Appendix 1: ERimNN generic module evaluations Likert Score

<table>
<thead>
<tr>
<th>Lectures/ SSC's</th>
<th>Overall quality of delivery</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The usefulness of the material</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>The interest / enjoyability of the material</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
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The difficulty / challenge of the material (tick box): **Too difficult** | **Just right** | **Too easy**

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

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-based 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 nutrition in 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
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
Supplementary material

My medical school prepared (or is preparing) me well on how to advise patients on diet and nutrition in relation to health and disease.

Strongly Agree

Agree

Neither Agree nor Disagree

Disagree

Strongly Disagree

I would have appreciated (or would currently appreciate) more teaching on diet and nutrition in relation to health and disease at medical school.

Strongly Agree

Agree

Neither Agree nor Disagree

Disagree

Strongly Disagree
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/Specialty 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 specialist teams and/or dieters
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

Strongly agree 1   Strongly agree 2   Effective 3   Effective 3   Effective 3
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 aspects for improvement within the trust?
2. What are the barriers/obstacles 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)

<table>
<thead>
<tr>
<th>Area of need/interest</th>
<th>Specific response</th>
</tr>
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</table>
| **Paediatric nutrition**            | 1. Paediatric nutrition; refeeding syndrome  
2. Diet in …  
   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**          | 1. Nutrition in pregnancy  
2. Nutrition in immunocompromised,  
| **Evidence base for nutrition**     | 1. How evidence based are current nutrition guidelines in the UK?  
   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.  
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**         | 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** | 1. Nutrition for very ill patients  
2. Total parenteral nutrition. How to calculate nutritional needs of individual patients.  
1. TPN - what's in it / what proportion + considerations.  
2. Post disease recovery eg post mi what is recommended. |
| Nutrition for the worried well | 1. Nutrition in immunocompromised,  
<table>
<thead>
<tr>
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<th></th>
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<tbody>
<tr>
<td>Nutrition and swallowing disorders</td>
<td>1. Nutrition for dementia/stroke patients who have swallowing or communication difficulties</td>
</tr>
</tbody>
</table>
| Nutrition supplementation and use of diets | 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 | 1. Clinical relevance of common vitamin deficiencies, the role of medications and their impact on nutritional status. |
| Nutrition support for the malnourished patients | 1. Malnutrition. Our lectures only covered obesity and normal nutrition  
                                                2. Malnutrition in elderly patients  
| Post-surgical nutrition | 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 | 1. Nutritional support for medical conditions associated with diet or associated relevant details.  
                                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 |