



Hospital waste management pilot project in India

M.M. Datta and Terrence Thompson, India

IN INDIA, THERE is a vast network of health care facilities in both public and private sectors. These range from small clinics and dispensaries, nursing homes, primary health care centres and community health centres, to sub-divisional and district-level hospitals, medical hospitals and speciality hospitals. Bed capacity varies widely. Recent proliferation of health care facilities, increasing use of disposable supplies, and increased public awareness resulting from media attention have led to heightened national concern to improve the management of waste in the health sector.

Objective of the project

A cooperative program by the Government of India (GOI) and the World Health Organization (WHO) has been undertaken since 1999 with the objective of developing a national framework for hospital waste management and demonstrating the safe management of hospital wastes through pilot projects in 11 selected hospitals.

Program activities

The first phase of the program focused on the preparation of national guidelines on hospital waste management, based on the legislation *Biomedical Waste Management and Handling Rules 1998*.

In the second phase of the program, the following activities were undertaken in 11 hospital demonstration projects:

- Baseline investigations, including waste characterizations and health risk assessments;
- Development of intervention plans;
- Mobilization of manpower, equipment and infrastructure;
- Assessment of training needs, development of training materials and implementation of train-the-trainer and hospital-level training programs;
- Monitor and evaluation;
- Reporting and documentation.

Baseline situation

The general baseline situation was observed as follows:

- There was no well-established system for segregating hazardous from non-hazardous waste.
- Hospital waste was frequently dumped with municipal solid waste.
- There were no sanitary landfills to receive either hazardous or non-hazardous waste.

- A few hospitals had incinerators of antiquated technology but these were operated with little supervision and at low temperatures.
- There was no dedicated facility for disposal of hospital wastes. Hospital waste was generally disposed in municipal garbage dumps.
- Even where awareness existed, it generally did not result in appropriate behaviours.

Interim evaluation

An interim evaluation conducted in November 1999 found that some of the most important issues impinging on the 11 hospital demonstration projects are those associated with financial resources, equipment and training.

- Typically, hospitals do not receive sufficient revenue to address the needs of the institution and administrators must make choices in the allocation of scarce resources. The proper management of hospital waste is often neglected.
- The 11 hospitals also have serious deficiency of appropriate equipment and facilities for the treatment, storage, transport and final disposition of the wastes generated in the institutions.
- Most of the participating hospitals lack comprehensive and continuous education and training programs aimed at personnel involved in the generation and management of waste. Although discrete training activities have succeeded in raising awareness in most of the 11 hospitals, unsafe waste handling practices have not been completely eliminated in spite of the increased awareness.

Lessons for the future

The GOI-WHO program of technical assistance has provided useful experiences in 11 hospitals, from which future activities may be developed.

- Government may consider seeking external assistance to finance the very extensive infrastructure and equipment that will be needed for India's thousands of hospitals and other health care facilities. However, national or local resources will be needed to meet recurring costs. Programs such as the GOI-WHO program will be successful to the extent that they motivate decision makers to mobilize their own resources in support of safe hospital waste management.

- Sustained education and training activities should target not only hospital staff directly involved with waste generation and handling, but also medical directors, hospital administrators, purchasing agents and suppliers, and even consumers of hospital services.
- Education and training activities should be accompanied by effective strengthening of enforcement capabilities.
- Municipal authorities must provide adequate infrastructure and services for safe transport, treatment and final disposal of hospital wastes.

M. M. DATTA. National Professional Officer, WHO, New Delhi.

TERRANCE THOMPSON. Regional Advisor, WHO/SEARO, New Delhi.
