

Appendix 1: ERimNN generic module evaluations Likert Score

4=Very good 3=Good 2=Poor 1=Very Poor

<u>Lectures/ SSC's</u>	Overall quality of delivery		4	3	2	1
	The usefulness of the material		4	3	2	1
	The interest / enjoyability of the material		4	3	2	1
The difficulty / challenge of the material (tick box): Too difficult Just right Too easy <div style="display: flex; justify-content: space-around; align-items: center;"> <input type="checkbox"/> <input type="checkbox"/> </div>						

[Online surveys of medical students](#) (using a Likert scale (1-5)).

Appendix 2: ERimNN pre and post teaching questionnaire

Pre teaching

1. What are the odds that the patient you are clerking into hospital is malnourished?
 - a. 1 in 2
 - b. 1 in 3
 - c. 1 in 5
 - d. 1 in 10
2. Your patient with pressure sore damage has a BMI of 40 (120kg, 19 stone) with unintentional weight loss of 12kg in the last 3 months. What is his nutritional risk?
 - a. Over nutrition risk
 - b. Low risk of malnutrition
 - c. Medium risk of malnutrition
 - d. High risk of malnutrition
3. Which bloods would you request for a stroke patient who has just been started on PEG feeding after 10 days of being nil by mouth?
 - a. Magnesium, Calcium, Phosphate, U & E
 - b. Liver function test
 - c. Urea, Creatinine
 - d. Vit D, Calcium, Vit B12, Folate, Iron.
4. How confident are you that you can make an assessment of a patient's state of nutrition?
 - a. Not confident at all
 - b. Not very confident
 - c. Somewhat confident
 - d. Very confident
 - e. Extremely confident
5. As one of tomorrow's doctors, it is important that you are able to complete an assessment of a patient's nutritional state?
 - a. Completely disagree
 - b. Somewhat disagree
 - c. Neither agree or disagree
 - d. Somewhat agree
 - e. Completely agree.

6. Do you think that from a public health perspective, nutrition is important in reducing the global burden of disease? Not important at all
- a. Not very important
 - b. Somewhat important
 - c. Very important
 - d. Extremely important

Post teaching

1. What are the odds that the patient you are clerking into hospital is malnourished?
- e. 1 in 2
 - f. 1 in 3
 - g. 1 in 5
 - h. 1 in 10
2. Your patient with pressure sore damage has a BMI of 40 (120kg, 19 stone) with unintentional weight loss of 12kg in the last 3 months. What is his nutritional risk?
- a. Over nutrition risk
 - b. Low risk of malnutrition
 - c. Medium risk of malnutrition
 - d. High risk of malnutrition
3. Which bloods would you request for a stroke patient who has just been started on PEG feeding after 10 days of being nil by mouth?
- e. Magnesium, Calcium, Phosphate, U & E
 - f. Liver function test
 - g. Urea, Creatinine
 - h. Vit D, Calcium, Vit B12, Folate, Iron.
4. How confident are you that you can make an assessment of a patient's state of nutrition?
- f. Not confident at all
 - g. Not very confident
 - h. Somewhat confident
 - i. Very confident
 - j. Extremely confident
5. As one of tomorrow's doctors, it is important that you are able to complete an assessment of a patient's nutritional state?
- a. Completely disagree
 - b. Somewhat disagree

- c. Neither agree or disagree
 - d. Somewhat agree
 - e. Completely agree.
6. Do you think that from a public health perspective, nutrition is important in reducing the global burden of disease?
- a. Not important at all
 - b. Not very important
 - c. Somewhat important
 - d. Very important
 - e. Extremely important

Please include any comments on year 3 nutrition teaching here or on the back of this form:

Appendix 3: Nutritank Medical students survey

Question 1:

Nutrition plays a role in maintaining good health

Strongly disagree to Strongly agree

Question 2:

Nutrition plays a role in the development of disease

Strongly disagree to Strongly agree

Question 3:

Nutrition plays a role in the management of disease

Strongly disagree to Strongly agree

Question 4:

I have had teaching on nutrition during medical school

Strongly disagree to Strongly agree

Question 5:

How many hours of teaching have you received on nutrition in the last academic year? (includes lectures, tutorials, e-learning)

0-2, 3-4, 5-6, 7-8, 9-10, >10 hours

Question 6:

The teaching I have received on nutrition at medical school is adequate for my learning needs

Strongly disagree to Strongly agree

Question 7:

I would like to receive more teaching on nutrition at medical school

Strongly disagree to Strongly agree

Question 8:

How do you think more teaching could be incorporated into the curriculum?

Lectures, Student selected components, e-learning, workshops, ward based, other

Question 9:

What barriers are there to increased nutrition education in the medical school curriculum

Time, Awareness, Not relevant, lack of interest, lack of staff, other

Question 10:

I believe patients expect me to have an understanding of nutrition as a doctor

Strongly disagree to Strongly agree

Appendix 4: Doctor led survey of pre and post clinical medical students

How confident are you in your nutrition dietary knowledge?

Your current grade

< Select >

Please briefly specify your current grade

*Which medical school did/will you graduate

What year did/will you graduate from medical school?

How many of the following popular philosophies on diet are you aware of?
many as you recognise

☐ Whole-food plant based

☐ Paleo

☐ Mediterranean

☐ High carb & low fat

☐ Low carb & high fat

☐ 5:2 diet +/- other intermittent fasting

☐ Juicing

Any others? (please

Do you support or follow any of the above dietary philosophies?

☐ Yes

☐ No

If Yes, please specify

How much do you agree or disagree with the following

Doctors have a responsibility to understand & be able to provide evidence-
advice on diet and nutrition in relation to health and

Strongly

☐

Agree

☐

Neither Agree or Disagree

☐

Disagree

☐

Strongly Disagree

☐

It is NOT part of the doctor's role to provide advice on diet and
relation to health and

Strongly Agree

☐

Agree

☐

Neither Agree or Disagree

☐

Disagree

☐

Strongly Disagree

☐

How frequently do you get asked about diet and nutrition by patients?

- ☐ All the time
- ☐ Often
- ☐ Occasionally
- ☐ Rarely
- ☐ Never

How much do you agree or disagree with the following statements?

I feel confident in my current knowledge on diet and nutrition in relation to health and disease.

Strongly Agree



Agree



Neither Agree nor Disagree



Disagree



Strongly Disagree



I feel confident in advising patients on diet and nutrition in relation to health and disease

Strongly Agree



Agree



Neither Agree nor Disagree



Disagree



Strongly Disagree



I feel confident in my knowledge of current UK guidelines on diet and nutrition in relation to health and disease.

Strongly Agree



Agree**Neither Agree nor Disagree****Disagree****Strongly Disagree**

I feel confident in advising others about different diets and eating philosophies (such as low vs high carbohydrate/fat, Paleo diet, Mediterranean diet, whole food plant based etc).

Strongly Agree**Agree****Neither Agree nor Disagree****Disagree****Strongly Disagree**

I struggle to know what to say to others when asked for advice about

food and/or nutrition in relation to health and disease?

☐ Always☐ Often☐ I don't get asked☐ Occasionally☐ Never

I feel I received (or am currently receiving) a **comprehensive & relevant education in diet and nutrition in relation to health and disease** at medical school.

I received (or am currently receiving) a comprehensive & relevant education in diet and nutrition in relation to health and disease at medical school.

Strongly Agree

4

I have already sought further education

(inside or outside medical school) on
diet and nutrition in relation to health and disease.

☐ Yes

☐ No

☐ I've thought about it

If Yes, please specify (optional)

Any final comments?

Name and/or email address

Appendix 5: Nutritank Doctors survey

Question 1:

Please state your current level of training
Specialty or Training grade

Question 2:

Nutrition plays a role in maintaining good health
Strongly disagree to Strongly agree

Question 3:

Nutrition plays a role in the development of disease
Strongly disagree to Strongly agree

Question 4:

Nutrition plays a role in the management of disease
Strongly disagree to Strongly agree

Question 5:

How many hours of teaching have you received on nutrition in the last 12 months? (includes lectures, e-learning, conferences, other CPD)
0-2, 3-4, 5-6, 7-8, 9-10, >10 hours

Question 6:

I believe patients expect me to have an understanding of nutrition as a doctor
Strongly disagree to Strongly agree

Question 7:

I feel confident discussing nutrition with patients

Strongly disagree to Strongly agree

Question 8:

How often do you discuss nutrition with patients, or give nutritional advice?

Never, Rarely, Sometimes, Often, Always

Question 9:

What are the barriers (if any) that prevent you from discussing nutrition with your patients?

Please tick all that apply.

Lack of time, Lack of knowledge, Lack of confidence, Not part of my role, Not considered in management plans, Prefer referring to specialists

Question 10:

I would like more teaching on nutrition during my training

Strongly disagree to Strongly agree

Appendix 6: *NNEdPro led semi-Qualitative survey of doctors.*

Junior Doctors online survey

NNEdPro SSC 2018 Final

In all the following questions, by nutrition we wish to talk about the detection, prevention, and management of hospital malnutrition (including but not limited to dietary requirements and artificial nutrition).

1. What nutrition training did you receive in your medical degree? And did this differ from your expectations?

2. Have you received any nutrition training during your professional career?

3. How often do you discuss nutrition with your patients?

4. To what extent are doctors responsible for nutritional management of patients in hospital?

5. What, if anything, do you think is lacking in the nutritional management (screening, assessment, or advice) provided to patients in hospital?

6. Do you think doctors need more training in nutrition?

7. If yes, in terms of interventions to improve nutritional competencies of doctors, what are your ideas on optimal:

- Platform? Online or In-person
 - Delivery? Integrated or One-off AND medical school/foundation training/speciality training
 - Assessment? No assessment or pass/fail
8. We are carrying out this survey because research has shown that NICE guidelines regarding nutritional screening, dietary requirements, and the care of inpatients at risk, are often not met. Who should be do you think is best placed for promoting nutrition as a priority in the NHS?

Junior Doctor Visual Analogue Scores

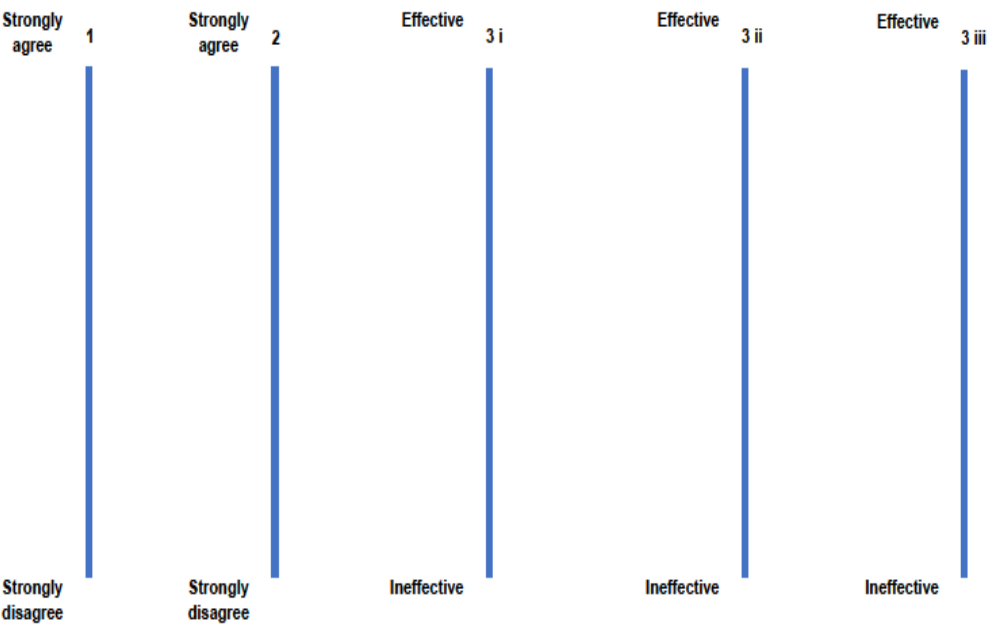
For the following statements, please mark a cross on the scale below to reflect your opinions.

1. Nutrition is an important part of medical care
2. I feel confident in making nutrition referrals to specialties teams and/or dieticians
3. How effective do you think the following proposed interventions for doctors would be in improving nutrition competency?

i. Intensive weekend training courses

ii. Nutrition awareness weeks in hospital

iii. Introduction of formulated nutrition protocols for inpatients



Senior Doctor one to one interviews

Questions for seniors

In all the following questions, by nutrition we wish to talk about the detection, prevention, and management of hospital malnutrition (including but not limited to dietary requirements and artificial nutrition).

We are carrying out this survey because research has shown that NICE guidelines regarding nutritional screening, dietary requirements, and the care of inpatients at risk, are often not met. Who should be do you think is best placed for promoting nutrition as a priority in the NHS?

KAP

1. What do you think of the nutritional status of hospital inpatients?
2. What do you think of the nutritional management of hospital inpatients?
3. How often is nutritional care discussed amongst senior management?

Gaps

1. With regards to the management of hospital inpatients under the category of food, fluids and nutritional care, what are the key areas for improvement within the trust?
2. What are the barriers/ facilitators in making improvements to nutritional care?

Solutions

1. Who do you think is best placed for promoting nutrition as a priority in the hospital?
2. Concerning implementing change in nutritional care practices, what are the key factors for senior management to take into account?
3. What additional resources (finance / personnel / training) and processes are required to improve nutritional care in the hospital?

Appendix 7: Medical student free text responses about areas of nutrition learning needs summarised and categorised by theme (n=40)

Area of need/interest	Specific response
Paediatric nutrition	<ol style="list-style-type: none"> 1. Paediatric nutrition; refeeding syndrome 2. Diet in ... <ol style="list-style-type: none"> a. Children to ensure adequate growth. b. Cystic fibrosis. c. Diabetics. d. Obesity. e. Recovering anorexics f. Babies, to give a rough idea of how much a baby should drink in a day.
Nutrition in pregnancy	<ol style="list-style-type: none"> 1. Nutrition in pregnancy 2. Nutrition in immunocompromised, 3. Nutrition in the healthy pregnancy.
Evidence base for nutrition	<ol style="list-style-type: none"> 1. How evidence based are current nutrition guidelines in the UK? <ol style="list-style-type: none"> a. For example, guidelines recommend a large proportion of our calorific intake should be in the form of carbohydrate sources. b. When did this become the recommendation and why when this is the only macronutrient we can live without? c. Does this guidance coincide with the obesity epidemic? 2. Evidence based overview of development of Type II diabetes and association with diet. 3. Malnutrition in relationship to alcoholism. 4. Nutritional pseudoscience and critical appraisal of nutritional research 5. Evidence-based advice to give to patients and encourage behaviour change. 6. Current public health/policy debates regarding nutrition eg sugar tax 7. Evidence based medicine in nutrition. Nutritional pseudoscience and critical appraisal of nutritional research
Nutrition communication	<ol style="list-style-type: none"> 1. How to give nutritional advice to patients on an individual level. 2. Nutrition for dementia/stroke patients who have swallowing or communication difficulties
Nutrition for the critically unwell patient	<ol style="list-style-type: none"> 1. Nutrition for very ill patients 2. Total parenteral nutrition. How to calculate nutritional needs of individual patients. <ol style="list-style-type: none"> 1. TPN - what's in it / what proportion + considerations. 2. Post disease recovery eg post mi what is recommended.

Nutrition for the worried well	<ol style="list-style-type: none"> 1. Nutrition in immunocompromised, 2. Nutrition in the healthy patient.
Nutrition and swallowing disorders	<ol style="list-style-type: none"> 1. Nutrition for dementia/stroke patients who have swallowing or communication difficulties
Nutrition supplementation and use of diets	<ol style="list-style-type: none"> 1. Risks of certain foods interacting with medications. 2. Low sodium/ gluten free/ dangers of fad diets i.e Atkins diet 3. Artificial supplements, "fat burners" and their dangers. 4. Why crash diets don't work, myths around carbohydrates, fat and weight gain
Medicine-food interactions	<ol style="list-style-type: none"> 1. Clinical relevance of common vitamin deficiencies, the role of medications and their impact on nutritional status.
Nutrition support for the malnourished patients	<ol style="list-style-type: none"> 1. Malnutrition. Our lectures only covered obesity and normal nutrition 2. Malnutrition in elderly patients 3. Nutrition in dementia.
Post-surgical nutrition	<ol style="list-style-type: none"> 1. Nutrition in the post-surgical patient, nutrition in patients with bowel disease 2. Nutritional support for post - operative and medical conditions associated with diet or associated relevant details.
Nutrition management in chronic disease	<ol style="list-style-type: none"> 1. Nutritional support for medical conditions associated with diet or associated relevant details. <ol style="list-style-type: none"> a. Ischaemic Heart Disease b. Diabetes c. Pernicious Anaemia d. Bowel pathology e.g. IBD, Coeliac e. The influence of diet on the development of Alzheimer's Disease