

TOWARDS 2020

Building upon a decade of nutrition education,
research and innovation



**NNEdPro Global Centre for
Nutrition and Health**

*Advancing and implementing nutrition knowledge
to improve health, wellbeing and society*

NNEdPro is an award-winning, interdisciplinary think-tank, training academy and knowledge network anchored in Cambridge and working through global networks.

Our aim is to improve nutrition related health outcomes by training professionals, strengthening research, implementing solutions and addressing inequalities, in line with the United Nations’ Sustainable Development Goals and Decade of Action on Nutrition 2016-2025.

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EXECUTIVE SUMMARY

While there is much focus on the application of evidence from human nutrition research, whether this involves experiment, observation or intervention, there is considerably little investment in the development and evaluation of the efficacy of these approaches. When translating nutrition knowledge to the population at large, there are barriers to implementation, retention and sustained impact, often due to largely unregulated public information on nutrition causing significant confusion and conflict. Healthcare professionals, thus, have a key role in becoming reliable knowledge brokers to translate nutrition science to clinical or public health practice. However, with the exception of dietitians, who are relatively few in number, other teams of the healthcare workforce receive little or relatively inconsistent training in practice-ready aspects of nutrition.

Over the past decade the NNEdPro Global Centre in Cambridge has been working as a partnership between doctors, dietitians, nutritionists and others, both within and across borders to assess nutrition practice gaps affecting patients and the public. This is typically followed by first taking a step back to look at the available nutrition evidence base – this evidence base can benefit from better synthesis for education and strengthening through further primary research to strengthen the evidence base – and then we can take a step forward to develop, deliver and evaluate the impact of bespoke nutrition education interventions on the knowledge, attitudes and practices of the healthcare workforce. Whilst focusing on the nutrition education of healthcare professionals the NNEdPro lean-innovation approach spans over 40 projects and initiatives in over 12 countries using the Knowledge-to-Action Cycle as a framework to ignite the implementation potential of high quality research to promote best practice.

A decade ago there was little evidence in the UK and across other comparable countries with regards to the need for nutrition education in medical and healthcare practice. This prompted a series of studies to assess needs as well as build and pilot models of good practice whilst taking stock of population needs and shifting understanding of applied human nutrition. In the UK, a study was conducted across 15 medical schools to look at the effectiveness of a short curriculum intervention in nutrition for latter stage medical students to assess whether this leads to a sustainable increase in Knowledge, Attitudes and Practices. Having observed positive changes from such a model, some of the highest performers from this cohort were

recalled post-qualification to build three change teams in the health service to address the challenge of food fluid and nutritional care standard, through nutrition education and awareness weeks. This resulted in qualitative work demonstrating the effect of combining nutrition education with change management and leadership techniques to achieve greater implementation within healthcare settings. By 2013/14, these models were also replicated in other parts of the world galvanized by parallel needs assessments and small intervention studies that took place in six countries with similar health ecosystems. Further work included piloting and incorporating nutrition education into key medical school and clinical training curricula through a multidisciplinary approach.

Over the past 5 years there has been an emphasis in achieving better connections between nutrition research and nutrition education, including research into the effectiveness, impact and implementation potential of evidence based nutrition education models. There has also been an increase in cross border information exchange, shared learning and adoption of collaborations as well as consensus on best practices in healthcare related nutrition education not only across countries but across sectors. The intersectorial piece includes upstream thinking of the nutrition education that is required for nutrition quality in the agricultural sector as well as food production, the food environment and food choices, all of which determine diet and lifestyle patterns, which in turn modulate nutritional status and health outcomes.

All in all, the evidence base supporting the case for nutrition education, particularly in the health sector, as a key strategy to reduce the burden of nutrition-related disease has reached a critical point over the past decade, setting the stage for such interventions to become an integral part of the United Nations Decade of Action 2016-2025.

NNEdPro is working closely with key partners to establish an International Knowledge Application Network in Nutrition by 2025 (I-KANN-25: <http://www.nnedpro.org.uk/i-kann-25>). The flagship NNEdPro journal BMJ Nutrition, Prevention and Health (<https://nutrition.bmj.com/>) has also been founded as a curator of good quality evidence underpinning nutrition and health systems education amongst other areas relevant to improving nutrition policy and practice worldwide.



OUR PURPOSE



OUR PURPOSE

The NNEdPro Global Centre for Nutrition and Health was established as an innovative think-tank, training academy and knowledge network in 2008, to bring together the best of education, research, evaluation and advocacy, particularly in nutrition-related aspects of medicine and healthcare systems.

Our mission is to develop a critical mass of self-sustaining knowledge, skills and capacity in Nutrition and Health, within the global healthcare and public health workforce, resulting in significantly improved health practices and outcomes.

Our aim is to improve nutrition-related health outcomes by **training professionals**, **strengthening research**, **implementing solutions** and **addressing inequalities**, in line with the United Nations' Sustainable Development Goals and Decade of Action on Nutrition 2016-2025.

KEY STRATEGIC GOALS

- To develop, provide and evaluate the impact of medical and health systems nutrition education as a health improvement tool.
- To significantly strengthen the medical and healthcare nutrition evidence-base by identifying gaps, undertaking primary research and evidence synthesis, and improving access to high quality, translatable information for policymakers and practitioners at a global level.

STRATEGIC PARTNERS





MESSAGES OF SUPPORT

NNEDPRO 10TH ANNIVERSARY EVENTS IN 2018



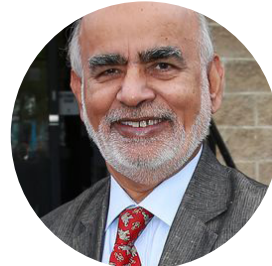
The Lord Balfe of Dulwich
Honorary President of NNEdPro and
the British Dietetic Association

July 2018

The House of Lords regularly considers matters in the fields of diet, nutrition and the problems associated with being both overweight and underweight. Apart from numerous medically qualified Peers there are also a number from other walks of life which mean that contributions to debate are informed and incisive.

The tendency of our popular media often leads to a disproportionate amount of attention being given to obesity at the expense of the problems of inadequate nutrition.

At this the tenth year summit of NNEdPro there are many challenges outstanding for the organisation and the profession. I am happy to send my good wishes to the summit and to the valuable work to be done in the years ahead.



The Lord Rana MBE of Malone
Honorary Global Patron of NNEdPro

July 2018

I am pleased to convey my best wishes and congratulations on the 10th Anniversary of NNEdPro. The outstanding efforts and commitment of Prof Sumantra Ray and his colleagues have achieved outstanding global recognition for their work.

The subject of nutrition and health is most important in a world that we live in where some people are suffering from obesity and millions of others are suffering from malnutrition. Education about what to cook, how to cook, what to eat for a healthy living is most important, NNEdPro is doing an outstanding service in many countries in educating in health and nutrition.

I am honoured to be associated with this project. I convey my appreciation to all who are working hard for this project. I have no doubt that this project is now well founded and growing from strength to strength over the coming years.



Professor Sir Leszek Borysiewicz
Chairman Cancer Research UK & Vice-Chancellor Emeritus, University of Cambridge

July 2018

In today's world we face a unique problem that mankind has never had to deal with in the past. We have a problem of obesity and excess calorie intake as well as inappropriate nutrition, while at the same time we face problems of malnutrition in terms of low calories but also specific nutritional deficiencies, many of which are still being recognised through research today.

To address these we need a real focus on the importance of the quality of food we eat and the ability of the planet to provide. Furthermore, this must be made available to an ever-increasing world population which will shortly reach nine billion people.

I am delighted to support the 2018 Summit marking 10 years of the NNEdPro Global Centre for Nutrition and Health which seeks to engage those interested in nutritional aspects of healthcare but also the wider imperative to maintain wellbeing for this global population.

On behalf of the British Dietetic Association I am delighted to wish you congratulations on your 10th anniversary.

I do not think that 10 years ago we would have anticipated that NNEdPro would reach the level of impact and status it has, so quickly. While the past 10 years has flown by, the number of achievements is remarkable and this is testament to the drive, dedication and initiative shown by everyone involved.

The nutrition, education and research field continues to be challenging but only through collaboration can we all make the impact we wish. This is the true strength of NNEdPro and the BDA remains committed to making a difference, through our partnerships and alliances.

With best wishes for the next 10 years!

Yours sincerely,

Andy Burman

Chief Executive
The British Dietetic
Association



As an affiliate member of SNEB for the past eight years, The Need for Nutrition Education Project (NNEdPro) has actively contributed to the Society's mission of promoting effective nutrition education and healthy behavior through research, policy and practice.

Contributions include:

- Conducting educational webinars for SNEB members.
- Sharing resources through SNEB newsletters and listserv.
- Exchanging ideas and information with SNEB leadership through abstract presentations at several SNEB annual conferences and by organizing conference sessions, and
- Hosting SNEB members at the NNEdPro Summit and Summer School where the SNEB Nutrition Educator Competencies were presented.

Congratulations to NNEdPro on 10 years of nutrition education, research and innovation. NNEdPro and SNEB both recognize the importance of building connections and sharing resources with nutrition educators around the world and we look forward to continuing to work toward our shared vision of healthy communities.

Sincerely,

Rachel Daeger
CAE Executive Director



We would like to wish you many congratulations and are delighted to note your celebrations of NNEdPro's 10th Anniversary.

NNEdPro has been a loyal and valued strategic partner of Cambridge University Health Partners.

We look forward many more years of working together and would like to wish you every success at your 4th Seminar.

With best wishes,

Malcolm Lowe-Lauri
Executive Director, Cambridge University Health Partners (CUHP)



Hearty congratulations on this momentous tenth Anniversary, with plenty to show for all those years of hard work and engagement!

Nutrition in Medicine will continue to support the educational efforts of NNEdPro and is looking forward to many more years of collaboration, achievements, and positive change.

With best regards,

Martin Kohlmeier MD PhD



We would like to congratulate NNEdPro Global Centre for Nutrition and Health on their 10th Anniversary. It has been a tremendous achievement by the group and Imperial and the Imperial Centre for Cardiovascular Disease Prevention is proud to be a strategic collaborator.

We look forward to a long and fruitful partnership.

Kind regards



Prof Kausik K Ray
Professor of Public Health, Honorary Consultant Cardiologist, Imperial Centre for Cardiovascular Disease Prevention (ICCP), Imperial College London

Hearty congratulations from Association for Nutrition on your 10th Anniversary year. We wish you the best for your celebratory conference on July 20th. Well done!

Kind regards,

Leonie Milliner

Chief Executive,
Association for Nutrition





MESSAGE FROM THE CHAIR

(DECEMBER 2018 - UPDATED JULY 2019)

2018 has been a seriously action packed but very successful 10th Anniversary Year. Our summer events were attended by over 250 delegates, we presented extensively at scientific meetings across the globe and organised several successful symposia from the USA through India to Australia whilst maintaining a centre of gravity in medical nutrition education/innovation in Cambridge and the UK. In addition, in our 10th year we have clocked a record number of peer reviewed papers as well as other publications in which NNEdPro has played a key role and we feel privileged to have become the co-owners of the newly launched journal BMJ Nutrition, Prevention and Health.



We have come a long way from starting as the 'Need for Nutrition Education Project' within the realms of the Cambridge Institute of Public Health from 2008-10, then becoming the 'Need for Nutrition Education/Innovation Programme' which evolved from 2010-16 in the Medical Research Council (MRC) Human Nutrition Research Unit at the Elsie Widdowson Laboratory (EWL) in Cambridge, and latterly becoming the 'NNEdPro Global Centre for Nutrition and Health' hosted partly in the MRC EWL and additionally at St John's Innovation Centre (SJIC) in Cambridge over 2016-18.

Today we are an independently governed centre with an increasingly international impact footprint but grounded through our affiliation with four main partner Universities – Cambridge (our founding institution), Ulster, Imperial and Parma – together these Universities bring together complementary attributes from molecules to mankind! Also key are our strategic partnerships, particularly the unfailing support of the British Dietetic Association from our very inception and more recently the Global Open Data Initiative for Agriculture and Nutrition which has enabled us to look across the piece from agricultural aspects of nutrition to diet and human health.

As the MRC EWL closed its doors after 20 years in December 2018, our coordinating centre carry on a small part of the Elsie Widdowson legacy as we embrace the future in our new offices at SJIC Cambridge, whilst maintaining a key presence at the Cambridge Biomedical Campus and within the University of Cambridge framework.

Additionally, the state-of-the-art NNEdPro Nutrition and Vascular Studies Platform has found a new home at the world class Human Nutrition Department ('NICHE') of Ulster University where, in my NNEdPro capacity, I am delighted to take up a newly created part-time personal chair as Professor of Global Nutrition (Health and Disease) alongside my existing NNEdPro commitments in Cambridge and further afield.

However, what makes NNEdPro unique is the 200 plus membership of our think-tank and I would like to take this opportunity to sincerely thank each and every individual and organisation that continues to contribute to our mission, vision and aims as we head into our strategic plan aligned with the United Nations Decade of Nutrition 2016-25. A special call out to my colleagues in Ops and Logistics who make it all happen as well as our Global Innovation Panel for creativity and Directors for being the bedrock on which it stands!

It has also been a pleasure to represent NNEdPro on special assignment to the Nutrition Directorate of the World Health Organization Headquarters in Geneva where there is the opportunity to lead on the development of a strategy within the UN Decade that brings medical and health systems related nutrition education centre stage. 2019 so far has been another fun filled year of activities and events through which we will continue to advance and implement nutrition knowledge to improve health, wellbeing and society. I hope you will join us on this exciting road ahead.

Very best wishes
Professor Sumantra (Shumone) Ray
(NNEdPro Founding Chair and Executive Director)



MEET THE TEAM

AN OVERVIEW

As of January 2019, NNEdPro's team structure is composed of a Virtual Core team of over 40 members from across the world. The Virtual Core aims to function flexibly and efficiently without borders and is comprised of a directorial board, a operations and strategy team, and 2 panels of expertise (each with its own executive team drawn from within the panel).

BOARD OF DIRECTORS



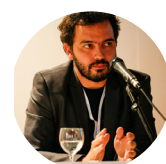
Sumantra Ray
Founding Chair &
Executive Director



Pauline Douglas
Vice Chair &
Education
Director



Minha Rajput-Ray
Medical Director



Daniele Del Rio
Scientific
Director

OPERATIONS & STRATEGY TEAM

+Sumantra Ray, Pauline Douglas



Ananya (Ria) Roy
Comms, Events
& Membership
Support
[Comms Officer]



James Bradfield
Nutrition Education,
Innovation &
Strategy Support
[Education Officer]



Jørgen Johnsen
Senior Intern
[Project Officer]



Matheus Abrantes
Chair's Assistant,
Operations
& Online Support
[Operations Officer]



Matt Harvey
Office Administration,
Technical & Team
Support
[Administrative Officer]



Sucheta Mitra
Specialist Advisor
on Strategic
Development
[Strategy Officer]



Sena Tiritoglu
Dietetic Intern
[Project Officer]

GLOBAL INNOVATION PANEL LEADS



Celia Laur
Global
Innovation
Panel Lead



Rajna Golubic
Global
Innovation
Panel, Deputy
Co-Lead



Giuseppe Grosso
Global
Innovation
Panel, Deputy
Co-Lead

VIEW OUR MEMBERS NETWORK





MEET THE TEAM

TWO PANELS OF EXPERTISE

GLOBAL INNOVATION PANEL (GIP)

Executive

Eleanor Beck
Luke Buckner
Dominic Crocombe
Sonigitu Ekpe
Rajna Golubic
Giuseppe Grosso
Ali Khalid
Celia Laur
Elaine MacAninch
Kathy Martin
Claudia Mitrofan
Kannan Raman
Anuprita Shukla

Non-Executive

Shivani Bhat
Iain Broadley
Mei Yen Chan
Tim Eden
Emily Fallon
Duleni Herath
Ally Jaffee
Dionysia Lyra
Suzana Al Moosawi
Caryl Nowson
Dora Pereira
Helena Trigueiro
Michele Vacca
Clare Wall
Preya Amin
Mark Stuart

Ex-Officio (Exec)

Pauline Douglas
James Bradfield
Martin Kohlmeier
Sumantra Ray
Jorgen Johnsen
Sena Tiritoglu
Sucheta Mitra
Ananya Ria Roy

FACULTY & MENTORS PANEL (FMP)

Executive

Eleanor Beck
Luke Buckner
Rajna Golubic
Giuseppe Grosso
Celia Laur
Elaine MacAninch
Kathy Martin

Non-Executive

Suzana Al Moosawi
Shivani Bhat
Mei Yen Chan
Tim Eden
Caryl Nowson
Dora Pereira
Helena Trigueiro
Clare Wall

Ex-Officio (Exec)

Sumantra Ray
Pauline Douglas
Martin Kohlmeier
Minha Rajput-Ray
Daniele Del Rio
James Bradfield

NOTE: ALL Members of the FMP are drawn from a combination of GIP Members and Board of Directors

We would like to thank our contractors for their service provision: Abacus Business Consultants Cambridge; Crossley / BDA Accounts Department; Remedy Clinic Study Group India; KonnexionsIT / e-developers; St John's Innovation Centre Cambridge and associated service providers such as IT support. Individuals representing these contractors currently: Thomas Clowsley, Ali Mukhtar, Bikram Chatterjee, Richard Gibb and Piya Sengupta.



OUR MEMBERS

AMBASSADORS & OUTREACH

HONORARY PRESIDENT & GLOBAL PATRON

The Lord Richard Balfe of Dulwich
The Lord Diljit Rana MBE of Malone

JUNIOR AMBASSADOR

Nikitah Ray

"When you give something, life brings you more- be part of our vision to improve health through nutrition."

Nikitah Ray, 10 years old
NNEdPro Junior Ambassador



GOVERNORS & ADVISORS

Andy Burman*
Pauline Mulholland
Christi Deaton
Ianthi Tsimpli
Toni Vidal-Puig
Caroline Heyes

Suzanne Piscopo*
Mary Ward
Kausik Ray
Francesca Scazzina
Janet O'Flaherty
John O'Brien
Selvarani Elahi
Manash Chatterjee
Kate Guberg
Steve Gillam
Joan Gandy
Sally Standley

INTERNATIONAL ACADEMY OF NUTRITION EDUCATORS (IANE) MENTORSHIP & MEMBERSHIP SCHEME

IANE 2018

Sindura Borra
Liset Brooshooft
Siu Ho Ng David
Riccardo Di Deo
Giusseppe Di Pede
Marie Docx
Johan Docx
Godelieve Docx
Rossella Dodi
Sonigitu Ekpe
MasaraElgares
VittoriaErcolanelli
Emily Fallon
Claudia Favari
Emmanuel Fiagbenu
Rosie Gilbert
Francesca Giopp
Síle Griffin
Mariam Ioseliani
Dionysia Lyra
Hei man emily ng
Celestine Okeke
DanielaRuenes
Frances Scott

Zorita Sconta
Praewphan Siriyut
Vani Tadevall
Helena Trigueiro
Duygu Türközü
Serena Yue

NETWORKS

SUMMER SCHOOL ALUMNI NETWORK (PRE. 2018)

Federica Amati
Pablo Anton
Swaroop Balakrishna Uday
Shivani Bhat
Beatrice Biasini
Federica Boano
Harrison Carter
Julien Cases
Sreesudha Chepyala
Dominic Dalacha Godana
Antigoni Eleftheriou
Veronica Francinelli
Francesca Ghelfi
Mouna Habibi
Tian Huang
Francesca Liva
Sudeshna Maitra Nag
Nurulamin Noor
Sarah Pearse
Sushma Rajbahakta
KannanRaman
Alice Rosi
Farakh Shahzad
Ayusmati Thakur
Ben Thompson
Miranda Van
Rachel Wong
Mercedes Zorilla Tejeda

* Finance, Audit and Risk Committee



OUR MEMBERS

COLLABORATORS NETWORK

Principal Members:

Shailaja Fennell
Heather Keller
Kausik Ray
Ianthe Tsimpli

Senior Members:

Animesh Acharjee
Saeeda Ahmed
Margaret Ashwell
Lauren Ball
Kaninika Basu
Janet Cade
Diana Estevez
Jennifer Crowley
Manash Chatterjee
Selvarani Elahi
Sue Fitzpatrick
Richard Fordham
Thierry le Goff
Mariana Markell
John O'Brien
Melissa Olfert
Ville Päivänsalo
Luigi Palla
Simone Poole
Nitya Rao
Francesca Scazzina
Sreenivasa Rao Kondapally
Seshasai
Boshko Stankovski
Helen Truby
David Unwin
Michelle Venables
Elspeth Alstead
Jenny Blythe
Sile Griffin
Glenys Jones
Maria Korre
Charlotte Lucas
Zubaida Qamar
Laura Keaver
Van der Horst Klazine
Karen Chamberlain
Adrian Park

Jeremy Woodward
Lisa Sharkey

Members:

Anand Ahankari
Samyyia Ashraf
Eden Barrett
Mhairi Brown
Francesca Ghelfi
Justyna Godos
Gabriele Mocciaro
Marietta Sayegh
Nida Ziauddeen
Rekha Bhangaonkar
Harrison Carter
Mohammad Sayeem

REPRESENTATIVES NETWORK

Alfie Adimiah
Yagnaseni Bhattacharya
Florence Mouy
Phillippa Wright
Shannon Wongvibulsin
Rinku Banerjee
Keith Croysdale
Beryl Prime
Jo Lewis
Michelle Searle
Andre Laperriere
Joanna Hoensch
Arabella Mason
Victoria Carter

UK REGIONAL NETWORK

Trevor Smith
Heather Keller
Martin Kohlmeier
Josephine Ruwende
Lisa Sharkey
Celia Laur
Minha Rajput-Ray
Rajna Golubic
Pauline Douglas
Harrison Carter
Luke Buckner
Jorgen Johnsen

Elaine MacAninch
Matheus Abrantes
Kathy Martyn
Emily Fallon
Sumantra Ray
Elstead Alspeth
Preya Amin
Jenny Blythe
Ian Broadley
James Bradfield
Karen Chamberlain
Dominic Crocombe
Tim Eden
Sile Griffin
Duleni Herath
Ally Jaffee

INDIA REGIONAL NETWORK

Diljit Singh Rana
Sumantra Ray
Minha Rajput-Ray
Ananya Ria Roy
Kannan Raman
Anuprita Shukla
Sabyasachi Ray
Sagarika Mukherjee
Somnath Bhar
Luke Buckner
Shivani Bhat
Debashis Chakraborty
Harrison Carter
Sudeshna Maitra-Nag
Sukanya Patwardhan
Aparajita Saha
Urmil Verma
Sanchita Banerjee
Jorgen Johnsen

Remedy Clinic Study Group
Inner Wheel International
Cordia Colleges
TIGR2ESS Programme
Daily9
BMJ India



OUR MEMBERS

VIEW OUR MEMBERS NETWORK



AUSTRALIA-NEW ZEALAND REGIONAL NETWORK

Sumantra Ray
Clare Wall
Caryl Nowson
Eleanor Beck
Melissa Adamski
Robyn Perlstein
Rachael McLean
Helen McCarthy
Tracy McCaffrey
Alyce Wilson

MOROCCO (AFRICA) REGIONAL NETWORK

Suzana Al Moosawi
Asmaa El Hamdouchi
Mouna Habibi
Sumantra Ray

BRAZIL REGIONAL NETWORK

Sumantra Ray
Matheus Abrantes
Helena Trigueiro
Samantha Mazzero
Diana Estevez
Aline de Piano Ganen
Ester Feche Guimaraes
Maria Cervato Mancuso
Nagila Raquel Damasceno
Claudia Raulino Tramontt
Sandra Maria Chemin Seabra da Silva
Dulcinea Aparecida Carvalho da Silva
Dirce Maria Marchioni
Ana Paula de Queiroz Mello
Denise Cussioli Goncalves de Sousa
Paulo Lotufo
Maria Camila Pruper de Freitas
Barbara Hatzlhoffer
Vincent Nicolas Pasquier

Neha Khandpur
Helena Akemi Wada Watanabe
Fernanda Paula Zacchi

ORGANISATIONS NETWORK

Academic Institutions

University of Aberdeen
Brighton and Sussex Medical School
University of Birmingham
Bern University of Applied Sciences
University of Catania
University of Cambridge
University College Cork
University of East Anglia
University of Hull
University of Helsinki
Griffith University
Imperial College London
Johns Hopkins University
University of Leeds
The London School of Hygiene & Tropical Medicine
Monash University
The University of North Carolina at Chapel Hill
Queen Mary University of London
Harvard T. H. Chan School of Public Health
The State University of New York
University of Southampton
San Francisco State University
Università Degli Studi di Parma
Ulster University
University of Waterloo
University of Wollongong
West Virginia University
Wolfson College

Other Organisations

Ashwell Associates
Association for Nutrition
American Society of Nutrition
Bench Bio
British Dietetic Association
British Medical Journal
British Nutrition Foundation
Cambridge University Health Partners
Du Pont
Education Partnerships
European Institute of Oncology
GODAN
Laboratory of the Government Chemist
Nutrition in Medicine
Nutritank
NHS
Redtree People
Royal College of General Practitioners
Society for Nutrition Education and Behavior
UK Research and Innovation

Official Charity Partner

Lord Rana Foundation Trust



THE NEED FOR NUTRITION EDUCATION/INNOVATION PROGRAMME (NNEDPRO) STORY

The Early Years 2005-2007



Council of Europe Alliance UK
on Hospital Food
and Nutritional Care



British Dietetic Association
and Hospital Caterers
Association partnership



Partnership with
British Medical Association



Project incorporated within DH
Nutrition Action Plan (2007)

NNEdPro Phase 1 Launched 2008-2010



Group founder members
move to Cambridge University
with NIHR funding and
establish NNEdPro as an
educational and research
innovation project.

NNEdPro partnerships
also include:



Project supported by Abbott
Nutrition and National
Institute for Health Research

NNEdPro Phase 2 Launched 2010-2013



NNEdPro approached by
Cambridge University, to teach
nutrition education to
Cambridge medical students.

Nutrition Education and
Leadership for Improved
Clinical Outcomes (NELICO), a
training project conducted in
three NHS hospitals across
England.



NNEdPro delivers nutrition
education to students and
practitioners.



NNEdPro responsible for
delivery of nutrition
education to medical
students.

NNEdPro Phase 3 Launched 2013-2016

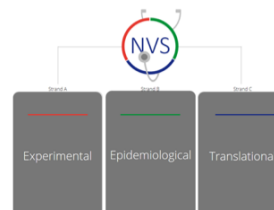


NNEdPro group develops
and delivers face to face,
online and blended learning
courses and training
materials.

Educational package
*Hydration and Health for
doctors and other
healthcare professionals*
developed to address a
knowledge gap.



Visiting scholar scheme
with Wolfson College
University of Cambridge.



Nutrition and Vascular
Studies and
Cardiovascular/Metabolic
Risk Management

NNEdPro Highlights 2015 to 2017

Feb 2015
NNEdPro Network in India
launched

Aug 2015
1st Annual International
Summit on Medical
Nutrition Education and
Research

Mar 2016
NNEdPro Australia-New
Zealand Network launched



Jun 2016
2nd Annual International
Summit on the Importance
of Nutrition in Public Health
and Healthcare

1st Cambridge Summer
School in Applied Human
Nutrition



Summer School and Summit
accredited for Continuing Professional
Development by Royal College of
Physicians and Royal Society of
Biology.



GODAN named as
strategic partner

2016
International knowledge
exchange symposia in
Kenya, India, Singapore,
Australia, New Zealand,
USA, Canada, Italy, Finland,
Switzerland and Morocco

2016 - 2017
Key Collaborator in
More-2-Eat project, a
Canadian Malnutrition Task
Force study



Integrated Nutrition
Pathway for Acute Care
(INPAC) toolkit: Overview
of *what* and *how* to
change hospital nutrition
care practices.



Strategic Partner
Organisations in 2018

New:



Nutrition in Medicine



Imperial College
London



Continuing:



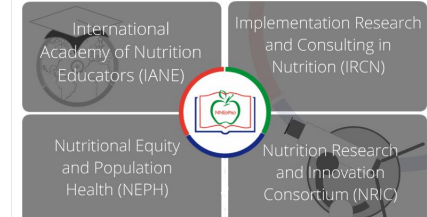
NNEdPro's work plan aligned
with UN Decade of Action on
Nutrition to 2025

**International Academy of
Nutrition Educators (IANE)**

Draws from longstanding
experience developing and
delivering high quality education
and evaluating impact on
healthcare practices.

**Implementation Research and
Consulting in Nutrition (IRCIN)**

Consulting services and action-
orientated research, design and
conduct education and
implementation programmes for
individuals or organisations.



**Nutritional Equity and
Population Health (NIPH)**

Future vision includes forming a
UK registered charity, *NNEdPro
Nutritional Equity and Population
Health (NEPH)*.

**Nutrition Research and
Innovation Consortium**

Brings together key strengths of
existing alliances with potential
for additional collaborations.



2005



2009



2011



2013



2015



2017



2025



NNEDPRO'S EARLY YEARS

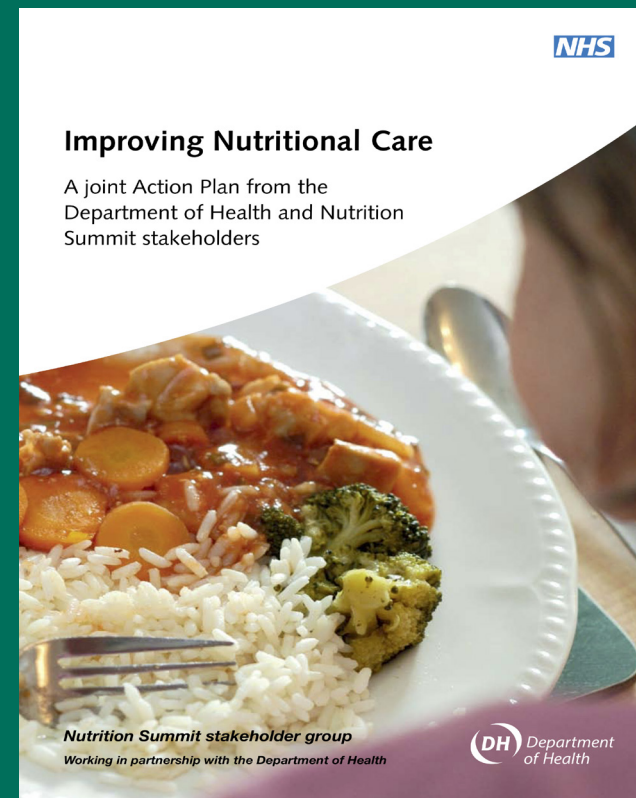
In 2003, the Council of Europe published over 100 recommendations to improve nutritional care across European countries and the UK formed an Alliance led by the British Dietetic Association (BDA) to examine this issue.

statement 'The 10 Key Characteristics of Good Nutritional Care', principles of which were subsequently enshrined in regulatory standards, and the 'Department of Health 2007 Nutrition Action Plan' containing a mandate for the 'Need for Nutrition Education Project', (NNEdPro).

NNEdPro was subsequently formed in 2008 with Fellowship funding awarded by the National Institute of Health Research to two founding members in Cambridge, as well as an educational award from Abbott Nutrition to the BDA. Since then, NNEdPro has evolved from a single project, through a multifaceted programme to a Global Centre for Nutrition and Health.

The following ten case studies will walk you through key areas of focus for NNEdPro and how each area has evolved to have strong and global impact over the past ten years.

Between 2005 to 2007, the British Medical Association (BMA) passed a priority motion to strengthen nutrition related healthcare. Over two years, representatives from several professional organisations worked through the Alliance resulting in three outputs: a BBC documentary entitled 'Hungry in Hospital' around the patient journey, a consensus



CASE STUDY 1: BRINGING NUTRITION INTO THE MEDICAL CURRICULUM

Nutrition education for medical students is how NNEdPro began and continues to be a core mandate. Prior to NNEdPro's launch, developmental work was conducted by the founder members at the University of Dundee over a 3-year period (Dec 2005 to Nov 2008). For this project, 'Nutrition Education Workshop for Tayside Doctors' (NEWTayDoc), a pilot education intervention was conducted. This pilot was the first step to developing a wide reaching programme targeting nutrition education for senior medical students and junior doctors.

Nutrition and hosted by the British Dietetic Association (BDA). The objective of this project was to deliver and evaluate a novel nutrition education intervention for medical students from 15 medical schools across England. Two-day of intensive workshops were conducted, aimed primarily at 4th year medical students.

Academic partners included the Universities of Cambridge and East Anglia, represented by advisors from both institutions.

These workshops aimed to:

1. Lay the foundations of nutritional knowledge and attitudes relevant to clinical practice
2. Highlight the principles of nutrition and a doctor's responsibility in providing adequate nutrition care
3. Raise awareness of the recognition, prevention and management of malnutrition in hospital

These workshops were conducted as part of an educational study to assess the impact of delivering intensive nutrition education to a cohort of UK medical students. By completing the training, students achieved a practically orientated certificate in clinical nutrition.

The study demonstrated lasting improvement to knowledge, attitudes and practices.



When the founder members of the group moved to Cambridge, NNEdPro was established as an independent educational innovation project that also included research. The NNEdPro "project" was incorporated within the Department of Health Nutrition Action Plan (2007), additionally supported by an unrestricted educational grant from Abbott





Nutrition Education Review/Research Interests Group (NERG)

To provide sustained delivery of medical nutrition education to Cambridge medical students, NNEdPro instigated the formation of the Nutrition Education Review/Research Interests Group (NERG) in the Department of Public Health and Primary Care, at the University of Cambridge, School of Clinical Medicine in 2010. This group was responsible from 2010 to 2018 for organizing and delivering the nutrition content for Cambridge University medical students.

Today, that collaboration is still going strong, evolving and connecting with other organisations while continuing to provide medical students with the nutrition education they need. **E-learning materials have also been developed including**

an education and training e-portal, and online learning materials that are being incorporated into the Cambridge medical curriculum.

The core teaching aims include:

- To highlight that nutrition forms an important part of a Doctor's responsibilities
- To provide an overview of clinical and public health nutrition issues relevant to medicine
- To outline core principles and practical applications of 'Food, Fluid and Nutritional Care' in hospital
- To understand the difference between nutrition screening and assessment and the role of different members of the multidisciplinary team.

Nutrition Education Policy for Healthcare Practice (NEPHELP)

NEPHELP was designed to encourage the spread of nutrition education to other medical schools across England using a patient-centred approach. To run this project, NNEdPro received the International MNI (Medical Nutrition International) Award, supported by the BDA and endorsed by British Association for Parenteral and Enteral Nutrition (BAPEN). Further funding was received from AIM Foundation to extend the scope of this work.

NEPHELP is developing a potentially scalable teaching model for a sustainable nutrition

education initiative, primarily targeting junior doctors and medical students across England. This project includes development and collation of teaching material as well as collaboration with other organisations with similar objectives. The group actively engages patients, healthcare service and education providers as well as a multidisciplinary cross section of health professions. Plans are underway for further spread across the UK as well as to pilot the approach on other specialisms such as nursing and pharmacy.



CASE STUDY 2: CONNECTING NUTRITION EDUCATION WITH LEADERSHIP AND CHANGE MANAGEMENT

Following the initial medical student workshops, the need to further support medical graduates students to become nutrition champions led to an approach focused on leadership and change management. **The "Nutrition Education Leadership for Improved Clinical Outcomes" (NELICO) project aimed to deliver and evaluate innovative training in 'Nutrition Education and Clinical Leadership' for Junior Doctors, enabling 'nutrition awareness weeks' across 3 NHS hospitals in England.**

Medical students, now Junior Doctors, who attended the original NNEdPro nutrition workshop returned for a 2-day refresher course about clinical nutrition with additional teaching in leadership and change management techniques. **The Junior Doctors then returned to their hospitals to run their own teaching, nutrition awareness stalls and a variety of other events, raising the profile of nutrition in NHS hospitals.** By empowering these Junior Doctors to become champions for nutrition, it set the stage for their careers. Many of these participants are

still advocates for medical nutrition education and continue to support the NNEdPro mission and vision.



Canadian More-2-Eat Project led by the University of Waterloo

The NELICO focus on change management and leadership has contributed to international initiatives, including the More-2-Eat (M2E) implementation project, led by Professor Heather Keller at the University of Waterloo. M2E used implementation science, behaviour change, and change management principles to improve nutrition care in 5 Canadian hospitals. NNEdPro is a member of the M2E team, and in M2E Phase 1 contributed to the development of an online toolkit which shares learnings and tools from each of the 5 hospitals. This toolkit can also be used to inform the next steps to improve hospital malnutrition in the UK. <http://m2e.nutritioncareincanada.ca/>

M2E Phase 2 began in 2018 with the aim to use key strategies, including the toolkit, from Phase 1, to create a sustainable model to encourage spread of the nutrition care improvements. NNEdPro is learning from the M2E project and applying principles and tools to other aspects of our work.





NELICO India

The NELICO approach was also applied in India through the Global Innovation Panel (GIP). The launch of NELICO India initially focused on two of NNEdPro's key inter-related activities of promoting knowledge strengthening and research capacity within the nutrition workforce. In 2014, the NNEdPro Group conducted a needs assessment in relation to nutritional care of almost 200 doctors and dietitians in Kolkata, India, identifying a need for research training to enable the generation of local data. To address this need, NNEdPro delivered a 2-day workshop to facilitate the generation of local data and support local initiatives in nutrition care. **In continuing the NELICO approach of putting the training into practice, 'NELICO Champions' were selected to lead two projects:**

Medical Schools Project:

The aim of this project was to understand the level of nutrition knowledge, attitudes and practices (KAP) among medical students in Kolkata and to pilot a nutrition education and lifestyle management intervention with these students. Before and after the education intervention, the team used a survey to evaluate the nutrition KAP of the medical students in attendance. Results of the survey suggest that nutrition knowledge in medical students in India is low. However, given the improvement in scores following delivery of the education and curriculum interventions are now being actively considered by the State Government.

Urban Slum Dwellers Project:

The aim of this project was to develop a sustainable solution that will enable the slum dwellers of the Chetla and RG Kar slums in Kolkata, West Bengal, India, to challenge the burden of hunger and malnutrition. Their steps within this project included:

1. Assessment: Assessed children's nutritional status and mothers' knowledge, attitudes and practices of nutrition and hunger
2. Intervention: Conducted a nutrition workshop where mothers were taught to cook healthy and nutritious food for children.
3. Long Term Solution: To build a teaching kitchen in the slum to enable mothers to cook nutritious food and be a social change hub.



Addressing the long-term solution is ongoing.

Within the India Network, NNEdPro is creating a sustainable health promotion Teaching Kitchen programme, envisioned in line with the key UN Sustainable Development Goals.

The Teaching Kitchen is a mobile multi-purpose space that will serve as a community hub for malnutrition screening and prevention, health promotion, disease prevention and a safe haven within the urban slums. A van has been refitted to create a Mobile Teaching Kitchen unit which will enable the team to bring the programme to other communities across the City of Kolkata where a lack of space presents a challenge. This has led to the "Bhavishya Shakti" project, which has won ESRC (UK gov) funding and a Cambridge University incubator Award.

Work in India is continually expanding, including through NNEdPro's role in the "TIGR2ESS: Transforming India's Green Revolution by Research and Empowerment for Sustainable food Supplies" project which is a Global Challenges Research Fund project. Within TIGR2ESS, NNEdPro focuses on "Impacting Wellbeing in Rural and Urban Communities", specifically "Food, Nutrition, Education" and "Education, Employment, Empowerment and Entrepreneurship." The flagship project hosted by Cambridge University explores the relationships between these factors through assessing needs and piloting innovative intervention models.





CASE STUDY 3: THE FORGOTTEN REALMS OF HYDRATION AND PHARMACISTS IN NUTRITION EDUCATION

As nutrition has a strong impact across prevention and health, NNEdPro had a unique opportunity to focus on areas that have strong potential but do not receive enough attention. Although there are many such areas, this case will focus on two projects that truly reflect shared learning.



Hydration Education

Adequate hydration should go hand in hand with the need for improved nutrition care, yet it is often missed. To meet this need, NNEdPro applied our experience with nutrition to the field of hydration. In a flagship project, our objective was to determine the educational needs of primary care healthcare professionals (doctors, dietitians) in England with regards to hydration and health; and to pilot and evaluate an education package on 'hydration education and health'.

As part of a needs assessment, the NNEdPro Group conducted a survey on hydration awareness among doctors and dietitians. Results from the survey were used to develop an educational package on hydration which was piloted and evaluated for General Practitioners in 2014. Since this initial pilot, further teaching has been delivered to medical students at several universities across the UK and internationally (specifically India). Teaching material has been converted into an online education package. **The**

project increased awareness of the importance of hydration and nutrition for healthcare professionals when speaking with the patients and with their own personal health. Hydration is now considered alongside improving nutrition care across all healthcare settings.

The Role of Nutrition in Pharmacy

Community based pharmacists are ideally placed to play a key role in disease prevention through education of the public about modifiable behaviours such as dietary intake (including safe use of nutritional supplements) and lifestyle decisions. However, the role of pharmacy within nutrition care is rarely considered. To explore the potential of this opportunity, NNEdPro conducted a project with the objective to undertake a preliminary investigation of Northern Ireland pharmacists' attitudes and practice towards diet-related health promotion and disease prevention. The next step was to develop and pilot a nutrition education programme for community pharmacists which was held as an interactive training day with pharmacy students.

This project has highlighted the increasing need for pharmacists to be key players in nutrition care and launched a new stream of work focused on how to appropriately involve pharmacy in nutrition care.



CASE STUDY 4: NUTRITION RESEARCH AND INNOVATION CONSORTIUM

For several years leading up to 2018, the NNEdPro Chair's Nutrition and Vascular Studies Platform in combination with the NNEdPro Scientific Director's Dietary Bioactives and Health Platform, formed the basis for an innovative consortium bringing together a unique combination of collaborators. This work received early recognition through a British Medical Association Research Foundation Award and has attracted significant support from a number of agencies including UK Research Councils.

Over 2018, in its 10th Anniversary Year, the NNEdPro Group formed a refreshed Nutrition Research and Innovation Consortium (NRIC) spanning Cambridge, London, Ulster and Parma (Italy).

Going forward, the combined strengths from these centres of research excellence will seek to address further unanswered questions around Nutrition and Non-Communicable Disease, connecting the cutting edge of science to evidence-informed professional education.

The overall aim of the consortium is: **To undertake primary nutrition research through basic science, human interventions, population studies and evidence syntheses to inform health policy and practice.**

Consortium Research Partners:



To provide an idea of some of the work conducted through this consortium, snapshots from the NNEdPro Chair's Nutrition and Vascular Studies Platform at the Medical Research Council are provided:

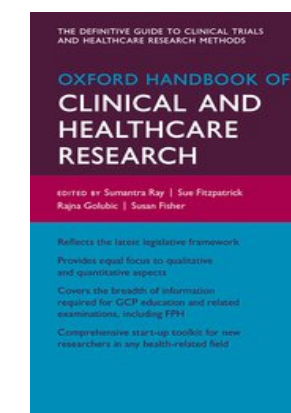
Pillar 1: Establishment of a Vascular Function Assessment Laboratory (VFAL) dedicated to Nutrition

Nutritional interventions can have small but significant effects on vascular/endothelial function requiring bespoke measurement protocols. Our VFAL has worked to optimise methods and enhance precision in detecting how dietary exposures/interventions can impact cardiovascular risk, applying these techniques to both population and individual level studies.

Key projects include:

- estimation of relative predictive values of vascular measures
- elucidating the role of hydration as a vascular confounder
- development of a consensus forum on best practices in vascular nutrition studies.

In addition, our Oxford Handbook of Clinical and Healthcare Research serves as a generic skills toolkit.





Pillar 2: Observational Studies at Population Level

In our observational studies we investigate unmodified dietary variables that a population may ordinarily be exposed to, which can either generate questions for further investigation through explanatory trials or identify patterns leading to evidence synthesis. Three areas of work include:

- The National Survey of Health and Development (NSHD), also called the 1946 British Birth Cohort, has collected a wealth of data over the past seven decades. We have undertaken longitudinal analyses of dietary patterns, biomarkers from stored samples and vascular function in NSHD.
- The National Diet and Nutrition Survey (NDNS) collects cross-sectional data on dietary intakes and nutritional status to inform policy through risk assessment and monitoring. We have undertaken secondary analyses of NDNS data to estimate the contribution of diet (including polyphenol intake) to CVD risk.
- The National Health Service (NHS) collects a plethora of routine clinical data that can be interrogated. We have undertaken secondary analyses of intensive weight management in secondary care, whilst setting up a framework for future collection of prospective data using NHS record linkage looking at diet and cardio-metabolic risk in specific populations.

Pillar 3: Interventional Studies (Trials) at Individual Level

Examples of interesting mechanistic explanatory vascular/endothelial function trials (with associated sub-studies) include the following controlled dietary interventions:

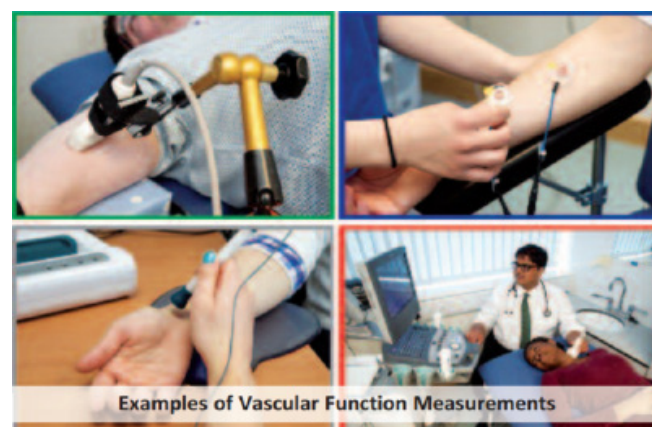
- Fresh frozen berry consumption
- Green tea/coffee extract consumption
- Hazelnut skin extract consumption
- Wide ranging fruit and vegetable extract consumption ('NNTV')

Pillar 4: Evidence Synthesis for Translation to Professionals in Nutrition and Health

We undertake a series of evidence synthesis pieces particularly as 'umbrella reviews' to inform policy and educational interventions which can impact the knowledge, attitudes and practices of health professionals. We have had key inputs to the Cardiovascular Task Force of the British Nutrition Foundation which has now published the 2nd edition of its compendium of evidence on Diet, Nutrition and CVD Risk Factors as a key translational resource.

Looking ahead

Going forward, the combined strengths from this Consortium will seek to address further unanswered questions around Nutrition and Non-Communicable Disease. **The aim is to connect the cutting edge of science with evidence informed practice through professional education.**



Examples of Vascular Function Measurements



CASE STUDY 5: MENTORING AND MEMBERSHIP

The International Academy of Nutrition Educators (IANE) draws from over a decade of experience in developing and delivering high quality nutrition education and evaluating its impact, particularly on healthcare practices. The IANE taps into the NNEdPro Global Innovation Panel (GIP) with its international hubs and unique approach of combining knowledge in technical aspects of Nutrition and Health. **By being part of the IANE, one can participate in knowledge exchange within the nutrition community, faculty development and the provision of mentoring support in the form of academy membership for trainers and trainees.**

NNEdPro is on pilot-membership programme to its internal members as well as members of Society for Nutrition Education and Behaviour (SNEB) and Monash University in 2019. Subscribing Members (individuals or organisations) of IANE will receive tailored mentoring support and access to our scientific network to help implement nutrition knowledge in specific settings or contexts. Each member can also access bespoke advisory services on

methodology training, developing research or implementation protocols and more, provided by professionals across our networks.

Members of IANE can also receive discounted rates for our knowledge exchange symposia notably the Annual International Summit on Medical and Public Health Nutrition Education and Research, contribute to activities within the NNEdPro Global Centre including implementation, education and primary research projects, and access BMJ Nutrition, Prevention and Health, our flagship journal.

Interested organizations and individuals can apply to become an Associate Member of IANE or Full Member of IANE, which are determined by formal qualifications and experience in medical nutrition education and research. Full members can use post nominals at the end of their name to illustrate their membership affiliation.





CASE STUDY 6: NNEDPRO NUTRITION WEEK

The NNEdPro Nutrition Week are our way of bringing people together through training and an opportunity for open discussion. Training is provided through our annual Cambridge Summer School in Applied Human Nutrition and open discussion through the International Summit on Medical and Public Health Nutrition Education and Research.



Cambridge Summer School in Applied Human Nutrition

NNEdPro Nutrition Week starts with our annual Cambridge Summer School in Applied Human Nutrition. **This Summer School is a comprehensive Foundation Certificate Course for professionals in health and health-related sectors.** It provides attendees with an in-depth exposure to applied human nutrition presented by speakers with a variety of backgrounds including clinical nutrition, epidemiology, research methodology, policy, clinical practice, and more.

Topics for the Summer School typically include:

- Basic Concepts in Human Nutrition: dietary assessment, body composition and energy metabolism
- Nutrition Research Methods: nutritional epidemiology, nutrigenetics, nutrigenomics and diet-microbe interactions in the gut
- Nutrition in Disease Prevention: non-

communicable diseases, musculoskeletal health and neurodegenerative diseases

- Nutrition in Healthcare: hydration and clinical leadership, clinical ethics, malnutrition in practice and ageing
- Nutrition Public Health and Policy: global nutrition, nutrition and health claims regulation, policy formulation and industry case studies



VIEW OUR 2019 EVENTS



International Summit on Medical and Public Health Nutrition Education and Research

Since 2015 NNEdPro has hosted this Summit as **an opportunity to bring together delegates from various countries, professions, and sectors all interested in the dynamic interfaces between Nutrition and Health.** The 2015 Summit began as an introduction between these interfaces, encouraging collaboration and setting the stage for the next steps. The 2016 event focused on setting priorities leading to the 2017 event regarding how to implement changes to have sustained impact. For 2018, the overall theme was "Nutrition as a Hard Science to International Knowledge Application Networks." The 2018 Summit was also a launch for the new journal, BMJ Nutrition, Prevention and Health, which is co-founded by NNEdPro.

Since 2016, the Summit has been co-hosted by GODAN (Global Open Data for Agriculture and Nutrition), whose past expertise had been primarily focused on agriculture and food. This partnership seeks to increase GODAN's understanding of nutrition data, while GODAN has supported NNEdPro's approach to open data. The 2018 Summit included the soft launch of their open data strategy.

Proceedings have been published for each event:

2015: <https://www.ncbi.nlm.nih.gov/pubmed/27726865>

2016: <https://www.ncbi.nlm.nih.gov/pubmed/27814894>

2017: <https://www.frontiersin.org/articles/10.3389/fpubh.2018.00093/full>

2018: In preparation





CASE STUDY 7: BMJ NUTRITION, PREVENTION AND HEALTH

BMJ Nutrition, Prevention & Health is a new journal co-owned by NNEdPro and the BMJ Group, launched at our 2018 International Summit. The journal is dedicated to publishing high quality, **peer reviewed articles that focus on diet, exercise and healthcare technology on health and wellbeing.**

The launch of this journal represents many years of work culminating in the need for research to focus on the connection that nutrition has with prevention and health. The journal aims to present the best available evidence of the impact of nutrition and lifestyle factors on the health of individuals and populations. It will present robust research on the key determinants of health including the social, economic, and physical environment, as well as lifestyle and behaviour. Dietary factors, exercise and healthcare interventions and technologies, will all be explored with the aim to maintain and improve health and wellbeing and to prevent illness and injury.

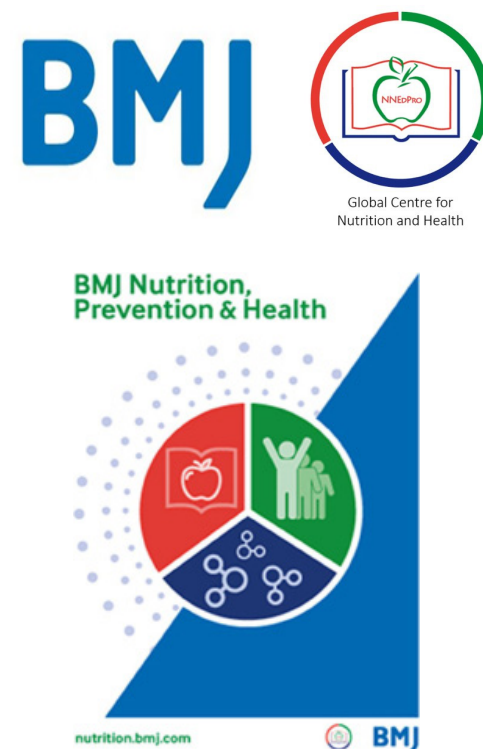
“The creation of this landmark journal – BMJ Nutrition, Prevention and Health – comes at a pivotal time, particularly as the NNEdPro Global Centre for Nutrition and Health have been working for the past decade to strengthen the translation potential of nutrition science for best practice. This journal will give nutrition and public health researchers the opportunity to ensure that a dynamic evidence base reaches both policy makers and practitioners. This will give patients and the wider public the best possible chance of receiving quality-assured nutritional solutions to prevent and manage disease, as well as to improve health outcomes.”

- NNEdPro Founding Chair and Executive Director, Prof. Sumantra Ray

“[The journal] will value contributions that advance practical and evidence-supported nutrition solutions for urgent health challenges. We want to hear what would be most useful for those that can translate new knowledge into better health for their communities. This will help to then engage with researchers and seek high-quality contributions responsive to the recognised priorities. We will not shy away from difficult topics, but will work hard to avoid the fad of the day.”

- Editor-in-Chief, Prof. Martin Kohlmeier

BMJ Nutrition, Prevention and Health is now accepting submissions. Please visit nutrition.bmj.com for more information and sign up to the journal mailing list for all future updates.



CASE STUDY 8: TAKING A FOOD SYSTEMS APPROACH: CONNECTING NNEDPRO AND GLOBAL OPEN DATA INITIATIVE FOR AGRICULTURE AND NUTRITION (GODAN)



GODAN supports the proactive sharing of open data to make information about agriculture and nutrition available, accessible and usable to deal with the urgent challenge of ensuring world food security. GODAN promotes collaboration to harness the growing volume of data generated by new technologies to solve long-standing problems and to benefit farmers and the health of consumers.



The partnership between GODAN and NNEdPro is mutually beneficial as GODAN seeks to significantly increase their understanding of nutrition data, while supporting NNEdPro's approach to open data. The GODAN and NNEdPro partnership was formalised following the 2016 GODAN Summit in New York City. GODAN and NNEdPro have worked together on a Nutrition Open Data Strategy which unites their common goals in agriculture, nutrition and food systems.

NNEdPro and GODAN are working closely together to develop a whole systems approach to the knowledge economy ranging from agriculture through human nutrition to health, wellbeing and livelihood, in line with the UN Sustainable Development Goals. It is this joint working that led to the development of International Knowledge Application Network in Nutrition 2025 (I-KANN-25).

The project so far has highlighted a number of challenges to developing an open nutrition data strategy. Finding data and repositories which are accessible, interpretable and discoverable to begin with are just some of the issues with such a project; although, this has not stifled the efforts of either GODAN or NNEdPro in the quest to develop resources, such as I-KANN-25. Only by working together with data producers, users and sharers this initiative will reach its full potential to provide a matrix of data, information and knowledge, which is freely available for discussions and to make decisions that impact agricultural nutrition as well as human nutrition and health.





CASE STUDY 9: LOOKING TOWARD THE FUTURE

Good nutrition is at the foundation of good health, and we see healthcare and public health practitioners as knowledge brokers that can promote nutrition to achieve better public health. To achieve this, NNEdPro is creating an **International Knowledge Application Network in Nutrition 2025 (I-KANN-25)** to promulgate high quality and scalable medical nutrition education achieving sustained impact in global healthcare systems.

What is I-KANN 25?

At our 3rd Annual Summit in 2017, NNEdPro announced the launch of I-KANN 25. I-KANN 25 is part of NNEdPro's education and training academy, which facilitates: nutrition education at the University of Cambridge; the Summer School in Applied Human Nutrition (Cambridge); the annual International Summit (Cambridge); and e-learning initiatives. I-KANN-25 seeks to connect materials from these initiatives and more, to be used internationally, such as through the development of an online portal, which will encourage regional adaptations and opportunities for international interaction to facilitate learning.

I-KANN-25 seeks to create a global network that will identify nutrition knowledge gaps and develop and deliver high impact technology-based nutrition education to healthcare providers within a sustainable model framework. I-KANN 25 will be able to promote translatable information at a global level and drive implementation of knowledge into policy and practice, bridging the gap between Agricultural Nutrition and Human Nutrition.

The I-KANN 25 is a joint initiative of NNEdPro and GODAN, and is supported by the Laboratory of the Government Chemist (LGC) who manage the successful Food Authenticity Network. The proposed international coordinating centre for I-KANN-25, will be based in Cambridge, UK, hosted

by NNEdPro. We have established an independent governance committee for I-KANN 25 to provide authoritative oversight to ensure the long-term success of the initiative.

In recent years we have been privileged to convene efforts from over 30 countries across the global community in medical and healthcare nutrition education as well as associated research. This is a potted summary of the scope and impact footprint that our collaboratively crafted work has had at multiple levels to take the cutting edge of evidence and translate to practice relatively close to real time and with tangible, as well as visible, population benefits when effective interventions are implemented appropriately using the leverage of solid education and training strategies.

We hope that our work to date heralds the beginning of scaled up actions spearheaded by the power of well positioned education to tackle the global burden due to malnutrition in all its forms and across the lifecourse.



Open access online portal with bespoke e-learning + collation of openly available knowledge resources with commentary/ guidance + interactive sections for workforce capacity

The I-KANN-25 Model is actively supported by LGC Group



CASE STUDY 10: AWARDS



In 2015, NNEdPro was pleased to receive the Complete Nutrition Outstanding Achievement Award. This award is selected by readers of Complete Nutrition based on overall impact to the field of nutrition.

"Abbott would like to recognise the NNEdPro Group, voted as the winners of the Outstanding Achievement Award by CN readers.

Congratulations on the progress you have made to drive dedicated nutrition training within the medical curriculum and demonstrate the value of working as a multi-disciplinary team to ultimately enhance patient care."

- Mike Smith, General Manager, Abbott Nutrition



In 2016, NNEdPro was pleased to be Finalist and Runner Up for BMJ Education Team of the Year Awards. This award celebrates a team that is leading the way in medical education.



In 2017, the British Dietetic Association (BDA) / NNEdPro Global Centre for Nutrition and Health was pleased to be awarded the MNI Grant 2017, for our project "Nutrition Education Policy for Healthcare Practice". The award was consigned on 11 September 2017, during the ESPEN – ENHA – MNI Joint Session 2017 on Optimal Nutrition Care for All, by MNI President, Tim Meyerhoff.



In 2018, NNEdPro was pleased to be part of the team to be a joint recipient of the "TIGR2ESS: Transforming India's Green Revolution by Research and Empowerment for Sustainable food Supplies", as part of the Global Challenges Research Fund project.



APPENDICES

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NEWSLETTERS AND ARTICLES

Complete Nutrition Articles

2019

Feed for Health
June 2019

Bringing our 2025 vision of an International Knowledge Application Network in Nutrition (IKANN25) to life in partnership with GODAN
May 2019

The online diet wars. What is it achieving?
February 2019

2018

NNEdPro: A Year in Review and 2019 Sneak Peak
December 2018

The NNEdPro GODAN Partnership
November 2018

Food Allergy Can Be Fatal
October 2018

Can the Kitchen be an Effective Classroom for Nutrition Education?
September 2018

Nutrition Science in the Lab
July 2018

Behind the Scenes @ 10 Years
June 2018

Nutrition as a Hard Science
May 2018

A Decade of Laying Foundations
April 2018

Turning a Terrific Two: The NNEdPro Australia and New Zealand (ANZ) Network
January 2018

2017

I-KANN-25: A Case Study from India
December 2017

NNEdPro Win MNI Award
November 2017

Nutrition Week 2017: Summer School and Summit In Review
October 2017

Global Challenges – Let’s End Malnutrition by 2030
September 2017

An Online Toolkit to Improve Nutritional Care
July-August 2017

Three Strategies to Integrate Nutrition into Existing Medical Curricula
June 2017

NNEdPro Week 2017: Summit and Summer School
May 2017

The Renaissance of the Mediterranean Diet
April 2017

Cooking up a Novel Recipe for Medical Nutrition Education
February 2017 / March 2017



<http://nnedpro.org.uk/articles-and-newsletters>



2016

NNEdPro Global Centre for Nutrition and Health:
Translating knowledge, through education, into
practice
December 2016 / January 2017

The GODAN-UN Summit 2016: Can open data
ensure better nutrition and global food security?
November 2016

Is there a solution to tackling child malnutrition in
urban slums?
October 2016

What should we teach students about nutrition?
September 2016

Scaling up Nutrition in Morocco
July/August 2016

Nursing Essay Competition 2016
June 2016

NNEdPro Down Under - Launching an Australia and
New Zealand Network
May 2016

An Evidence-based 'gut feeling': Dietary
polyphenols and the gut microbiome
April 2016

International initiatives in nutrition education and
related research
February/March 2016

2015

NNEdPro: Who are we?
December 2015

Same Challenge- different countries- common
voice!
October 2015

NNEdPro at the World Congress on Public Health
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Strengthening doctors' nutrition knowledge and
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NNEdPro News - June 2019

NNEdPro News - March 2019

NNEdPro News - February 2019

Seasons greetings from NNEdPro, December 2018

NNEdPro Nutrition Week 2018

Easter Newsletter, April 2018

NNEdPro Week: Summit and Summer School 2017
Update

Invitation to NNEdPro Week 2017

New Year Newsletter, February 2017

Winter Newsletter, December 2015



JOURNAL PAPERS (APPLIED)

PEER-REVIEWED AND INDEXED JOURNAL PAPERS IN EDUCATIONAL AND APPLIED ASPECTS OF NUTRITION AND HEALTH

Individual Journal Papers

Douglas PL, McCarthy H, McCotter LE, Gallen S, McClean S, Gallagher AM, Ray S. Nutrition Education and Community Pharmacy: A First Exploration of Current Attitudes and Practices in Northern Ireland. *Pharmacy*. 2019; 7(1):27.

Laur C, Bell J, Valaitis R, Ray S, Keller H. (2018) The Sustain and Spread Framework: Strategies for sustaining and spreading nutrition care improvements in acute care based on thematic analysis from the More-2-Eat study. *BMC Health Services Research*. 18:930

Laur C, Butterworth D, Nasser R, Bell J, Marcell C, Murphy J, Valaitis R, Bernier P, Ray S, Keller H. (2018) Impact of Facilitated Behavior Change Strategies on Food Intake Monitoring and Body Weight Measurements in Acute Care: Case Examples From the More-2-Eat. *Nutrition in Clinical Practice*.

Keller H, Laur C, Atkins M, Bernier P, Butterworth D, Davidson B, Hotson B, Nasser R, Laporte M, Marcell C, Ray S, Bell J. (2018) Update on the Integrated Nutrition Pathway for Acute Care (INPAC): post implementation tailoring and toolkit to support practice improvement. *Nutrition Journal*, 17:2.

Laur C, Curtis L, Dubin J, McNicholl T, Valaitis R, Douglas P, Bell J, Bernier P, Keller H. (2018) Nutrition Care after Discharge from Hospital: An Exploratory Analysis from the More-2-Eat Study. *Healthcare*. 6(1), 9.

Laur, C., Keller, H., Curtis, L., Douglas, P., Murphy, J., Ray, S. (2017) Comparing Hospital Staff Nutrition Knowledge, Attitudes, and Practices Before and 1 Year After Improving Nutrition Care:

Results From the More-2-Eat Implementation Project. *Journal of Parenteral and Enteral Nutrition*.

Mocciaro, G; Ziauddeen, N; Nicholson, S; Almoosawi, S; Ray, S. (2017) Findings from a UK–Morocco training programme to improve capacity in nutrition surveillance, research and education *Public Health*. 142: 208-211.

Burch, E., Crowley, J., Laur, C., Ray, S., Ball, L. (2017) Dietitians' Perspectives on Teaching Nutrition to Medical Students. *Journal of the American College of Nutrition*. 36:6, 415-421.

Keller H, Laur C, Valaitis R, Bell J, McNicholl T, Ray S, Murphy J, Barnes S. (2017) More-2-Eat: evaluation protocol of a multi-site implementation of the Integrated Nutrition Pathway for Acute Care. *BMC Nutrition*. 3: 13.

Ball, L., Barnes, K., Laur, C., Crowley, J., Ray, S.. (2016) Setting Priorities for Research in Medical Nutrition Education: A Global Approach. *BMJ Open*. 6:e013241.

Laur, C., Marcus, H., Ray, S., & Keller, H., (2016). Quality Nutrition Care: Measuring Hospital Staff's Knowledge, Attitudes, and Practices. *Healthcare*. 4(4): 79.

McCotter, L., Douglas, P., Laur, C., Gandy, J., Fitzpatrick, L., Rajput-Ray, M., Ray, S. (2016). Hydration education: Developing, piloting and evaluating a hydration education package for General Practitioners. *BMJ Open*. 6:e012004

Ball L, Ball D, Leveritt M, Ray S, Collins C, Patterson E, Ambrosini G, Lee P, Chaboyer W. (2016). Using logic models to enhance the methodological quality of primary health care interventions:



Guidance from an intervention to promote nutrition care by General Practitioners and Practice Nurses. *Australian Journal of Primary Health*. 23(1):53-60.

Ray S, Rajput-Ray M, Ball L, Crowley J, Laur C, Roy S, Agarwal S, Ray S. (2015). Confidence and Attitudes of Doctors and Dietitians towards Nutrition Care and Nutrition Advocacy for Hospital Patients in Kolkata, India. *Journal of Biomedical Education*. 23(1):53-60

Kris-Etherton PM, Akabas SR, Douglas P, Kohlmeier M, Laur C, Lenders CM, Levy MD, Nowson C, Ray S, Pratt CA, Seidner DL. (2015). Nutrition competencies in health professionals' education and training: a new paradigm. *Advances in Nutrition: An International Review Journal*. 6:1, 83-87.

Crowley, J., Ball, L., Laur, C., Wall, C., Arroll, B., Poole, P., & Ray, S. (2015). Nutrition guidelines for undergraduate medical curricula: a six-country comparison. *Advances in medical education and practice*, 6, 127-133.

Ray S, Laur C, Douglas P, Rajput-Ray M, van der Es M, Redmond J, Eden T, Sayegh M, Minns L, Griffin K, McMillan C. (2014) Nutrition education and leadership for improved clinical outcomes: training and supporting junior doctors to run 'Nutrition Awareness Weeks' in three NHS hospitals across England. *BMC Medical Education*. 29;14(1):1.

Kris-Etherton PM, Akabas SR, Bales CW, Bistran B, Braun L, Edwards MS, Laur C, Lenders CM, Levy MD, Palmer CA, Pratt CA. (2014) The need to advance nutrition education in the training of health care professionals and recommended research to evaluate implementation and effectiveness. *The American Journal of Clinical Nutrition*. 1;99(5):1153S-66S.

Ball, L., Crowley, J., Laur, C., Rajput-Ray, M., Gillam, S., & Ray, S. (2014). Nutrition in medical

education: reflections from an initiative at the University of Cambridge. *Journal of Multidisciplinary Healthcare*. 7, 209-215.

Ray, S., Laur, C., & Golubic, R. (2014). Malnutrition in healthcare institutions: a review of the prevalence of under-nutrition in hospitals and care homes since 1994 in England. *Clinical Nutrition*, 33(5), 829-835.

Ray S, Udumyan R, Rajput-Ray M, Thompson B, Lodge KM, Douglas P, Sharma P, Broughton R, Smart S, Wilson R, Gillam S. (2012) Evaluation of a novel nutrition education intervention for medical students from across England. *BMJ Open*. 1;2(1):e000417

Laur, C., Thompson, B., & Ray, S. (2012). Short but effective educational interventions in medicine and healthcare—lessons learnt from the 'Need for Nutrition Education Programme'. In *MedEdWorld* (pp. 1-15).

Ray, S., Laur, C., Rajput Ray, M., Gandy, J., & Schofield, S. (2012). Planning Nutrition Education Interventions for the Medical Workforce: 'Nutrition Education Workshop for Tayside Doctors'(NEWTayDoc)-A pilot project to inform development of the Need for Nutrition Education Programme (NNEdPro).

Charlesworth, K. E., Ray, S., Head, F., & Pencheon, D. (2012). Developing an environmentally sustainable NHS: outcomes of implementing an educational intervention on sustainable health care with UK public health registrars. *New South Wales public health bulletin*, 23(2), 27-30.

Gandy, J; Douglas, P; Thompson, B; Rajput-ray, M; Sharma, P; Lodge, K; Broughton, R; Smart, S; Wilson, R; Ray, S; The impact of a nutritional education intervention on undergraduate medical students (2010). *Journal of Human Nutrition and Dietetics*. 23(4):447-448.

Ray, S., Udumyan, R., Thompson, B., Rajput-



Ray, M., Sharma, P., Lodge, K., . . . Wilson, R. (2010). The Need for Nutrition Education Project (NNEdPro) – an educational intervention across UK Medical Schools to lay the foundations for good nutritional care. Proceedings of the Nutrition Society, 69(OCE7), E527. doi:10.1017/S0029665110004611

Ray S, Gandy J, Landman J. (2008) The Doctor as a Nutritionist, A Discussion Paper on Nutrition in Medical Careers. Westminster Forum Projects.

Frontiers in Public Health and Frontiers in Nutrition

Research Topic: Assessing Evidence to Determine Policy and Practice

Topic Editors - Giuseppe Grosso, Alessandra Lafranconi, Sumantra Ray**

The journal, Frontiers in Public Health, is a multidisciplinary open-access journal

Lafranconi, A. Ray, S. Grosso, G. (2019). Public Health Nutrition: Assessing Evidence to Determine Policy and Practice. Frontiers in Nutrition.

Golubic, R., Laur, C., Kelsey, M., Livesy, A., Hoensch, J., Park, A., Ray, S. (2018). The Cambridge Intensive Weight Management Programme Appears to Promote Weight Loss and Reduce the Need for Bariatric Surgery in Obese Adults. Frontiers in Nutrition

Bhatt, L. D., Gurung, L. M., Yadav, D. K. (2018). Dietary Practice and Nutritional Status of Tuberculosis Patients in Pokhara: A Cross Sectional Study. Frontiers in Nutrition *

Orlando, A., Cazzaniga, E., Giussani, M., Palestini, P., Genovesi, S. (2018) Hypertension in Children: Role of Obesity, Simple Carbohydrates, and Uric Acid. Frontiers in Public Health *

Lacour, C., Seconda, L., Allès, B., Hercberg, S., Langevin, B., Pointereau, P., Lairon, D., Baudry, J., Kesse-Guyot, E. (2018) Corrigendum: Environmental Impacts of Plant-Based Diets:

How Does Organic Food Consumption Contribute to Environmental Sustainability? Frontiers in Nutrition *

Crowley, J.J., Laur, C., Carter, H., David, E., Jones, G., Ray, S. (2018). Perspectives from the Third International Summit on Medical Nutrition Education and Research. Frontiers in Public Health

Lacour, C., Seconda, L., Allès, B., Hercberg, S., Langevin, B., Pointereau, P., Lairon, D., Baudry, J., Kesse-Guyot, E. (2018) Environmental Impacts of Plant-Based Diets: How Does Organic Food Consumption Contribute to Environmental Sustainability? Frontiers in Nutrition *

Korre, M., Sotos-Prieto, M., Kales, S.N. (2017). Survival Mediterranean Style: Lifestyle Changes to Improve the Health of the US Fire Service. Frontiers in Public Health *

Prosperini, A., Berrada, H., Ruiz, M. J., Caloni, F., Coccini, T., Spicer, L. J., Perego, M. C., Lafranconi, A. (2017) A Review of the Mycotoxin Enniatin B. Frontiers in Public Health *

* Articles marked with an asterisk have been written by authors external to NNEdPro and have been edited or reviewed by the NNEdPro Chair (S Ray) and/or NNEdPro Global Innovation Panel member (G Grosso) for this research topic.

** Also review editor for Frontiers in Nutrition

Public Health - Nutrition Education (Special Section 2016)

Senior Guest Editor - Sumantra Ray | Guest Editors - Celia Laur, Lauren Ball

The journal, Public Health, was established in 1888 and is published by Elsevier on behalf of the Royal Society for Public Health

S Ray, C Laur, L Ball. Guest Editorial: Nutrition Education for Public Health. Public Health. (2016).

Crowley, J., O'Connell, S., Kavka, A., Ball, L., & Nowson, C. A. (2016). Australian general



practitioners' views regarding providing nutrition care: results of a national survey. Public Health. *

Ball, L., Campbell, N., Cheung, K. K., & Vantanen, M. (2016). Building research capacity in general practitioners and practice nurses: reflections on an initiative in nutrition. Public Health. *

Crowley J, Ball L, Wall C. (2016). Nutrition advice provided by general practice registrars: an investigation using patient scenarios. Public Health.*

Avdagovska M, Bistriz L, Kovacs Burns K, Olson K, Gramlich L. (2016). Diffusion of an innovative online education intervention: experiences and lessons learned. Public Health. *

Robyn Perlstein; Scott McCoombe; Cameron Shaw; Caryl Nowson. (2016). Medical student perceptions regarding the importance of nutritional knowledge and their confidence in providing competent nutrition practice. Public Health. *

Laur C, Ball L, Crowley J, Bell H, Maddock M, Ray S. (2016). Enhancing breadth of knowledge within multidisciplinary doctoral research: reflections from the Cambridge Generic Nutrition Training course for non-nutritionist postgraduates and professionals. Public Health.

Barnes K, Desbrow B, Ball L. (2016). Personal trainers are confident in their ability to provide nutrition care: a cross-sectional investigation. Public Health. *

Barnes K, Ball L, Desbrow B. (2016). Promotion of nutrition care by Australian fitness businesses: A website analysis. Public Health. *

Rosi A, Dall'Asta M, Brightenti F, Del Rio R, Volta E, Baroni I, Nalin M, Coti Zelati M, Sanna A; Scazzina F. (2016). The use of new technologies for nutritional education in primary schools: a pilot study. Public Health. *

Gerritsen S. (2016). Nutrition education for early childhood managers, teachers and nursery cooks: a prerequisite for obesity prevention? Public Health. *

Laur C, Ball L, Ahankari A, Avdagovska M, Crowley J, Deen D, Douglas P, Hark L, Kohlmier M, Luzi L, McCotter L, Martyn K, Nowson C, Wall C, Ray S. (2016). Proceedings of the Inaugural International Summit for Medical Nutrition Education and Research. Public Health

Barnes K, Crowley J, Laur C, Ball L, Ray S. (2016). Proceedings of the Second International Summit on Medical Nutrition Education and Research. Public Health.

Phillips F, Ruxton C. (2016). Scientific evidence and daily food for a better life: Milan, 19th June 2015. Public Health. *

Chan MY, Ang JL. Development of a Checklist (I-SEAVD) for public health nutrition programmes related to cardiovascular disease in Southeast Asia. Public Health.*

Mocciaro G, Ziauddeen N, Nicholson S, Almoosawi S, Ray S. (2017). Findings from a UK-Morocco Training Programme to Improve Capacity in Nutrition Surveillance, Research and Education. Public Health.

* Articles marked with an asterisk have been written by authors external to NNEdPro and have been edited by the NNEdPro Chair (S Ray) and/or the NNEdPro Global Innovation Panel Leaders (C Laur and L Ball) for this special section.



JBE - Nutrition Education for the Health Care Professions (Special Issue 2015)

Guest Editors - Martin Kohlmeier, Caryl A Nowson, Rose Ann Di Maria-Ghalili, Sumantra Ray
The Journal of Biomedical Education is published by Hindawi.

Kohlmeier, M., Nowson, C. A., DiMaria-Ghalili, R. A., & Ray, S. (2015). Nutrition Education for the Health Care Professions. Journal of Biomedical Education

Ettinger, S. E., Nasser, J. A., Engelson, E. S., Albu, J. B., Hashim, S., & Pi-Sunyer, F. X. (2015). The Rationale, Feasibility, and Optimal Training of the Non-Physician Medical Nutrition Scientist. Journal of Biomedical Education **

Kelly C., Wohlgenant, SL., Godwin, SCC., & Stone, R. (2015). Working with Individuals Who Provide Nursing Care to Educate Older Adults about Foodborne Illness Prevention: The Food Safety Because You Care! Intervention. Journal of Biomedical Education **

Douglas, P., Ball, L., McGuffin, L., Laur, C., Crowley, J., Rajput-Ray, M., Gandy J., & Ray, S. (2015). Hydration: Knowledge, Attitudes, and Practices of UK Dietitians. Journal of Biomedical Education, 2015.

Adams, K. M., Butsch, W. S., & Kohlmeier, M. (2015). The state of nutrition education at US medical schools. Journal of Biomedical Education, 2015. **

Connor, R., Cialdella-Kam, L., & Harris, S. R. (2015). A Survey of Medical Students' Use of Nutrition Resources and Perceived Competency in Providing Basic Nutrition Education. Journal of Biomedical Education, 2015. **

Hark, L. A., Deen, D. D., & Morrison, G. (2015). Learner-Directed Nutrition Content for Medical

Schools to Meet LCME Standards. Journal of Biomedical Education **

Schoendorfer, N., & Schafer, J. (2015). Enabling Valuation of Nutrition Integration into MBBS Program. Journal of Biomedical Education **

Hardman, W. E., Miller, B. L., & Shah, D. T. (2015). Student Perceptions of Nutrition Education at Marshall University Joan C. Edwards School of Medicine: A Resource Challenged Institution. Journal of Biomedical Education **

King, J., Harris, J. E., Kuo, D., & Daghigh, F. (2015). Nutri One-on-One: The Assessment and Evaluation of a Brief One-on-One Nutritional Coaching in Patients Affected by Metabolic Syndrome. Journal of Biomedical Education **

Scalfi, L., Brighenti, F., Battistini, N. C., Bordoni, A., Casini, A., Ciappellano, S., Del Rio D., Scazzina F., Galvano F., & Merendino, N. (2015). University Education in Human Nutrition: The Italian Experience—A Position Paper of the Italian Society of Human Nutrition. Journal of Biomedical Education **

Davidson, Z. E., & Palermo, C. (2015). Developing Research Competence in Undergraduate Students through Hands on Learning. Journal of Biomedical Education **

Nowson, C. A., & O'Connell, S. L. (2015). Nutrition Knowledge, Attitudes, and Confidence of Australian General Practice Registrars. Journal of Biomedical Education **

Chatterjee, A., Rusher, T. N., Nugent, J., Herring, K. W., Rose, L. M., Nehama, D., & Muth, N. D. (2015). Making an IMPACT: The Story of a Medical Student-Designed, Peer-Led Healthy Eating and Physical Activity Curriculum. Journal of Biomedical Education **

Schoettler, C. L., Lee, J. N., Ireland, K. A., & Lenders, C. M. (2015). A Novel Method



of Increasing Medical Student Nutrition Awareness and Education. Journal of Biomedical Education**

** Articles marked with a double asterisk have been written by authors external to NNEdPro and have been edited by the NNEdPro Chair along with the editor-in chief (M Kohlmeier) and other guest editors (C Nowson and RA Di Ghalili) for this special issue.

BMJ Nutrition, Prevention & Health

Ray S. Tackling a tidal wave: sound nutrition knowledge today for a better tomorrow... BMJ Nutrition, Prevention & Health (2018).

Kohlmeier M. Nutrition is a hard science. BMJ Nutrition, Prevention & Health (2018).

BMJ NPH Collections

BMJ Nutrition, Prevention & Health is pleased to announce a call for papers on the following two themes:

Global Food Security

Contributions to this collection should focus on the assessment of food security, proposed methods of tackling this problem and evaluation of current food production and distribution.

Nutrition Education/Implementation for Healthcare

This collection will focus on nutrition in healthcare education and in health systems implementation. Good fits will deal with teaching nutrition assessment and intervention to healthcare professionals, particularly in settings with limited resources.



<http://nnedpro.org.uk/journal-papers-applied>



JOURNAL PAPERS (SCIENCE)

RESEARCH PAPERS IN NUTRITION SCIENCE AND HUMAN HEALTH DEL RIO (DIETARY BIOACTIVES), RAY (NUTRITION AND VASCULAR STUDIES) AND GROSSO (NUTRITION RESEARCH SYNTHESSES AND EPIDEMIOLOGY)

Peer-Reviewed and Indexed Journal Papers

Sanders FWB, Acharjee A, Walker C, Marney L, Roberts LD, Imamura F, Jenkins B, Case J, Ray S, Virtue S, Vidal-Puig A, Kuh D, Hardy R, Allison M, Forouhi N, Murray AJ, Wareham N, Vacca M, Koulman A, Griffin JL. Hepatic steatosis risk is partly driven by increased de novo lipogenesis following carbohydrate consumption. *Genome Biol.* 2018 Jun 20;19(1):79. doi: 10.1186/s13059-018-1439-8. PubMed PMID: 29925420; PubMed Central PMCID: PMC6009819.

Godos, J.; Vitale, M.; Micek, A.; Ray, S.; Martini, D.; Del Rio, D.; Riccardi, G.; Galvano, F.; Grosso, G. (2019) Dietary Polyphenol Intake, Blood Pressure, and Hypertension: A Systematic Review and Meta-Analysis of Observational Studies. *Antioxidants*.

Angelino D, Godos J, Ghelfi F, Tieri M, Titta L, Lafranconi A, Marventano S, Alonzo E, Gambera A, Sciacca S, Buscemi S, Ray S, Galvano F, Del Rio D, Grosso G. (2019). Fruit and vegetable consumption and health outcomes: an umbrella review of observational studies, *International Journal of Food Sciences and Nutrition*, DOI: 10.1080/09637486.2019.1571021

Barrett, E., Batterham, M., Ray, S., & Beck, E. (n.d.). (2019). Whole grain, bran and cereal fibre consumption and cardiovascular disease: A systematic review. *British Journal of Nutrition*, 1-57. doi:10.1017/S000711451900031X
Daniele Del Rio; Nida Ziauddeen; Alice Rosi; Birdem Amoutzopoulos; Sonja Nicholson; Polly Page; Francesca Scazzina; Furio Brighenti; Shumone Ray; Pedro Miguel Mena Parreno. Dietary intake of (poly) phenols in children and adults: cross-sectional analysis of UK National Diet and Nutrition

Survey Rolling Programme (2008-2014) *European Journal of Nutrition*.

Grosso, G. (2018) Dietary Antioxidants and Prevention of Non-Communicable Diseases. *Antioxidants*. 7(7), 94.

Godos J, Castellano S, Ray S, Grosso G, Galvano F. (2018) Dietary Polyphenol Intake and Depression: Results from the Mediterranean Healthy Eating, Lifestyle and Aging (MEAL) Study. *Molecules*. 24;23(5). pii: E999.

Grosso, G. (2018). Effects of Polyphenol-Rich Foods on Human Health. *Nutrients*. 10(8), 1089.

Marranzano, M., Ray, S., Godos, J., Galvano, F. (2018) Association between dietary flavonoids intake and obesity in a cohort of adults living in the Mediterranean area. *International Journal of Food Science and Nutrition*. 69(8): 1020-1029.

Savi M, Bocchi L, Bresciani L, Falco A, Quaini F, Mena P, Brighenti F, Crozier, A, Stilli D, Del Rio D. (2018) Trimethylamine-N-Oxide (TMAO)-Induced Impairment of

Cardiomyocyte Function and the Protective Role of Urolithin B-Glucuronide. *Molecules*. 1;23(3). pii:E549

Pereira-Caro G, Ordóñez JL, Ludwig I, Gaillet S, Mena P, Del Rio D, Rouanet, JM, Bindon KA, Moreno-Rojas JM, Crozier A. (2018) Development and validation of an UHPLC-HRMS protocol for the analysis of flavan-3-ol metabolites and catabolites in urine, plasma and feces of rats fed a red wine proanthocyanidin extract. *Food Chem*. 30; 252; 49-60.



Martini D, Innocenti A, Cosentino C, Bedogni G, Angelino D, Biasini B, Zavaroni I, Ventura M, Galli D, Mirandola P, Vitale M, Dei Cas A, Bonadonna RC, Passeri G, Pruneti C, Del Rio D. (2018). Claimed Effects, Outcome Variables and Methods of Measurement for Health Claims on Foods Related to Vision Proposed Under Regulation (EC) 1924/2006. *Nutrients*. 14;10(2). pii:E211.

Martini D, Biasini B, Zavaroni I, Bedogni G, Musci M, Pruneti C, Passeri G, Ventura M, Galli D, Mirandola P, Vitale M, Dei Cas A, Bonadonna RC, Del Rio D. (2018) Claimed effects, outcome variables and methods of measurement for health claims proposed under European Community Regulation 1924/2006 in the area of blood glucose and insulin concentrations. *Acta Diabetol*. 55(4):391-404.

Biasini B, Marchi L, Angelino D, Bedogni G, Zavaroni I, Pruneti C, Galli D, Mirandola P, Vitale M, Dei Cas A, Bonadonna RC, Passeri G, Ventura M, Del Rio D, Martini D. (2018) Claimed effects, outcome variables and methods of measurement for health claims on foods related to the gastrointestinal tract proposed under regulation (EC) 1924/2006. *Int J Food Sci Nutr*. 69(7):771-804.

Martini D, Angelino D, Cortelazzi C, Zavaroni I, Bedogni G, Musci M, Pruneti C, Passeri G, Ventura M, Galli D, Mirandola P, Vitale M, Dei Cas A, Bonadonna RC, Di Nuzzo S, De Felici MB, Del Rio D. Claimed Effects, Outcome Variables and Methods of Measurement for Health Claims Proposed Under European Community Regulation 1924/2006 in the Framework of Maintenance of Skin Function. *Nutrients*. 2017

Spigoni V, Mena P, Fantuzzi F, Tassotti M, Brighenti F, Bonadonna RC, Del Rio D, Dei Cas A. Bioavailability of Bergamot (Citrus bergamia) Flavanones and Biological Activity of Their Circulating Metabolites in Human Pro-Angiogenic Cells. *Nutrients*. 2017

Nunes S, Danesi F, Del Rio D, Silva P. Resveratrol and inflammatory bowel disease: the evidence so far. *Nutr Res Rev*. 2017

Grosso G, Bella F, Godos J, Sciacca S, Del Rio D, Ray S, Galvano F, Giovannucci EL. Possible role of diet in cancer: systematic review and multiple meta-analyses of dietary patterns, lifestyle factors, and cancer risk. *Nutr Rev*. 2017

Shivappa N, Godos J, Hébert JR, Wirth MD, Piuri G, Speciani AF, Grosso G. Dietary Inflammatory Index and Colorectal Cancer Risk-A Meta-Analysis. *Nutrients*. 2017

Grosso G, Micek A, Godos J, Pajak A, Sciacca S, Galvano F, Boffetta P. Health risk factors associated with meat, fruit and vegetable consumption in cohort studies: A comprehensive meta-analysis. *PLoS One*. 2017

Grosso G, Micek A, Godos J, Pajak A, Sciacca S, Bes-Rastrollo M, Galvano F, Martinez-Gonzalez MA. Long-Term Coffee Consumption Is Associated with Decreased Incidence of New-Onset Hypertension: A Dose-Response Meta-Analysis. *Nutrients*. 2017

Ticinesi A, Lauretani F, Milani C, Nouvenne A, Tana C, Del Rio D, Maggio M, Ventura M, Meschi T. Aging Gut Microbiota at the Cross-Road between Nutrition, Physical Frailty, and Sarcopenia: Is There a Gut-Muscle Axis? *Nutrients*. 2017

Escudero-López B, Ortega Á, Cerrillo I, Rodríguez-Griñolo MR, Muñoz-Hernández R, Macher HC, Martín F, Hornero-Méndez D, Mena P, Del Rio D, Fernández-Pachón MS. Consumption of orange fermented beverage improves antioxidant status and reduces peroxidation lipid and inflammatory markers in healthy humans. *J Sci Food Agric*. 2017

Mena P, Tassotti M, Martini D, Rosi A, Brighenti F, Del Rio D. The Pocket-4-Life project, bioavailability and beneficial properties of the bioactive



compounds of espresso coffee and cocoa-based confectionery containing coffee: study protocol for a randomized cross-over trial. *Trials*. 2017

Ferrario C, Statello R, Carnevali L, Mancabelli L, Milani C, Mangifesta M, Duranti S, Lugli GA, Jimenez B, Lodge S, Viappiani A, Alessandri G, Dall'Asta M, Del Rio D, Sgoifo A, van Sinderen D, Ventura M, Turrone F. How to Feed the Mammalian Gut Microbiota: Bacterial and Metabolic Modulation by Dietary Fibers. *Front Microbiol*. 2017

Martini D, Biasini B, Rossi S, Zavaroni I, Bedogni G, Musci M, Pruneti C, Passeri G, Ventura M, Galli D, Mirandola P, Vitale M, Dei Cas A, Bonadonna RC, Del Rio D. Claimed effects, outcome variables and methods of measurement for health claims on foods proposed under European Community Regulation 1924/2006 in the area of appetite ratings and weight management. *Int J Food Sci Nutr*. 2017

Del Rio D, Zimetti F, Caffarra P, Tassotti M, Bernini F, Brighenti F, Zini A, Zanotti I. The Gut Microbial Metabolite Trimethylamine-N-Oxide Is Present in Human Cerebrospinal Fluid. *Nutrients*. 2017

Vauzour, D., Rodriguez-Ramiro, I., Rushbrook, S., Ipharraguerre, I.R., Bevan, D., Davies, S., Tejera, N., Mena, P., de Pascual-Teresa, S., Del Rio, D., Gavrilovic, J., Minihane, A.M. n-3 Fatty acids combined with flavan-3-ols prevent steatosis and liver injury in a murine model of NAFLD (2018) *Biochimica et Biophysica Acta - Molecular Basis of Disease*

Mocciaro, G., Ziauddeen, N., Godos, J., Marranzano, M., Chan, M., Ray, S. Does a Mediterranean-type dietary pattern exert a cardio-protective effect outside the Mediterranean region? A review of current evidence (2017) *International Journal of Food Sciences and Nutrition*

Rosi, A., Mena, P., Pellegrini, N., Turrone, S., Neviani,

E., Ferrocino, I., Di Cagno, R., Ruini, L., Ciati, R., Angelino, D., Maddock, J., Gobetti, M., Brighenti, F., Del Rio, D., Scazzina, F. Environmental impact of omnivorous, ovo-lacto-vegetarian, and vegan diet (2017)

Aragonès, G., Danesi, F., Del Rio, D., Mena, P. The importance of studying cell metabolism when testing the bioactivity of phenolic compounds (2017) *Trends in Food Science and Technology*

Del Rio, D., Zimetti, F., Caffarra, P., Tassotti, M., Bernini, F., Brighenti, F., Zini, A., Zanotti, I. The gut microbial metabolite trimethylamine-N-oxide is present in human cerebrospinal fluid (2017) *Nutrients*

Ferrario, C., Statello, R., Carnevali, L., Mancabelli, L., Milani, C., Mangifesta, M., Duranti, S., Lugli, G.A., Jimenez, B., Lodge, S., Viappiani, A., Alessandri, G., Dall'Asta, M., Del Rio, D., Sgoifo, A., van Sinderen, D., Ventura, M., Turrone, F. How to feed the Mammalian gut microbiota: Bacterial and metabolic modulation by dietary fibers (2017) *Frontiers in Microbiology*

Godos, J., Micek, A., Marranzano, M., Salomone, F., Del Rio, D., Ray, S. Coffee consumption and risk of biliary tract cancers and liver cancer: A dose-response meta-analysis of prospective cohort studies (2017) *Nutrients*

Mele, L., Bidault, G., Mena, P., Crozier, A., Brighenti, F., Vidal-Puig, A., Del Rio, D. Dietary (poly)phenols, brown adipose tissue activation, and energy expenditure: A narrative review (2017) *Advances in Nutrition*

Brindani, N., Mena, P., Calani, L., Benzie, I., Choi, S.-W., Brighenti, F., Zanardi, F., Curti, C., Del Rio, D. Synthetic and analytical strategies for the quantification of phenyl-γ-valerolactone conjugated metabolites in human urine (2017) *Molecular Nutrition and Food Research*

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CHAPTERS AND BOOKS

Oxford Handbook of Clinical and Healthcare Research

Edited by Sumantra Ray, Sue Fitzpatrick, Rajna Golubic, Susan Fisher, and edited with assistance of Sarah Gibbings.

Oxford Medical Handbooks.

Reflects the latest legislative framework.

Provides equal focus to qualitative and quantitative aspects.

Covers the breadth of information required for Good Clinical Practice education and related examination, including Faculty of Public Health. Comprehensive start-up toolkit for new researchers in any health-related field.

Diet-Microbe Interactions in the Gut, 1st Edition

Kieran Tuoy and Dan Del Rio

One comprehensive, translational source for all aspects of nutrition and diet's effect on gastrointestinal health and disease. Experts in nutrition, diet, microbiology and immunology take readers from the bench research (cellular and biochemical mechanisms of vitamins and nutrients) to new preventive and therapeutic approaches.

Clear presentations by leading researchers of the cellular mechanisms underlying diet, immune response, and gastrointestinal disease.

help practicing nutritionists and clinicians (gastroenterologists, endocrinologists) map out new areas for clinical research and structuring clinical recommendations

Nutrition in Critical Care

Edited by Peter Faber and Mario Siervo

This volume provides comprehensive guidelines for the nutritional support of critically ill patients and is valuable reading for doctors, nurses, dietitians and practitioners working within the critical care environment. It begins by discussing nutritional physiology and patient assessment, providing an essential foundation for planning and managing the dietary requirements of critically ill patients. Internationally-recognized authors present evidence-based guidelines for managing various groups, including surgical patients, patients with burns, and patients with renal failure. The implications of enteral vs. parenteral nutrition, timing of nutritional support, therapeutic strategies, and management of complications are discussed.

Dietetic and Nutrition Case Studies

Judy Lawrence, Pauline Douglas, Joan Gandy

The ideal companion resource to 'Manual of Dietetic Practice', this book takes a problem-based



learning approach to dietetics and nutrition with cases written and peer reviewed by registered dietitians, drawing on their own experiences and specialist knowledge.

Each case study follows the Process for Nutrition and Dietetic Practice published by the British Dietetic Association in 2012.

Includes case studies in public health, an increasingly important area of practice.

Manual of Dietetic Practice (5th Ed)

Joan Gandy

Since publication of its first edition, Manual of Dietetic Practice has remained an essential guide to the key principles of dietetics and a core text for healthcare professionals looking to develop their expertise and specialist skills. Published on behalf of the British Dietetic Association, the UK professional body for dietitians, it covers the entire dietetics curriculum and is also an ideal reference text for qualified practitioners.

Oxford Handbook of Nutrition and Dietetics

Edited by Joan Webster-Gandy, Angela Madden, and Michelle Holdsworth

Fully updated with the latest evidence-based guidelines and knowledge.

Practical and concise quick reference guide to the whole field of nutrition and dietetics.

Covers the important and growing problem of obesity.

Includes the nutritional science which underpins the application of nutrition.

Covers the entire lifecycle from preconception to old age.

Food and Nutrition (Understanding) (Family Doctor Books)

Joan Webster-Gandy

The food you eat has a strong influence on your health and on your chances of developing heart disease and some types of cancer. This book is aimed at people who are basically healthy, to help them understand nutrition and choose a diet that will keep them in good health. The book

provides an overview of nutrition, explaining the process of digestion and your need for energy, protein, fat, carbohydrates, vitamins and minerals. These sections include the science of nutrition, good food sources and links with illnesses. The book will help you make informed choices about your diet, and explain how to make sense of the nutritional labelling on food packets.

Chapter in: Dairy in Human Health and Disease across the Lifespan

Giuseppe Grosso

Chapter Title: Milk and chronic-degenerative diseases: main components and potential mechanisms

Diet and Cardiovascular Disease

Cardiovascular Disease: Diet, Nutrition and Emerging Risk Factors covers everything from epidemiology to genetic factors, to inflammation and much more – offering invaluable advice on reducing risk factors and preventing CVD, and:

- Authoritatively reports on the link between emerging aspects of diet, lifestyle and cardiovascular disease risk
- Focuses on novel risk factors of CVD, including the human gut microbiome and fetal and childhood origins, and how it can be prevented
- Features recommendations for interventions and future research
- Includes references, commonly asked questions that summarise the take-home messages, and an online glossary



<http://nnedpro.org.uk/chapters-and-books>



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INVITED PRESENTATIONS AND SYMPOSIUM CONTRIBUTIONS

2019

Presentation on Medical Nutrition Education to the Nutrition, Health and Development Department, World Health Organization Headquarters Geneva Switzerland. January 2019.

Presentation of Nutrition Innovation for Global Health to the Swiss Government Agency for International Development in Bern Switzerland. February 2019.

Presentation on the NNEdPro Global Centre and UN Decade of Action on Nutrition n 2016-25. University of Waterloo. February 2019.

Presentation on interim results from a two part survey designed to strengthen medical nutrition education, World Health Organization Headquarters Geneva, Switzerland. February 2019.

INDIA 5 Year Symposium – Lessons learned over 2014-19 and next steps over 2019/20. Space Circle, Kolkata, India. February 2019.

NNEdPro Urban to rural Adaptation Workshop Programme for Mobile Teaching Kitchens. Cordia Group of Educational Institutes in Sanghol, Punjab, India. February 2019.

BMJ The International Forum on Quality and Safety in Healthcare, Glasgow, UK, March 2019

SJIC & FIA Business School Exchange Seminar, Cambridge, UK, April 2019

Culinary Medicine UK – Hackathon, London, UK, April 2019

Public Health Collaboration Conference, London, UK, May 2019

NNEdPro Brazil Network Launch, FIA Business School, Sao Paulo, Brazil, May 2019

International Visiting Professorship Lecture, University of Sao Paulo, Brazil, May 2019

Nutrition and Vascular Studies Platform launch. Ulster University, Northern Ireland, UK, June 2019.

WHO Global Internship Training. WHO Headquarters, Geneva, Switzerland, June 2019.

2018

Talk on mobile teaching kitchens. February 2018.

Mobile teaching kitchen launch. February 2018.

An overview of 10 years of NNEdPro work. BMA Board of science. February 2018.

Talk on Nutritional Equity and Population Health. February 2018.

Symposium on food, nutrition and education. February 2018.

Talk to the Food security entrepreneurship weekend. Judge Business school, Cambridge. April 2018.

Pre-service nutrition education webinar. Talk to USAID. May 2018.

Talk for the Parma food security. Italy. May 2018.

Talk on Implementation Science at WSRO. Annual meeting, Munich. June 2018.



4th International NNEdPro Summit. Wolfson College, Cambridge. July 2018.

3rd NNEdPro Summer School, Wolfson College, Cambridge. July 2018.

Micro enterprise launch for Mobile Teaching Kitchens. India. August 2018.

92nd Nestle Nutrition Institute Workshop. Switzerland. September 2018.

American Association of Cereal Chemists International. October 2018.

3rd ANZ NNEdPro Symposium. Nutrition Society of Australia and the NHMRC Canberra. November 2018.

Contribution to Judging Ilwara Science Competition Health Award. University of Wollongong. November 2018.

2017

ASN-NNEdPro Nutrition Educators Discussion and Networking Event: Train Nutrition Trainers. Experimental Biology, (2017). Chicago USA

Presentation and Workshop on Nutrition Education at UCLAN Medical School. February 2017.

3rd India Symposium in Kolkata and Nutrition Education Lectures at the Cordia Campus Sanghol. February 2017.

An Overview of NNEdPro – Presentation to Public Health England. April 2017.

An Overview of Innovation in Nutrition and Cardiovascular Disease at the School of Public Health, Imperial College London. May 2017.

Nutrition, Cognition and Language Sciences –

Presentation to Cambridge University. May 2017.

Invited Talk and Scientific Poster Abstracts (with Young Investigator Award) at the 50th Anniversary Conference of the Society for Nutrition Education and Behavior in Washington DC. July 2017.

2 days of Scientific Conference Proceedings: International Summit on Medical and Public Health Nutrition Education/Research. August 2017.

Talk to the US Nutrition and Medical Education Workshop convened by the National Institutes of Health in Bethesda. September 2017.

ESRC & Cambridge University Impact Acceleration Workshop on Mobile Teaching Kitchens in urban Slums in Kolkata India. October 2017.

Talk on the Triple Burden of Malnutrition and UN Sustainable Development Goals at the 175th Anniversary Conference of the LGC Group in London. November 2017.

Invited Lecture Series in medical Nutrition and Cardiovascular Nutrition at University of Wollongong, Deakin University, the 2nd Australia New Zealand NNEdPro Symposium in Adelaide and the University of Brunei Darussalam. November 2017.

2016

Annual Research Symposium of the British Dietetic Association (2016) - Birmingham, UK

Yakult Study Day (2016) - London, UK

Anaesthesia Directorate Presentation. Cambridge, UK. January 2016.

University of Parma Lecture on Cardiovascular Nutrition Updates. January 2016.

NNEdPro UK Symposium and Essay Competition



on Nutrition and Nursing at Wolfson College Cambridge. February 2016.

Cambridge-India International Symposium on Nutrition, Diabetes and Personalised Nutrition in Kolkata. February 2016.

An implementation science project in primary care hydration at the BMJ Awards Panel Presentation. London, UK. March 2016.

Invited Lecture Series: Singapore, Griffith University in Australia, Auckland and Massey Universities in New Zealand and 1st ANZ NNEdPro Symposium at the ANZAPHE Conference in Perth Australia. March 2016.

Invited Lectures on Nutrition and Implementation Science, and Vascular Nutrition at University of Waterloo, Ontario. March 2016.

Nutrition Surveillance, Research and Education in Morocco British Council Morocco Workshops Rabat. April 2016.

NNEdPro 2nd International Summit & Strategy Day Cambridge. June 2016.

Nottingham University Nutrition and Public Health Guest Lecture. July 2016.

Nutrition and Population Health Presentation to the Health Policy Partnership. London, UK. August 2016.

Talks on NNEdPro Global Strategy at the United Nations and Global Open data for Agriculture & Nutrition Summit. New York, USA. September 2016.

Association for Nutrition Healthcare Specialism Presentation to Council. London, UK. October 2016.

Keynote lecture on the importance of nutrition

education for healthcare professionals Yakult HCP Study Day Keynote and Conference. London, UK. October 2016.

Study presentations at the More-2-Eat Investigators Meetings. Toronto, Canada. December 2016.

2015

NNEdPro UK Symposium and medical student essay competition Wolfson College Cambridge. February 2015.

Multiple Invited Talks and Satellite Symposia at the World Congress on Public Health in Kolkata, India. February 2015.

Indian Institute of Management, Kolkata, India. February 2015.

Invited talk on the importance of Nutrition Research National Institute of Cholera and Enteric Diseases Kolkata, India. February 2015.

Research methods to answer questions that require multi-modal or complex interventions Srimanta Sankaradeva University of Health Sciences Guwahati, Assam, India. February 2015.

Healthy Eating Rationale Talk Sancton Wood School, Cambridge, UK. March 2015.

10 abstracts including one oral session. Invited speaker and session moderator contributions to a mini symposium and NNEdPro sponsored mini symposium. American Society for Nutrition, Experimental Biology 2015. Boston, USA. March 2015.

Invited talk on 'going back to basics' in the context of confusing evidence on nutrient requirements and health risks The EXPO. Milan, Italy. June 2015.

Invited talk on the Knowledge to Action Cycle



at the WHO Collaborating Centre at Imperial College, London. June 2015.

Talk on hydration and workplace health at the International Congress of Occupational Health in Seoul, South Korea. June 2015.

1st NNEdPro International Summit on Medical Nutrition Education at Wolfson College, Cambridge. August 2015.

Invited talk on mentoring Nutrition Society Postgraduate Conference at Trinity Hall, Cambridge. September 2015.

Invited talk on the Global innovation panel of NNEdPro at Queen's University, Belfast. September 2015.

Invited talk on how one can keep up with the evolving evidence base for Nutrition in the 21st century. EU-China Symposium on Nutrition and Diabetes Shanghai, China. September 2015.

Invited contribution on NELICO India at the CIPH annual conference Cancer Research UK Cambridge Institute. October 2015.

Talk on breaking results from dietary bioactives research. Seventh International Conference on Polyphenols and Health. Tours, France. October 2015.

Series of Talks on nutrition education and cardiovascular nutrition as well as session chairing at the First International Conference on Primary Care and Public Health Imperial College, London. October 2015.

Invited talk on salt and health outcomes at Food Matters Live London. November 2015.

Keynote talk on NNEdPro, Nutrition and CVD at the British Medical Association Annual Research Awards Symposium London. November 2015.

Invited talk on hydration and health at the Annual Research Symposium of the British Dietetic Association Birmingham. December 2015.

Keynote presentation on NNEdPro and the NSHD Diet and CVD project (2015). British Medical Association Annual Research Awards. London, UK. Salt Reduction targets for 2017. (2015). Food Matters Live. London, UK.

Annual Research Symposium of the British Dietetic Association (2015) – Birmingham, UK.

International Conference of Primary Care and Public Health. Can a novel training intervention for General Practitioners improve hydration knowledge for better Healthcare? A Knowledge, attitude and practice study. (2015). Imperial College London, UK.

International Conference of Primary Care and Public Health. Strategic partnership for knowledge generation, translation and evaluation. (2015). Imperial College London, UK.

European Federation of Associations of Dietitians Conference. (2015). Opportunities for dietitians in hydration and patient care. Amsterdam, Netherlands.

European Federation of Associations of Dietitians Conference. (2015). Hydration: Assessment of student dietitians' knowledge, attitudes and current/potential future practices. Amsterdam, Netherlands.

American Society for Nutrition Conference at Experimental Biology (2015). Presentations at the Meeting of New England/Mid-Atlantic Regional Medical School Educators.

NNEdPro and CVD Research (2015). Centre for Public Health Symposium. Queen's University Belfast, UK.



NNEdPro Nutrition Vascular Studies Mini Symposium January (2015). Parma, Italy.

Plenary Chair on Leading through Research and Innovation (2015). International Conference of Primary Care and Public Health. Imperial College London, UK.

NNEdPro approach to Education and Research (2015). EU-China Symposium on Nutrition and Diabetes. Shanghai, China.

The Role of Mentoring (2015). Nutrition Society Postgraduate Conference. Cambridge, UK.

Back to Basics with Nutrition (2015). EXPO 2015 Nutrition Symposium – Milan, Italy.

‘NNEdPro from Local to Global’ (2015). WHO Collaborating Centre at Imperial College London.

World Congress on Public Health, Commonwealth Dietitians and Nutritionists Association and associated lecture series in the East of India (2015). ‘Nutrition education and Leadership for Improved Clinical/Public Health Outcomes’ (NELICO) in India.

Presentations at the Meeting of New England/ Mid-Atlantic Regional Medical School Educators and Supplementary Workshop (2015). American Society for Nutrition Conference at Experimental Biology. Boston, USA.

2014

Invited Symposium on Medical Nutrition Education at the American Society for Nutrition and Experimental Biology 2014: San Diego, USA. April 2014.

Invited Talk on NNEdPro at Dietitians Seminar: Addenbrookes Hospital, Cambridge. August 2014.

Invited Talk on Climate, Food And Human Health: Italian Embassy Summit London. October 2014.

An Overview of NNEdPro: Brighton-Sussex Medical School. October 2014.

Chairing at Food Matters Live - Salt Reduction Seminar: London. November 2014.

Education Sessions Workshop presentation: Addenbrookes Hospital, Cambridge. December 2014.

Dietetic Education Session Workshop (2014). Addenbrookes Hospital, Cambridge.

‘NNEdPro’- A Platform Bridging Research, Policy and Practice (2014). Brighton-Sussex Medical School.

Presentation on Public Health Nutrition at the Symposium on Climate Change, Food and Human Health (2014). London, UK.

Series of lectures on Hydration Education for General Practitioners, Generic Nutrition Training for Researchers and Research awareness for Dietitians in the East of England (2014).

Presentation on the importance of Medical Nutrition Education (2014), to the Gillings School of Public Health, University of North Carolina at Chapel Hill, USA.

Presentation on the role of healthcare professionals and nutrition in NCD prevention to the United Nations General Assembly in New York, USA (2014).

Workshop entitled ‘Nutrition Competencies in Health Professionals’ Education and Training: A New Paradigm’ (2014). American Society for Nutrition Conference at Experimental Biology. San Diego, USA.

Updates in Nutrition for Healthcare Professionals. BR Singh Hospital, Kolkata, India (2014).



NNEdPro’- A Platform Bridging Research, Policy and Practice. Brighton-Sussex Medical School. October 2014.

Presentation on Nutrition and Vascular Function to the Anti-Doping Lab of Qatar and University of Qatar (2014). Cardiovascular nutrition for pharmacists, Universities of Ulster and Queen’s Belfast (2014).

American Society of Nutrition conference (2014). Presented as two talks as part of the Official Scientific Programme, Nutrition Competencies in Health Professionals’ Education and Training: A New Paradigm.

2013

Postgrad researcher session: Medical Research Council Human Nutrition Research. April 2013.

Medical Nutrition Council Symposium at the American Society for Nutrition and Experimental Biology 2013: Boston. April 2013.

British Nutrition Foundation CVD Taskforce Presentation: London. August 2013.

Nutrition Education Overview: University of Parma, Italy. November 2013.

American Society of Nutrition conference (2013). Abstract selected for oral presentation, entitled Need for Nutrition Education Programme: Laying the foundations of nutrition knowledge relevant to clinical and public health practice. Abstract.

2012

NELICO Policy Round Table – Medical Research Council London. April 2012.

Nutrition Evidence Update at Primary Care 2012: Birmingham. May 2012.

Invited Speaker on Vascular Function and Nutrition at the Italian Physiological Society Congress. September 2012.

Invited Speaker on Sea Buckthorn and Vascular Function at EuroWorkS 2012: Vilnius. October 2012.

2011

Newham Healthy Food Festival and Public Engagement. July 2011.

Sizzling Science with Added Spice and Public Engagement. July 2011.



ACADEMIC TEACHING

2019

Research Skills for Clinicians Course. Cambridge University Hospitals and University of Cambridge School of Clinical Medicine. January 2019.

BMJ India Masterclass in Nutrition for Medicine and Healthcare. India Habitat Centre, New Delhi, India. February 2019.

Basic Concepts in Nutrition for Post-doctorates and Researchers on the University of Cambridge TIGR2ESS Programme. Training Workshop in Koraput, Orissa, India. February 2019.

Clinical and Public Health Nutrition for Foundation Doctors, NEPHELP Roadshow, Brighton, UK, May 2019

Nutrition for Physiotherapists. SOMT University, Netherlands, June 2019

2018

Research Skills for Clinicians. Cambridge University hospitals. January 2018.

Core Medical (Nutrition) Training regional days. Basildon hospital. March 2018.

Clinical Public Health Teaching in Nutrition. Cambridge University. April 2018.

Core Medical (Nutrition) Training regional days. Addenbrookes hospital. June 2018.

Nutrition Science course. Cambridge institute of continuing education. July 2018.

Global Public Health Nutrition Workshop for Year-5 Cambridge Medical Students. August 2018.

Nutrition in Medicine and Healthcare Course for Final Year Cambridge Medical Students. October

2018.

Clinical and Public Health Nutrition Introductory Course for Cambridge Graduate Medical Students. October 2018.

Lecture series on Medical Nutrition and Cardiovascular disease. Ulster University. November 2018.

Invited lecture on Nutrition and the UN Decade of Action. University of Brunei. December 2018.

2017

Clinical and Public Health Nutrition Introductory Course for Cambridge Graduate Medical Students. Cambridge University. January 2017.

Nutrition in Medicine and Healthcare Course for Final Year Cambridge Medical Students. Cambridge University. January 2017.

Nutrition in Medicine and Healthcare Course for Final Year Cambridge Medical Students. March 2017.

Nutrition in Medicine and Healthcare Course for Final Year Cambridge Medical Students. June 2017.

Plenary Lecture on Diet and Health to the Interdisciplinary Programme of the Cambridge University Institute of Continuing Education. July 2017.

Mini Workshop on Nutrition to the Science Programme of the Cambridge University Institute of Continuing Education. July 2017.

40 hours of Teaching in Applied Human Nutrition to the Interdisciplinary NNEdPro Summer School in Cambridge. July 2017.



Global Public Health Nutrition Workshop for Year-5 Cambridge Medical Students. August 2017.

Nutrition in Medicine and Healthcare Course for Final Year Cambridge Medical Students. October 2017.

Clinical and Public Health Nutrition Introductory Course for Cambridge Graduate Medical Students. November 2017.

2016

Clinical and Public Health Nutrition Introductory Course for Cambridge Graduate Medical Students. January 2016.

Nutrition in Medicine and Healthcare Course for Final Year Cambridge Medical Students. January 2016.

NNEdPro Summer School and Certificate Course in Applied Human Nutrition Cambridge. June 2016.

Global Public Health Nutrition Workshop for Year-5 Cambridge Medical Students. August 2016.

Clinical and Public Health Nutrition Introductory Course for Cambridge Graduate Medical Students. November 2016.

Lecture series on Medical Nutrition and Cardiovascular disease. Ulster University. December 2016.

2015

Nutrition in Medicine and Healthcare Course for Final Year Cambridge Medical Students. January 2015.

Generic Nutrition Training Day Two Medical Research Council, Human Nutrition Research, Cambridge. January 2015.

Global Public Health Nutrition Workshop for Year-5 Cambridge Medical Students. May 2015.

Generic Nutrition Training Day Three Medical Research Council, Human Nutrition Research, Cambridge. June 2015.

Bridge course on human nutrition for Cambridge Medical Students. August 2015.

MPhil induction seminar, CIPH, Addenbrooke's Hospital, Cambridge. October 2015.

2014

General Internal Nutrition Teaching: Seminar Room Medical Research Council Human Nutrition Research. January 2014.

Final Year Nutrition Teaching: Cambridge University Clinical School. January 2014.
Generic Nutrition Training: Medical Research Council Human Nutrition Research. April 2014.

GP Training on Hydration and Health: Medical Research Council Human Nutrition Research. July 2014.

Final Year Nutrition Teaching: Addenbrookes Hospital. Cambridge. August 2014.

GP Training on Hydration and Health: Medical Research Council Human Nutrition Research. September 2014.

Hydration Teaching: Hinchinbrooke Hospital, Huntingdon, UK. October 2014.

Stage 1 Nutrition Teaching: Cambridge Clinical School. November 2014.

Clinical and Public Health Nutrition Introductory Course for Cambridge Graduate Medical Students. December 2014.



2013

Clinical and Public Health Nutrition Introductory Course for Cambridge Graduate Medical Students. January 2013.

Global Nutrition Teaching: Institute for Public Health, University of Cambridge. May 2013.

Public Health Nutrition Forum: Medical Research Council Human Nutrition Research. June 2013.

Clinical and Public Health Nutrition Introductory Course for Cambridge Graduate Medical Students. December 2013.

Clinical and Public Health Nutrition Introductory Course for Cambridge Graduate Medical Students. January 2012.

2012

Stage 1 Nutrition Teaching: Clinical School, Addenbrookes Hospital, University of Cambridge. January 2012.

Cambridge University Global Health Society, Nutrition Elective Day. February 2012.

Global Public Health Nutrition: Clinical School, Addenbrookes Hospital, University of Cambridge. April 2012.

Norfolk & Norwich Hospital Nutrition Awareness Week. May 2012.

Stoke Mandeville and Birmingham: Hospital Nutrition Awareness Week. June 2012.

Final Year Nutrition Introduction: Clinical School, Addenbrookes Hospital, University of Cambridge. August 2012.

Stage 1 Nutrition Teaching: Clinical School, Addenbrookes Hospital, University of Cambridge. November 2012.

2011

Nutrition and International PH SSC Teaching: Institute of Public Health, University of Cambridge. April 2011.

Nutrition and International PH SSC Teaching: Institute of Public Health, University of Cambridge. May 2011.



PROJECTS

PROGRAMME AREA: INTERNATIONAL ACADEMY OF NUTRITION EDUCATORS (IANE)

Aim: To develop, deliver and evaluate evidence-based education and training in nutrition and health as well as promote the capacity building and mentoring of tomorrow's trainers, particularly in nutrition and medical/healthcare education.

OVERVIEW

CURRENT PROJECTS & INITIATIVES

- Subscribing Membership of the International Academy of Nutrition Educators (IANE) for Individuals and Organisations
- Cambridge Summer School and Foundation Certificate in Applied Human Nutrition
- Annual International Summit and Conference on Medical and Public Health Nutrition Education and Research
- Global Innovation Panel Regional Networks and Global Knowledge Exchange Faculty in Nutrition and Healthcare Education
- Online and Blended Learning and Development in Applied Human Nutrition
- International Curriculum Development in Nutrition and Health Education
- Nutrition Science Education
- Nutrition-related Internships and Visiting Studentships.
- BMJ Nutrition, Prevention and Health: Flagship peer-reviewed online journal co-owned by the NNEdPro Group in conjunction with the British Medical Journal Group.
- Healthcare-related Nutrition, Research and Leadership Education for junior doctors
- Mentoring in Nutrition and Medical Education and/or Research for NHS Clinicians.
- Nutrition in Pharmacy
- UK Medical Student Essay Competition
- Review and National Survey of Medical Nutrition Education
- NNEdPro-NELICO International Initiatives

PAST PROJECTS & INITIATIVES

- Nutrition Education Workshop for Tayside Doctors' (NEWTayDoc)
- Novel Nutrition Education Intervention Across 15 UK Medical Schools
- Nutrition Education Review/Research Interests Group (NERG) - Teaching Cambridge University medical students, and supporting Student Selected Components (SSCs)
- Nutrition Education and Leadership for Improved Clinical Outcomes (NELICO): Training and supporting Junior doctors to run Nutrition Awareness Weeks in 3 hospitals
- Hydration Education in Healthcare
- Nutrition, Hydration and Dysphagia Games
- Public Health Nutrition Forum and Generic Nutrition Training (GNT) with the MRC Elsie Widdowson Laboratory (EWL)
- Hydration Education in Healthcare
- Nutrition, Hydration and Dysphagia Games



PROGRAMME AREA: NUTRITION RESEARCH AND INNOVATION CONSORTIUM (NRIC)

Aim: To undertake primary nutrition research through basic science, human interventions, population studies and evidence syntheses to inform health policy and practice.

OVERVIEW

CURRENT PROJECTS & INITIATIVES

In 2018, the NNEdPro Group formed a refreshed Nutrition Research and Innovation Consortium (NRIC) spanning Cambridge, London, Ulster and Parma to undertake primary nutrition research through basic science, human interventions, population studies and evidence syntheses to inform health policy and practice.

Going forward the combined strengths from these centres of research excellence will seek to address further unanswered questions around Nutrition and Non-Communicable Disease, connecting the cutting edge of science to evidence-informed professional education. Our track-record of over 100 peer-reviewed scientific journal papers is significantly based on these pillars:

PILLAR-1: Development of measurements dedicated to human nutrition research in state-of-the-art laboratory facilities.

PILLAR-2: Observational studies and secondary data analyses on dietary exposures and health outcomes at population level.

PILLAR-3: Intervention studies and mechanistic/explanatory trials at individual level.

PILLAR-4: Evidence synthesis for translation to professionals in nutrition and health.

PAST PROJECTS & INITIATIVES

Strand (A) EXPERIMENTAL: Phytonutrients and Vascular Function

- Two linked Randomised Controlled Trials (University of Dundee) of berry intake and effects on vascular/endothelial function and metabolic risk as well as UV protection.
- Randomised controlled trial looking at the effects of a wide range of fruit and vegetable extracts on vascular/endothelial function and metabolic risk.
- Vascular function sub-study linked with a metabolic trial of green tea/coffee polyphenols.
- Vascular function acute trial comparing techniques using a hazelnut extract intervention.
- Vascular function study of patients undergoing an acute and intensive weight loss intervention.

Strand (B) EPIDEMIOLOGICAL: Population Diets, Nutrition and Cardiovascular/Metabolic Risk

- Longitudinal analyses of dietary patterns and vascular function in the 1946 British birth cohort or National Survey of Health and Development (NSHD), including derivation of novel intermediates from stored samples.
- Cross-sectional analyses of diet and cardiometabolic risk data collected in the UK National Diet and Nutrition Survey. In collaboration with the Centre for Diet and Activity Research.



- Clinical audit of cardiometabolic outcomes from the Intensive Weight Management Programme at the Addenbrooke's Hospital Obesity Clinic.

Advisory role on:

- (i) dietary aspects of population/cohort studies in South London led by the School of Public Health at Imperial College London;
- (ii) vascular aspects of proposed population/cohort studies at the University of Western Australia;
- (iii) blood pressure and cardiometabolic risk in a community based weight loss intervention across England.

Strand (C) TRANSLATIONAL: Evidence Synthesis and Knowledge Exchange for researchers and/or Practitioners

- Evidence synthesis and translation (University of Dundee) of knowledge on the Nutritional Management of Ischaemic Stroke, Heart Failure and Raynaud's phenomenon.
- Evidence synthesis and knowledge exchange, including key contributions to the second edition (2016) of the Task Force on Cardiovascular Disease: Diet, Nutrition and Emerging Risk Factors by British Nutrition Foundation.
- Development of a UK consensus forum on vascular measures in nutritional studies and method development to improve precision (including the role of hydration status measures). [Relevant to Researchers]

PROGRAMME AREA: NUTRITIONAL EQUITY AND POPULATION HEALTH (NEPH)

Aim: To lessen the nutrition and health inequalities gap through building transferable and scalable models of lean innovation and through the empowerment of marginalised populations with a focus on lesser resourced settings.

OVERVIEW

CURRENT PROJECTS & INITIATIVES

- Nutritional Equity and Population Health (NEPH) seeks to operate in three broadly clustered domains:
- Underprivileged, marginalised and neglected populations by instigating action research to improve nutritional health and overall wellbeing within such groups.
- Members of the public including families with children as well as working professionals by increasing public understanding of nutritional prevention through awareness, education and training around food choices, cooking and diet-lifestyle patterns, including occupational wellbeing programmes aimed at improving

workplace productivity through adequate provision of nutrition and hydration.

- Nutrition Researchers, Educators and Changemakers by commissioning small but impactful projects to pilot novel ideas requiring 'first break' funding, guidance and support.
- Urban Slum dwellers Teaching Kitchens Project
- RCUK Global Challenges TIGR2ESS Programme in India (Cambridge University)
- RCUK Global Challenges SAFEWATER
- Programme in Latin America (Ulster University) Madegus.



PAST PROJECTS & INITIATIVES

Network in India

- Teaching Kitchen Project
- Medical Students Project
- NELICO India Project

Network in Morocco

SUN Workshop in Morocco

PROGRAMME AREA: IMPLEMENTATION RESEARCH AND CONSULTING IN NUTRITION (IRCN)

Aim: To seek implementation strategies for the embedding of good nutrition practices into health systems across sectors through action-orientated research and solution-focused consulting.

OVERVIEW

CURRENT PROJECTS & INITIATIVES

IRCN work places emphasis on integrating good nutritional care into health systems with pioneering work funded through competitive awards as well as a range of consulting engagements in the UK and internationally:

- Open Data Strategy Partnership with the Global Open Data for Agriculture and Nutrition (GODAN) Initiative supported by G-7 and United Nations partners.
- GODAN-NNEdPro International Knowledge Application Network in Nutrition-2025 (I-KANN 25) in partnership with the Laboratory of the Government Chemist (LGC) Food Authenticity Network.
- The Canadian More-2-Eat Project led by the University of Waterloo (Currently in Phase-II).
- MNI-ESPEN Project - Nutrition Education Policy for Healthcare Practice.
- Implementation Research to Optimise Management of Specific Food Allergies by Health

- Professionals without Nutrition Training.
- Development of Electronic Dietary Tools - objective assessment to inform changes to practice in at-risk populations.
- Nutrition Knowledge, Attitudes and Practices Surveys of Medical Students and Junior Doctors

PAST PROJECTS & INITIATIVES

- Round Table Event for Policy Makers and Practitioners
- NHS nutritional care pathways
- Hospital Malnutrition Review
- Intensive Weight Management Programme (IWMP) audit and publication



THE CAMBRIDGE RESEARCH, EDUCATION AND TRAINING ENTERPRISE (CREATE) PLATFORM FOR HEALTH INNOVATION

Cambridge Research, Education and Training Enterprise (CREATE) is distinct from the four main NNEdPro sections, and represents a closely allied platform designed to harness the non-Nutrition or transferrable/generic skills within the NNEdPro group in order to impact wider aspects of health and wellbeing.

OVERVIEW

CURRENT PROJECTS & INITIATIVES

- Annual teaching inputs to the 'Research Skills for Clinicians' course run by Cambridge University Health Partners
- Annual teaching inputs on 'Research Methods' to the East of England Core Medical Training Programme
- Consulting on research design, strategy and impact – recent case examples include: the British Dietetic Association and Griffith University Australia – an ongoing case example comprises regular research surgeries for Cambridge Dietitians (N>70) to promote ideas through implementation to impacts
- Oxford Handbook of Clinical and Healthcare Research
- Research Skills for Clinicians' course
- Research Methods' to the East of England Core Medical Training Programme
- Wellbeing Innovation @ Work Initiative (WInWIn)



ACKNOWLEDGEMENTS TO FUNDERS AND SUPPORTERS

AIM Foundation	Global Challenges Research Fund in partnership with the Biotechnology and Biological Sciences Research Council
Abbott Nutrition	Global Open Data for Agriculture and Nutrition
British Dietetic Association General Educational Trust	Griffith University
British Medical Association Charities	Imperial College London
British Medical Association research Foundation	Medical Nutrition International Industry Award
Josephine Lansdell Award	Medical Research Council
Cambridge Commodities	My food 24
Cambridge India Partnership Fund	National Institute of Health Research
Cambridge University Interdisciplinary Research Centre Incubator Award	National Safety Associates, USA
Cambridge University – Multi-Professional Education and Training / Service Increment for Teaching Grants	NHS Dorset
Cambridge University Hospitals – Clinical Biochemistry Innovation Fund	NHS Norfolk
Chest Heart & Stroke Scotland	NHS Tayside
The Daily 9	Ocean Spray
Danone in partnership with the British Dietetic Association	University of Parma
Department of Health and Public Health England	Reckitt Benckiser
DSM Nutrition	Selwyn College
University of Dundee	Swiss Re Institute
Economic and Social Research Council (including Impact Acceleration Award)	Soremartec Italia
Focus Active	TVN Canada / Canadian Frailty Network in partnership with the Canadian Institutes of Health Research
Food Matters Live	UK Research and Innovation
Genzyme Corporation	Wolfson College Cambridge
GlaxoSmithKline	Yakult



KEY FORMER MEMBERS

Shweta Agarwal	Gil Hardy	Jean Redmond
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Katelyn Barnes	Alison Lennox	Serena Skerratt
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Jackie Eastwood	Colin McMillan	Chloe Wright
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Mary Ghasemi	Ruthie Musker	
Sarah Gibbings	Mike Newell	
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Kate Griffin	Polly Page	
James Gazzard	Rachel Pryke	
Kausik Halder	Carla Pearson	
Ed Harding	Zeshan Quereshi	



VIRTUAL TOUR

LEARN MORE ABOUT NNEDPRO AND OUR WORK BY VISITING
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Work
2017-2025



Work
2008-2016



Blog



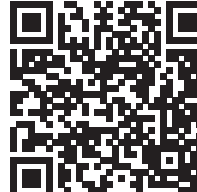
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(Science)

Journal
Papers
(Applied)

NNEdPro Events



International
Academy of Nutrition
Educators



Implementation
Research and
Consulting in Nutrition



Nutrition Research and Innovation
Consortium



Nutritional
Equity and
Population Health

NOTES

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10 year compendium: 2008 - 2018 (Updated July 2019)

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Global Centre for
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Association (BDA) - www.bda.uk.com • The British Medical Journal (BMJ) - www.bmj.com • The Society for Nutrition Education and Eating
Behaviour (SNEB) - www.sneb.org • The Laboratory of the Government Chemist (LGC) - www.lgcgroup.com