



“EU-HCWM”

Analysis results for the Key Healthcare Facilities in each Country, derived from the
Developed Assessment Package

REPORT: II



DEVELOPING AN EU STANDARDISED APPROACH TO VOCATIONAL
QUALIFICATIONS IN HEALTHCARE WASTE

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CHAPTER 1 EXECUTIVE SUMMARY

The medical services had always as a primary target to address the health problems of patients and prevent potential health problems of citizens. But alongside to the awareness of societies in recent years in the fields of environmental protection and public health, management of waste arising from medical and hospital units has emerged as an extremely important issue.

Towards this direction, the Greek State adopted in 2003 the 37591/2031/2003 Joint Ministerial Decision, which in combination with the other relative laws for the management of solid non-hazardous and hazardous waste, aimed to define the legal and regulatory framework for waste management of health care units. The Joint Ministerial Degree was amended in 2012 by JMD 146163/2012 (Gazette 1537/B/8-5-12) "Measures and Conditions for the management of Health Care Waste" incorporating all relevant E.U. Decisions and Directives.

The aim of the current report is to reflect the current situation on the management of hospital waste in Northern Greece and to present an overview of the organisational framework, the best practices followed as well as the training provisions in the sector.

CHAPTER 2 OVERVIEW OF THE HEALTH CARE SECTOR IN NORTHERN GREECE

This section presents data on the production and management of medical waste in Northern Greece, with emphasis on the Region of Central Macedonia, which mainly concern the an indicative number public health units of the region, where the audits were focused. Certainly a more comprehensive study should include information from all the public and private health units and private laboratories governed by the relevant legislation.

The audits and the in-situ visits that took place within the current EU – HCWM project and specifically within **WP 3 – “Assessment Strategy Research, Preparation & Development”**, are listed in the following Table 1.

Table 1. List of Health Care Units audited within EU-HCWM

| Name of Health Care Unit | Type of Health Care Unit | City | No of Beds |
|---------------------------------------|--------------------------|----------------|------------|
| Saint Paul | General Hospital | Thessaloniki | 141 |
| AHEPA | University Hospital | Thessaloniki | 692 |
| Theagenio | Anti Cancer Hospital | Thessaloniki | 227 |
| Hippocrates | General Hospital | Thessaloniki | 538 |
| Euromedica | Private Clinic | Thessaloniki | 268 |
| L. Sarafianos | Private Clinic | Thessaloniki | 154 |
| Kos General Hospital | General Hospital | Kos Island | 185 |
| University Hospital of Alexandroupoli | University Hospital | Alexandroupoli | 671 |

2.1 General data of the Health Care System in Northern Greece

Public Health Care units in Central Macedonia Region are distributed in the 3rd Health Region and the 4th Health Region.

Total recorded Healthcare Units (HCU) per category and administrative region in Northern Greece, are presented at Table 2, whereas the distribution of HCU to Greek administrative regions shown in the following Diagram1.

Table 3 shows the distribution of beds by type of Healthcare Unit and per Northern Greece Regions¹ (reference year 2008). The data refer to private, public and military hospitals as well as private entities providing health services, which altogether concentrate the majority of the available beds.

¹ Greek Statistical Authority



Table 2. Health Care Units per Administrative Region

| PREFECTURE | Public Hospitals | Private Clinics | Health Centres | Municipal Health Practises | Private entities providing health services | Health service units of insurance organizations | Military hospitals | Diagnostic and research laboratories | Microbiological Laboratories | Dental Clinics | TOTAL |
|-------------------------|------------------|-----------------|----------------|----------------------------|--|---|--------------------|--------------------------------------|------------------------------|----------------|-------------|
| | PH | PC | HC | MHP | PE | IKA | MH | DRL | ML | DC | |
| East Macedonia - Thrace | 6 | 8 | 14 | 3 | 0 | 10 | 3 | 22 | 67 | 519 | 652 |
| Central Macedonia | 21 | 27 | 31 | 2 | 2 | 54 | 2 | 58 | 246 | 2504 | 2947 |
| West Macedonia | 6 | 6 | 6 | 1 | 0 | 5 | 1 | 4 | 13 | 243 | 285 |
| TOTAL | 33 | 41 | 51 | 6 | 2 | 69 | 6 | 84 | 326 | 3266 | 3884 |

Figure 1. Health Care Units distribution

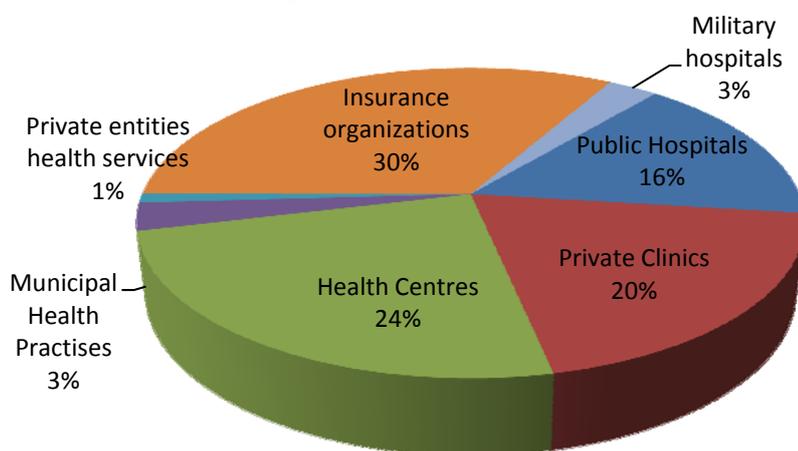


Table 3. Inpatient beds per Health Care Unit type and Administrative Region

| PREFECTURE | Public Hospitals | Private Clinics | Private entities providing health services | Military hospitals | TOTAL | PERCENTAGE | POPULATION | BEDS PER 100.000 INHABITANTS |
|-----------------------|------------------|-----------------|--|--------------------|---------------|---------------|------------------|------------------------------|
| | PH | PC | PE | MH | | | | |
| East Macedonia-Thrace | 1875 | 452 | 0 | 35 | 2362 | 16,53 | 606.622 | 389 |
| Central Macedonia | 6252 | 3228 | 922 | 231 | 10633 | 74,43 | 1.944.793 | 547 |
| West Macedonia | 761 | 515 | 0 | 14 | 1290 | 9,03 | 293.172 | 440 |
| TOTAL | 8.888 | 4.195 | 922 | 280 | 14.285 | 100,00 | 2.844.587 | 502 |

2.2 Statistical data on Health Care Waste in the area of Northern Greece

According to specific data collected from a statistic research², the average production quantity of medical solid waste per day in Greece is nearly **6,5 kgr/bed**, resulting in an average of **364 tn** of medical waste are produced every day in Greek healthcare centres (reference year 2008). An estimated **15%** of this quantity corresponds to infectious waste, while the remaining **85%** corresponds to waste with a municipal character. The distribution of medical waste production to administrative regions of Northern Greece is depicted in the following Table 4.

Table 4. Solid HC Waste per type and Administrative Region (tons). Reference year 2008

| PREFECTURE | Non Hazardous Medical Waste | Hazardous Waste | | Other Special Medical Waste | TOTAL | PERCENTAGE |
|-----------------------|-----------------------------|------------------|------------------------------------|-----------------------------|---------------|---------------|
| | | Infectious Waste | Toxic and Infectious Waste (mixed) | | | |
| East Macedonia Thrace | 5.112 | 639 | 162 | 19 | 5.932 | 18,08 |
| Central Macedonia | 20.633 | 2.589 | 607 | 63 | 23.892 | 72,80 |
| West Macedonia | 2.606 | 304 | 74 | 9 | 2.993 | 9,12 |
| TOTAL | 28.351 | 3.532 | 843 | 91 | 32.817 | 100,00 |

Especially for the area of Northern Greece, the average production of medical solid waste per day is below the average and varies between **2,25 – 2,51 kgr/bed**. Table 5 is indicative of the HCW produced per bed in the three administrative regions of Northern Greece.

Table 5. Solid HC Waste Indicators per type and Administrative Region (kgr/bed)

| PREFECTURE | Non Hazardous Medical Waste | Hazardous Waste | | Other Special Medical Waste | TOTAL |
|-------------------------|-----------------------------|------------------|------------------------------------|-----------------------------|-------------|
| | | Infectious Waste | Toxic and Infectious Waste (mixed) | | |
| East Macedonia - Thrace | 2,16 | 0,27 | 0,07 | 0,01 | 2,51 |
| Central Macedonia | 1,94 | 0,24 | 0,06 | 0,01 | 2,25 |
| West Macedonia | 2,02 | 0,24 | 0,06 | 0,00 | 2,32 |
| TOTAL | 6,12 | 0,75 | 0,18 | 0,02 | 7,08 |

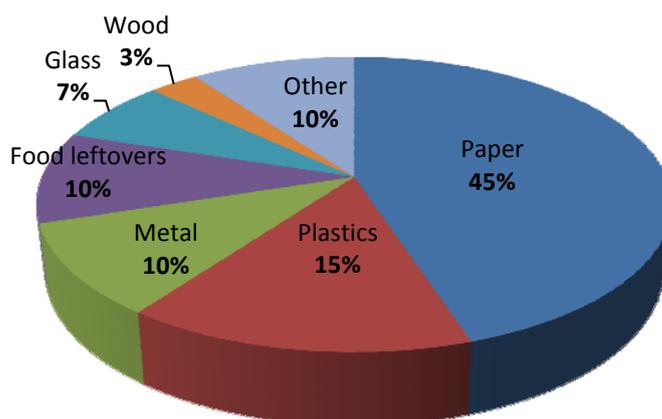
The features presented on Table 5 do not include HC Waste from microbiological and diagnostic laboratories, health centers, dental and veterinary medicine, which could not be assessed. For

² Ministry of Environment, Energy and Climatic Change – Department of Solid Waste Management. Hazardous Healthcare Waste Management National Plan. Protocol Number of Report: oik. 33312/4110/2014. Athens, 03/07/2012

comparison it is noted that the production rate of medical waste in the US is 5-7 kg/bed, Italy 3-5 kg/bed, England 0,68-3,29 kg/day and Portugal 2,5-4,5 kg/bed (Iliopoulos et al., 2007).

Furthermore, another study (Tsakona et al., 2007) in a typical Greek hospital of capacity 400-600 beds found that the production of hazardous infectious HCW is around **1,9 kg/bed**. The big number was attributed by the researchers to the poor separation of the waste.

Figure 2. Composition of non hazardous hospital waste



The distribution of the hazardous HC fluids and waste waters per administrative region in Northern Greece, for reference year 2008, is shown in Table 6. The presented quantities do not include specific streams of fluids subject to special management regimes and in particular:

- Radioactive
- Batteries (20 01 33 *)
- Gas containers (15 01 04)
- Ash and Slag (19 01 11 *)
- HCM disposed of with household waste from home use (expired medicines etc.), the amount of which cannot be calculated.
- Animal by-products / Veterinary waste, the amount of which has not been registered.

Table 6. Hazardous waste waters produced in Healthcare units per type and Administrative Region in Northern Greece (lt/day). Reference year 2008

| PREFECTURE | Hazardous Infectious Waste | Toxic and Infectious Waste (mixed) | Other Special Medical Waste | TOTAL | PERCENT AGE |
|-------------------------|----------------------------|------------------------------------|-----------------------------|--------------|---------------|
| East Macedonia - Thrace | 626 | 1.010 | 70 | 1.706 | 20,51 |
| Central Macedonia | 2.123 | 3.636 | 210 | 5.969 | 71,76 |
| West Macedonia | 197 | 419 | 27 | 643 | 7,73 |
| TOTAL | 2.946 | 5.065 | 307 | 8.318 | 100,00 |

CHAPTER 3 DUTIES AND RESPONSIBILITIES

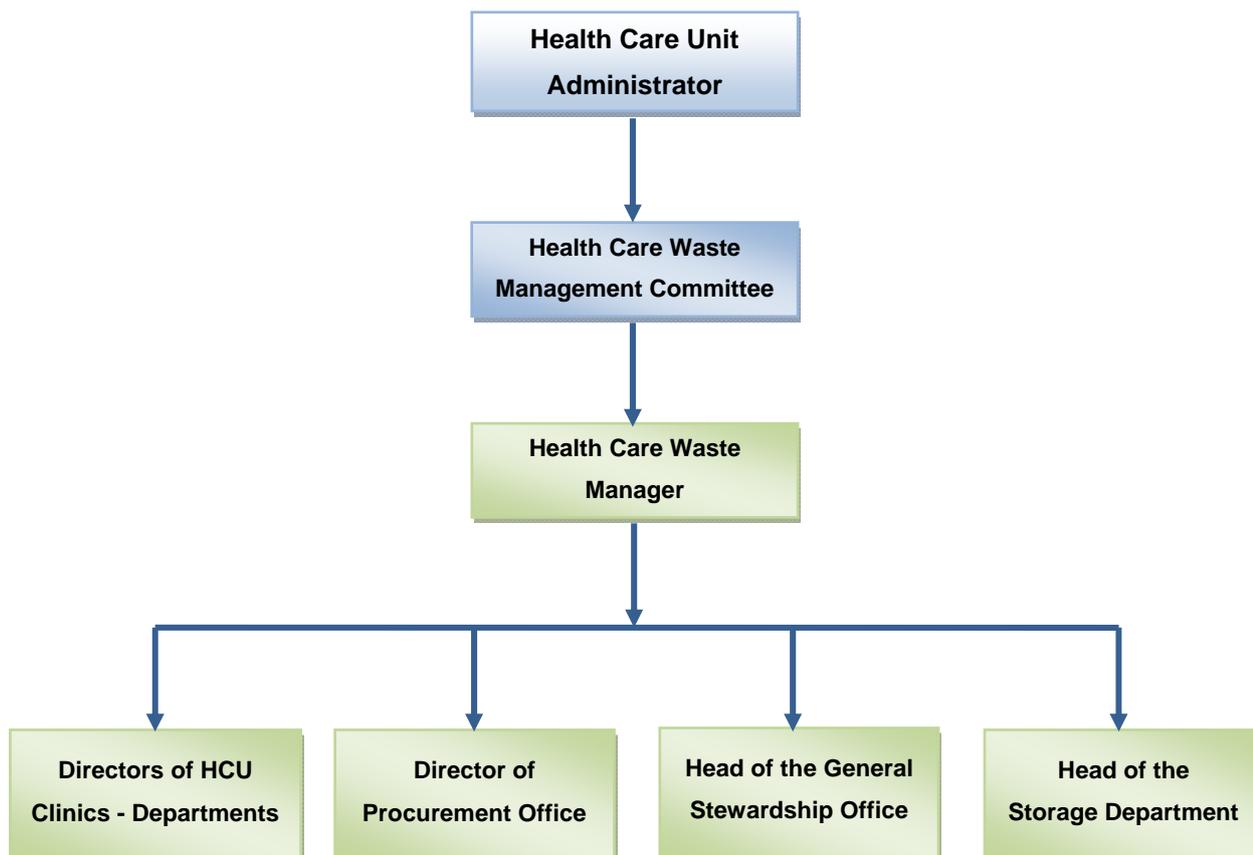
The current Chapter describes in detail the Organizational Structure of the instruments related to the management of Health Care Waste in the Hellenic Health Care System, as well as the duties and responsibilities of the involved.

3.1 Organizational Chart Management System

The safe management of the waste generated in HCUs presupposes the existence of an internal organizational structure formed under the responsibility of the administration of the HC facilities in cooperation with the HCW Management Committee.

The following figure shows a typical organization chart of the HCW Management structure in each HCU. This organizational chart is indicative and may be adjusted according to the size and needs of each HCU. As seen from the figure above, the HCW Manager addresses the problems and needs of each segment of the HCU, while headed in management, following the directions of the Administrator / Deputy Administrator of the Unit and the competent Committee of the HCW Management system.

Figure 3. Organizational Structure of HCW Management in Hellenic Health Care Units



3.2 Health Care Waste Management Committee

The members of this committee are members of the administrative staff of the HC Unit (HCU) and more specifically as follows (the following list is indicative, and each HCU should adjust its committee members according to the specific needs and characteristics of):

- President / Administrator / Officer or Deputy Administrator of HCU
- Chairman of the Hospital Infection Committee
- Health Care Waste Management Officer or HCW Manager (usually deriving from the commission of Hospital Infection Committee)
- Directors of HCU Clinics or Departments
- Director of Radiology Department / Division that handles radioisotopes
- Director of the Department of Microbiology / department of clinical tests
- Director of Nursing staff
- Director of Pharmacy
- Head of the general Stewardship Office.

The above Committee during its first meeting defines the Health Care Waste Manager (HCWM), who can be any member of the HCU staff, Highest Educational level at least, usually coming from the Committee of Hospital Infections. The experience and expertise on waste management issues is an asset to the selection. During the above process the Deputy HCW Manager is defined as well, with the same duties of the HCWM in his absence. Committee meetings are convened by the Administrator / Deputy Administrator of the HCU and should take place at least once per year.

3.3 Duties and responsibilities

The following describes the defined duties of a HCW management system. It is clear, that in smaller HCUs, a person can cover more responsibilities than those presented below.

1. Health Care Waste Management Committee (HCWMC)

The Health Care Waste Management Committee has the following responsibilities:

- Approving and monitoring the implementation of the Internal Health Care Waste Management Regulation (IHCWMR). The IHCWMR describes precisely the tasks and responsibilities of all involved staff to HCW management.
- The definition of the HCW Manager who will undertake the preparation, coordination and implementation of the IHCWMR.
- Updating the IHCWMR and the implementation of corrective actions and measures.
- Ensuring the control and monitoring mechanisms included in IHCWMR. The effectiveness and efficiency of the system are regularly monitored in order to be able to update and improve the system when necessary.
- Direct replacement of the HCW Manager or Deputy HCW Manager when they are not able to meet their obligations.

- The responsibility for the adequate training of the members of the HCW Management system and the identification of those responsible for their continuing education, with the aid of the appropriate educational programs.
- To ensure sufficient resources and allocating human resources for the effective implementation of IHCWMR. For example, the Commission should ensure that sufficient staff is available to the HCWM for the implementation of the procedures for the HC Waste Management regulation.

2. Administrator / Deputy Administrator of HC Unit

The Administrator or Deputy Administrator of the HC Unit is responsible for the following:

- Formation and coordination of the Health Care Waste Management Committee (HCWMC).
- Organization of HCWM Committee meetings.
- Continuous cooperation with HCW Manager and the other heads of department for the meticulous implementation of the Internal Regulation Rules and the specific needs that may arise for different departments.
- Approval of resources and human resources for the effective implementation of the HCWM Plan.
- Ensuring resources for the promotion and organization of staff training seminars on waste management, health and safety.
- Implementing the agreed policy of the HCU on the management of HCW.

3. Health Care Waste Management Officer or HCW Manager

The Health Care Waste Manager is at the initial phase responsible for preparing and submitting for approval the Internal HC Waste Management regulation and then (after being approved by the Commission) for its daily application and monitoring of the applied Management System. It is particularly important to be able to have direct communication with all members of the staff of HCWM Committee. The HCW Manager is accountable towards the Director / Deputy Director of the HC Unit and the Management Committee. The HCWM cooperates with the Directors of the Diagnostic Units, the Chairman of the Hospital Infection Committee, the Director of Pharmacy in order to know the necessary procedures for the treatment of pathological, pharmaceutical, chemical and radioactive waste from the aforementioned Units and Clinics.

In the field of waste collection the HCW Manager is responsible for:

- Cooperation with the head of the Department of Waste Management (if there one appointed otherwise it is his own responsibilities) to implement the Internal Regulation of HCW Management in the respective hospital departments and clinics.
- Creating and updating records and files related to the monitoring of the HCW Management System based on data received from either the Department of Waste Management (if existed) or the HCW Management contractors and involved staff.
- Sending data and reports concerning the management of HCW at regular intervals to the competent authorities and / or whenever these documents are requested.
- The general supervision of the HCW collection procedures in appropriate containers / bins / and their transportation processes to the corresponding storage end points.



- Troubleshooting.

In the area of the HCW collection - disposal and storage the Manager is responsible for:

- Updating the storage controller/ manager on the conditions, regulations and standards that govern the storage of different categories of HCW.
- The general supervision of the storage of the toxic and hazardous HCW.
- Coordination and supervision of HCW disposal within the HC Unit.
- Informing the staff responsible for the separate collection and transportation of waste on the conditions, specifications and personal protective means/ measures that should be taken.
- Overall control of HC Waste shipments within and outside the HC Unit.

In the field of HCW treatment the HCW Manager is responsible for:

- Informing the staff responsible for the HCW treatment on the conditions, standards and personal protective means and measures that should be taken.
- Overall monitoring of the HCW treatment processes within the HC Unit in accordance to the requirements of the existing legislation and best practices.
- Keeping and updating relative files and documentation related to the costs of the HCW treatment outside the HC Unit.
- Cooperation with licensed operators (if required) for the transport and processing of HCW outside the HC Unit.
- Continuous cooperation with the Director and the Head of the Nursing staff as well as with the Deputy Administrator of the HC Unit, to ensure that: a) all nurses and assistants doctors know exactly their duties in regard to the separate collection and storage of HCW and that: b) the duties of the employees of the cleanliness and of the general stewardship office are restricted only to handling and transporting the sealed containers / bins..
- Updating the staff involved in the management of HCW on the protective measures to be taken.

Regarding the management of accidents/ incidents the HCW Manager is responsible for:

- Posting of actions lists that should take place in case of accidents, at conspicuous points within the HC Unit.
- Examination and investigation of accidents reported on the management of HCW.
- Regarding house waste management, the HCW Manager is responsible for furthering to the Administrator or Deputy Administrator of the HC Unit and the HCWM Committee the separate collection of the recyclable materials within the premises of the HC Unit. Similarly, in relation to the special non-hazardous waste produced, the HCW Manager promotes the cooperation of the HC Unit with licensed systems of Alternative Waste Management, especially regarding the management of Electronic and Electrical Equipment waste, batteries and electrical accumulators, packaging materials etc (Figure 4).

Figure 4: Notification of recycling program implementation and different coloured bins that can be placed within the HC Units promoting recycling of materials



In the case that the administration adopts recycling programmes and initiatives, it is within the responsibilities of the HCW Manager to:

- Inform and sensitize staff about these programs.
- Promote the implementation of such programmes with advertising material and/ or relative informative events within the premises of the HC Unit, encouraging people to participate in them.
- Monitor the implementation of these programs.
- Monitor the frequency of the collection of this waste the licensed contractors and recycling schemes.
- Keep updated and informed the Administrator of the HC Unit on the need of additional contracts or renewing contracts with the recycling schemes.
- In addition to the abovementioned, the HCW Manager should systematically monitor and control, creating the appropriate file, specific parameters that are listed below:
 - The monthly output per Department and the applied treatment and disposal methods per waste category.
 - Financial information concerning waste management and more specifically:
 - The cost of the storage equipment and of the collection, transport, treatment and disposal of waste.
 - The costs of implementing training programs.
 - The cost of operation and maintenance of waste treatment facilities (if any).
 - The cost of contractors on the various waste management stages.
 - Topics in Public Health

Given the considerable responsibilities that the HCW Manager has, the HCWM Committee may appoint auxiliary support from other people in order to cover all requirements especially for large HC Units.

4. Directors of HCU's Clinics or Departments

The Directors of the HC Unit's Clinics or Departments are responsible in their Departments for the separation and collection of the different waste streams, the temporary storage and their further management. More specifically they:

- Ensure that all scientific and nursing staff and other employees working in the clinic have the exact knowledge on the separation and collection procedures per waste category and apply them thoroughly. In all other cases they are responsible – in cooperation with the HCW Manager – for the training and sensitization.
- Cooperate with HCW Manager in order to control non conformities and problems in the implementation of the waste management system.
- Are responsible for the appointment of the Departments' Health Care Waste Management Officers, whose main activity is the everyday implementation of the waste management procedures in their departments.

5. Health Care Waste Management Officer per HC Unit Department

The Health Care Waste Management Officer (HCWM Officer) is appointed under the responsibility of each Department's Director and is responsible for the following:

- The everyday implementation of the HCW management system in the department
- Controlling the replacement of the filled bags, of the containers or of the other storage media.
- Surveillance and supervision of staff responsible for the separate collection and transportation of waste.
- Transportation of HCW to storage areas.
- Completing and sending the corresponding forms related to HCW management to the hospital's HCW Manager. Keeping files on the quantity and category of the HCW that derive from the department's operation.
- Cooperating with the procurement office to ensure constant adequacy and supply of the essential storage and collection and personal protective clothing means.
- Close cooperation with the HCW Manager on issues related to the continuous improvement and efficient implementation of the HCWM Plan at each department.
- Cooperating with the stewardship office on the human resource needs.

6. Director of Nursing Staff

The Director of the Nursing staff in collaboration with the Head of nursing staff, are responsible for the training of all the nursing staff, of the physicians' assistants, of the custodial staff and of all related employees on the separate collection procedures, transport, storage and disposal per category of waste. In detail they:

- Cooperate with the HCW Manager and with the other Directors and Heads of Departments for the meticulous application of the HCWM Plan and Internal Regulation.
- Promote and organize in cooperation with the deputy Administrator the training sessions on HCW Management.

7. Chairman of the Hospital Infection Committee

- The Chairman of the Hospital Infection Committee cooperates with the HCW Manager (also a member of the Committee) on an ongoing basis, providing him all the necessary advice and

guidance related to the control of possible contaminations deriving from HCW Management works and activities. The main duties include:

- Detection of additional training needs of staff engaged in HCW treatment works.
- Organization and supervision of the implementation of educational and information programs and sessions on HCW management within the HC Unit.
- Collaboration with the HCW Manager and the other heads of departments for the meticulous application of the HCWM Plan and Internal Regulation.
- The Chairman of the Hospital Infection Committee also has the overall responsibility for the disinfection procedures and wherever/whenever possible the reduction of the hazardous HCW produced by the medical laboratories of the HC Unit (waste containing hazardous chemicals).

8. Director of Pharmacy

The Director of Pharmacy is responsible for the smooth operation of the Pharmacy unit and the reduction of the HC waste produced by its operation. More specifically, the duties on waste management are:

- Collaboration with the HCW Manager and the other heads of the departments, the Head of the nursing staff and the Administrative / Deputy Administrative of the HC Unit, providing advice and guidance on the on best waste management practices in accordance of pharmacy waste with national legislation and guidelines of the central administration.
- Weighting and keeping a record of the quantities of drugs (in gr, kg ml, or lt and not in pieces) that are returned or destroyed.
- Periodic reporting to HCW Manager (once per week at least) or according to the needs of the HC Unit or whenever requested by the HCW Manager, on the quantities of waste produced / destroyed.
- Coordination of the control management processes of the pharmacy waste.
- Cooperating with the procurement office to ensure constant adequacy and supply of the essential storage and collection and personal protective clothing means.
- Ensuring adequate training of staff in the management of different categories of pharmacy waste.

The Director of Pharmacy is also responsible for the safe management of genotoxic products and waste.

9. Directors or Managers of Diagnostic Departments

The duties and responsibilities of the Directors / Managers of the diagnostic departments as regards the management of the produced radioactive waste include:

- Collaboration with the HCW Manager and the other heads of the departments, the Head of the nursing staff and the Administrator of the HC Unit, providing advice and guidance on the best waste management practices of the produced radioactive waste in accordance with national legislation and guidelines of the central administration.
- Assessing and keeping records of the quantities of radioactive waste returned or destroyed.

- Periodic reporting to HCW Manager (once per week at least) or according to the needs of the HC Unit or whenever requested by the HCW Manager, on the quantities of radioactive waste produced.
- Coordinating the control procedures of the radioactive waste released.
- Ensure adequate training of staff on radioactive waste treatment.

10. Director of Procurement Office

The Director of the Procurement Office collaborates on a permanent basis with the HCW Manager aiming at the uninterrupted provision of all necessary means for HCW treatment. Since these means and equipment have to be available on a permanent basis, the Director of the Procurement Office ensures the adequate (but not excessive) stock. The Director of the Procurement Office is also responsible for the market research and supply of environment friendly waste management equipment.

11. Director of Technical Services

The Director of the Technical Services is responsible for the installation and maintenance of the storage means and spaces and the equipment for the waste handling within the HC Unit, according to the requirements of the applicable national laws. He is also responsible for the maintenance and proper operation of waste treatment facilities within the HC Unit (if and when available). In addition, he:

- Ensures the proper staff training on the principles and the HCW management conditions posed by the HCWM Committee.
- Ensures the proper training of the staff working in the waste treatment facilities within the HC Unit (if available).

12. Hazardous HCW Storage Manager

The Storage Manager of the hazardous HCW produced within the HC Unit, is appointed by the HCWM Committee and is responsible for:

- The control of the hazardous HCW quantities stored and the respective quantities available to third parties for treatment and / or disposal.
- For the coordination of transport and safe placement of the hazardous HCW in the respective storage points.
- Ensuring the necessary conditions at the storage facilities (eg refrigerators, freezers).
- Informing the Procurement Office and the Administration on the needs of storage space (additional equipment, refrigerators' space availability, technical problems, etc.).
- To maintain all storage spaces in good condition.

13. Head of the General Stewardship Office and Cleaning Service

Regarding the management of waste produced within the HC Unit, the Head of the general Stewardship Office and of the Cleaning Services is responsible for:

- Ensuring the proper management of household type waste - separate collection, transport and storage at special bins outside the HC Unit - prior their removal from the municipal authorities.
- The transfer of hazardous HCW only BY properly trained personnel.
- Providing cleaning staff to the departmental Health Care Waste Management Officers for transferring hazardous HCW.
- Cooperation with the HCW Manager in assessing the produced hazardous wastes at all stages.
- Reporting to the Administrator / Deputy Administrator of the HC Unit any problems and / or concerns regarding the collection and transportation of waste (additional needs in personnel, means, equipment, training, etc.).

CHAPTER 4 TRAINING

The purpose of training is the disclosure to all involved personnel of all the relative subjects about health, safety and environmental awareness concerning the management of Health care Waste (HCW) and how these affect their daily work. Special emphasis is given in highlighting the role of each member of the entire Health Care Management Committee

Different training programs are designed and targeted to the training of the following:

- Management of Health Care Units, responsible for implementing regulations related to the management of HCW,
- Scientific staff,
- Nursing staff (including assistants),
- Cleaning staff, supporting staff,
- Technical staff.

The scientific staff can be trained within the HC Unit during workshops, while nursing and other staff during official training seminars. The training of the administration can take place either within the HC Unit or within relative university departments, certified seminars and workshops or specifically designed courses.

According to the relative Joint Ministerial Decision 146163/2012, Training programs should include:

- Information and justification of the activities associated with HCW management,
- Information and guidance on the role of each member of the HCW management system,
- Technical instructions for each team of the HCW management system during the implementation of the HCW management regulation.

Staff training programs include:

- Information on the existing legal framework on management of each category of HCW.
- Roles and responsibilities of each member of the HCW Management Committee and Teams.
- Instructions on the implementation of the Best Available Techniques and Practices on HC management practices, i.e. definition of the color coding of bags, symbols and precautions to be followed during the handling of infectious and hazardous waste etc.
- Waste minimization procedures.
- Importance of proper separation of different waste streams.
- Risks associated with waste management / health effects.
- Incident - Accident management procedures, Safety and Emergency Response Plan.
- Instructions on the use of Personal Protective Measures and Equipment (form, gloves, mask, etc.).
- Epidemiology, contagion means and protection from viruses like of HIV, HBV, HCV.
- Safety and security measures during the management of HCW.

The continuous update of the knowledge and the information on the legal framework of all involved personnel is of great importance and should be taking place at regular intervals or whenever necessary.



The President and the hospital infection committee in cooperation with the HCW Manager are responsible for the promotion and implementation of the aforementioned training programs, concerning all the waste management stages. They are responsible for the proper and qualitative training of all members of HCW Management System and their obligations arising from the implementation of the HCW Management Regulation.

For this reason, records and files of the training programs that take place in each HC Unit including information on the members of each HCW team that participates, the content and the thematic units as well as the training material and other relative documentation, should be kept in a permanent file. Indicative is the template form as presented in the following table 7.

Table 7. Training Programs Matrix

| Training Units | Trainers Name and Specialty | Dates and Duration of Training Program | Name and Specialty of Trainees | Proposed date of repetition |
|----------------|-----------------------------|--|--------------------------------|-----------------------------|
| | | | | |
| | | | | |

Regarding the training of personnel in HCW management issues, aimed at ensuring health and safety at workplace and environmental protection, the Directors / Heads of the HC clinics are responsible for:

- The proper training of personnel engaged in the clinical / department / sector for the management of HCW produced there. The participation and monitoring of the participation of the involved staff in the training programs should be recorded and documented on a regular basis.
- The implementation of the following procedures related to the rational management of waste generated in their departments:
 - o The safe and careful separate collection of HC waste including sharps.
 - o The total application of the HCW management policy.
 - o Understanding and applying the proper separation – collection - transfer of waste by category in their respective bags / containers / bins and appropriate signs.
 - o The steps and actions to be followed in cases of emergencies and accidents.

CHAPTER 5 BEST PRACTISES – HEALTH AND SAFETY

5.1 General

The HCW Manager is responsible for assessing the overall volume of HCW produced and analyzing the conclusions that derive from it. HCWs are categorized according to the guidelines of the national legislation and the average daily quantity per category and per HC Unit department is monitored and documented on a continuous basis. The categories of waste generated in HC Units are divided in the following categories:

- Non hazardous Municipal Solid Waste (MSW),
- Hazardous Health Care Waste (HHCW), consisting of the following categories:
 - ✓ Hazardous Health Care Waste purely Infectious (HHCW-I),
 - ✓ Mixed Hazardous Health Care Waste (MHHCW),
 - ✓ Other Hazardous Health Care Waste (OHHCW),
- Specific Health Care Waste Streams (SHCW), as defined in paragraph B1 of Article 2 of Joint Ministerial Decision 146163/2012.

In summary, by category included:

- Non hazardous Municipal Solid Waste (MSW): Wastes similar to household e.g. food preparation in kitchens of health care units or from catering activities, glass, paper, cardboard, plastics, metals, packaging materials, and other non-hazardous materials
- Hazardous Health Care Waste purely Infectious (HHCW-I): Wastes that have come into contact with blood, secretions, or other biological fluids and can spread infectious diseases.
- Mixed Hazardous Health Care Waste (MHHCW): Wastes from pathological – anatomy – chemotherapy laboratories, such as tissues, organs, body parts, laboratory animals, waste containing mercury, other heavy metals, asbestos, cytotoxic - cytostatic - and other chemotherapeutic drugs.
- Other Hazardous Health Care Waste (OHHCW): Chemicals consisting of or containing dangerous substances. Chloroform, trichlorethylene, xylene, acetone, methanol, inorganic compounds containing acids and alkalis (e.g., sulfuric, hydrochloric, nitric, chromic acid, sodium hydroxide and ammonia), other oxidant (KMnO_4 , $\text{K}_2\text{Cr}_2\text{O}_7$), or retarders (NaHSO_3 , Na_2SO_3), dental amalgam, organic compounds used for the cleanliness (phenols), damaged thermometers, mercury sphygmomanometers, drained oil from vacuum pumps, sorbents, filters, solvents used in radiological laboratories etc.
- Specific Health Care Waste Streams (SHCW): Radioactive, batteries, packaging containing pressurized gas, etc.

5.2 Collection – Transportation and Storage of HCW

5.2.1 Basic Principles

The basic principles governing the different stages of collection, transport and storage of HCW include:

- The separated waste are placed in the appropriate colour marked storage means , marked so as to be easily identifiable, following the proper waste treatment line.
- Suitable containers are placed in all areas where specific HCW streams are produced.
- The containers are removed when they are full at most $\frac{3}{4}$ of their maximum volume.
- The separate collection of waste takes place as close as possible to the area of production (eg in surgery, within the rooms of patients etc.).
- The wastes are collected at a frequency proportional to the workload of the departments that produce them.
- The waste bins are placed in locations with easy access and have a foot mechanism and remain constantly closed.
- The transfer of content from one bucket to another is forbidden due to the high risk of infection and disturbances.
- All bins are washed with disinfectant at the end of the day.
- The HCW collection and transport carts of the various departments circulate closed, with their bags tied and well placed within them, not loaded at height, well maintained and washed daily with special disinfectant.
- The trolleys, carrying infectious waste are not be used for other tasks.
- Avoid at all costs the creation of dust, droplets and direct contact of hands with waste.
- The appropriate equipment for the decontamination of spaces and of the staff's hands (recommended washing hands after any contact with waste) is always available.
- The transfer of waste shared with the transfer of foods or clothing (e.g. usage of the same lift) is strictly forbidden.
- The carrier should always be informed in detail about the nature and hazards of the cargo carried.
- The use of discharge waste pipe (simple or vacuum) is forbidden.

5.2.2 Collection

Successful management of HCW as a whole is directly linked to the classification of waste in sorting at source. The separate collection of HCWs per category is under the sole responsibility of the producer and should be taking place as close as possible to their production sites.

The most appropriate way for the categorization of HCW is the separation into coloured bags / containers / bins depending on their type. The proposed colouring code of hazardous HCW (HHCW) in the country depends on both the type, and the treatment it must undergo prior to disposal. Thus, dependant on their type:

- Incineration can be applied to all Hazardous HCW purely Infectious (HHCW-I) and to mixed hazardous HCE (MHHCW).



- Sterilization can be applied only to HHCW-I.

Additionally, depending on the treatment:

- HHCW-I for sterilization are placed in yellow packaging.
- Hazardous HCWs (HHCW) for incineration are placed in red packaging unless the incineration unit can not treat HHCWs containing more than 1% of halogenated organic compounds. In the second case the waste is placed in green packaging.

In addition, it is required that all waste packaging include a «Hazardous Waste» sign with the international symbol of infectious and hazardous nature. Except the colour coding of the storage media, the following are recommended:

- The non hazardous municipal waste generated within the HC Unit should follow the management practices established by the Joint Ministerial Decision 50910/2727/2003 (Gazette 1909/B /22.12.2003) on the management of solid waste.
- Sharps (e.g. needles) regardless if they are infected or not, should be collected together in resistant imperforate storage containers usually made of high density plastic. They have to be rigid and impervious to outside sharps, thus to ensure the safe storage of the liquid contents of the syringes. Apart from plastic or metal containers, cardboard containers can be used as well. All containers have to be labelled with the date, their origin and the biohazard sign (Figure 5).

Figure 5. International Symbol of Infectious and Radioactive nature



- The bins / containers / bags used for infectious HCW must be labelled with the corresponding international indicator (Figure 5). Such instruments should be labelled with the date and origin of the infectious waste.
- Hazardous HCW purely Infectious (HHCW-I) should, wherever possible, be subject to immediate treatment.
- Cytotoxic - cytostatics - chemotherapy waste should be collected on durable, watertight containers clearly marked "CYTOTOXIC - CYTOSTATIC - CHEMOTHERAPEUTIC WASTES. Such storage means should be labeled with the date and origin.
- The expired drugs should be sent to the Pharmacy for withdrawal (with a return form). Drugs that have been opened or exposed to infectious environment and, including the packing of those with drug residues, should be separately collected in the appropriate container and in no case should they be returned to the Pharmacy due to increased infection risk.
- Waste from laboratories containing hazardous chemicals should be separately collected in non-erodible containers and sent to specialized waste treatment companies. The identity of chemicals

should be prominently displayed in the packages, including labeling of the date and origin. Hazardous waste of this category should never be mixed.

- Wastes that contain a high percentage of heavy metals (cadmium, mercury, etc.) should be separately collected in resistant and impermeable containers with labels that provide information about their content.
- For the treatment of radioactive waste (processing, handling, storage, import and export, transport and disposal), the competent authority is the Greek Atomic Energy Commission. All HC Units have to comply to the relative Law for the protection of people, property and the environment from harmful effects of ionizing radiation (Joint Ministerial Decision 1014 94/2001 – Gazette 216/B - 6.3.2001 for the approval of the Radiation Protection Regulations and Council Directive 2006/117/Euratom of 20 November 2006 on the supervision and control of shipments of radioactive waste and spent fuel).
- Liquid waste (excluding hazardous liquid wastes such as drugs, chemicals, blood, etc. which have to be treated be administered together with containers - syringes, plastic bags, etc. – as already described) is considered similar to urban waste water although it is likely to contain certain hazardous substances (e.g. increased concentration of microbes, etc.). Such wastes must either be sent in a central treatment unit (if the HCU is connected to a sewerage system) or be driven to a waste water treatment plant located within the HCU. In any case the detailed specifications of the legislation regarding the treated water should be followed.

The proper storage means should be available in the corresponding waste production sites. Special instructions regarding the classification, sorting and filling of storage means should be posted in all waste generation and collection points.

The filling of containers should not exceed the $\frac{3}{4}$ of their total volume. Staff must not under any circumstances attempt to remove wastes placed incorrectly on the containers / bags / bins. In case of non hazardous urban type waste mixed with hazardous HCW, then all should be managed as hazardous HCW.

The nurses and the other staff of the HC Unit should ensure that all waste bags are safely sealed. The lightweight bags can be sealed by tying them but heavier may require durable (plastic) seal means. The sealed containers with sharp objects should be placed in special containers of a similar colour (with the relevant international content labelling) prior the removal from each department or unit.

In no case should filled containers / bags / bins be stowed at the production points. The removal from the responsible staff and the transportation to the storage areas should be done under this specific for this purpose program. More specifically:

- The collection and transport of wastes to predefined storage points and areas should be done on a daily basis (or more frequently if required).
- The filled bags should be collected only when labelled, specifying their content and origin.
- Filled bags / containers / bins should be replaced immediately after their removal, with similar.
- Additionally, all HCW generation points should always have additional storage means available.



5.2.3 Transfer

The transfer of HCW generated within the health units should be done with trolleys and other carts solely used for this purpose only, fulfilling the following conditions and in accordance with the detailed requirements set out in Annex II of JMD 146163/2012:

- Easy loading and unloading.
- No sharp edges that could lead to disruption of bags.
- Resistant against shock and stresses caused when moving.
- Easy cleaning.

These means of transport should be cleaned and disinfected with the proper disinfectants on a daily basis. The waste shipment rules are defined by the National and Community legislation on dangerous goods transfer, based on the requirements of the ADR. Especially for road transport of HHCW (for which ADR apply) the person liable for the collection and transport of HHCW is required to have the respective collection and transport license and in addition to:

- Have a security adviser, as provided in Section 1.8.3 of the ADR.
- Ensure that the driver holds a valid ADR training certificate corresponding to the transported materials.
- Ensure that the vehicle is suitable and equipped with ADR certificate of approval (where required).
- Ensure that the vehicle is suitably labelled and equipped (appropriate extinguishing devices, warning vest)
- Provide the transport unit with the supporting documents required by the ADR (such as transport documents and written instructions in case of accident).

5.2.4 Storage

Within the HC Unit, a sufficient storage space for different types of waste, depending on the quantities produced and their collection frequency, should be defined. The storing requirements and presuppositions are described in detail in Annex II of JMD 146163/2012.

Hazardous Infectious HCW (HHCW-I) and mixed hazardous HCW are kept in a cooling chamber for a period of no more than five days at a temperature less than 5° C (for less than 500 liters of storage the wastes can be up to 30 days at a temperature equal or below 0° C).

On the external surface of all HHCW storage areas, visible markings of «Hazardous Waste» accompanied by the international symbol of infectious and hazardous nature are required. The temperature of the cooling chambers should be monitored and recorded on file on a regular basis. Each time the storage area of the above HHCW categories empties, it has to be thoroughly cleaned and disinfected.

All other hazardous Health Care Waste can be stored within the HC Unit for a maximum period of one year. During storage, the premises used are specially designed and constructed, kept at a safe distance from the storage areas of other materials as well as operational spaces within the HC Unit. All storage areas facilities should provide protection from rain, flood, fire, etc. At the design stage,



accessibility should be taken into consideration whilst the floor of the storage areas is of industrial type, of suitable gloss and with good corrosion protection. The main parameters to be met include (in line with Annex II of JMD 146163/2012):

- Adequate ventilation and lighting.
- The vicinity of the stored HCW with infrastructure networks that may be affected should be avoided.
- The opening the buildings doors only be outwardly with a simple push.
- The width of the doors cannot be less than 0,80 m. The windows should be placed opposite at pairs, easily to open outwardly and to exit in a case of emergency.
- Inside the storage room, the waste is placed in a second container of the same colour as the original container (if necessary) completely sealed to fluid leakage. If there is no cooling chamber available the waste storage time should not exceed **48 hours in winter and 24 hours in summer**.

Municipal Solid Waste (MSW) is placed in separate bins placed in a different storage room within the surrounding area of the HC Unit. Storage areas should not be near food preparation or storage places. All HCW storage areas include water supply, cleaning systems, connection with the sewage network, fire extinguishers, personal protective clothing and waste bags. More specifically HCW storage areas should have the following characteristics:

- The floor should be resistant, impervious, with a suitable sewage system, easy to clean and disinfect.
- Water supply.
- There should be enough space for the required manoeuvres and unloading of the forklifts.
- It should be possible to isolate the area by unauthorized persons.
- The site should not be exposed to sunlight and hardly accessible to animals and birds.
- It should be well lit and equipped with a ventilation system.
- It should be away from dining and food storage areas.
- It should have the appropriate equipment for cleaning, protection and security.
- It should be located close to the storage bags / containers / bins.
- Installed fire safety preventive means and equipment.

Finally, all HCW generation points should have posted floor plans indicating the HCW storage areas (placed at appropriate points under the responsibility of HCW Manager). The HCW storage controller is responsible for the whole procedure of reception/ temporary storage and export of the HCW, keeping documented files, thus monitoring the flow of hazardous waste within the HC Unit. All aforementioned documentation (forms and tables kept either in paper or electronic format) are sent to the HCW Manager at regular basis (at least once time per week), in order to deduct reporting and statistical information and data.

5.2.5 Treatment

The HCW Manager keeps an updated file (Table 8) on the treatment (incineration, sterilization, storage / shipment, etc.) per HCW category, based on the data and info sent by the Head of the Storage Department. The table below is updated by the HCW Manager upon changes any of the fields or if there is an amendment of the relative legislation. Moreover, the HCW Manager keeps records of the treated HCW, either within or outside the HC Unit, which is updated every time HCW are sent for treatment either inside or outside the Unit.

Table 8 HCW treatment record file

| Reporting Period | HCW Category | Type of Container | Colour of container | No of Containers | HCW Treatment Unit | HCW Treatment Method |
|------------------|--------------|-------------------|---------------------|------------------|--------------------|----------------------|
| | | | | | | |
| | | | | | | |
| | | | | | | |

In detail, the hazardous HCW (HHCW) that are led for treatment within the HC Unit, are accompanied by an Identification Form for the collection and transportation of hazardous waste (Annex II of JMD 146163/2012, Chapter 6.2). The storage manager and the carrier fill in the relative sections of the form that concern them, in two (2) copies. The carrier takes both copies in order to be completed and signed by the manager of the HCW treatment plant/ unit. Then the carrier returns a signed copy to the head of the Storage Department, while the other is kept by the storage manager/ controller.

The HHCW that are led for treatment outside the HC Unit, are also accompanied by the same Identification Form for collection and transportation of hazardous waste. The storage manager and the carrier fill in the relative sections of the form into three (3) copies. The carrier takes all three copies and forwards them to the manager of the HCW treatment plant/ unit for signing. Following, the carrier returns one signed copy to the head of the Storage Department, one to storage manager/ controller and one is kept by himself.

The storage manager sends the signed Identification Forms to the HCW Manager, who keeps them on a continuous file, so as to retain all documentation proving the correct and according to the LAW HCW treatment (data analyzes and measurements on the inspections- controls-treatment methods, operational data, HHCW Identification forms, delivery documents to HCW transporting and treatment companies, etc.).

The following Table presents the aforementioned specifications of HCW treatment.

Table 9 HCW Treatment Methods and Specifications

| HCW Category | HCW Treatment Method | Container Specifications | | Storage Specifications |
|---|---|--------------------------|---|--|
| | | Colour | Material | |
| Mixed Hazardous Health Care Waste (MHHCW) - Hazardous Health Care Waste purely Infectious (HHCW-I) | Incineration. Minimum temperature 850 °C (D10, R1) | Red | Durable, waterproof containers with UN Packaging indication, appropriate according ADR, IMDG, RID etc. | Cooling chamber for a period of no more than five days at a temperature less than 5° C (for less than 500 litres of storage the wastes can be up to 30 days at a temperature equal or below 0° C).If there is no cooling storage, the time should not exceed 48 hours in winter and 24 hours in summer |
| Hazardous Health Care Waste purely Infectious (HHCW-I) | Sterilization | Yellow | Durable, waterproof containers. If sharps are included must be in resistant imperforate storage containers usually made of high density plastic. UN Packaging indication, appropriate according ADR, IMDG, RID etc. | Cooling chamber for a period of no more than five days at a temperature less than 5° C (for less than 500 litres of storage the wastes can be up to 30 days at a temperature equal or below 0° C).If there is no cooling storage, the time should not exceed 48 hours in winter and 24 hours in summer |
| Other Hazardous Health Care Waste. Hazardous Chemicals (<1% of halogenated organic substances) - Heavy Metals - Radioactive - Drugs | Incineration. Minimum temperature 850 °C (D10, R1) | Red | Resistant and watertight containers with appropriate signs. UN Packaging indication, appropriate according ADR, IMDG, RID etc. | In specialized HCW storage installation for no more than one (1) year |
| Other Hazardous Health Care Waste - Hazardous Chemicals (>1% of halogenated organic substances) | Incineration. Minimum temperature 1.100 °C (D10, R1) | Green | Resistant and watertight containers with appropriate signs. UN Packaging indication, appropriate according ADR, IMDG, RID etc. | In specialized HCW storage installation for no more than one (1) year |
| Other Health Care Waste - Mercury | Mercury recovery at special installations | -- | Resistant and watertight containers with appropriate signs. UN Packaging indication, appropriate according ADR, IMDG, RID etc. | In specialized HCW storage installation for no more than one (1) year |

5.3 Health and Safety measures in the application of HCW Management Regulation

Proper management of HCW requires:

- implementation of adequate and systematic training programs for the involved personnel,
- the supply of equipment for their protection,
- implementation of work safety program, including vaccination, prophylaxis against exposure to dangerous agents and medical supervision.

The specialties at the greatest risk are cleaners, maintenance of machinery, operators of waste treatment plants and all those involved in waste handling and disposal, within and outside the HC Unit.

The objectives of the training programs should include the understanding of the following:

- a) the potential risks involved in the management of waste,
- b) the importance of vaccination against hepatitis B, and
- c) the importance of using the proper means of personal protection.

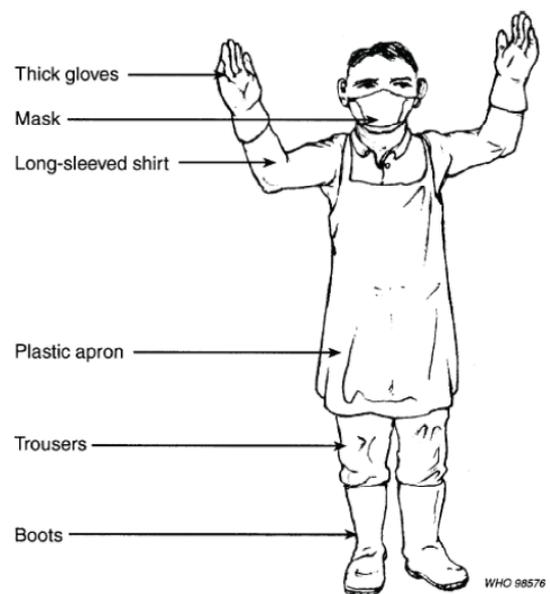
Protection of staff

The production, separation, handling, treatment and disposal of HCW involves handling potentially hazardous materials. Personnel who participate in such processes must ensure that all potential risks have been identified and assessed in order to take appropriate measures for the prevention of the exposure to hazardous substances or at least exposure below the safety limits. The risk assessment of all activities involved in HCW management should always precede the definition of the appropriate protective means and operations. These means should be appropriately designed to prevent exposure to hazardous materials or to reduce to safe levels. Upon completion of the risk assessment, the involved personnel should be trained in the use of the necessary protective equipment and means.

The type of personal protective equipment and means used by staff at HC Units depends on the degree of their exposure to risks related to HCW Management. Indicative personnel protective means related to HCW Management include the following:

- Helmets with or without visor (depending on the task),
- Face masks (depending on the task),
- Goggles (depending on the task),
- Protection Form (mandatory),
- Socks or boots (mandatory),
- Gloves (medical and nursing staff) or thick gloves for waste workers,

The recommended health and safety protective clothing related to HCW management are shown at the following Figure (Source World Health Organization).



Immunization

Immunization for Hepatitis B virus and tetanus is recommended as infestations to people dealing with handling infectious waste. The immunization of the staff is under the responsibility of the HC Unit's Infection Commission and the HCW Manager.

Management Practices

In summary they are summarized as following:

- Careful separation of HC waste and placing them in different containers and bags with proper labeling and signs indicating the risk arising from each waste category.
- Careful packaging, protecting employees from contact with the waste and leakages.
- Proper labeling which allows the immediate identification of the type of waste and the originator.
- The proper transfer that reduces the possibility of risk exposure of the relevant staff.
- Careful storage, which allows access to authorized personnel only and prevents the entry of insects and rodents, which can carry infections to neighboring areas.

Special precautions for accidents confrontation

Every employee required to clean up scattered hazardous materials as a result of an accident, is obliged to wear protective gloves, mask, goggles and special form. If the substance is volatile and highly dangerous (eg toxic), the wearing of additional respiratory protection equipment is required. If infectious material is spilled on the floor, the space is cleaned with disinfectants. In the case of mercury spillage incident, it is important to recover the mercury using special sponge.

Safety management of cytotoxic - chemotherapy and cytostatic drugs

Responsible for the safety in use of cytotoxic - cytostatics - chemotherapy drugs is the Head of the Pharmacy of the HC Unit. To minimize exposure to such drugs, the following measures are taken:

- Written instructions define the safe procedures for each job,
- Safety Material Data Sheet based on the suppliers' instructions about potential risks are available and distributed to involved personnel,
- Defined procedures for emergency work accident confrontation,
- Continuous and specialized training of the staff involved in handling cytotoxic - cytostatics - chemotherapy drugs (in collaboration with the HCW Manager),

The specific Guidelines for the protection of personnel include:

- Separate collection of cytotoxic - cytostatic - chemotherapeutic waste in suitable containers with a label containing the term «Dangerous cytotoxic - cytostatics - chemotherapy Waste» and placement in suitable containers
- Safe storage of cytotoxic - cytostatic - chemotherapeutic waste until their disposal.
- Return of expired drugs to the supplier.
- Disinfection of equipment used to treat dispersed substances and for the disposal and processing of contaminated by cytotoxic - cytostatics - chemotherapy drugs and patient secretions, material.

All personnel who come into contact with cytotoxic - cytostatics - chemotherapy waste should wear gloves, masks, uniforms and goggles.



Emergency Response Plan

To deal with emergencies, responsible for coordinating activities, compliance with the rules and informing the administration is the HCW Manager. In case of emergency the HCW Manager cooperates and coordinates the disinfection team in order to implement as planned the emergency plan. The emergency response plan is activated when dispersion of solid, liquid infectious or other hazardous substances occur or when an injury or malfunction of the storage means take place. The procedures for dealing with such incidents should definitely include:

- The compliance with the terms, provisions and procedures laid down by the emergency plan,
- The cleaning and, if necessary, disinfection of the affected areas,
- Limiting the exposure of involved staff as possible during cleaning / disinfection,
- Limiting the exposure of the HC personnel and patients and their departure during cleaning / disinfection,
- Minimisation of environmental pollution / contamination,
- Proper training and monitoring of the respective activities.
- Availability of necessary equipment to be used promptly and directly
- Proper reporting of incidents/ near misses/ accidents related to spillages, leakages, incorrect separations, sharp objects, etc. The reporting should be addressed to the HCW Manager and should at least include the following information:
 - The nature of the incident / accident/ near miss.
 - The time and place occurred.
 - Personnel involved.
 - The actions that took place for the confrontation of the incident/accident/near miss.
 - Other relevant comments and information.
 - Lessons learnt.

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ANNEXES

Joint Ministerial Decision 146163/2012 (Gazette 1537/B/8-5-12) "Measures and Conditions for the management of Health Care Waste". (In Greek language)