

# Hospital Waste Management

According to the World Health Organization, of the total amount of waste generated by hospitals, about 85% are general, non-hazardous waste. However, the remaining 15% are considered hazardous that may be infectious, toxic or radioactive and their disastrous effects linger for over 50 years. Healthcare waste contains potentially harmful microorganisms, which can infect hospital patients and staff, the public and the environment at large. Despite their importance, waste and wastewater treatment facilities are not usually considered in hospital designs, due to their high costs.

WHO developed the first global and comprehensive guidance document, "Safe management of wastes from health-care activities", now in its second edition. It addresses aspects such as regulatory framework, planning issues, waste minimization and recycling, handling, storage and transportation, treatment and disposal options, and training. The document is aimed at managers of hospitals and other health-care facilities, policy makers, public health professionals and managers involved in waste management. In collaboration with other partners, WHO also developed a series of training modules on good practices in health-care waste management covering all aspects of waste management activities from identification and classification of wastes to considerations guiding their safe disposal using both non-incineration or incineration strategies.

This article articulates and describes the duties and responsibilities of the Hospital Waste Officer (HWO) which if followed firmly in every hospital can bring positive impact on the entire hospital waste system. The hospital waste officer is the head of the waste management in the hospitals. He is responsible for the supervision of the introduced waste management, introduction of new methods and for the training of the employees.

The main tasks of the HWO are divided into four main areas:

## 1. Information and Motivation:

- Information of Stakeholders, staff, patients and the public about the waste management activities of the hospital
- Carrying out of the hospital waste training and awareness program inside of the institution
- Sensitization and motivation of hospital staff in hospital waste matters

## 2. Initiative and Innovation:

- Stimulation of new and better waste management and treatment methods
- Give recommendation and advice for purchasing of environmental friendly disposables and investment goods
- Introduction of environmental friendly procedures, replacement of disposables, mercury, collection of valuable waste, etc.

## 3. Monitoring and Supervision:

- Supervision of the internal waste logistic including segregation, collection, storage and disposal

- Supervision of the supply of materials for the waste collection
- Monitoring the environmental capacity building in the hospital

#### **4. Reporting and Documentation:**

- Reporting of accidents and incidents combined with hospital waste
- Documentation of the waste activities of the institution, setting up of waste balance sheets and waste stream analysis
- Carrying out of waste audits

It will be the task of the HWO to fulfil this areas as good as possible, depending on the own time capacities, staff capacities and financial resources. All four points are equal and no part should be “forgotten”. However, the different parts will take different needed time and financial resources, depending on the size of the hospital, the introduced waste management system, the waste management strategy, etc. For this, above all, main and most important task of the HWO will be the coordination and centralization of the waste management and the lobbying of the importance of waste management.

The “spider in the waste management web” – connected to all parts of the waste management, monitoring of all parts of the waste management and controlling the income and expenditures of a waste management system. To fulfil this, the HWO will have to cover following work areas:

#### **Waste Collection:**

- Control of the internal collection of waste containers and their transport on a daily basis, direct supervision of hospital staff in collection and transport of waste
- Liaison with the supply department to ensure appropriate delivery of bags, containers and protective clothing
- Ensure that the hospital staff will replace used bags and containers with correct new bags or containers
- Control of the different collection points and the waste generators
- Control of the waste generation by departments and generators

#### **Waste Storage:**

- Ensuring the correct set up and operation of the storage facilities and the combined equipment
- Input – Output control (Waste balance sheet)
- Management of the store (e.g. first in – first out, etc.)
- Prevention of the unsupervised dumping of waste on hospital compound
- Spillage and accident control
- Ensuring correct storage time-limits and collection frequencies

#### **Waste Disposal:**

- Coordination and monitoring all external and internal disposal operations
- Coordination and sale of valuable materials (plastic, glass, paper, cardboard, iron, silver, etc.)

- Monitoring of the methods used by the contractor for the external transportation (appropriate vehicles, etc.)
- Interface management internal/external waste management (Tendering, etc.)
- Record keeping of the disposed of waste streams (waste manifest, etc.)
- Governmental management

#### **Staff training, information and motivation:**

- Liaison with the Matron and the Hospital Manager for awareness and risk and accident training
- Liaison with the Department Heads to ensure that the staff is qualified and know their responsibilities to fulfil their role in the waste management
- Carrying out of awareness and waste management trainings for key personal
- Monitoring of the training programs and the education level of the hospital staff
- Success control of the training program

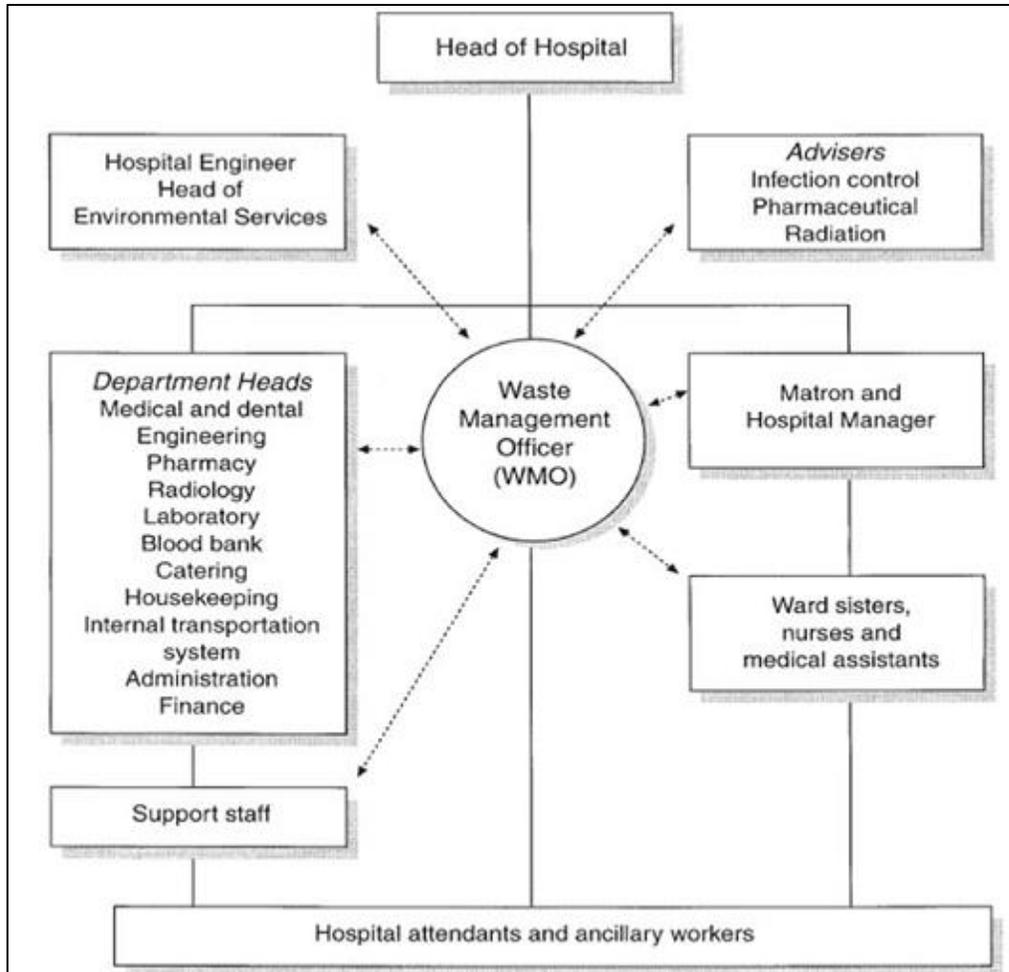
#### **Incident/accident management and control:**

- Prevention of accidents and incidents
- Set up of operation proceeding for hazardous substances
- Set up of emergency procedures, implementation and training of these
- Record keeping on incidents and accident
- Investigation and review of reported incidents combined with health care waste
- Liaison with the infectious control committee and the local hygiene bureau

#### **Monitoring of management parameters:**

- Monthly waste generation analysis by waste categories and generator structure
- Cost and budget planning for supplies and materials used for collection, transport, storage, treatment, disposal, decontamination, and cleaning
- Cost and budget analysis for training; operation of on-site treatment facilities; contractor services
- Analyzing of public health aspects, internal incidents failures in separation, storage, transport and disposal

In his work, the HWO should not belong to any department or organization unit. He must be independent in his decision, should have his own budget and should report directly the board of directors. By this, the HWO is directly responsible to the Head of the Hospital.



**Hospital Waste Management Structure**

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*Awareness of Biomedical Waste Management among Medical Staff in a Tertiary Care Hospital*