

# Working on Medical Waste - Incinerators are out, autoclaves are in



The World Health Organization (WHO) estimated that, in 2000, injections with contaminated syringes caused 21 million hepatitis B virus infections (32% of all new infections), two million hepatitis C infections (40% of all new infections) and 260,000 HIV infections (5% of all new infections)

WHO 2004



**FHI Signs MOU with Health Care Without Harm**

FHI is partnering with Health Care Without Harm (HCWH), one of the world's leading medical waste organizations, to improve medical waste management in developing countries.

FHI is committed to promoting measures that enhance human health and protect the environment. In response to the growing concern regarding poor handling of medical waste FHI is working to promote awareness of the issues and encouraging partners, donors, health providers and governments to improve medical waste management practices.

[www.noharm.org](http://www.noharm.org)

**Background >>** Health care services generate millions of tons of medical waste each year including hazardous (syringes, needles, sharps, pathology specimens etc) and non hazardous waste. In many developing countries medical waste is poorly managed with minimal segregation, poor handling and disposal through the municipal waste system or low temperature incineration. Scavenging by wastepickers for resale and re-use is a major problem. Low temperature incineration releases dioxins, mercury, cadmium and other toxic substances. In 2004 the Stockholm Convention on Persisting Organic Pollutants recommended the phasing out of incineration technology (old technology) and the phasing in of non-incineration technologies such as autoclaves (new technology). In the USA medical waste incinerators have been closed down over the past ten years. In developing countries, old technology is still being funded by aid programs and installed.



Autoclaves are new technology Disinfected and shredded syringes

## Centralized Medical Waste Management (MWM) for Urban Centers

Each hospital, laboratory and clinic does not need its own MWM facility. The most efficient MWM systems for large urban centres are based on a central industrial autoclave MWM facility, often operated by commercial companies under contract to the Government. Trucks can collect medical waste from hospitals, laboratories and clinics and take them to the MWM facility. In smaller communities, it may still be more cost effective to set up one central MWM facility with collection of MWM from other clinics and laboratories.

## Conducting a Medical Waste Assessment and Planning Program

Medical waste management can be incorporated under broad public health programs (HIV, MCH, FP, HSS etc). One of the initial steps is often a facility-level MWM assessment. Steps include:

- **Practice:** Assess current practices of waste management from generation to disposal:
  - » Types of waste generated
  - » Current waste management practices – segregation, storage, treatment, disposal
  - » Personnel handling medical waste - knowledge and skills, equipment and protective clothing
- **Quantities:** Determine quantities of medical waste generated
- **Technology:** Develop recommendations re non-incineration technology, siting of facilities and disposal sites



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## Our Experience

FHI's experience with medical waste management (MWM): Linked to our public health and research programs we are part of many MWM projects across the globe. In particular over the past five years:

**Nepal:** FHI, with support from HCWH, conducted MWM assessments of 13 representative health delivery centers in the far west, central and eastern Terai and Kathmandu. Results are being used to improve MWM systems in those centers.

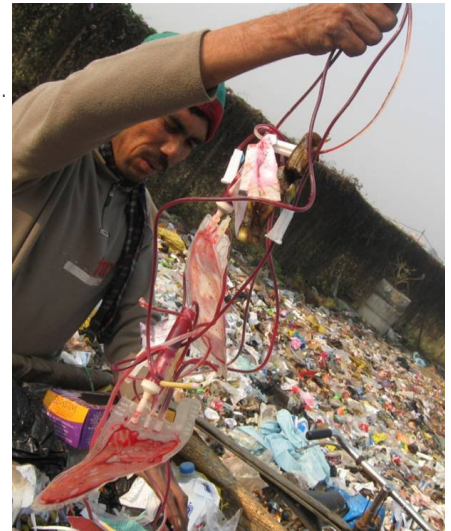
**Bangladesh:** conducted MWM assessments of 5 HIV patient services health facilities. Results are being used to upgrade MWM systems.

**Uganda:** supported MOH collaborating health centers with local maintenance incinerators as well as trained community and facility-based health workers in MWM.

**Senegal:** supported the MOH and the Dept. of the Environment to implement a new MWM system from segregation of waste through collection, transportation and disposal by non-incineration methods.

**Rwanda:** renovated MWM systems at 74 district hospitals and primary health care centers improving practices including better segregation of waste, use of appropriate waste containers and adoptions of MWM standards.

**Kenya:** conducted a MWM formative assessment in HIV counselling and testing centers of HIV/AIDS waste disposal practices that led to the adoption of better disposal systems.



## Next Steps

FHI is seeking to promote improved MWM practices as part of our research and public health program activities through:

- Raising MWM as a topic of concern in discussions with donors, partners and host governments
- Encouraging our donors to include MWM improvements in their budgets
- Performing MWM assessments of FHI-supported facilities
- Training staff in how to perform MWM assessments
- Helping to upgrade FHI-supported health facilities
- Hosting seminars on MWM and disseminating information on MWM practices

**Zambia:** supported 295 health facilities in 40 districts and 5 provinces to implement an environmental mitigation and monitoring plan as part of the public sector HIV/AIDS service delivery support program. This included environmental assessments, refurbishment of facilities to include more environmentally friendly MWM systems, improving water treatment systems, and appropriate segregation and destruction of infected waste.

**Mozambique:** as part of the HIV/AIDS health services delivery program constructed incinerators and disposal pits at 31 health centers.

**Nigeria:** as part of the JSI/Making Medical Injection Safer, FHI is providing training on injection safety and proper handling and disposal of used syringes and other medical waste at 69 FHI supported health facilities in Anambra, Edo, Lagos, Kano, Cross River and the FCT. In addition, FHI Nigeria adopted a holistic approach to MWM by consolidating the current healthcare waste management and injection safety initiatives for HIV/AIDS into a feasible integrated HCW strategy that goes beyond an emphasis on handling sharps to managing all wastes from the service delivery points. Activities have included:

- Reducing the amount of high risk waste needing disposal through proper segregation
- Use of appropriate and most affordable and environmentally friendly disposal technology
- Adequate protection of health workers and waste handlers
- Integration of proactive waste management into routine service management
- Introduction of waste management information into the integrated supportive supervision checklist for primary healthcare centers. This checklist has been adopted as the national standard for primary healthcare facilities in Nigeria.



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