

AIDSTAR-One FACT SHEET

Health Care Waste Management in Uganda

Background

Health service delivery in Uganda is decentralized and administered through 11 districts, 254 health sub-districts, and over 3,000 health units. These service delivery areas generate health care waste that contributes to the spread of some infectious communicable diseases, which, according to the Ministry of Health's health management information system data, accounts for 60 to 80 percent of the disease burden in Uganda.

According to 2006 Ministry of Health estimates, HIV prevalence in the country is estimated to be 6.7 percent and the prevalence of hepatitis B is 10 percent. Actual regional prevalence of either, however, will vary depending on the type of health care facilities in the area, existing public health practices, and the clients served at each location.

Unsafe health care waste management poses risks to health workers, patients, communities, and the environment. Transmission of HIV and hepatitis B in the health care setting can occur through unsafe handling of sharps, including needle stick injuries, and health care waste-related exposure to blood. Patients, health workers, and the surrounding community are all at risk of infection from unsafe injections and improper health care waste management (HCWM) practices.

According to research conducted by the World Health Organization and other organizations, unsafe injection use contributes significantly to new cases of HIV (5 percent), hepatitis B (30 percent) and hepatitis C (40 percent) globally.

In 2010, a health facility assessment was conducted jointly by the Ministry of Health and the AIDSTAR-One project in 99 health facilities, including 12 hospitals, 17 level IV health centers, 43 level III health centers, and 24 level II health centers throughout 18 districts. The findings of the assessment showed that on average, each hospital generates 92 kg of waste per day, 40 percent of which is hazardous. A level IV health center generates 42 kg of waste daily, while level III and II health centers generate 25 kg and 20 kg per day, respectively. Overall, a significant proportion of waste generated in the health sector is considered hazardous. Very few of these facilities have acceptable methods of final waste disposal; open burning is widely accepted. Although larger facilities have incinerators to reduce the volume of waste, the majority do not achieve recommended temperature and smoke emission requirements.

Other findings revealed that waste is not segregated, making its management unnecessarily expensive, and also revealed that there is a widespread lack of waste management commodities, posing risks of exposure and subsequent transmission of infections.

In the recent past, Ministry of Health area supervision teams found that district warehouses and health facilities throughout the country were storing an average of five tons of expired drugs/medicines and other pharmaceutical products. There is a real risk that these products stored in areas accessible to the public can be retrieved for improper use.

These findings clearly show that the current HCWM system in Uganda is inadequate. Practices observed do not ensure occupational and public health safety, which calls for urgent intervention. This situation is aggravated by the fact that resources allocated to HCWM continue to be less than optimal.

Definition of health care waste

Health care waste is defined as all waste generated during medical activities. It includes two major categories of waste: hazardous (with potential to cause harm) and non-hazardous (with less potential to cause harm).

Types of hazardous waste

There are several types of hazardous waste that need to be managed appropriately to avoid risks of endangering health workers, patients, communities, and the environment. These include:

- **Sharps waste:** materials that can puncture skin, such as needles, blades, and broken glass.
- **Infectious waste:** contains agents that are infectious to humans and animals.
- **Highly infectious waste:** contains significantly high numbers of infectious agents.
- **Pathological waste:** includes body organs that are removed from the body because they are diseased, and tissue as well as blood and other body fluids

that are removed from the body for lab tests to determine the underlying cause of disease.

- **Anatomical waste:** comprises recognizable body parts such as limbs (e.g., legs, fingers) that have been cut off for a medical reason.
- **Pharmaceutical waste:** includes all active agents and chemicals meant for prevention, treatment, and diagnosis of diseases among humans and other animals. Examples include expired medicines, condoms, lab reagents, and banned medicines.
- **Radioactive waste:** includes all liquids, gases, and solids contaminated with ionizing radiations, which can affect human genes.
- **Effluents:** fluids generated from medical services, such as washing equipment used on patients, or waste water from washing linens used during labor.
- **Heavy metals:** mercury, silver, and other metals used in the health sector; these metals can be toxic, corrosive, flammable, reactive, explosive, shock sensitive, or even damaging to human genes.
- **Metal scrap:** includes all metals that are deemed to be of no further use to the health facility, such as surgical forceps, scissors, needle holders, and scalpels.

Status of health care waste in Uganda

The following major problems have been identified with health care waste:

- **Technical problems:** lack of equipment for proper handling, transportation, and treatment of waste; and poor infrastructure and inadequate procurement procedures for waste handling services.

- **Environmental and public health problems:** most health care waste is disposed of in waste dumps which represents risks to the environment (contamination of land and groundwater as well as risk to public health).
- **Occupational health problems:** when health staff and waste handlers lack adequate equipment, education, training, and awareness.
- **Institutional and legislative problems:** inadequate funding due to the lack of detailed legislation and an institutional framework for management of health care waste.
- At the national level, a health care management or steering committee is set up to coordinate and monitor implementation and promote nationwide improvements in HCWM.
- At the district level, the health team is responsible for waste management, and the District Health Office appoints members of the district health team to be responsible for monitoring HCWM in the district.
- At the health facility level, the infection control committee is responsible for HCWM, with a senior member of the facility made responsible for waste management.

How to improve health care waste management practices in Uganda

To improve management of health care waste it is important to address the following key elements:

- **Effective waste reduction and segregation.**
- **Establishment of a comprehensive system that defines clear roles and responsibilities, resource allocation, handling, and disposal.**
- **Awareness raising and training about the risks of health care waste and the proper means of handling, treatment, and disposal.**
- **Establishment of safe handling, transporting, treatment, and disposal options.**

Organizational structure for the health care system

The organizational structure for establishing and running the HCWM system is as much as possible accommodated within the existing management for health sector systems.

- Partnering with the private sector in a public-private partnership model to support government efforts on HCWM helps in rapidly increasing investment in this area. In addition, health managers are relieved of this burden and quality waste management services become accessible to health facilities at an affordable fee.

Roles and responsibilities

National health teams

- Put in place favorable policies and guidelines to ensure safe and appropriate waste management practices
- Incorporate waste management commodities in existing essential medicines and supplies lists
- Provide technical supportive supervision
- Mobilize resources.

District health teams

- Create awareness on the need to use centralized, clean methods of waste disposal

- Identify minimal funds that can be used for health care waste handling services
- Supervise compliance with best standards in HCWM (both health workers and waste handling companies)
- Help private investors identify temporary waste storage facilities in each district
- Provide timely feedback on how HCWM systems can be improved.

District leaders

- Build awareness on the dangers of health care waste and the need for proper disposal
- Supervise the management/handling of health care waste at health facilities through management committees
- Advocate for increased allocation of district financial resources to support the management of health care waste at health facilities
- Promote the benefits of the public-private partnership model for providing best, affordable, and sustainable alternatives for managing health care waste.

Health facility workers

- Segregate waste at the source according to recommended best practices
- Use proper protective gear to avoid exposure
- Put in place systems for proper management of exposure when it occurs.

Conclusion

At the current level of effort and within existing strategies, it will take some time to achieve safe final health care waste disposal methods for the majority of health facilities.

Despite these challenges, it is anticipated that, in the long run, health workers will benefit and, with the application of the public-private partnership model, will work towards improving HCWM practices in the country.

For more information, contact:

Dr. Victoria Masembe, Country Director
John Snow, Inc., AIDSTAR-One Uganda
Tel: + 256 414 221 581
email: vmasembe@mmis.co.ug