



# Assistance to Health Systems Expansion in Ethiopia

## Improving Health Care Delivery in Five Regions of Ethiopia: A Secondary Data Analysis of Waste Management Practices and Innovations to Improve Quality of Care

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### Background

The management of health care waste with an aim of controlling and reducing nosocomial infections (health-facility-acquired infections) and ensuring that the health facility and the public are well protected is of paramount importance. Health care waste management should be part of the overall management system of a health care facility and reflect the quality of the services that a facility provides.

A study on medical waste in five health care institutions in Abuja showed that the institutions practice waste handling poorly [1]. Another study on health care waste generation in Dar es-Salam in 1995–1996 revealed that most health workers lack knowledge of and interest in safe waste disposal [2,3,4].

In Ethiopia, health care waste management is similarly deficient. In terms of health indicators, Ethiopia ranks below other underdeveloped countries, including those in Sub-Saharan Africa. Most diseases affecting Ethiopians are preventable infections and attributed largely to substandard hygienic and sanitary practices. Inadequate waste management practices in health facilities lead to high risk of

infectious disease transmission and environmental risks through release of harmful chemicals into the environment [6,7]. A study of 10 health centers in a district of Ethiopia's Amhara Region showed that all of the centers use plastic buckets without covers for hazardous waste collection, and only six use safety boxes for sharp wastes [2].

USAID's Assistance to Health Systems Expansion Project in Ethiopia conducted a secondary descriptive data analysis, drawn from a structural health facility study that the project conducted in June 2011 in the five most populous regions of Ethiopia, to identify current gaps in health care waste management practices [8].

Following the gap analysis, the project implemented an activity to address problems in health care waste management [9]. The activity had three components: **1)** delivery of a tailored health care waste management training program for 76 health professionals, **2)** delivery of infection prevention kits, and **3)** production of a self-help DVD for setting standards and safe practices of health care waste management [9].

## Objectives

The main objectives of this paper are to:

1. analyze current health care waste management practices in Ethiopia based on the project's structural health facility survey
2. demonstrate integrated health facility waste management practices, interventions, and material support in selected health centers in the country

## Methods

Secondary data from a 2011 study of 1,362 health centers and 119 hospitals were used for this descriptive analysis, and the testers randomly selected 156 health facilities (131 health centers and 25 district and referral hospitals) in five heavily populated regions of Ethiopia [8]. Testers used descriptive analyses to present data and used Chi Square for the significance test.

## Results

A majority of the health centers (93.9 percent, n=123) and hospitals (95.8 percent, n=23) surveyed documented waste disposal information that they generated from the pharmacy. However, waste segregation and proper disposal systems (with buckets and safety boxes) are functional in 87.7 percent of the health centers (n=114). Waste segregation in hospitals is better than health centers (95.8 percent, n=23). Nearly two-fifths (38.9 percent) of health centers have no infection prevention utilities for TB and other infectious specimens.

The most common waste disposal system is incineration, for health centers (87.8 percent, n=115) as well as hospitals (100 percent, n=25), while more than half of the health centers (55.7 percent, n=73) and hospitals (66.7 percent, n=25) practice open burning. Although most of the health centers and hospitals have functional sewage systems, solid waste pits with protection and cover are available in 84 percent of health centers (n=111), and 87.5 percent of hospitals (n=21). Similarly, more than one-sixth of the health centers (n=110) and one-third of hospitals (n=16) surveyed do not have ash/needle pits in use. Placenta pits with covers and vents are not functional in more than one-tenth of the health centers (11.5 percent, n=116).

## Conclusion

This exploratory analysis revealed health centers and hospitals with gaps in proper management of waste disposal, as a significant number of facilities practice open burning and have solid waste pits with no covers or protection. Management of hazardous waste, such as sharp materials, is pertinent, as considerable numbers of health facilities do not have functional ash/needle pits. This analysis further recommends an in-depth qualitative study that shows how waste segregation, collection, transportation, and disposal systems work in health centers and hospitals, as observation showed some discrepancies in the results.

## References

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