NATIONAL INSTITUTE FOR HEALTH AND CLINICAL EXCELLENCE

CENTRE FOR CLINICAL PRACTICE

QUALITY STANDARDS PROGRAMME

Quality standard topic: Nutrition Support in Adults

Output: Briefing paper

Introduction

This briefing paper presents a structured evidence review to help determine the suitability of recommendations from the key development sources listed below, to be developed into a NICE quality standard. The draft quality statements and measures presented in this paper are based on published recommendations from these key development sources:

Nutrition Support in Adults. NICE clinical guideline 32 (2006; NHS Evidence accredited). Available from www.nice.org.uk/guidance/CG32

Structure of the briefing paper

The body of the paper presents supporting evidence for the draft quality standard reviewed against the three dimensions of quality: clinical effectiveness, patient experience and safety. Information is also provided on available cost-effectiveness evidence and current clinical practice for the proposed standard. Where possible, evidence from the clinical guideline is presented. When this is not available, other evidence sources have been used.

Nature of the evidence base for this guideline

The recommendations in the full NICE guideline were systematically developed with as much scientific rigour as possible. However for a number of the clinical questions there was an absence of RCT evidence either because the clinical questions did not lend themselves to controlled trials and systematic reviewing, or for which there were too few trials identified to make substantive recommendations. Invariably, the guideline development group needed to use additional approaches such as surveys or informal/formal consensus development to assist with some areas of the guidance. Where draft quality statements have been based on recommendations that were developed through the approach described above, this issue is referenced in the clinical and cost effectiveness sections of the supporting information.

1. Recognition – Recognise malnutrition and the risk of malnutrition

1.1 NICE CG32 Recommendation 1.2.2 [KPI], 1.2.3 [KPI], 1.2.4 and 1.2.5

1.1.1 Relevant NICE clinical guideline recommendations and proposed quality statement

Guideline recommendations	CG32 1.2.2 [KPI] All hospital inpatients on admission and all outpatients at their first clinic appointment should be screened. Screening should be repeated weekly for inpatients and when there is clinical concern for outpatients. CG32 1.2.3 [KPI] Hospital departments who identify groups of patients with low risk of malnutrition may opt out of screening these groups. Opt-out decisions should follow an explicit process via the local clinical governance structure involving experts in nutrition support. CG32 1.2.4 People in care homes should be screened on admission and when there is clinical concern. CG32 1.2.5 Screening should take place on initial registration at general practice surgeries and when there is clinical concern. Screening should also be considered at other opportunities (for example, health checks, flu injections).
Proposed quality statement	People in all appropriate settings are offered screening for malnutrition or the risk of malnutrition using a validated risk assessment tool
Draft quality measure	**Structure:** Evidence of local arrangements to ensure that people receive screening for malnutrition or the risk of malnutrition using a validated risk assessment tool **Process:** The proportion of people who receive screening for malnutrition or the risk of malnutrition, when identified as appropriate, in all relevant health and social care settings. Numerator – The number of people in the denominator who receive screening for malnutrition or the risk of malnutrition. Denominator – The number of people identified as appropriate to receive screening for malnutrition or the risk of malnutrition. **Outcome:**
Discussion points for TEG	• Are there any measurable outcomes that can be included for this statement? • Do the measures need to mention using a validated tool, e.g. MUST, or can the issue of using a tool be addressed in statement 2 only? • Should we define validated in the definitions section of the statement?

1.1.2 Clinical and cost-effectiveness evidence

A systematic review of the evidence concerning screening for malnutrition found no suitably valid and reliable research studies to inform recommendations. Therefore, recommendations CG1.2.2 – 5 are based on the consensus expert opinion of the Guideline Development Group (GDG).

To support a cost effectiveness review, a cost utility analysis was conducted from the perspective of the NHS and personal social services. The analysis reviewed the cost effectiveness of three different strategies;

- a screening strategy;
- a strategy where ward nurses selected patients for oral nutrition support;
- a strategy of no oral nutrition support.

The target population were older adults. The analysis showed that screening of older inpatients was more effective but more costly than the other two strategies.

The nurse led strategy was least cost effective. The “don’t treat” and “screening” strategies were compared. The screening intervention was cost effective (using a £20,000 per QUALY threshold) when the target population mortality rate was 1.5 %< and the rates of malnutrition were 3 %<. The current estimated mortality rate for adult inpatients was estimated as 4% and the prevalence of malnutrition estimated at 25%. This would suggest that according to this analysis screening is very cost effective in hospital settings.

Due to difficulty in generalising the evidence from hospital settings to primary care settings, the recommendations for primary care centre more around opportunistic clinical management rather than a systematic screening programme. Therefore the recommendations support baseline ‘screening’ at registration with a general practice or care home, and then with subsequent clinical concern.

1.1.3 Patient experience

The full NICE clinical guideline for Nutrition Support in Adults[1] states that more than 10% of the general population aged 65 years and over are at risk of being at medium or high risk of malnutrition. In hospitalised patients, the same degree of risk is seen in 10-60% depending on medical condition and patients' age. Similar very high prevalence's of nutritional risk are seen in residents of care homes but most cases of malnutrition are found in the community (>95%).

Age UK (2010) gathered a number of first hand accounts from patients as part of a national campaign concerning awareness of malnutrition in older people in hospital. The feedback was summarised as follows;

"Today, an unacceptable number of us are becoming malnourished when we are in hospital. When we are malnourished, it is often not detected, or monitored, so we do not get the help we need to become nourished.

Hospitals are supposed to screen us for malnutrition, on arrival and during our stay, and then act to make sure we get the nutrition we need. This doesn't always happen. Some of us are screened inaccurately; others are screened accurately but no action is taken, and some of us are just not screened at all".[2]

1.1.4 Patient safety

A patient safety incident is any unintended or unexpected incident which could have or did lead to harm for one or more patients receiving NHS care (see Appendix B). A comprehensive analysis of recent reported incidents (please see full accompanying report from the NPSA) identified a theme concerning the need for timely and appropriate assessment of nutrition and hydration status. In addition to this there was a specific issue identified concerning patients with dysphagia. The NPSA report recommended the establishment of care pathways to ensure appropriate and timely assessment, care and observation for patients with dysphagia

1.1.5 Current practice

In a national survey of nutrition screening in 2010[3] 'malnutrition' (medium + high risk according to 'MUST') was found to affect more than 1 in 3 adults on admission to hospitals, more than 1 in 3 adults admitted to care homes in the previous 6 months, and 1 in 5 in adults on admission to Mental health Units in the UK. Most of those affected were in the high risk category. The report

[1] NCC for Acute Care (2006) – Nutrition Support for Adults
[2] Age UK (2011) Still Hungry to be heard

stated that 'Malnutrition' is common in all types of care homes and hospitals, all types of wards and diagnostic categories and all ages.

The Department of Health (2007) published a report concerning the improvement of nutritional care in hospital[4]. It reported that malnourished patients stay in hospital for much longer, are three times as likely to develop complications during surgery and have a higher mortality rate. In addition to this the report referenced evidence suggesting that six out of ten older people are at risk of becoming malnourished, or their situation getting worse, in hospital.

1.1.6 Current indicators

DH Essence of Care 2010 Benchmarks for Food and Drink (Available from Essence of Care 2010)

Indicators of best practice for factor 7 – Screening & Assessment

The following indicators support best practice for eating and drinking needs and preferences:

Indicator B. screening takes place on admission to hospital and care homes, on registration at GP surgeries, at their first clinic appointment or on a first visit to *People*'s homes. Screening is repeated for *people* when there is clinical concern, or a risk of malnutrition or morbid obesity and/or repeated weekly for *people* in hospital

Indicator E. screening and assessment is undertaken in partnership with *people* (where possible)

Indicator F. nutritional support should be considered for those *people* who are identified initially as at risk of malnutrition or who are malnourished

Indicators of best practice for factor 10 - Monitoring

Indicator B. a system is in place to use information on food and drink intake to identify those at risk of malnutrition or morbid obesity and to amend care to meet *people's* needs

Indicator D. *people* who are vulnerable and/or are designated temporarily 'nil by mouth' are monitored to identify those at risk of malnutrition and/or dehydration

[3] British Association for Parenteral and Enteral Nutrition (2010) Nutrition Screening Survey UK & RoI

[4] DH (2007) Improving Nutritional Care

2. Recognition – Recognise malnutrition and the risk of malnutrition

2.1 NICE CG32 Recommendation 1.2.1 [KPI], 1.3.1 [KPI] and 1.3.2 [KPI]

2.1.1 Relevant NICE clinical guideline recommendations and proposed quality statement

Guideline recommendations	CG32 1.2.1 [KPI] Screening for malnutrition and the risk of malnutrition should be carried out by healthcare professionals with appropriate skills and training. CG32 1.3.1 [KPI] Nutrition support should be considered in people who are malnourished, as defined by any of the following: • a BMI of less than 18.5 kg/m^2 • unintentional weight loss greater than 10% within the last 3–6 months • a BMI of less than 20 kg/m^2 and unintentional weight loss greater than 5% within the last 3–6 months. CG32 1.3.2 [KPI] Nutrition support should be considered in people at risk of malnutrition who, as defined by any of the following: • have eaten little or nothing for more than 5 days and/or are likely to eat little or nothing for the next 5 days or longer • have a poor absorptive capacity, and/or have high nutrient losses and/or have increased nutritional needs from causes such as catabolism.
Proposed quality statement	People who are screened for malnutrition and the risk of malnutrition have the screening undertaken by professionals with appropriate skills and training in using a validated tool.
Draft quality measure	**Structure:** a) Evidence that arrangements are in place to ensure that all people who are malnourished or at risk of malnutrition are screened by a trained healthcare professional using a validated tool. b) Evidence of local arrangements to ensure that health and social care workers receive training appropriate to their role which includes training in recognising the signs and symptoms of malnutrition and the risk of malnutrition. c) Evidence of local arrangements to ensure that training is informed by good practice guidelines, where available, and includes training in the use of a validated tool for screening. **Process:** Proportion of patients who receive screening for malnutrition or the risk of malnutrition who are screened by a

	trained health or social care professional using a validated tool. Numerator – The number of people in the denominator who are screened for malnutrition or the risk of malnutrition by an appropriately trained professional using a validated tool. Denominator – The number of people who receive screening for malnutrition or the risk of malnutrition. **Outcome:**
Discussion points for TEG	• What is the specific quality improvement aspect of this statement. The structures for training could be included as a measure under the previous statement. • Is it appropriate to include social care professionals in this statement?

2.1.2 Clinical and cost-effectiveness evidence

Insufficient evidence of effectiveness was identified from studies to inform recommendation 1.2.1 therefore the recommendations were based on informal GDG consensus and the findings from the cost effectiveness study as described in section 1.1.2 of this briefing paper.

Recommendations 1.3.1 and 1.3.2 were also based on GDG consensus. The group recognised that the circumstances in which the need for deciding upon potential nutritional support options are so varied that specific recommendations would not be appropriate. However they developed recommendation based on key principles that should be considered in all relevant settings.

2.1.3 Patient experience

None identified

2.1.4 Patient safety

A comprehensive analysis of recent reported incidents (please see full accompanying report from the NPSA) identified a theme concerning the need for timely and appropriate assessment of nutrition and hydration status.

2.1.5 Current practice

A national nutrition screening survey (2010)[5] reviewed the use of screening tools by different care setting. The survey reported that;

[5] British Association for Parenteral and Enteral Nutrition (2010) Nutrition Screening Survey UK & RoI

- Almost all hospitals who responded to the survey reported using a nutrition screening tool and of those that did, the 'Malnutrition Universal Screening Tool' (MUST) was used in 73% of centres. Lectures / workshops were the most commonly used format for training staff on nutritional screening

- Almost all care homes reported using a nutrition screening tool and of those that did, 'MUST' was used in 85% of centres. Lectures / workshops were the most commonly used format for training staff on nutritional screening. 10% of care homes reported receiving no training for staff on nutritional screening

- In Mental Health Units 17 out of the 20 units reported using a nutrition screening tool and of these 'MUST' was used in 53%. Local tools were used in 41% of centres. Lectures / workshops were the most commonly used format for training staff on nutritional screening. 5 units reported receiving no training on nutritional screening.

2.1.6 Current indicators

DH Essence of Care 2010 Benchmarks for Food and Drink (Available from Essence of Care 2010)

Indicators of best practice - Factor 7 Screening & Assessment

Indicator C. screening should be undertaken using a validated evidence-based tool such as the Malnutrition Universal Screening Tool (MUST). Screening should include body mass index (BMI), percentage unintentional weight loss or gain, time over which nutrient intake has been unintentionally reduced or increased, and/or the likelihood of future impaired or increased nutrient intake.

Indicator D. a full assessment using a validated evidence-based tool and appropriate referral is undertaken for *people* who are identified initially as at risk of malnutrition or as morbidly obese

3 Treatment – Safety Issues

3.1 NICE CG32 Recommendation 1.7.17

3.1.1 Relevant NICE clinical guideline recommendations and proposed quality statement

Guideline recommendations	CG32 1.7.17 The position of all nasogastric tubes should be confirmed after placement and before each use by aspiration and pH graded paper (with X-ray if necessary) as per the advice from the National Patient Safety Agency (NPSA 2005). Local protocols should address the clinical criteria that permit enteral tube feeding. These criteria include how to proceed when the ability to make repeat checks of the tube position is limited by the inability to aspirate the tube, or the checking of pH is invalid because of gastric acid suppression.
Proposed quality statement	People receiving enteral tube feeding have the position of their nasogastric tube confirmed after placement and before each use by aspiration and pH graded paper (with X-ray if necessary).
Draft quality measure	**Structure:** a) Evidence of local protocols in place to ensure that people receiving enteral tube feeding have the position of their nasogastric tube confirmed after placement and before each use by aspiration and pH graded paper (with X-ray if necessary). b) Evidence of local protocols in place on nasogastric tube placement being in accordance with advice from the NPSA (2005). c) Evidence of local protocols addressing the clinical criteria that permit enteral tube feeding. **Process:** The proportion of patients receiving enteral tube feeding via a nasogastric tube who have the position of their nasogastric tube confirmed after placement and before each use by aspiration and pH graded paper (with X-ray if necessary). Numerator – The number of people in the denominator who have the position of their nasogastric tube confirmed after placement and before each use by aspiration and pH graded paper (with X-ray if necessary). Denominator – The number of people receiving enteral tube feeding via a nasogastric tube. **Outcome:** Rate of misplaced nasogastric feeding tubes.
Discussion points for TEG	• Is there still variation in current practice with regards to nasogastric tube placement?

3.1.2 Clinical and cost-effectiveness evidence

Recommendation 1.7.17 was based on the consensus expert opinion of the GDG, informed by recommendations made by the NPSA regarding potential complications related to enteral tube feeding and how best to manage these.

3.1.3 Patient experience

None identified

3.1.4 Patient safety

A comprehensive analysis of recent reported incidents (please see full accompanying report from the NPSA) identified a number of incidents concerning problems caused by nasogastric tube placement and the need for position confirmation.

3.1.5 Current practice

None identified

3.1.6 Current indicators

None identified

4. Treatment – training and information

4.1 NICE CG32 Recommendation 1.9.4, 1.9.7, 1.3.5, 1.9.1, 1.9.3 and 1.9.6

4.1.1 Relevant NICE clinical guideline recommendations and proposed quality statement

Guideline recommendations	CG32 1.9.4 Patients in the community having enteral tube feeding and their carers, should receive training and information from members of the multidisciplinary team on: • the management of the tubes, delivery systems and the regimen, outlining all procedures related to setting up feeds, using feed pumps, the likely risks and methods for troubleshooting common problems and be provided with an instruction manual (and visual aids if appropriate) • both routine and emergency telephone numbers to contact a healthcare professional who understands the needs and potential problems of people on home enteral tube feeding • the delivery of equipment, ancillaries and feed with appropriate contact details for any homecare company involved. CG32 1.9.7 People in the community having parenteral nutrition and their carers should receive training and information from members of the multidisciplinary team on: • the management of the delivery systems and the regimen, outlining all procedures related to setting up feeds, using feed pumps, the likely risks and methods for troubleshooting common problems and be provided with an instruction manual (and visual aids if appropriate) • routine and emergency telephone numbers to contact a healthcare professional with the relevant competencies (specialist nutrition nurse, pharmacist) • the arrangements for the delivery of equipment, ancillaries and feed with appropriate contact details for any homecare company involved. CG32 1.3.5 Healthcare professionals should ensure that people having nutrition support, and their carers, are kept fully informed about their treatment. They should also have access to appropriate information and be given the opportunity to discuss diagnosis and treatment options. CG32 1.9.1 Healthcare professionals should ensure that patients having enteral or parenteral nutrition in the community and their carers: • are kept fully informed and have access to appropriate sources of information in formats, languages and ways that are suited to an individual's requirements. Consideration should be given to cognition, gender, physical needs, culture and stage of life of the individual • have the opportunity to discuss diagnosis, treatment options and relevant physical, psychological and social

	issues • are given contact details for relevant support groups, charities and voluntary organisations. CG32 1.9.3 Patients in the community having enteral tube feeding and their carers should receive an individualised care plan which includes overall aims and a monitoring plan. CG32 1.9.6 People in the community having parenteral nutrition and their carers should receive an individualised care plan which includes overall aims and a monitoring plan.
Proposed quality statement	People receiving enteral and parenteral nutrition support are offered training and information on how to manage their nutrition support needs.
Draft quality measure	**Structure:** a) Evidence of local arrangements to ensure that people receiving enteral and parenteral nutrition support receive training from the multidisciplinary team on how to manage their nutrition support. b) Evidence of local arrangements to ensure that people receiving enteral and parenteral nutrition support receive information from the multidisciplinary team on the management of their nutrition support. **Process:** a) The proportion of people receiving enteral and parenteral nutrition support in all settings who receive training from the multidisciplinary team on how to manage their nutrition support needs. Numerator – The number of people in the denominator who receive training from the multidisciplinary team on how to manage their nutrition support needs. Denominator – The number of people receiving enteral and parenteral nutrition support. **Outcome:** a) Evidence from patient experience surveys that people receiving enteral and parenteral nutrition support feel satisfied with the training they receive on managing their nutrition needs.
Discussion points for TEG	• **What is the role if any of the MDT in this aspect of care?** • Should this also include ONS? If it should how could the statement be worded to just include the relevant groups of people receiving ONS? • Does this already happen in current practice and how would training usually be delivered for patients?

4.1.2 Clinical and cost-effectiveness evidence

The GDG discussed the particular needs of people who will require long term nutritional support, particularly those in the community. Recommendations 1.9.1, 1.9.3, 1.9.4, 1.9.6, 1.9.7, 1.3.5, were based on the consensus expert opinion of the GDG/.

4.1.3 Patient experience

The full NICE Nutrition support clinical guideline reports findings from a number of research studies that looked at patients using long term nutrition support. The research highlighted the significant psychological / emotional impact that long term nutritional support has on patients while they adjust to their situation. This was influenced by issues relating to personal guilt and responsibility for their situation and coping with the reaction of friends and the community.

4.1.4 Patient safety

None identified.

4.1.5 Current practice

The full NICE Clinical guideline refers to two surveys conducted in the UK concerning information needs for patients and carers particularly at discharge. The surveys included patients on HETF and HPN;

- 21% of patients were not provided with an instruction manual to undertake procedures (e.g. connecting up) when first discharged.
- 14% were not issued with emergency telephone numbers. In the event of an emergency, patients were advised to contact their hospital (75%), the local hospital (16%), or the general practitioner (14%). Four patients were advised to contact a combination of these.

4.1.6 Current indicators

DH Essence of Care 2010 Benchmarks for Food and Drink (Available from Essence of Care 2010)

General Indicators Education & Training

- *People* and carers are provided with the knowledge, skills and support to best manage care

5 Treatment – Prescription

5.1.1 NICE CG32 Recommendation 1.6.7

5.1.2 Relevant NICE clinical guideline recommendations and proposed quality statement

Guideline recommendations	CG32 1.6.7 Healthcare professionals should ensure that the overall nutrient intake of oral nutrition support offered contains a balanced mixture of protein, energy, fibre, electrolytes, vitamins and minerals.
Proposed quality statement	People receiving nutrition support receive nutrient intake in accordance with NICE Guidance
Draft quality measure	**Structure:** Evidence of local arrangements to ensure that people receiving nutrition support receive overall nutrient intake in accordance with NICE Guidance. **Process:** The proportion of people receiving nutrition support that contains a balanced mixture of protein, energy, fibre, electrolytes, vitamins and minerals. Numerator – The number of people in the denominator who receive nutrition support that contains a balanced mixture of protein, energy, fibre, electrolytes, vitamins and minerals. Denominator – The number of people receiving nutrition support. **Outcome:**
Discussion points for TEG	• Is it appropriate to include all people receiving nutrition support for this statement or should it be restricted to oral nutrition support as the recommendation is? • Alternatively can this statement be broadened out to include all people in all settings receiving care having access to good quality food and nutritional support if required? • Are there any outcomes that are measurable that can be linked with this statement?

5.1.2 Clinical and cost-effectiveness evidence

Recommendation 1.6.7 was based on the consensus expert opinion of the GDG and GPP from their experience and awareness of the clinical issues relating to this area. The group did review evidence relating to different options for ensuring nutritional intake. Recommendation 1.6.7 was a generic recommendation that can be related to any mode of nutritional intake.

5.1.3 Patient experience

None identified

5.1.4 Patient safety

A comprehensive analysis of recent reported incidents (please see full accompanying report from the NPSA) identified a number of incidents relating to the need to ensure patients are receiving sufficient nutritional intake. Specific incidents were identified relating to people with dysphagia and also people at risk of pressure ulcers.

5.1.5 Current practice

The full NICE clinical guideline[6] for nutrition support in adults reported that most standard oral and enteral feeds contain enough electrolytes and minerals to meet the daily requirements of sodium, potassium, calcium, magnesium and phosphate, but only if the patient is having enough of the feed to meet all their energy needs. The guideline reports that many patients are either receiving less than full nutrition from these products or have pre-existing deficits, high losses or increased demands and that additional provision is therefore required in many cases.

5.1.6 Current indicators

None identified

[6] NCC for Acute Care (2006) p 78 – Nutrition Support for Adults

6 Treatment – Prescription

6.1 NICE CG32 Recommendation 1.3.3 [KPI] and 1.3.4

6.1.1 Relevant NICE clinical guideline recommendations and proposed quality statement

Guideline recommendations	CG32 1.3.3 [KPI] Healthcare professionals should consider using oral, enteral or parenteral nutrition support, alone or in combination, for people who are either malnourished or at risk of malnutrition, as defined in 1.3.1 and 1.3.2. Potential swallowing problems should be taken into account. CG32 1.3.4 Healthcare professionals involved in starting or stopping nutrition support should: • obtain consent from the patient if he or she is competent • act in the patient's best interest if he or she is not competent to give consent • be aware that the provision of nutrition support is not always appropriate. Decisions on withholding or withdrawing of nutrition support require a consideration of both ethical and legal principles (both at common law and statute including the Human Rights Act 1998). When such decisions are being made guidance issued by the General Medical Council and the Department of Health should be followed.
Proposed quality statement	People who are malnourished or at risk of malnutrition are offered oral, enteral or parenteral nutrition support, alone or in combination, in accordance with NICE guidance.
Draft quality measure	**Structure:** Evidence of local arrangements to ensure that people who are malnourished or at risk of malnutrition receive oral, enteral or parenteral nutrition support, alone or in combination in accordance with NICE guidance. **Process:** The proportion of people who are malnourished or at risk of malnutrition who receive oral, enteral or parenteral nutrition support, alone or in combination, in accordance with NICE guidance. Numerator – The number of people in the denominator who receive oral, enteral or parenteral nutrition support, alone or in combination in accordance with NICE guidance. Denominator – The number of people who are identified as malnourished or at risk of malnutrition. **Outcome:**
Discussion points for TEG	• Are there potential measurement issues for this statement due to it specifying different types of nutrition support e.g. would patients who move from receiving enteral support to ONS be counted twice in the numerator? • Are there any outcomes that are measurable that can be linked with this statement?

6.1.2 Clinical and cost-effectiveness evidence

Recommendations 1.3.3 and 1.3.4 were based on the GDG consensus expert opinion The group recognised that the circumstances in which the need for deciding upon potential nutritional support options are so varied that specific recommendations would not be appropriate. However they developed recommendation based on key principles that should be considered in all relevant settings.

6.1.3 Patient experience

None identified.

6.1.4 Patient safety

None identified.

6.1.5 Current practice

The National Confidential Enquiry into Patient Outcome and Death (NCEPOD) (2010)[7] conducted an enquiry into the care of hospital patients receiving parenteral nutrition. The enquiry identified a number of issues in practice;

- In a third of patients receiving parenteral nutrition, inadequate consideration was given to the use of enteral nutrition (in the option of the expert advisers)
- Parenteral nutrition was administered for an inappropriate indication in 29% of study patients
- There was an unreasonable delay in recognition of the need for PN in 16% of study patients
- There was an unreasonable delay in starting PN once the need was recognised in 9% of patients in this study.

6.1.6 Current indicators

None identified

[7] NCEPOD (2010) Parenteral Nutrition: A Mixed Bag

7 Monitoring – Short and long term monitoring

7.1 NICE CG32 Recommendation 1.5.4, 1.5.3 and 1.8.4

7.1.1 Relevant NICE clinical guideline recommendations and proposed quality statement

Guideline recommendations	CG32 1.5.4 Healthcare professionals should refer to the protocols for laboratory monitoring, shown in Table 2, when monitoring people having nutrition support in hospital. Table 2 is particularly relevant to parenteral nutrition. It could also be selectively applied when enteral or oral nutrition support is used, particularly for people who are metabolically unstable or at risk of refeeding syndrome. The frequency and extent of the observations given may need to be adapted in acutely ill or metabolically unstable people. CG32 1.5.3 Healthcare professionals should refer to the protocols for nutritional, anthropometric and clinical monitoring, shown in Table 1, when monitoring people having nutrition support in hospital. CG32 1.8.4 Parenteral nutrition should be stopped when the patient is established on adequate oral and/or enteral support. There is no minimum length of time for the duration of parenteral nutrition.
Proposed quality statement	People receiving nutrition support are monitored by healthcare professionals using protocols in accordance with NICE Guidance.
Draft quality measure	**Structure:** Evidence of local arrangements to ensure that people receiving nutrition support are monitored by healthcare professionals using protocols in accordance with NICE Guidance. Evidence of local arrangements to ensure that healthcare professionals who monitor people receiving nutrition support have access to training on monitoring people that is in accordance with NICE Guidance. **Process:** The proportion of people receiving nutrition support who are monitored by health professionals using protocols in accordance with NICE Guidance. Numerator – The number of people in the denominator who are monitored by health professionals using protocols in accordance with NICE Guidance. Denominator – The number of people receiving nutrition support. **Outcome:**
Discussion points for TEG	• **Are there specific quality markers that can be picked out as measures from the NICE protocol (table 1)** • Is a reduction in the number of metabolically unstable people or number of people with refeeding syndrome a

	possible outcome measure? Would this be measurable?

7.1.2 Clinical and cost-effectiveness evidence

The GDG highlighted that the type and frequency of monitoring will depend on a number of different factors. They stated that this will depend on the nature and severity of the underlying disease state, whether previous results were abnormal, the type of nutrition support used, the tolerance of nutrition support, the setting of the nutritional care, and the expected duration of nutrition support. The guideline development group conducted a literature search to identify any evidence relating to the impact on monitoring on nutrition support compared with no monitoring. No trials were identified in this area so a survey of the GDG members was conducted to identify current examples of good practice. The GDG therefore recognised that the guidelines for monitoring patients as referred to in recommendations 1.5.3 and 1.5.4 will require agreement by the local Nutrition Support Teams and that final protocols will have local variation and will need to be modified in individuals cases.

Recommendation 1.8.4 is primarily based on GDG consensus, but was informed by a number of cost effectiveness trials conducted in different international settings. Following a review of this evidence the GDG concluded that it was difficult to interpret the findings as the studies looking at parenteral nutrition (PN) were not in line with routine UK clinical practice. The evidence review suggested that the use of PN should be critically reviewed and monitored to ensure that its use is necessary and effective.

7.1.3 Patient experience

None identified

7.1.4 Patient safety

A comprehensive analysis of recent reported incidents (please see full accompanying report from the NPSA) identified a theme concerning the need for on-going monitoring of nutrition and hydration status for all patients.

7.1.5 Current practice

The 2010 NCEPOD enquiry[8] concerning patients receiving parenteral nutrition identified that;

- There were deficiencies in the assessment and monitoring of patients in 54% (399/738) of patients on parenteral nutrition
- Metabolic complications occurred in 40% (249/634) of patients and in 49% (81/164) these were judged by the enquiry advisors to be avoidable.

[8] NCEPOD (2010) Parenteral Nutrition: A Mixed Bag

7.1.6 Current indicators

None identified

8 Review – Short and long term needs

8.1 NICE CG32 Recommendation 1.5.1, 1.6.9, 1.7.3 and 1.1.3

8.1.1 Relevant NICE clinical guideline recommendations and proposed quality statement

Guideline recommendations	CG32 1.5.1 Healthcare professionals should review the indications, route, risks, benefits and goals of nutrition support at regular intervals. The time between reviews depends on the patient, care setting and duration of nutrition support. Intervals may increase as the patient is stabilised on nutrition support. CG32 1.6.9 Oral nutrition support should be stopped when the patient is established on adequate oral intake from normal food. CG32 1.7.3 Enteral tube feeding should be stopped when the patient is established on adequate oral intake. CG32 1.1.3 Healthcare professionals should ensure that care provides: • food and fluid of adequate quantity and quality in an environment conducive to eating • appropriate support, for example, modified eating aids, for people who can potentially chew and swallow but are unable to feed themselves.
Proposed quality statement	People who are receiving nutrition support have the indications, route, risks, benefits and goals of nutrition support reviewed at regular intervals.
Draft quality measure	**Structure:** Evidence of local arrangements to ensure that people receiving nutrition support have the indications, route, risks, benefits and goals of their nutrition support reviewed by a healthcare professional at regular intervals. **Process:** the proportion of people receiving nutrition support who have the indications, route, risks, benefits and goals of their nutrition support reviewed by a healthcare professional at regular intervals. Numerator – The number of people in the denominator who have the indications, route, risks, benefits and goals of their nutrition support reviewed by a healthcare professional at regular intervals. Denominator – The number of people receiving nutrition support. **Outcome:** a) Evidence from patient experience surveys and feedback that patients feel they had their nutrition support needs

	reviewed at regular intervals. b) Evidence from patient experience surveys and feedback that patients feel they were given nutrition support in an environment that was conducive to eating.
Discussion points for TEG	• Is the wording of this statement appropriate or would it be better to make it more general and list the things that require review in the definitions section? • The term regular will need to be defined for this statement to be developed

8.1.2 Clinical and cost-effectiveness evidence

Recommendation 1.5.1 was based on GDG consensus expert opinion accepting the inevitability of local variation in local protocols as described in section 7.1.2 of this briefing paper.

The GDG reviewed evidence relating to the clinical and cost effectiveness of oral nutritional supplements versus dietary advice (nutrition through normal food). The group found that oral nutritional supplements may be more effective in increasing energy intake and increasing weight than dietary advice but studies have been too small to determine whether there are any differences in terms of mortality or clinical outcome, and there is little or no information on cost effectiveness. Therefore the group concluded that as long as patients are having similar nutritional intake through dietary means as they would through nutritional supplements similar clinical benefits should be seen. This conclusion informed the GDG consensus opinion leading to recommendation 1.6.9.

Recommendation 1.7.3 was based on expert opinion as the available evidence in the main excluded all patients with the most common clinical indications for enteral feeding.

Recommendation 1.1.3 was based on the consensus expert opinion of the GDG. The group reviewed the role of Nutritional Support Teams (NST) in hospital settings. This recommendation is related to the perceived overarching impact that the presence of an NST would have on nutritional support in hospital settings.

8.1.3 Patient experience

None identified

8.1.4 Patient safety

A comprehensive analysis of recent reported incidents (please see full accompanying report from the NPSA) identified a theme concerning the need for on-going monitoring of nutrition and hydration status for all patients.

8.1.5 Current practice

None identified

8.1.6 Current indicators

None identified

9. Organisational Priorities – Documentation

9.1 NICE CG32 Recommendation

9.1.1 Relevant NICE clinical guideline recommendations and proposed quality statement

Guideline recommendations	CG32 Appendix D :Technical detail on the criteria for audit
Proposed quality statement	People receiving nutrition support have up to date documentation of nutrition status in their records
Draft quality measure	**Structure:** Evidence of local arrangements to ensure that people receiving nutrition support have a documented record of their nutritional status in their medical notes. **Process:** The proportion of patients receiving nutrition support who have a documented record of their nutritional status. Numerator – The number of people in the denominator who have a documented record of their nutritional status. Denominator – The number of people receiving nutrition support. **Outcome:**
Discussion points for TEG	• Could this statement be incorporated with the statement on the MDT?

9.1.2 Clinical and cost-effectiveness evidence

There are no specific recommendations made in the full clinical guideline or the respective NICE guideline concerning documentation. However, Appendix D of the guideline provides audit criteria that refer directly to the need for good documentation of nutritional status. Within the full guideline there are several references to the need for different aspects of nutritional support / assessment / management to be clearly documented in patients notes. Section 4.2 of the full guideline refers to the need for screening outcomes to be clearly documented in patient's notes. The need for good documentation of nutrition status in records is implied in several recommendations that refer to good communication and co-ordination of care between professionals e.g. section 1.14.2.9 and recommendations 11.2.1 and 11.4 in relation to supporting people receiving nutritional support at home and in the community.

9.1.3 Patient experience

None identified.

9.1.4 Patient safety

A comprehensive analysis of recent reported incidents (please see full accompanying report from the NPSA) identified some specific incidents where poor communication and documentation had resulted in patient safety incidents.

9.1.5 Current practice

A national malnutrition screening survey (BAPEN 2010) found that 9 out of 10 hospitals (92%) and almost all mental health units (95%) that responded said they had care plans for the management of malnourished patients. However, less than half the hospitals reported that they always or usually included nutritional information in discharge communications although 7 out of 10 mental health units always or usually did so. The majority of care homes also reported that they had care plans for the management of malnutrition (96%).

9.1.6 Current indicators

None identified.

10 Organisational Priorities – Education and training

10.1 NICE CG32 Recommendation 1.1.1 [KPI] and 1.1.2

10.1.1 Relevant NICE clinical guideline recommendations and proposed quality statement

Guideline recommendations	CG32 1.1.1 [KPI] All healthcare professionals who are directly involved in patient care should receive education and training, relevant to their post, on the importance of providing adequate nutrition. CG32 1.1.2 Education and training should cover: • nutritional needs and indications for nutrition support • options for nutrition support (oral, enteral and parenteral) • ethical and legal concepts • potential risks and benefits • when and where to seek expert advice.
Proposed quality statement	Health and social care professionals who are directly involved in patient care receive relevant education and training on the importance of providing adequate nutrition.
Draft quality measure	**Structure:** Evidence of local arrangements to ensure that health and social care professionals receive training appropriate to their role on the importance of providing adequate nutrition to patients. Evidence of local protocols to ensure that education and training is delivered in accordance with NICE Guidance. **Process:** The proportion of healthcare professionals who receive training on the importance of providing adequate nutrition in accordance with NICE Guidance. Numerator – The number of people in the denominator who receive training in accordance with NICE Guidance. Denominator – The number of health and social professionals who receive training on the importance of providing adequate nutrition. **Outcome:** Improved patient safety relating to nutrition support.
Discussion points for TEG	• This statement as written is not person centred which is a requirement for quality statements. • Is improved patient safety a measurable outcome for this statement?

10.1.2 Clinical and cost-effectiveness evidence

Recommendations 1.1.1 and 1.1.2 were both based on the consensus expert opinion of the GDG. The GDG identified these recommendations as part of a

wider discussion concerning the potential role and impact the existence of multidisciplinary nutrition support teams could have on nutritional support services within hospital settings.

10.1.3 Patient experience

No specific patient experience evidence was identified. However, issues concerning care professionals skills and training are cross cutting and would have wide ranging effects on all aspects of a patient's experience of receiving specific types of care.

10.1.4 Patient safety

None identified

10.1.5 Current practice

The NCEPOD enquiry[9] (2010) into patients receiving parenteral nutrition (PN) identified an issue concerning junior medical staff overlooking the fact that as PN is a fluid it provides a significant load to the circulation during administration. The oversight can lead to additional intravenous fluids being administered. In some circumstances this may be appropriate but in others this will be unnecessary and may lead to peripheral and pulmonary oedema as well as sodium overload. The enquiry advisors found that 75.3% (513/681) patients had been given additional IV fluids of which 18.9% (63/334) were of an inappropriate type (e.g. crystalloid/colloid) and 28.3% (93/329) were an inappropriate volume. The enquiry concluded that these problems were primarily due to a lack of knowledge and experience amongst junior medical staff who were making these decisions.

10.1.6 Current indicators

None identified

[9] NCEPOD (2010) Parenteral Nutrition: A Mixed Bag

11. Organisational Priorities – Multidisciplinary team

11.1 NICE CG32 Recommendation 1.1.4 [KPI], 1.1.5, 1.9.2, 1.9.5 and 1.1.9

11.1.1 Relevant NICE clinical guideline recommendations and proposed quality statement

Guideline recommendations	CG32 1.1.4 [KPI] Healthcare professionals should ensure that all people who need nutrition support receive coordinated care from a multidisciplinary team. CG32 1.1.5 All acute hospital trusts should have a multidisciplinary nutrition support team which may include: doctors (for example gastroenterologists, gastrointestinal surgeons, intensivists or others with a specific interest in nutrition support), dieticians, a specialist nutrition nurse, other nurses, pharmacists, biochemistry and microbiology laboratory support staff, and other allied healthcare professionals (for example, speech and language therapists). CG32 1.1.9 The specialist nutrition support nurse should work alongside nursing staff, as well as dieticians and other experts in nutrition support, to: • minimise complications related to enteral tube feeding and parenteral nutrition • ensure optimal ward-based training of nurses • ensure adherence to nutrition support protocols • support coordination of care between the hospital and the community. CG32 1.9.2 All people in the community having enteral tube feeding should be supported by a coordinated multidisciplinary team, which includes dieticians, district, care home or homecare company nurses, GPs, community pharmacists and other allied healthcare professionals (for example, speech and language therapists) as appropriate. Close liaison between the multidisciplinary team and patients and carers regarding diagnoses, prescription, arrangements and potential problems is essential. CG32 1.9.5 All people in the community having parenteral nutrition should be supported by a co-ordinated multidisciplinary team, which includes input from specialist nutrition nurses, dieticians, GPs, pharmacists and district and/or homecare company nurses. Close liaison between the multidisciplinary team and patients and carers regarding diagnoses, prescription, arrangements and potential problems is essential.
Proposed quality statement	People who need nutrition support have their treatment and care coordinated by a multidisciplinary team.
Draft quality measure	**Structure:** Evidence of local arrangements to ensure that systems are in place for a nutrition multidisciplinary team to discuss the treatment and care of all people receiving enteral

	and parenteral nutrition support. **Process:** Proportion of people receiving enteral and parenteral nutrition support who receive coordinated care from a multidisciplinary team. Numerator – The number of people in the denominator who receive coordinated care from a multidisciplinary team. Denominator – The number of people receiving enteral and parenteral nutrition. **Outcome:**
Discussion points for TEG	• Is there a specific aspect of the role of the MDT that the statement should focus on? • Is it realistic to specify all settings for this statement? • Is it acceptable to limit this to people receiving enteral/parenteral nutrition or do people receiving ONS need to be included?

11.1.2 Clinical and cost-effectiveness evidence

A systematic review of the literature concerning the clinical and cost effectiveness evidence in relation to the existence of MDT's did find a number of randomised and non-randomised studies that compared patients referred to an MDT or to routine care. The trials were deemed to be too heterogeneous to conduct any reliable and valid meta-analysis, with the samples involved in the individual studies being small. Therefore no firm conclusions could be made. The findings from the research in general did suggest that the existence of an MDT decreased complications, for example a UK study found that a reduced incidence of catheter-related sepsis was attributable to the presence of an MDT. This study estimated cost savings of between £400 and £1200 per patient receiving parenteral nutrition. Similar findings were found in a UK based retrospective cohort study. Recommendations 1.1.5, 1.1.9, 1.9.2 and 1.95 were primarily based on the consensus expert opinion of the GDG, who took into account the above evidence.

11.1.3 Patient experience

None identified

11.1.4 Patient safety

None identified

11.1.5 Current practice

None identified

11.1.6 Current indicators

None identified

12. Organisational Priorities – Nutrition steering committee

12.1 NICE CG32 Recommendation 1.1.6 and 1.1.7

12.1.1 Relevant NICE clinical guideline recommendations and proposed quality statement

Guideline recommendations	CG32 1.1.6 All hospital trusts should have a nutrition steering committee working within the clinical governance framework. CG32 1.1.7 Members of the nutrition steering committee should be drawn from trust management, and include senior representation from medical staff, catering, nursing, dietetics, pharmacy and other healthcare professionals as appropriate, for example, speech and language therapists.
Proposed quality statement	People who need nutrition support have their care and treatment overseen by a nutrition steering committee,
Draft quality measure	**Structure:** a) Evidence of local arrangements to ensure hospital trusts have a nutrition steering committee working within the clinical governance framework. b) Evidence of local protocols to ensure that membership of nutrition steering committees includes representation from all relevant groups. **Process:** N/A **Outcome:** N/A
Discussion points for TEG	• Does recommendation 1.1.7 still cover all relevant members of a nutrition steering committee or does it need to be updated? • The recommendations are specific to hospital trusts. Do we need to specify that setting in the statement.

12.1.2 Clinical and cost-effectiveness evidence

Recommendations 1.16 and 1.1.7 were based on the consensus expert opinion of the GDG. The recommendations were informed by the evidence discussed in section 11.1.2 of this briefing paper.

12.1.3 Patient experience

None identified

12.1.4 Patient safety

None identified

12.1.5 Current practice

None identified

12.1.6 Current indicators

None identified

Appendix A: Definition of patient safety

The National Patient Safety Agency (NPSA) defines patient safety in the following terms:

Every day more than a million people are treated safely and successfully in the NHS, but the evidence tells us that in complex healthcare systems things will and do go wrong, no matter how dedicated and professional the staff. When things go wrong, patients are at risk of harm, and the effects are widespread and often devastating for patients, their families and the staff involved. Safety incidents also incur costs through litigation and extra treatment, and in 2009/10 the NHSLA paid out approximately £827, 000,000 in litigation costs and damages. These incidents are often caused by poor system design rather than the error of individuals i.e. 'they are an accident waiting to happen'.

In short patient safety could be summarised as 'The identification and reduction of risk and harm associated with the care provided to patients 'or 'Preventing patients from being harmed by their treatment'. Examples of this might be 'operating on or removing the wrong organ, ten times the dose of an opioid, giving a colonoscopy to the wrong patient with the same name as someone else in the waiting room etc.' These risks are unlikely to be identified through clinical trials or traditional evidence bases and so other evidence sources, such as the National Reporting and Learning System, need to be analysed to highlight the risks and improve system development. This does not however give an accurate picture of prevalence in that way that methods such as case note review may do.