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GLOBAL ENVIRONMENT FACILITY
INVESTING IN OUR PLANET

GLOBAL HEALTHCARE WASTE PROJECT

MODULE 1: Definition, Sources and Characteristics of Healthcare Waste



Module Overview

- Define healthcare waste
- Describe sources and examples of healthcare waste
- Describe general characteristics of healthcare waste

Learning Objectives

- Identify where wastes are generated in your facility
- Categorize the wastes into two general categories based on whether or not they pose a risk
- Describe general characteristics of the wastes

Definition of Healthcare Waste

What is healthcare waste?

- Total waste stream from major healthcare establishments and from minor scattered healthcare activities

General Types of Healthcare Waste

Healthcare waste can be

- **Non-hazardous general wastes** comparable to domestic waste (75-90% of healthcare waste in a health facility)
- **Potentially hazardous waste** or waste that is associated with some health risks (10-25% of healthcare waste in a health facility)



Sources of Healthcare Waste

- Hospitals
- Clinics
- Laboratories
- Research activities
- Nursing homes
- Acupuncturist
- Paramedic and ambulance services
- Animal research
- Blood banks
- Mortuaries
- Autopsy centers



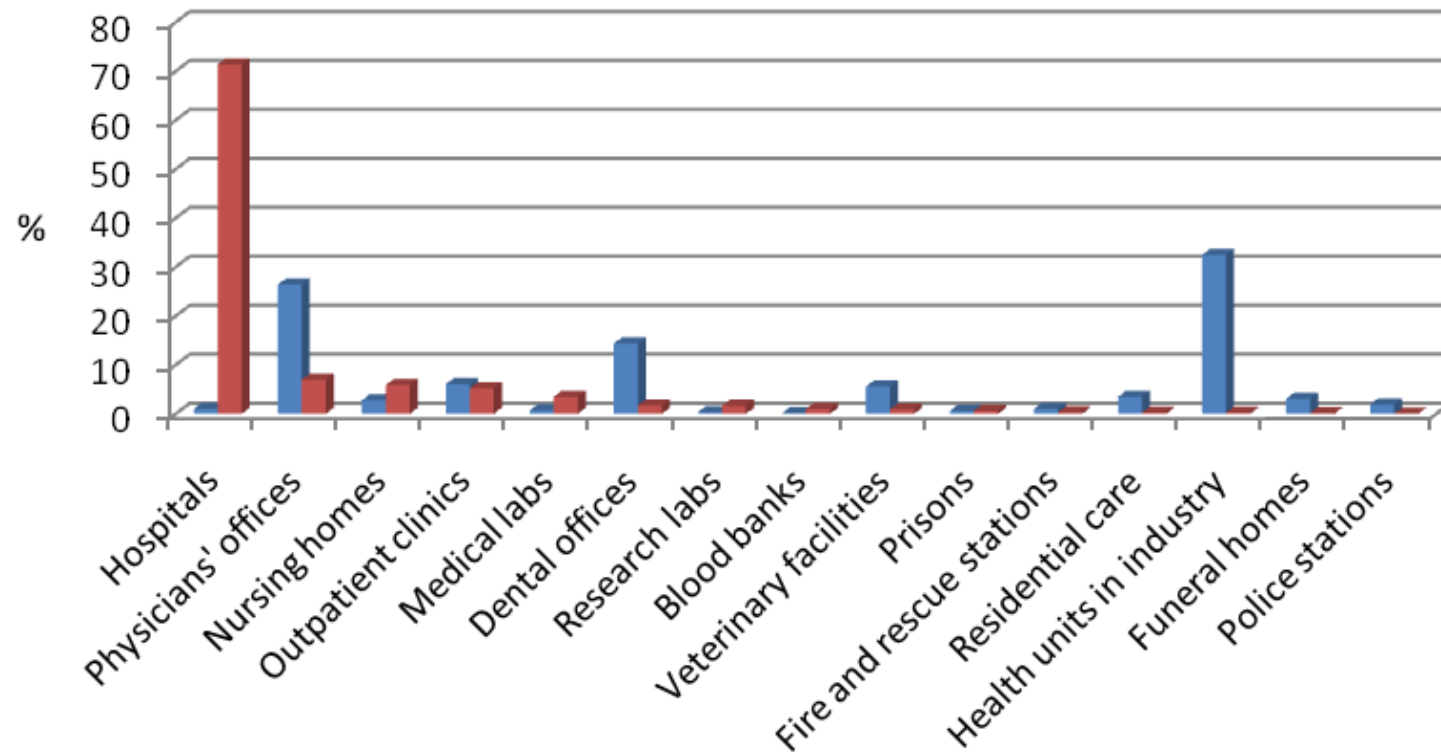
Other Sources of Healthcare Wastes

- Physicians' offices
- Dental clinics
- Chiropractors
- Psychiatric hospitals
- Cosmetic piercing and tattooing
- Institutions for disabled persons
- Funeral services
- Home healthcare



Which institutions generate the most amount of healthcare waste?

■ % of the total number of facilities ■ % of the total annual healthcare waste generated



Categories of Healthcare Waste

- Sharps waste
- Infectious waste
- Pathological waste
- Pharmaceutical or cytotoxic waste
- Chemical waste
- Radioactive waste
- Non-hazardous/general waste

Examples of Healthcare Waste

Department	Sharps	Infectious and pathological waste	Chemical, pharmaceutical and cytotoxic waste	Non-hazardous or general waste
Medical ward	Hypodermic needles, intravenous set needles; broken vials and ampoules	Dressings, bandages, gauze, and cotton contaminated with blood or body fluids; gloves and masks contaminated with blood or body fluids	Broken thermometers and blood pressure gauges; split medicines; spend disinfectants	Packaging, food scraps, paper, flowers, empty saline bottles, non-bloody diapers; non-bloody IV tubing and bags
Operating theatre	Needles, IV sets, scalpels, blades, saws	Blood and other body fluids; suction canisters; gowns, gloves, masks, gauze, and other waste contaminated with blood and body fluids; tissues, organs, fetuses, body parts	Spent disinfectants	Packaging, uncontaminated gowns, gloves, masks, hats and shoe covers
Laboratory	Needles; broken glass, Petri dishes, slides and cover slips; broken pipettes	Blood and body fluids; microbiological cultures and stocks; tissue; infected animal carcasses; tubes and containers contaminated with blood or body fluid	Fixatives; formalin; xylene, toluene, methanol, methylene chloride, and other solvents; broken lab thermometers	Packaging; paper, plastic containers
Pharmacy store	Broken bottles, broken thermometers		Expired drugs, Spilled drugs Empty containers	Packaging; paper, empty containers
Radiology			Silver; fixing and developing solutions; acetic acid; glutaraldehyde	Packaging, paper
Chemotherapy	Needles and syringes		Bulk chemotherapeutic waste; vials, gloves and other material contaminated with cytotoxic agents; contaminated excreta and urine. IV sets containing chemotherapy drugs are cytotoxic waste	Packaging, paper

Examples of Healthcare Waste

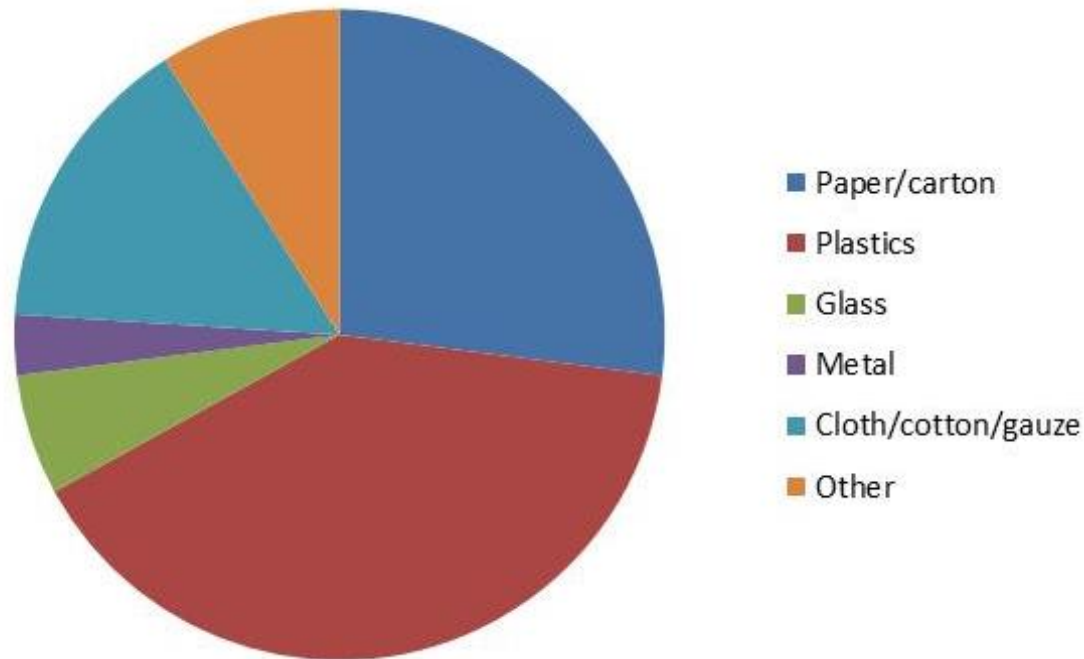
Department	Sharps	Infectious and pathological waste	Chemical, pharmaceutical and cytotoxic waste	Non-hazardous or general waste
Vaccination campaigns	Needles and syringes		Bulk vaccine waste; vials, gloves	Packaging
Cleaning Services	Broken glass		Disinfectants (glutaraldehyde, phenols, etc.), cleaners, spilled mercury, pesticides	Packaging, flowers, newspapers, magazines, cardboard, plastic and glass containers, yard waste
Engineering			Cleaning solvents, oils, lubricants, thinners, asbestos, broken mercury devices, batteries	Packaging, construction or demolition waste, wood, metal
Food services				Food scraps; plastic, metal and glass containers; packaging
Other sources:				
Physicians' offices	Needles and syringes, broken ampoules and vials	Cotton, gauze, dressing, gloves, masks and other materials contaminated with blood or other body fluids	Broken thermometers and blood pressure gauges; expired drugs; spent disinfectants	Packaging, office paper, newspapers, magazines, uncontaminated gloves and masks
Dental offices	Needles and syringes, broken ampoules	Cotton, gauze, gloves, masks and other materials contaminated with blood	Dental amalgam; spent disinfectants	Packaging, office paper, newspapers, magazines, uncontaminated gloves and masks
Home health care	Lancets and insulin injection needles	Bandages and other material contaminated with blood or other body fluids	Broken thermometers	Domestic waste

General Characteristics of Healthcare Waste

- Total waste generated in hospitals:
 - 2 - 4 kg per bed per day
- Infectious waste generated in hospitals with good segregation:
 - 0.2 - 0.4 kg per bed per day
- Average bulk density of healthcare waste:
 - About 100 - 200 kg per cubic meter

General Characteristics of Healthcare Waste

- Typical breakdown of material constituents in healthcare waste (excluding food)



Country-specific HCW Generation

Country-specific Sources and Other Characteristics

Discussion

- What do you consider as major or minor sources of healthcare wastes? Give some examples of healthcare wastes from these sources.
- How does your facility deal with the major categories of healthcare wastes (sharps, chemical, etc.)? Do you know of any interventions that can reduce exposure to healthcare wastes?
- Can you site some examples of mismanagement of wastes in your facility? If so, what can you do about this?