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Special Topic: Medical Waste Management



GEMS Environmental Compliance-
ESDM Training Series

Tanzania ▪ February, 2017

SESSION OBJECTIVES

- Review the different types of medical waste
- Sensitize to the risks of improper disposal
- Understand medical waste management procedures
- Discuss environmental compliance and safeguards for effective waste management



TWO MAJOR TYPES OF MEDICAL WASTE

- General solid waste
 - Similar to domestic waste
 - Includes paper, plastic, packaging, food prep
 - No patient contact
 - 75 – 90% of healthcare facility waste is hazardous
- Hazardous waste



HAZARDOUS WASTE

- Hazardous Waste includes:
 - Infectious waste (except sharps and waste from patients with highly infectious diseases)
 - Small quantities of chemicals and pharmaceuticals
 - Non-recyclable pressurized containers
- Highly Hazardous waste is a separate category



HIGHLY HAZARDOUS WASTE

- Highly Hazardous includes:
 - Sharps
 - Highly infectious non-sharp waste
 - Stools from cholera patients
 - Bodily fluids of patients with highly infectious diseases
 - Large quantities of expired or unwanted pharmaceuticals and hazardous chemicals and radioactive wastes
 - Genotoxic wastes (affecting genetic composition and multiple generations)
 - Teratogenic wastes (affecting development of the exposed individual)



WHAT ARE THE RISKS?

- Physical injury
 - Cuts, punctures (e.g., from sharps)
- Disease transmission
 - Greatest and most immediate threat
 - HIV/AIDS, hepatitis B & C
- Water supply contamination
 - Infectious stools or bodily fluids
- Chemical and toxic
 - Pharmaceuticals
 - Heavy metals (mercury, cadmium)



MANDATORY ENVIRONMENTAL REVIEW

- Reg. 216 applies!
 - Establishment or rehabilitation of health centers or clinics
 - Training or technical assistance to health care providers or institutions—”health system strengthening”
- Environmental analysis (EA or IEE) prepared to determine nature and extent of risks
- EA/IEE conditions specify mitigation and monitoring criteria for medical waste management
 - Segregation and disposal
 - Use of personal protective equipment (PPE); training



EFFECTIVE MEDICAL WASTE MANAGEMENT

- Segregation & Disposal: Non-hazardous solid waste
 - Treat same as “domestic waste”
 - Reduces waste quantity, cost, risk from and to scavengers and workers
 - Manage as close to point of generation as possible
 - Disposal options include landfilling, incineration
 - Do not incinerate plastic, PVC or packaging—incineration produces dioxins, furans etc.



EFFECTIVE MEDICAL WASTE MANAGEMENT

- Segregation & Disposal: Sharps
 - Use rigid, puncture- and leak-proof containers; ideally red
 - Marked as sharps
 - Monitored
 - Treatment and disposal options include:
 - Autoclaved/ sterilized/ encapsulated /incinerated (with no plastic products)
 - Properly disposed landfill, encapsulation



EFFECTIVE MEDICAL WASTE MANAGEMENT

- Segregation & Disposal:
Infectious Waste
 - Double bagged
 - Hard exterior container (can, plastic bucket) with a lid
 - Marked
 - Yellow/red packaging if possible



WASTES AND APPROPRIATE RECEPTACLES

Waste		Receptacle		
Category	Description	Type	Markings/features	Disposal
Hazardous	Non sharps infectious waste	Container, plastic bag or holder	Yellow/red Leak proof	
Highly hazardous	Body parts, contaminated gauze, feces	Container, plastic bag	Yellow/red, marked highly infectious Leak proof Suitable for autoclaving	Autoclaving Encapsulation Incineration Sterilization
Sharps	Sharps, needles, lancets	Sealable container	Puncture proof Marked Sharps Leak proof	Reuse Sterilization Autoclaving

TRAINING AND PLANNING

- Proper training of medical personnel and staff
 - Use of protective gear (PPE); gloves, masks, gumboots, etc.
 - Waste management requirements and procedures
- Medical Waste Management Plan
- Budgets and resources
 - Appropriate management and disposal techniques and costs
 - Transportation needs?
 - Human capacity
 - Environmental monitoring and reporting



RESOURCES: SECTOR ENV. GUIDELINES

- Provides “plain-language” guidance for sound design and management
- Identifies typical risks and impacts and recommends mitigation and monitoring approaches

