

Understanding UNDERNUTRITION

A conference for health and nutrition professionals

7[™] **MAY** 2025

W5, ODYSSEY BELFAST

The Dairy Council for Northern Ireland



CONFERENCE PROGRAMME

5:00pm REGISTRATION AND COFFEE

- 5:45pm Professor Sean Strain, OBE ULSTER UNIVERSITY Chairperson's introduction
- 5:50pm Professor Jane Murphy BOURNEMOUTH UNIVERSITY Managing undernutrition in later life: it's time to revisit and 'refresh'
- 6:20pm Dr Sinéad Furey ULSTER UNIVERSITY Food insecurity in children in the UK: prevalence, causes and policy solutions
- 6:50pm Dr Anne Nugent QUEEN'S UNIVERSITY BELFAST Balancing the plate: nutritional adequacy in sustainable diets
- 7:20pm Dr Sarah Bath UNIVERSITY OF SURREY Iodine deficiency and the role of milk: past, present and future

07:50pm Q&A

08:00pm CLOSE

UNDERNUTRITION Professor Sean Strain, OBE

NICHE, ULSTER UNIVERSITY

Chairperson's introduction

Sean Strain is Emeritus Professor of Human Nutrition at Ulster University. He is the founder and former director of the Nutrition Innovation Centre for Food and Health (NICHE) at Ulster. He is an author of over 300 peer-reviewed research publications and has attracted over £38M in external research funding during his career.

In 2002, he was elected a member of the Royal Irish Academy. He is a Fellow and former President of The Nutrition Society, and in 2014 he was awarded an OBE for services to nutrition research and education. He was President of the Board of the European Nutrition Leadership Programme, Vice-Chairman, Panel on Dietetic Products, Nutrition and Allergies (NDA), and Chairman of the NDA Working Group on Claims, European Food Safety Authority. He chaired the International Science Advisory Panel for the New Zealand Government funded, High Value Nutrition Programme.

Professor Jane Murphy

BOURNEMOUTH UNIVERSITY

Jane Murphy is Professor of Nutrition, Registered Nutritionist and Dietitian. Her primary research interests are committed to promoting healthy ageing through better food and nutrition in older people, leading studies working with collaborators in the UK and internationally including Uppsala University in Sweden. She has led funded projects to improve food and nutritional care for older people living in care homes (**REFRESH trial**), people with dementia receiving home care (**TOMATO study**), and older people from diverse ethnic communities across the country (**TANGERINE study**).

Jane sits on a number of national advisory boards and external committees and is committed to advancing the professional practice of nutritionists as elected Council member/Trustee and Honorary Treasurer for the Association for Nutrition (AfN).

Managing undernutrition in later life: it's time to revisit and 'refresh'

Malnutrition (as undernutrition) - the deficiency of energy, protein, vitamins, and minerals, which causes weight loss, muscle loss, and functional limitations, is common among older people (\geq 65 years). Left untreated or overlooked, malnutrition has serious adverse consequences, including physical decline, poorer disease outcome and increased complications e.g. infections, delayed recovery, hospital re-admissions, increased length of hospital stays, more GP and hospital visits, and poor quality of life and wellbeing.

Current UK recommendations for treating malnutrition (e.g. National Institute for Health and Care Excellence guidance CG32) are to provide oral or artificial nutritional support where clinically indicated. Oral nutritional support strategies include dietary counselling (meal planning and adaptation, advice on food intake), food fortification (increased nutrient & energy content of recipes without increasing the portion size), and prescribed oral nutritional supplements (ONS). Guidance indicates a food-based approach should be used first (dietary counselling, fortification) and ONS should be a second-line option.

However, robust evidence to support food-based approaches and ONS to reduce malnutrition and its associated adverse outcomes is limited across health and social care settings. With an ageing population and more older people living in care homes with multiple long-term conditions including dementia and frailty, at risk or being malnourished, there remains a need for well-designed research in care homes to inform high-quality person-centred nutritional care.

The **REFRESH** trial (nut**R**ition interv**E**ntions **F**or malnou**R**ished old**E**r adult**S** in care **H**omes) is a 4-year large three-arm cluster randomised controlled trial funded by National Institute for Health and Care Research (NIHR) Health Technology Assessment (HTA) programme. The trial aims to evaluate the clinical and cost-effectiveness of ONS and a fortified food approach compared with routine care to improve quality of life and nutritional outcomes in older adults with malnutrition living in care homes.

The main impact will be evidence to support the most effective method to treat and manage malnutrition in care homes. Improving the management of malnutrition will help reduce deterioration in mental and physical health and wellbeing for older people, leading to the potential for improved quality of life, pleasure in eating, maintain independence for as long as possible, reduce carer burden and associated costs. Effective provision of nutritional care and improved management of malnutrition will reduce resource use (e.g. reduced hospitalisations, infections that require NHS resources). Therefore, as a successful definitive trial, it is expected that the new knowledge generated will be adopted across integrated NHS and social care systems and impact evidence-based practice guidelines (NICE) as well as national/regional care pathways for managing malnutrition.

Dr Sinéad Furey

ULSTER UNIVERSITY

Sinéad Furey is a Senior lecturer on the Food Business and Innovation undergraduate degree programme in Ulster University Business School, lecturing on food and consumer policy and legislation including active citizenship and sustainability.

Her research interests are food insecurity and food policy. Her food insecurity research focuses on definition and measurement, and developing an associated risk indicator to map under-served areas with respect to food access and co-existing poverties. She is working with local councils to co-design food access interventions.

In other food affordability research, she led an investigation of the types of food and drink on price promotion in retail outlets in the Republic of Ireland - the first island of Ireland research to consider consumers' awareness of, attitudes towards and behaviours around retail food promotions.

Food insecurity in children in the UK: prevalence, causes and policy solutions

Background and prevalence: Food insecurity, sometimes known as food poverty, is insufficient economic access to an adequate quantity and quality of food to maintain a nutritionally satisfactory and socially acceptable diet. Most recent data from the Family Resources Survey (2023-24) reported how more than one in ten (11%) households experienced either low (5%) or very low (5%) food security. Meanwhile, 3.6% of households reported accessing food banks in the previous 12 months. Households with children were more likely to be food insecure (8% low; 8% very food security) compared with households without children (4% low; 4% very low). Presenting to food banks was also more likely for households with children (2% within the last 30 days; 6% within the last 12 months), compared with households without children (1% within the last 30 days; 3% within the last 12 months). Northern Irelandspecific data from the Trussell network found their food banks distributed almost 35,000 food parcels in the six months to September 2024 which is significantly higher than five years ago. Trussell food banks distributed over 14,000 food parcels for children in the first six months of the year - the second time this has happened in Trussell's Northern Ireland history.

Hidden Hunger: Food insecurity can present in the short term as hunger and in the longer-term as malnutrition. Northern Ireland has the highest level of obesity in Primary 1 children in United Kingdom, with more than one-quarter (25.3%) of children measured in Primary 1 considered overweight or obese. This compares to 22.1% in England and 22.3% in Scotland – the equivalent figure for Wales was 24.8% of children in 2022-23. Obesity increases with age and deprivation: over a quarter (27%) of children in Year 8 were measured as overweight/obese (21% of children were measured as overweight, 6% obese); and almost one in three (32.3%) children living in the most deprived areas of Northern Ireland were measured as overweight/ obese compared to 22% of children from the least deprived areas.

Causes of food insecurity: There are many contributors to food insecurity, notably the ongoing income crisis creating the perfect storm of rising food prices; high food inflation; rising fuel prices alongside reduced income; under-employment; the UK's withdrawal from the European Union; debt; and changes to Social Security Benefits.

Policy solutions: There are some policy solutions in place including free school meals and Healthy Start vouchers, but more urgent and radical solutions must be implemented including exploration of cash first/income-focused solutions. Importantly, there is a need for greater emphasis on the idea of healthy food as a matter of rights and the rights of children to an adequate, appropriate and affordable food supply for their long-term health and well-being.

Dr Anne Nugent

QUEEN'S UNIVERSITY BELFAST

Anne Nugent is a Registered Nutritionist, Reader in Nutrition at Queen's University Belfast and Visiting Associate Professor at University College Dublin. Her research interests focus on examining population intakes of foods and food supplements and how they relate to human and planetary health. She is interested in intakes of all constituents within foods - ingredients, nutrients and non-nutrients including food chemicals either present naturally, added intentionally or present as contaminants.

Recent work has considered sustainability as an additional consideration within our diets and the challenges of moving towards diets which are both healthy for humans and the planet.

Balancing the plate: nutritional adequacy in sustainable diets

Recognising the impact of our current dietary patterns on human and environmental health, a dietary shift towards more sustainable diets is needed to adequately nourish a growing population while keeping within planetary boundaries. General principles of what a sustainable diet should be composed of have been suggested by global bodies such as the Food and Agriculture/World Organisation, by international expert groups (e.g. the Eat Lancet Commission) and by some countries as part of their national food based dietary guidelines. But evidence is lacking as to whether achieving such diets is possible in reality.

This presentation will focus on three aspects relating to sustainable diets. It will explore the extent of dietary change which we would need to make in order to satisfy all dietary and sustainability guidelines. Next, it will focus on whether there is potential for single substitutions, such as with plantbased meats. Finally, it will describe the initial outcomes from the MyPlanetDiet, a randomised controlled trial on the island of Ireland which investigated the impact of following personalised sustainable healthy diets on both environmental outcomes and on nutritional adequacy in healthy adults.

Dr Sarah Bath

UNIVERSITY OF SURREY

Sarah Bath is Senior Lecturer in Public Health Nutrition at the University of Surrey and is a Registered Dietitian. She has been researching the effects and predictors of iodine deficiency for over 15 years. She has collaborated on projects to evaluate the effect of iodine deficiency in pregnancy on child neurodevelopment, using European populationbased birth cohorts, and has shown that mild-to-moderate deficiency is associated with lower child IQ and reading scores.

Dr Bath was a co-author of the WHO/Europe report on iodine deficiency in the European region that was published in June 2024. The current focus of her research group is on dietary sources of iodine, the variability of iodine concentration in cow's milk and milk-alternative products, and the effects of plant-based diets on the risk of iodine deficiency.

Iodine deficiency and the role of milk: past, present and future

lodine deficiency is an ongoing concern around the world, but significant progress has been made over the past 100 years. Historically, many areas of Europe (including the UK) had a high rate of goitre (thyroid enlargement from severe iodine deficiency) in the population. Generally, iodine deficiency controlled through salt iodisation, which resulted in a reduced number of countries that were classified as iodine deficient. Salt iodisation is considered to be one of the greatest public-health success stories, but implementation has not been consistent in all countries and deficiency remains, particularly in some groups in a population. The UK did not introduce salt iodisation, instead goitre was eradicated through increased iodine concentration in milk and dairy products; this was not an official public-health policy, and there is no regular monitoring of milk-iodine concentration. The UK's approach to preventing iodine deficiency is not sustainable or stable as it is vulnerable to changes in either milk-iodine concentration or milk consumption.

Milk iodine concentration is variable around the world, but milk from the UK has a relatively high iodine concentration. A 200g glass of UK milk provides appropriately $80\mu g$, or 53% of the adult daily recommended intake. Milk iodine concentration varies by season, with a higher iodine concentration in winter milk than summer milk, owing to differences in farming practice between seasons.

Plant-based milk-alternative drinks (soy, oat, almond drinks, for example) are increasingly popular but these do not necessarily match the iodine concentration of cow's milk. Unfortified milk alternatives have an iodine concentration that is just 2% of that of cows' milk. Currently, many milk alternatives are fortified with some nutrients (such as calcium), but they are not always fortified with iodine; in a 2020 survey of the UK market, just 20% of milk alternative drinks were fortified with iodine compared to 63% that were fortified with calcium. Therefore, the rise in popularity of these products may place consumers at risk of iodine deficiency. Indeed, we have shown, using data from the National Diet and Nutrition Survey, that consumers of milk- alternatives were classified as iodine deficient and had a lower iodine intake than consumers of cows' milk.

Certain groups of the population are more likely replace milk and dairy products with alternatives, including adolescents and women of reproductive age. Low intake of iodine on a plant-based diet is of particular concern prior to, and during, pregnancy. For example, even a mild-to-moderate deficiency of iodine during pregnancy has been associated with lower cognitive scores in children. While the consumer may be aware of the need to ensure adequate intake of some nutrients (e.g. calcium) on a plant-based diet, there is limited awareness of other nutrients including iodine. It is important that at-risk nutrients are appropriately considered in nutrition guidelines and advice given by healthcare professionals, with appropriate advice on alternative food sources or supplementation if required.



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