



# Special Topic: Medical Waste Management



GEMS Environmental Compliance-  
ESDM Training Series

Zimbabwe: May, 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.





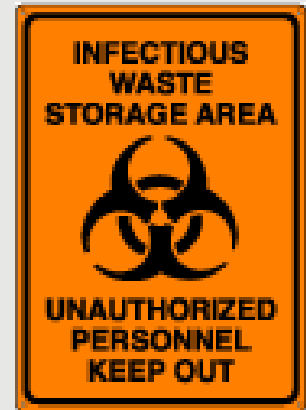
# EFFECTIVE MEDICAL WASTE MANAGEMENT

- 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 <b>Leak proof</b>	
Highly hazardous	Body parts, contaminated gauze, feces	Container, plastic bag	Yellow/red, marked highly infectious <b>Leak proof</b> Suitable for autoclaving	Autoclaving Encapsulation Incineration Sterilization
Sharps	Sharps, needles, lancets	Sealable container	<b>Puncture proof</b> Marked Sharps <b>Leak proof</b>	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

