Formative Assessment of Family Planning and HIV/AIDS Waste Disposal Practices in Kenya

KEY POINTS

Considerations for medical waste disposal should be an integral element of reproductive health programs and services, including family planning and HIV/AIDS prevention and care.

Current medical waste disposal policies and the regulatory framework for general waste disposal need to be strengthened along with dissemination and enforcement of waste disposal guidelines.

The training curricula of service providers need to be updated in order to prepare health care workers for their role in medical waste management.

Summary

A formative assessment of waste disposal practices of family planning and HIV/AIDS services in Kenya was conducted to identify the needs of and opportunities for health facilities and communities to dispose of infectious and other hazardous wastes appropriately. The assessment consisted of a desk review, two stakeholder workshops and a field assessment including targeted observations and key informant interviews in Nairobi, Mombasa, Nakuru and Naivasha. Findings suggest that current waste disposal policies and practices need to be improved and medical waste disposal, including financial support, policy development, training and program management, should be an integral element of reproductive health services, such as family planning and HIV/AIDS prevention and care.

BACKGROUND

The unsafe disposal of used condoms, hypodermic syringes, needles, hormonal preparations, expired medicines, and sanitary towels poses serious health risks to people and the environment. These risks include infections with HIV, hepatitis, sexually transmitted infections (STIs), and other diseases transmitted via body fluids or environmental pollution. According to a World Health Organization *Situation Analysis Regarding Health-Care Waste*,[1] such risks are greatest among health care workers, waste handlers, scavengers retrieving items from dumpsites, people receiving injections with previously used needles or syringes, and children who may come into contact with contaminates by playing in areas without restricted access to waste disposal sites. The WHO report also cites "data taken from health care settings" indicating that "a person receiving one needle stick injury from a contaminated sharp used on an infected patient has a probability of 30%, 1.8%, and 0.3% of being infected by Hepatitis B, Hepatitis C and HIV, respectively."[2]

In Kenya, the 1999 Service Provision Assessment investigated the disposal of medical wastes at facilities throughout the country including hospitals, maternity/nursing homes, health centers, dispensaries, and clinics. Disposal practices for syringes varied at the facilities: approximately 40% burned syringes, about 25% buried sharps in a special pit, while a third of the 388 facilities survey discarded syringes in a pit latrine or ordinary trash.[3] Infectious waste also includes used condoms and materials that have come in contact with blood such as bandages and used sanitary towels. Although these wastes are considered less hazardous than used needles and syringes, they nevertheless constitute waste that must be safely handled, treated and disposed.

Over the past 3 years, public sector procurement of the male condom has grown almost threefold in Kenya from 50 million to 150 million pieces per year. During the same period, public sector procurement of injectable contraceptives has increased by a factor of six, from 1 to 6 million doses, while procurement of the female condom has increased from fewer than 1,000 to over 200,000 per year.[4] Such sharp increases in procurement suggest an increased utilization of these contraceptive methods and a commensurate increase in the generation of wastes from family planning services.

In addition, the number of voluntary counseling and testing (VCT) sites in Kenya has increased from less than 10 to more than 500

over the past 5 years,[5] while the locus of long-term care for persons living with HIV/AIDS has moved from the hospital to the community and household levels. These changes in the delivery of HIV/AIDS prevention and care services imply subsequent shifts in the generation and disposal of hazardous wastes at both the household and facility levels.

Overwhelmed and deteriorating municipal waste disposal services, frequent breakdown of health centers' waste disposal equipment due to financial constraints or inappropriate design, and a rise in unregulated healthcare service provision especially at urban communities are also shaping the disposal of hazardous healthcare wastes at both the household and facility levels in Kenya.

ASSESSMENT OBJECTIVES

In order to identify the needs of and opportunities for health facilities and communities to dispose of infectious and other hazardous wastes appropriately, Family Health International (FHI) with support from the United States Agency for International Development (USAID) undertook a formative assessment of family planning and HIV/AIDS services' medical waste disposal practices and their environmental impact in Kenya. Specifically, the objectives of this assessment were to:

- Document and assess the status of the disposal practice of the waste materials from family planning and HIV/AIDS services at service provision and community levels;
- Identify strengths and gaps in the quality of medical waste disposal practices at service provision and community levels;
- Assess attitudes of key stakeholders regarding how the above waste disposal practices have affected the acquisition of diseases transmitted through bodily fluids, and any associated environmental impact;
- Identify opportunities for and barriers to improved healthcare waste disposal practices in Kenya; and
- Use the assessment findings to inform programmatic and policy improvements in waste disposal practices, and to identify research questions for further investigation.

PROCESS / METHODOLOGY

To achieve these objectives, the assessment team conducted a desk review, facilitated two stakeholder workshops and implemented a field assessment including targeted observations and interviews with key informants.

The desk review examined published and unpublished literature on medical waste disposal practices and the public health impact of these practices, especially with respect to family planning and HIV/AIDS service delivery.

The assessment team conducted interviews with key informants from governmental and non-governmental, private sector and community based institutions working in the FP, HIV/AIDS and/or waste management arenas. In addition, the team carried out observations at waste collection/disposal sites, sewage treatment sites and health facilities in order to document current waste disposal practices. Sites for this field work included Nairobi, Mombasa, Nakuru and Naivasha.

Throughout the assessment process, key stakeholders in healthcare waste management were integrally involved in identifying priority areas for the assessment, interpreting findings and making suggestions on the way forward during 2 stakeholder workshops.

FINDINGS

Medical waste includes any waste, which is generated by the diagnosis, promotion of health,

prevention of disease or treatment of human beings.[6] These medical wastes include all the waste generated by health care establishments, research facilities, laboratories as well as that produced in the course of health care activities undertaken in the home and community.

Although several health care establishments may have some form of written internal instructions or procedures for the management of medical waste, the existence of such instructions does not ensure that medical waste disposal systems are effective or guidelines consistently implemented. A study by the Ministry of Health in Bondo and Kiambu districts found that only a minority (20%) of health care workers followed recommendations to incinerate or use sealed safety boxes for disposal of injection wastes, while even fewer (10%) segregated injection wastes from other health care or clinical wastes.[7] In addition, key clinical informants perceived a need for further training on safe disposal of injection supplies.

At the household and community levels, no guidelines on disposal of infectious materials such as sanitary towels and tampons exist. Inadequate segregation of waste, lack of domestic level infection control and deteriorating municipal waste collection services were common features of many of the communities visited during the assessment. Frequently, community groups and individuals have set up dumping sites near or within their residential areas, and the incomplete combustion of waste is common at these sites.

Further findings on disposal practices and associated risks/concerns for general waste, condoms, sharps, used medical supplies and sanitary materials are summarized in Table #1.

Table 1: Findings from the Field Assessment

Waste	Disposal Practices	Risks/Concerns
General Waste	• Collected by municipal or private firms and disposed at designated municipal or illegal dumping sites • Disposed in the open within the community • Dumped into the nearby roadsides and rivers	• Risk of infections and diseases • Use of polythene bags • No storage or collection points within communities • No waste collection systems in low-income areas • Inadequate waste disposal licensing regulations
Condoms	• Via solid waste • Pit latrines • Toilets	• Exposure of Children • Unsightly and nuisance at community level • Risks of disease acquisition • No disposal guidelines provided • Blockage of Sewage system
Sharps & Used Medical Supplies	• Incinerated, disposed in pits or in the open • Collected by specialized firms • Mixed with general waste	• Risk of infections at community level • Exposure of garbage workers to infection
Sanitary Materials	• Collected by specialized firms • Collected and burned in an on site incinerator • Concealed and disposed via pit latrines • Concealed and disposed with general garbage • Left discarded inside rooms in lodgings	• Inadequate protective gear for cleaners • Blockages of toilet drains when flashed • No posters to inform clients on proper disposal • No disposal bins for some lodges visited

CONCLUSIONS

- Assessment findings indicate that current medical waste disposal policies and the regulatory framework for general waste disposal are inadequate.
- Dissemination and enforcement of waste disposal guidelines need to be strengthened.
- Stakeholders observed that disposal of medical wastes has not been given the recognition it deserves in terms of budgetary allocation and regulatory measures.
- Disposal of medical waste, including financial support, policy development, and program management, should be an integral element of reproductive health services, such as HIV/AIDS prevention and care and family planning programs.
- The training curricula of service providers need to be updated in order to prepare health care workers for their role in medical waste management Public education and the socialization of community members to protect the environment and dispose of waste appropriately should be given greater attention.
- Rigorous studies to identify and evaluate effective medical waste disposal policies and service models and to understand community attitudes, behavior and practices regarding medical waste are necessary in order to ensure the affordability and effectiveness of any proposed waste disposal programs and to be certain that low-income households and communities are not excluded from waste disposal service provision.

REFERENCES

1. Batterman, S. 2004. Findings on an Assessment of Small-scale Incinerators for Health-care Waste. World Health Organization: Water, Sanitation and Health Protection of the Human Environment.
2. Simonson L, A Kane, J Lloyd, M Zaffran, M Kane. 1999. Unsafe injections in the developing world and transmission of bloodborne pathogens: a review. *Bull of the World Health Organization*. 77(10):789-800.
3. Ministry of Health (MOH), National Council for Population and Development (NCPD), ORC Macro. 2000. *Kenya Service Provision Assessment Survey 1999.* Calverton, Maryland: MOH, NCPD, ORC Macro.
4. Central Bureau of Statistics (CBS), Ministry of Health (MOH), and ORC Macro. 2004. *Kenya Demographic and Health Survey 2003.* Calverton, Maryland: CBS, MOH, ORC Macro.
5. Family Health International (FHI), Ministry of Health (MOH). *Country assessment: Kenya. Family Planning Needs in the Context of the HIV/AIDS Epidemic*. October 2004.

This work was supported by the U.S. Agency for International Development (USAID). The contents do not necessarily reflect USAID views and policy.