

# NHS Net Zero Food Programme



Presented by:  
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# Outline

- Context : food in hospitals
- Net Zero Food Programme objectives
- Balancing nutritional needs with net zero aims
- How we have achieved lower carbon recipes and menus
- The NHS England Recipe and Menu Bank
- What can you do in your Trust?





# Facts and Figures: food in hospitals

- **Patients**

- NHS feeds approximately 125,000 inpatients per day
- 140 million inpatient meals per year (£633 million)
- Median spend on food per patient is £4.56 per day

- **Retail**

- Retail food to staff and visitors generates £2–3 billion per year

- **Food waste**

- 14 million kg of unserved meals are thrown away per year
- Cost of hospital food waste is £230 million: 39% of total food budget
- Food waste contributes 2% of all NHS carbon emissions.

Department of Health and Social Care (2020) Independent Review of Hospital Food. Available at:  
<https://www.gov.uk/government/publications/independent-review-of-nhs-hospital-food> [Accessed 25/7/2023]

# Contribution of food to NHS carbon emissions

Food and catering = 6% of NHS greenhouse gas emissions (GHGe)\*

Medicines/chemicals = 25% NHS GHGe\*

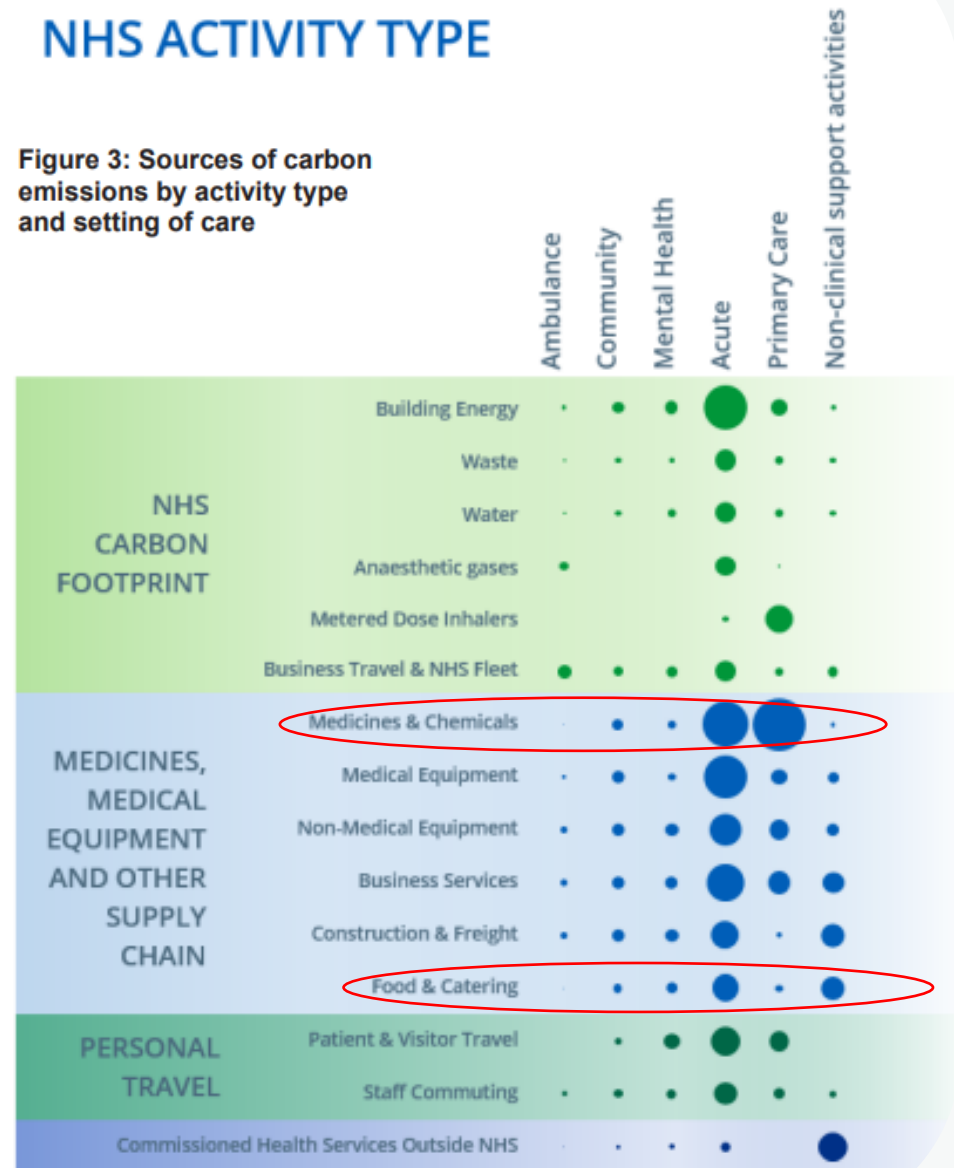
e.g.,  
 Heparin (pig intestines)  
 Ventolin inhalers – (3.5% of the carbon emissions of the UK health service)\*\*.

\* Gov. Delivering a Net Zero NHS. Available at: [Greener NHS » Delivering a net zero NHS \(england.nhs.uk\)](https://www.england.nhs.uk/greener-nhs/delivering-a-net-zero-nhs/) (Accessed 30.8.23)

\*\* World Economic Forum(2022) Asthma inhalers emit greenhouse gases, but that can change. Available at: [Asthma inhalers emit greenhouse gases, but that can change | World Economic Forum \(weforum.org\)](https://www.weforum.org/articles/asthma-inhalers-emit-greenhouse-gases-but-that-can-change/) (Accessed 14/8/23)

## NHS ACTIVITY TYPE

Figure 3: Sources of carbon emissions by activity type and setting of care



# NHS Net Zero Food Programme: Who are we?



Emma Brookes

Estates and Facilities (EFM) Head of Soft FM

[Read more](#) ▼



Phil Shelley

Senior Operational & Policy Manager for NHS England and NHS Improvement covering a range of topics within Soft Facilities Management.

[Read more](#) ▼



Max Kindred - Data Strategy Senior Analyst for Soft FM

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Joanne Instone - Net Zero Food Programme Dietician for NHS England

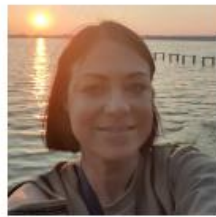
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Tim Radcliffe

Net Zero Food Programme Manager - NHS England

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Stephanie Price

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National Development Chef - NHS England

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# NHS Net Zero Food Programme: Objectives

## Support Trusts with:

- Food waste reduction
- Implementing electronic meal ordering
- Implementing healthier, more sustainable food for patients, staff and visitors
- Training, communication and education about sustainable food and waste reduction
- Data collection and analysis



**LUNCH**

**Main Course**

- Roast Beef and Yorkshire Pudding** Locally sourced beef is used for this Sunday lunch classic. Served with a crispy Yorkshire Pudding
- Minced Lamb Casserole** A softer option of minced lamb cooked slowly in a tasty gravy
- Sweet and Sour Vegetables with Boiled Rice** A blend of seasonal vegetables in a tasty sauce
- Ham Salad** Served with a mix of salad accompaniments, a bread roll and butter

**Sandwich Selection**  
A choice of sandwiches are available at every meal

**Sides**

- Mashed Potatoes
- Roast Potatoes
- Savoy Cabbage
- Sliced Carrots
- White Rice

**Dessert**

- Apple Crumble
- Yoghurt
- Fruit Bag
- Vanilla Ice Cream
- Custard

**SUPPER**

**Soup of The Day**

**Main Course**

- Lamb Meatballs in Moroccan Sauce** Locally sourced lamb in a tomato based sauce with a touch of the heat from North Africa. Served with white rice
- Pasta Carbonara** Pasta and Sliced Ham in a creamy white sauce
- Jacket Potato, Grated Cheese and Coleslaw** A popular tea time dish
- Turkey Salad** Served with a mix of salad accompaniments, a bread roll and butter

**Sandwich Selection**  
A choice of sandwiches are available at every meal

**Sides**

- Mashed Potatoes
- Mixed Vegetables
- White Rice
- Side Salad

**Dessert**

- Egg Custard
- Tinned Fruit
- Fruit Bag
- Yoghurt
- Vanilla Ice Cream

**Legend:**

- = dishes that the public of Nottingham have requested to be on our menu
- = denotes a softer choice
- = vegetarian choice
- = higher energy
- = healthier choice



**‘Nutrition and sustainability are  
interrelated – we should not tackle either  
of them in isolation’**

The Government Food Strategy (2022). Department for Environmental Food & Rural Affairs. Available at:  
<https://www.gov.uk/government/publications/government-food-strategy/government-food-strategy> (Accessed 23/07/2023)

# Balancing nutrition with lowering the carbon emissions from food

## We cater for different types of people

- Staff and visitors
- Patients
  - Nutritionally well patients (approx. 60%)
  - Nutritionally vulnerable patients (approx. 40%)\*



\* BAPEN (2022) Survey of Malnutrition and Nutritional Care in Adults 2021. Available at: [survey-of-malnutrition-and-nutritional-care-in-adults-2021.pdf](https://www.bapen.org.uk/survey-of-malnutrition-and-nutritional-care-in-adults-2021.pdf) (bapen.org.uk) (Accessed: 5/7/2023)



# Nutritional guidelines

## Nutritionally well patients, staff and visitors

- Eatwell guide\*
- National Standards for Healthcare Food and Drink\*\*
- BDA One Blue Dot\*\*\*

Plant-based dishes are generally good for preventing non-communicable disease because they are:

- Higher in fibre
- Reduced energy and energy density
- Reduced fat and saturated fat



\* Gov.UK (2018) Eatwell guide. Available at: [The Eatwell Guide - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/eatwell-guide) (Accessed: 5/7/2023)

\*\* NHS England (2022) National Standards for Healthcare Food and Drink. Available at: [NHS England » National standards for healthcare food and drink](https://www.nhs.uk/healthcare-food-and-drink) (Accessed : 5/7/2023)

\*\*\* British Dietetic Association (BDA) (2020) One Blue Dot. Available at: [One Blue Dot - the BDA's Environmentally Sustainable Diet Project | British Dietetic Association \(BDA\)](https://www.bda.co.uk/one-blue-dot) (Accessed : 5/7/2023)

# Nutritional guidelines

## Nutritionally vulnerable patients

- Nutritionally vulnerable patients may have normal nutritional requirements but with poor appetite and/or unable to eat normal quantities at mealtimes; or with increased nutritional needs\*
- Nutrition and Hydration Digest 3<sup>rd</sup> Edition\*\*
- Food first approach\*\*\*
- Spotting and Treating Malnutrition\*\*\*\*

\*. NHS England (2022) National Standards for Healthcare Food and Drink. Available at: [NHS England » National standards for healthcare food and drink](#) (Accessed : 5/7/2023)

\*\* .BDA (2023) Nutrition and Hydration Digest 3<sup>rd</sup> Edition. Available at: [Nutrition and Hydration Digest | British Dietetic Association \(BDA\)](#) (Accessed: 5/7/2023)

\*\*\* . BAPEN (2016) Food First/Food Enrichment. Available at: <https://www.bapen.org.uk/nutrition-support/nutrition-by-mouth/food-first-food-enrichment> (Accessed: 25/7/2023)

\*\*\*\* .BDA (2019) Spotting and Treating Malnutrition. Available at: [Spotting and treating malnutrition | British Dietetic Association \(BDA\)](#) (Accessed :5/7/2023)

## Nutrient requirements\*\*:

- 2777kcal /d ( i.e., an extra **200 – 300** kcal / day compared to nutritionally well patients)
- 79 -92g/d protein (i.e., an extra **35g protein** compared to nutritionally well patients)

Small portions of nutritionally dense foods are needed. Bulky foods like plant foods may fill patients up too quickly.

When sick, patients prefer to eat foods they are familiar with (comfort foods) which may mean meat-based dishes for the elderly.

# Benefits of ensuring patients meet their recommended nutritional intakes

## Nutritionally well patients:

- Benefits their health, contributing to the prevention of non-communicable diseases and **resulting in fewer healthcare / hospital days and hence helping the environment**
- **Average low intensity bed day = 37.9KgCO<sub>2</sub>e\***
- **Average high intensity bed day = 89.5KgCO<sub>2</sub>e\***

## Nutritionally vulnerable patients:

- Improves muscle strength, quality of life, and clinical outcomes (e.g., decreased infections, improved wound healing, reduced mortality). **Reduces use of medicines, shortens hospital stays and reduces readmission rates**
- **(NB Omnivorous food / day = 4.4kgCO<sub>2</sub>e)**

\*. NHS England (2015) Care Pathways: Guidance on Appraising Sustainability. Available at: <https://shcoalition.org/wp-content/uploads/2019/10/Sustainable-Care-Pathways-Guidance-Inpatient-Bed-Day-Module-Oct-2015.pdf> (Accessed: 25/7/2023)

# HOW to reduce carbon in hospital food?

- Take traditional dishes and alter to include more plant proteins, vegetables and fruit
- Introduce new modern dishes rich in plant foods
- Introduce a new vegan dish every mealtime in addition to the vegetarian dish already there.
- Reduce the number of times that meat dishes occur in the weekly menu.



**NHS Recipe and  
Menu Bank  
Coming Soon!**

# Creating a lower carbon lasagne

E Beef Lasagne (E)		Northamptonshire Cafe Vie		CATEGORY	EXPORT TO
HFSS Rating ?	-1	points			
▶ Modifiers & Properties... <i>click to expand</i>					
▼ Recipe Ingredients ... <i>As Entered</i>					
	Quantity:	Description:	Method:	Cost:	
x	3kg	71662 Prime Meats Scotch Beef Mince 10% Fat (23 Mi:	unchanged	0.00	
x	450g	Onions, raw	3x medium unchanged	0.00	
x	2.5kg	6437 Brakes Chopped Tomatoes in Tomato Juice	unchanged	0.00	
x	180g	AJQ162 Tomato Puree	unchanged	0.00	
x	85g	134644 Cooks & Co Garlic Puree	unchanged	0.00	
x	3kg	Milk, semi-skimmed, pasteurised, average	3 litres unchanged	0.00	
x	200g	350091 Brakes Plain Flour (24 May 2023)	unchanged	0.00	
x	120g	Cheese, white, average	3x Average Portion unchanged	0.00	
x	500g	AEH205 Lasagne Sheets	unchanged	0.00	
x	250g	74088 Brakes Unsalted Butter (23 May 2023)	unchanged	0.00	
x	20g	100448 Brakes Beef Flavour Bouillon Paste (24 May 2023)	N/A	0.00	

E Meat and Lentil Lasagne (C)		Description	CATEGORY	EXPORT TO
▶ Modifiers & Properties... <i>click to expand</i>				
▼ Recipe Ingredients ... <i>As Entered</i>				
	Quantity:	Description:	Method:	Cost:
x	2kg	10324 Large Onions	100x Average Portion unchanged	0.00
x	500g	Beef Mince 85vl	2 Serving unchanged	0.00
x	400g	Turkey mince, raw 4% fat	1x Medium Pack unchanged	0.00
x	500g	Lentils, red, split, dried, boiled in unsalted water	2.6 cup unchanged	0.00
x	3.2kg	19839 Brakes Chopped Tomatoes in Tomato Juice	4x Each unchanged	0.00
x	100g	Tomato puree	1/2 average tube unchanged	0.00
x	120g	10439 Fresh Garlic	1x Each unchanged	0.00
x	1kg	Water, tap, drinking	1 litre N/A	0.00
x	30g	Mixed herbs, dried	15 tablespoon unchanged	0.00
x	15g	Basil, dried, ground	7.5 tablespoon N/A	0.00
x	250g	Butter, unsalted	2.5/2 cup, cubed unchanged	0.00
x	1.25kg	Milk, whole, pasteurised, average	5 cup / serving unchanged	0.00
x	250g	Everyday Favourites Plain White Flour	2.5 Serving unchanged	0.00
x	1kg	Everyday Favourites Italian Lasagne Sheets	13.33 Serving unchanged	0.00
x	30g	9802 Brakes Extended Life Rapeseed Oil	0x Each unchanged	0.00
x	30g	Everyday Favourites Table Salt	unchanged	0.00
x	300g	27547 Brakes Mild White Cheddar	0.12x Each unchanged	0.00

7% less carbon emission

# Creating lower-carbon menus

Lunch and supper (42 dishes):

8 beef dishes

9 chicken/turkey dishes

6 fish dishes

5 sausage, ham, lamb or pork dishes

14 vegetarian dishes (1 per meal)

## Lower carbon menu week

Lunch and supper (56 dishes)

• 2 beef dishes

• 9 chicken/turkey dishes

• 6 fish dishes

• 5 sausage, ham, lamb or pork dishes

• 14 vegetarian main ( 1 per meal)

• 4 additional vegetarian dishes (replacing beef)

• 14 vegan main (1 per meal)

• 2 venison dishes

Approx.  
20- 30%  
carbon  
saving



# Hints and tips to encourage selection of lower-carbon dishes

- British Dietetic Association does not recommend coding dishes as lower-carbon – label the menu as whole as lower in carbon<sup>9</sup>
- Place lower-carbon dishes at the top of the menu
- Do not name dishes: ‘vegetarian’ or ‘vegan’. Instead use culinary adjectives and descriptions that stimulate the appetite: e.g., ‘vegetarian lasagne’ becomes ‘herby lentil and tomato lasagne with crusty cheese topping’
- In a staff restaurant, make placement of lower-carbon dishes more prominent on display; favourable pricing, carbon labelling
- Education of all staff involved in the production and delivery of meals to patients and staff

# Florida and New York

- Introduced plant-based dishes in hospitals:

- In New York\*

- Introduced a plant-based menu **in addition to ordinary menus** and found that:
  - If the menu was entirely vegetarian or vegan about 10-20% patients complained that there was no meat
  - 50 - 60% choose the plant-based dishes
  - 95% of the people who chose plant-based dishes were happy with it
  - The menu choices were delivered verbally by trained staff rather than on paper / online.
  - No paper published yet

- In Florida\*\*, solely plant-based menu for all patients. Patients needing more protein / energy given supplements.
- was no measurement of nutritional intake or patient satisfaction

\*Plant-based World Pulse (2023) How NYC Hospitals Successfully Made Plant based The default. Available at: [How NYC Hospitals Successfully Made Plant-Based The Default \(plantbasedworldpulse.com\)](https://plantbasedworldpulse.com) (Accessed 14/8/23)

\*\* Saldivar B et al (2021) Successful incorporation of a plant-based menu into a large teaching hospital. Available at: [Successful Incorporation of a Plant-Based Menu Into a Large Academic Hospital - Brittany Saldivar, Bashar Al-Turk, Michelle Brown, Monica Aggarwal, 2022 \(sagepub.com\)](https://sagepub.com) (Accessed 14/8/23)



# What can I do?

- As a multidisciplinary group, agree to trial/implement lower carbon recipes and menus
  - Group to include:
    - Dietitians
    - Caterers and chefs
    - Nutrition support Group
    - Nurses and doctors
    - Local patient groups
    - Trust Sustainability lead
    - Board Executive with responsibility for food and nutrition
- Research –pre and post implementation
  - weighed food intake surveys of patients
  - Patient satisfaction surveys
  - Cost analysis
  - Waste analysis
- Publish



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## Thank You



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[england.nhs.uk](https://www.england.nhs.uk)