



**innovating  
food** for seniors

# PIFS Healthy Ageing Event

**8<sup>th</sup> September, 2022; Sutton Bonington, University of Nottingham**



Co-funded by the  
Erasmus+ Programme  
of the European Union

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# Introduction...

- The outcomes for this event.
- Free knowledge and resources.
- Breakout sessions, feedback forms.
- Explain projects & IOs. (FIC & PIFS)



## Event Agenda

Time	Event programme	Speaker
9:00 - 9:30	Arrive, Registration & Refreshments	
9:30 - 9:45	<b>Welcome and Introduction</b> What is PIFS and how may you benefit from this project?	Richard Worrall (Head of FIC)
9:45 - 10:15	<b>Healthy Ageing: What is the current status of the Science?</b> What knowledge do we have to provide solutions? What solutions are available now? How UoN and PIFS can help?	Dr. Moira Taylor (Assoc. Professor in Human Nutrition)
10:15 - 10:30	<b>Breakout 1: IO1- Good practice guide</b>	FIC Team
10:30 - 11:00	<b>Healthy Ageing: Elderly Nutrition</b> What are the current issues with elderly people that need addressing? What is required to tackle these issues?	Kirandeep Marsh (Research Dietitian, NHS)
11:00 - 11:15	<b>Tea/Coffee Break</b>	
11:15 - 12:45	<b>Showcase PIFS project &amp; Case Studies</b>  <b>Breakout Sessions (IO2-IO4) &amp; Review</b> Discussion of project elements and feedback for improvements	FIC Team
12:45 - 13:00	<b>Closing remarks &amp; Lunch</b>	Richard Worrall

# Dr Moira A Taylor PhD RD

Associate Professor of Human Nutrition (Dietetics), Faculty of Medicine & Health Sciences



Having initially worked as a registered dietitian in the NHS, Moira has undertaken applied dietetic research for over 30 years alongside training health professionals in the importance of nutritional awareness.

She is committed to ensuring that university-based research techniques such as magnetic resonance imaging, physiological, biochemical and sensory methods are effectively applied to address practical, nutrition related problems in order to improve the quality of people's lives.

# Breakout 1: Good Practice Guide

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- An introduction to the Good Practice Guide
- **IO1 Feedback:** What are your thoughts about the guide and its value for your business or organisation?

- **Introducing our Free Open-sourced Online Platform**



**GOOD PRACTICE GUIDE for VET trainers**

Be inspired to use **20 case studies** of small and-medium-sized enterprises (SMEs) innovating food for seniors in your training programmes

 **innovating food** for seniors

[www.innovatingfoodforseniors.eu](http://www.innovatingfoodforseniors.eu)

Co-funded by the European Union

# Evaluation (QR Code)

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**Evaluation QR Code for each IO:**

IO1:



IO2:



IO3:



IO4:



**Evaluation QR Code for the multiplier event itself:**

Event:



# Kiri (Kirandeep) Marsh

Research Dietitian from Professor Opinder Sahota's Research Team, Nottingham University Hospitals, Queens Medical Centre, NHS



Kiri Marsh is a Health Care of Older People Research Dietitian at Queens Medical Centre, Nottingham University Hospitals NHS Trust and a Masters in Research Student at the University of Nottingham.

Her current work explores the role of a new high protein, fortified ice-cream, 'Nottingham-Ice cream' ('N-ICE CREAM'), compared to standard oral nutritional supplements in older patients with fractures.

# Healthy ageing: Elderly nutrition

Kiri Marsh  
Research Dietitian  
Health Care of Older People Research team



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of the European Union



# Contents

- What is healthy ageing
- Introduction into malnutrition in the hospital
- Nutritional issues
- Solutions
- Research at Nottingham University Hospitals (NHS) Trust



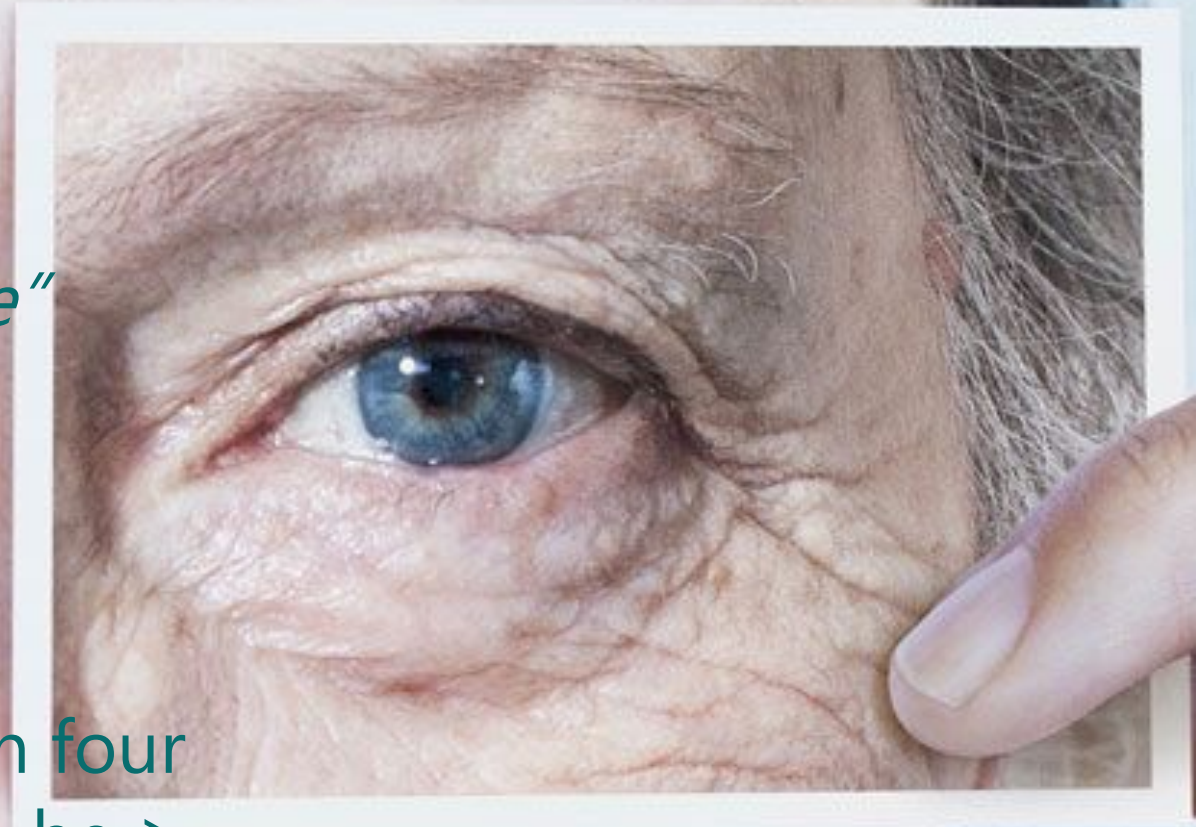
# Healthy ageing

*The process of developing and maintaining functional ability that enables welling being in older people"*

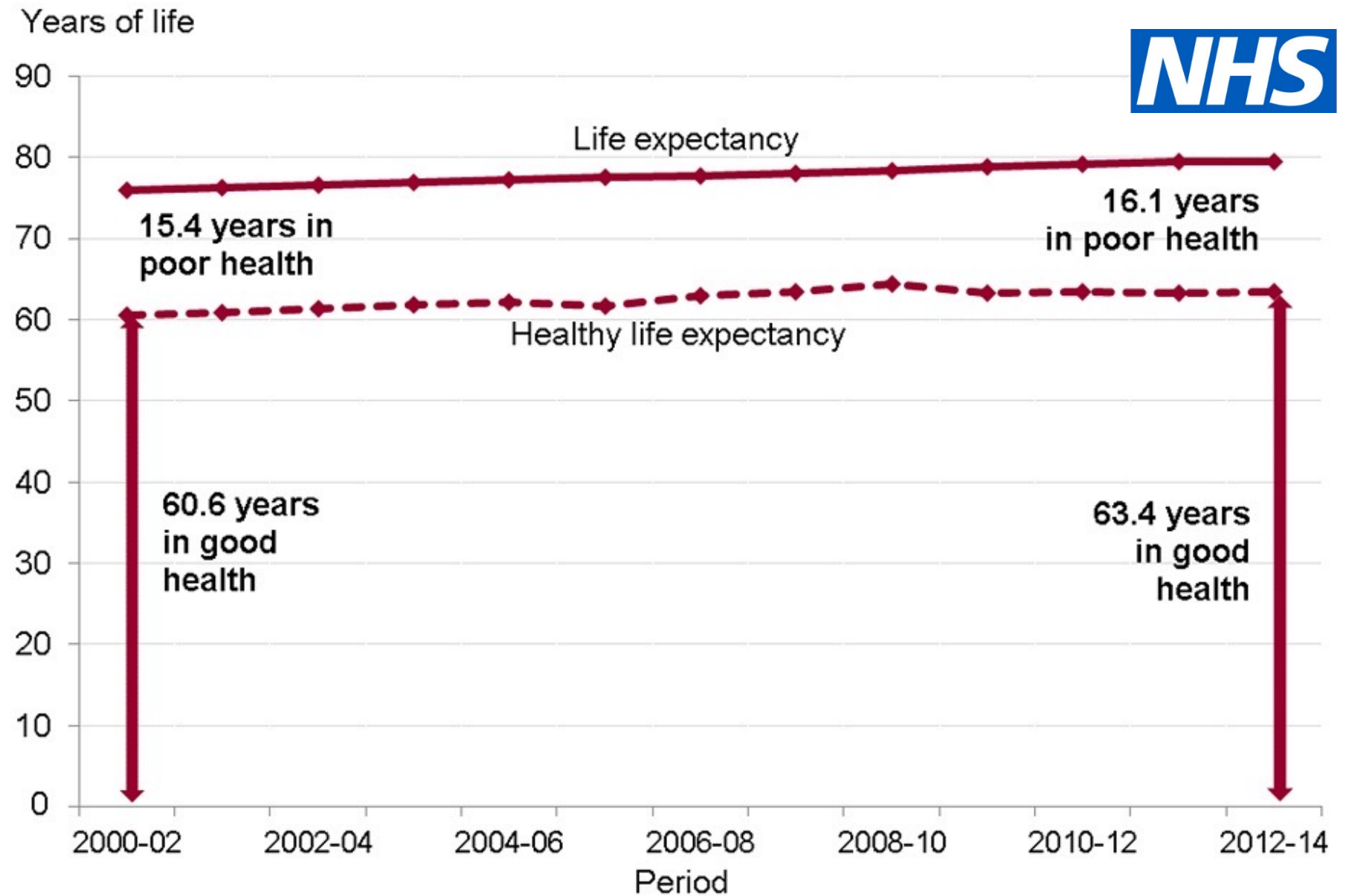
*(WHO 2020)*

Half a million people in their 90s in the UK.

By 2041, one in four people in the UK will be  $\geq$  65 years old.



Significant proportion of later life spent in poor health



Healthy life expectancies and life expectancies from ONS reports, with prevalence of good health derived from their surveys: General Household Survey/General Lifestyle Survey for years 2000 to 2002 up to 2008 to 2010, and the Annual Population Survey for years 2009 to 2011 up to 2012 to 2014.



# Malnutrition (Undernutrition)

Condition which happens when you don't get the correct nutrients from your diet

- Unintentional weight loss,
- Low body mass index
- Reduced muscle mass
  - Reduced food intake
- Inflammation or disease burden

# Older adults are nutritionally challenged

Malnutrition affects 1.3 million people in UK who are over the age of 65 years



# Prevalence of malnutrition on admission to hospital

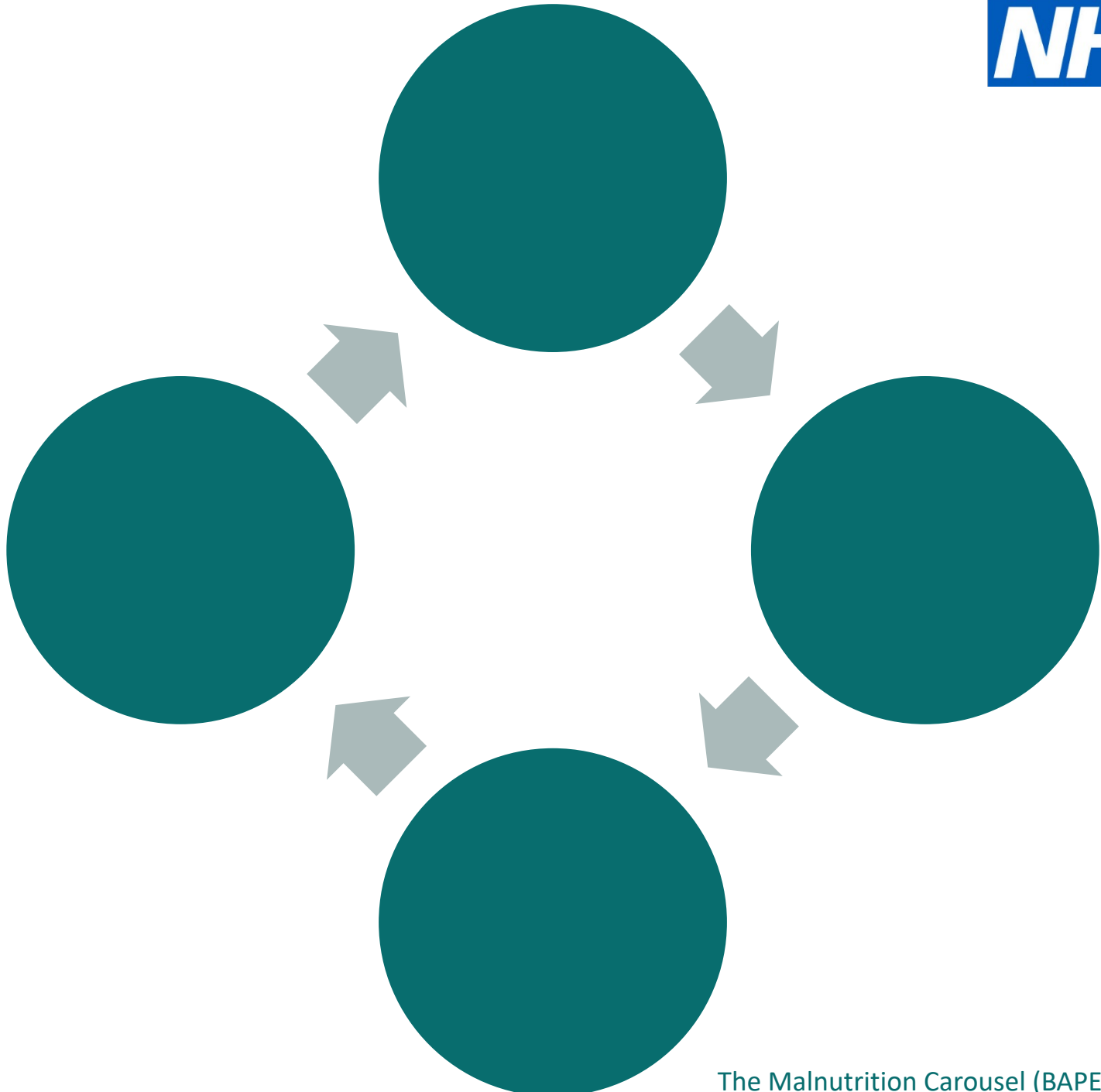


30% of hospital admissions



50% from care homes

# The cycle of malnutrition



# Consequences of Malnutrition to patient



ICONS WHICH CAN BE

USED WITHIN

INNOVATING

FOR SENIORS

POWERPOINT

5-10% weight loss

*Resize them without  
quality. Change line colour,  
width and style.*

>10% weight loss  
Isn't that nice? :)

\*\*\* PLEASE DELETE THIS INSTRUCTION SLIDE BEFORE PRESENTATION \*\*\*  
40% weight loss

# 'The Downward Spiral'





# Consequences of Malnutrition to the NHS



A close-up photograph of an elderly person's hands, showing wrinkles and age spots, gripping a wooden walking cane. The background is softly blurred, showing a person in a white coat, likely a healthcare professional.

**So why is malnutrition so  
common in hospital?**



# Causes of malnutrition

# Strategies and solutions



## 'Malnutrition Universal Screening Tool' (MUST)

Screen on admission and weekly thereafter

To calculate use the MUST BMI Score and Weight loss Score charts  
 If unable to weight and height please see MUST alternative measurements instructions and tables  
 If unavailable please see :-[http://www.bapen.org.uk/must\\_itself.html](http://www.bapen.org.uk/must_itself.html)

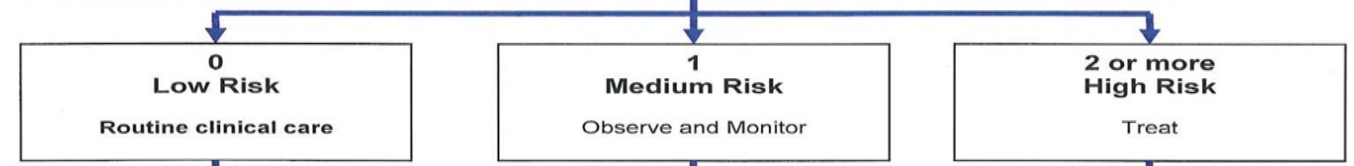


**Factors influencing weight requiring adjustments:**  
 Fluid disturbances/Plaster casts/Pregnancy/Lactation/Amputations can all effect weight please adjust the measured weight accordingly using the factors influencing weight sheet

**Obesity:**  
 Record presence of obesity. For those with underlying conditions, these are generally controlled before the treatment of obesity

### Step 4

Add Scores together to calculate the over all risk of malnutrition score



- Record overall risk score on MUST nursing documentation (order code NUH01393S)
  - Rescore weekly or earlier if change in medical condition
- N.B If patient is felt to be unsuitable for screening please document reason on MUST nursing documentation and date to reevaluate

### Step 5

Formulate care plan using management guidelines overleaf

# Detecting malnutrition

# Practical solutions to malnutrition

A teal-colored circle containing the text 'Protect the mealtimes'.

Protect the mealtimes

A teal-colored circle containing the text 'Assist with mealtimes'.

Assist with mealtimes

A teal-colored circle containing the text 'Prepare the environment'.

Prepare the environment

A teal-colored circle containing the text 'Listen'.

Listen

A teal-colored circle containing the text 'Encourage and prompt'.

Encourage and prompt

# Protected Mealtimes

**“Nothing shall be done  
on a ward whilst  
patients are having  
their meal”**

Florence Nightingale (1859)

To improve the patient  
meal time experience

To allow staff to assist  
and monitor)

# Mealtimes Matter – *Gold Standard*

- Avoid all non-essential activity on wards
- Minimal interruptions at mealtimes – except for urgent care
- Nursing teams will focus on patients' nutrition and hydration at mealtimes
- Staff not involved in mealtime care should keep distractions to a minimum
- Relatives/carers can be encouraged to help where appropriate

## Standard Operating Procedure for Mealtimes

### BEFORE

- 1 Ring bell 15–20 mins before mealtimes
- 2 All clinical staff finish off tasks
- 3 Share any specific information with the Food Service Assistant, meal time volunteer or dining companion
- 4 Arrange alternative meal for patients not on the ward during meal service
- 5 Know which patients need assistance with feeding and allocate nurse
- 6 Ensure patients have opportunity to visit the toilet
- 7 Consider the environment e.g. sit patients up/in chair/take to dining room as per end PJ paralysis
- 8 Clear patients' tables and wipe clean
- 9 Offer hand wipes to patients and help them to use (if necessary)

### DURING

- 1 Use a red tray to identify patients who need help and/or who need their intakes monitoring
- 2 If patients require help, only serve meals when a nurse is ready to assist
- 3 Serve main course and pudding separately
- 4 Ensure patients have:
  - Serviette
  - Appropriate drink
  - Correct cutlery
  - Condiments
  - Eating aids/blue crockery if required
- 5 Open packets, cut up food and provide assistance (as necessary)
- 6 Check patients are happy with their choice of meal and have everything they need

### AFTER

- 1 Complete food charts (where applicable)
- 2 Ask patients: "How was your meal?" (and act on response)
- 3 Update food and drink care plan





# Food charts

Nottingham University H 

Name: \_\_\_\_\_  
 DOB: \_\_\_\_\_  
 NHS Number: \_\_\_\_\_  
 Ward: \_\_\_\_\_

← Patient label or complete details

(PATIENT LABEL)

## Food and Fluid Record Chart

Please record all food intake (including snacks/ food from home) and supplements (See example). Also record fluid intake UNLESS patient is on a fluid balance chart

Meal	Date: 9 May 2019	Initial
	For Example : 1/2 portion of shepherd's pie, 1/4 portion peas 2 teaspoons of ice cream	TW
Early morning drink/snack /supplement	1/2 cup of tea - milk, no sugar	TW
Breakfast	Cup of coffee - milk, 2 teaspoons sugar Declined B'fast	STH
Mid-morning drink/snack/supplement	Strawberry Build up with semi skimmed milk	RT
Lunch	1/2 battered fish, 1 scoop mash, 1/2 portion of peas 1/2 portion of rice pudding 1/2 cup of tea - milk, no sugar	RT
Afternoon drink/snack/supplement	Cup of coffee - milk, 2 teaspoons sugar	STH
Supper	1/2 ham sandwich, Ice cream Cup of coffee - milk, 2 teaspoons sugar	KB
Evening drink/snack/supplement	Declined	LG

Meal	Date: 10 / 5 / 19	Initial
	For Example : 1/2 portion of shepherd's pie, 1/4 portion peas 2 teaspoons of ice cream	TW
Early morning drink/snack /supplement	Declined	TT
Breakfast	1/2 slice toast - butter and jam 1/2 cup of tea - milk, no sugar	FF
Mid-morning drink/snack/supplement	Glass of semi skimmed milk	GK
Lunch	1/2 portion veg lasagne Apple pie and custard	SH
Afternoon drink/snack/supplement	2 custard cream biscuits cup of tea - milk, no sugar	DR
Supper	1 fishcake Ice cream Cup of tea - milk, no sugar	KB
Evening drink/snack/supplement	Coffee made with full fat milk - 2 sugars Slice of fruit cake (from home)	ST

Document what patients eats (and drinks) here!

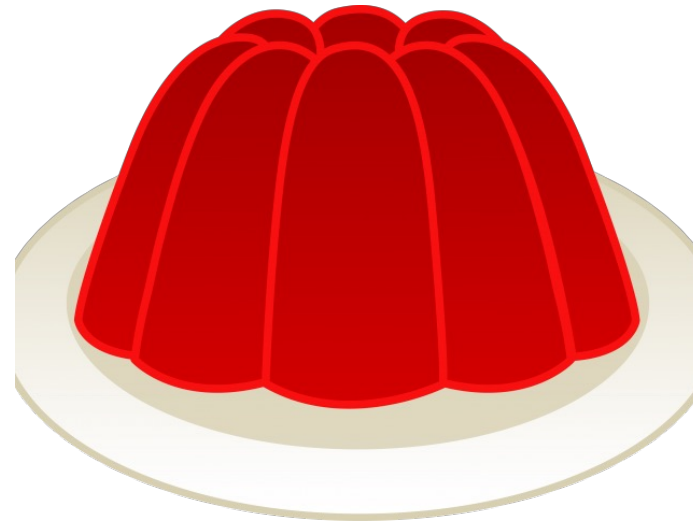


Dining rooms

# Hospital menu



Calpudd



Fortijelly

and  
est

**UPDATED FOR 2019**

- New IDDSI framework
- Easy to chew coding
- Neutropenic diets
- Renal diets



# Supporting patients with dementia

- Prompting and encouragement
  - Assistance with eating
    - Red tray
  - Allow plenty of time to eat
    - Finger food menu
  - A 'little and often' approach
- Keeping the table setting simple
  - Adapted cutlery



# Oral nutritional supplements (ONS)

- Ready made foods/drinks/powders with added energy and protein vitamins and minerals.
- They may also be referred to as build up food / drinks.



# Oral nutritional Supplements (ONS)

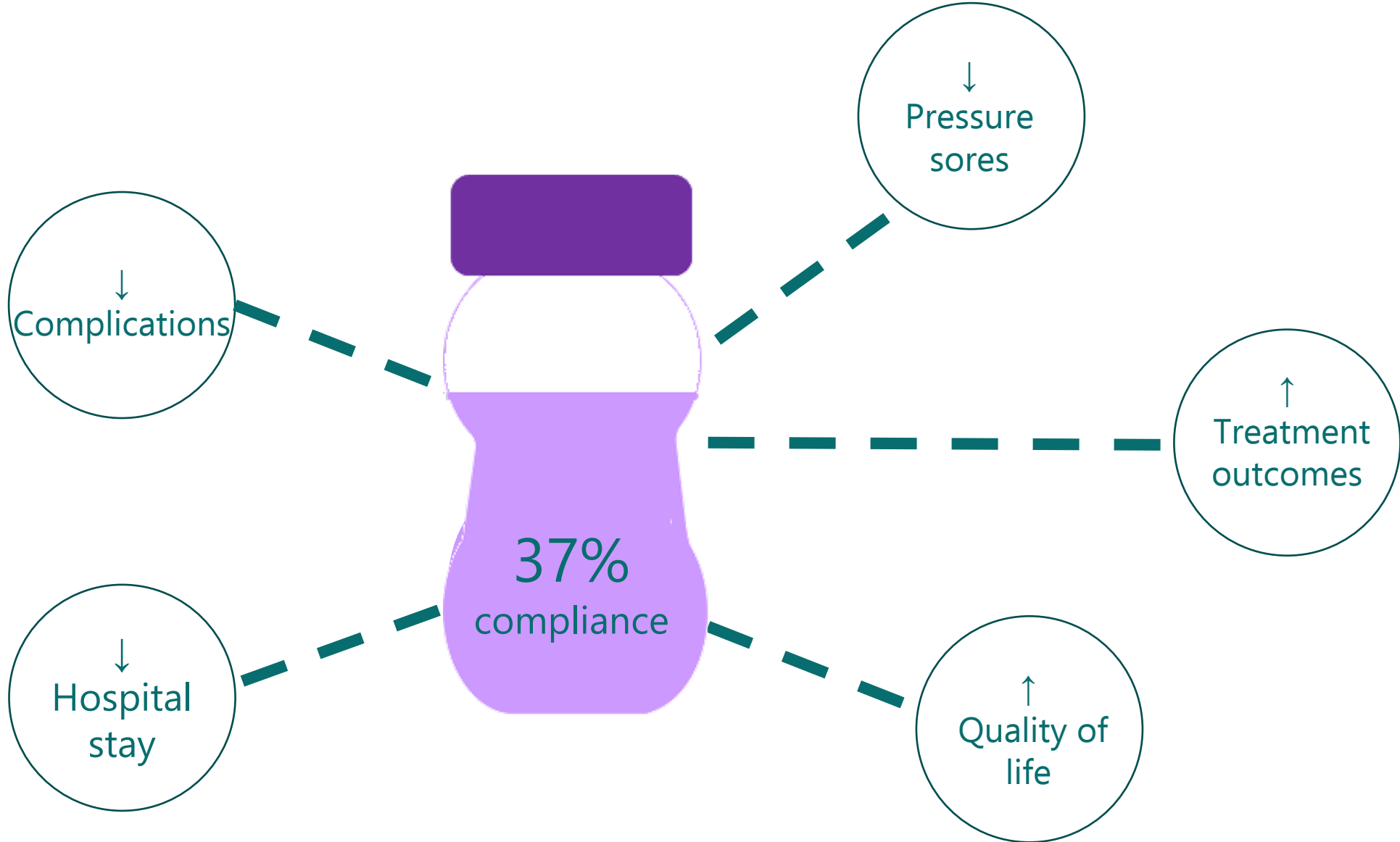
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Oral nutritional supplements offered to an older person with malnutrition or at risk of malnutrition, shall provide at least 400 kcal/day including 30 g or more of protein/day.

- Most ONS provide 300kcal, 12g protein and a full range of vitamins and minerals per serving



# Oral nutritional supplements (ONS)



A photograph of a single scoop of light-colored ice cream in a white ceramic bowl, with a silver spoon resting on the surface next to it. The background is a plain, light-colored surface.

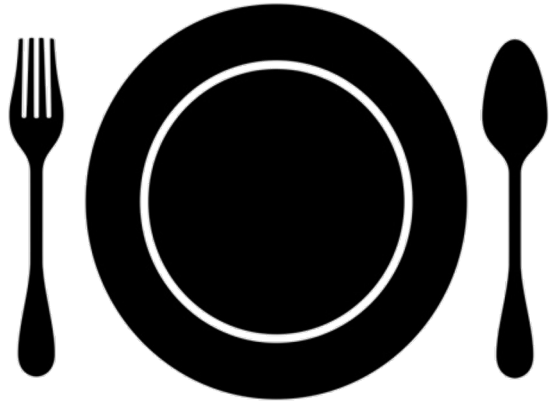
# The Nottingham Ice Cream Project – Food waste and Ice Cream solutions

Queens Medical Centre Nottingham University Hospitals NHS  
Trust

Health Care of Older People Research Team



# Dietary intake, food and ONS waste



**Dietary intake**

**Are patients eating enough?**



**Food waste**

**How much hospital food is wasted?**

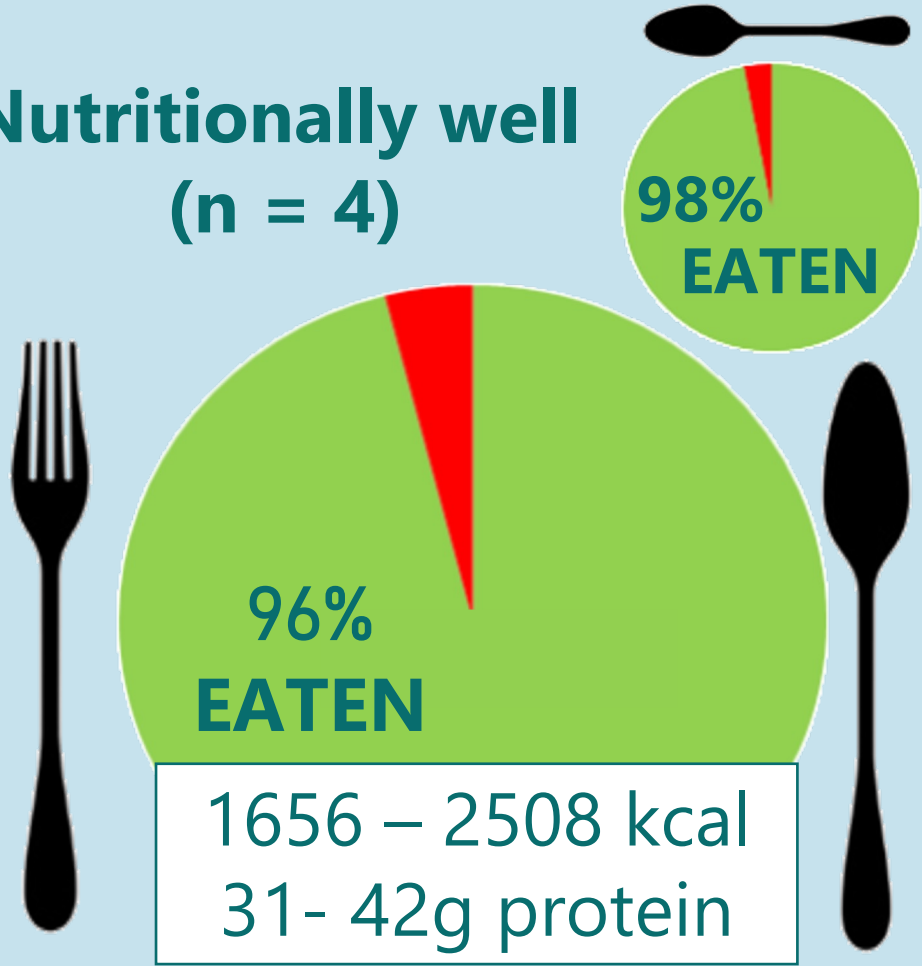


**ONS compliance**

**Are ONS being consumed?**

# Dietary intake and plate waste

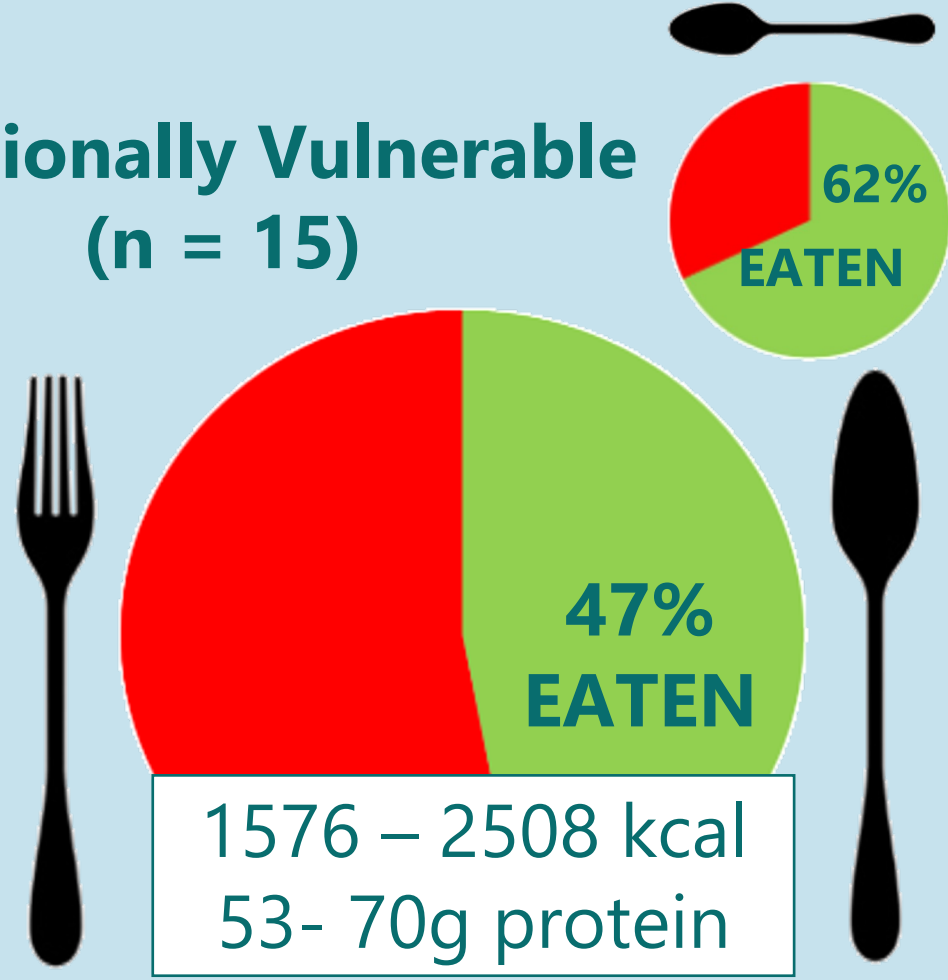
**Nutritionally well**  
(n = 4)



1656 – 2508 kcal  
31- 42g protein

1592 ± 257 kcal  
65.7 ± 8.5g protein

**Nutritionally Vulnerable**  
(n = 15)



1576 – 2508 kcal  
53- 70g protein

643 ± 354kcal  
24.8 ± 14.2g protein

# Overall intake

893 ± 533 kcal

35.6 ± 33.8 g protein

## **To stimulate muscle protein synthesis....**

25- 30g of high quality protein per meal, containing approximately 2.5 – 2.8g of leucine

# Food waste in the NHS

- The NHS is the second biggest provider of meal in the UK public sector
  - 141 million inpatient meals are served annually
  - One in six hospital meals are wasted



# Weighed food waste

## Patients

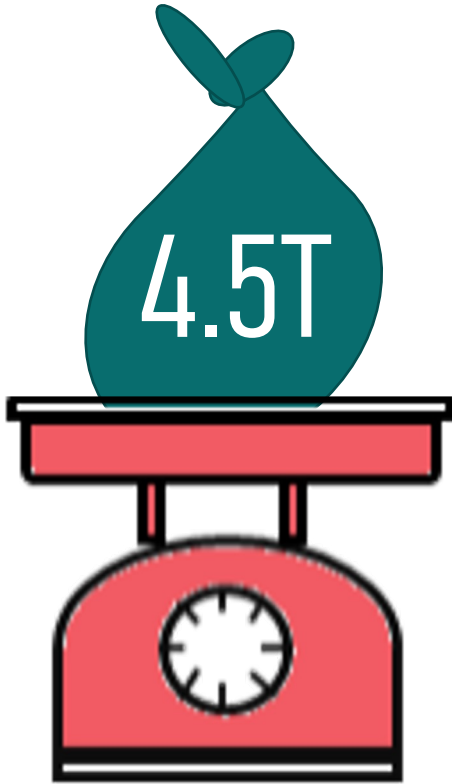
Lunch = 3.17kg  
Dinner = 2.99kg



## Food trolley

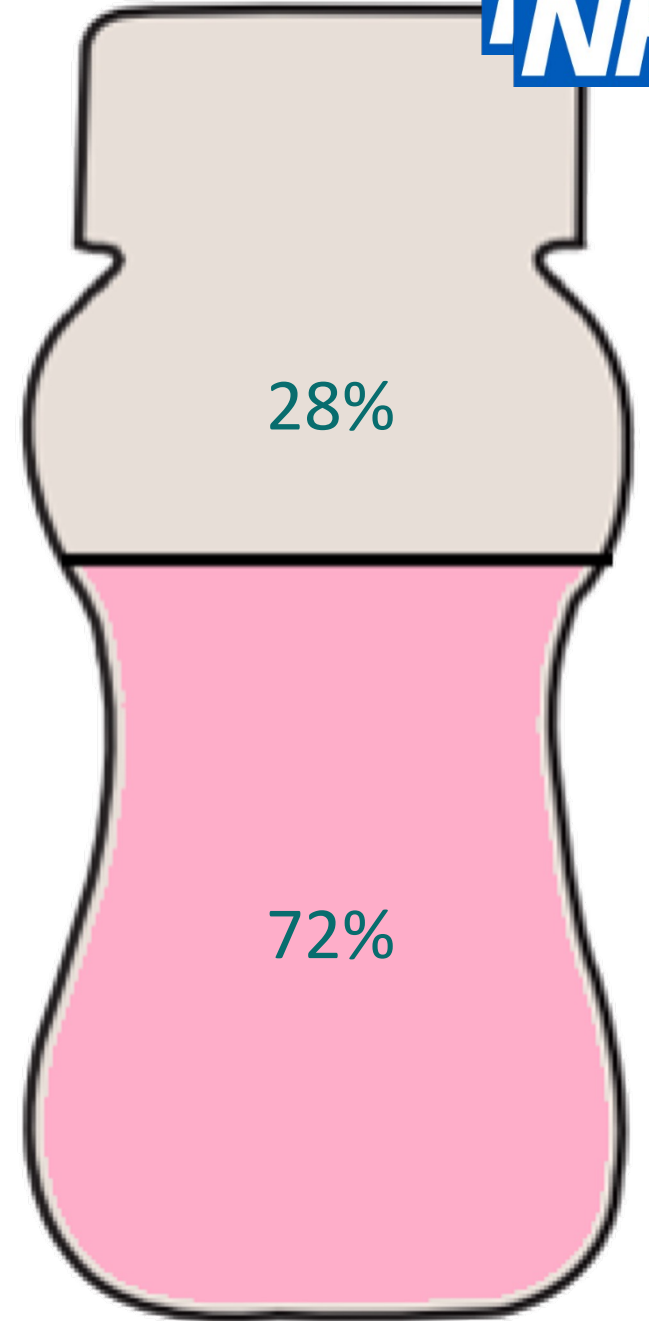
Lunch = 3.72kg  
Dinner = 2.51kg





One ward wastes 4522kg a year!

# Oral Nutritional Supplement (ONS) compliance



# What's the solution??





# Nottingham-Ice Cream



**Hospital Ice-cream (28g)**  
51kcal  
1g protein



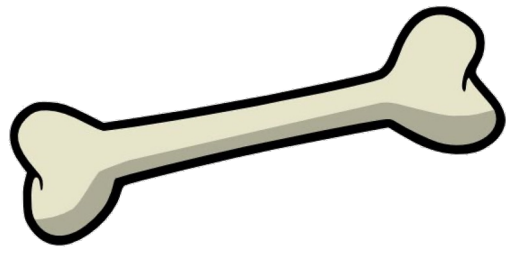
**N-ICE CREAM (80g)**  
157kcal  
15g protein

VS



**Protein milkshake (125ml)**  
300kcal  
18g protein

# About the N-ICE CREAM study



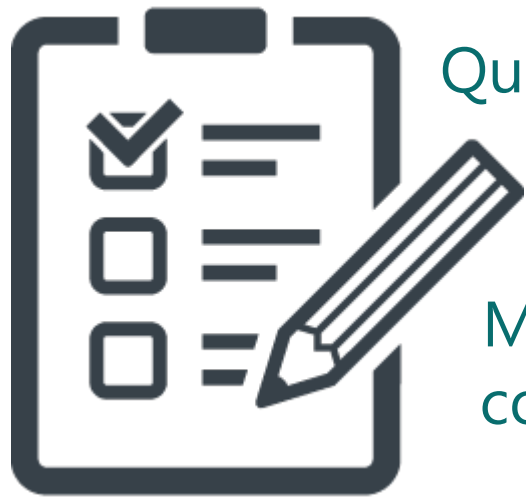
Older adults with broken hip or spine bones



Four day study



Two days of N-ICE CREAM and two days of build up milkshake in different orders




Questionnaires

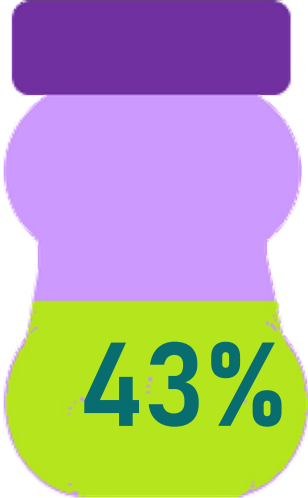
Monitoring compliance

# Group A

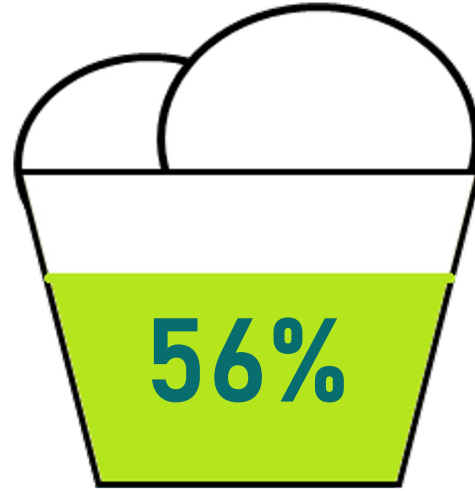
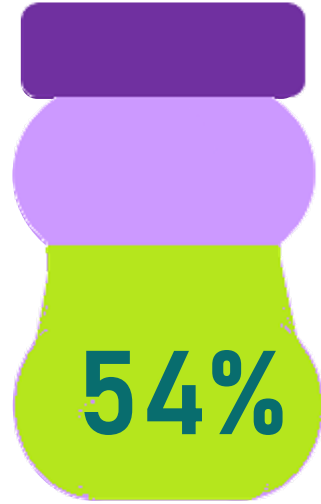
# Group B

 	Day one	 
 	Day two	 
 	Day three	 
 	Day four	 

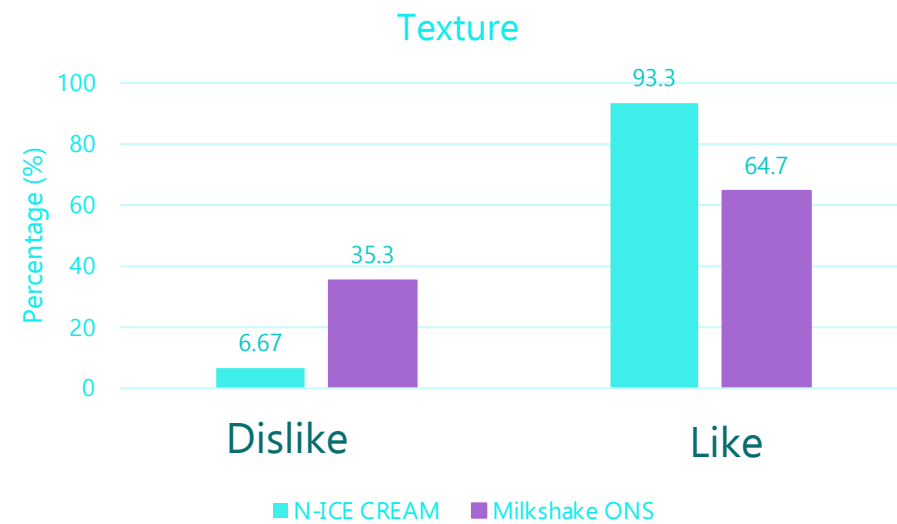
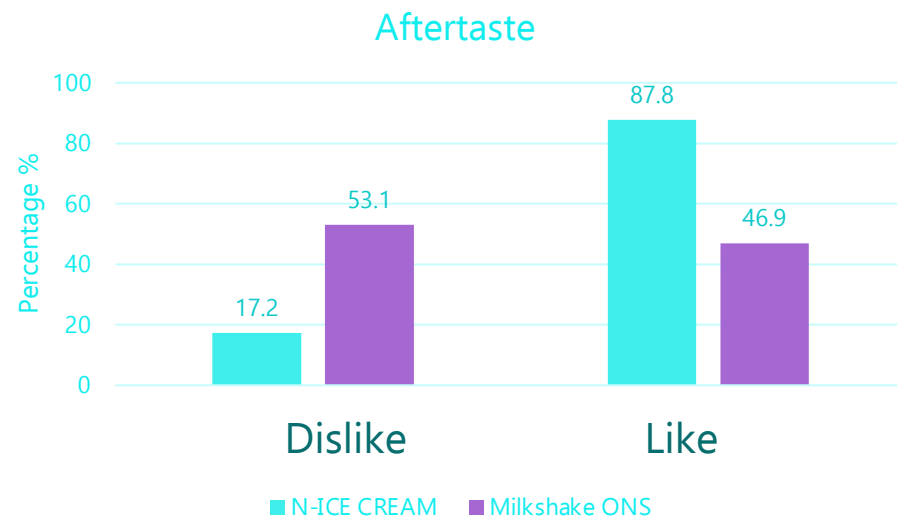
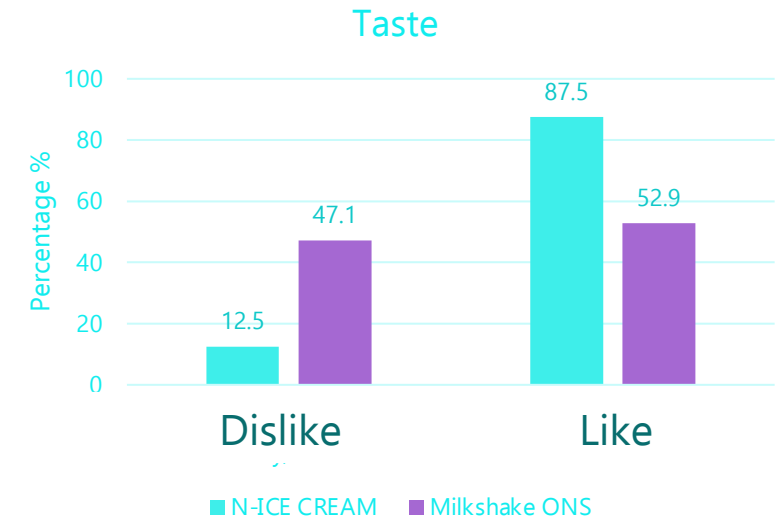
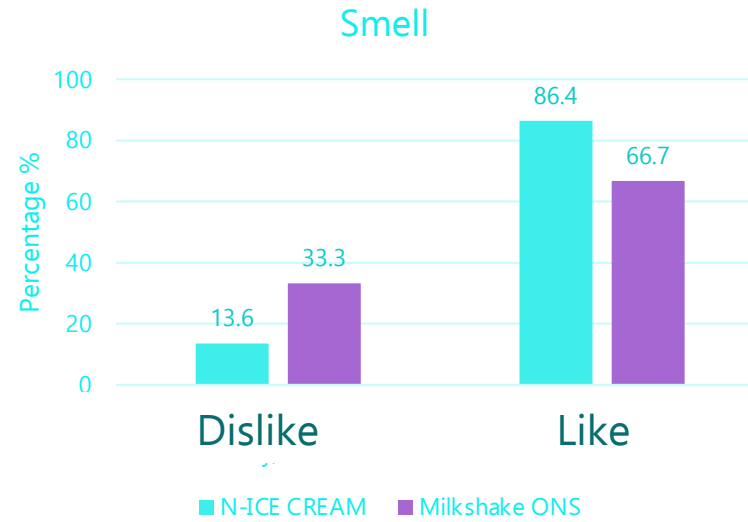
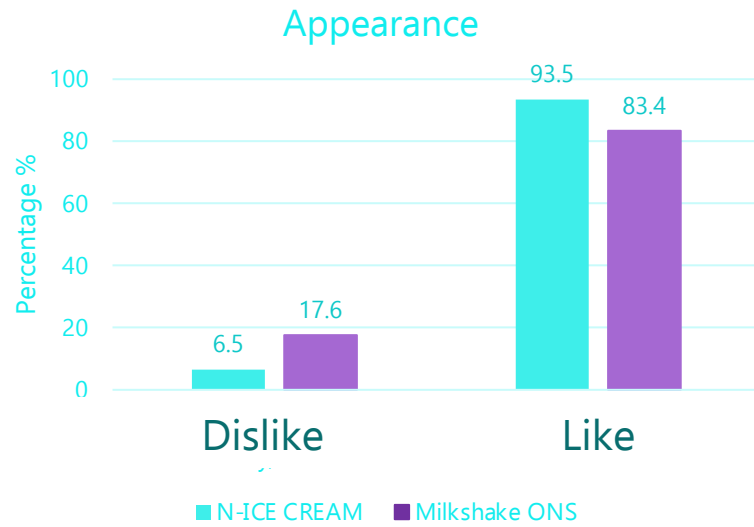
# Group A



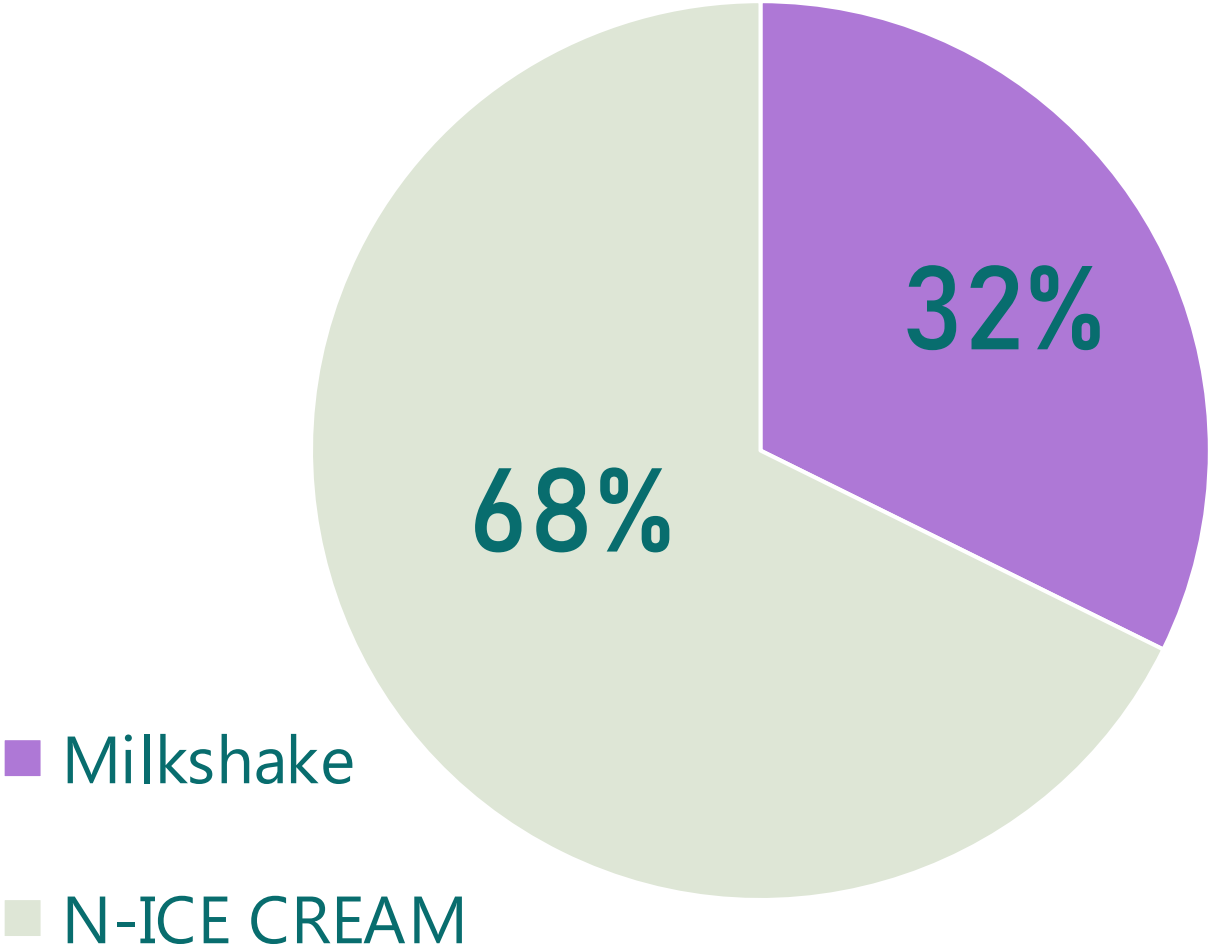
# Group B



# Hedonic ratings



# Preference



# Cool solution to nutrition for older people

Posted Tuesday, 19 July 2022 by Rachel Webster

This month, patients on the trauma and orthopaedic ward and the regional spine unit will be asked to try out a new,

## NEWS

Home | War in Ukraine | Cost of Living | Coronavirus | Climate | UK | World | Business | Politics | Tech | Science

### 'Enhanced' ice cream aimed at preventing malnutrition



GETTY IMAGES

The ice cream is intended to encourage patients to take nutritional supplements

26 July 2022



### New 'healthy' ice cream offered to NHS patients



The NHS has been working with a farm on the trial

## Ice cream diet could keep elderly patients cool and healthier during the heatwave

CENTRAL | HEALTH

NOTTINGHAM UNIVERSITY HOSPITALS

🕒 Tuesday 19 July 2022, 5:30pm



Ice cream will help patients keep up

Central





# Conclusion

- N-ICE CREAM has the potential to improve the nutrition of patients in hospital with broken bones
- More research its needed!



**Any  
Questions?**

Contact: [Opinder.Sahota@nuh.nhs.uk](mailto:Opinder.Sahota@nuh.nhs.uk)

Coffee Break

pexels



# BREAKOUT SESSION

102 – 104

# What is innovation?

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*Innovation* can refer to something new, such as an invention, or the practice of **developing** and **introducing new things**.

An *innovation* is often a **new product**, but it can also be a **new way of doing something** or even a **new way of thinking**.

*Innovation* is most commonly associated with business and technology, but it happens in any field where people introduce change, including the arts, medicine, politics, cooking, language—even philosophy and religion.

Example: *The internet changed society and is often considered the ultimate example of innovation, but it was built on the backs of many smaller, previous innovations.*



PLANT-BASED INTERVENTIONS!

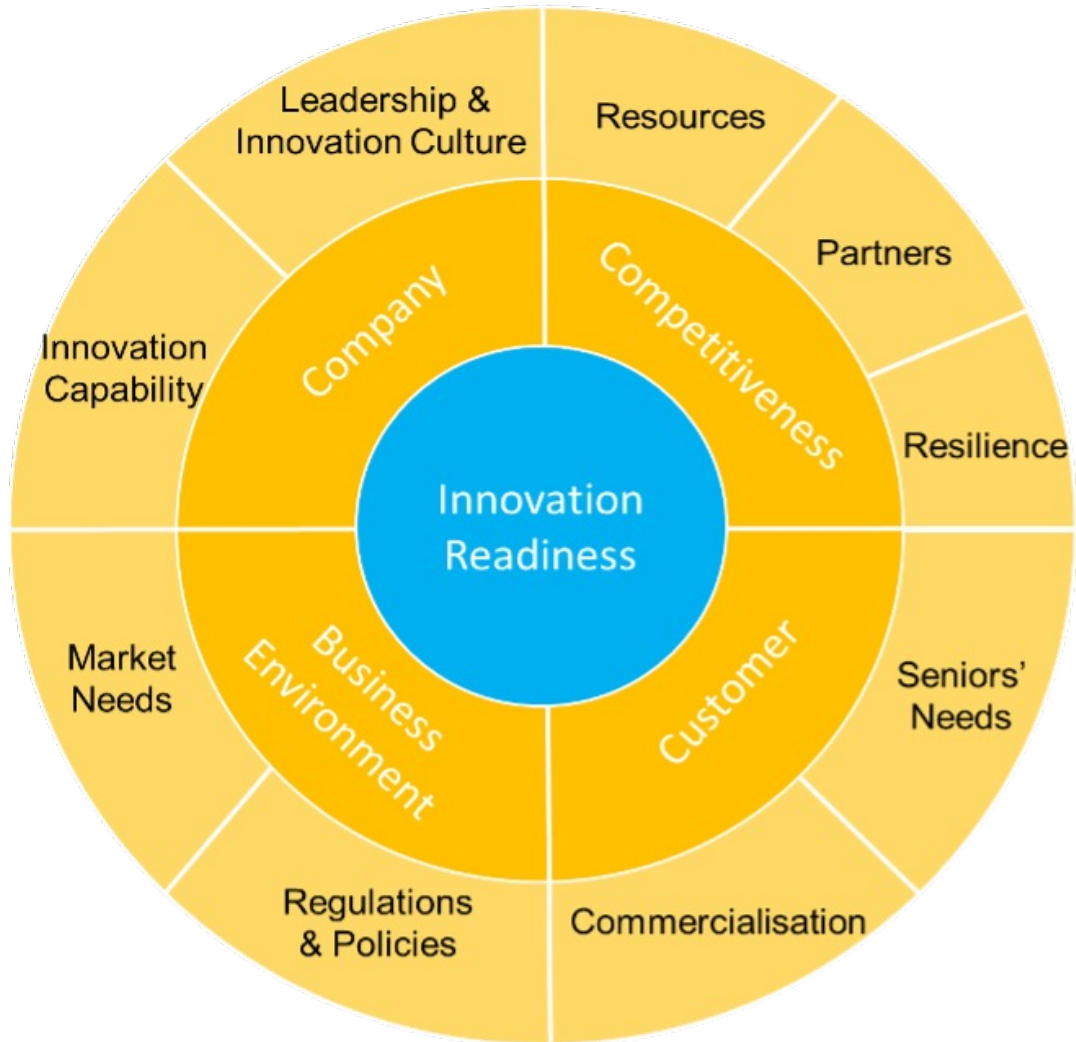


This short self-assessment tool will provide you with an overview of how prepared your company is to innovate nutrient-enriched food products and services for seniors.

This tool is based on a validated Innovation Readiness Framework developed by the project partners. It will assess your **innovation readiness** in four areas and nine dimensions:

- Company – your company’s innovation capability, leadership, and culture
- Competitiveness – your company’s resilience and access to resources and partners that will accelerate your food innovation plans
- Customer – your company’s understanding of seniors’ specific needs and ability to commercialise food products/services
- Environment – your company’s understanding of the policies, regulations, and market needs that help you better respond to the growing demands of marketing nutrient-enriched food products and services for seniors.





The tool will take approx. 10 minutes to complete. Upon completion of this self-assessment, you will receive the following benefits:

### **A Personalised Report**

You will receive a personalised report indicating your strengths and areas of improvement to be fully equipped for innovating food for seniors.

### **Personalised Training Advice**

You will receive advice on which modules of our E-learning course can best help you strengthen your innovation knowledge, skills, and abilities.

### **Tracking your Learning Progress**

You may take this self-assessment regularly to track your learning progress when taking part in the E-learning course.

### **How to take the self-assessment**

1. Read each question, then rate your degree of agreement with each statement.
2. Once completed, you will receive a personalised report within 30 seconds. The report will guide you to a unique learning path **by suggesting which modules of our E-learning course you should prioritise.**



# IO4

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The overview of IO4 is available here:

(<https://www.innovatingfoodforseniors.eu/online-course-en/>)

You will also have access to the **first 2 online modules** (<https://www.innovatingfoodforseniors.eu/online-module-1/>) and (<https://www.innovatingfoodforseniors.eu/online-module-2/>).



THANK YOU  
FOR LISTENING