

## 28% Waste Reduction with Sharpsmart Safety Device – a 5 year, 103 Hospital Study.

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**Background/Objectives:** In healthcare facilities (HCF) using disposable, single-use sharps containers, the containers themselves account for a significant portion of plastic in the sharps waste stream. This volume has increased with the adoption of (bulkier) sharps safety devices. The cartons in which the disposable containers arrive also increase the HCF's cardboard waste stream. This project examined the impact of replacing disposable sharps containers with a reusable sharps containment device.

**Methods:** The reusable sharps containment device (*Sharpsmart*, Daniels Sharpsmart Inc, Chicago IL) (the Device) is FDA 510(k) certified for 500 uses and arrives at HCF in reusable transporters. The Device is designed to eliminate container-plastic and cardboard waste from the sharps waste stream and, through larger volume collectors, decrease the staff resources required to exchange containers.

Data on the number, model and size of disposable sharps containers used in the previous 12 months, and the Average Daily Census for that period, was obtained from 103 US hospitals between Jan 2004 and Jan 2009.

Data was gathered on weights of the disposable sharps containers when empty, the number and weight of cardboard cartons in which the sharps containers arrived, and the average weight of sharps contents when containers were 75% full. The data was collated to determine annually per 100 occupied beds (OB) the:

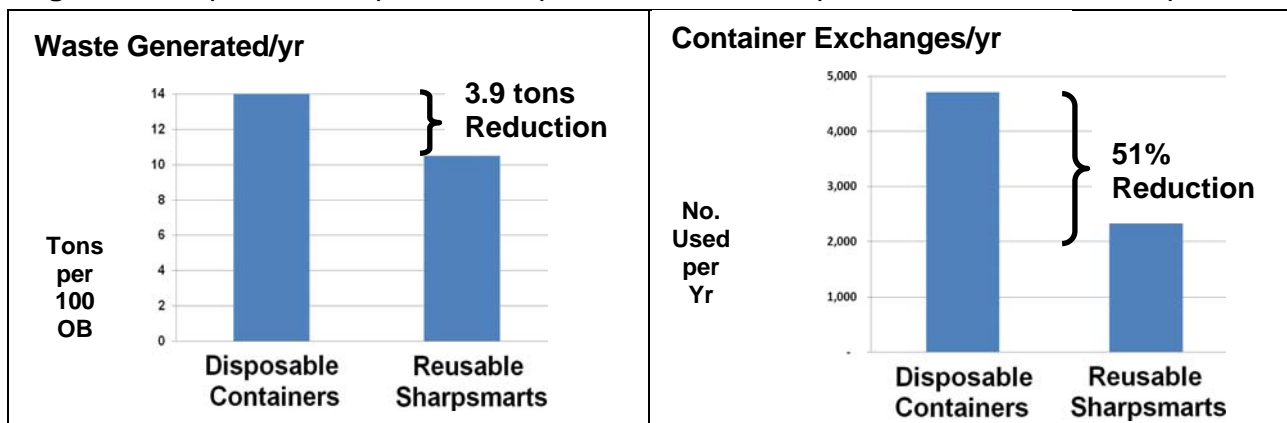
- number of disposable sharps containers used;
- total weight of discarded plastic (sharps containers + contents);
- proportion of total weight contributed by the disposable containers themselves;
- tonnage of cardboard waste,
- number of collectors exchanged when hospitals convert to the reusable Device.

**Results:** Table 1 shows that the use of the reusable Device annually eliminated: 3.5 tons of plastic; 0.4 tons cardboard; and 51% of sharps container exchanges

**Table 1.** Waste generated per 100 Occupied Beds

	Disposable Containers	Reusable Sharpsmarts
Total Sharps waste discarded	14 tons	10.5
Cardboard waste discarded	0.4 tons	Nil
No. Containers exchanged	4704	2322

**Figure 1.** Comparison of Impact on Sharps Waste Stream: Disposables vs Reusable Sharpsmarts



**Conclusions:** Sharpsmarts contribute significantly to healthcare waste reduction strategies.