

# NNEdPro Global Centre for Nutrition and Health

The **N**utrition **E**ducation **P**olicy for **H**ealthcare **P**ractice (**NEPHELP**) Initiative

*An implementation pathway for patient centered nutrition capacity building*



Global Centre for  
Nutrition and Health

**Dr Minha Rajput-Ray | Dr Harrison Carter | Jorgen Johnsen | Prof Sumantra Ray**

*On behalf of the NEPHELP Team:*

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# About Us: NNEdPro partners work together to form...

Anchored in Cambridge but working without borders both in the UK and GLOBALLY!

An award winning, international and interdisciplinary think-tank, training academy and knowledge network engaged in education, research and implementation

## A strategic partnership between:

- Doctors
- Dietitians
- Nutritionists
- Nurses
- Allied Health Professionals
- Researchers
- Educators

**Patients &  
Carers**



UNIVERSITY OF  
CAMBRIDGE



>300  
Academic  
Outputs



thebmj  
awards  
2016 Finalist

2018  
Global  
Challenges  
Award

2017 Medical  
Nutrition  
Industry  
International  
Award



# NNEdPro is known for the Annual Cambridge Summer Events in July...

## NNEdPro

### Cambridge Summer School in Applied Human Nutrition

CPD accredited comprehensive Foundation Certificate Course in Applied Human Nutrition for professionals interested in nutrition and its health applications

12 - 16 July 2020



Foundation level certificate in Applied Human Nutrition covering basic nutritional concepts, through current research and methods, to prevention, healthcare and policy applications:

#### Basic Concepts in Human Nutrition

Including dietary assessment, body composition and energy metabolism

#### Nutrition Research Methods

Including 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

Including 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

#### Benefits

- Learn from a world-class faculty with leading global nutrition experts in the heart of Cambridge.
- 40 contact hours, practical and/or interactive sessions, self-directed learning and small group work, individual mentoring & case studies.
- Professional course accreditation\* and associate membership of the NNEdPro International Academy of Nutrition Educators (IANE).
- Grow your multi-disciplinary knowledge network with dedicated mentors plus networking opportunities including a gala dinner and social programme.

Homerton College, University of Cambridge

\*CPD accreditation for clinical and scientific candidates

For more information:

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

## 6<sup>th</sup> International Summit On Medical and Public Health Nutrition Education and Research



17<sup>th</sup> July 2020  
Homerton College  
University of Cambridge

From 09:00 to 17:00  
Followed by a mini-symposium  
and network reception

A 2020 evaluation of global  
knowledge networks in the UN  
Decade of Action on Nutrition  
(2016-2025)

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

#### Scientific Poster Session

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

Max. 250 words

Email Subject Heading: Summit 2020

Poster Abstract

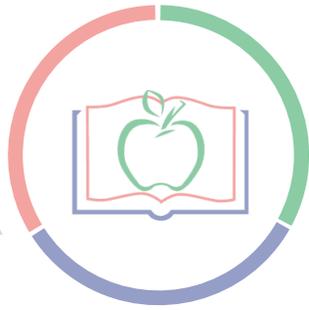
Deadline: 30th June 2020

Bringing together  
expert speakers from  
the UK and globally  
from across 6  
continents

Plenary sessions  
and interactive  
panel with key  
opinion leaders on  
global systems  
perspective

Scientific posters,  
essay competition,  
workshops, a mini  
symposium &  
networking reception

Held in close  
partnership with the  
official NNEdPro  
journal: BMJ  
Nutrition, Prevention  
and Health



# NNEdPro with BMJ

*Provides a hub for emerging nutrition Knowledge relevant to practice...*

*"The creation of BMJ Nutrition, Prevention and Health is timely as we seek to make key contributions to the UN decade of action on nutrition (2016-25) by strengthening the translation of nutrition science for disease prevention and best healthcare practice."*



**Open access**

**Tackling a tidal wave:  
sound nutrition knowledge today for  
a better tomorrow...**

Sumantra Ray



# THE NUTRITION EDUCATION POLICY FOR HEALTHCARE PRACTICE

## (NEPHELP) INITIATIVE

September 2017 to February 2020



**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  
**BDA** the Association of Dietitians in the UK **BAPEN** British Dietetic Association & with BAPEN support-endorsement **UK** 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

**Description of the initiative**  
**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 dietitians) 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 focused package targeting malnutrition in the acute hospital and community setting.  
• The key stakeholders will involve healthcare professionals (doctors, nurses, dietitians) 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).

**Planned activities & deliverables**  
**Outline the steps to be taken**  
• The steps taken will employ a knowledge to action cycle as seen in this diagram:  
• Evaluating current nutrition education practice to the healthcare workforce.  
• Identifying similarities and gaps in nutrition education provision.  
• Designing an accessible tailored learning package.  
**What are the concrete deliverables of the project?**  
• Knowledge about the nutrition education gaps (through primary survey data).  
• Development of a tailored nutrition education package.  
• Post-intervention data collection and analysis.

**What achievements are possible in the next 12 and 24 months?**  
• 0-6 months – identify the baseline deficiencies in knowledge and practice, as described by patients & carers  
• 6-12 months – design the tailored package using a multi-disciplinary approach and above data.  
• 12-15 months – piloting the package in 3 Strategic Health Regions in England (North, Midlands, South)  
• 15-21 months – delivering the multidisciplinary nutrition education package.  
• 21-24 months – data collection and post-intervention evaluation.

**Resources and enablers**  
**Describe personnel and financial needs**  
• The NNEdPro infrastructure facilitates access to nutrition education professionals. The logistics to deploy this team would be 15 000 euros.  
• In order to coordinate this, the engagement of a project manager and data analysis (10 000 euros) with relevant administrative and publication support (5 000 euros) for the duration of this project. Hence overall financial support requested is 30 000 euros.

**Specify how the grant will be spent**  
• Part of the costings of the 15 000 euros allocated to the multi-disciplinary nutrition education team deployment will be dedicated to the development of educational materials and actual delivery of teaching sessions.  
• The 10 000 euros allocated for the hire of a part time project manager will also encompass the costs involved in post teaching data analysis.  
• The remainder 5 000 euros will enable sustainable administrative support and it is hoped that any surplus may be used to support open access publication costs.

**What factors will make it successful?**  
• The development of an up to date and systematic compendium of the existing nutrition education gaps to create a tangible education package.  
• A minimum of 50% uptake of the newly created material is used by the medical schools, ideally incorporated into the curriculum.  
• A change in nutritional practice as captured by the post-intervention evaluation, for example, an increase in the utilisation of the MUST screening tool, signposting to relevant professional for further nutritional assessment.

**Results/outcomes & expected impact**  
**How will the findings be implemented?**  
• The findings will be used as a basis to pilot this innovative education project with an aim to upscale up across the different healthcare trusts/commissioning bodies in the UK and within the European context.  
**How will this project advance patient care / contribute to optimal nutritional care?**  
• The aim of the project is to involve patients and carers in the education of all levels of healthcare professionals to enable them to better identify those at risk of malnutrition and be able to signpost appropriately across medical specialties. The key element being a focus on the patient and their carer.  
**What makes the project innovative?**  
• Cross disciplinary, evidence based and experiential approach for healthcare professionals via insights from their patients and their carers.  
**Will the project be likely to influence national nutrition policy?**  
• This is very much embedded as a component of the rationale for this project.  
**Is the project transferable to other settings / countries?**  
• This approach may also be applied to poorly resourced settings on a global scale, applying its flexibility to respond to locally driven need.

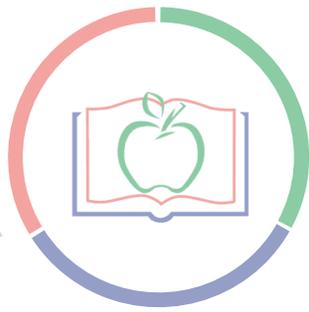
**2017 MNI Grant Submission Initiative/Research Project for Optimal Nutritional Care**

Seed funded by the MNI International Award (ESPEN 2017), followed by matched grant support

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2018 CAMBRIDGE/EOE

CAMBRIDGE UNIVERSITY  
Health Partners

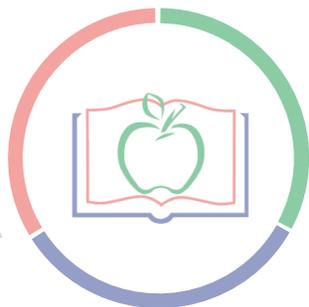
## JUNIOR DOCTORS STUDY WITH PATIENTS & CARERS SUB-STUDY

### AIMS

- To explore trainee doctors' observations and attitudes of current nutrition care in Addenbrooke's Hospital
- To examine if their experiences reflect gaps in the management of hospital malnutrition and lack of training

### METHODS

- The semi-qualitative survey of 20 trainee doctors
- Consisted of one-on-one interviews and visual analogue scale questionnaires.
- 5 written multiple-choice questions on nutrition knowledge were used to compare our cohort to previous groups studied.

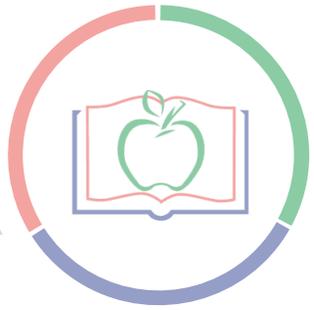


## **KEY RESULTS 2018 CAMBRIDGE/EOE JUNIOR DOCTORS STUDY WITH PATIENTS & CARERS SUB-STUDY**

**Content analysis was conducted on interview responses, VAS responses converted to percentile scores. One-on-one interview content underwent content analysis, sub-groups to initially identify themes, before collating and combining common themes.**

**MCQ on doctors' responsibilities in nutrition care:**

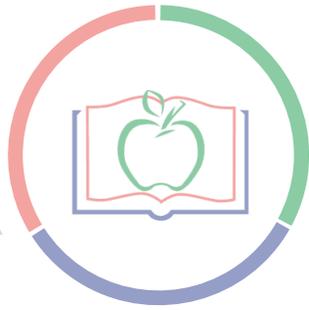
- **15 (75%) mention a multidisciplinary approach**
- **11 (55%) mention specific roles for doctors**
- **8 (40%) identified written and spoken communication as key gaps**
- **13 (65%) responded that further training is necessary/would be beneficial**
- **8 (40%) identify consultants as those best placed to promote nutrition**



# KEY CONCLUSIONS

## 2018 CAMBRIDGE/EOE JUNIOR DOCTORS STUDY WITH PATIENTS & CARERS SUB-STUDY

- **UK Medical Students' & Doctors' Views surrounding nutrition in medical education and practice**
- **The 1<sup>st</sup> time this has been reported in the UK, included 840 participants**
- **Agreement on the importance of nutrition in health (>90%)**
- **Appreciation of the doctor's role in nutrition care (>95%)**
- **Nutrition training reported as being inadequate with >70% reporting less than 2 hours**
- **Only 26% of doctors were confident in their nutrition knowledge**
- **74% gave nutrition advice less than once a month.**
- **Cited a lack of knowledge (75%), time (64%) and confidence (62%) as the main barriers**



## KEY CONCLUSIONS

### 2018 CAMBRIDGE/EOE JUNIOR DOCTORS STUDY WITH PATIENTS & CARERS SUB-STUDY

#### Visual analogue scale:

Responses show 3 (15%) respondents with less than 50% confidence in making nutrition referrals

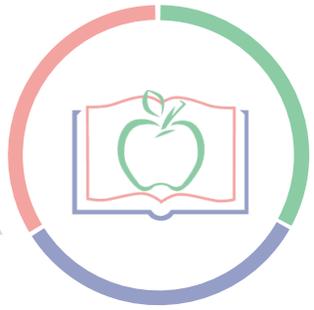
#### Preferred tools:

41% for intensive weekend courses, 57% for nutrition awareness and 87% for introduction of nutrition protocols

#### Trainee doctors commented:

Nutrition training during their medical degree was minimal or implicit, then informal or absent during their career development (did not differ from expectations)

1. The majority of the doctors recognise the **need for a multidisciplinary approach to nutrition care in hospitals.**
2. For their part, doctors are likely to **engage positively** with increased nutrition training.
3. Further studies need to establish **the ideal method for its provision.**
4. Locally, an **increased drive from consultants** may be effective in raising the profile of nutrition care among trainee doctors.
5. Further **needs assessments** be carried out in other hospitals.



**CAMBRIDGE/EOE**

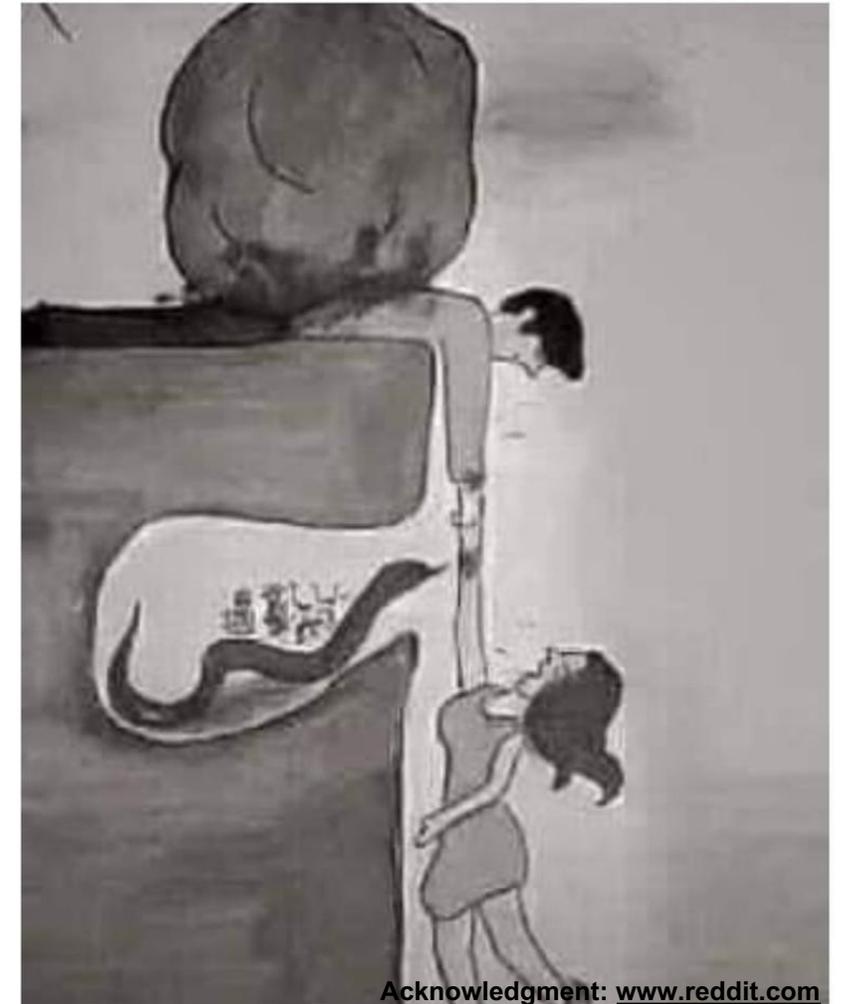
**PATIENTS AND CARERS SUB-STUDY - THE PATIENT AND CARER VOICE**



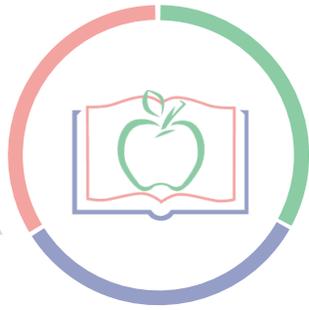
**CAMBRIDGE UNIVERSITY**  
Health Partners

- **Understanding expectations**
- **Navigating barriers**
- **Harnessing facilitators**
- **Education and training of doctors as a key**

(N = 36; mixed group of East of England patients and carers)

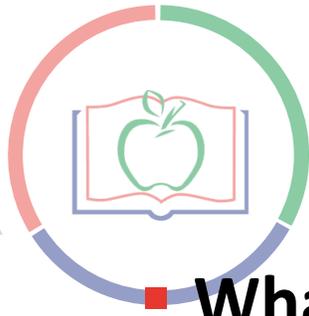


Acknowledgment: [www.reddit.com](http://www.reddit.com)



## **KEY FINDINGS-I:** PATIENTS AND CARERS SUB-STUDY - THE PATIENT AND CARER VOICE

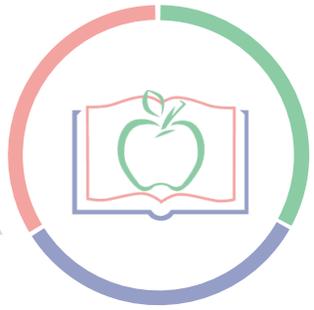
- **50% have never spoken to a doctor about food or nutrition, as ‘what is the point!’**
- **Believe doctors do not have enough knowledge or time and will not advise them on food**
- **For nutrition care in hospital, that these are often doctor led.**
- **Hence, if the doctor doesn’t mention nutrition, the patient and/or carer doesn’t either**
- **Also felt that doctors couldn’t do anything about the quality of hospital food**
- **Patients and Carers who were provided with nutrition advice often could not follow due to:**
  - **lack of understanding of technical terms**
  - **lack of guidance on actual food choices especially in disease conditions affecting intake**



## **KEY FINDINGS-II: PATIENTS AND CARERS SUB-STUDY - THE PATIENT AND CARER VOICE**

### **■ What medical students should know:**

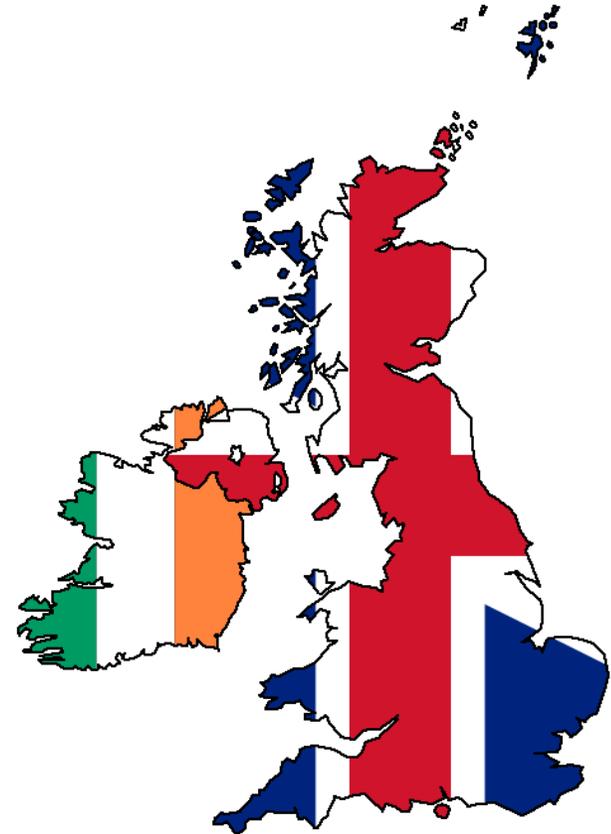
- **The effect of nutrition on specific disease**
- **Communication skills and tips on how to make inroads or start conversations**
- **Deep understanding on what a good meal/diet looks like**
- **Education about food could be delivered in childhood and/or to new parents**
- **Understand nutritional needs change through the lifecycle**
- **Dietary advice should be given as part of a treatment regime**
- **Understand each patient needs different advice**
- **Always try to establish why a hospitalised person may be undergoing weight changes**
- **That the above should be applicable to all Health Care Practitioners**



# LAUNCH OF NNEDPRO *UK AND IRELAND REGIONAL NETWORK*



- **English & Welsh Section (c/o Dr Kathy Martyn)**
- **Irish Section (c/o Pauline Douglas RD)**
- **Scottish Section (c/o Dr Minha Rajput-Ray)**



# THE NUTRITION IMPLEMENTATION COALITION



## Purpose

- ✓ Broadening the conversation about nutrition in health for patient benefit;
- ✓ Increasing the education around food competence in health professionals' curricula;
- ✓ Designing and implementing, educational resources for health professionals;
- ✓ Implementation research and evaluation around nutrition and diet; and
- ✓ Sustainable nutrition focus to support healthcare



# FURTHER KEY OUTPUTS-I

- **ACTIVITIES**
- **SUCCESSES**
- **CHALLENGES**
- **LEARNING**

- **2018 Cambridge/EoE Junior Doctors Study with Patients and Carers Sub-study**
- **2018 NNEdPro 10<sup>th</sup> Anniversary Summit and Summer School Presentations**
- **2018 ESPEN Conference Abstract and Poster Presentation**
- **2019 BMJ International Forum on Safety and Quality in Healthcare Glasgow**
  - Workshop to pilot the **NEPHELP Multidisciplinary Education and Training Package** and launch **e-Learning course in Nutrition and Healthcare**
- **2019 Poster abstract on the ‘Time for Nutrition’**



# Time For Nutrition in Medical Education



## ERimNN

A collaborative approach across professional boundaries



Now a full peer reviewed paper under final review in **BMJ Nutrition, Prevention and Health**) and launch of **BMJ Nutrition Special Collection of Education/Implementation**

### Time for Nutrition in Medical Education

An insight into UK doctors and medical students opinions on nutrition education and a doctors role in nutrition care. The Nutrition Education in Health 'NEPHeLP' project.

Contact: [iam.nutrition@brh.nhs.uk](mailto:iam.nutrition@brh.nhs.uk)

Macarinch, E., Buckner, L., Amin, P., Broadley, I., Carter, H., Crocombe, D., Galubic, R., Herath, D., Jaffee, A., Rajput-Ray, M., Kathy Maryan, Sumatra Ray, Brighton and Sussex Medical Schools, Brighton and Sussex University Hospitals, University of Brighton, University of Bristol, Cambridge University

#### Background

- Nutrition related risk factors are a leading cause of both acute and chronic disease [1].
- Despite UK life expectancy rising, there are greater numbers living with ill-health [1].
- Inequality and poverty in childhood deny access to an adequate diet. [2].
- A third of patients are undernourished on admission to hospital or care homes and 10% of adults visiting their GP. [3].
- The role of doctors in nutritional care and management is uncertain however there is general consensus that medical practitioners should have a greater understanding of the role food plays both in health and disease to provide nutritional advice.

#### Aim

To summarise the observations of survey data and a UK medical school curriculum review to report the beliefs of UK medical students and junior doctors on the standard of nutrition teaching in both undergraduate and postgraduate medical education.

#### Methods

Information was gathered by accumulating data from numerous sources identified between 2015-2018:

- A curriculum review of nutrition content
- Teaching evaluations from medical schools
- Surveys of medical student and doctors

A comparative analysis of the findings was undertaken using the 3 questions shown

#### Conclusion

- As a collection these surveys and evaluations all suffer from selection bias.
- However, this provides a large number of insights from different levels of training through medical students to doctors from which further research can be developed.

#### Results

5 heterogeneous sources were included representing 723 participants. With regards to our research questions:

- Most agreed on the importance of nutrition health (+90%) and in a doctors role in nutrition (+95%)
- However the desire for more undergraduate nutrition education was less in medical students (80%) and in doctors (68%).

#### Figure 1 Preferred methods of Nutrition teaching

- Do medical students or doctors believe nutrition in medical education and clinical practice is important? What further training do they believe they need?
- How much nutrition content is there in current training and what are the preferred learning methods?
- How confident are doctors in their nutrition knowledge and skills? What is the self-perceived role of doctors in nutritional care?

#### Figure 2 Medical student confidence in their knowledge of diet and nutrition

#### Figure 3 Medical student confidence in advising patients on diet and nutrition

#### Figure 4 Medical student confidence of current UK nutrition and diet guidelines

#### References

- Newson PB, Bagepalli S. Changes in health in England, with analysis by English region and area of deprivation: 1999-2010: ecological analysis for the Global Burden of Disease Study 2010. *BMJ*. 2013; 346:f2025-34.
- Adrianos M, Sassi D, Savall S. Quality and economic challenges facing the facts. *Archives of disease in childhood*. 2018; 93(10):903-7.
- Yusoff CA, Wu M. Nutrition screening surveys in hospitals in the UK, 2007-2011. *BMJN*. 2014.

We recommend nutrition is integrated into medical curriculum using a multi-professional approach where the clinical relevance is clearly articulated.

ERimNN Education and Research in Medical Nutrition  
NUTRITANK

Acknowledgements: Shilpa Gillin, Gauri Chatterjee, Rachel Evans, Poo Moya, Catherine Peckham



# FURTHER KEY OUTPUTS-II

- ACTIVITIES
- SUCCESSES
- CHALLENGES
- LEARNING

- **(May 2019 to Feb 2020) NEPHELP Education and Training Roadshow/Evaluation**
  - **Foundation Doctors** in Brighton (May), London (Dec) and York (Jan)
  - **GPs** in Kent/Surrey/Sussex (Jul), Basildon/GPING (Oct), Brighton (Nov) and Cambridge (Dec)
  - **Focus group work** with Patients/Carers (Oct), Nurses (Dec/Jan) and Pharmacists (Jan/Feb)
  - **Full peer reviewed paper** on roadshow/evaluation including landscape analysis (Feb 2020)
  - **FINAL Education and Training Package/Toolkit** (Feb 2020)



# FURTHER KEY OUTPUTS-III

- ACTIVITIES
- SUCCESSES
- CHALLENGES
- LEARNING

- (May 2019 to Jan 2020) Elsevier Essentials of Nutrition in Medicine [*Kumar and Clark companion*]
- (Jul 2019) Sessions at NNEdPro Summer Events and linkage with WHO Capacity Building Strategy
- (Aug 2019) Launch of *International Academy of Nutrition Educators* Mentoring Scheme/Website
- (Oct 2019) Completion of Vitamin D Knowledge, Attitudes and Practices (D-KAP) GPs/HCPs Survey
  - Award winning University of Surrey MSc Dissertation with abstract accepted at Nutrition Society Winter Meeting and full peer reviewed paper under review



# FURTHER KEY OUTPUTS-IV

- ACTIVITIES
- SUCCESSES
- CHALLENGES
- LEARNING

- (Dec 2019) Comparative evaluation of nutrition curriculum interventions between 3 medical schools
- (Dec 2019/Jan 2020) Case study series on RDs in Medical/Healthcare Education and Innovation
- (Dec 2019 to Feb 2020) Leading the *INSIDE GOVERNMENT FORUM* on Raising NHS Food/Nutrition Standards with parliamentary policy dialogue



# NEXT STEPS TOWARDS INTEGRATING CAPACITY BUILDING & CARE PATHWAYS

- **Patient centered educational standards should be formulated across undergraduate and postgraduate curricula and form part of mandatory training in the NHS**
- **Clear accountability pathways should be created starting at the patient and ending at the secretary of state for health and social care – make the government responsible for nutrition screening**
- **An assessment of the resource gap should be undertaken recognising that a small investment to increase screening would be a cost saving exercise given current high costs of diseases**
- **A review should be undertaken to look at what actor is expected to do what at each level and multi-disciplinary and multi-agency networks**
- **Increased knowledge of the care pathway should be increased amongst practitioners**



# With Thanks & Appreciation

*Patients, Carers and Collaborators (BDA, BAPEN, MNI)*



*Dr C Laur*

*Dr R Golubic*

*P Douglas*

*Dr L Buckner*

*Dr S Griffin*

*D Herath*

*P Amin*

*K Chamberlain*

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