

Green Endoscopy MR64 Sharps-bins pilot: preferred, greener and cheaper

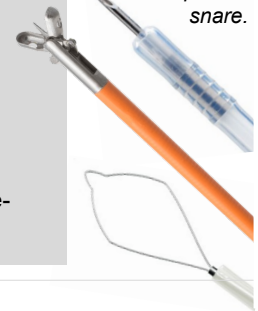
March 2023

CONTEXT

- Endoscopy is the 3rd highest emitting hospital department within the NHS.
- Endoscopy has a fast turnover of patients using single-use consumables, including sharps, metal and plastic. (Figure 1)
- Consumables were previously disposed of in tiger bags and sharps bin.

The NHS is committed to achieving a net zero carbon footprint by 2040. As a unit we have a responsibility for and must focus on more sustainable practices within endoscopy.

Figure 1: Disposable injection needle, forceps and snare.



Service Improvement Initiative:

We set up a Green Endoscopy Working-group to facilitate reducing our carbon footprint. We anecdotally suspected our sharps bin usage within endoscopy was high. Through working with the Trusts waste Green Champions we identified our S32-bins (traditional yellow sharps bins, Figure 2) had high carbon and fiscal cost as they were incinerated at expense.

The NuTH sustainability site had a new Sharpsmart MR64-bin (Figure 2) featuring lower carbon emissions as they are not incinerated, but sterilized, recycled and reused. They also had a larger capacity well suited to endoscopy equipment.

What I did:

I monitored sharps bin usage, hiring costs and disposal costs over a baseline 4-week period using traditional S32 bins and a pilot 4-week period with MR64-bins within our unit.

We assessed staff practice through focus group discussion a questionnaire to endoscopy nursing and decontamination staff with Likert scale on acceptability of arising comments and free-text responses. The quality improvement pilot was registered with the local audit department.

Fiscal Outcome:

During baseline (3rd–31st October 2022): 21 S32-bins used. Hire costs were £258.93 and incineration costs £89.88. During pilot (1st–30th November 2022), 3 MR64-bins were used. Hire costs were £50.13, recycling and disposal costs £8.40.

Figure 2: (A) Traditional S32 and (B) Sharpsmart MR64 Clinismart sharps bins

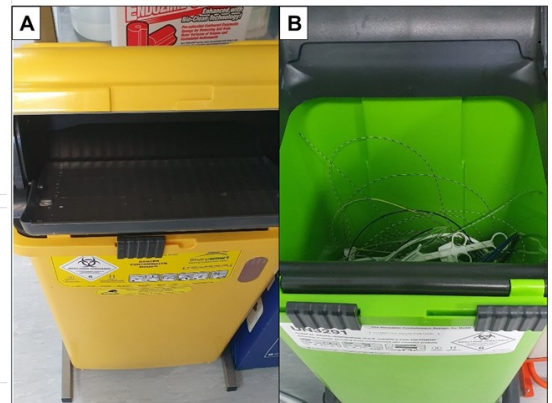
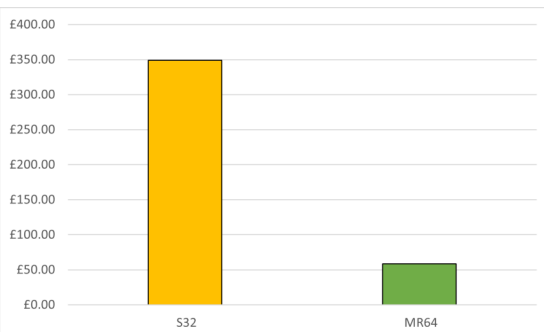


Figure 3: Sharps bin hire and disposal costs over 1 month



Impact of our MR64-bin Changes:

- Reduced incineration carbon footprint
- In a month we reduced costs by £290.28; estimating saving of £3774 annually.
- Staff felt they were safer and more efficient.

What happens next:

MR64-bins are rolled out in the endoscopy department at the Freeman Hospital and being implemented at the RVI unit.

We will showcase our work with other endoscopy units nationally. We are developing carbon calculations for incineration and recycling to quantify our carbon footprint.

Staff Outcome:

13 endoscopy staff completed a survey.

All rated the M64 sharps bins as more or much more acceptable than S32 bins. Comments highlighted the “**larger volume**” of MR64-bins allowing “**equipment fit in easier**” (12/1, 92% agreed), it was “**easy to see contents**” (10/13, 77% agreed). Staff appreciated that “**metal ...can be recycled**”.

Personal Reflections of your Learning Journey

This QI project has been invaluable to look at ways of reducing emissions within endoscopy and getting buy-in from the whole nursing team to support change.

Key to any project is to ensure you involve all necessary staff in the pilot and proposal, listen to their opinions and suggestions, and make them feel a valuable part of the project.

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