# Cumulative Report of the Project Partners on the Internal Evaluation of the National Occupational Standards

### **REPORT:**



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

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## Introduction

The project team have considered the issue of evaluation of the project outputs and in particular in regard to work package 6. Evaluation within this package will take two distinct forms an internal evaluation and an external evaluation. The Internal Evaluation process has been developed in order to collect the feedback from interested parties in relation to the NOS proposed by the project partners. The feedback has been obtained through:

- The national dissemination workshop
- Professional Network
- Interviews to specific interested parties
- On-line questionnaire sent to the members of the project's Network
- Forum discussions and other meetings carried out with members of the project's network and interested parties.
- Through the Knowledge base tool at the project website
- Project Newsletter

The aim of the internal evaluation process was to establish, from main outputs of the project in relation to the NOS, feedback on:

- 1. Suitability of the NOS to the job profile/pathway?
- 2. Are there subject areas missing which would require more NOS?
- 3. Do you agree with the Mandatory and Optional assignation of competencies?
- 4. Are the technical and managerial competencies balanced in the pathways?
- 5. Relevance of the Pathways to the Sector
- 6. Additional Comments/Suggestions

In order to ensure a consistency of approach to the internal evaluation process the project developed an internal evaluation form which is attached at **Annex 1** to this report. An external evaluation process will be conducted in due course now that the qualification units have been developed. This will be subject to a separate external evaluation report.







## **Internal Evaluation Process**

The Internal Evaluation process from included the following actions:

- Dissemination of Internal Evaluation questionnaires to Professional Network
- Publication of Internal Evaluation questionnaire on Knowledge Base at Project Website
- Distribution of IE questionnaires at Informative Workshops

## Internal Evaluation Process - Results

The following are the cumulative results from the individual Partners Internal Evaluation Processes:







IV Question	Club	ICERMS	REC	REC	IEP - NRI	SINERGIE	SIGMA	ETLog	ISWA	EUPH	NHS
	EMAS		Slovenia	FYROM							Confed
Suitability of the NOS to the job profile/pathway?	Yes	Yes however training materials need to be contextualised to each member state	Yes	Yes	Yes	Yes as far as Pathway 1 is concerned	Yes	Yes but training materials to be contextualised to each member state	Yes	Yes	Yes
Are there subject areas missing which would require more NOS?	No	No provided there are areas which can be covered in the training programme	No provided there are areas which can be covered in the training programme	No provided there are areas which can be covered in the training programme	No provided there are areas which can be covered in the training programme	No provided subject areas are dealt with in training modules	No provided additional content in the NOS	No	No	No	No
Do you agree with the Mandatory and Optional assignation of competencies?	No see table at Annex 1	No see table at Annex 1	No	Yes	No see table at Annex 1	No see table at Annex 1	No see table annexed	Require more information to decide	No see table at Annex 1	No See table at Annex 1	Yes
Are the technical and managerial competencies balanced in the pathways	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Relevance of the Pathways to the Sector	Agree all relevant	Pathways 1 and 3 most relevant	Agree all relevant	Yes but there needs to be ability to update	Agree all relevant	Only pathway 1 will be relevant	Agreed all relevant	Pathway 1 most relevant	They are relevant	Yes they are relevant to the sector	Yes they are relevant to the sector
Additional Comments/Suggestions	See Spain notes to IE	See UK Notes to IE	See Slovenian notes to the IE	See FYROM notes to IE	See Poland notes to the IE	See Italy notes to IE	See Greek notes to IE	See German notes to IE	See notes to IE	No	No







#### Notes to the Internal Evaluation Process

#### **United Kingdom**

1. In regard to the credit levelling of the qualifications the UK healthcare professionals were keen to ensure that the award was credit levelled at:

#### Scotland - Professional Development Awards SCQF Level 12

Professional Development Awards are designed for those normally already in a career who wish to extend or broaden their skills base, usually after completing a degree or vocational qualification relevant to their area of interest. Professional Development Awards comprise at least two Units. At SCQF Level 12, Professional Development Awards have a minimum credit value of 16 SCQF Credit Points. There is no maximum credit value therefore each Professional Development Award at this level will vary.

#### England, Wales and Northern Ireland - Vocational Qualifications level 8

Vocational qualifications (VQs) are designed to allow learners to learn in a way that suits them, and give learners the skills that employers are looking for. Occupational VQs are designed to meet the national occupational standards (NOS) for a particular sector/work place and employers rely on these qualifications for evidence that an employee is competent to carry out the job.

#### Wales CQFW Level 8

Make a significant and original contribution to a specialised field of inquiry demonstrating a command of methodological issues and engaging in critical dialogue with peers; accepting full accountability for outcomes.

#### **European Qualification Framework Level 8**

Knowledge at the most advanced frontier of a field of work or study and at the interface between fields.

The most advanced and specialised skills and techniques, including synthesis and evaluation, required to solve critical problems in research and/or innovation and to extend and redefine existing knowledge or professional practice.

Demonstrate substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to the development of new ideas or processes at







the forefront of work or study contexts including research.

- 2. None of the questionnaires which indicated that there were NOS missing in terms of the content and although additional NOS were suggested these reflected on sub levels within existing NOS which had not been expanded upon within the framework titles context. The current suite of NOS covers the subject areas expected in each of the three pathways.
- 3. In terms of any of the NOS which the evaluators felt to be irrelevant only one of the NOS was deemed NOT RELAVENT and that was the NOS on Injection Safety. As a result we recommend the removal of this NOS from the suite of NOS.
- 4. Lastly there was very little change in the Mandatory and Optional status of the NOS in the context of the pathway. Following the Internal Evaluation Process the new Mandatory and Optional status has been allocated to each of the NOS in the red column. The NOS suite as illustrated below in the red column is therefore the definitive lost on the basis of the UK Internal Evaluation Process.

Italy

#### Does the list of awards cover all the training needs for the specified profile?

The list of awards seems to be exhaustive however it is not clear if a specific order should be followed in delivering the units (are there any preparatory units?) or if this depends on the training provider.

It is also not clear why "Infectious Waste" and "Transport Operations" have been selected as alternative Pathways: a further explanation will help to understand if this is related to EU priorities or to other factors.

In Italy Pathway 3 will not be much practicable within healthcare facilities since storage and transport operations are mainly subcontracted to external companies.

#### Is there something missing?







Suggestions to include specific units and/or modules related to:

- optimization in the procurement of substances/materials/resources (eg. reagents, foodstuffs, medicines) in order to minimize waste production;
- prevention and reduction procedures.

## Is it clear to understand which contents are established for each pathway/profile?

Contents are clear but can be better re-arranged grouping the units within specific thematic areas such as:

- LAW UNITS
- SAFETY&ENVIRONMENT UNITS
- HUMAN RESOURCES UNITS

#### Are the technical and managerial competencies balanced?

In general they are balanced. Please check possible overlaps with tasks and responsibilities of other key professionals such as the Safety and Environment manager (see Units 9, 21, 22, 28), Human Resources Manager (see Units 13, 14, 15).

#### Germany

#### Does the list of awards cover all the training needs for the specified profile?

As consensus exist that only pathway 1 will be of relevance for Germany, this pathway was mainly discussed. The interested parties confirmed that main topics are included, however saw that some of the modules are of less relevance, this included especially:

- NOS 13: Contribute to the selection of personnel for activities
- NOS 26: Manage the disposal of outputs and residues from infectious healthcare waste treatment operations or, healthcare waste transfer operations, at a healthcare facility
- NOS 27: Manage maintenance and other engineering operations at a healthcare facility, infectious healthcare waste treatment facility or during healthcare waste transport operations







These modules are suggested to be removed or to be included in other NOS.

#### Is there something missing?

The internal evaluation process did not identify any highly relevant competence that is missing in the pathway 1, however the following aspects should be included in the different NOS:

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

#### Is it clear to understand which contents are established for each pathway/profile?

In general the contents are clear, however concerns were expressed that some contents need a very specific national approach as for example the definition for several waste classes which differ within the EU.

Are the technical and managerial competencies balanced?

Generally it was considered as balanced, however it was mentioned that management aspects should be especially considered for pathway 1.

#### Comments/suggestions:

Members of the network have suggested that the existing training courses shall be taken into consideration as they were regularly updated and adapted to the existing needs and situation in the hospitals.

**ISWA** 







#### Does the list of awards cover all the training needs for the specified profile?

Parties who provided feedback confirmed that the three specific pathway profiles are sufficiently built up in terms of the NOS. An additional comment to Unit Title 23 is that the role of Waste Management should be understood within the Circular Economy as well. The three pathway units give a very good coverage of the necessary skills needed to achieve the qualifications.

#### Is there something missing?

Generally parties agreed that there is nothing important missing from the units. However, they suggested to change some of the mandatory / optional assignation of the competencies as described in question Nr. 5.

#### Is it clear to understand which contents are established for each pathway/profile?

Regarding clarity it was agreed that contents are generally understandable, however, the wording needs to be improved at some of the unit titles so that the process and its location is clear.

#### Are the technical and managerial competencies balanced?

Yes, all parties providing feedback agreed that technical and managerial competencies are balanced (especially when answers for question Nr. 5 are considered).

#### **FYROM**

#### Does the list of awards cover all the training needs for the specified profile?

In principle it is clear that the list of awards have taken into account all relevant training needs for the three pathways. General conclusion was that all units have its importance in the Healthcare waste management system. However, the following was recommended to be considered during training development:







- The importance of taking into account all hazardous waste streams, beside the infectious waste.
- Although there are units that are repeating in all of the three pathways, it was recommended that the units should not be the same, but to be "tailor made" for the specific pathway.
- Unit 14 "Review the performance of teams and individuals" should be mandatory, because it is considered that if it is performed correctly it can identify the "weak points" in the established system. This can lead to improvement of the efficiency of the system.
- Unit 21 "Prepare an Installation with an Environment Permit for an Inspection Visit (Permit Holder)" could also be included as an optional unit within the Pathway 3"Managing Healthcare Waste Transport Operations", as also, Transport operation are covered by a specific permit and therefore can be inspected.

Another recommendation is that the trainings should be developed taking into account International/National Health & Safety and Infections control guidelines. It is necessary to establish the direct link between the HCWM and hospitals OH&S and IC.

#### Is there something missing?

Maybe more efforts will be needed for creation of sustainable networking between all involved stakeholders.

Healthcare waste is generated by the healthcare professionals mainly but also by the patients. Development of Awareness rising campaigns should be included in the units in order to train the future waste managers how to inform everyone about the importance of HCWM in a healthcare establishment and beyond.

#### Is it clear to understand which contents are established for each pathway/profile?

The division of the units are clear, and in regards with the practice. Considering that the HCWM system is including many subjects, with different roles (generator, contractor etc... and establishment (public, private and PPP) it can be beneficial if the NOS are not only considering the legal requirements related with license holing, but also to include moral,







ethical and other attributes related with the quality of waste management activities.

#### Are the technical and managerial competencies balanced?

They are balanced, but it should be opened for upgrade, due to the fact that the progress of the medicine and have to follow the innovations of new technologies as well as the updates and revisions of the international standards, guidelines and recommendations.

### Comments/suggestions/conclusions:

- 1. The present training and certification programme for Waste Managers does not cover in sufficient detail the healthcare waste management. The training and certification programme to be amended may be divided in various modules, each covering specific industry, including the healthcare waste management. Each module may contain classroom training and on-the-job learning and coaching. The responsible persons in healthcare institutions may apply to attend the module on healthcare waste management only.
- 2. The existing legal framework provides that applicants to the training and certification programme for Waste Managers should hold at least educational level VI. This renders nurses and sanitary technicians (who in practice perform in-house healthcare waste management operations) ineligible to obtaining a Waste Manager license. Stakeholders proposed to reduce the mandatory educational level from VI to IV for applicants to the training and certification programme for Healthcare Waste Managers.
- 3. The outputs of the current project on "Developing an EU Standardized Approach to Vocational Qualification on Healthcare Waste Management" may be used as a basis for the amended (national) training and certification programme for (Healthcare) Waste Managers.

#### Spain

#### Does the list of awards cover all the training needs for the specified profile?

Generally speaking the interested parties considered that the list of awards covers the training needs for the three specified profiles. Nevertheless, some members of the network have suggested that:







- N. 4 Manage the collection of hazardous and non-hazardous waste from a healthcare facility should also be included as a compulsory or an optional unit for the Pathway 2 "Managing Healthcare Waste Treatment Operations Infectious Waste". This has been motivated as in certain cases the HC Centre includes the collection of waste as one of the tasks that the waste contractor has to provide within its services.
- N. 17 Conducting an Internal waste management audit and pre-acceptance auditing at a healthcare facility should also be included as an optional unit for the Pathway 2 "Managing Healthcare Waste Treatment Operations – Infectious Waste". This can be motivated that in certain cases the contractor could carry out this activity as part of the service offered to the HC Centre.
- N. 21 Prepare an Installation with an Environment Permit for an Inspection Visit (Permit Holder) could also be included as an optional unit within the Pathway 3 "Managing Healthcare Waste Transport Operations" as also Transport operation are covered by a specific permit and therefore can be inspected.
- N. 23 Understanding Waste Management in the Environmental Management System could also be included as an optional unit within the Pathway 3: Managing Healthcare Waste Transport Operations

In relation to N. 19 "Injection Safety", there has been some debate. Some members consider that this issue is more strictly related to Health & Safety of the HC staff and Infections control for the patients rather than waste management. In both cases (H&S and Infections control), HC Centres usually have specifics functions in charge of this and procedures to follow. This does not mean that good practices on waste management should be considered in order to prevent the risk of harm from infectious waste management, but this goes beyond the "injection safety" issue.

In relation to N. 26 "Manage the disposal of outputs and residues from infectious healthcare waste treatment operations or, healthcare waste transfer operations, at a healthcare facility", this does not apply in Spain as the current legal framework does not allow HC to treat the waste within their own premises.

#### Is there something missing?







The internal evaluation process has not identified a competence that is missing within the three pathways, but some participants have suggested taking into account some aspects (see section n. 6).

#### Is it clear to understand which contents are established for each pathway/profile?

In the majority of cases, the units are understandable, but due to different practices and language differences, it will be useful to include a brief description of the process at the beginning of each unit or within the training modules, in this way all the interested parties in the different countries will be sure to understand the activities in the same way.

#### Are the technical and managerial competencies balanced?

In terms of list of units, the competencies seem to be balanced. This should be also maintained while developing the training modules.

#### Comments/suggestions:

Members of the network have suggested taking into account training in relation to certain aspects such as:

- Life Cycle Analysis
- Good practices on recycling
- Good practices on reusing
- The concept of circular economy
- Monitoring waste, waste units and definition of improvement objectives
- CO<sub>2</sub> footprint.

#### Slovenia

The majority of members that provided the feedback to the internal evaluation process agree that in theory the proposed 3 pathways with identified units are well set and useful, but they also pointed out some general concerns:

• They highlighted that in spite of well-set pathways and NOS, this may not be enough







to get a job when will be (as usual) requested the education level of the Sanitary engineer. Consequently, this will not be very in use in hospitals or clinks but more in small practices or where the employee does the waste management as part time obligation.

- The second general concern is that due to facilities sizes and facilities arrangement
  of working obligations among departments and employees will not necessary be in
  line with set pathways.
- Additionally, raised was question how some repeated units will be set in order to comply to the different pathways which are referred to completely different work tasks (managing, dealing with dangerous waste and transport. Here should be paid special care to really provide relevant information to trainees. E.g. Unit 1 - Legislation
- Moreover, from the units title was difficult to say if there is cross addressing of the subject or weather are some crucial topics missed (will not be included in the unites).
- General knowledge of waste management and environmental management (e.g. Unite 23) should be included in all pathways.
- As monitoring is important to all work activities, therefore Unit 3 "Implementing a Waste Management Plan, Record Keeping and Reporting" should be part of all pathways.
- The Unit 19 "Injection Safety" and UNIT 18 "Sharps Waste management and Biosecurity at a Healthcare Facility" overlaps. Unit 19 can be removed as injections safety is more relevant for medical services/ staff.
- Missed is one general unit regarding health safety protocols / trainings on waste handling. In the unit should be also include the importance of cross section work with Commission responsible for the control of nosocomial infections. Especially in Pathway 2 this safety dimension and regulation how to react / manage the infectious waste in case of outbreaks of epidemics.
- Finally as all pathways address managerial position, where the managerial skills are appreciated / required, therefore unites have to cover also this aspect or you may be set new optional unit which will cover it.
- Regarding Pathway 1: Managing Healthcare Waste at Healthcare Facility is
  definitely relevant but maybe all listed units (activities) may not be part of manager
  work description. Therefore the mandatory and optional criteria may be reconsidered;
  they are for more optional units as the work obligations vary from one facility to
  another.







Regarding Pathway 2: Managing Healthcare Waste Treatment Operations –
 Infectious Waste - is relevant if only facilities have on-site treatment of waste.

general comment is (based on small or medium side size facilities where there is one manager) that there should be optional merging of pathway 1 and 2 or Pathway 2 shall include also all/some units from pathway 1.

In Pathway 2 unit list is definitely missed Unit 4, which addresses management of hazardous waste, never the less that is from a facilities but the manager usually takes care for correct take-overs and therefore he has to know the protocol.

The list of awards rather broadly includes risks associated with medical waste. There is a lack of unit relating to the organization of activities in situations of extreme danger in a healthcare institution (an outbreak of very high risk pandemic disease e.g. Ebola). The processing of medical waste should be an entirely separate path. Even if the waste is treated in a health care facility that competence should be a separate path. For this reason, the awards in this path would not need elements associated with the stage of generation of waste.

**Regarding Pathway 3**: Managing Healthcare Waste Transport Operations – well set, maybe there could be some problem with unit content in relation to waste category as there are different requirements.

#### Poland

#### Does the list of awards cover all the training needs for the specified profile?

Most of the persons evaluating the list of awards considered that the list of awards covers the training needs for the three specified profiles.

#### Is there something missing?

 In every pathway the unit no 3 "Implementing a Waste Management Plan, Record Keeping and Reporting" should be included as compulsory.







- The pathways 2 and 3 do not require unit no 19 "Injection Safety".
- The unit no 19 "Injection Safety" is not needed because it overlaps with the requirements arising from occupational health and safety during the provision of medical services.
- The pathways 2 and 3 do not require unit no 18 "Sharps Waste Management and Biosecurity at a Healthcare Facility" or the name should be changed to "Sharps Waste Management and Biosecurity".
- In the pathway 2 the unit no 28 "Monitor the procedures to control risks to health and safety during healthcare waste transport operations" should be included.
- The list of awards rather broadly includes risks associated with medical waste. There is a lack of unit relating to the organization of activities in situations of extreme danger in a healthcare institution (an outbreak of very high risk pandemic disease e.g. Ebola). The processing of medical waste should be an entirely separate path. Even if the waste is treated in a health care facility that competence should be a separate path. For this reason, the awards in this path would not need elements associated with the stage of generation of waste.
- From the point of view of persons responsible for healthcare waste management in hospitals the units no 13 "Contribute to the selection of personnel for activities", no 14 "Review the performance of teams and individuals", no 15 "Create effective working relationships", no 19 "Injection Safety", no 21 "Prepare an Installation with an Environment Permit for an Inspection Visit (Permit Holder)" and no 22 "Climate Change Adaptation Auditing & Reporting at a Healthcare Facility" are not always relevant.
- Some of the evaluators regarded the number of units as too extensive. The units no 14 "Review the performance of teams and individuals", no 15 "Create effective working relationships", no 21 "Prepare an Installation with an Environment Permit for







an Inspection Visit (Permit Holder)", no 22 "Climate Change Adaptation Auditing & Reporting at a Healthcare Facility" and no 27 "Manage maintenance and other engineering operations at a healthcare facility, infectious healthcare waste treatment facility or during healthcare waste transport operations" were considered as unnecessary.

Some of the evaluators reckon that there are too many mandatory units, especially in Pathway 1. The units no 6 "Monitor the procedures to control risks to health and safety of the waste management function at a healthcare facility/healthcare treatment

facility", no 7" Manage improvements to waste management operations/practices at a healthcare facility, treatment centre or transport operations", no 8 "Implementing a Waste Minimisation Programme, including the sorting and storage of recycled materials, at a healthcare facility", no 9 "Ensure protection of the environment at healthcare facilities, treatment or transport operations", no 10 "Managing Waste Transportation operations for the transfer of hazardous and non- hazardous healthcare waste at a healthcare facility (Dangerous Goods Safety Adviser)", no 19 "Injection Safety", and no 20 "Effectively Manage Environmental Incidents and Emergencies" should be optional. It would make the awards more flexible and better adjusted to the needs of potential candidates.

#### Is it clear to understand which contents are established for each pathway/profile?

Some of the persons evaluating pathways proposal reckoned that it was not always clear understand.

The title of unit no 8 "Implementing a Waste Minimisation Programme, including the sorting and storage of recycled materials, at a healthcare facility" is misleading: does it concern the wastes generated at the healthcare facility or the wastes received for the treatment in the healthcare waste treatment facility (located in the healthcare centre)?

#### Are the technical and managerial competencies balanced?

The evaluators considered that the competencies are well balanced.







#### Do you agree with the Mandatory and Optional assignation of competencies?

The majority of evaluators agreed with the Mandatory and Optional assignation of units. However some of the persons suggested that:

- In Pathway 1 unit no 10 "Managing Waste Transportation operations for the transfer of hazardous and non-hazardous healthcare waste at a healthcare facility (Dangerous Goods Safety Adviser)" should be optional.
- There should be less mandatory units.
- There should be more optional units (eg. units no 6 "Monitor the procedures to control risks to health and safety of the waste management function at a healthcare facility/healthcare treatment facility", no 7 "Manage improvements to waste management operations/practices at a healthcare facility, treatment centre or transport operations", no 8 "Implementing a Waste Minimisation Programme, including the sorting and storage of recycled materials, at a healthcare facility", no 9 "Ensure protection of the environment at healthcare facilities, treatment or transport operations", no 10 "Managing Waste Transportation operations for the transfer of hazardous and non- hazardous healthcare waste at a healthcare facility (Dangerous Goods Safety Adviser)", no 19 "Injection Safety", and no 20 "Effectively Manage Environmental Incidents and Emergencies").

#### Comments/suggestions:

Some of the persons evaluating the awards proposal considered it necessary to legally define the requirements and competencies of persons responsible for healthcare waste management.

Path concerning the processing of infectious medical waste would be necessary to clarify, given that it concerns such a complex process as the thermal treatment of hazardous waste. It should inter alia take into account the requirements of BAT and post-process waste and







put more emphasis on emission control.

#### Greece

#### 1 Does the list of awards cover all the training needs for the specified profile?

Most of the persons evaluating the proposed list of awards considered that the list covers the training needs for the three specified profiles. It must be pointed out though, that most emphasis was given by the participants to Pathway 1, whereas Pathways 2 and 3 were examined in a more theoretical basis. The results of the evaluations are described in Tables 1 to 3 of the Annex of the current Report, including proposed amendments on the titles and contents of the training units.

#### 2 Is there something missing?

Comments and recommendation were expressed on the following Units:

- Unit 1: Complying with Waste Management Legislation. The Unit should be further enriched with the following topics:
  - Update and auditing of relative Waste Management,
  - Environmental protection and occupational Health and Safety Legislation.
  - Effective communication with related bodies.
- Unit 5: Manage the movement, sorting and storage of hazardous and non-hazardous waste. The Unit should definitely include the "Packaging, Labelling and Classification of hazardous and non hazardous waste".
- Unit 7: Manage improvements to waste management operations/practices at a healthcare facility, treatment centre or transport operations. The Unit should include the Design, Management and Elaboration of new projects (facilities, operations,







technologies).

- Unit 8: Implementing a Waste Minimisation Programme, including the sorting and storage of recycled materials, at a healthcare facility. <u>Packaging</u> and <u>labelling</u> of recycled materials should be included as well.
- Unit 9: Ensure protection of the environment at healthcare facilities, treatment or transport operations. Proposed title: *Environmental Management, monitoring and auditing at healthcare facilities, treatment or transport operations*.
- Unit 10: Managing Waste Transportation operations for the transfer of hazardous and non-hazardous healthcare waste at a healthcare facility (Dangerous Goods Safety Advisor). The following topics should be added to Unit 10: ADR Regulation. Labelling, Packaging and Classification of Dangerous Goods.
- Unit 11: Manage a budget to Supporting the efficient use of resources. *Identification* and reservation of Financial Resources should be added.
- Unit 18: Sharps Waste Management and Biosecurity at a Healthcare Facility and Unit 19: Injection Safety were considered non relevant for Pathways 1 and 3 and optional Pathway 2.
- Unit 20: Effectively Manage Environmental Incidents and Emergencies. Should be changed to: Develop an Emergency Response Plan. Effectively manage Environmental Incidents and Emergencies. Apply efficient response measures.
- Unit 21: Prepare an Installation with an Environment Permit for an Inspection Visit (Permit Holder). Monitoring and auditing should be added in the content and the title of the Unit.
- Unit 23: Understanding Waste Management in the Environmental Management System.
   Should be changed to: Incorporating Waste Management in Environmental and other Management Systems (Occupational Health and Safety, Quality, etc).
- Unit 25: Manage site operations for the treatment of infectious healthcare waste at a healthcare facility, Unit 26: Manage the disposal of outputs and residues from infectious healthcare waste treatment operations or, healthcare waste transfer operations, at a healthcare facility and Unit 27: Manage maintenance and other engineering operations at a healthcare facility, infectious healthcare waste treatment facility or during healthcare waste transport operations, they should be adjusted accordingly to the Pathway the refer to.

Pathway 1: Emphasis should be given to Manage and Audit (to be included)







Pathway 2: Emphasis on operational Management and Auditing

Pathway 3: Emphasis on Management and **Auditing** during healthcare waste transport. *Vehicles and used infrastructure* should be included.

3 Is it clear to understand which contents are established for each pathway/profile?

In general the contents were considered clear to understand. Concerns were expressed that some contents for Pathways 2 and 3 could be excluded from the NOS lists, since till today no qualifications framework for the relative Healthcare Waste Professionals exist in the Hellenic Vocational – Educational and Health Care system.

#### 4 Are the technical and managerial competencies balanced?

The evaluators considered that the competencies are well balanced, except Pathway 3 which was considered overloaded in terms of Mandatory Units. More emphasis on managerial aspects should be given to Pathway 1, including training on Management Systems (mostly Environmental and Occupational Health and Safety Systems) and their incorporation to the Waste Management System each Healthcare Unit elaborates.

#### 5 Do you agree with the Mandatory and Optional assignation of competencies?

The majority of evaluators agreed with the Mandatory and Optional assignation of units.

The proposals for the assignation of the units as Mandatory and Optional for individual pathways evaluators are described in the Annex.

#### 6 Comments/suggestions:

It was suggested that the following Units could be added or incorporated in existing Units, for the following Pathways:

#### Pathway 1

 New Unit: Occupational Health and Safety management and procedures. The Unit should emphasize on the basics on the elaboration of H&S systems according the international Standards OHSAS18001 and the elaboration and monitoring of the risk assessment as a part of the Waste Management Plan. The Unit could be incorporated in the relative Unit







9 and/or Unit 23, referring to both Environmental and Occupational Health and Safety integrated Management Systems.

#### Pathway 2

- Unit 4: Manage the collection of hazardous and non-hazardous waste from a healthcare facility
- Unit 5: Manage the movement, sorting and storage of hazardous and non-hazardous waste, including Packaging, Labelling and Classification of hazardous and non-hazardous waste.
- New Unit: Occupational Health and Safety management and procedures (with emphasis on operational control and protection measures).

#### Pathway 3

- Unit 23: Understanding Waste Management in the Environmental Management System
- New Unit: Occupational Health and Safety management and procedures (with emphasis on transport)
- New Unit: Auditing Transportation equipment and Vehicles of Healthcare waste management transport units/operators/contractors/companies

#### Conclusions and Recommendations

From the results of the internal evaluation process we can conclude that the pathways were in general in line with the roles of the healthcare waste manager.

The designation of optional and mandatory was something which stimulated a lot of debate amongst the experts evaluating the award and we have now got a new set of designations outlined at Annex 2 in this regard.

Some of the titles of the NOS have also been amended to be reflect their content.







There were three main issues that came from the process and those were that firstly this management level award/qualification needs to be set at the correct level within the EQF framework and the NOS need to reflect this in terms of their language and content. This will ensure that the award/qualification is taken up by healthcare waste management professionals. Consideration should also be given to pathways to this award through lower level entry and intermediate qualifications in the sector.

Secondly the award/qualification units and the associated training materials need to contain content that expands on the NOS title and covers a number of sub issues within the context of that short title.

Thirdly the qualification units need to be flexible, capable of being updated and most important the training materials in particular need to be relevant to the local context i.e. training modules contextualised to a specific country, region or hospital situation.

## ANNEX 1 Internal Evaluation Questionnaire

#### **Draft Qualification Framework:**

Pathway 1: Healthcare Waste Manager

Pathway 2: Managing Healthcare Waste Treatment Operations – Infectious

Waste

Pathway 3: Managing Healthcare Waste Transport Operations









## **EVALUATION QUESTIONNAIRE**

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

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## Introduction

EU-HCWM project has developed a suite of 28 vocational training units to cover a range of activities normally associated with delivery of healthcare waste management. These units are based on a set of 28 National Occupational Standards.

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Unit	Unit Title
No.	
1	Complying with Waste Management Legislation
2	Developing Healthcare Waste Management Policy and Plan Documents
3	Implementing a Waste Management Plan, Record Keeping and Reporting
4	Manage the collection of hazardous and non-hazardous waste from a healthcare facility
5	Manage the movement, sorting and storage of hazardous and non-hazardous waste
6	Monitor the procedures to control risks to health and safety of the waste management function at a healthcare
	facility/healthcare treatment facility
7	Manage improvements to waste management operations/practices at a healthcare facility, treatment centre or
	transport operations







8	Implementing a Waste Minimisation Programme, including the sorting and storage of recycled materials, at a healthcare facility
9	Ensure protection of the environment at healthcare facilities, treatment or transport operations
10	Managing Waste Transportation operations for the transfer of hazardous and non- hazardous healthcare waste at a healthcare facility (Dangerous Goods Safety Adviser)
11	Manage a budget to Supporting the efficient use of resources
12	Contribute to the development of tender/bid documentation, selection of, implement and manage, sub contracted services
13	Contribute to the selection of personnel for activities
14	Review the performance of teams and individuals
15	Create effective working relationships
16	Preparing for and Delivering In-house Healthcare Waste Management Training
17	Conducting an Internal waste management audit and pre-acceptance auditing at a healthcare facility
18	Sharps Waste Management and Biosecurity at a Healthcare Facility
19	Injection Safety
20	Effectively Manage Environmental Incidents and Emergencies
21	Prepare an Installation with an Environment Permit for an Inspection Visit (Permit Holder)
22	Climate Change Adaptation Auditing & Reporting at a Healthcare Facility
23	Understanding Waste Management in the Environmental Management System
24	Manage the reception of infectious wastes at a healthcare waste treatment facility
25	Manage site operations for the treatment of infectious healthcare waste at a healthcare facility
26	Manage the disposal of outputs and residues from infectious healthcare waste treatment operations or, healthcare waste transfer operations, at a healthcare facility
27	Manage maintenance and other engineering operations at a healthcare facility, infectious healthcare waste treatment facility or during healthcare waste transport operations
28	Monitor the procedures to control risks to health and safety during healthcare waste transport operations

These units can be undertaken in 3 distinct pathways depending on the job role of the candidate.

All of the units are underpinned by either practical exercises or question and answer sheets to ensure that the candidate demonstrates competence in the unit being undertaken.

All of the training materials are available electronically on the DVD attached to this training manual.

To achieve the full qualification candidates must complete all Mandatory Units outlined in the chosen pathway.

## Structure of the Awards in a Unit Pathway Context

Achievement of the qualification demonstrates competence by the learner to operate appropriately and in accordance with employment requirements as determined by the units selected, within the Environmental Services Industry.

The qualification is assessed 'on-the-job' at a suitable facility, or a number of suitable facilities. The qualification is designed for those working in the field of the delivery of environmental protection services, and covers a range of activities from environmental audits, environmental risk assessments, environmental audits and laboratory







analysis. The award has been split into pathways to suit different requirements, and can be achieved on a unit by unit basis, or as individual units are accredited.

The three suggested pathways are as follows:

- Pathway 1: Managing Healthcare Waste at a Healthcare Facility
- Pathway 2: Managing Healthcare Waste treatment Operations Infectious Waste
- Pathway 3: Managing Healthcare Waste Transport Operations

The following suite of award units have been designed to meet the needs of waste management professionals working in the healthcare sector. The suite of awards can be undertaking following a set number of recognised pathways. These pathways reflect key roles in the waste management function within the healthcare sector. The units comprising the award pathways have been designed as management units and should be undertaken by persons working in management or supervisory capacities.

In this regard the award developers have identified the following three pathways:

Pathw	vay 1: Managing Healthcare Waste at a Healthcare Facility		
Unit No.	Unit Title	Relevant (Y/N)	Mandatory/O ptional (M/O)
1	Complying with Waste Management Legislation		
2	Developing Healthcare Waste Management Policy and Plan Documents		
3	Implementing a Waste Management Plan, Record Keeping and Reporting		
4	Manage the collection of hazardous and non-hazardous waste from a healthcare facility		
5	Manage the movement, sorting and storage of hazardous and non-hazardous waste		







6	Monitor the procedures to control risks to health and safety of the waste management function at a healthcare facility/healthcare treatment facility	
7	Manage improvements to waste management operations/practices at a healthcare facility, treatment centre or transport operations	
8	Implementing a Waste Minimisation Programme, including the sorting and storage of recycled materials, at a healthcare facility	
9	Ensure protection of the environment at healthcare facilities, treatment or transport operations	
10	Managing Waste Transportation operations for the transfer of hazardous and non- hazardous healthcare waste at a healthcare facility (Dangerous Goods Safety Adviser)	
11	Manage a budget to Supporting the efficient use of resources	
12	Contribute to the development of tender/bid documentation, selection of, implement and manage, sub contracted services	
13	Contribute to the selection of personnel for activities	
14	Review the performance of teams and individuals	
15	Create effective working relationships	
16	Preparing for and Delivering In-house Healthcare Waste Management Training	
17	Conducting an Internal waste management audit and pre- acceptance auditing at a healthcare facility	
18	Sharps Waste Management and Biosecurity at a Healthcare Facility (ET Log)	
19	Injection Safety	
20	Effectively Manage Environmental Incidents and Emergencies	
21	Prepare an Installation with an Environment Permit for an Inspection Visit (Permit Holder)	
22	Climate Change Adaptation Auditing & Reporting at a Healthcare Facility	
23	Understanding Waste Management in the Environmental Management System	
24	Manage the reception of infectious wastes at a healthcare waste treatment facility	
25	Manage site operations for the treatment of infectious healthcare waste at a healthcare facility	
26	Manage the disposal of outputs and residues from infectious healthcare waste treatment operations or, healthcare waste transfer operations, at a healthcare facility	
27	Manage maintenance and other engineering operations at a healthcare facility, infectious healthcare waste treatment facility or during healthcare waste transport operations	







Unit No.	Unit Title	Relevant (Y/N)	Mandatory/O
1	Complying with Waste Management Legislation	(1/11)	Plional
6	Monitor the procedures to control risks to health and safety of the waste management function at a healthcare facility/healthcare treatment facility		
7	Manage improvements to waste management operations/practices at a healthcare facility, treatment centre or transport operations		
8	Implementing a Waste Minimisation Programme, including the sorting and storage of recycled materials, at a healthcare facility		
9	Ensure protection of the environment at healthcare facilities, treatment or transport operations		







11	Manage a budget to Supporting the efficient use of resources		
12	Contribute to the preparation of tender/bid documentation, selection of,		
12	implement and manage, sub contracted services		
13	Contribute to the selection of personnel for activities		
14	Review the performance of teams and individuals		
15	Create effective working relationships		
16	Preparing for and Delivering In-house Healthcare Waste Management		
10	Training		
18	Sharps Waste Management and Biosecurity at a Healthcare Facility		
19	Injection Safety		
	1 / /		
20	Effectively Manage Environmental Incidents and Emergencies		
21	Prepare an Installation with an Environment Permit for an Inspection Visit		
	(Permit Holder)		
22	Climate Change Adaptation Auditing & Reporting at a Healthcare Facility		
23	Understanding Waste Management in the Environmental Management		
	System		
24	Manage the reception of infectious wastes at a healthcare waste treatment		
	facility		
25	Manage site operations for the treatment of infectious healthcare waste at a		
	healthcare facility		
26	Manage the disposal of outputs and residues from infectious healthcare		
	waste treatment operations or, healthcare waste transfer operations, at a		
	healthcare facility		
27	Manage maintenance and other engineering operations at a healthcare		
	facility, infectious healthcare waste treatment facility or during healthcare		
	waste transport operations		
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Pathw	vay 3: Managing Healthcare Waste Transport Operations		
Unit No.	Unit Title	Relevant (Y/N)	Mandatory/O ptional
1	Complying with Waste Management Legislation		
4	Manage the collection of hazardous and non-hazardous waste from a healthcare facility		
7	Manage improvements to waste management operations/practices at a healthcare facility, treatment centre or transport operations		







9	Ensure protection of the environment at healthcare	
	facilities, treatment or transport operations	
10	Managing Waste Transportation operations for the transfer	
	of hazardous and non-hazardous healthcare waste at a	
	healthcare facility (Dangerous Goods Safety Adviser)	
11	Manage a budget to Supporting the efficient use of	
	resources	
12	Contribute to the preparation of tender/bid documentation,	
	selection of, implement and manage, sub contracted	
	services	
13	Contribute to the selection of personnel for activities	
14	Review the performance of teams and individuals	
15	Create effective working relationships	
16	Preparing for and Delivering In-house Healthcare Waste	
	Management Training	
18	Sharps Waste Management and Biosecurity at a	
	Healthcare Facility (ET Log)	
19	Injection Safety	
20	Effectively Manage Environmental Incidents and	
	Emergencies	
22	Climate Change Adaptation Auditing & Reporting at a	
	Healthcare Facility	
27	Manage maintenance and other engineering operations at	
	a healthcare facility, infectious healthcare waste treatment	
	facility or during healthcare waste transport operations	
28	Monitor the procedures to control risks to health and safety	
	during healthcare waste transport operations	







## ANNEX 2 Final Draft of NOS Titles and Pathways

Pathway 1: Managing Healthcare Waste at a Healthcare Facility		
Unit No.	Unit Title	Mandatory/Optional
1	Complying with Waste Management Legislation	Mandatory
2	Developing Healthcare Waste Management Policy and Plan Documents	Mandatory
3	Implementing a Healthcare Waste Management Plan, Record Keeping and Reporting	Mandatory
4	Manage the collection of hazardous and non-hazardous waste from a healthcare facility	Mandatory







5	Manage the movement, sorting and storage of hazardous and non-hazardous waste at a healthcare facility	Mandatory
6	Monitor the procedures to control risks to health and safety of the waste management function at a healthcare facility/healthcare treatment facility	Mandatory
7	Project Manage improvements to waste management operations/practices at a healthcare facility, treatment centre or during healthcare waste transport operations	Mandatory
8	Implementing a Waste Minimisation Programme, including the sorting and storage of recycled materials, at a healthcare facility	Mandatory
9	Ensure protection of the environment at healthcare facilities, treatment or during healthcare waste transport operations	Mandatory
10	Managing Waste Transportation operations for the transfer of hazardous and non- hazardous healthcare waste from a healthcare facility (Dangerous Goods Safety Adviser)	Mandatory
11	Manage a budget to Supporting the efficient use of resources	Optional
12	Contribute to the development of tender/bid documentation, selection of, implement and management of sub contracted services	Mandatory
13	Contribute to the selection of personnel for activities	Optional
14	Review the performance of teams and individuals	Optional
15	Create effective working relationships	Optional
16	Preparing for and Delivering In-house Healthcare Waste Management Training	Mandatory
17	Conducting an Internal waste management audit and pre-acceptance auditing at a healthcare facility	Mandatory
18	Sharps Waste Management and Biosecurity	Mandatory
19	Effective Management of Environmental Incidents and Emergencies	Optional
20	Preparation of an Installation with an Environment Permit for an Inspection Visit (Permit Holder)	Optional
21	Climate Change Adaptation Auditing & Reporting	Optional
22	Understanding Waste Management in the Environmental Management System	Optional
23	Manage the reception of infectious wastes at a healthcare waste treatment facility	Optional
24	Manage site operations for the treatment of healthcare waste at a healthcare facility/healthcare waste treatment facility	Optional
25	Manage the disposal of outputs and residues from healthcare waste treatment operations or, healthcare waste transfer operations, at a healthcare facility	Optional
26	Manage maintenance and other engineering operations at a healthcare facility, healthcare waste treatment facility or during healthcare waste transport operations	Optional

Pathway 2: Managing Healthcare Waste Treatment Operations – Infectious Waste		
Unit No.	Unit Title	Mandatory/Optional
1	Complying with Waste Management Legislation	Mandatory
6	Monitor the procedures to control risks to health and safety of the waste management function at a healthcare facility/healthcare treatment facility	Mandatory







Project Manage improvements to waste management operations/practices at a healthcare facility, treatment centre or during healthcare waste transport operations	Mandatory
Ensure protection of the environment at healthcare facilities, treatment or during healthcare waste transport operations	Mandatory
Manage a budget to Supporting the efficient use of resources	Mandatory
Contribute to the preparation of tender/bid documentation, selection of, implement and management of sub contracted services	Mandatory
Contribute to the selection of personnel for activities	Optional
Review the performance of teams and individuals	Optional
Create effective working relationships	Optional
Preparing for and Delivering In-house Healthcare Waste Management Training	Mandatory
Sharps Waste Management and Biosecurity	Mandatory
Effective Management of Environmental Incidents and Emergencies	Mandatory
Preparation of an Installation with an Environment Permit for an Inspection Visit (Permit Holder)	Mandatory
Climate Change Adaptation Auditing & Reporting	Optional
Understanding Waste Management in the Environmental Management System	Optional
Manage the reception of infectious wastes at a healthcare waste treatment facility	Mandatory
Manage site operations for the treatment of infectious healthcare waste at a healthcare facility	Mandatory
Manage the disposal of outputs and residues from infectious healthcare waste treatment operations or, healthcare waste transfer operations, at a healthcare facility	Mandatory
Manage maintenance and other engineering operations at a healthcare facility, infectious healthcare waste treatment facility or during healthcare waste transport operations	Mandatory
	operations/practices at a healthcare facility, treatment centre or during healthcare waste transport operations  Ensure protection of the environment at healthcare facilities, treatment or during healthcare waste transport operations  Manage a budget to Supporting the efficient use of resources  Contribute to the preparation of tender/bid documentation, selection of, implement and management of sub contracted services  Contribute to the selection of personnel for activities  Review the performance of teams and individuals  Create effective working relationships  Preparing for and Delivering In-house Healthcare Waste Management Training  Sharps Waste Management and Biosecurity  Effective Management of Environmental Incidents and Emergencies  Preparation of an Installation with an Environment Permit for an Inspection Visit (Permit Holder)  Climate Change Adaptation Auditing & Reporting  Understanding Waste Management in the Environmental Management System  Manage the reception of infectious wastes at a healthcare waste treatment facility  Manage site operations for the treatment of infectious healthcare waste at a healthcare facility  Manage the disposal of outputs and residues from infectious healthcare waste treatment operations or, healthcare waste transfer operations, at a healthcare facility  Manage maintenance and other engineering operations at a healthcare facility, infectious healthcare waste treatment facility or during

Path	Pathway 3: Managing Healthcare Waste Transport Operations	
Unit No.	Unit Title	Mandatory/Optional
1	Complying with Waste Management Legislation	Mandatory







4	Manage the collection of hazardous and non-hazardous waste from a healthcare facility	Mandatory
7	Manage improvements to waste management operations/practices at a healthcare facility, treatment centre or transport operations	Mandatory
9	Ensure protection of the environment at healthcare facilities, treatment or transport operations	Mandatory
10	Managing Waste Transportation operations for the transfer of hazardous and non-hazardous healthcare waste at a healthcare facility (Dangerous Goods Safety Adviser)	Mandatory
11	Manage a budget to Supporting the efficient use of resources	Mandatory
12	Contribute to the preparation of tender/bid documentation, selection of, implement and management of sub contracted services	Mandatory
13	Contribute to the selection of personnel for activities	Optional
14	Review the performance of teams and individuals	Optional
15	Create effective working relationships	Optional
16	Preparing for and Delivering In-house Healthcare Waste Management Training	Mandatory
18	Sharps Waste Management and Biosecurity	Mandatory
19	Effectively Manage Environmental Incidents and Emergencies (Spillages)	Mandatory
21	Climate Change Adaptation Auditing & Reporting	Optional
26	Manage maintenance and other engineering operations at a healthcare facility, infectious healthcare waste treatment facility or during healthcare waste transport operations	Mandatory
27	Monitor the procedures to control risks to health and safety during healthcare waste transport operations	Mandatory



