

CARBON FOOTPRINT REDUCTION WITH SAME DAY DISCHARGE FOR HYSTERECTOMIES: DGH EXPERIENCE

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OBJECTIVES:

- Assess the **carbon footprint (CF)** reduction from same-day discharge (SDD) hysterectomies at **Walsall Manor Hospital (WMH)**.
- Evaluate replacing the **universal laparoscopic tray** with diagnostic and hysterectomy-specific trays in line with **NHS Net Zero Surgery** goals.
- Explore how **anaesthetic practices** contribute to CF reduction.

METHODS:

- Reviewed annual surgical records for hysterectomy volumes and SDD rates from 2022-2024.
- Review instrument tray configurations.
- Consulted theatre sustainability and anaesthetic teams on Greener NHS protocols
- CF savings calculated using estimates of ~37.9 kg CO₂ per inpatient day from the Sustainable Healthcare Coalition.
- Literature review on SDD safety and carbon emissions in hysterectomy settings.

RESULT:

- A total of 140 hysterectomies were performed in 2022, 161 in 2023, and 182 in 2024. Figure 1.
- Number of same-day discharges (SDD) was 19 (13.6%) in 2022, 44 (27.3%) in 2023, and 59 (32.4%) in 2024. There was statistically significant increase in the SDD rate over the three years (p = 0.0004, Chi-square test). Figure 2.
- Our carbon savings are grounded in the **37.9 kg CO₂/day inpatient figure**, consistent with funding for TURBT day-case vs inpatient pathways. Figure 3.

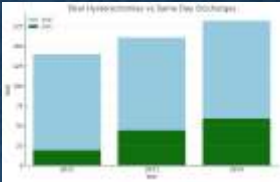


Figure 1

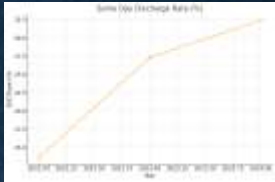


Figure 2

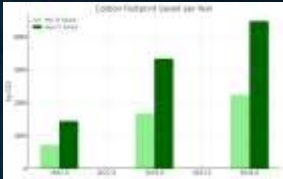


Figure 3

EXTERNAL EVIDENCE DISCUSSION:

1. Safety & Efficacy of SDD has been demonstrated by American database¹ , Dutch studies² , and UK studies³ . It also stated feasibility in district models **Carbon Emissions in Hysterectomy**.
2. A lifecycle assessment (University of Pittsburgh) showed **anaesthetic choices and instrument use** are key to reducing GHG — up to 80% per case⁴.

CONCLUSIONS:

- WMH's adoption of SDD **reduces carbon footprint** while maintaining **clinical safety and patient satisfaction**.
- Additional CF reduction is achievable through improved instrument trays and highlighted **anaesthetic strategies**.
- This aligns with WMH's **Greener NHS** objectives and international best practice.

FUTURE DIRECTIONS:

- Finalise and implement specialised **instrument tray designs** in collaboration with stakeholders.
- Prepare for presentation of full data at upcoming **Congress**.
- Continue working with sustainability leads to expand theatre-level CF reduction.

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4. Am J Public Health. 2018 Apr;108(Suppl 2):S158-S164. doi: [10.2105/AJPH.2018.304397](https://doi.org/10.2105/AJPH.2018.304397)