



**The Need for Nutrition  
Education/Innovation  
Programme**

**Global Centre for  
Nutrition and Health  
Cambridge**

## **MNI Award at ESPEN 2017:**

### ***Nutrition Education Policy for Healthcare Practice***

***Dr Minha Rajput-Ray: NNEdPro Medical Director***

***Harrison Carter: NNEdPro Deputy Lead for Network Engagement***

***Celia Laur: NNEdPro Lead for Global Innovation***

***Professor Sumantra (Shumone) Ray: NNEdPro Chair & Executive Director***

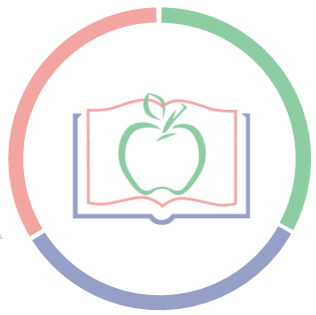
#### ***Acknowledgments:***

***Pauline Douglas, Glenys Jones, Shivani Bhat & NNEdPro Group***

*Strategic Partners:*



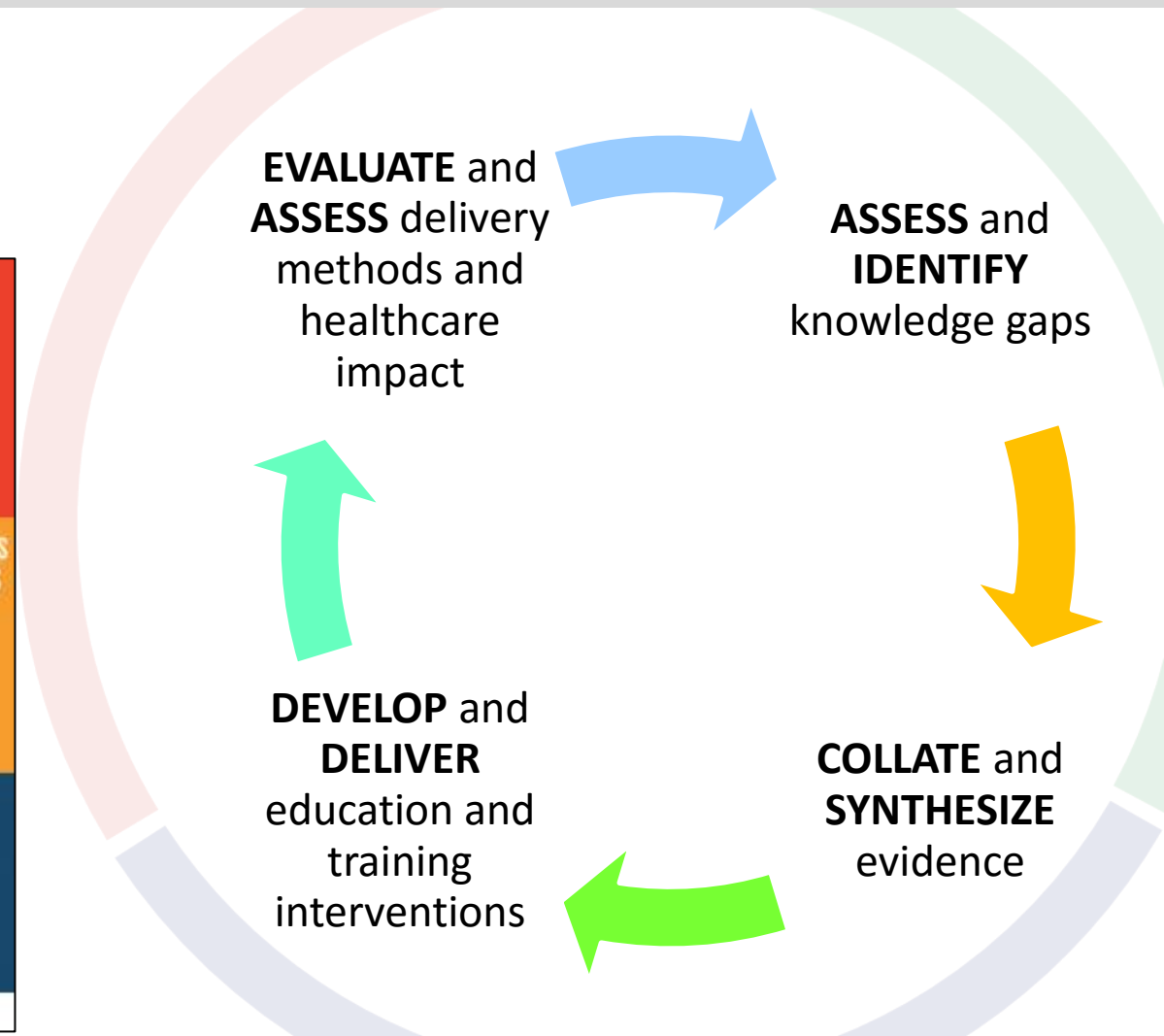
**W: [www.nnedpro.org.uk](http://www.nnedpro.org.uk) Email: [sr506@cam.ac.uk](mailto:sr506@cam.ac.uk)**

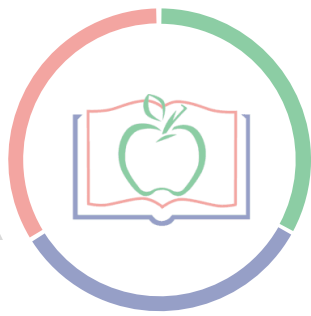


# WHAT WE DO... 'IMPROVE HEALTH THROUGH NUTRITION EDUCATION'














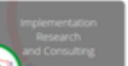













UNITED NATIONS DECADE OF  
**ACTION ON NUTRITION**

2016-2025





# THE NEED FOR NUTRITION EDUCATION/INNOVATION PROGRAMME (NNEdPRO) STORY

The Early Years 2005-2007	NNEdPro Phase 1 Launched 2008-2010	NNEdPro Phase 2 Launched 2010-2013	NNEdPro Phase 3 Launched 2013-2016	NNEdPro Highlights 2015 to 2017	NNEdPro's work plan aligned with UN Decade of Action on Nutrition 2017-2025
 <p>Council of Europe Alliance UK on Hospital Food and Nutritional Care</p>  <p>British Dietetic Association and Hospital Caterers Association partnership</p>	 <p>Group founder members move to Cambridge University with NIHR funding and establish NNEdPro as an educational and research innovation project.</p> <p>NNEdPro partnerships also include:</p>  	 <p>NNEdPro approached by Cambridge University, to teach nutrition education to Cambridge medical students.</p> <p>Nutrition Education and Leadership for Improved Clinical Outcomes (NELICO), a training project conducted in three NHS hospitals across England.</p> 	 <p>NNEdPro group develops and delivers face to face, online and blended learning courses and training materials.</p> <p>Educational package <i>Hydration and Health for doctors and other healthcare professionals</i> developed to address a knowledge gap.</p> 	<p><b>Feb 2015</b> NNEdPro Network in India launched</p> <p><b>Aug 2015</b> 1<sup>st</sup> Annual International Summit on Medical Nutrition Education and Research</p> <p><b>Mar 2016</b> NNEdPro Australia-New Zealand Network launched</p>  <p><b>Jun 2016</b> 2<sup>nd</sup> Annual International Summit on the Importance of Nutrition in Public Health and Healthcare 1<sup>st</sup> Cambridge Summer School in Applied Human Nutrition</p>   <p>Summer School and Summit accredited for Continuing Professional Development by Royal College of Physicians and Royal Society of Biology.</p>	<p>Active projects and services include:</p>     <p><b>Global Training Academy</b> Draws from longstanding experience developing and delivering high quality education and evaluating impact on healthcare practices.</p> <p><b>Implementation Research and Consulting</b> Consulting services and action-orientated research, design and conduct education and implementation programmes for individuals or organisations.</p> <p><b>NNEdPro Cambridge Foundation</b> Future vision includes forming a UK registered charity, <i>NNEdPro Cambridge Foundation</i> (NCF).</p> <p><b>Consortium of Research Laboratories</b> Brings together key strengths of existing alliances with potential for additional collaborations.</p>
 <p>Partnership with British Medical Association</p>  <p>Project incorporated within DH Nutrition Action Plan (2007)</p>	  <p>Project supported by Abbott Nutrition and National Institute for Health Research</p>	 <p>NNEdPro delivers nutrition education to students and practitioners.</p>  <p>NNEdPro responsible for delivery of nutrition education to medical students.</p>	<p>Visiting scholar scheme with Wolfson College University of Cambridge.</p>   <p>Nutrition and Vascular Studies and Cardiovascular/Metabolic Risk Management</p>	 <p>Global Open Data for Agriculture &amp; Nutrition GODAN named as strategic partner</p> <p><b>2016</b> International knowledge exchange symposia in Kenya, India, Singapore, Australia, New Zealand, USA, Canada, Italy, Finland, Switzerland and Morocco</p> <p><b>2016 - 2017</b> Key Collaborator in More-2-Eat project, a Canadian Malnutrition Task Force study</p>  <p>Integrated Nutrition Pathway for Acute Care (INPAC) toolkit provides an overview of what and how to change to improve hospital nutrition care practices.</p> 	

2005

2009

2011

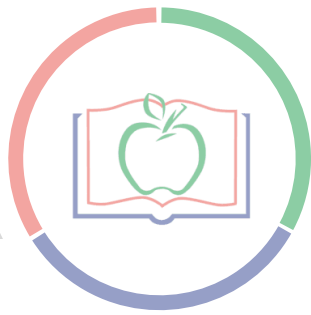
2013

2015

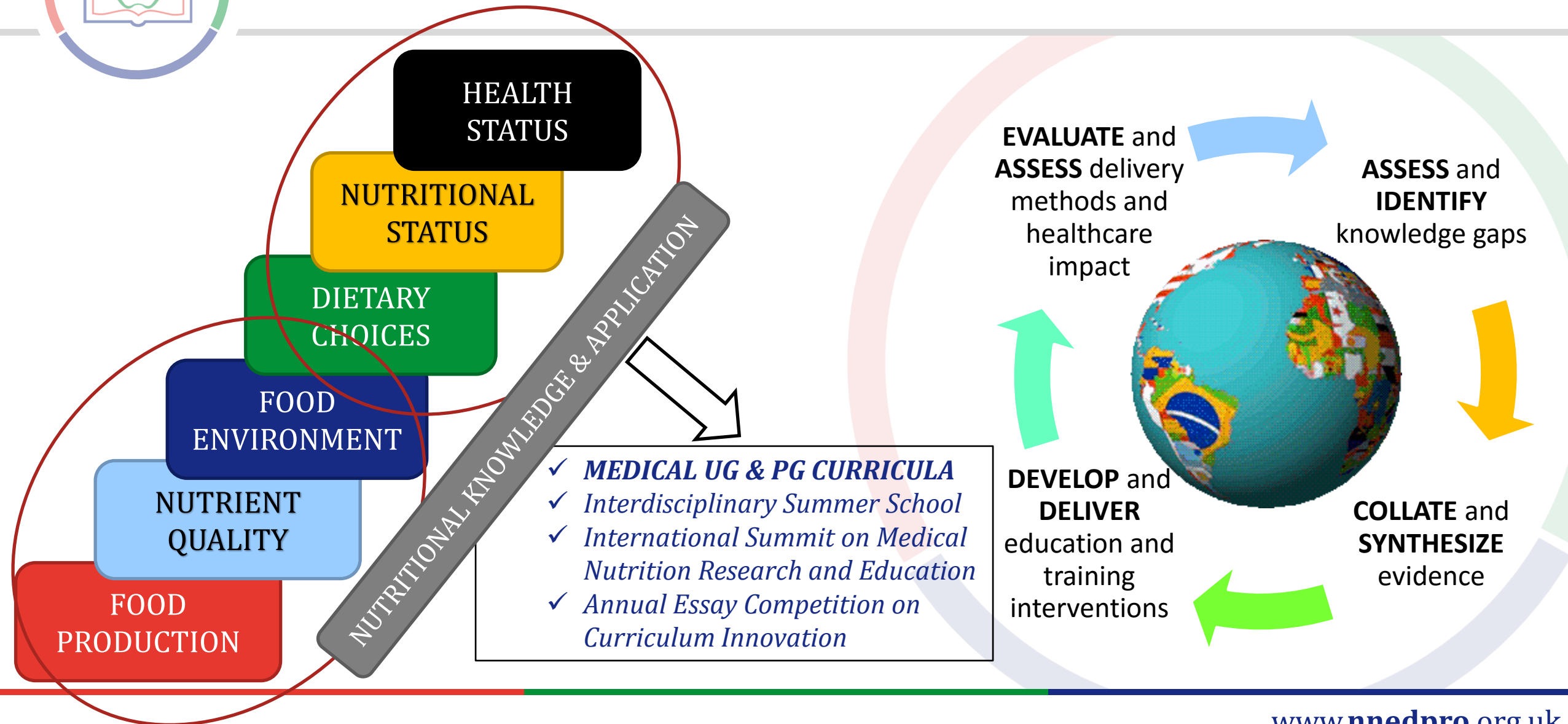
2017

2025

For more information visit [www.nnedpro.org.uk](http://www.nnedpro.org.uk)



# OUR APPROACH: NNEdPRO GLOBAL TRAINING ACADEMY





# MEDICAL EDUCATION & LEADERSHIP FOR BETTER HEALTHCARE

Downloaded from [bmjopen.bmj.com](http://bmjopen.bmj.com) on March 23, 2012 - Published by [group.bmj.com](http://group.bmj.com)

Open Access

Research



## Evaluation of a novel nutrition education intervention for medical students from across England



Sumantra Ray,<sup>1</sup> Ruzan Udumyan,<sup>2</sup> Minha Rajput-Ray,<sup>3</sup> Ben Thompson,<sup>4</sup> Keri-Michele Lodge,<sup>5</sup> Pauline Douglas,<sup>6</sup> Poonam Sharma,<sup>7</sup> Rachel Broughton,<sup>8</sup> Sandra Smart,<sup>8</sup> Rick Wilson,<sup>9</sup> Stephen Gillam,<sup>10</sup> Mike J van der Es,<sup>11</sup> Ilana Fisher,<sup>12</sup> Joan Gandy<sup>13</sup>

Ray et al. *BMC Medical Education* 2014, **14**:109  
<http://www.biomedcentral.com/1472-6920/14/109>



RESEARCH ARTICLE

Open Access

## Nutrition education and leadership for improved clinical outcomes: training and supporting junior doctors to run 'Nutrition Awareness Weeks' in three NHS hospitals across England

Sumantra Ray\*, Celia Laur\*, Pauline Douglas, Minha Rajput-Ray, Mike van der Es, Jean Redmond, Timothy Eden, Marietta Sayegh, Laura Minns, Kate Griffin, Colin McMillan, Alfred Adiamah, Stephen Gillam and Joan Gandy

Journal of Multidisciplinary Healthcare

Dovepress  
open access to scientific and medical research

Open Access Full Text Article

ORIGINAL RESEARCH

## Nutrition in medical education: reflections from an initiative at the University of Cambridge

This article was published in the following Dove Press journal:  
*Journal of Multidisciplinary Healthcare*  
21 May 2014  
[Number of times this article has been viewed](#)

Lauren Ball<sup>1</sup>  
Jennifer Crowley<sup>2</sup>  
Celia Laur<sup>3</sup>  
Minha Rajput-Ray<sup>4</sup>  
Stephen Gillam<sup>4</sup>  
Sumantra Ray<sup>5</sup>

<sup>1</sup>Nutrition and Dietetics, School of Allied Health Sciences, Centre for Health Practice Innovation, Griffith University, Queensland, Brisbane, Australia; <sup>2</sup>Faculty of Medical and Health Sciences, University of Auckland, Auckland, New Zealand; <sup>3</sup>Need for Nutrition Education/Innovation Programme, Medical Research Council Human Nutrition Research, Cambridge, UK; <sup>4</sup>Department of Public Health and Primary Care, Institute of Public Health, University of Cambridge, Cambridge, UK

**Abstract:** Landmark reports have confirmed that it is within the core responsibilities of doctors to address nutrition in patient care. There are ongoing concerns that doctors receive insufficient nutrition education during medical training. This paper provides an overview of a medical nutrition education initiative at the University of Cambridge, School of Clinical Medicine, including 1) the approach to medical nutrition education, 2) evaluation of the medical nutrition education initiative, and 3) areas identified for future improvement. The initiative utilizes a vertical, spiral approach during the clinically focused years of the Cambridge undergraduate and graduate medical degrees. It is facilitated by the Nutrition Education Review Group, a group associated with the UK Need for Nutrition Education/Innovation Programme, and informed by the experiences of their previous nutrition education interventions. Three factors were identified as contributing to the success of the nutrition education initiative including the leadership and advocacy skills of the nutrition academic team, the variety of teaching modes, and the multidisciplinary approach to teaching. Opportunities for continuing improvement to the medical nutrition education initiative included a review of evaluation tools, inclusion of nutrition in assessment items, and...



Competence Requirements for Registered Nutritionist (Healthcare)

UK Voluntary Register of Nutritionists (UKVRN)



# APPLICATION ACROSS BORDERS...

Advances in Medical Education and Practice Dovepress  
open access to scientific and medical research

Open Access Full Text Article ORIGINAL RESEARCH

## Nutrition guidelines for undergraduate medical curricula: a six-country comparison

This article was published in the following Dove Press journal:  
Advances in Medical Education and Practice  
17 February 2015  
Number of times this article has been viewed

Jennifer Crowley<sup>1</sup>  
Lauren Ball<sup>2</sup>  
Celia Laur<sup>3</sup>  
Clare Wall<sup>1</sup>  
Bruce Arroll<sup>4</sup>  
Phillippa Poole<sup>5</sup>  
Sumantra Ray<sup>3</sup>

**Aim:** To assess nutrition curriculum guidelines for undergraduate medical education in the United States, Canada, the United Kingdom, Republic of Ireland, Australia, and New Zealand to highlight potential opportunities for shared learning on the advancement of nutrition in medical education.

**Methods:** A comprehensive list of professional bodies, councils, organizations, and other groups relevant to education or nutrition was compiled for each country after a review of relevant white and gray literature. All documents that were published from 2000 onwards, and that provided guidance on nutrition education within undergraduate medical education for one of

ASN 2014 ANNUAL MEETING SYMPOSIUM SUMMARY

## Nutrition Competencies in Health Professionals' Education and Training: A New Paradigm<sup>1-3</sup>

Penny M Kris-Etherton,<sup>4a</sup> Sharon R Akabas,<sup>5</sup> Pauline Douglas,<sup>6</sup> Martin Kohlmeier,<sup>7</sup> Celia Laur,<sup>8</sup> Carine M Lenders,<sup>9</sup> Matthew D Levy,<sup>10</sup> Caryl Nowson,<sup>11</sup> Sumantra Ray,<sup>8</sup> Charlotte A Pratt,<sup>12</sup> Douglas L Seidner,<sup>13</sup> and Edward Saltzman<sup>14</sup>

<sup>4a</sup>Penn State University, University Park, PA; <sup>5</sup>Columbia University, New York, NY; <sup>6</sup>University of Ulster, Londonderry, Northern Ireland; <sup>7</sup>UNC Schools of Medicine and Public Health and UNC Nutrition Research Institute, Chapel Hill, NC; <sup>8</sup>UK Medical Research Council Human Nutrition Research Unit, Cambridge, United Kingdom; <sup>9</sup>Boston University School of Medicine, Boston, MA; <sup>10</sup>Georgetown University Hospital and Bipartisan Policy Center, Washington, DC; <sup>11</sup>School of Exercise and Nutrition Sciences, Deakin University, Geelong, Australia; <sup>12</sup>National Institutes of Health, Bethesda, MD; <sup>13</sup>Vanderbilt University Medical Center, Nashville, TN; and <sup>14</sup>Tufts University, Boston, MA

**ABSTRACT**

Most health care professionals are not adequately trained to address diet and nutrition-related issues with their patients, thus missing important opportunities to ameliorate chronic diseases and improve outcomes in acute illness. In this symposium, the speakers reviewed the status of nutrition education for health care professionals in the United States, United Kingdom, and Australia. Nutrition education is not required for educating and training physicians in many countries. Nutrition education for the spectrum of health care professionals is uncoordinated, which runs contrary to the current theme of interprofessional education. The central role of competencies in guiding medical education was

## The American Journal of CLINICAL NUTRITION

The need to advance nutrition education in the training of health care professionals and recommended research to evaluate implementation and effectiveness<sup>1-4</sup>

*Penny M Kris-Etherton, Sharon R Akabas, Connie W Bales, Bruce Bistrian, Lynne Braun, Marilyn S Edwards, Celia Laur, Carine M Lenders, Matthew D Levy, Carole A Palmer, Charlotte A Pratt, Sumantra Ray, Cheryl L Rock, Edward Saltzman, Douglas L Seidner, and Linda Van Horn*

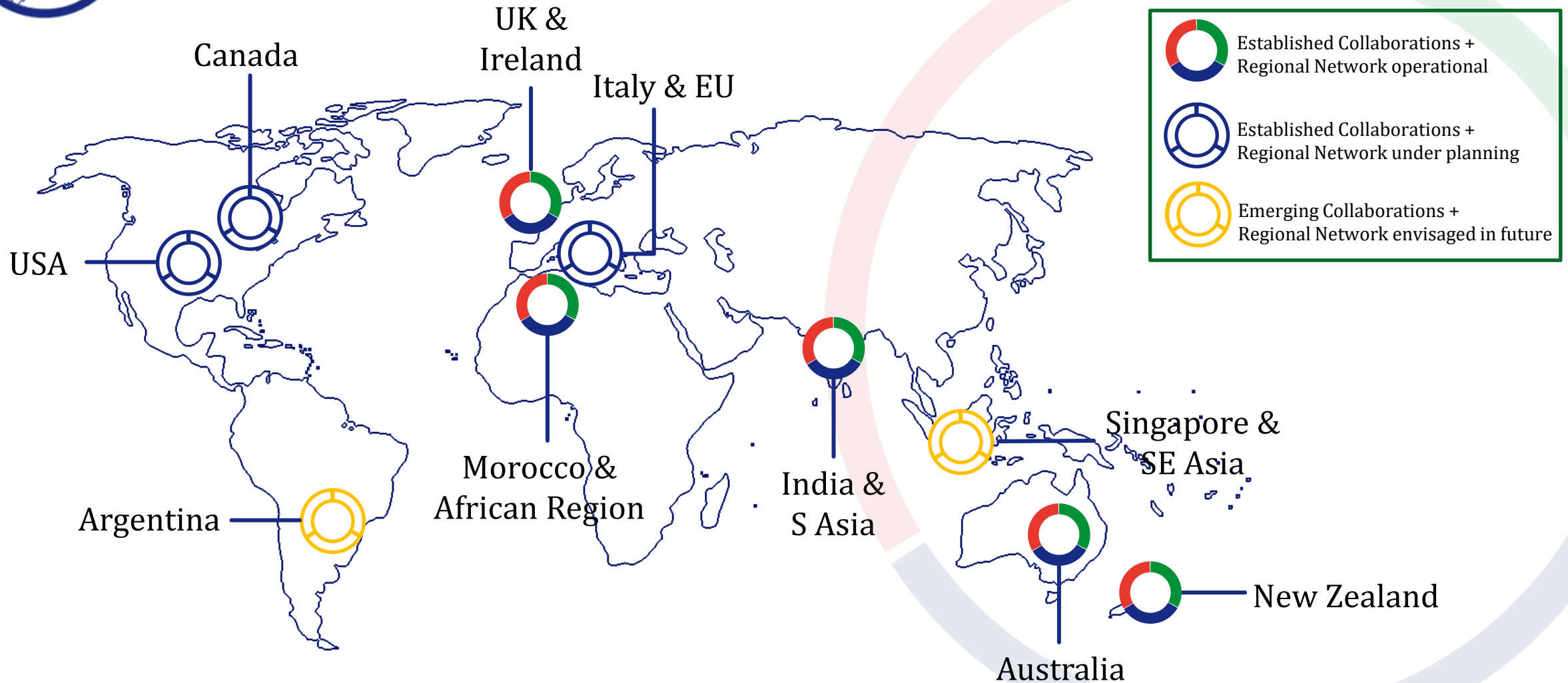
**Journal of Biomedical Education**

**Special Issue on  
Nutrition Education for the HealthCare Professions**





# NNEDPRO GLOBAL: NETWORKS



# NNEdPro – Cambridge Summer School in Applied Human Nutrition

A comprehensive **Foundation Certificate Course in Applied Human Nutrition** for professionals in health and health-related sectors

14th - 17th July 2018  
University of Cambridge, UK



**4 Day Accredited Comprehensive Foundation Certificate Course in Applied Human Nutrition**

## Basic Concepts in Human Nutrition

Including dietary assessment, body composition and energy metabolism

## Nutrition Research Methods

Covering nutritional epidemiology, nutrigenetics, nutrigenomics and diet-microbe interactions in the gut

## Nutrition in Disease Prevention

Including non-communicable diseases, musculoskeletal health and neurodegenerative diseases

## Nutrition in Healthcare

Covering hydration and clinical leadership, clinical ethics, malnutrition in practice and ageing

## Nutrition Public Health and Policy

Including global nutrition, nutrition and health claims regulation, policy formulation and industry case studies

**Benefits include:**

- World class faculty and teaching from leading global nutrition experts
- CPD and membership of the **NNEdPro Global Training Academy**
- Complimentary registration for the **NNEdPro International Summit on Medical Nutrition Education and Research**
- Evening networking and social programme with the opportunity to experience a traditional **Cambridge 'Formal Hall' Gala Dinner**



For more information please visit:  
[www.meetings.nnedpro.org.uk](http://www.meetings.nnedpro.org.uk)



CAMBRIDGE UNIVERSITY Health Partners

BDA

The Association of UK Dietitians

GODAN

Society for Nutrition Education and Behavior

University of Cambridge

NNEdPro Global Centre for Nutrition and Health  
St John's Innovation Centre  
Cowley Road, Cambridge, CB4 0WS

[info@nnedpro.org.uk](mailto:info@nnedpro.org.uk)

[www.nnedpro.org.uk](http://www.nnedpro.org.uk)

[facebook.com/nnedpro](https://www.facebook.com/nnedpro)

[@NNEdPro](https://www.linkedin.com/company/nnedpro)

[linkedin.com/company/nnedpro](https://www.linkedin.com/company/nnedpro)

NNEdPro 10<sup>th</sup> Anniversary

# International Summit on Medical Nutrition Education and Research *'Nutrition as a Hard Science'*

19th - 20th July 2018



## Venue

**University of Cambridge**

*Less than 1hr from central London*

Registration available for one or both days

Lectures, Interactive Sessions and much more...

Early Bird registration rate for bookings made by **Friday 21<sup>st</sup> April 2018**



## Agenda

Theme: **'Nutrition as a Hard Science'**

### Day 1:

The Importance of Nutrition in Healthcare

### Day 2:

Implementation Science and Medical Nutrition Education



## Oral & Poster Presentations

Abstract submissions of original research (max. 250 words) are accepted by email to [info@nnedpro.org.uk](mailto:info@nnedpro.org.uk)

Deadline: **May 10<sup>th</sup>, 2018**



## Expert Presenters

- Cambridge-based and international faculty from 17 countries

**Essay Competition**  
*Developing International Knowledge Networks In Nutrition'*



For more information visit:  
[www.meetings.nnedpro.org.uk](http://www.meetings.nnedpro.org.uk)

CAMBRIDGE UNIVERSITY Health Partners

BDA

The Association of UK Dietitians

GODAN

Society for Nutrition Education and Behavior

University of Cambridge

NNEdPro Global Centre for Nutrition and Health  
St John's Innovation Centre  
Cowley Road, Cambridge, CB4 0WS

[info@nnedpro.org.uk](mailto:info@nnedpro.org.uk)

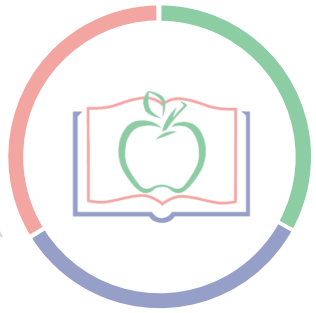
[www.nnedpro.org.uk](http://www.nnedpro.org.uk)

[@NNEdPro](https://www.facebook.com/nnedpro)

[facebook.com/nnedpro](https://www.facebook.com/nnedpro)

[linkedin.com/company/nnedpro](https://www.linkedin.com/company/nnedpro)

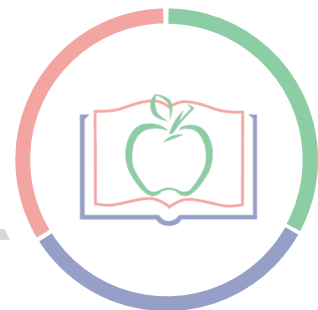




# 1<sup>st</sup> Annual International Summit in Medical Nutrition Education and Research – 2015

- Medical Nutrition Education – Best Practice
- Medical Nutrition Research – Translating Research into Education

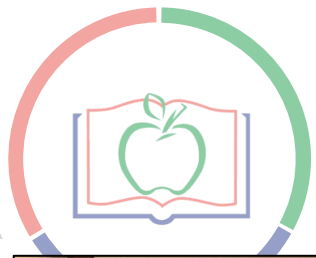




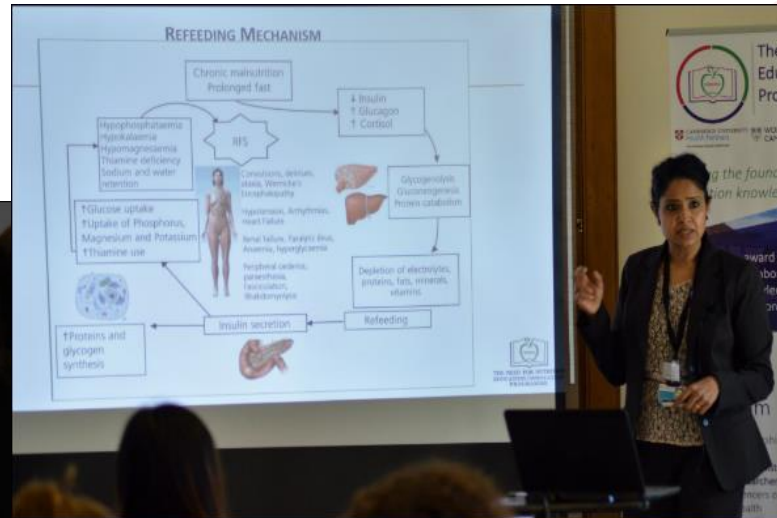
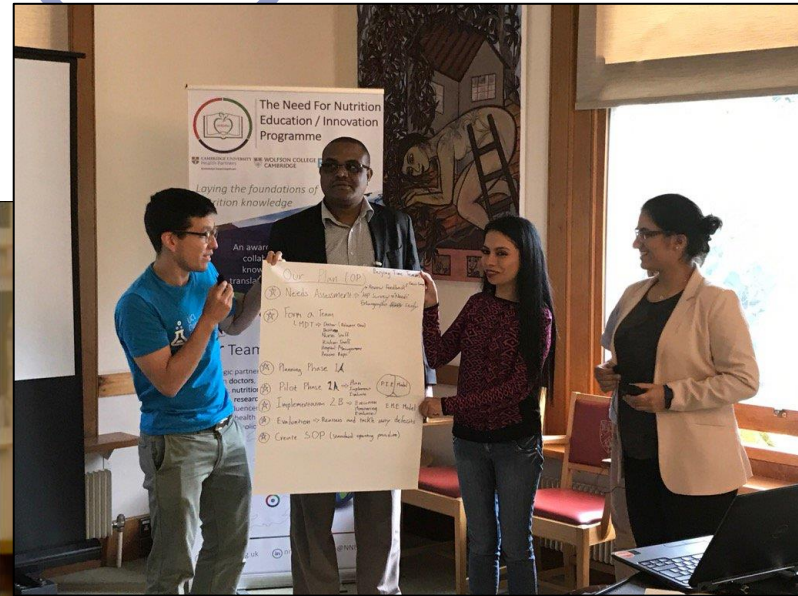
# 2<sup>nd</sup> Annual International Summit in Medical Nutrition Education and Research – 2016

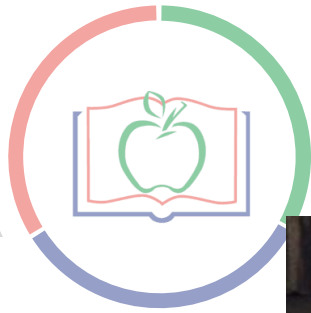
- To identify and take action on priorities for medical nutrition education and research.
- Bringing it all together regarding how research and education should work together towards making a difference in the lives of our patients.



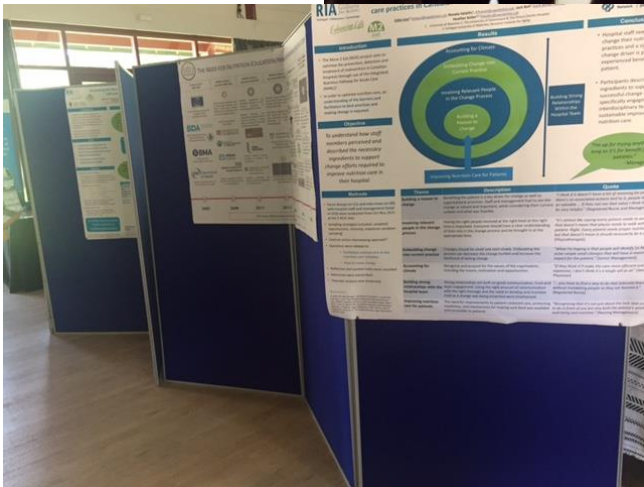


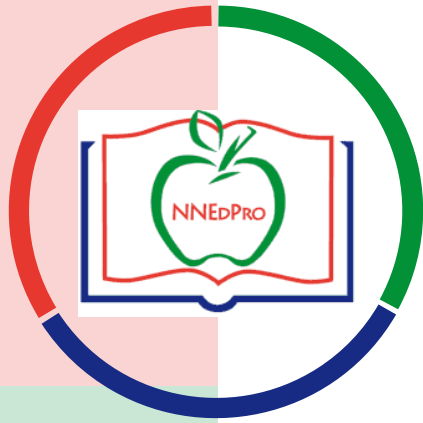
# 3<sup>rd</sup> Annual International Summer School in Medical Nutrition Education and Research – 2017





# 3<sup>rd</sup> Annual International Summit (Public Health Focus) Health Medical Nutrition Education and Research - 2017





NNEdPro Global Centre for  
Nutrition and Health  
Cambridge

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

[www.nnedpro.org.uk](http://www.nnedpro.org.uk)

*NNEdPro: The Need for Nutrition  
Education/Innovation Programme*

## The International Knowledge Application Network in Nutrition Project 2025 (I-KANN 25)

***A project proposal (aligned with the 'United Nations Decade of Actions in Nutrition' 2016-25) to promulgate high quality and scalable medical nutrition education achieving sustained impact in global healthcare systems***

### ***I-KANN 25 Project Consortium Collaborators***



Laboratory  
of the  
Government  
Chemist (UK)



Knowledge  
for everyone

The  
**Health Policy**  
Partnership

### ***NNEdPro Strategic Partners***



CAMBRIDGE UNIVERSITY  
Health Partners



The Association  
of UK Dietitians

**gODAN**  
Global Open Data  
for Agriculture & Nutrition



CAMBRIDGE UNIVERSITY  
Health Partners



The Association  
of UK Dietitians



Society for  
Nutrition Education  
and Behavior  
Nutrition Education  
and Behavior



# Nutrition Education Policy for Healthcare Practice:

*NNEdPro (Need for Nutrition Education/Innovation Programme:*

*A global think-tank in evidence based medical nutrition education) healthcare workforce education initiative*



The Association  
of UK Dietitians

*c/o British Dietetic Association & with BAPEN support-endorsement*



*Putting patients at the centre  
of good nutritional care*

**Authors:** Harrison Carter, Minha Rajput-Ray, Celia Laur & Sumantra Ray

**Acknowledgments:** Pauline Douglas, Glenys Jones, Shivani Bhat & NNEdPro group.

**NNEdPro Global Centre for Nutrition and Health, St John's Innovation Centre, Cowley Road, Cambridge CB4 0WS**

## Background / context

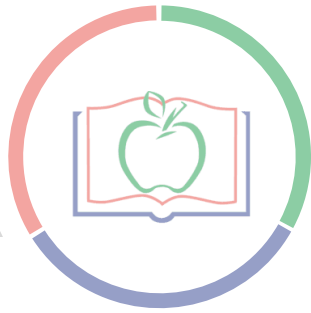
- Suboptimal nutrition management in healthcare systems is a leading cause of morbidity. This can have far reaching economic consequences in an already poorly resourced setting such as the NHS in the UK. Malnutrition costs the UK economy £13 billion annually.

## Rationale for the initiative

- NNEdPro hosts a diversity of expertise in empowering healthcare professionals (doctors, nurses and dieticians ) to further nutrition education.
- Deficiencies in awareness, knowledge and skills can be ameliorated by appropriate education/ training for the healthcare workforce.
- In the UK context HEE (Health Education England) is responsible for the training and education of healthcare professionals in England and it is imperative that education schemes encompass core competencies as applied to everyday practice using locally available resources.
- To facilitate this process, patients and carers should have an active role in national nutrition policy formulation and its implementation into practice. For example, patients and carers could assist in identifying key areas that healthcare professionals can improve in clinical practice.

## Objectives and scope

- Using an implementation science approach we will design bespoke, sustainable, cross-disciplinary educational programmes on nutrition as applied to health, that actively engage patients and carers.
- To deliver a multidisciplinary, stepwise, blended learning focussed package targeting malnutrition in the acute hospital and community setting.
- The key stakeholders will involve healthcare professionals (doctors, nurses, dieticians) at all stages of their training (including pre-registration).
- To increase meaningful screening, assessment and treatment of malnutrition, for example, the use of the MUST (Malnutrition Universal Screening Tool).



# BUILDING A TRANSFERRABLE & SCALEABLE NATIONAL MODEL

*MNI Funded Project Timeline - 2017-19*

- **A: 0-6 months**

*Identify the baseline deficiencies in knowledge and practice, as described by Patients and their Carers*

- **B: 6-12 months**

*Design the tailored package using a multi-disciplinary approach and above data*

- **C: 12-15 months**

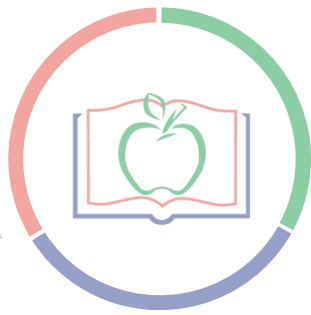
*Piloting the package in 3 Strategic Health Regions*

- **D: 16-21 months**

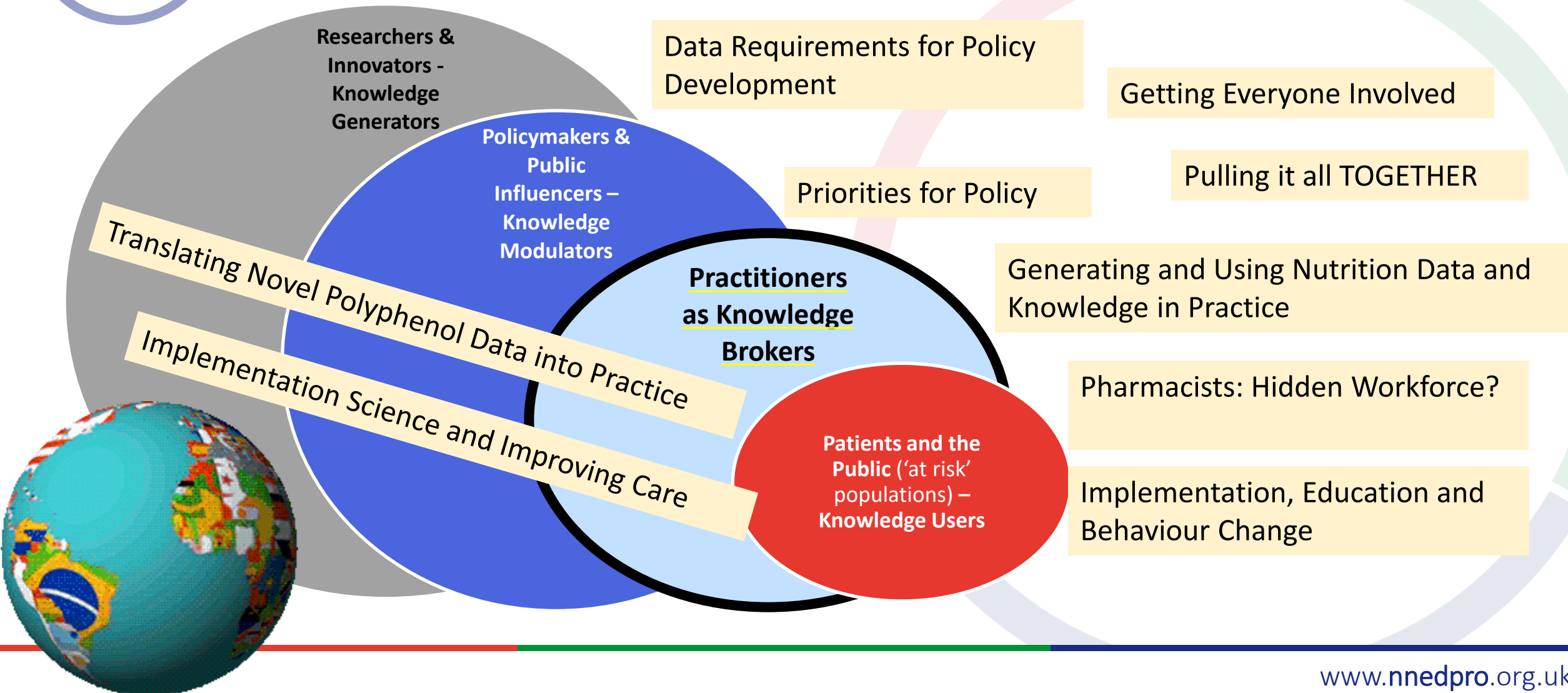
*Delivering the multidisciplinary nutrition education package*

- **E: 21-24 months**

*Data collection and post-intervention evaluation*



# IMPACTING TOMORROW'S HEALTHCARE PROFESSIONALS...





**Lord Richard Balfe of Dulwich\*** FRSS  
Honorary President

**Lord Diljit Rana** MBE  
Honorary Global Patron

### Research Fellows

Dr Giuseppe Grosso MD, PhD  
Dr Rajna Golubic MD, MPhil, DSc, PhD  
Nida Ziauddeen BSc, MSc, [PhD Candidate]  
Francesca Ghelfi \* BSc, MSc, [PhD Candidate]

### Global Innovation Leads

Celia Laur\* RNutr, BSc, MSc, [PhD Candidate], PGCME  
Dr Jennifer Crowley\* RD, BSc, MSc, PhD

### Network Leads

Dr Glenys Jones BSc, MSc, PhD [Head of Core Support]  
Prof Martin Kohlmeier\* MD, PhD  
Harrison Carter BSc MPH [MBBS Candidate]  
James Bradfield [BSc Hons & ANutr Candidate]

### Core Support

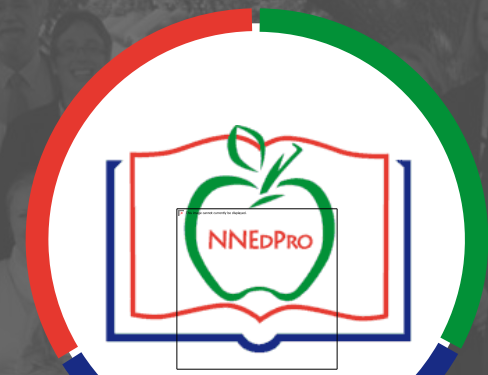
Sarah Gibbings BSc, MSc, | Office/Admin & Events/Media Support & Intern(s)

**Prof Sumantra Ray\*** RNutr, MBBS, PGCME, DNHE, MPH, MD, FACN, FRSPH, FHEA  
NNEdPro Chair/Executive Director

**Pauline Douglas\*** RD, BSc, MBA, PGCHP, FBDA, FHEA  
NNEdPro Vice-Chair/Education Director

**Dr Minha Rajput-Ray\*** DO, ND, MBChB, DOccMed, DDAM  
NNEdPro Medical Director

**Prof Daniele Del Rio\*** BSc, MSc, PhD  
NNEdPro Scientific Director



**WITH THANKS**

NNEdPro Core



**2017 MNI GRANT**

\* Wolfson College, University of Cambridge