

Reducing carbon footprint in health systems: A tale of 2 cities

Better Waste Segregation in Hospitals: A Cross-sectional European Study

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Objectives

- ❑ To identify current waste segregation patterns in hospital wards.
- ❑ Qualitative analysis to identify cost-effective strategies to address the problem.

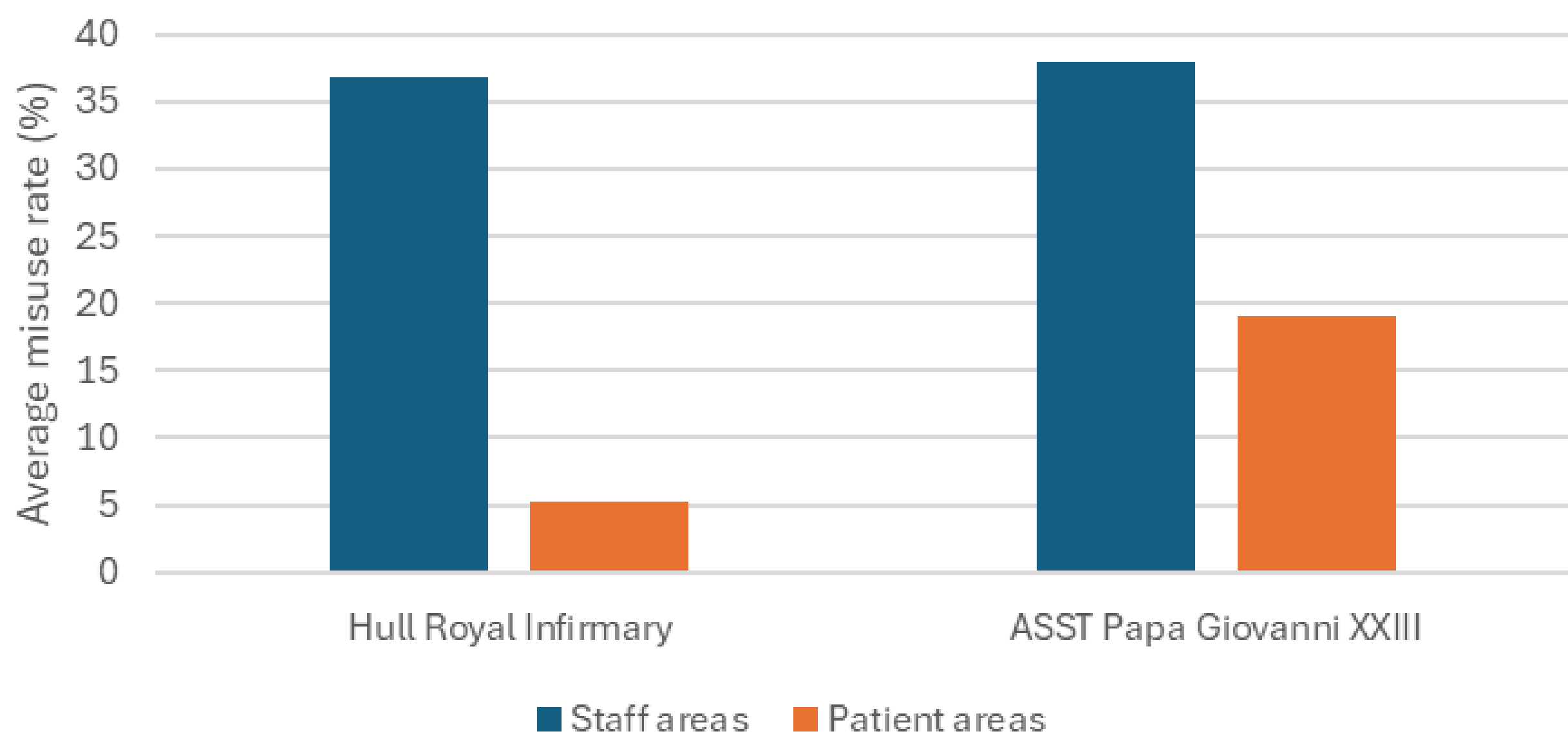
Methods

- ❑ A cross-sectional mixed methods survey comparing adherence to recyclable waste disposal within the Obstetrics & Gynaecology and Paediatric departments in 2 different European cities.
- ❑ Interviews were held with multiple stakeholders to gain further insight on waste segregation.
- ❑ Methodological triangulation and Microsoft Excel were used in the data analysis.

Results

- ❑ Sample size (N) = UK (19); Italy (21)
- ❑ Waste segregation was suboptimal in both countries
- ❑ Lower misuse rate (defined as % of undifferentiated bins with > 50% of recyclable content) among the British, who were approximately 55% less likely to misuse bins, compared to the Italians (UK $\bar{x}$ = 42%; Italy $\bar{x}$ = 57%; OR = 0.546; p = 0.035; 95% CI: 0.322 – 0.951).

Misuse rates between staff vs. patient areas in the UK vs. Italy



- ❑ In both countries, the bins within the staff areas were more likely to be incorrectly segregated, as compared to the ones in the patient areas
 - UK staff vs patients $\bar{x}$ = 36.8% vs 5.3%, respectively; p = 0.0188; 95% CI: 5.25% - 54.04%
 - Italy staff vs patients $\bar{x}$ = 38% vs 19%, respectively; p = 0.177; 95% CI: -8.18% to 42.9%
- ❑ British staff bins were approximately 7 times more likely to be misused, as compared to the patient bins. (Staff $\bar{x}$ = 36.8%; Patient $\bar{x}$ = 5.3%; p = 0.0188; 95% CI : 5.25% - 54.04%).

Country	Total misuse rate	Staff misuse rate	Patient misuse rate	Staff vs Patient p value (95% CI)	UK staff vs Italy staff p value (95% CI)	UK patient vs Italy patient p value (95% CI)	UK vs Italy p value and OR (95% CI)
UK	42% (8/19)	36.8% (7/19)	5.3% (1/19)	p = 0.0188 (5.25% to 54.04%)	p = 0.938 (-26.8% - 28.6%)	p = 0.196 (-8.7% - 35%)	p = 0.035 OR = 0.546 (0.322 – 0.951)
Italy	57% (12/21)	38% (8/21)	19% (4/21)	p = 0.177 (-8.18% to 42.9%)			

Results (2)

Key barriers identified include:

Time pressures

Poor bin labelling & signage

Insufficient bin availability

Lack of awareness among staff and patients

Lack of engagement

Conclusion

Despite efforts to engage with international policies, poor waste segregation and recycling practices remain widespread. Simple cost-effective measures which might save as much as £11 million annually¹, with less waste being incorrectly sent to the incinerator, would reduce CO₂ emissions. The RCOG may also adopt these low-cost strategies in its pursuit of sustainable, low-carbon, and equitable maternity care.



1. www.england.nhs.uk/long-read/nhs-clinical-waste-strategy/ accessed on 30-1-25 (PR2159 – NHS Clinical waste strategy)