

Technical assistance on sustainable Medical Waste Management Activity No: N-E-PS-1

Consultation and Training Workshop
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Contingency and emergency planning





**Water and
Environment Support**
in the ENI Southern Neighbourhood region

Session 10: Contingency and emergency planning

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Examples of Contingencies Related to HCW



Contingencies related to waste handling

- Lack of color-coded bags, bins or sharps containers
- Lack of PPE (gloves, face masks, etc.)

Contingencies related to waste storage

- Overfilled storage; lack of capacity
- Flooding or fire in the waste storage area

Contingencies related to waste treatment/disposal

- Breakdown of waste treatment autoclave or incinerator
- Downtime due to maintenance or repair of treatment technology or lack of spare parts
- Temporary closure of the landfill

Examples of Contingencies Related to HCW



Contingencies related to spills

- Spills of blood, breakage or leaks of infectious waste bags or containers, breakage of mercury-containing devices, spills of chemicals (e.g., laboratory solvent, cytotoxic agent or pharmaceuticals)

Contingencies related to labor

- Lack of human resources, impact of strikes or illness among waste workers or waste collectors, illness of waste supervisor

Human exposure incidents

- Needle-stick injuries, exposure to blood splashes, exposure to pathogenic aerosols from infectious waste, acid burns



Contingency Planning

A systematic approach to identify what could go wrong and make preparations in response to those events

Contingencies should be prioritized since it is not possible to plan for all possible contingencies

Contingency planning is also an opportunity to identify activities or resources that minimize the risks or avoid contingencies



Steps in Contingency Planning

Identify events or scenarios that could disrupt the normal function of healthcare waste management in the facility

Assess the likelihood of those events or scenarios and the risks they pose

Prioritize the contingencies based on their probabilities and risk impact

Prepare the actual contingency plans



Steps in Contingency Planning

When developing contingency plans:

- Identify the trigger that would start implementation of the plan
- Obtain input from staff and other stakeholders
- Break down the plan according to time frame (e.g., actions to take during the first hour, actions for the first day, first week, etc.);
- Write down the plan in clear terms
- Communicate the plan and provide training
- Review the plan on a regular basis



Examples of possible responses to some contingencies

Lack of color-coded bags, bins or sharps containers

- Use markings or labels as a temporary substitute for color-coding;
- Use make-shift containers that provide a similar level of safety (e.g., labeled bleach bottles as sharps containers)

Overfilled storage area

- Designate an unused space for backup storage; modify the space to prevent public access

Breakdown of the on-site waste treatment system

- Make prior arrangements with another hospital or waste treatment plant to treat the facility's waste in the event of a breakdown

Temporary closure of the landfill

- Make prior arrangements with another landfill as a backup to accept the facility's waste



Examples of possible responses to some contingencies

Contingencies related to spills

- Prepare spill clean-up procedures, conduct training including practice clean-up of simulated spills

Illness among waste workers

- Train other employees or part-time workers in healthcare waste handling and collection as backup

Exposure incidents

- Develop clear procedures for exposure incidents



Response actions to spills

Small spills

- Can be handled by a small group of trained employees and when spills are not immediately hazardous

Large spills

- Remove personnel from immediate danger and bring in properly trained first responders to clean spill up



Infectious waste spills

To reduce the number of employees at risk of exposure:

- Restrict access to the spill area
- Provide warnings of hazards and advice about special requirements
- Ensure staff is trained to respond to these spills

You may clean up small spills if you:

- Have the supplies to absorb and bag the spilled material;
- Are familiar with the properties of the spilled material;
- Have the proper personal protective equipment;
- Are trained to respond to a biohazard spill



What to do when there is an infectious waste spill:

- Workers should wear eye protectors or face shields; gloves; coveralls; respirators or face masks depending on the risks of exposure;
- Residues should be recovered using hand tools and then packed safely;
- The floor should be cleaned and disinfected after most of the waste has been recovered
- Cover spilled area with absorbent pad or paper towels
- Decontamination – use bleach, diluted to 1:10 with water to decontaminate the spill area and to clean/decontaminate equipment used in spill response
- pour diluted bleach over towels, let stand for 30 minutes



Spill clean-up kit:

- Disposable gloves, face mask and safety glasses;
- Small scoop or dust pan and brush, shovel;
- Absorbent pads or powders for liquid spills;
- Cleaning rags or paper towel;
- Chlorine disinfectant (1:10 chlorine);
- Germicidal wipes;
- Extra color-coded infectious waste bags;
- First-Aid kit;
- Biohazard labels;
- Aspirator bottle, spatula or mercury amalgam powder for mercury spills



Examples of Personal Protective Equipment (PPE):

- Helmets;
- Face masks;
- Eye protectors (safety goggles);
- Overalls (coveralls);
- Industrial aprons;
- Leg protectors and/or industrial boots;
- Disposable gloves (medical staff) or heavy-duty gloves (waste workers)



What to do in case of emergency injury or exposure:

Self-protection with appropriate PPE

Immediately assist victim with first-aid measures:

- Bleed the wound (needle-stick injury);
- Wash area under clean running water;
- Clean wounds and skin;
- Splash eyes with clean water (e.g., for eye exposure to biohazard);
- Splash the body (e.g., for chemical exposure)
- Report the incident to a designated person
- Retain the item involved in the incident
- Identify source of possible infection
- Seek additional medical attention in emergency
- Maintain medical surveillance
- Record and investigate incident
- Identify causes and implement action to prevent similar incidents in the future



Contingency Measures for Major Emergencies in the Community

Preparation for emergencies should be made at health care facility and regional/central government levels.

Healthcare facility level: action plans on healthcare waste management should include emergency measures to apply during emergency situations (e.g. epidemics in the community could lead to significant increases in the amounts of healthcare waste generated)

Regional/national level or disaster-prone area: prepared by a responsible cluster (inter-agency cluster composed of national or international agencies/organizations).



Treatment and disposal options during major emergencies

- If resources are available, infectious and sharp wastes could be disinfected in a small autoclave. Non-sharp disinfected wastes then join the general waste stream;
- On-site burial in pits or trenches, or disposal in special controlled cells in municipal dumping sites are other options;
- Sharps wastes or small quantities of pharmaceuticals can be encapsulated followed by on-site burial or burial in special cells in municipal dumping sites;
- Incineration in high-temperature industrial incinerators or cement kilns with air pollution control is an option if there is a safe means of transportation;
- Incineration in a double-chamber incinerator or, if necessary, burning in a pit could be used during emergencies

For more information:



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Thank you for your attention!

