previous position at the time of facility reorganisation. Requested requirements were sanitary engineer knowledge or similar technical / healthcare knowledge.

#### ***Q.4. Do you have a job description and/or contract of employment? May we have a copy of the job description?***

The job description is not present however main tasks and duties have been described:

- The hospital director gave special statement and appointed him as responsible for waste management. But the whole process of handling waste management is in hand of him – head of the technical department together with Commission, Physician and Nurse responsible for the control of nosocomial infections. They work together on updating guidelines for waste segregation/collection/path/trainings/ monitoring /temporary storage before wastes are taken over the licensed contractors. The hospital is trying to obtain ISO standard.
- Handling waste management in cooperation with Commission, Physician and Nurse responsible for the control of nosocomial infections. Activities: management waste segregation /collection/ path/ trainings/ monitoring / temporary storage/ taken over by licensed contractors / ordering material for waste collection/ selecting contractor/ preparing guidelines.
- Main activities are: waste management, disinfection, pest control, clean water, wastewater, hospital external space management, and cleaning and transport system.
- Reorganisation of the department, before 2009 it was department for ecology, which covered also care for drinking water, cleaning service, emissions etc. Novelised department it is responsible only to management the waste.

***Q.5. What type of training, if any, did you receive from the hospital when you first started in this job as healthcare waste manager?***

The people in charge of HCWM received training related to the legislation and to waste management. In case the person already held the required expertise, training was not offered by the facility.

- Experience and knowledge from previous work or other position in the facility; the responsibility was added to an existed job
- Obligatory training 'Safety at work'.
- Mostly learning by doing, additional training especially regarding legislation
- External support and trainings were available if there where needed.
- Additional help are regular visits from inspectors. They provide good feedback on the situation and advise improvements.
- Cooperation with Commission, Physician and Nurse who are responsible for the control of nosocomial infections in order to get familiar also with their novelties.

***Q.6. Does your employer provide training opportunities for you and if so in what subject areas and how often do these training events occur?***

External education it is allowed and it is used few times per year, especially if there are some novelties organised by private educational companies or if they are organized by any supplier/waste collectors.

***Q.7. Do you provide training or awareness raising in regard to healthcare waste management issues at your healthcare facility and if so to whom, on what subject areas and how often does such sessions take place?***

By Slovenian practice HCWM works together with Commission, Physician and Nurse who are responsible for the control of nosocomial infections provide several trainings and guidelines.

Majority of them are for medical staff and those who somehow work with waste. Before staff / student / volunteer start to work is educated how to deal with waste – segregate/ collect/ transfer and how to protect.

Additionally, trainings are done when some novelties are in place, or when some problems/issues rise.

Also refreshing trainings are from times to time.

Charts and guidelines are available at the spot or posted to the walls at the main positions or to raise awareness.

***Q.8. Do you follow a formal Continuous Professional Development (CPD) programme? If yes, when did you last formally update your skills and knowledge in terms of that CPD programme?***

All the managers interviewed follow CPD activities especially with learning by doing, in particular when changes in the regulation occur (once a year on average). Additionally, some of them developed their knowledge at postgraduate studies (e.g. Environmental protection M.Sc.)

***Q.9. Please take a look at the list of units that are proposed in Appendix 1 for a new EU-HCWM VET (Vocational Education and Training) Award. Please indicate the units which are most relevant in your opinion to the post of healthcare waste manager.***

The list of units is too fragmented for such a small facility, usually one person control several tasks. Combination of them it would be great.

***Q.10. Are there any areas of your role as healthcare waste manager which are not addressed by the list of units? If yes what areas are they?***

HCWM is facilitated in accordance with legislations requirements, but HCW managers miss some practical guidelines e.g. common national practical guidelines prepared by supervising authorities in order to get higher standards and one sufficient common approach.

Furthermore, HCW manager and all other personnel in charge for waste handling do not have many possibilities to further education expect official professional education programs, due to a lack of suitable trainings which would provide additional practical knowledge.

## Nationally Accepted Qualifications and Skills

In Slovenia, the directors are legally in charge for waste management, but they nominate someone who leads/manages the waste in the facility. Most frequently this is HCWM, who is most commonly educated and experienced as sanitary engineers or other similar professional profiles with technical / biological / chemical and health related knowledge/education e.g. high graduated nurses, other engineers, etc.

HCWMs aware that for their work they need several knowledge from different files e.g. environmental protection, management, team leading...therefor some of them continue to gaining knowledge on post graduate studies (specialisations, master degree, Ph.D. etc. on environment protection, health, management etc.)

**Official short job description of Sanitary engineer** - most common requested education of HCWM: (Bachelor of sanitary engineering). Sanitary Engineer performs all forms of medical-ecological control, coordinates the sanitary work in the field of drinking water supply and waste management and sewage.

Work tasks: Work of the sanitary engineer includes a set of different tasks in the medical-ecological, socio-medical and hygienic-epidemiological field. He also participates in the planning and design of settlements, industrial zones, infrastructure, settlements and municipal facilities. Carry out all forms of medical-ecological control. He works in the areas of preventive health activities leading education; manages and coordinates the work of sanitation in public institutions, companies and institutions in the fields of supply of drinking water, food,

waste, sewage, hazardous materials, and participates in the control of the hygienic-epidemiological and ecological problems; follow outcome of scientific research, incorporating them into their daily work and carry out professional work in the field of disinfection, disinfestation, rat extermination and decontamination.

Areas of work: Major work areas are: protection of the human environment, nutrition and health of food and objects of general use, sanitary inspection and supervision, corporate governance and individual organizational units for drinking water supply, waste and sewage management, preventive health care services and management of the administrative-inspection of administrative bodies and educational and research work.

Used tools: Sanitary engineers at work use a variety of devices and documents. Among the most important documents of the profession belong Official Journal, sectoral norms and regulations.

Products and services: Sanitary engineer in his work uses the methodology of monitoring, recording, analysis and evaluation of results. According to studies done on the basis of the results obtained an expert opinion or estimate.

Knowledge and Skills: Sanitary engineer must have a broad professional and technical knowledge in the field of medical-ecological activities. He must be trained to work independently, with the ability for individual and rapid decisions as well as group work. They must independently decide on the basis of measurements, sampling and laboratory analyses, and individual professional judgment; know about the harmful effects of technology on the environment, and modern ecological knowledge using epidemiological methods. He has to monitor and analyse the causal relationship between the adverse action of agents on the human organism and the resulting health consequences and the ways and methods of effective preventive-health action. The work also requires physical and mental healthy person who has a well-developed senses, sight, hearing, smell, taste and occupational accurate and accountable. Depending on the nature of the work they must be able to communicate with people and expertise to justify their decisions.

Working conditions: Working conditions are often heavy and noxious. The work is outreach, possible contact with disease and toxic substances.

Dangers: During the work he may come in touch with toxic substances, and therefore he needs to know, how materials/substances work and what the possible damages are.

Education: For the practice of the profession is required finished high school health professional direction.

Related professions: Sanitary technician or/and pest control person

## Vocational Training and National Occupational Standards Overview

### National Occupational Standards Overview

National Reference Point for Occupational Qualifications – Slovenia (NRP SLO) is establish in order to enhance transparency on Vocational Qualifications and to establish the system for the issue of certificate supplements in an official national language with the possibility of translation into one European language or more; and to setting up of a National Reference Point responsible for providing information on national occupational qualifications.



The National Reference Point is a national partner in the European Network of Reference Points. A National Reference Point in every EU Member State gives access to information on vocational education and training systems. National reference points are networked.

The National Reference Point is the first point of contact when questions pertaining to national qualifications, certificates and certificate supplements arise. It is the access provider of relevant information, or to contact point with national institutions which hold the important information.

The website of NRP SLO offers information on occupational qualifications in Slovenia. The following pieces of information are available:

- vocational education and training, as well as the certification system of accreditation of informally acquired competences (legal basis, key institutions in vocational education and training, and in the certification system, as well as their powers);
- occupation classification and national occupational standards forming a basis for acquiring national occupational qualifications, both through the formal education system and certification process;
- educational programmes in lower and upper secondary vocational education, as well as in secondary professional and higher professional education with all key elements;
- catalogues of standards of professional knowledge and skills constituting a basis for the certification, and bodies awarding occupational qualifications ( accredited assessing agencies for occupational qualifications through the certification system, and agencies for publicly approved programmes in vocational education and training);
- assessment and accreditation procedures of national occupational qualifications.

A transparently structured system containing all important information on vocational education and training contribute to greater transparency in this area at the national level. At the same time, it enables international comparability of occupational qualifications, thereby promoting labour force mobility and facilitating Slovenia's integration into the EU.

Currently in the base are following NOS which somehow (partly) address HCW issue:

- 2263 - Environmental and occupational health and hygiene professionals (Sanitary Engineer)
- 3222 - Environmental health, hygiene and related associate professionals
- 1342 - Health services managers
- 5139 - Personal care and related workers not elsewhere classified
- 2221 - Nursing professionals
- 2143 - Environmental engineers
- 3257 - Environmental and occupational health inspectors and associates

## Vocational Training

Currently is in Slovenian base 651 vocational qualifications but none out of them is dealing with management of healthcare wastes or similar issues.

There are few private organised seminars (not part of VT) for those who are already dealing with healthcare waste but only in order to give them some legal updates or some good practice. Those seminars are mostly



organised by licensed waste contractor, or some other medicine / medical material provider. In case of major changes in regulation requests also ministry or some other authorities organise seminars or prepare guidelines.

#### Example of two private organised seminars:

*Some topics covered by a seminar held after launching of new regulation in 2013:*

- *Review of legislation in the field of waste management in health care (types of waste in health care, general requirements for waste management, practical information to meet the requirements of legislation, waste hierarchy under the new regulation)*
- *Procedures for the proper classification of waste (required documentation; keeping of records; reporting on the quantities of waste generated to new regulation; creating a plan on waste management, organizational instruction)*
- *The obligations of waste producers (the objectives of the management of waste from health care; description of health care waste, the methods of waste management in health care (infectious waste, waste pharmaceuticals, medical devices, mercury waste, etc.); collection, transport and storage of waste from health care; an example of segregation and management of waste from health care)*

*Training organising oriented organisation ISQ usually, twice a year, organise seminar 'Waste management in health care' and invite all those responsible for waste management that does not know the correct answers to the following questions:*

- *What are the general requirements for waste management in our country?*
- *What are the essential requirements for waste management in health care and how to do them in practice?*
- *Which problems most frequently encountered in the management of waste in health care?*
- *What are the obligations which have agents and assignees waste?*
- *What records must be kept and how to prepare the report?*
- *How to prepare a Waste Management Plan in healthcare?*

*They promise that they will teach them about the obligations imposed by the Regulation on waste management in the field of health care and other related regulations. Individual requests and responses will be explained using practical examples. Seminar content is:*

- *general requirements for waste management in Slovenia;*
- *essential requirements for waste management in healthcare;*
- *obligations of agents and transferees of waste;*
- *practical information to meet the requirements in practice, record keeping and preparation of reports.*

*Methods of work: The seminar comprises lectures and discussion with the participants on the principle of two-way exchange of information and experience. Participants at the seminar actively participate and have the opportunity to ask specific questions.*

*Target groups:*

- *Responsible for the management of waste from health (human medicine and veterinary medicine) and related activities;*
- *public service, taking care of waste (municipal, state);*
- *planners and responsible for interventions in the area or to the environment;*
- *environmental experts, ecologists and environmental engineers;*
- *all interested public.*

*Lecturer Zornik Marjanca is a director of Formica Ltd., which mainly deals with counselling in the field of environmental protection; she also advises on the management plan and waste management. In SIQ, she is an auditor for management systems according to ISO 9001, ISO 14001, EMAS, OHSAS 18001 and ISO 50001 and is co-author of the book Responsible environmental performance. In addition, she did environmental training at Ökoprofit Akademie (Graz, Austria).*

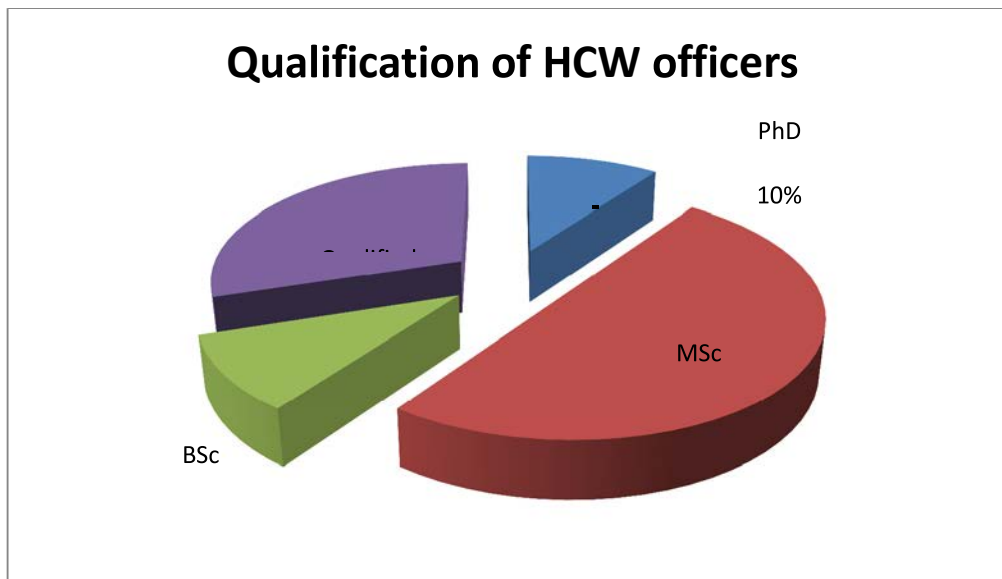


*She has several years of experience with environmental legislation - among other things; she is also the Inspector for Environmental Adviser as a status of the main republican inspector.*

## Germany

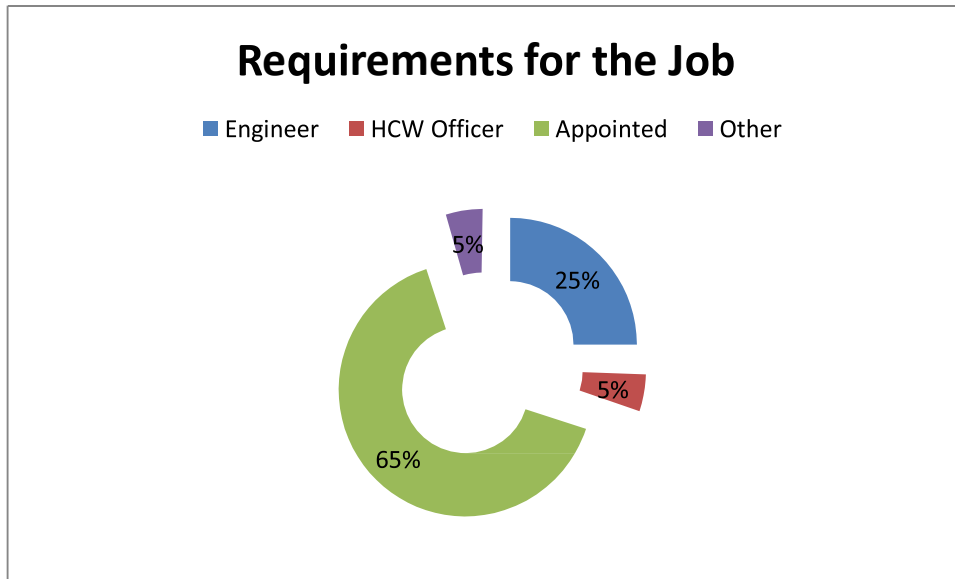
To identify the skills, competences and trainings of staff which is appointed to manage healthcare waste in healthcare facilities, questionnaires was developed and send to the appointed waste managers of healthcare facilities. The following information are based on the information provided during interviews, discussions with experts and from the analysis of the collected questionnaires.

The analysis of the Healthcare Waste appointees (officers) show that the majority of the officers followed a tertiary education, more than 50% hold a master degree or higher.

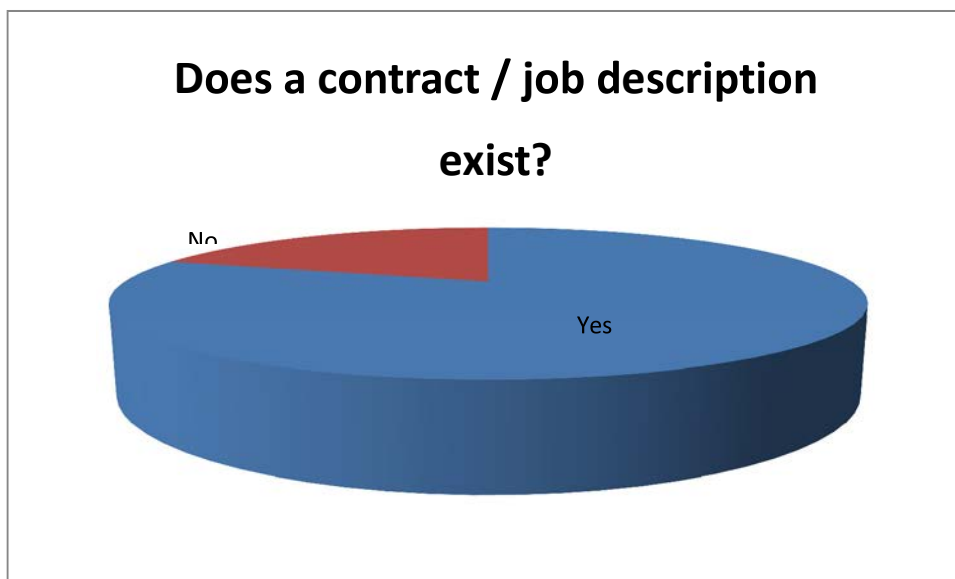


In average, the research show that the participating persons have in average about 10 years work experience (9,63 years).

This high education level is however not mirrored during the employment and appointing processes. In most cases, the education level was not a formal requirement to be appointed as waste officer, in most cases the responsible officer was directly appointed by the management of the healthcare facilities. Only in 1/4 of the cases, the open position was formally advertised. If advertised, the requested qualification was a tertiary level degree in a field related to wastemanagement.



More than  $\frac{3}{4}$  (80%) of the interviewed persons have either a formal job description and/or a contract of employment / contract for service delivery which describes their role and responsibilities.

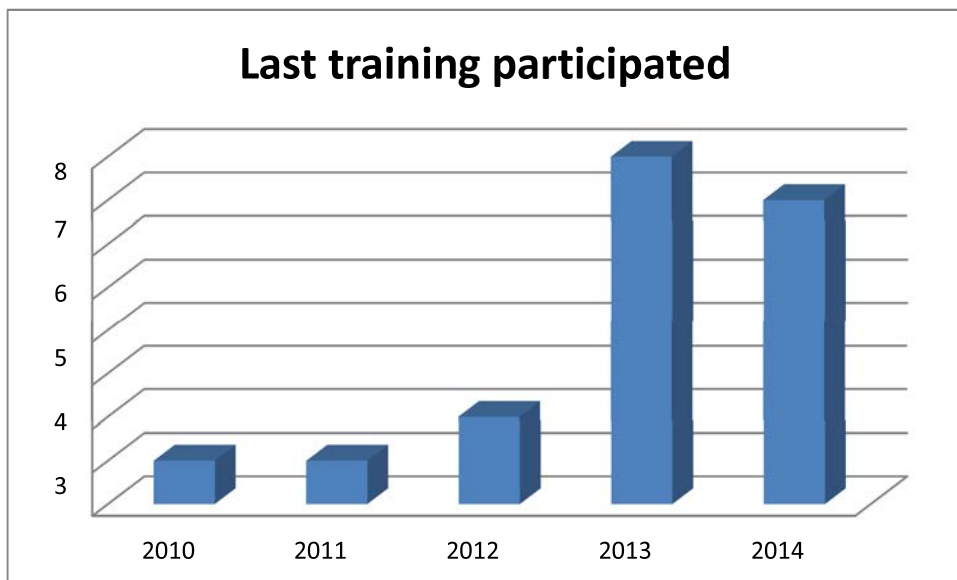


#### Existing Training on Health Care Waste Management

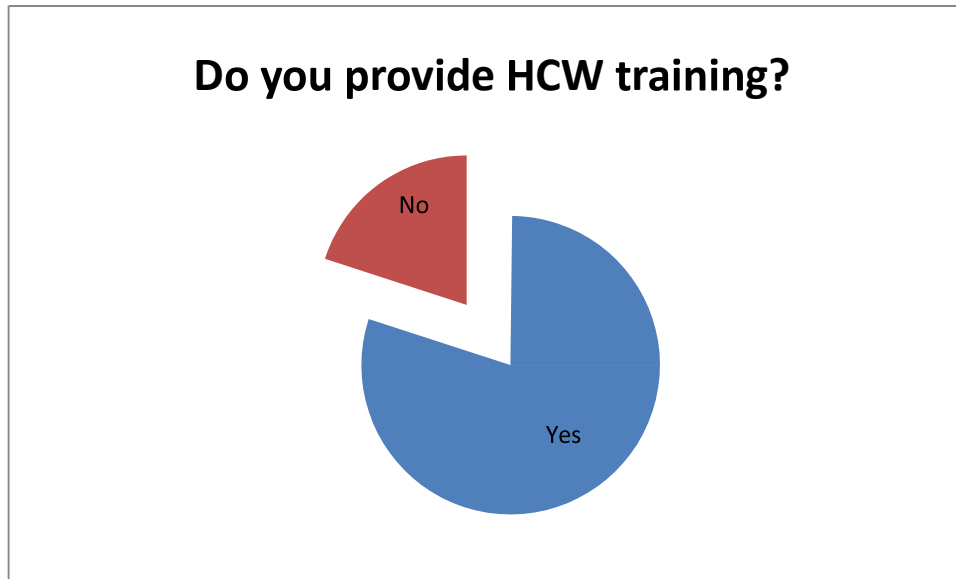
The carried out research showed that all persons received training either before or directly after they got appointed as waste officer and are responsible for waste management. While the majority received in the beginning a specific training on healthcare waste management, about 1/3 participated in a general training which qualifies them to act as waste officer (Abfallbeauftragter).



With one exemption, all waste officers confirmed that their employer provides training opportunities on healthcare waste. In average the officers spend 1,5 days per year on training. Typically they participate at least every second year in a training to update their know-how.



It should be noted that about 80% of the healthcare waste officers are responsible to provided training on healthcare waste in their facilities and also in secondary and tertiary level establishments of higher education.



### National Qualification Framework – Award Units

In Germany, a national qualification framework for healthcare waste officers does not exist. The Federal Ministry for the Environment, Nature Conservation Building and Nuclear Safety is authorized, after hearing the parties concerned (§§ 68), by ordinance to prescribe the demands on the expertise and reliability of the waste management officer.

The Federal Ministry for the Environment, Nature Conservation Building and Nuclear Safety however has so far not issued an ordinance which describes the formal requirements for a vocational training to prove the requisite qualification for waste officers. Private training companies exist in different counties who received confirmation from the local responsible authorities that their trainings are recognized.

### Duties and Responsibilities

In Germany, as far as environmental protection and infection prevention are concerned, in-house supervision procedures are mandatory. For this purpose, hospitals and clinics have to appoint not only a person responsible for hygiene, but also a healthcare facility appointee for waste management pursuant to §§ 54 ff. KrW-/AbfG in conjunction with the Ordinance on Healthcare facility Waste Management Officers. This appointment must be executed in writing and communicated to the competent authority. Pursuant to § 55 KrW-/AbfG, his or her duties shall include:

### Waste Management Initiatives

The healthcare facility appointee for waste management shall advocate the procurement of environmentally friendly products and procedures, develop strategies that help to avoid or recycle waste and take the necessary steps for a proper disposal of all generated wastes. He or she advises the management of the establishment on all matters that might be important for the closed substance cycle waste management and the waste disposal, in particular, on the planning and implementation of waste management measures. While

doing so, not only the provisions of the waste legislation must be observed, but also the requirements of the other areas that are relevant for the environment, e.g. the water and soil protection or emission control. As far as occupational safety and health is concerned, a close cooperation with the person responsible for hygiene, the specialist for occupational safety and health and the healthcare facility physician is necessary.

#### Duty to supply Information

The healthcare facility appointee for waste management shall be obliged to inform the management and the staff members of the establishment about the risks for humans and the environment that might be associated with wastes and the measures to be taken. Such information must be given in a suitable form, e.g. within the framework of seminar trainings.

#### Supervision

The healthcare facility appointee for waste management shall be obliged to track and supervise the on-site and off-site route of the waste until its final disposal and check the observation of the duty to provide and keep proof thereof. He or she shall be obliged to optimize disposal processes and cost.

#### Obligation to report

The healthcare facility appointee for waste management shall be obliged to report to the management on a regular basis, at least once a year, with the report containing deficiencies/insufficiencies detected, remedial measures taken and the wastes generated and disposed of.

#### Rendering expert advice

The healthcare facility appointee for waste management shall advise the management on matters that might be important for the closed substance cycle waste management and the waste disposal, in particular, on the planning of on-site waste treatment facilities.

To be able to perform these duties, the healthcare facility appointee for waste management must be carefully chosen (qualification), officially appointed (determining his or her scope of competence), supported (e.g. through the provision of the respective resources, rooms, working hours, staff members, the facilitation of a participation in training and qualification courses) and be given a right to present his or her issues to the management.

Since hospitals and clinics as waste generators have full responsibility for the proper disposal of all wastes, the Healthcare facility Waste Management Officer must be given the required time for the fulfilment of his duties. To avoid corporate/organisational negligence, the Healthcare facility Waste Management Officer shall be - to the necessary extent - exempt from other duties to execute these tasks.

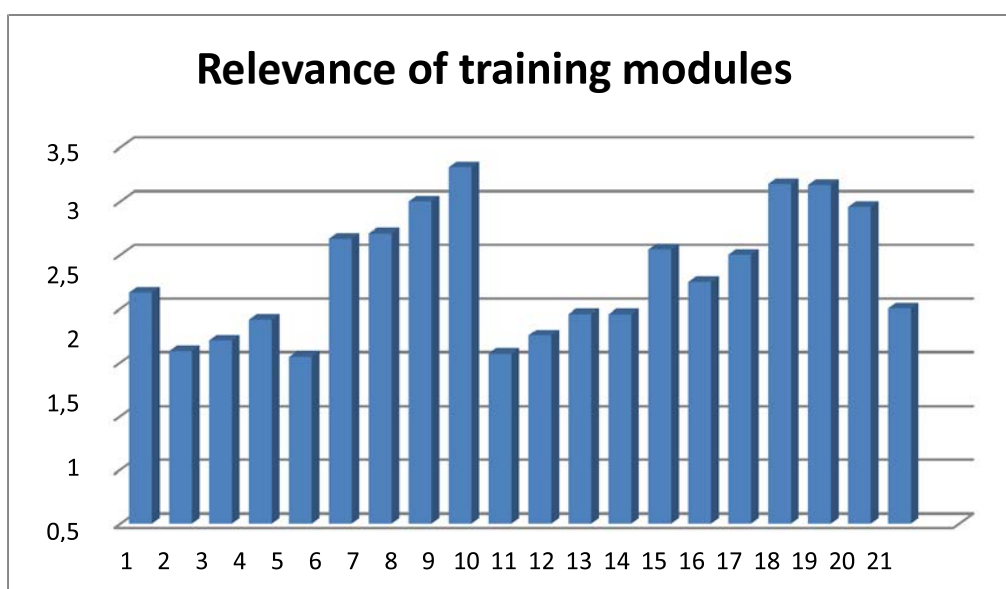
Assigning him or her without an exemption from other duties should be avoided. For larger establishments (with more than 800 beds and a respective amount of generated waste), it is advisable to employ a full-time waste management officer. (cf. Waste Management Industry Concept in the publication "Branchenarbeit und Abfallmanagement" [Industry Work and Waste Management] on the website of the

"Industrieabfallkoordinationsstelle Sachsen" [industrial waste coordination point Saxonia] - [www.ik-sachsen.de](http://www.ik-sachsen.de)

### Training needs detected

To identify training needs, the persons participating in the questionnaire were asked to rate the following, typical training units on a scale from:

1=very important to 5 not important.



The suggested training units were:

1. Control the collection of hazardous and non-hazardous waste at a healthcare facility
2. Control the movement, sorting and storage of hazardous and non-hazardous wastes
3. Manage the movement, sorting and storage of recycled materials and vehicle movements at a healthcare facility
4. Monitor the procedures to control risks to health and safety of the waste management function at a healthcare facility
5. Control site operations for the transfer of hazardous and non-hazardous healthcare waste at a healthcare facility
6. Control the reception of infectious wastes at a healthcare waste treatment facility
7. Control site operations for the treatment of infectious healthcare waste at a healthcare facility
8. Control the disposal of outputs and residues from infectious healthcare waste treatment operations at a healthcare facility
9. Control maintenance and other engineering operations at an infectious healthcare waste treatment facility
10. Control the disposal of outputs and residues from hazardous and non-hazardous waste transfer

11. Control improvements to waste management operations at a healthcare facility
12. Ensure protection of the environment at healthcare facilities treating or transferring hazardous waste
13. Support the efficient use of resources
14. Manage a budget
15. Select and manage sub contracted services
16. Implement and manage contracted service or supplies
17. Manage cleaning services at a healthcare facility
18. Contribute to the selection of personnel for activities
19. Review the performance of teams and individuals
20. Create effective working relationships

The analysis of the questionnaires showed the following results:

The "Top Ten" training units are (not in order of ranking):

- Control of the collection of hazardous and non-hazardous waste
- Control the movement, sorting and storage of hazardous and non-hazardous wastes
- Management of the movement, sorting and storage of recycled materials and vehicle movements at a healthcare facility
- Monitoring of the procedures to control risks to health and safety of waste management
- Control site operations for the transfer of hazardous and non- hazardous healthcare waste
- Control the disposal of outputs and residues from hazardous and non- hazardous waste transfer
- Control improvements to waste management operations at a healthcare facility
- Ensure protection of the environment at healthcare facilities treating or transferring hazardous waste
- Support the efficient use of resources
- Create effective working relationships

Other subjects, especially subjects related to the treatment of waste, cleaning services and human resource management are considered as less important.

The participants in the questionnaire stated that especially the following sectors would be important for additional training:

- Waste management for managers (Awareness raising) and practical waste classification
- Information on overlapping areas as hazardous goods, Biosafety, Water and wastewater management
- Communication, Motivation, Information materials, organization, development and usage of waste management tools
- Motivation of co-workers, management systems

Poland

**Findings from Questionnaire 1**

All the feedbacks received during audits have been summarized in relation to each of the question addressed by the questionnaire.

**Q.1. What qualifications do you currently hold? Can you briefly outline your work experience?**

The table reports the information on the people interviewed.

No	Qualifications (education/position)	Job experience
1)	a) Nurse epidemiologist	a) 3,5 years of experience in healthcare facility
	b) M.Sc. Nursing	b) 16 years of-experience, partly in WM
2)	Environmental specialist	Production plant/factory
3)	MSc. Nursing; hold position: Hygiene and Catering Sections Nurse	8 years in the healthcare facility
4)	Director of the Economical Section	8 years in the healthcare facility
5)	a) Specialist in the Administration and Services Section	a) 40 years in the healthcare facility
	b) Special Nurse	b) 27 years in the healthcare facility
6)	MSc. Nursing; hold position: Nurse epidemiologist	20 years in the healthcare facility
7)	Graduate nurse; hold position: Charge Nurse	41 years in the healthcare facility
8)	a) Specialist in the Technical Section	a)7 years in the healthcare facility
	b) Nurse epidemiologist	b) no data
9)	Waste manager in the logistics section- Environmental law post degree studies .	5 years in the healthcare facility

1)-9) - number of the visited facility; a),b) - people responsible for WM in the hospital

**Q.2. How long have you held the post of healthcare waste manager?**

- 1) a) 3,5 years of experience in healthcare facilities; b) 16 years of experience partly in WM
- 2) 2 years in the healthcare facility
- 3) 8 years in the healthcare facility
- 4) 8 years in the healthcare facility as a waste manager
- 5) a) 40 years in healthcare facility; b) 6 years in the healthcare facility as a waste manager



- 6) 20 years in the healthcare facility
- 7) 3 years in the healthcare facility as Charge Nurse responsible for WM.
- 8) 7 years in the healthcare facility
- 9) 5 years in the healthcare facility as a waste manager

***Q.3. How was your current post advertised and what were the requirements for the post?***

Most people have been assigned the post through internal appointment in the hospital and only few through a job announcement published in the newspaper/internet. In one case an experience in environmental protection was required.

Since for the post advertised in the newspaper lots of years have passed it was impossible for interviewed persons to remember the requirements which were sought.

***Q.4. Do you have a job description and/or contract of employment? May we have a copy of the job description?***

There is a mention in a job description about:

- 1) Epidemiological duties,
- 2) H&S duties,
- 3) Responsibilities for proper organisation of classification, segregation and transportation of waste. Supervising waste management, providing trainings and redistributing the staff duties. Preparing the waste management procedures and standards. Participating in HCW management trainings to rise own qualifications. Organising the tenders for waste management in the hospital.
- 4) Waste management duties,
- 5) Not available,
- 6) Waste management duties,
- 7) Not available,
- 8) There is nothing about waste management duties,
- 9) Responsibilities for waste management in the hospital as a head of Waste Management Team.

***Q.5. What type of training, if any, did you receive from the hospital when you first started in this job as healthcare waste manager?***

The people in charge of HCWM received training related to the legislation and/or to waste

management. In 3 cases no training was provided by the hospital and in one case the person is self-educating.

***Q.6. Does your employer provide training opportunities for you and if so in what subject areas and how often do these training events occur?***

The trainings are usually chosen by the HCW managers by themselves. In some cases there is no training opportunities provided and sometimes the training is available only if it is free of charge.

Major areas of interest are:

- Postgraduate studies with some modules on HCWM,
- Environmental protection,
- Occupational health and safety,
- Infection control,
- Legislative framework related to occupational health and safety and waste management.

Also the internet is used as a tool for upgrading knowledge and competence.

***Q.7. Do you provide training or awareness raising in regard to healthcare waste management issues at your healthcare facility and if so to whom, on what subject areas and how often does such sessions take place?***

In three cases the people are not concerned with training provision or awareness raising activities. In two cases the training is provided by the Charge Nurse or H&S expert.

In the other cases the HCW manager is in charge for the training of employees on the management of healthcare waste, with specific attention to the new employees.

In one case the outside company provides training about HCWM logistics.

The training is done once or twice a year and when necessary for new employee.

Subject areas:

- occupational health and safety,
- epidemiology,
- waste management.

***Q.8. Do you follow a formal Continuous Professional Development (CPD) programme? If yes, when did you last formally update your skills and knowledge in terms of that CPD programme?***

No one knows or follows CPD programme.

***Q.9. Please take a look at the list of units that are proposed in Appendix 1 for a new EU-HCWM VET (Vocational Education and Training) Award. Please indicate the units which are most relevant in your opinion to the post of healthcare waste manager.***

score

Collection	MHW 1	Control the collection of hazardous and non-hazardous waste at a healthcare facility	7
Movement & Storage	MHW 2	Control the movement, sorting and storage of hazardous and non-hazardous wastes at a healthcare facility	7
Recycling (Optional Unit)	MHW 3	Manage the movement, sorting and storage of recycled materials and vehicle movements at a healthcare facility	0
Health & Safety	MHW 4	Monitor the procedures to control risks to health and safety of the waste management function at a healthcare facility	4
Site Operations	MHW 5	Control site operations for the transfer of hazardous and non-hazardous healthcare waste at a healthcare facility	3
Infectious Healthcare Waste Treatment	MTHW 6	Control the reception of infectious wastes at a healthcare waste treatment facility	3
	MTHW 7	Control site operations for the treatment of infectious healthcare waste at a healthcare facility	1
	MTHW 8	Control the disposal of outputs and residues from infectious healthcare waste treatment operations at a healthcare facility	1
Maintenance	MTHW 9	Control maintenance and other engineering operations at an infectious healthcare waste treatment facility	1
Hazardous Waste Transfer	MHW 10	Control the disposal of outputs and residues from hazardous and non-hazardous waste transfer operations	1
Improvements	MHW 11	Control improvements to waste management operations at a healthcare facility	3
Environment	MHW 12	Ensure protection of the environment at healthcare facilities treating or transferring hazardous waste	4
Resources and Contracts	MHW 13	Support the efficient use of resources	1
	MHW 14	Manage a budget	2
	MHW 15	Select and manage sub contracted services	3
	MHW 16	Implement and manage contracted service or supplies	4
	MHW 17	Manage cleaning services at a healthcare facility	3
Personnel & Personal Development	MHW 18	Contribute to the selection of personnel for activities	3
	MHW 19	Review the performance of teams and individuals	3
	MHW 20	Create effective working relationships	4

Score – number of votes on each module by HCW Managers.

**Q.10. Are there any areas of your role as healthcare waste manager which are not addressed by the list of units? If yes what areas are they?**

In general the managers are satisfied with the areas addressed by the list, some of them even though that the list of module is too broad.

Suggested subjects to include:

- Other environmental issues: green sites management, water quality,
- Quantity and types of produced waste registry and record keeping,
- Reporting to authorities regarding waste generation and disposal,
- Records keeping for documentation confirming the disposal of medical waste (DPU).

## Skills – Competences

Most people have been assigned the position of HCW Manager through internal appointment in the hospital and only few through a job announcement published in the newspaper/internet.

Usually required skills for the position of healthcare waste manager are:

- knowledge and understanding of current regulations regarding treatment and disposal of medical waste,
- knowledge how to develop and maintain the procedures for waste management in the institution,
- ability to organise proper separation of waste in the institution,
- ability to organise trainings on waste treatment for all relevant staff,
- ability to manage the budget,
- ability to manage recording of waste and reporting to the authorities.

The findings of the audits show that the position of healthcare waste manager is held by employees of various sections in the healthcare facility and with different educational background. However it was noted that in most cases (in 50%) this position was held by epidemiological nurse or charge nurse, usually in small and medium size hospitals. In two larger public hospitals this position was held by dedicated waste manager with environmental background. In one case it was a director of economical section. In two cases this position was shared by two employees such as:

1. specialist in administration and services section – responsible for waste disposal and storage; special nurse – waste segregation, collection and internal transportation,
2. specialist in the technical section – responsible for internal transportation, waste disposal and storage; nurse epidemiologist - waste segregation, collection.

To become a nurse epidemiologist a person needs to undertake specialisation course for epidemiological nurses. This course last from 18 to 24 months and is dedicated for bachelors of nursing with at least 2 years of work experience. The part of one training module contains achieving skills in management of medical waste, such as supervising the segregation, removal and disposal of waste.

## Existing Training on Health Care Waste Management

The personnel in charge of HC waste in most cases has received short (1day) training related to the changes in the medical waste management legislation. The training opportunities are usually found by the HC waste managers by themselves. In some cases there is no training opportunities provided by the hospitals and sometimes the training is available only if it is free of charge.

## National Qualification Framework – Award Units

During the audit all the HCW managers were asked to indicate the modules from the list of award units which are the most relevant to their duties. The mostly chosen modules were:

Collection MHW 1 Control the collection of hazardous and non-hazardous waste at a healthcare facility.

Movement & Storage MHW 2 Control the movement, sorting and storage of hazardous and non-hazardous wastes at a healthcare facility.

## Duties and Responsibilities

In all cases the HC waste management was only one part of the duties of audited personnel. It depends on held position and whether the HC waste management duties are shared with other person. The usual responsibilities are:

- proper organisation of classification, segregation and transportation of waste,
- supervising waste management,
- providing trainings and redistributing the staff duties,
- preparing the WM procedures and standards,
- participating in WM trainings to rise own qualifications in WM,
- organising the tenders for WM in the hospital.

## Training needs detected

Only in two hospitals analysis of waste management training needs has been carried out for HCW managers, hospital staff, students, contractors, etc.

The trainings are usually found by the HCW managers themselves. In some cases there is no training opportunities provided and sometimes the training is available only if it is free of charge. Most of the hospitals cuts the expenses wherever it is possible.

**During the audits insufficient training opportunities for all the personnel involved in HCWM was detected.**

## Spain

### Waste management and HC areas

The capacity of improving waste management in healthcare facilities is directly influenced on the knowledge, competences and awareness level of the staff, the waste manager and both medical and non medical staff. In fact, taking into account the whole waste cycle, all members of the staff are involved in waste management at least in relation to all the activities carried out within the site from prevention, to segregation, internal transport, intermediate storage and transport to final storage; while the waste manager is also involved in the extra-site activities (contracting procedures, management of authorized waste management companies and waste transport companies, operational controls, waste monitoring, legal aspects related to waste management, control of legal documents related to waste management, management of waste budget, etc.).

As the first phases of the waste management process, such as use of materials and waste segregation, depends mainly on the medical staff (medical doctors and nurses) they have a significant capacity to condition positively or negatively the outputs of the whole process in terms prevention and quality of the sorted waste. Cleaning, waste and maintenance staff has a relevant role in the following phases (internal transport, storage, relationship with waste transportation contractors), but if the waste is not sorted correctly in the first phases, they will not be able to improve it.

Other functions such as procurement manager and the head of medical departments can have a significant role when considering waste prevention practices and the adoption of less hazardous and complex materials.

Pharmacy and warehouse can influence the quantity of generated waste due to the stocks management and procurement activities, products' traceability and storing conditions.

Moreover, other non HC areas, such as kitchen and maintenance are also involved in waste management due to the fact that they generate important amounts of urban waste (kitchen) or smaller quantities but hazardous waste (maintenance). The Maintenance Department generates hazardous waste that does not follow the same management flows of HC hazardous waste. For example, maintenance can generate radioactive waste from the ionic smoke detectors, but this type of waste cannot be managed within the other radioactive waste that is generated at the facility.

Part of the staff in a HC facility can be external as certain services are often outsourced, for instance cleaning services, kitchen and canteen staff and maintenance. It's important to take into account that whether it's internal or external, all the staff has to be trained appropriately and accordingly to the impact they can cause while managing waste.

### The role of the HCWM and its competence and training needs

During the study the working group has carried out 12 interviews to HCWM in order to know their level of knowledge, skills and competences. Taking into account the results of these interviews, the majority of current HCWM has been working in the HC centres as HC waste manager for several years, the average time is of about 10 years. The more recent HCWM is in charge of this responsibility since 2012 and the oldest one since 2000.

Those HC centres that have already implemented an environmental management system (EMS) usually designate the environmental manager also as the HCWM. Other HC centres appoint as HCWM the head of the accommodation department or the head of General Services. This means that there's no exclusive dedication for this role, but the tasks related to waste management are integrated into another function. Because of this integration, the majority of the job descriptions and contracts do not specifically include the task of waste management.

The interviewees have declared that when applying for their current position, tasks related to waste management were not specifically required as the majority of the analysed cases have been internally designated within the hospital as one more activity to carry out under their position.

Regarding training activities, except three of the interviewees, the majority of HCWMs have not received an internal specific training programme on waste management from the HC facility. Most of them have sought external support (consultancy firms, waste contractors, others) or have consulted and obtained basic information

by their own (HC waste management guidelines edited by the authorities, search of laws and other legal acts on HC waste, etc.).

All HC centres are inspected periodically by the authorities, in the case of Catalonia they have been inspected in the past jointly by the Public Health Authority and the Catalan Waste Agency and the inspections have been also an important source of information and training for the HCWM.

Some of the HCWM have already visited at least one of their waste contractors' facilities and it has been positively assessed by the HCWM as it is very instructive.

### The HC staff

The working group has carried out interviews to staff from different areas and levels: medical doctors and nurses of different areas, nuclear medicine staff, laboratory technicians, pharmacists, cleaning staff, maintenance staff, and kitchen and canteen staff.

Generally speaking, the majority of the staff has not received any specific training activities regarding HC waste management during their professional studies, particularly those that have studied some years ago. Younger staff is more likely to have received more information about waste management, for example in the nursing area, but it's still very basic. Those that have been taught on HC waste management at school have declared that the received training has necessarily to be integrated with on site training as there can be differences on the waste management from one facility to another one.

Most of the current staff in the audit centres has obtained HC waste management competences directly from the HC facility. Training activities can be both, on demand – taking into account the needs of each area, or general – provided to all the staff.

In relation to newcomers, usually the staff receives a general initial training course that includes a part dedicated to HCWM, but there's no an individual welcome training programme on waste management.

Generally speaking, a wide range of staff has not interiorized within their tasks and responsibilities those related to waste management and they assume that cleaning staff and the HCWM take care of it. On the other side, nursing staff is likely to get involved in the waste management if compared with the medical doctors.

Interviews highlighted the fact that professionals on nuclear medicine and radioprotection services are better trained and aware on HC waste management, in the case of Spain, this is due to the fact that there are specific legal requirements on radioactive waste management and on professionals handling radioactive substances.

People do not know about the final management of waste and their knowledge is limited to the waste generated in their area. Their horizon on waste management ends when the waste is transported to the



intermediate storage and this limited vision could be an obstacle in order to involve the staff, to improve waste management practices, and to reduce accidents related to waste management.

### How HC facilities are currently training their staff?

There are different approaches adopted by the HC centres in relation to training on HC waste management; it can be provided:

- together with Health and safety training
- when someone receives specific training on his job description
- within a welcome training course
- on demand training for each area
- through an ad-hoc on-line training programme.

Just few of the audited HC centres have an ad hoc on-line training programme. In that case, the training is compulsory and all the staff has to participate to it.

Training level is strongly influenced by the dimension of the HC facility, big centres have more difficulties on training a wide number of people while small centres are able to train small groups and be closer to the different areas when they need support. Moreover, in big hospitals the structure is more complex if compare with medium/small centres and hierarchy influences the capacity of the HCWM to get into the different areas and to establish waste management procedures, practices and training.

The approach adopted on training is also important, on demand training allows the HCMW to act within an area without being hampered by the head of area; on-line platforms can be an ideal training tool option for big centres as it allows reaching a wider number of people if compared with direct training, but it has to be reinforced with direct training, direct support from the HCWM and monitoring activities.

Probably a combination of specific training based on each area's needs and a global view on waste management at the HC facility could be a balanced formula in order to take into account the operational needs of a single area, but also those of the other areas associated to the waste management process for example, taking into account the following handling of a waste container or bag (maintaining sharps containers not too full, appropriate segregation in order to avoid accidents, correct identification of containers, etc.).

In relation to the assessment of the training results, the HC usually do not assess directly the results through a test. Assessing training results is mainly done through the observation of the activities in each area and the monitoring of containers.

Only those that have implemented an on-line training platform do it with a test in order to assess the training results and also to be sure that staff has really gone through the contents of the training programme.

A wider and holistic approach to waste management training should be adopted in the HC centres in order to raise the awareness on the importance of the issue at all levels. Potential interesting issues could be costs related to waste management, final destination of waste, good practices on waste management for patients having medication at home, etc...

### The relationship between the HCWM and other staff

In order to obtain a good performance on waste management, it's essential to consider some aspects that are directly related with the relationship between the HCWM and other staff at the HC facility. Particularly, a successful waste management will rely on some prerequisites:

The role of the HCWM is recognised by the HC facility's management and by all the staff

The HCWM has direct access to all areas and he/she is allowed to involve people from all the areas  
Waste management is lived as a joint effort and not only a task of the HCWM and the cleaning staff  
The HCWM can take advantage of special and concrete competencies and specialties of other professionals within the HC facility (i.e. Infectious diseases and Public Health responsible, Health & Safety Manager, Radioprotection Manager, etc.).

The HC facility is able to obtain from the top management appropriate resources and is able to optimize them. It is then important to consider including within the training programme for the HCWM, elements that allowed this function to develop personal management and communication skills (in order to work together with all the areas and be able to involve them), communication and reporting skills at management level (in order to obtain the recognition and attention of the top management), organizational structures and systems (in order to understand the organizational structure of the HC centre and to be able to design the best suitable system for waste management based on the responsibility levels and operational areas of the HC facility).

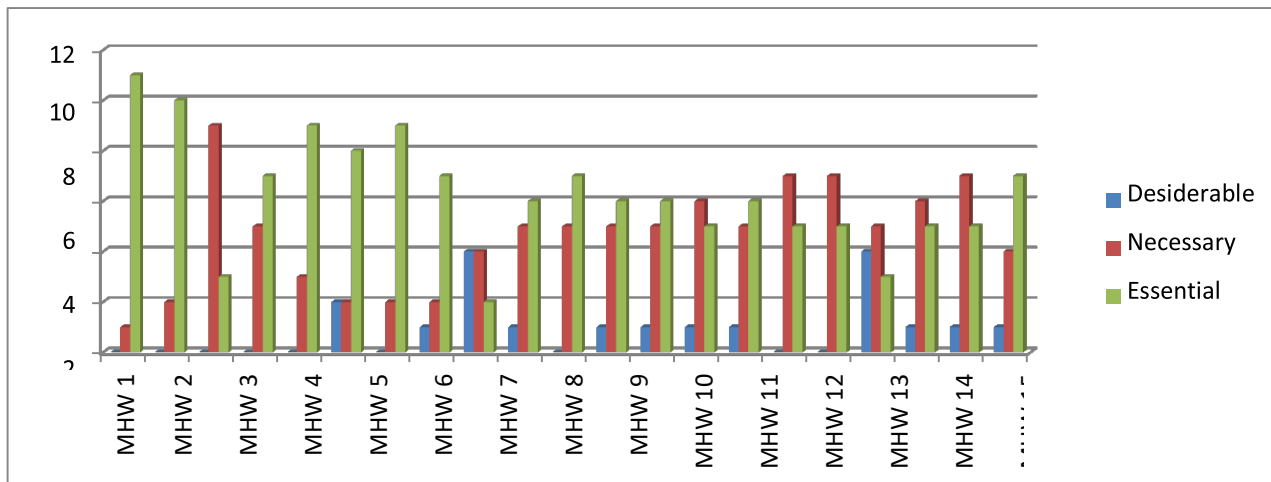
One of the audited hospitals has implemented an interesting and well structured system in order to involve the staff in waste management and its results are also very positive. This is the biggest hospital in Catalonia, with a staff of more than 6.500 people. A well structured and participating system has been necessary in order to reach all the areas and a great number of people. Similar experiences can be adopted in other HC centres regardless of the size of the facility.

The main characteristics of this system are:

- The hospital has an Environmental committee (with participants from all the areas of the hospital). Some of the members are at the highest level of the organization. This means that environmental issues are recognized as strategic issues and that the teams will receive the support of the top management.
- Within this committee there's a Waste commission. It's interdisciplinary, it is composed by representatives of different areas and thanks to this the commission is able to offer a wide range of competencies and special skills on which the Waste Manager can count. The Waste commission has a direct link with the Environmental Committee.
- The Waste commission is partly composed by fixed commission members and partly by newcomers. Each time a member leaves the commission, the hospital offers the opportunity to others to participate. If there are more people applying than the expected, then the hospital accepts all the candidates. The system is very participative and open.
- The Waste commission has appointed in each area/unit or even floor key persons for waste management (mainly nurses). Each of these persons receives specific training course on waste management and then it's the person that will be in charge of training the rest of the staff working in the same area/unit or floor. This people are the "local antennas" for the HCWM.
- This staff has direct access to the Waste Manager and to the Waste commission, so it is supported in terms of information, data, training, wastes logistics, waste operational controls, etc.
- During the worldwide environment day, the hospital takes the opportunity to give recognition to the waste reference staff and to make aware all the hospital staff and visitors how important is the activity carried out by these people.
- The Waste commission carries out waste audits periodically in all the areas.

### Awards units

The following table collects the answers provided by the interviewees in relation to the training award units and the relevance they grant to each of them.



- MHW 1 Control the collection of hazardous and non-hazardous waste at a healthcare facility
- MHW 2 Control the movement, sorting and storage of hazardous and non-hazardous wastes at a healthcare facility
- MHW 3 Manage the movement, sorting and storage of recycled materials and vehicle movements at a healthcare facility
- MHW 4 Monitor the procedures to control risks to health and safety of the waste management function at a healthcare facility
- MHW 5 Control site operations for the transfer of hazardous and non-hazardous healthcare waste at a healthcare facility
- MHW 6 Control the reception of infectious wastes at a healthcare waste treatment facility
- MHW 7 Control site operations for the treatment of infectious healthcare waste at a healthcare facility
- MHW 8 Control the disposal of outputs and residues from infectious healthcare waste treatment operations at a healthcare facility
- MHW 9 Control maintenance and other engineering operations at an infectious healthcare waste treatment facility
- MHW 10 Control the disposal of outputs and residues from hazardous and non-hazardous waste transfer operations
- MHW 11 Control improvements to waste management operations at a healthcare facility
- MHW 12 Ensure protection of the environment at healthcare facilities treating or transferring hazardous waste
- MHW 13 Support the efficient use of resources
- MHW 14 Manage a budget
- MHW 15 Select and manage sub contracted services

MHW 16	Implement and manage contracted service or supplies
MHW 17	Manage cleaning services at a healthcare facility
MHW 18	Contribute to the selection of personnel for activities
MHW 19	Review the performance of teams and individuals
MHW 20	Create effective working relationships
MHW21	Waste legal requirements

### Activities and tasks of the HC waste manager

During the audits, the working group has identified a list of tasks that usually the HCWM carries out or is expected to carry out. This list also suggests the potential competencies and skills that could take into account when designing the training programme and tool within the EU-HCWM project.

ACTIVITIES AND TASKS	COMPETENCES & SKILLS
To identify all the waste generated by the HC and to classify it accordingly to the legal framework.	<ul style="list-style-type: none"> <li>- Legal requirements</li> <li>- Waste classifications codes / official lists, etc.</li> <li>- Environmental aspects and impacts of each type of waste</li> <li>- Risks related to each type of waste</li> </ul>
To define waste plans and procedures.	<ul style="list-style-type: none"> <li>- Legal aspects</li> <li>- Drafting plans, procedures and instructions</li> </ul>
To identify each waste flow and /or to design / re-design waste flows within the HC facility.	<ul style="list-style-type: none"> <li>- Segregation criteria</li> <li>- Waste generated from HC activities</li> <li>- Recycling waste</li> <li>- Waste generated in maintenance activities</li> <li>- Waste from catering services, canteen and kitchen</li> <li>- Handling and management conditions in order to avoid risks for the health and the environment</li> <li>- Analysis and assessment of HC facility operations</li> <li>- Analysis and assessment of HC facility areas and spaces for waste management and storage</li> </ul>

ACTIVITIES AND TASKS	COMPETENCES & SKILLS
<p>To guarantee adequate waste identification and sorting of waste since the beginning of the process.</p>	<ul style="list-style-type: none"> <li>- Colour codes</li> <li>- Characteristics of bags and containers</li> <li>- Labelling waste</li> <li>- Compulsory requirements</li> <li>- Health and safety issues</li> <li>- Environmental risks' prevention</li> <li>- Effective communication on waste segregation for the HC staff</li> </ul>
<p>To design/organize and guarantee appropriate areas for the intermediate storage of waste</p>	<ul style="list-style-type: none"> <li>- Knowledge on the separation of clean/dirty areas</li> <li>- Identification</li> <li>- Characteristics of the intermediate storage</li> <li>- Accessibility of intermediate storages</li> <li>- Cleaning and maintenance needs</li> </ul>
<p>To plan and organize the collection and internal transport of all the waste (hazardous and non-hazardous waste) at a healthcare facility</p>	<ul style="list-style-type: none"> <li>- Clean/dirty areas</li> <li>- Flows of internal transport</li> <li>- Characteristics of the means of internal transportation</li> <li>- Cleaning and maintenance needs</li> </ul>
<p>To design/organize and guarantee appropriate areas for final storage of waste within the HC facility</p>	<ul style="list-style-type: none"> <li>- Identification</li> <li>- Characteristics of the final storage</li> <li>- Accessibility of final storage</li> <li>- Cleaning and maintenance needs</li> </ul>
<p>To supervise external transport of waste and final treatment carried out by waste contractors</p>	<ul style="list-style-type: none"> <li>- Requirements for waste transportation</li> <li>- Final treatment options and requirements</li> <li>- Monitoring and assessment of waste contractors</li> <li>- Contracts, responsibilities and liabilities</li> </ul>
<p>To monitor the procedures to control risks for the environment and for health and safety in relation to waste management</p>	<ul style="list-style-type: none"> <li>- Prevention of health and safety accidents related to waste management</li> <li>- Prevention of environmental accidents</li> <li>- Emergency procedures</li> <li>- Emergency equipments</li> <li>- Monitoring procedures and testing</li> </ul>

ACTIVITIES AND TASKS	COMPETENCES & SKILLS
Management of non conformances	<ul style="list-style-type: none"> <li>- Identification of non conformances</li> <li>- Causes' analysis</li> <li>- Corrective actions</li> </ul>
Documents and records related to waste management	<ul style="list-style-type: none"> <li>- Internal documents and records</li> <li>- Compulsory documents related to waste management</li> </ul>
Proposing and managing waste improvements and waste prevention policies	<ul style="list-style-type: none"> <li>- Working groups and other initiatives</li> <li>- Assessment of projects' results</li> <li>- Benchmarking with other HC facilities</li> </ul>
Prevention and purchasing processes	<ul style="list-style-type: none"> <li>- Environmental criteria in purchasing procedures</li> </ul>
Defining and managing a waste budget	<ul style="list-style-type: none"> <li>- Defining the budget</li> <li>- Economic indicators</li> <li>- Monitoring the budget</li> </ul>
Selecting and managing sub contracted services	<ul style="list-style-type: none"> <li>- Types of contracts</li> <li>- Clauses regarding waste management</li> <li>- Supervision of subcontracted services</li> </ul>
Managing cleaning services at a healthcare facility	<ul style="list-style-type: none"> <li>- Types of contracts</li> <li>- Clauses regarding waste management</li> <li>- Supervision of cleaning services and key performance indicators</li> </ul>
Contributing to the selection of personnel for activities	<ul style="list-style-type: none"> <li>- Job descriptions</li> <li>- Competences assessment</li> </ul>
Review the performance of teams and individuals	<ul style="list-style-type: none"> <li>- Monitoring and evaluation procedures</li> <li>- Providing feedback to the teams and individuals</li> <li>- Managing proposals made by the staff</li> <li>- Reporting</li> </ul>

ACTIVITIES AND TASKS	COMPETENCES & SKILLS
<p>To identify the legal requirements related to waste, to keep them updated and to verify the compliance.</p>	<ul style="list-style-type: none"> <li>- Legal sources</li> <li>- Structure of waste legal framework (from EU Directives to local laws)</li> <li>- Legal references to other waste scopes (i.e. radioactive waste, human parts, industrial waste, etc.)</li> <li>- Analysis of legal acts</li> <li>- Environmental liability of the HC facility accordingly to waste management</li> <li>- Environmental authorities related to waste and competences</li> <li>- Designing a tool for the identification, control and compliance monitoring of legal requirements</li> <li>- Interaction with EMS procedures and tools</li> </ul>
<p>Reporting</p>	<ul style="list-style-type: none"> <li>- Data collection</li> <li>- Reliability of the data collection</li> <li>- Data analysis</li> <li>- Data presentation</li> <li>- Economic indicators related to waste</li> <li>- Environmental indicators related to waste</li> <li>- Integration of waste reporting with reporting requirements foresaw in EMS and CSR</li> <li>- Explaining data to third parties</li> <li>- Drafting reports</li> <li>- Type of reports: for the control authorities, for the management, and for other stakeholders.</li> </ul>
<p>Training staff at the HC facility</p>	<ul style="list-style-type: none"> <li>- Training abilities</li> <li>- Communication skills</li> <li>- Training tools</li> </ul>
<p>Create effective working relationships</p>	<ul style="list-style-type: none"> <li>- Teamwork</li> <li>- Communication</li> <li>- Tips for dealing with everyday people at work</li> </ul>



## Italy

All the interviews carried out in Italy confirmed that the legal responsibility for healthcare waste management in healthcare facilities is attributed to the medical directors however each facility appoints for and delegates to a specific person the management of healthcare waste.

This person is in the majority of the cases identified within the facility's staff through an internal appointment and it is often also in charge of health and safety procedures inside the facility.

It emerged that the person in charge of managing the healthcare waste attends continuous training in the areas of quality, health and safety, and that training in the area of healthcare waste is usually attended in case of changes in the legislative framework.

All the feedbacks received have been summarized in relation to each of the question addressed by the questionnaire.

### *Q.1. What qualifications do you currently hold? Can you briefly outline your work experience?*

The table reports the information on the people interviewed.

Qualifications	Job experience
a) Degree in geology, postgraduate course in Quality, Safety and Environmental management, responsible for occupational health and safety measures on prevention and protection, continuous professional development in the field of health and safety and waste management.	a) 10 years of experience in healthcare facilities. b) 20 years of experience in the healthcare facilities.
b) Chartered accountant qualification.	c) 15 years of experience in the healthcare facilities.
c) Mechanical expert and business administration, responsible for occupational health and safety measures on prevention and protection, specialist courses in the field of waste.	

### *Q.2. How long have you held the post of healthcare waste manager?*

- a) 3 years
- b) 27 years
- c) 15 years

### *Q.3. How was your current post advertised and what were the requirements for the post?*

The people have been assigned the post through internal appointment and through a job announcement published on a newspaper.

For the post advertised on the newspaper lots of years have passed and it was impossible to remember which requirements were sought.

***Q.4. Do you have a job description and/or contract of employment? May we have a copy of the job description?***

The job description is not present however main tasks and duties have been described:

- analyse changes in regulations and new legislation
- update the facility's staff on new regulations and changes
- manage the procedures related to HCWM according to current legislation and systems in force (e.g. SISTRI, environmental declarations, etc.).

***Q.5. What type of training, if any, did you receive from the hospital when you first started in this job as healthcare waste manager?***

The people in charge of HCWM received training related to the legislation and to waste management. In case the person already held the required expertise, training was not offered by the facility.

***Q.6. Does your employer provide training opportunities for you and if so in what subject areas and how often do these training events occur?***

The training is usually decided by the HCW managers, in one case the person also follows the training opportunities offered by the AIOP (Associazione italiana ospedalità privata - Italian Association for Private Hospital). Also the internet is used as a tool for upgrading knowledge and competence.

Major areas of interest are:

- environment
- occupational health and safety
- quality management
- legislative framework related to occupational health and safety and waste management

***Q.7. Do you provide training or awareness raising in regard to healthcare waste management issues at your healthcare facility and if so to whom, on what subject areas and how often does such sessions take place?***

Only in one case the person is not concerned with training provision or awareness raising activities.

In the other cases the HCW manager is in charge for the training of employees on the management of healthcare waste, with specific attention for new employees.

In one case the manager also trains people employed by external contractors.

The training is done according to the annual training plan of the facility which is usually shared by the employer and trade union representatives.

Subject areas:

- occupational health and safety
- continuing medical education
- waste management

***Q.8. Do you follow a formal Continuous Professional Development (CPD) programme? If yes, when did you last formally update your skills and knowledge in terms of that CPD programme?***

All the managers interviewed follow CPD activities, in particular when changes in the regulation occur (once a year on average).

The last training sessions have been recorded in March and June 2014.

***Q.9. Please take a look at the list of units that are proposed in Appendix 1 for a new EU-HCWM VET (Vocational Education and Training) Award. Please indicate the units which are most relevant in your opinion to the post of healthcare waste manager.***

The following units have been identified as the most relevant for the audited facilities. The units related to 'Health & Safety' and 'Environment' have been ranked by all the facilities at the first and second place.

▪ **Health & Safety**

MHW4 Monitor the procedures to control risks to health and safety of the waste management function at a healthcare facility

▪ **Environment**

MHW12 Ensure protection of the environment at healthcare facilities treating or transferring hazardous waste

▪ **Resources and Contracts**

MHW 15 Select and manage sub contracted services

▪ **Collection**

MHW1 Control the collection of hazardous and non-hazardous waste at a healthcare facility

▪ **Movement & Storage**

MHW2 Control the movement, sorting and storage of hazardous and non-hazardous wastes at a healthcare facility

▪ **Infectious Healthcare Waste Treatment**

MHW6 Control the reception of infectious wastes at a healthcare waste treatment facility

MHW7 Control site operations for the treatment of infectious healthcare waste at a healthcare facility

MHW8 Control the disposal of outputs and residues from infectious healthcare waste treatment operations at a healthcare facility

***Q.10. Are there any areas of your role as healthcare waste manager which are not addressed by the list of units? If yes what areas are they?***

In general the managers are satisfied with the areas addressed by the list. One of the manager suggested to include the 'Management of records and documents' such as registers, declarations, SISTRI, etc.

## United Kingdom

All the feedbacks received during audits have been summarized in relation to each of the question addressed by the questionnaire. During the course of the audit process 12 completed questionnaires were received from 12 hospital waste/environment managers.

***Q.1. What qualifications do you currently hold? Can you briefly outline your work experience?***

9 of the managers interviewed had degrees in a waste or environmental discipline and three had no formal waste or environment qualifications but were engineers with a decade or more experience in waste management.

***Q.2. How long have you held the post of healthcare waste manager?***

The managers interviewed had been in post between 2 and 15 years.

***Q.3. How was your current post advertised and what were the requirements for the post?***

Where the post of healthcare waste manager was newly created it was formally advertised through the NHS system. In the cases where the post was created through internal re-organisation whereby existing roles were expanded to include waste management the role was filled internally.

***Q.4. Do you have a job description and/or contract of employment? May we have a copy of the job description?***

All the managers interviewed had contracts of employment and job descriptions.

***Q.5. What type of training, if any, did you receive from the hospital when you first started in this job as healthcare waste manager?***

All of the waste managers received basic induction training BUT only one was formally trained by the person he was intended to replace due to retirement. Most of the managers were informed to familiarise themselves with the NHS guidelines on healthcare waste management. A very few had additional support from line management.

***Q.6. Does your employer provide training opportunities for you and if so in what subject areas and how often do these training events occur?***

Training is available and this can take many different forms. Training availability is dependent on available funding and is normally as a result of end of year performance reviews.

***Q.7. Do you provide training or awareness raising in regard to healthcare waste management issues at your healthcare facility and if so to whom, on what subject areas and how often does such sessions take place?***

All the waste managers provide training and awareness raising to clinical and non-clinical staff.

***Q.8. Do you follow a formal Continuous Professional Development (CPD) programme? If yes, when did you last formally update your skills and knowledge in terms of that CPD programme?***

Only 5 of the 12 managers follow a formal CPD programme to others either don't do anything or follow an informal collation of CPD data.

**Q.9. Please take a look at the list of units that are proposed in Appendix 1 for a new EU-HCWM VET (Vocational Education and Training) Award. Please indicate the units which are most relevant in your opinion to the post of healthcare waste manager.**

			score
Collection	MHW 1	Control the collection of hazardous and non-hazardous waste at a healthcare facility	10
Movement & Storage	MHW 2	Control the movement, sorting and storage of hazardous and non-hazardous wastes at a healthcare facility	11
Recycling (Optional Unit)	MHW 3	Manage the movement, sorting and storage of recycled materials and vehicle movements at a healthcare facility	9
Health & Safety	MHW 4	Monitor the procedures to control risks to health and safety of the waste management function at a healthcare facility	9
Site Operations	MHW 5	Control site operations for the transfer of hazardous and non-hazardous healthcare waste at a healthcare facility	8
Infectious Healthcare Waste Treatment	MTHW 6	Control the reception of infectious wastes at a healthcare waste treatment facility	5
	MTHW 7	Control site operations for the treatment of infectious healthcare waste at a healthcare facility	6
	MTHW 8	Control the disposal of outputs and residues from infectious healthcare waste treatment operations at a healthcare facility	6
Maintenance	MTHW 9	Control maintenance and other engineering operations at an infectious healthcare waste treatment facility	4
Hazardous Waste Transfer	MHW 10	Control the disposal of outputs and residues from hazardous and non-hazardous waste transfer operations	6
Improvements	MHW 11	Control improvements to waste management operations at a healthcare facility	7
Environment	MHW 12	Ensure protection of the environment at healthcare facilities treating or transferring hazardous waste	10
Resources and Contracts	MHW 13	Support the efficient use of resources	9
	MHW 14	Manage a budget	9
	MHW 15	Select and manage sub contracted services	8
	MHW 16	Implement and manage contracted service or supplies	8
	MHW 17	Manage cleaning services at a healthcare facility	2
Personnel & Personal Development	MHW 18	Contribute to the selection of personnel for activities	3
	MHW 19	Review the performance of teams and individuals	6
	MHW 20	Create effective working relationships	8

Relevance Score out of 12 representing the number of votes on each module by HCW Managers.

**Q.10. Are there any areas of your role as healthcare waste manager which are not addressed by the list of units? If yes what areas are they?**

In general the managers are satisfied with the areas addressed by the list. Suggested subject areas to include:

- Waste Legislation and Categorisation
- Inclusion of specific waste streams and their management: confidential waste; green waste; WEE; Fluorescent Tubes; Waste Oils; Chemicals etc.
- Waste Policy Development
- Waste Auditing and Reporting

- Waste Training Provision
- Documentation Control; Record Keeping & Reporting
- Incident Management
- Management of Healthcare Waste from Patient Homes
- Implementing Change
- Sharps Management and Safety

### Skills – Competences

Most people have been assigned the position of HCW Manager through internal appointment in the hospital and only few through a job announcement published in the newspaper/internet. All the managers interviewed for this questionnaire were either Waste/Environment Graduates or Engineers with significant experience in waste treatment or management.

Usually required skills for the position of healthcare waste manager are:

- knowledge and understanding of current regulations regarding treatment and disposal of medical waste,
- knowledge how to develop and maintain the procedures for waste management in the institution,
- ability to organise proper separation of waste in the institution,
- ability to organise trainings on waste treatment for all relevant staff,
- ability to manage the budget,
- ability to manage recording of waste and reporting to the authorities.

The findings of the audits show that the position of healthcare waste manager is held by employees of various sections in the healthcare facility and with different educational background. However it should be noted that the role of healthcare waste manager is not always a job in its own right and in many cases the HCWM is also responsible for other aspects of management in the healthcare facility or they can be an overarching environment manger.

### Existing Training on Health Care Waste Management

The personnel in charge of HC waste in most cases has received induction training as part of their new job role. In addition they were asked to familiarise themselves with the NHS national guidelines on

healthcare waste management which is in the form of an internal memorandum. The training opportunities are usually found by the HC waste managers by themselves. In some cases there is no training opportunities provided by the hospitals and sometimes the training is available only if it is free of charge.

Where there is a fee for training provision a justification case must be made by the manager in order that they may participate. Training is by default dependent on budget however training may be required on account of annual performance review reports.

### National Qualification Framework – Award Units

During the audit all the HCW managers were asked to indicate the modules from the list of award units which are the most relevant to their duties. The mostly chosen modules were:

MHW 1 Control the collection of hazardous and non-hazardous waste at a healthcare facility.

MHW 2 Control the movement, sorting and storage of hazardous and non-hazardous wastes at a healthcare facility.

MHW 12 Ensure protection of the environment at healthcare facilities treating or transferring hazardous waste

### Duties and Responsibilities

In all cases the HC waste management was only one part of the duties of audited personnel. It depends on held position and whether the HC waste management duties are shared with other person. The usual responsibilities are:

- proper organisation of classification, segregation and transportation of waste,
- supervising waste management,
- providing trainings and redistributing the staff duties,
- preparing the WM procedures and standards,

- participating in WM trainings to rise own qualifications in WM,
- organising the tenders for WM in the hospital.





## Chapter 5 Conclusions

As a result of the feedback from the healthcare waste managers in the partner member states the project team refined the unit titles in the award as follows:

### EU-HCWM Qualification Framework

#### *Healthcare Waste Management and Treatment Award*

1. Control the collection of hazardous and non-hazardous waste at a healthcare facility (Club EMAS)
2. Control the movement, sorting and storage of hazardous and non-hazardous waste (Club EMAS)
3. Implementing a Waste Minimisation Programme, including the sorting and storage of recycled materials, at a healthcare facility (NRI IEP)
4. Monitor the procedures to control risks to health and safety of the waste management function at a healthcare facility (SIGMA)
5. Managing Waste Transportation operations for the transfer of hazardous and non-hazardous healthcare waste at a healthcare facility (Dangerous Goods Safety Adviser) (ET Log)
6. Control the reception of infectious wastes at a healthcare waste treatment facility (REC FYROM)
7. Control site operations for the treatment of infectious healthcare waste at a healthcare facility (REC FYROM)
8. Control the disposal of outputs and residues from infectious healthcare waste treatment operations or, healthcare waste transfer operations, at a healthcare facility (REC FYROM)
9. Control maintenance and other engineering operations at an infectious healthcare waste treatment facility (REC FYROM)
10. Control improvements to waste management operations/practices at a healthcare facility (SIGMA)

11. Ensure protection of the environment at healthcare facilities treating or transferring hazardous waste from a healthcare facility (NRI IEP)
12. Managing a budget to Supporting the efficient use of resources (REC Slo)
13. Select and manage sub contracted services (REC Slo)
14. Implement and manage contracted service or supplies (REC Slo)
15. Contribute to the selection of personnel for activities (Sinergie)
16. Review the performance of teams and individuals (Sinergie)
17. Create effective working relationships (Sinergie)
18. Understanding Healthcare Waste Management Legislation and the Defining Healthcare Waste (ICERMS)
19. Developing a Healthcare Waste Policy Document and a Healthcare Waste Management Plan (SIGMA)
20. Waste Management Plan Implementation, Record-keeping and Reporting (SIGMA)
21. Preparing for and Delivering a Healthcare Waste Management Vocational Training Programme (Club EMAS)
22. Conducting a healthcare waste management audit and pre-acceptance auditing for healthcare waste (ICERMS)
23. Sharps Waste Management and Biosecurity at a Healthcare Facility (ET Log)
24. Injection Safety (ET Log)
25. Climate Change Adaptation Auditing & Reporting at a Healthcare Facility (ICERMS)

It is clear however that this unit list will not be applicable to all candidates as not all healthcare facilities treat their own waste for example. In this regard the project team will develop award pathways suitable for the different job roles of individual healthcare waste managers.