Protecting health and environment through sound management of healthcare waste

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Presentation structure

- What is health-care wastes?

- Composition of healthcare wastes

- Public Health and environmental impacts

- Who are at risk?

- Waste management hierarchy

- Status of healthcare waste management in WHO South-East Asia region

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What is Health-care waste ?

- Sharps waste
- Infectious wastes
- Pathological wastes
- Pharmaceutical wastes
- Cytotoxic wastes
- Chemical wastes
- Radioactive wastes

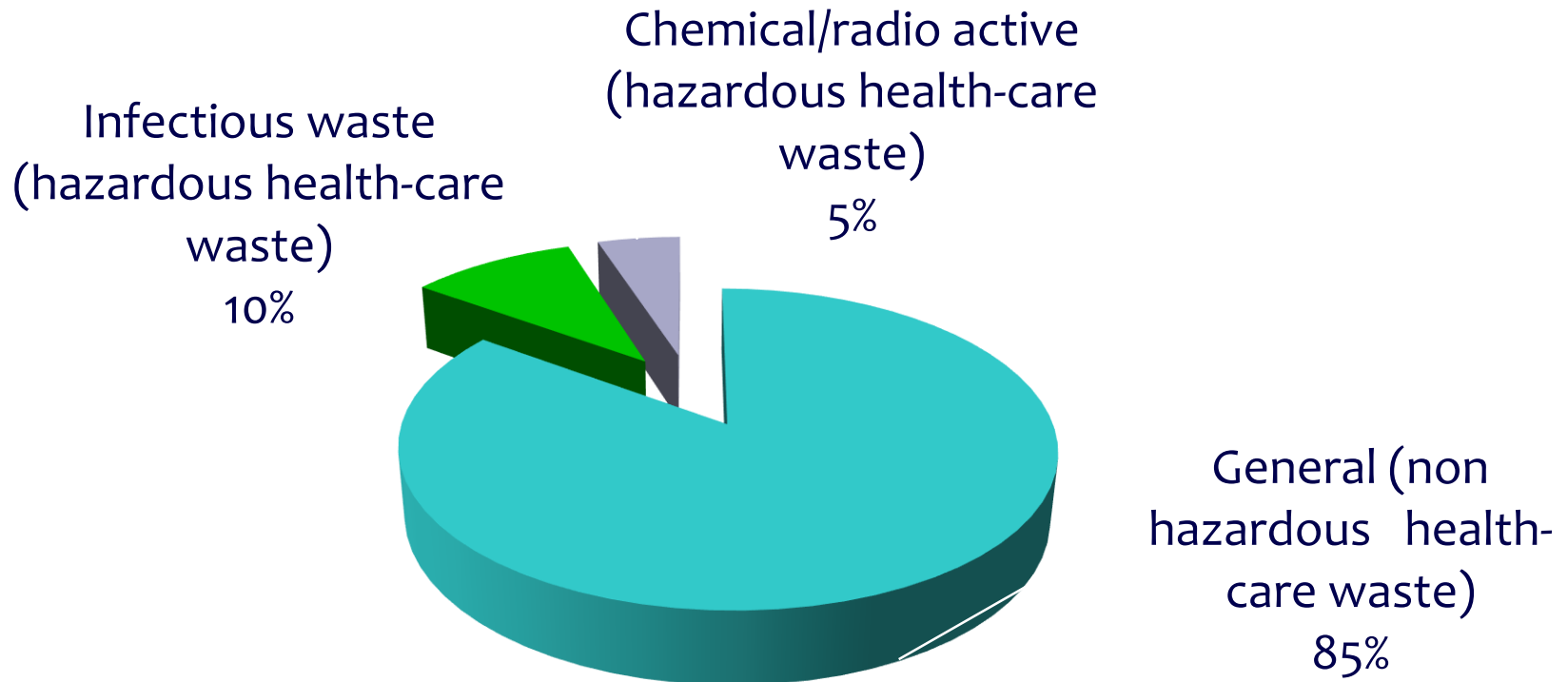Hazardous waste

- Paper, plastic, cardboard, food, etc

Non-hazardous or general waste

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Composition of healthcare wastes

Chemical/radio active (hazardous health-care waste)
5%

Infectious waste (hazardous health-care waste)
10%

General (non hazardous   health-care waste)
85%

Significant amount of wastes is recyclable or compostable

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Who are at risk?

- Patients
- Carers
- Health-care workers
- Waste handlers and scavengers
- Population living nearby

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Public health impacts

- In the year 2000, sharps injuries to health-care workers were estimated to have caused about 66 000 hepatitis B (HBV), 16 000 hepatitis C (HCV) and 200–5000 HIV infections among health-care workers (Prüss-Ustun et al., 2005)

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Public health impacts

- Outbreak of hepatitis B in a developing country in 2009 (60 lives lost) – blamed on the reuse of infection equipment (used needles and syringes were repackaged and sold)
- Waste piles can attract rodents, vectors and insects (spread infectious diseases)

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Environmental impacts

- Air pollution from burning of wastes
- Water and soil pollution from improper disposal of healthcare wastes

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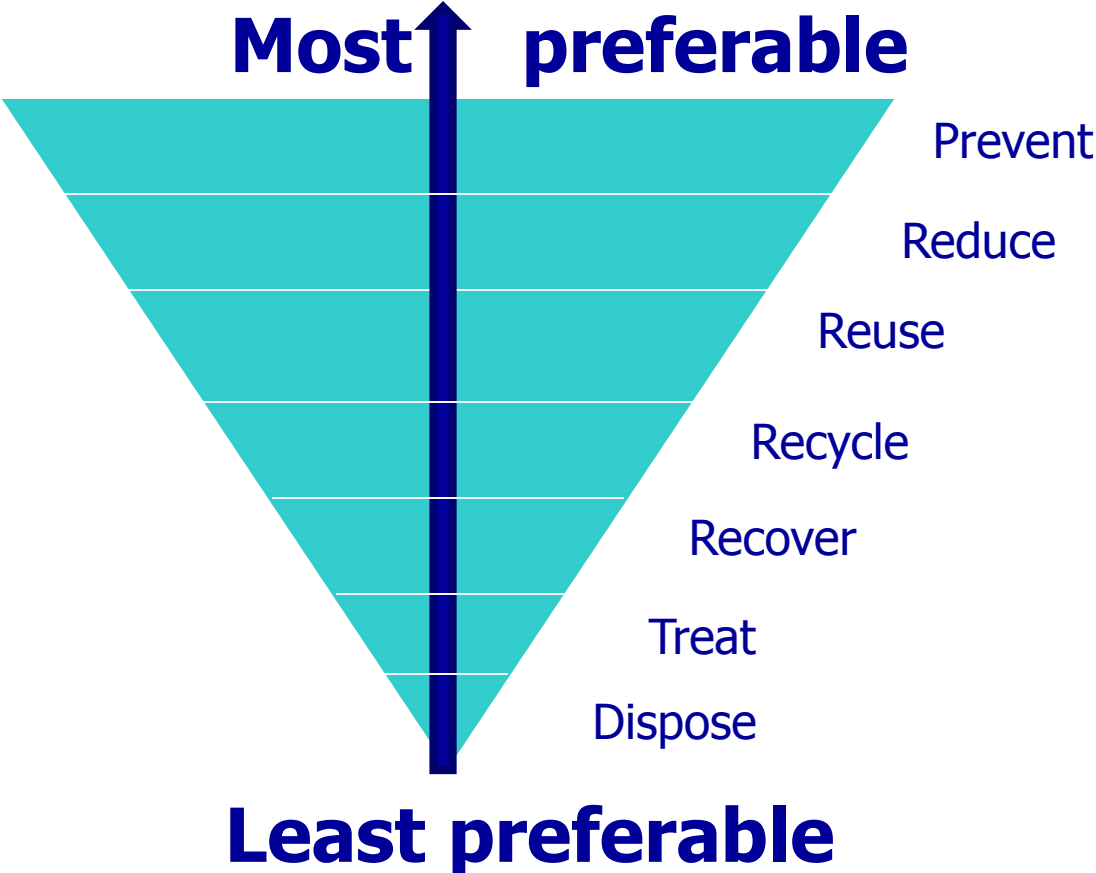
International agreements and conventions

- The Basel Convention (1989) – global environment treaty on hazardous and other wastes

- The Stockholm Convention (2001) – global treaty to protect human health and environment from persistent organic pollutants (POPs)

- The Environment and Sustainable Development conferences

9

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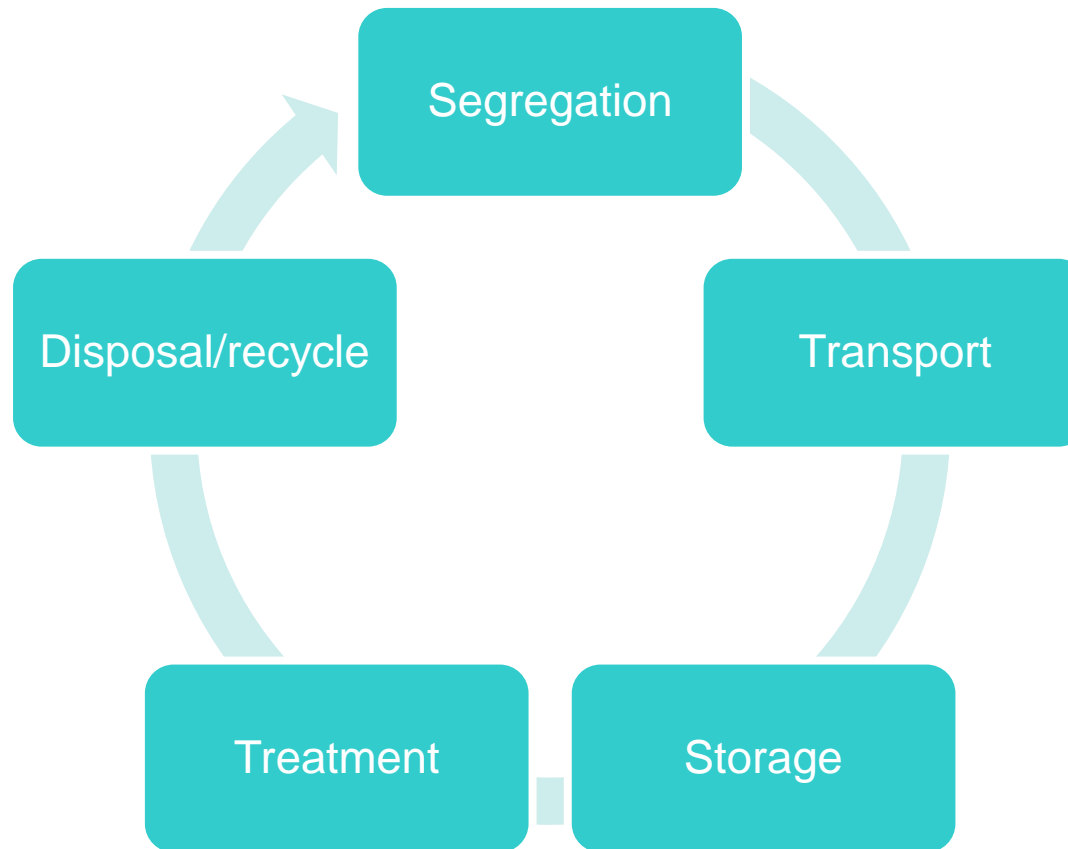
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Policies and legislations

- Healthcare waste management policy/legislation key for proper management of these wastes.

- Countries normally base their HCWM policy, legislation and guidelines development on five principles:

  - Polluters pay principle
  - Precautionary principle
  - Duty of care principle
  - Proximity principle
  - Priori informed consent principle

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The waste management hierarchy

Most ↑ preferable

Prevent

Reduce

Reuse

Recycle

Recover

Treat

Dispose

Least preferable

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Healthcare waste management system

Segregation

Transport

Storage

Treatment

Disposal/recycle

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Status of healthcare waste management

- Nine out of 11 countries in the WHO South-East Asia region have policies
- Ten countries have a national program on HCWM
- Four countries reported having separate budget allocation
- Nine countries carry out regular training

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Status of healthcare waste management

- Segregation of wastes at source varies from 30-100% in South-East Asian countries
- Seven countries have initiated phase out of Mercury based devices in healthcare facilities
- Open burning and incineration is still practiced in many countries
- Deep burial, encapsulation and autoclaving are some methods used for various types of wastes

Examples of "3Rs" in healthcare waste management

- Waste minimization – procuring products that are less wasteful
- Green procurement – products without excessive packaging or those that can be recycled
- Safe reuse – single use items must not be reused. Reusable items must be properly sterilized.
- Recycling and recovery – composting of food waste, recycling of blood bags and gloves after autoclaving

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Current initiatives – developing model HCWM

Countries taking up zero waste concept
– segregation at the point of generation
– Proper treatment and storage
– Recycling and reuse where possible
– Minimize wastes that go for landfilling
– Workers protection – personal protection equipment
– Proper documentation
– Enforcement of rules and SOPs

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Resources

- WHO guidance on safe management of wastes from health care activities
- Compendium of Technologies for Treatment/Destruction of Healthcare Waste (UNEP)
- Training modules in healthcare wastes (WHO)
- Regional distance learning programme on HCWM – IGNOU and WHO/SEARO

http://www.who.int/water_sanitation_health/facilities/waste/en/

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Thank you!!

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