



# The Involvement of Stakeholders in the Improvement of Healthcare Waste Management in Indonesia

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# BACKGROUND (1)

- Indonesia has 1292 hospitals and 7,609 health centres in 33 provinces (MOH,2007)
- The owners of hospitals are central government (19.57%), local governments (31.03%) and private sector (49.4%)



## BACKGROUND (2)

Why should healthcare waste be safely managed?

- Unsafe medical waste poses significant public health impacts since it is infectious, radioactive, toxic, genotoxic and flammable
- Safe management indicates quality of duty of care as healthcare facilities in providing comprehensive healthcare services



# Public Health Impact

- **Blood-borne diseases**
  - **Hepatitis B, Hepatitis C and HIV/AIDS**
- **Carcinogenic effects from PAHs (cancer and immune system effects)**
  - **Dioxins, Furans, and PCBs**
- **Subtle effects via food web and antibiotic resistance**
- **Genotoxic waste (by-products of cytotoxic drugs for chemotherapy and immunosuppressive agents)**



# OBJECTIVE OF THE STUDY

- To elicit relevant information on current healthcare waste management (HCWM) from key stakeholders:
  - ✓ Levels of awareness of HCWM
  - ✓ Regulations and policy
  - ✓ Role and responsibility
  - ✓ Practices of HCW hierarchy
  - ✓ Capability of hospitals and Community Health Centres
  - ✓ Waste treatment technology



## METHODS

- Review on several studies on HCWM and relevant legislations in Indonesia
- In-depth interview with relevant stakeholders
  - 10 hospital and 10 PHC managers in 5 provinces
  - Indonesian Hospital Association
  - Ministry of Health
  - State Ministry of Environment
  - National Nuclear Energy Agency



# RESULTS & DISCUSSION

## CURRENT STATUS OF HCWM (1)

### MoH (2000)

- Majority of hospitals treated their wastes with small-scale incinerators
- Lack of good practices

### Sasimartoyo (2004)

- *44.7% hospitals and majority of health centres have not properly managed their wastes ()*
- *Only 60% hospitals have sanitation/env. health unit*
- *Almost 50% studied hospitals did not implement proper waste management hierarchy*
- *Lack of stakeholder's awareness and good practices*



## CURRENT STATUS OF HCWM (2)

- On-site management
  - ✓ 43.76% hospitals have waste management plans
  - ✓ 55.30% hospitals segregate their wastes into 2 and more
  - ✓ Majority of waste treatment is incineration
  - ✓ Unsafe practices of liquid waste: lack of appropriate waste treatment facilities
  - ✓ Majority of healthcare facilities are not familiar with HCW segregation system
  - ✓ Lack of personal protective equipment in all studied hospitals
  - ✓ Lack of standard operating procedures on HCWM and infection control
  - ✓ Lack of capacity building, training, and awareness programmes



# Example of bins of medical and non medical wastes

Medical waste

SAMPAH  
MEDIS

Non medical waste

SAMPAH  
NON MEDIS



Mix of sharps and non sharp wastes





Medical wastewater and solid medical waste in a laboratory

**SAMPAH MEDIS**



# Scattered safety boxes

Non secured  
safety boxes





General waste at temporary storage of a B class hospital





Sanitation staff are weighing medical waste at temporary waste storage at a B class hospital





# Emergency room in a district hospital





# An incinerator at a hospital





## CURRENT STATUS OF HCWM <sup>(3)</sup>

- Conservation and Management of the Environment Act No. 32/2009
- Solid Waste Management Act No. 18/2008
- Government Regulation No 85/1999 (Hazardous Waste Management)
- Government Regulation No. 27/1999 (Radiactive Waste Management)
- Health Ministerial Decree No. 1204/2004
- Environment Ministerial Decree No. 58/1995



## CURRENT STATUS OF HCWM <sup>(4)</sup>

In-depth interview

- Lack of clear regulations and policies
- Lack of commitment of stakeholders
- Limited resources
- Lack of awareness of safe HCWM
- Lack of strong leadership in HCWM
- Lack of comprehensive/integrated planning within healthcare institutions



## CURRENT STATUS OF HCWM (5)

Perceptions on safe HCWM in hospitals and PHCs

- HCWM is only responsibility of sanitation unit
- All healthcare facilities rely on related governments to provide sufficient budget
- Insufficient regulations and policies
- Lack of appropriate technologies to choose from
- Lack of socialisation of existing regulations and policies
- Lack of coordination and partnership



# Proposed Role of key stakeholders <sup>(1)</sup>

- **Ministry of Health**

- ✓ **Formulating HCW policy and legislations along with Ministry of Environment**
- ✓ **Providing guidelines on safe HCWM based on Solid Waste Management Act 18/2008, Government regulation 85/1999 and WHO guidelines**
- ✓ **Providing regular capacity building, training and awareness programmes**
- ✓ **Establishing a national taskforce on HCWM**
- ✓ **Providing appropriate technologies**
- ✓ **Assessing appropriate waste treatment technologies**
- ✓ **Establishing surveillance system on HCW related diseases & injuries**
- ✓ **Establishing HCWM monitoring and evaluation system**
- ✓ **Conducting HCWM research and development**



## Proposed Roles of key stakeholders <sup>(2)</sup>

- Ministry of Environment
  - ✓ Formulating regulations and policy along with MoH
  - ✓ Assessing application and certification of the use of incinerators
  - ✓ Providing waste related emission standards
  - ✓ Coordinating regular meetings among stakeholders to update environmental risks and hazards
  - ✓ Providing technical support for environmental audit and remediation



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## Proposed Roles of key stakeholders <sup>(4)</sup>

- National Nuclear Energy Agency
  - ✓ Formulating regulations and policy on radioactive waste management
  - ✓ Providing guidelines for radioactive waste management
  - ✓ Leading in socialisation of available regulations, policy and guidelines for radioactive waste management
  - ✓ Involve in national partnership



# Proposed Roles of key stakeholders <sup>(5)</sup>

- Healthcare Facilities

- ✓ Developing internal policy on safe and sustainable HCWM
- ✓ Developing integrated plans on HCWM and other programmes within healthcare facilities
- ✓ Assigning clear HCWM
- ✓ Raise awareness of staff in complying with policy on waste management based on waste management hierarchy
- ✓ Conduct periodic induction trainings for new staff and update for existing staff
- ✓ Monitor and evaluate HCWM activities and their impact



## CHALLENGES

- Developing clear policy framework would be a challenge for sustainable HCWM
- Developing integrated programmes within healthcare facilities to reduce medical waste related diseases and injuries (such as introducing health promoting hospital)



## CONCLUSION (1)

- Indonesia has faced environmental problems since the neglect of safe HCWM
- Majority of hospitals do not manage their waste properly
- Clear policy framework would be effective in determining and implementing clear roles and responsibilities of concerned stakeholders at all levels



## CONCLUSION (2)

- Empowering healthcare personnel in HCWM and prevention of blood-borne infections through health promoting hospital would be cost-effective
- Leadership at all levels will be a prerequisite of safe HCWM



THANK YOU