



# You can have it all: Prevent sharps injuries, Save money and Reduce CO<sub>2</sub>!

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## Dramatically reduce needlestick injuries

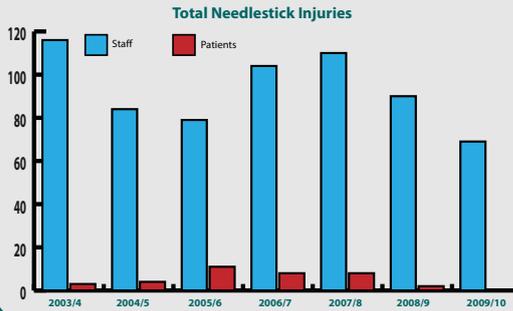
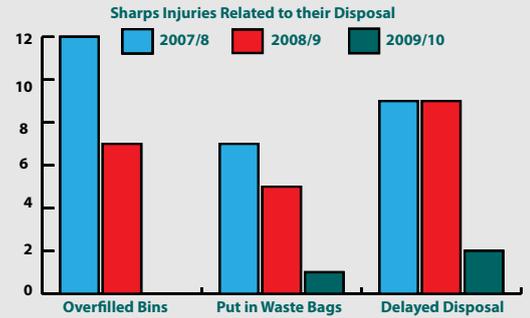
Winchester & Eastleigh Healthcare NHS Trust is a small acute trust with approximately 400 beds. Our Trust has managed to dramatically reduce the number of needlestick injuries, save money and reduce our carbon footprint by introducing the Sharpsmart Managed Service.

- By the end of 2008, this trust sustained year on year increases in the number of needlestick injuries sustained by staff.
- Causes of sharps injuries:
  - Overfilled sharps bin » Protruding sharps from bin
  - Delayed Disposal » Bins unsafe to be left in side rooms
  - Used sharps left unattended » Bins not correctly assembled
- Despite various trust wide campaigns and mandatory training the number of injuries continued to increase.

In September 2009, after an assessment of bin requirements and a tender process, Sharpsmart containers were introduced trust wide. Education and training of all staff was given by Sharpsmart prior to installation of the containers, including installing to all bays and side rooms. Cartsmart trolleys were used for "Point of Use" applications and ongoing training was agreed with Sharpsmart. Since the introduction of Sharpsmart the investigation of sharps injuries has shown a dramatic reduction in those caused by the sharps bin.



- The tilt tray safety design meant that sharps bins could now be safely wall mounted in patient bays and side rooms because patients could not sustain an injury from the bin.
- There were no delays in disposal because containers were now available at point of use.
- Overfilled sharps containers had now been eliminated.
- There were no sharps injuries sustained from the containers themselves because of their design.
- Other causes such as staff practice remain an issue which require further investigation and changes. The education and focus on sharps injuries has also improved their reporting.



## Outcomes

- No needlestick injuries sustained from a Sharpsmart container in 12 months.
- 18% reduction in total needlestick injuries trust wide.
- 15 fewer needlestick injuries this year: 84 down to 69.
- Staff satisfaction with the container is high.
- Sharps containers available in bays and side rooms.
- The Health & Safety Team can focus on other areas.

## Savings

Because Sharpsmart sharps containers are reusable they automatically reduce the trusts waste output. During 2008/9 the trust bought over 20,500 disposable sharps bins with a weight of 9.3 tonnes of plastic. This 9.3 tonnes of waste no longer has to be transported or incinerated with the introduction of Sharpsmart containers.

- A Sharpsmart container is reused 500 times and is sanitized after emptying.
  - One Sharpsmart container = 500 Disposable Burn Bins.
  - One Sharpsmart container has a 10 year FDA approved life.

Staff training and education was given regarding the correct segregation of waste and the Sharpsmart Auditsmart report is circulated on a monthly basis to all department managers.

The tilt tray mechanism discourages staff from placing paper and other inappropriate waste in the sharps bin. This also improves the trusts compliance with HTM 07-01 guidelines.

The porters adapted well to the new system and currently service the hospital's sharps container needs within 3 hours per day.

The larger size of bin is efficient and requires changing less frequently, reducing portering and nursing time. This fits well into our Productive Ward initiative.



Pictures from the Auditsmart report



Good Segregation



### Audit of Compliance - Auditsmart

Each month 10 sharps containers are randomly selected, their contents photographed and audited:

- % fill
- % Segregation
- % of labels filled in.

Photographs and the compliance report are sent to the relevant wards and departments.

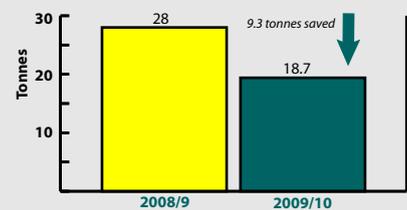
The department managers then:

- share the photos and report with their staff.
- praise staff for correct segregation or
- corrective action plans discussed with staff.

This has helped increase the staff understanding of the appropriate use of sharps bins and the importance of segregation.

Reduced incineration costs + Sharpsmart service = Financial savings PA Saving 9.3 tonnes of waste per year saves £7,905 at £850 per tonne.

### Sharps Waste Savings



## Outcomes

- Trust financial savings.
- Reduced sharps waste output of 9.3 tonnes per year.
- 33% reduction in sharps waste.
- Increased staff education and awareness of segregation.
- No bins to assemble » assists Productive Ward initiatives.
- Time gained not dealing with sharps injuries.
- NSI soft costs saved (£1500-3000 per injury).
- Comprehensive Waste and Sharps Audits.

## CO<sub>2</sub>e Savings

The Climate Change Act sets targets for CO<sub>2</sub> emissions and a minimum reduction of 26% by 2020 and 80% by 2050 across the UK.

Sharpsmart with Waterman Environmental and Design, has calculated the CO<sub>2</sub> life cycle of all phases of a sharps bins manufacture, transport, cleaning and disposal.

Sharpsmart's Life Cycle Assessment (LCA) results for the Winchester and Eastleigh Healthcare NHS Trust supports our campaign "Act on Climate Change" to reduce CO<sub>2</sub> wherever possible within the trust.

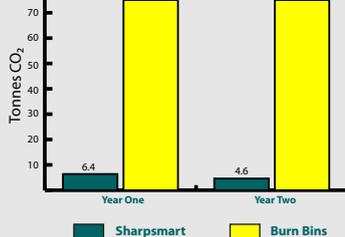
- Calculated within the Sharpsmart LCA tool are CO<sub>2</sub> produced from:
  - Oil Extrusion, Pelleting and Manufacturing
  - Transportation of Raw materials
  - Servicing of Sharpsmart Containers
  - Transportation of Bins
  - Incineration of single use sharps containers

The results show that during the first year (which is when the Sharpsmart containers are manufactured), the life cycle CO<sub>2</sub> emissions were reduced by 68 tonnes (91%).

For subsequent years, due to the fact that only a small percentage of Sharpsmart containers will be manufactured, the yearly reduction will be 70 tonnes (94%) of sharps waste. This gives a 10 year projection of a 702 tonne (94%) reduction in CO<sub>2</sub> emissions.

### CO<sub>2</sub> Savings - Our Trust

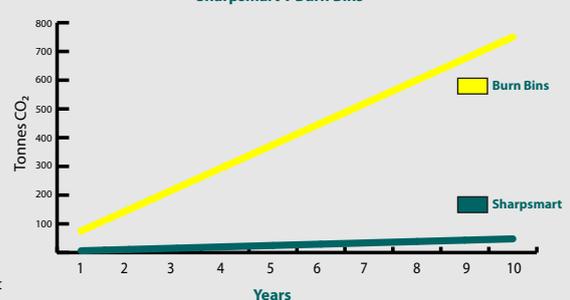
Total tonnes CO<sub>2</sub> produced 2009/10



- Sharpsmart reusable containers are collected from the trust and taken to the Sharpsmart Reading processing plant.
- Containers are sanitized to a LOG 6 reduction including an 85°C rinse.
- The containers are inspected and returned to the hospital in sealed transporters.
- These steps are included in the Life Cycle Assessment tool.



### Cumulative Tonnes CO<sub>2</sub> Emissions 1 to 10 years Sharpsmart v Burn Bins



## Outcomes

- An overall reduction of 68.6 tonnes of CO<sub>2</sub>e in year one.
- A 10 year saving of 702 tonnes of CO<sub>2</sub>e.
- An average CO<sub>2</sub>e reduction of 91% in Year 1.
- An average CO<sub>2</sub>e reduction of 94% over 10 years.
- Achieving NHS CO<sub>2</sub>e reduction targets of 26% for 2020.
- Achieving NHS CO<sub>2</sub>e reduction targets of 80% for 2050.
- Supports our "Act on Climate Change" campaign.



To put this in perspective: if a car produces 127g/km of CO<sub>2</sub> it would have to travel around the world over 13.6 times to produce the same amount of CO<sub>2</sub> as the trust has saved in one year!