

## Bio Systems - Reusable Sharps Bins

### Name of Trust, Project Lead and Location

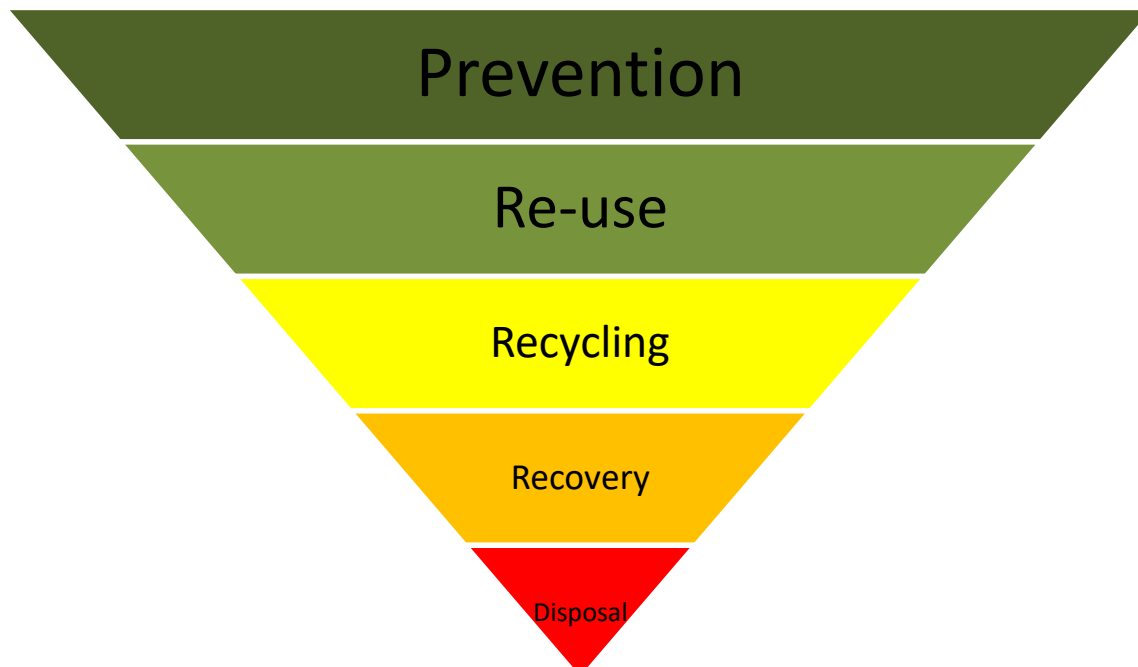
Sherwood Forest Hospitals NHS Foundation Trust, Samantha Stanhope, King's Mill Hospital

### Theme

Clinical Waste Reduction & Lower Carbon Care

### Challenge

In the past Sherwood Forest Hospitals NHS Foundation Trust were procuring disposable sharps containers. Once full the whole unit and its contents were incinerated, which is the standard disposal method for sharps within the NHS, which is not a sustainable system. Our Waste Contract Manager researched the market to see what alternative options were available to the NHS, whilst there was the option to use disposable cardboard boxes (which would reduce plastic use), she wanted to apply the waste hierarchy and seek a re-usable system. The Bio Systems reusable sharps containers offered the opportunity to reduce the Trusts single-use-plastics consumption, and reduce incineration costs by offering a safely managed re-usable sharps container system.



### **The Waste Hierarchy Diagram**

### Approach

Each system and supplier reviewed was validated in the following areas:

- Usability
- Finance
- Cleanliness standards
- Safety features
- Logistics
- Storage
- Stock rotation
- Operations
- Staff
- Metal recycling options

Following on from assessment, our Waste Contract Manager engaged with a whole range of trust colleagues within IP&C, Procurement, Anaesthetists, H&S, Matrons & Portering. This

allowed her to obtain agreement from key stakeholders within the trust and to review the clinical needs of all the staff that this system would impact upon.

### **Solution**

The Bio Systems service significantly contributes to sustainability measures. It operates a completely self-sufficient wash-line at the supplier premises, with the wash line and state-of-the-art robotics system powered by the on-site Energy from Waste incinerator. Additional benefits include:

- For each reusable Bio Systems container used, up to 600 single-use containers are prevented from being incinerated
- This is equivalent to running two small cars for a year (based on a typical 1200 bed NHS trust)
- Environmental impact is reduced, compared with the disposal of containers after a single-use
- Because as containers are reused, bulky packaging waste from the purchase of single-use containers is eliminated

### **Who was involved?**

The original suggestion came via our Waste Contracts Manager, who raised the associated issues within the trust. The initiative had a 3 month trial starting in September 2019 within Clinic 11, Ward 43, Phlebotomy, Pharmacy, WTC and Day Case Theatres at King's Mill Hospital. The trial was led by UCC & Theatres at Newark hospital. In January 2020 time was spent reviewing the finances with procurement and Project Co. COVID-19 then hit but we still persevered and completed the next phase, until the roll-out was complete in July 2021.

### **Impacts – Carbon Savings and Healthcare Outcomes**

The Bio Systems containers are a smarter offering in terms of sustainability as they have led to a saving of over 77 tonnes of carbon emissions for the trust since installation. The containers arrive fully assembled, which makes them safer for staff, with a typical 77% reduction in needle stick injuries for companies employing this system (With the trust only completing the roll-out in July 2021 – it's too early to demonstrate a reduction in our needle stick injuries), which assists the trust in ensuring continued staff health and wellbeing support.

From installation to date, the re-usable sharps containers have led to 14,595 containers being saved from incineration, which equates to over 26 tonnes of plastic being saved. Given that the initiative hasn't been in place for too long this is a fantastic start on our road to being a more sustainable healthcare provider.

Feedback from colleagues using the system has been positive. Justin Wyatt RN, ePMA Nursing Lead said: *"Having used a reusable system previously and in a role as a clinical facilities assurance matron, I have a good oversight of processes from delivery, through use in the clinical area and collection. When I was asked to trial the system on my area (as a respiratory ward leader) I was very keen to do so. As a clinical user of the system I can see the following benefits:*


- *Reduction in plastic waste.*
- *Less time required changing bins, due to increased capacity.*
- *Due to increased capacity and the system being readily assembled, decreased risk of needle stick due to overfilling or incorrect construction.*

*As a ward leader, I'm passionate about patient care and passionate about staff wellbeing and safety and the benefits highlighted above contribute positively to patient care, by releasing time and ensuring the wellbeing and safety of our staff by reducing needle stick injuries, as well helping our communities by reducing plastic waste."*

Illustrative Attachments

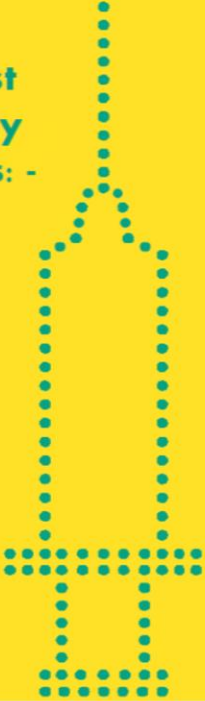


Bio System container being emptied by a robot – Photo from Stericycle



**Since installing Bio Systems Sherwood Forest Hospitals NHSFT have saved the following by using Bio Systems reusable sharps containers: -**

14,595 containers saved from incineration
26,361kgs (26.36 tons) of plastic
77,123kgs ( 77.12 tons) of carbon



# Bio Systems



## SUSTAINABLE

Up to 600 uses. Equivalent to running two small cars for a year (for a typical 1200 bed NHS Trust).

## CHOICE



Three different container sizes - 7.5 litres, 15 litres and 30.2 litres with corresponding wall brackets, lid types and trolleys to maximise use of space.



## ECONOMICAL

Average cost saving of 10% - 20% over the total costs involved against operating a single-use sharps container.

## SAFE

Typical reduction of 77% of needle stick injuries. Puncture resistant, eliminates over filling by proactively managing replacement of containers.



## CLEAN

Unrivalled state-of-the-art technology with a three-stage disinfection process and stringent quality controls.



### The choice for clinical and non clinical staff

*"For us, the Bio Systems containers with horizontal lids are very suitable as we are not allowed to and don't dismantle syringes."*

Senior Staff Nurse (ITU), East Sussex Hospitals NHS Trust

*"The carbon reductions presented by adopting Bio Systems has been very attractive to us. Also, we are now not just purchasing disposable containers to just burn them once they are full!"*

Cancer Research UK, Cambridge Institute

*"One of the main things for me is that there is no need to fill in the labels on the containers as we used to have to do. I've been a nurse for 14 years and it's a pain having to remind staff to fill in the labels."*

Senior Sister, Quality & Practice Development, A & E, East Sussex Hospitals NHS Trust

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