

## 28% Sharps Waste Reduction with Sharpsmart Safety Device – an 11 Hospital Study

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**Introduction:** Plastic disposable sharps containers account for a significant portion of the sharps waste stream. Their number has increased with adoption of (bulkier) sharps safety devices. The cartons in which disposable containers arrive also add to the sharps waste stream. Ascension Health’s Clinical Excellence Vision requires continual waste reduction. This project examined the impact of replacing disposable sharps containers with a larger, reusable sharps containment device in eleven Ascension Health hospitals.

**Methods:** In 2006 and 2007 the hospitals converted from disposable sharps containers (Kendall; BD) to the Sharpsmart reusable sharps containment device (Daniels Sharpsmart Inc, Chicago IL) (the Device). The Device is FDA 510(k) certified for 500 uses and is delivered in reusable transporters.

Data was collated on: number, model and size of disposable sharps containers used in previous 12 months; Average Daily Census; weights of individual disposable sharps containers when empty; and number and weight of cardboard cartons in which the sharps containers arrived.

The data was collated to determine annually per 100 occupied beds the:

- number of disposable sharps containers used;
- total weight of discarded plastic containers;
- proportion of total weight contributed by the disposable containers;
- tonnage of cardboard waste.

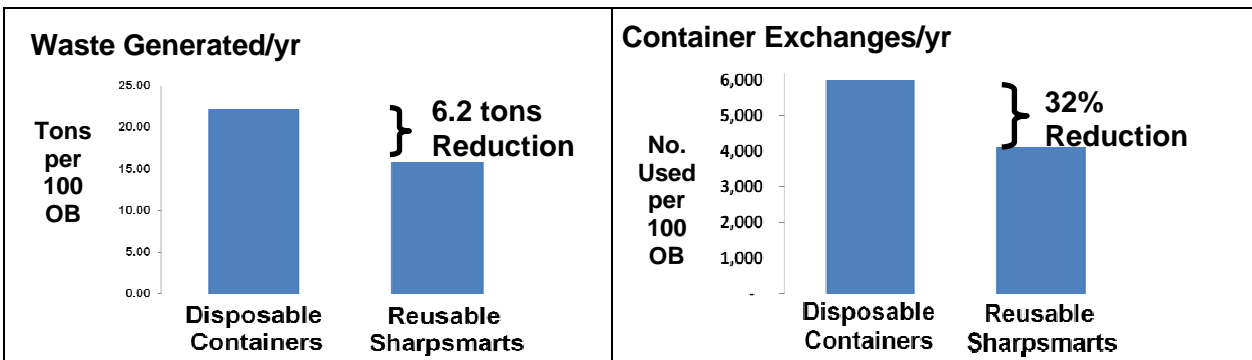
The above data were compared to waste tonnages and containers exchanged with use of the reusable Device. Statistical analysis was via CHI<sup>2</sup> and p ≤ 0.05 regarded as significant.

**Results:** Plastic containers accounted for 27% of the total sharps waste stream weight. Adoption of the reusable Device brought about significant reductions in total tonnage discarded (-28%; p<0.001) and number of containers exchanged (-32%; p<0.001).

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

	Disposable Containers	Reusable Device
Total Sharps waste stream	21.7 tons	16.0 tons
Cardboard waste stream	0.6 tons	0.01 tons
No. Containers exchanged	5,999	4096

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



**Conclusion:** The Device significantly reduced the sharps waste stream; decreased staff workloads; and contributed significantly to Ascension Health’s waste reduction strategies.