

# Hospital Menus Study

## Dr Kelly Parsons, March 2025



# Mandala Programme



Five-year research project partnering with food system stakeholders catalyse urban food system transformation in UK city of Birmingham, for positive **health, environmental, economic** and **societal** impacts

Public Health

Food Systems

Policy

Evaluation

Conservation

Economics



Modelling

Manufacturing

Supply Chains

Food Insecurity

Stakeholder Engagement



# Research phases of Mandala



- Co-production across commercial, public sector and civil stakeholders
  - Interdisciplinarity
  - Complex systems approach

## Phase 1:

- Bound the sub-systems
- Identify stakeholders
- Map the sub-systems

## Phase 2:

- Identify interventions
- Prioritise interventions
- Co-design interventions

## Phase 3:

- Evaluate interventions & system change
- Model long-term outcomes



# Menu changes to reduce meat/increase plant-based



Round 1 criteria	Rating
Level	Med – depending on approach may require indiv choice
System leverage points	Procurement specification; uptake; diner preferences; education
Transformative potential	Med
Theory (CLD)	Fairly narrow bit of system
Evidence of need	Good – meat reduction = priority
Alignment with B'ham interventions	Some Meat-free Mondays initiatives in place
National level policy	Meat reduction = politically controversial

Round 2 criteria	Rating
Reach	Depends on number/type of institutions involved, could be expanded
System leverage points	Potentially powerful if changes supply and demand
Transformative potential	Med
Financial cost	Low (but some commercial risk)
Technical barriers	Requires expert input from existing examples
Deliverability	Interest from several institutions
Evidence of effectiveness	Good evidence from university sector
Commerical/organisational strategy	Good – interest in addressing sustainability from multiple stakeholders



Low

Medium

High



# More sustainable inpatient menus at Birmingham Children's Hospital



## **Intervention:** Inpatient Menu Changes at Birmingham Children's Hospital (BCH)

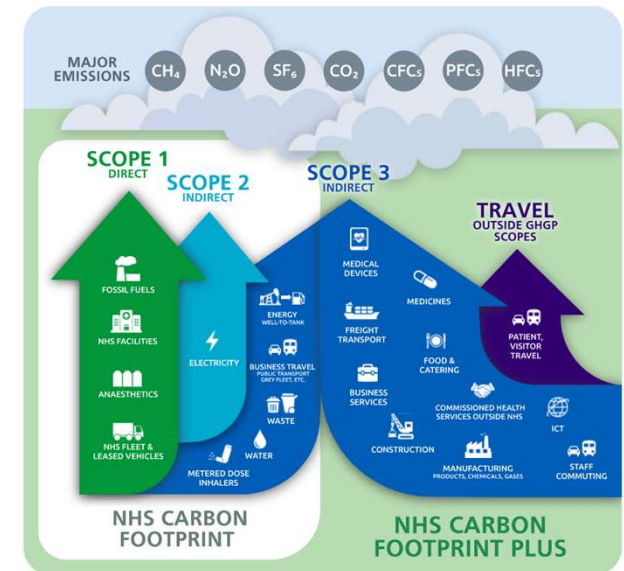
- Support with expertise to inform inpatient menu planning to optimise sustainability of dishes, while aligning with preference/appeal, nutritional, operational and cost considerations
- Evaluation of incremental, closely monitored changes to menu, over slightly more frequent menu change cycle over 12 months
- Intervention does not apply to patients on special diets, and those too young or too unwell to eat for clinical reasons.
- Also excludes hospital's retail and hospitality food offers



# Menu changes to create appealing, healthy, sustainable appropriate dishes for inpatient children

## Problem being addressed

- Institutional strategies = deliver on net zero, incl. through catering.
- But, environmental only one outcome of many which require balancing in menu.
- Previous changes have damaged patient satisfaction.
- Hospital isolated from good children's food best practice.



**Research Q:** Can changes to inpatient paediatric menus improve the sustainability of dishes, while maintaining uptake/satisfaction, and maintaining or optimising nutrition and appeal and not increasing cost?

# Inputs to menu design intervention

- BCH Staff (Catering, Ward/Housekeeping)
- Best Practice Examples, hospitals

Operational Feasibility

Safety/Nutrition

- BCH Dieticians
- Nutritics Programme
- Best Practice Examples

Monday	Tuesday	Wednesday + Thursday	Friday	Saturday	Sunday
<b>Main</b> Macaroni cheese <input type="checkbox"/> Fish fingers (Salmon) <input type="checkbox"/> <b>Sides</b> Please choose one Potato wedges <input type="checkbox"/> Potato crisps <input type="checkbox"/> <b>Vegetables</b> Please choose two Green beans <input type="checkbox"/> Sweetcorn <input type="checkbox"/> Mixed side salad <input type="checkbox"/>	<b>Main</b> Chicken and tomato pasta <input type="checkbox"/> Vegetarian fajitas / wrap <input type="checkbox"/> <b>Sides</b> Please choose one Potato wedges <input type="checkbox"/> Garlic bread <input type="checkbox"/> <b>Vegetables</b> Please choose two Broccoli <input type="checkbox"/> Carrots <input type="checkbox"/> Mixed side salad <input type="checkbox"/>	<b>Main</b> Lasagne <input type="checkbox"/> BBQ vegetable burrito <input type="checkbox"/> <b>Sides</b> Please choose one Potato wedges <input type="checkbox"/> Garlic bread <input type="checkbox"/> <b>Vegetables</b> Please choose two Peas <input type="checkbox"/> Sweetcorn <input type="checkbox"/> Mixed side salad <input type="checkbox"/>	<b>Main</b> Chilli con carne <input type="checkbox"/> Roasted vegetable quiche <input type="checkbox"/> <b>Sides</b> Please choose one New potatoes <input type="checkbox"/> Steamed rice <input type="checkbox"/> <b>Vegetables</b> Please choose two Peas <input type="checkbox"/> Carrots <input type="checkbox"/> Mixed side salad <input type="checkbox"/>	<b>Main</b> Fish pie <input type="checkbox"/> Cheese and tomato pasta <input type="checkbox"/> <b>Sides</b> Please choose one Harbly diced potatoes <input type="checkbox"/> Potato wedges <input type="checkbox"/> <b>Vegetables</b> Please choose two Peas <input type="checkbox"/> Carrots <input type="checkbox"/> Mixed side salad <input type="checkbox"/>	<b>Main</b> Chicken and tomato pasta <input type="checkbox"/> Vegetable spring roll <input type="checkbox"/> <b>Sides</b> Please choose one Garlic bread <input type="checkbox"/> Steamed rice <input type="checkbox"/> <b>Vegetables</b> Please choose two Broccoli <input type="checkbox"/> Sweetcorn <input type="checkbox"/> Mixed side salad <input type="checkbox"/>
<b>Snack</b> Available every lunch Served with water / juice (not cold) and butter / spread Cream of tomato and beef soup <input type="checkbox"/> Vegetable and lentil soup <input type="checkbox"/>	<b>Snack potatoes</b> Available every lunch Served with up to 100g of butter Baked beans <input type="checkbox"/> Tuna mayonnaise <input type="checkbox"/> Grated mature cheddar cheese <input type="checkbox"/>	<b>See front page for Sandwiches and Pizzas Box</b> 	<b>Cold Desserts</b> Available every lunch or tea time Ice cream <input type="checkbox"/> Thick and creamy yoghurt <input type="checkbox"/> Easy peel orange <input type="checkbox"/> Fruit in juice <input type="checkbox"/>	<b>Please report any allergen or other special dietary requirements to your nurse and the person making your food order</b> Raspberry sponge cake <input type="checkbox"/> Custard <input type="checkbox"/> Mince and request <input type="checkbox"/>	<b>Desserts</b> Please choose two Peas <input type="checkbox"/> Carrots <input type="checkbox"/> Mixed side salad <input type="checkbox"/>

Appeal/  
Satisfaction

Cost

- BCH Catering Manager
- Sodexo Drive Software Programme
- Best Practice Examples
- Mandala?

Environmental Sustainability

- Mandala
- Best Practice Examples, institutions incl. universities, early years







# Best practice learning incl. workshop

Schools



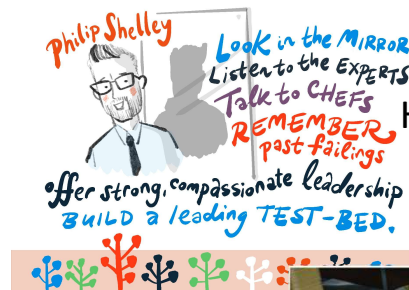
Universities



Early Years

**'FOOD, WITH CARE'**  
Creating a vision for Cambridge Children's Hospital

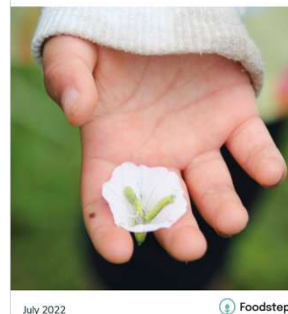
Cambridge Children's Hospital



Hospitals



University of Guelph  
Child Care and Learning Centre  
Food Sustainability Report





# Evaluation of the intervention

## Outcome evaluation

- Analysis of existing secondary data collected by Sodexo/Hospital
- What are the effects of menu changes (i.e., reducing the quantity of meat in dishes and replacing with plants) on environmental sustainability, nutritional quality, cost and patient satisfaction outcomes?
- Natural experimental evaluation, using non-equivalent comparator: effects of menu changes will be assessed on multiple occasions, both in comparison to an historical baseline i.e., July 2019- June 2024 - to adjust for seasonal effects, and in comparison across the menu cycles e.g., menu cycle 2 versus menu cycle 1.

## Process evaluation

- Qualitative research study - interviews and focus groups with delivery partners and professional staff - to understand how the intervention was delivered:
  - Was the intervention delivered in the way it was intended, in terms of fidelity, dose and reach?
  - Were there unanticipated consequences? If so, for whom and for which outcomes?
  - What contextual factors affected, and were affected by, implementation, intervention mechanisms, costs and outcomes?
  - What were the barriers and enablers of menu change in a hospital setting?

# Intervention Timetable

Round	Menu Change Date	Menu Change Type	Details
1	July 2024	Recipe reformulation, existing dishes	5 dishes reformulated and served Lasagne, bolognaise; mac n cheese, chicken tikka, veg lasagne
2	October 2024 (delayed to end Nov 2024)	Recipe reformulation, existing dishes	5 further dishes reformulated and served Chicken casserole, lamb stew, beef stew, cottage pie
3	January 2025 (delayed to March/April 2025)	Recipe reformulation, existing dishes	5 further dishes reformulated, undergoing testing

Plus x 2 more rounds?

# Examples of reformulations

Menu Change Date	Menu Change Type	Number of Dishes	Details
July 2024	Recipe reformulation, existing dishes	5 dishes reformulated	<p>Beef Bolognese: beef mince reduced from 50g to 30g + 15g Quorn mince</p> <p>Beef Lasagne: Reduced cheddar from 15g to 10g cheddar, and beef mince reduced from 50g to 30g + 15g Quorn mince</p> <p>Mac n Cheese: Replaced 15g grated mozzarella with 15g cauliflower</p> <p>Chicken Tikka: Was 50g chicken, reduced to 40g chicken and 5g red lentils</p> <p>Veg Lasagne: Was 12.5g cheddar, reduced to 7.5g per portion. Added 10g brown lentils (dried weight)</p>



# Intervention progress (tentative findings)

- Impacts on nutrition quality: iron slightly decreased, zinc increase.
- Some recipes exceeding targets previously
- Some operational challenges:
  - Sourcing lentils
  - Staff changes
  - Catering team not fully briefed
- Plan to continue reformulation route – 50 dishes on menu
- Novel approach compared to peer institutions (cf replacement strategy)
- Focus on easy/popular – wet dishes (moving on to dry eg pizza, burgers, chips)

# Plan for the project

- 2-3 rounds of menu changes
- Analysis of findings (Autumn 2025-Spring 2026)
- Modelling of potential impacts if replicated
- Dissemination via:
  - Journal articles
  - Podcast
  - Film
  - Toolkit for institutions



# Thanks for listening

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