

Medical Waste Management in Hospitals

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ABSTRACT : Currently, many health care systems or hospitals in the United States are trying to merge in order to overcome their financial difficulties. In this study we investigated medical waste management systems of 18 local and metropolitan hospitals in Massachusetts.

This study identified sources and disposal methods of medical wastes (see Table 1). Since many hospitals did not separate their wastes generated in the operating rooms, emergency rooms, and laboratories, these wastes were almost always treated as infectious wastes and they were disposed of mainly by incineration. Wastes generated in cafeterias were treated as non-infectious wastes, and therefore disposed by recycling, composting, and landfilling without a special treatment. This study investigated generation volume of special medical waste and infection controlled medical waste. In addition, we identified components of general medical waste and the recyclability of these components.

This study also analyzed the medical waste management of local and metropolitan hospitals in Massachusetts. We found that patient bed occupancy in the metropolitan hospitals was higher than that of local hospitals. In addition, this study identified that the medical waste streams are roughly proportional to the numbers of hospital beds and population density (or patient bed occupancy). For the reduction of the continuously increasing off-site disposal cost of their medical wastes, many hospitals are currently shipping out their medical wastes for off-site disposal. However, some hospitals are also planning to install in the hospital on-site new incinerators which meets state and federal medical waste disposal and emission requirements.

Table 1 : Source Identification and Disposal Costs and Methods of Medical Waste.

Item	Waste Volume	Relative Percentage			Disposal Cost	Typical Disposal Method
		% by Volume	% by Weight	% by Dis. Cost		
Department/Unit	ft ³ /month				\$/year	
Cafeteria	3,20	23.5	20	6.7	10,000	Recycling/Landfilling
Operating Room	264	2.0	10	10.0	15,000	Incineration/Recycling
Emergency Room	516	3.9	5	10.0	15,000	Incineration
Laboratories	2,076	15.7	20	13.3	20,000	Incineration
Facilities	4,680	35.3	30	26.7	40,000	Incineration/Recycling
Administration	1,044	7.8	10	13.3	20,000	Recycling/Landfilling
Other	1,560	11.8	5	20.0	30,000	Recycling/Landfilling
Total	13,260	100	100	100	150,000	