

Low-carbon emission menu is highly feasible in rehabilitation hospital

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Introduction

- National Health Service's (NHS) food and catering service contributes ~6% to total NHS greenhouse gas emissions⁵.
- NHS England has developed new low carbon emission recipes to support the NHS to achieve net zero by 2040-2045⁵.
- Mildmay Mission Hospital volunteered to pilot these new recipes.

Figure 1: Summary of NHS net zero targets⁵

Methods



Patient Population: Adults living with HIV, homeless and/or detoxing.



Cook-Fresh Menu Development

- 3-week cyclical, complete low carbon-emission winter menu.
- Aimed to meet targets for nutritionally vulnerable adults (800kcal, 27g protein per meal)⁶.
- Finalised after 2 months of iterative improvements following patient, staff and catering service feedback.
- Audit:** Conducted over three patient lunchtimes ($n=38$ meals) with served portions and plate waste after each meal weighed.
- Patient Survey:** Adapted from Patient-Led Assessments for Care Environment form⁷ with additional questions to assess familiarity with sustainability terms. Survey delivered orally ($n=11/16$ patients).
- Effect on Carbon Emissions:** Pre-post KgCO₂e analysis of standard menu compared to low-emission menu using Nutritics v6

Objectives

- To assess the impact of a novel whole-menu approach to low carbon emissions on:
 - 1) food portions and plate waste
 - 2) nutritional content of served food
 - 3) estimated impact on greenhouse gas emissions
 - 4) patient mealtime satisfaction and sustainability awareness

Results

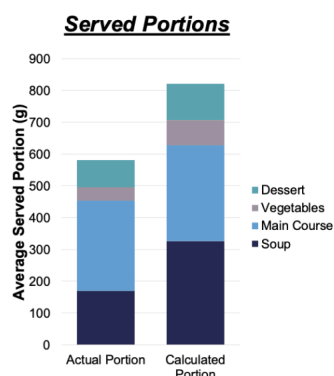


Figure 2: Average served portion (g) stratified by meal component after the launch of the low carbon emission menu.

Meals on average provided 719kcal (89.9% of target), 30g protein (112.6% of target).

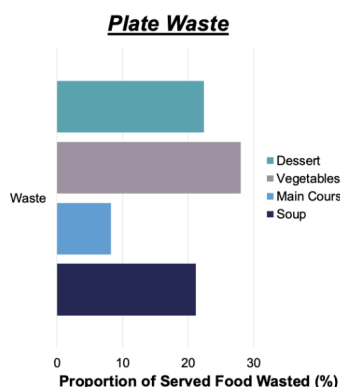


Figure 3: Average proportion (%) of served food that became plate waste stratified by meal component – conducted after launch of low carbon emission menu.

10.1% total plate waste

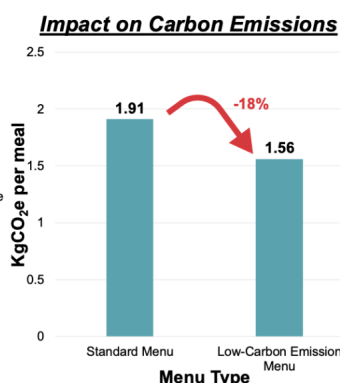


Figure 4: Average carbon footprint (KgCO₂e) per meal pre/post launch of the low carbon emission menu.

Patient Satisfaction:

- 64% (7/11) "very satisfied" or "satisfied" with meal taste and appearance.
- 45% (5/11) "satisfied" with meal choice and 45% (5/11) "dissatisfied" or "very dissatisfied" with meal choice.

Patient Awareness:

- 82% (9/11) unaware menu was environmentally friendly.
- 27% (3/11) were somewhat-very passionate about the environment.
- 45-73% (5-8/11) very unfamiliar with terms "sustainable (diet)", "plant-based", "net zero"

Insights and Future Plans

- Results indicate low carbon-emission menu is highly feasible – supporting consistent portions, ability to meet nutritional targets and limited food waste.
- Patient dissatisfaction with meal choice can be complicated by poor menu awareness and poor engagement with sustainability movement.
- Future advances should balance sustainability aims with maintaining adequate patient choice and ensure concomitant patient education/inclusion.
- Future Plans:** low-carbon emission summer menu; introduce cultural meals, meat-free Mondays, cooked breakfast; scale to larger catering services.

⊕ quantitative menu analysis, patient insights, 18% reduction in carbon emissions ⊖ small sample size, limited applicability to larger hospitals

References

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