BAPEN

Advancing Clinical Nutrition

NUTRITION SCREENING SURVEY IN THE UK IN 2008

HOSPITALS, CARE HOMES AND MENTAL HEALTH UNITS

NUTRITION SCREENING WEEK SURVEY AND AUDIT
(MAIN DATA COLLECTION: 1-3 JULY, 2008)

A report by the British Association for Parenteral and Enteral Nutrition (BAPEN)

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Key Points

- In this the second Nutrition Screening Week survey (2008) 'malnutrition' was found to affect almost 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. Most of those affected were in the high risk category. 'Malnutrition' is common in all types of care homes and hospitals, all types of wards and diagnostic categories, and all ages. The overall results are similar to those obtained in the 2007 Nutrition Screening Week, with the exception of a higher prevalence of 'malnutrition' in care homes, found in the present survey.

- Nutritional screening policies and practice vary between and within health care settings, and so malnutrition continues to be under-recognised and under-treated.

- Much of the malnutrition present on admission to institutions originates in the community. Consistent and integrated strategies to detect, prevent and treat malnutrition should exist within and between all care settings.

- Data on cancer, which were not available in the 2007 survey, revealed an above average prevalence of malnutrition on admission to hospital (40%) and to care homes (55% of those admitted in the previous 6 months).

- Data on weighing scales, also unavailable in the 2007 survey, showed that scales were not regularly calibrated in all hospital wards, care homes and mental health units. They were therefore failing to meet national recommendations and ignoring a Department of Health alert(1).

- Whilst nutritional screening is linked to care plans in most institutions this is not routinely followed through into discharge planning. Continuity of nutritional care could therefore be hindered.

The results of this and the previous Nutrition Screening Week Survey (2007) should be regarded as interim results. It is planned to undertake two more surveys in 2010 and 2011, to amalgamate all the data obtained in the four seasons, and analyse them together to obtain a more complete picture of 'malnutrition' in the UK..

Summary

1. The Nutrition Screening Survey

1.1 This report provides a summary of the second nutrition screening survey undertaken in the UK. The survey was carried out from 1-3 July 2008 reflecting the prevalence of 'malnutrition' during the summer. Reporters from 130 hospitals, 75 care homes and 17 mental health units in the UK completed a general questionnaire and an anonymous patient questionnaire as part of a national audit on nutritional screening using criteria based on the 'Malnutrition Universal Screening Tool' ('MUST') in all care settings. Data were collected on patients during the first three days of admission to hospitals and acute mental health units, and on residents admitted to care homes and long stay/rehabilitation mental health units in the previous six months. The combination of medium and high risk categories is henceforth referred to as 'malnutrition' for simplicity.

The results of the 2008 survey have been compared with those of the 2007 nutrition screening survey which was undertaken in the autumn between 25-27th September 2007.

2. Hospitals

2.1 Of 5089 patients who were screened on admission to hospital, 28% were found to be at risk of malnutrition, high risk (22%), and medium risk (6%), the same proportions found to be at risk in the 2007 survey.

2.2 Overall the results for the hospital survey in 2008 including those on policies and practice were similar to those for 2007.

2.3 78% of patients included in the survey were admitted from their own homes, suggesting that the risk of malnutrition largely originated in the community. Strategies to prevent and treat malnutrition in the community setting should therefore be considered.

2.4 'Malnutrition' varied significantly according to source of admission (26% from home, 34% from another hospital, 32% from another ward, and 52% from a care home), type of admission (34% for emergency admission, 19% for elective admission), and type of ward (e.g. 42% in oncology wards and 19% in orthopaedic/trauma wards). However, unlike in the 2007 survey, it was not greater in hospitals that had a screening policy than in those that did not (29% v 30%), and there was no significant difference between larger hospitals with ≥1000 beds and those with <1000 beds.

2.5 'Malnutrition' was common in all age groups and diagnostic categories, but it was significantly more common in women (30% v 26%), who were older than men, in subjects aged over 65 years than under 65 years (32 v 23%), and in certain diagnostic categories compared with others (e.g. gastrointestinal disease (41%) and neurological disease (31%) versus cardiovascular disease (20%) and musculoskeletal conditions (20%)).

2.6 12 % of patients included in the survey were reported to have cancer. 'Malnutrition' was significantly higher in those patients with cancer than those without (40% v 26%).

2.7 A low body mass index (BMI <20 kg/m^2) contributed to a 'MUST' category (medium + high) in 44% of 'malnourished' patients

2.8 Most hospitals reported that they had a screening policy (82%), but weighing on all wards was carried out in just over half the hospitals in the survey, and only a little over a quarter of the patients (27%) involved in the survey were in hospitals where weighing was carried out on all wards. Furthermore, only 6 out of 10 hospitals stated that the scales on all wards had been calibrated within the last 12 months.

2.9 Nutrition information on those patients identified as 'malnourished' was not always included in discharge communications. About half the hospitals reported that they always or usually included this information, 39% said they sometimes included it and 8% either did not or did not know. This suggests that 'malnutrition' may be under-recognised and under-treated following discharge from hospital.

2.10 Compared to hospitals without a nutrition screening policy, those with a nutrition screening policy were more likely to undertake weighing on all wards (53% v 21%), use scales that had been calibrated on all wards (60% v 50%) and communicate nutrition information on discharge from hospital (always + usually = 52% v 36%).

3. Care homes

3.1 Of 614 residents recently admitted and screened 42% were 'malnourished' (30% high risk, 11% medium risk) which was much higher than in the 2007 survey when 30% residents were 'malnourished (20% high risk, 10% medium risk). This may be due to the difference in mix of care homes that took part in the 2 surveys with more exclusively nursing homes, fewer exclusively residential homes and more care homes with nursing facilities participating in 2008 than in 2007

3.2 The prevalence of 'malnutrition' was greater in residents admitted from hospitals (45%) and other care homes (45%) than in those admitted from their own homes (36%). The prevalence was also greater in nursing homes (46%) than residential homes (36%).

3.3 Most care homes (89%) reported that they had a screening policy and almost all (96%) reported that they had a policy to weigh residents on admission and 65% recorded the height of residents on admission. 99% of care homes said they regularly weighed residents during their stay. 84% of care homes used scales that had been calibrated within the last 12 months.

3.4 A low BMI (<20 kg/m^2) contributed to the 'MUST' category (medium + high) in about 8 out of 10 'malnourished' residents. Underweight was 4 to 5 fold more common than obesity. The subjects in care homes were older than those in hospitals and mental health units, more than half of them being 85 years and over. The prevalence of 'malnutrition' increased with age and was higher than that reported in 2007 (36% v 26% in those <70 years, 37% v 29% in those 70-84 years and 46% v 32% in those ≥85 years; p = 0.076 and p (trend) = 0.031) and duration of stay (up to 6 months; p <0.01).

3.5 Women were older and had a greater prevalence of 'malnutrition' than men (45% v 34%).

3.6 Over half the residents had neurological conditions, 17% residents were classified as frail elderly both with an associated 'malnutrition' prevalence of 43%. The highest prevalence (83%) was found in residents with gastrointestinal disease though these accounted for only 1% of residents (n = 6) in the survey. 6% residents were reported to have cancer. 'Malnutrition' was higher in those residents with cancer than those without (55% v 41%).

4. Mental health Units

4.1 Of 185 adults screened on admission, 20% were 'malnourished' (15% high risk, 5% medium risk), with no significant difference between acute units (19%) and Long-stay units (21%). The overall prevalence (20%) was very similar to that reported in the 2007 survey (19%).

4.2 About 8 out of 10 units that participated in the 2008 survey reported that they had a screening policy as opposed to less than half the units who took part in the 2007 survey and more than three quarters of patients were reported from units with a screening policy. Likewise more units in 2008 had access to a nutrition support team than those who took part in 2007 (65% and 41% respectively).

4.3 All units said their policy was to weigh patients on admission but only about a third of units used scales on all wards that had been calibrated in the last 12 months. 1 in 8 units said that the scales had not been calibrated during the past 12 months

4.4 A low BMI (<20kg/m^2) was present in 17% of patients (8% with a BMI < 18.5 kg/m^2). The mean age of subjects was higher than in the 2007 survey (66yr v 59 yr respectively) and those subjects aged 65 years and over (66%) had a greater prevalence of 'malnutrition' (27%) than those less than 65 years (6%).

4.5 Only about 1 in 5 units said they always included nutrition information on all patients identified as being 'malnourished' in discharge communications.

5. A comparison across care settings

5.1 The prevalence of 'malnutrition' on admission to hospitals in this second survey was the same as that found in 2007 (28%) but the prevalence on admission to care homes in 2008 was significantly higher than in 2007(42% v 30%). The prevalence of 'malnutrition' on admission to mental health units was lower than to other care settings and similar to that found in mental health units in 2007 (20% v 19%), although a much smaller number of subjects were reported from mental health units.

5.2 In all care settings most of the 'malnutrition' was high risk 'malnutrition'.

5.3 The prevalence of 'malnutrition' amongst patients admitted to hospitals or care homes varied significantly according to source of admission, being lower in those that came from their own homes than from institutions (other wards, hospitals and care homes). The differences in hospitals were significant.

5.4 In hospitals and care homes women outnumbered men (ratio 1.07:1 in hospitals and 2.3:1 in care homes). In mental health units men outnumbered women (1.0:0.9) in all care settings women were older and had a greater prevalence of 'malnutrition' than men.

5.5 BMI contributed to over 4 out of 10 subjects categorised as 'malnourished' (medium + high risk) in acute hospitals, 6 out of 10 in community hospitals and mental health units, and 8 out of 10 in care homes. Underweight (BMI <20kg/m^2) was most common in care homes, affecting 33% of residents. The mean BMI in care homes (23.0 kg/m^2) was significantly lower (p <0.001) than in hospitals (26.4 kg/m^2) and mental health units (25.6 kg/m^2). In care homes underweight was more common than obesity (BMI >30kg/m^2), in mental health units it was equally common whilst in hospitals obesity was more common than underweight.

5.6 The practice of regular calibration of scales varied in all care settings. It was more likely to occur in care homes than in hospitals and least likely to happen in mental health units.

5.7 9 out of 10 hospitals said they had care plans for the management of malnourished patients (yes 92%; no, 8%; no response, <1%). Half the hospitals reported that they always or usually included nutritional information in discharge communications but only just over a third of 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 (yes, 96%; no, 3%; and no response 1%). The presence of care plans was also reported in mental health units (yes, 82%; no, 6%; and no response,12%)

6. Recommendations

6.1 Patients or residents admitted to all institutional care settings should be screened, and repeat measurements made at intervals according to care setting, using accurate and reliable instruments (see 'MUST' report).

6.2 Scales on all wards and in all care settings should be calibrated annually.

6.3 Staff involved in nutritional screening should be trained and be competent to undertake screening and implement care plans.

6.4 The results of nutritional screening should be linked to care plans, which may vary according to local resources and policies.

6.5 Nutritional information should be included in communications regarding subjects identified as 'malnourished' on discharge from hospital and mental health units.

6.6 Access to nutrition advice and nutrition support teams should be available in all care settings.

6.7 The practice of nutritional screening should be audited regularly

6.8 Consistent strategies to detect, prevent, and treat malnutrition should be in place in all care settings, including the community, where most malnutrition originates.

Purpose of Survey

A series of recent national and international reports have emphasised the importance of nutritional screening to identify those that require treatment and those that do not. Amongst such reports are those from the Council of Europe (Hospitals only) [2], NHS Quality Improvement Scotland (Hospital only), [3] National institute of Health and Clinical Excellence (all care settings) [4], Department of Health (National Action Plan (all care settings) [5], as well as reports from an alliance of organisations (all care settings) [6] and individual organisations, such as BAPEN [7-9]. However, it is believed that malnutrition continues to be under-recognised and under-treated. Important steps in the fight against malnutrition include documenting the extent of this problem in different settings and diagnostic categories, obtaining insights into the barriers towards screening, and the relationship of these barriers to local policies, procedures and attitudes towards nutritional screening. Such data would complement information obtained during the European Nutrition Study Day held in January 2008, which did not collect information on admission to hospitals or other care settings. In addition, it is not known if there is a seasonal effect on the prevalence of malnutrition during the course of the year. It was therefore decided to undertake Nutritional Screening Week surveys at different times of the year to evaluate any seasonal variations in malnutrition risk. The 2007 nutrition survey was undertaken in the autumn in September 2007 and this survey was undertaken in the summer in July 2008. Two further surveys are planned during the next 2-3 years, one to be held in the winter and the other in the spring.

Malnutrition has detrimental effects on the individual, the National Health Service and society in general. Nutritional screening can identify those at risk and enable early intervention. When malnutrition is identified on admission to institutions it directs attention to the problems that led to its development before admission, such as disease, poverty, deprivation, geography, and attitudes towards nutrition, which can be influenced by previous education and training.

The specific aims of the audit / survey were to:

1. Establish and compare the prevalence of malnutrition in different care settings and different types of institutions within these settings using the same screening test.

2. Document current screening practice and identify some of the problems that need to be rectified.

3. Provide feedback to local centres so the results can be benchmarked against those obtained throughout the UK.

4. Provide recommendations to improve nutritional care.

In addressing these issues the results of the 2008 survey, which was carried out in summer, were compared with those of the 2007 survey [10], which was carried out in autumn. It is aimed to ultimately compare results obtained in all four seasons.

Methodology and Procedures

The survey was coordinated by BAPEN, and involved collaboration from the British Dietetic Association and the Royal College of Nursing. Participants were recruited via organisational networks, adverts in newsletters and websites. The participants were asked to complete two forms: a general form about their institution and another form to record data on individuals who were screened. The information was anonymous and had no specific patient identifiers. The appendix includes the sets of forms for hospitals, care homes and mental health units and the associated instructions. In hospitals and acute mental health units data for nutritional screening were obtained on adult patients admitted during 1-3 July 2008 within 72 hours of admission. In care homes and long stay/rehabilitation mental health units the data were restricted to adults who had been admitted in the previous 6 months. Individuals receiving enteral and parenteral nutrition were excluded. In all cases malnutrition risk was established using 'MUST'. For simplicity, medium + high risk in combination is referred to as 'malnutrition', except where otherwise stated. Diagnostic categories were system based (e.g. respiratory system, cardiovascular system). Patients with infection or cancer were included within the relevant diagnostic categories. However in this years' survey participants were specifically asked to indicate if the primary diagnosis / problem was one of cancer.

Following analysis of data obtained from the 2007 survey together with information provided from other studies, the range of primary clinical problems was extended to include mental health disorders and sensory impairments. Changes were also made to the general forms to include questions regarding calibration of weighing scales and care plans for all care settings and inclusion of nutrition information for patients identified as being malnourished in communications provided upon discharge from hospital.

Data were entered into spread sheets, checked at the time of entry and re-checked again later, when an error rate of <0.2% was identified and corrected. Only subjects aged 18 years and over were included in the final analysis, which was undertaken using the Statistical Package for the Social Sciences (SPSS version 14; Chicago, Illinois, USA). Analysis included Chi squared tests, unpaired t tests and binary logistic regression. In the case of Chi squared tests, the p value refers to the differences between all the groups present. A p value of <0.05 was considered to be significant.

Hospital Survey

GENERAL FEATURES

Total number of subjects (not all questions completed on all subjects)

6190 individual patients
5160 with 'MUST' ('Malnutrition Universal Screening Tool') scores
5089 with 'MUST' scores in patients 18 years and over

Hospitals

Number of hospitals
130

Policies, audit, and access to dietetic service and nutrition support team

	Nutrition steering committee (%)	Nutrition screening policy (%)	Nutrition screening audited (%)	Access to dietetic service (%)	Access to nutrition support team (%)
Yes	71	82	71	100	52
No	19	11	15	0	42
Don't know	10	7	14	0	6
Total	100	100	100	100	100
Number of hospitals	130	130	130	130	130

Nutritional screening and communication of nutrition information

Proportion of patients screened on admission known

Yes	70%
No	15%
Don't know	15%
No answer	1%
Total base (N = 130 hospitals)	Results are rounded off to the nearest 1%.

Proportion of patients screened on admission known
Of the hospitals that responded (N = 90; 69% of total) 7% of hospitals screened 0-25% of their patients, another 7% of hospitals screened 26-50% of patients, 31% of hospitals screened 51-75% of patients, and 56% of hospitals screened 76-100% patients.

Recording of weight and height and calibration of scales in last 12 months

	Recording of weight (%)	Weighing scales calibrated (%)	Recording of height (%)
Yes, on all wards	52	61	42
Yes, on some wards	40	23	32
No	2	4	16
Don't know	6	12	9
No answer	0	1	1
Total	100	100*	100
Number of hospitals	130	130	130

* Results do not add up to 100% due to rounding up of the component values to the nearest 1%.

Linking screening results to a care plan

Yes   91%
No   8%
No answer   1%
Total base (N = 130 hospitals)

Nutrition information included in discharge communication

Always   13%
Usually   38%
Sometimes   39%
Never   2%
Don't know   6%
No answer   2%
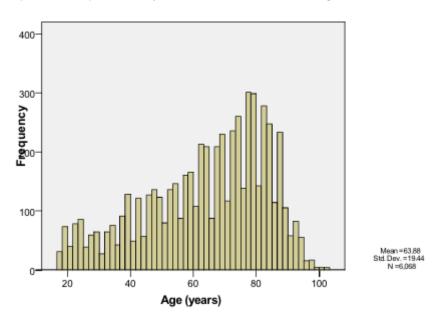Total base (N = 130 hospitals)

Compared to hospitals without a nutrition screening policy, those with a nutrition screening policy were more likely to undertake weighing on all wards (53% v 21%) use scales that were calibrated on all wards (60% v 50%) and communicate nutrition information (always + usually = 52% v 36%).
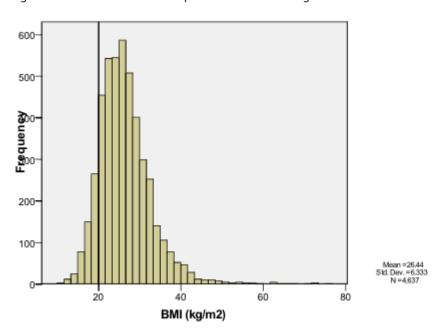
General subject characteristics

Gender: There were 3129 women and 2929 men (no gender reported on 10 subjects; total N = 6068) and a ratio of women to men of 1.07:1.00.

Age: The mean age was 63.9 (sd 19.4) years (median 68 years; inter-quartile range 50 - 79 years) (N = 6068). For men the median age was 66 years (mean age 63 (sd 19) years and for women 69 years (mean age 65 (sd 20) years.

52% of the patients were aged 65 years and over. The age distribution (range 18-103 years) is skewed to the left. In the figure of age distribution below, frequency refers to the number of patients in each age group, which is represented by the individual bars of the histogram.

Body mass index (BMI): The mean BMI was 26.4 (sd 6.3) kg/m² (median, 25.7kg/m²). 11% of patients had a BMI less than 20 kg/m² (6% less than 18.5 kg/m²), 34% a BMI between 20 and 24.9 kg/m² and 55% had a BMI > kg/m² (23% >BMI 30kg/m²) (Total N = 4637). In the figure of BMI distribution below, frequency refers to the number of patients in each BMI group, which is represented by the individual bars of the histogram. The reference line corresponds to a BMI of 20 kg/m².

Diagnostic categories: The diagnostic categories of adult patients in the survey were as follows: Gastrointestinal (GI) disease 16%;, Cardiovascular disease 14%; Respiratory disease 11%; Musculoskeletal (including orthopaedic)16%; Genito-urinary disease 7%; Neurological (CNS) disease 5%; other 26% and not known 3.9% (Total N = 6068).

12% of patients were reported to have cancer which was found in all diagnostic categories. Of those with cancer 39% were in patients where the diagnostic category was described as other; 22% in those with GI disease; 14% with Respiratory disease; 11% with GU disease; 5% with Musculoskeletal conditions and 4% Cardio-vascular disease

PREVALENCE OF 'MALNUTRITION'

'MALNUTRITION' (MEDIUM + HIGH RISK) ACCORDING TO RISK CATEGORY

Medium risk   6%
High risk   22%
Medium + high risk   28%   (Total base: N = 5089)

'MALNUTRITION' ACCORDING TO COUNTRY

England   28%
Wales   40%
Northern Ireland   15%
Scotland   29%
Overall   28%   (Total base: N = 5000)
P = 0.001

The patients were in England (81%), Wales (6%), Northern Ireland (4%), and Scotland (9%).

'MALNUTRITION' ACCORDING TO TYPE OF HOSPITAL AND OPERATIONAL HOSPITAL CHARACTERISTS
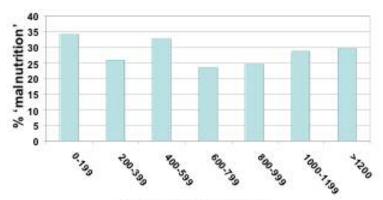
'Malnutrition' according to type of hospital

Acute hospital   28%
Community hospital   37%
Overall   28%   (Total base: N = 4997)

Patients in acute hospitals accounted for 94% of all the 'MUST' results, and those in community hospitals for 4% (the type of hospital for the remaining 2% of patients (additional to N = 4997) was not reported).

'Malnutrition' according to number of hospital beds

<1000 beds	28%
≥1000 beds	29%
Overall	28% (Total base: N = 4357)
P = 0.596	

Hospitals with less than 1000 beds accounted for 83% of patients who were screened.

'Malnutrition' according to type of admission

Emergency admission	34%
Elective admission	19%
Overall	28% (Total base: N = 5005)
P <0.001	

63% were emergency admissions and 37% elective.

'Malnutrition' according to source of admission

Admitted from:	'Malnutrition' risk
Home	26%
Other hospital	34%
Other ward	32%
Care home	52%
Overall	28% (Total base: N = 5066)
P < 0.001	

78% came from their own homes, 6% from another hospital, 13% from another ward, and 3% from care homes.

'Malnutrition' according to nutrition screening policy

Nutrition screening policy:	'Malnutrition' risk
Yes	29%
No	30%
Don't know	16%
No answer	23%
Overall	28% (Total base: N =5089)
P = 0.018	

84% of patients were admitted to hospitals with a nutritional screening policy, 11% to hospitals without a screening policy, 1% to hospitals where the reporters did not know if there was a screening policy and 4% to hospitals that provided no answer.

'Malnutrition' according to audit on nutritional screening

Nutrition screening audited:	'Malnutrition' risk	
Yes	28%	
No	24%	
Don't know	47%	
No answer	31%	
Overall	28%	(Total base: N =5089)

P = 0.043

85% of patients were admitted to hospitals that did not audit nutritional screening, 9% into hospitals that did, <1% into hospitals in which the reporters did not know whether auditing took place, and 5% to hospitals that provided no answer.
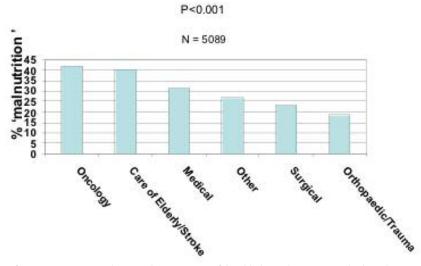
'Malnutrition' according to proportion screened

Percentage screened	'Malnutrition' risk	
0-25 %	22%:	
26-50%	32%	
51-75%	32%	
76-100%	32%	
No response	25%	
Overall	28%	(Total base: N = 5089)

P <0.001

5% of patients were admitted to hospitals in which 0-25% of patients were screened, 4% in which 26-50% were screened, 28% in which 51-75% were screened, 18% in which 76-100% were screened, and 45% to hospitals that provided no answer.

'MALNUTRITION' RISK ACCORDING TO TYPE OF WARD

6% of patients were in Oncology wards, 14% in Care of the Elderly/Stroke, 36% in Medical wards, 12% in other types of wards, 25% in Surgical wards, , and 8% in Orthopaedic/Trauma wards.

MALNUTRITION RISK ACCORDING TO SUBJECT CHARACTERISTICS

Malnutrition risk according to gender

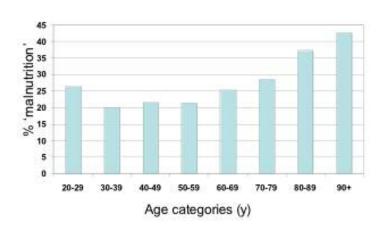|		
Women	30%	
Men	26%	
Overall	28%	(Total base: N = 5080)

P <0.001

Risk increased with age and women were significantly older than men, but women remained at greater risk even after adjustment for age (binary logistic regression).

Women accounted for 52% of all patients and men for 48%.

'Malnutrition' risk according to age

A substantial malnutrition risk was present at all ages.

N= 9208

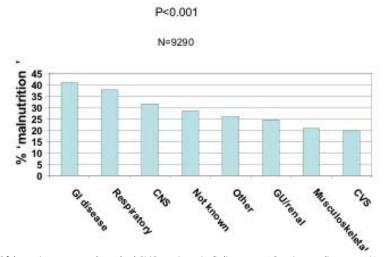The risk was 23% in patients <60 years, 27% in those aged 60-79years and 38% in those >80 years. It was 40% greater in patients aged 65years and over than those <65 years (32% v 23%; p = 0.001).

Contribution of a low BMI to 'MUST' score

Underweight (BMI <20kg/m^2) contributed to 44% patients categorised as 'malnourished' (medium + high risk).

'Malnutrition' according to diagnostic category

P<0.001

N=9290

Of the patients screened 24% had GI (Gastrointestinal) disease, 14% Respiratory disease, 5% Neurological (CNS) diseases, 3% diagnoses not known, 24% other diagnoses, 7% GU(genitourinary)/renal, disease, 12% Musculoskeletal disease and 10% Cardiovascular (CVS) disease.

'Malnutrition' according to presence of cancer

No	26%
Yes	40%
Don't know	39%
No answer	21%
Overall	28% (Total base: N = 5089)

P <0.001

82% of all patients were reported to have no cancer and 12% to have cancer. In the remainder there was either no answer (3%) or the response was 'don't know' (2%). In those patients with cancer, the prevalence of 'malnutrition' varied according to diagnostic category: 57% in GI disease; 44% in Respiratory disease; 32% Neurological disease; 28% in Cardio-vascular disease; 31% in both GU/Renal disease and Musculoskeletal conditions and 34% in other diagnoses.

13

Malnutrition according to presence of other conditions

No   23%
Yes   32%
Don't know   17%
Overall   28%   (total base: N = 5089)
P <0.001

29% of all patients had no other conditions and 70% did. There was no answer in the remaining 1%.

Comments

This was the second survey on nutritional screening to be undertaken in hospitals in the UK. Although the sample was not chosen randomly from UK hospitals, as in the 2007 survey the results clearly show that 'malnutrition' is common on admission to acute and community hospitals, all types of wards, and in all age groups and diagnostic categories. The mix of hospitals participating in the 2 surveys was different and the number of hospitals that took part in 2008 was less than the number that took part in 2007 (130 v). The total number of patients screened was also less (5089 v 9336). Nevertheless, the overall, malnutrition risk identified was the same in both surveys (28%), most of whom had high risk of malnutrition (22%) and only a minority medium risk (6%). Underweight (BMI <20kg/m^2) was present in 44% of patients who were categorised as 'malnourished' (medium + high risk).

Little difference was found in policy and practice reported and general characteristics of the patients screened in the 2007 and 2008 survey. However, in 2008 there was no significant difference in the prevalence of 'malnutrition' on admission to larger hospitals with ≥1000 beds compared to smaller hospitals with <1000 beds.

In this survey, as in the 2007 survey older people accounted for a disproportionately large fraction of the adult patients admitted to hospital (about half of those admitted were 65 years and over) compared to their contribution (16%) to the general population. Both surveys also showed the proportion of older adults (≥65 years) with 'malnutrition' was greater than the proportion in younger adults (ratio of 1.4:1.0 in this survey and 1.25:1.0 in the 2007 survey

The admission prevalence of 'malnutrition' is not the same as the ward prevalence of 'malnutrition'. The latter is expected to be greater than the admission prevalence, since 'malnourished' patients stay in hospital longer than non-malnourished patients. With an admission prevalence of 28% and a 30% longer length of hospital stay in malnourished patient, the ward prevalence of malnutrition can be calculated to be 33.6% (assuming that there is no mortality and that no 'malnutrition' develops during hospital stay) (11).

The new questions included in the 2008 survey revealed some interesting findings. 12% of patients screened were reported to have cancer and had a significantly greater risk of 'malnutrition' than those patients without cancer (40% v 26%).

Only 6 out of 10 hospitals reported that the scales used for weighing patients on all wards had been calibrated in the past 12 months though a further 2 out of 10 stated that this had been done on some wards. Whilst 9 out of 10 hospitals linked the results of screening to a care plan this did not appear to always follow through into discharge planning and communication with only half the hospitals always or usually including nutritional information on at risk patients in the discharge letters. Those hospitals with a screening policy were more likely to undertake weighing and use scales that had been calibrated on all wards and include nutritional information in discharge communications.

'Malnutrition' on admission to hospital and during hospital stay is not a trivial problem that can be ignored, but a major problem that needs multidisciplinary attention. Since nutritional risk was assessed on admission to hospital, its presence indicates that it had largely developed in the community. Strategies to prevent and treat malnutrition before admission to institutions should be considered in more detail.

The proportion of underweight patients admitted to hospitals (BMI <20 kg/m^2 (11%) (6% below BMI 18.5 kg/m^2)) is several-fold greater than the proportion in the community. The high prevalence of obesity on admission to hospital (23%) reflects the growing obesity problem in the community as a whole. Implementation of behavioural and life-style strategies requires a community focus, although hospitals should be included in such strategies. Similar joined up thinking is required for 'malnutrition'.

Care Home Survey

GENERAL FEATURES

Total number of residents (not all questions completed on all subjects)

777 individual residents
614 with 'MUST' scores (all ≥18 years)

Care Homes

Number of Care Homes

75

Nutrition service, policies on nutritional screening, audit, weight, measurement of height and calibration of scales

	Nutrition/Dietetic service available (%)	Nutrition screening policy (%)	Nutrition screening audited (%)
Yes	96	89	60
No	0	5	17
Don't know or no answer	4	5	23
Total	100	100*	100
Number of care homes	75	75	75

* Results do not add up to 100% due to rounding up of the component values to the nearest 1%.

	Policy for weighing on admission (%)	Policy for recording height (%)	Regular weighing during stay (%)	Calibration of weighing scales (%)
Yes	96	65	96	84
No	4	25	3	11
Don't know or no answer	0	9	1	5
Total	100	100*	100	100
Number of care homes	75	75	75	75

* Results do not add up to 100% due to rounding up of the component values to the nearest 1%.

Linking screening results to a care plan

Yes	96%	
No	3%	
No answer	1%	(Total base: N = 75 care homes)

Percent of residents screened: 1% of care homes screened 25-50% of residents, another 5% screened 51-75% of residents, 83% screened 75-100% residents, 11% did not respond to this questions (Total base N = 75 care homes).

General subject characteristics

Gender: There were 542 women and 235 men (total N = 777)
Ratio of women to men, 2.3:1.0

Age: The mean age was 84.2 (sd 8.4) years (median 85.0 years; inter-quartile range 80-90 years) (N = 770). Women (N = 535) were older than men (N = 235) (mean 85.5 (sd 8.1) v 81.4 (sd 8.3) years; median 87 v 83 years; P < 0.001).
97% of the residents were 65 years and over. In the figure of age distribution below, frequency refers to the number of residents in each age group, which is represented by the individual bars of the histogram.

Body mass index (BMI): The mean BMI was 22.7 (sd 5.7) kg/m^2.

33% of residents had a BMI less than 20 kg/m^2 (22% less than 18.5 kg/m^2), 42% a BMI between 20 and 24.9 kg/m^2 and 25% had a BMI > 25 kg/m^2 (9% >BMI 30kg/m^2) (Total N = 584). In the figure of BMI distribution below, frequency refers to the number of residents in each BMI group, which is represented by the individual bars of the histogram. The reference line corresponds to a BMI of 20 kg/m^2.

Diagnostic categories: The diagnostic categories of residents in the survey were as follows: CNS (stroke, dementia, Parkinson's disease, Alzheimer's disease multiple sclerosis) 51%; Frail elderly (various reasons) 18%; Musculoskeletal (including orthopaedic) 6%; Cardiovascular disease 7%; Respiratory disease 3%; Genito/Renal disease 3%; Gastrointestinal disease 1%; Mental health disorders 4%; Sensory impairment 1% and other 5%. (N = 773).

CNS disease in purely residential, nursing and only EMI (Elderly Mentally Ill) homes occurred in 32%, 83% and 92% of the residents respectively.

PREVALENCE OF 'MALNUTRITION'

'MALNUTRITION' ACCORDING TO RISK CATEGORY

Medium risk   11%
High risk   30%
Medium + high risk   42%
Total base (N = 614)   Results are rounded off to the nearest 1%.

'MALNUTRITION' ACCORDING TO COUNTRY

England   42%
Wales   33%
Northern Ireland   23%
Scotland   43%
Overall   42%   (Total base: N = 614)
Not significant (P = 0.443)

The residents were in England (86%), Wales (4%), Northern Ireland (2%), and Scotland (8%). (11 missing entries for country)

'MALNUTRITION' ACCORDING TO TYPE OF CARE HOME AND CARE HOME CHARACTERISTICS

'Malnutrition' according to type of care home

Nursing homes only	46%	
Elderly mentally ill homes only	59%	
Residential homes only	36%	
Other homes	43%	
Overall	42%	(Total base: N =581)

P = 0.268

30% of residents were in homes that were exclusively nursing homes, 3% exclusively EMI units and 18% in homes that were exclusively residential homes. Most of the remainder were in homes that were a combination of two or more different types of care homes (Nursing homes, Residential homes, Elderly Mentally Ill homes, homes for the Disabled and Rehabilitation units). In 77% of all care homes participating in the survey there were places for individuals requiring nursing care, in 57% there were places for those requiring residential accommodation and in 41% there were places for EMI patients.

'Malnutrition' according to number of care home beds

No significant trends were observed.

'Malnutrition' according to source of admission

Admitted from:	'Malnutrition' risk	
Home	36%	
Hospital	45%	
Other care home	45%	
Overall	42%	(Total base: N = 585)

P = 0.207

30% of all residents were admitted from their own homes, 49% from a hospital and 20% from another care home.

'Malnutrition' according to duration in care home

Duration in care home	'Malnutrition' risk	
0-1 month	35%	
2-3 months	34%	
4-6 months	47%	(Total base: N = 614)

Significant trend over time (P (trend = 0.004)

13% of residents were admitted in the previous 0-2 months, 30% in the previous 2-4 months, and 56% in the previous 5-6 months

'Malnutrition' according to screening policy

Nutrition screening policy	'Malnutrition' risk	
Yes	41%	
No	75%	
No answer + don't know	44%	
Overall	42%	(Total base: N = 614)

P = 0.068

90% were resident in care homes with a screening policy; 2% in care homes that did not have a policy and the remaining 8% came from care homes where the respondents did not know whether there was a screening policy in place or provided no answer to the question.

'Malnutrition' according to percent of residents screened

Percent residents screened	'Malnutrition' risk	
26-50%	0%	
51-75%	45%	
76-100%	42%	
No answer	39%	
Overall	42%	(Total base: N= 614)

P = 0.815

88% of residents came from homes that screened 76-100% of residents, 3.3% from homes that screened 51-75% of residents and 0.2% (N=1) from a home that screened 26-50% of residents. The remaining 8% came from homes that did not answer this question.

'MALNUTRITION' ACCORDING TO SUBJECT CHARACTERISTICS

'Malnutrition' according to gender

Women	45%
Men	34%
Overall	42% (Total base: N = 614)

$P = 0.013$

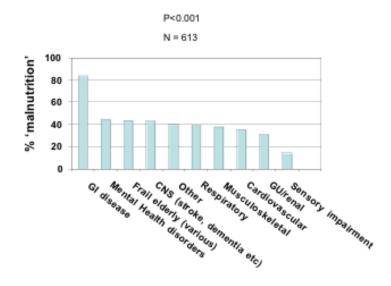70% of the residents were women and 30% men.

'Malnutrition' according to age

<70 years	36%
70-84 years	37%
≥85 years	46%
Overall	42% (Total base: N = 611)

P(linear trend) $= 0.031$

7% of residents were less than 70 years, 36% 70-84 years, and 56% 85 years and over.

'Malnutrition' according to primary problem

1% had GI (gastrointestinal) conditions, 4% had Mental Health disorders, 17% had Frailty (Frail elderly), 54% had Neurological (CNS) conditions (including stroke, dementia, Parkinson's disease, Alzheimer's disease), 3% had other conditions, 3% had Respiratory conditions, 6% had Musculo-skeletal conditions (including orthopaedic), 8% had Cardiovascular disease, 2% GU (Genito-urinary) /Renal conditions, and <0.5% had Sensory impairment (N = 613).

'Malnutrition' according to presence of other conditions

Presence of other conditions	'Malnutrition' risk
No	38%
Yes	43%
Don't know	50%
Overall	42% (total base: N = 614)

$P = 0.469$

26% of all residents had no other conditions and 73% of all residents had multiple medical conditions. There was uncertainty (don't know) in < 0.5%.

'Malnutrition' according to presence of cancer

With cancer	55%
Without cancer	41%
No answer or don't know	21%
Overall	42% (Total base: N = 614)

P = 0.073

6% of residents had cancer, 92% did not, and for the remaining 2% there was either no response or the answer was 'don't know'.

Comment

The results of this survey have many similarities to the 2007 survey, including the higher prevalence of 'malnutrition' in nursing homes compared to residential homes, the tendency for 'malnutrition' to increase with age and to occur more frequently in women than men (who were younger than women), and for the majority of individuals at risk of 'malnutrition' (medium + high risk) to be in the high risk category. The most notable difference between the two surveys is that the overall prevalence of 'malnutrition' in this survey was found to be higher than in the 2007 survey (42% v 30%). The reasons for this are not entirely clear. One possibility concerns random variation of results, but the difference seems to be too large to explain when the sample sizes of the two surveys is considered (1610 subjects from 173 care homes in 2007 and 614 subjects from 75 care homes in this (2008) survey). Another possibility is recruitment bias. One aspect of this concerns the case mix of care homes since the types of care homes with a higher prevalence of malnutrition were more commonly represented in the present survey compared to the previous survey. Thus, in this survey compared with the 2007 survey there were more exclusively nursing homes (30% v 25%), and more care homes providing nursing facilities (77% v 59%) and EMI facilities (41% v 27%). In contrast, there were fewer exclusively residential homes (18% v 28%), and fewer providing residential facilities (57% v 62%).

A limitation to the study is the lack of information on the type of care received by individuals resident in care homes that provide a combination of nursing and residential care or a combination of other types of specialised care including that provided in care homes that include EMI facilities. Nevertheless, it is unlikely that the case mix of nursing and residential homes is the dominant explanation for the difference between the prevalence of 'malnutrition' in the two surveys, because the prevalence of 'malnutrition' in nursing homes alone and the prevalence in residential homes alone were higher in the present survey than the earlier survey. Further information emerging from the two future surveys, which are planned to occur in winter and spring, will be gathered so that the situation can be reviewed. In attempting to come to a more informed overall conclusion about the prevalence of 'malnutrition' in residents of care homes in the UK it is necessary to take into account the case mix of residents. For example, in England in 2007 there are one and half times as many places in residential homes as in care homes (12). Information from other studies also needs to be considered. Two studies have examined the prevalence of 'malnutrition' using 'MUST' in all residents of care homes. One of these undertaken in Hampshire (Parsons E Cawood, A, Elia, M, Stratton, RJ, unpublished) found the prevalence of 'malnutrition' to be close to the 2008 survey, with no significant effect of time since admission to the care home. The other study(13) carried out in the Peterborough region was more in keeping with the 2007. Based on the currently available information the overall prevalence of 'malnutrition' on admission to care homes (within the past 6 months) is likely to be between 30 and 40%.

Almost all care homes reported that their policy was to weigh residents on admission, that they regularly weighed residents throughout their stay and most used scales that were regularly calibrated.

Almost half of the residents in care homes were thin with a BMI of less than 20 kg/m^2. The overall mean BMI in care homes was 22.7 kg/m^2, significantly lower than that in hospitals (mean BMI 26.4 kg/m^2). A low BMI was present in 80% of residents categorised as 'malnourished' (medium + high risk). Underweight was 3- to 4-fold more common than obesity, which contrasts with the situation in hospitals where obesity was found to be 2-fold more common than underweight.

The median age was significantly greater in care home residents than in patients admitted to hospital (85 v 65 years). The prevalence of 'malnutrition' in exclusively nursing homes (46%) was greater than in exclusively residential homes (%), though lower than that in exclusively EMI homes (59%) perhaps reflecting the presence of more severe disease and debility in nursing and EMI homes.

Over half the residents had neurological conditions and 17% residents were classified as frail elderly both with an associated 'malnutrition' prevalence of 43%. The highest prevalence (83%) was found in residents with gastrointestinal disease though these accounted for only 1% of residents in the survey. 6% residents were reported to have cancer. 'Malnutrition' was higher in those residents with cancer than those without (55% v 41%).

There was a significant tendency for 'malnutrition' to increase with duration of stay in the care home (cross sectional data up to 6 months) but no significant increase in 'malnutrition' with increase in number of beds in care homes.

Mental Health Unit Survey

GENERAL FEATURES

Total number of subjects (not all questions completed on all subjects)

208 individual patients reported

185 with 'MUST' ('Malnutrition Universal Screening Tool') scores

185 with 'MUST' scores in patients 18 years and over

Mental Health Units

Number of Mental Health Units

17 Mental Health Units (11 Acute, 6 Long-term Rehabilitation units, 0 combined units), of which 13 were in England, 3 in Scotland and 1 in Wales.

Nutrition service, policies on nutritional screening, audit, weight, measurement of height and calibration of scales

	Nutrition Steering committee (%)	Nutrition screening policy (%)	Nutrition screening audited (%)	Access to dietetic service (%)	Access to nutrition support team (%)
Yes	41	82	47	10	65
No	36	6	29	0	29
Don't know	23	12	24	0	6
Total	100	100*	100	0	100
Number of Mental Health Units	22	17	17	17	17

* Results do not add up to 100% due to rounding up of the component values to the nearest 1%.

	Policy for weighing on admission (%)	Policy for recording height (%)	Regular weighing during stay (%)	Calibration of weighing scales (%)
Yes	100	88	82	59†
No	0	6	6	12
Don't know or no answer	0	6	12	29
Total	100	100*	100	100
Number of Mental Health Units	17	17	17	17

* Results do not add up to 100% due to rounding up of the component values to the nearest 1%. † 35% on all wards and 24% on some wards

Linking screening results to a care plan

Yes	82%	
No	6%	
No answer	12%	Total base (N = 17 Mental Health Units)

Nutrition information included in discharge communication

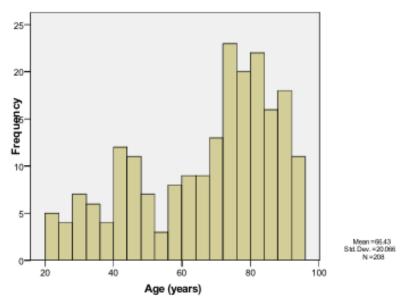| Always	18%	
Usually	18%	
Sometimes	53%	
Don't know	12%	Total base (N = 17 Mental Health Units)

Percent of patients screened: Out of 17 units, 2 units screened 51-75% of patients, 6 screened 76-100% of patients, and 9 units did not respond.

General subject characteristics

Gender: There were 98 women and 110 men (Total N = 208)
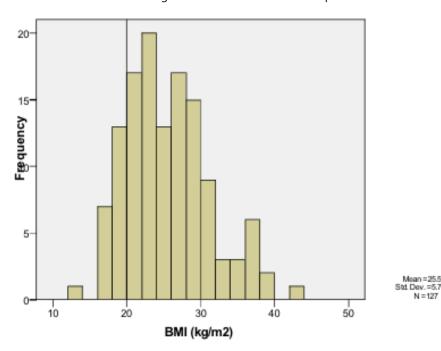Ratio of men to women 0.9 : 1.0

Age: The mean age was 66.4 (sd 20.1) years (median 73 years; inter quartile range 50-71 years). In the figure of age distribution below, frequency refers to the number of subjects in each age group, which is represented by the individual bars of the histogram.

Women were older than men (mean 72.3 (sd 17.5) years v 61.2 (sd 20.8) years; p <0.001; median 76.5 v 66.5 years). The age differed according to the type of Mental Health Unit (mean (sd)): Acute Care Units, 52.1 (18.7) years (31% of all patients); and Long-term Rehabilitation Units, 72.7 (17.3) years (69% of all patients).

Body mass index (BMI): The mean BMI was 25.6 (sd 5.7) kg/m^2.
17% of patients had a BMI less than 20kg/m^2 (8% less than 18.5 kg/m^2), 32% a BMI between 20 and 24.9 kg/m^2 and 52% had a BMI ≥25 kg/m^2 (19%, BMI ≥30kg/m^2) (total base: N = 127). In the figure of BMI distribution below, frequency refers to the number of patients in each BMI group, which is represented by the individual bars of the histogram. The reference line corresponds to a BMI of 20 kg/m^2.

PREVALENCE OF 'MALNUTRITION'

'MALNUTRITION' ACORDING TO RISK CATEGORY

Medium risk	5%	
High risk	15%	
Medium + high risk	20%	(Total base: N = 185)

'MALNUTRITION' ACORDING TO COUNTRY

England	20%	
Scotland	35%	(but only 17 patients from Scotland)
Wales	0%	(but only 15 patients from Wales)
Overall	19%	(Total base: N = 185 patients)

P = 0.044

The patients were in England (83%), Scotland (9%) and Wales (8%).

MALNUTRITION ACCORDING TO TYPE OF MENTAL HEALTH UNIT AND OPERATIONAL CHARACTERISTS

'Malnutrition' according to type of Mental Health Unit

Type of Mental Health Unit	'Malnutrition' risk	
Acute care	21%	
Long-term care	20%	
Overall	20%	(Total base: N = 185)

P = 0.230

31% of all the 'MUST' results were obtained from patients receiving acute care and 69% long-term care.

'Malnutrition' according to number of beds in Mental Health Units

<100beds	22%	
≥100 beds	25%	
Overall	22%	(total base: N = 165)

P = 0.050

95% of patients were in Mental Health Units with <100 beds and only 5% in units with 100 or more beds.

'Malnutrition' according to source of admission

Admitted from:	'Malnutrition' risk	
Home	18%	
Other hospital	17%	
Other ward	29%	
Care home	23%	
Overall	20%	(total base: N = 180)

P = 0.571

43% of patients were admitted from home, 27% from hospital, 13% from other wards, and 17% from care homes.

'Malnutrition' according to Nutrition Screening Policy

Nutrition screening policy:	'Malnutrition' risk	
Yes	24%	
No	29%	
Don't know	3%	
Overall	20%	(Total base: N = 185)

P = 0.022

4% of all patients were in units that had no nutrition policy, 78% in units with a policy, and 18% % in units where the respondents did not answer or did not know if there was a nutrition policy in place.

'Malnutrition' according to access to Nutrition and Dietetic Service

Access to dietetic service	'Malnutrition' risk	
Yes	22%	
No response	5%	
Overall	20%	(Total base: N =185)

P = 0.076

89% of all patients came from hospitals that had access to dietetic service. There was no response to the question about access to the dietetic service in the remaining 11%.

'Malnutrition' according to access to Nutrition Support Team

Access to Nutrition Support Team:	'Malnutrition' risk	
Yes	21%	
No	31%	
No response	3%	
Overall	20%	(Total base: N = 185)

P = 0.017

65% of all patients were in units that had access to a Nutrition Support Team, 19% were in units that did not, and the remaining 16% were in units in which no answer was provided to the question about access to Nutrition Support Team.

'MALNUTRITION' ACCORDING TO SUBJECT CHARACTERISTICS

'Malnutrition' according to gender

Women	24%	
Men	16%	
Overall	20%	(Total base: N = 185)

P = 0.185

47% of all patients were women and 53% men.

'Malnutrition' according to presence of other conditions

Other conditions:	'Malnutrition' risk	
No	23%	
Yes	16%	
Overall	20%	(Total base: N = 185)

P = 0.226

62% of all patients had no other conditions and 38% did.

'Malnutrition' according presence of cancer

Only 7 patients were reported to have cancer, of which 2 had 'malnutrition' (29%). Of the remaining 178 subjects, 164 were reported not to have cancer and 14 had no clarification provided about the presence or absence of cancer (Total base: N = 185).

Comments

Although the information obtained in the survey on Mental Health Units using 'MUST' is useful, as in the 2007 survey it is limited by sample size (total N = 185 ,336 in 2007). Very little data were obtained from Wales and Scotland, and none were reported from Northern Ireland, therefore the data presented largely reflect results from England.

The prevalence of 'malnutrition' was found to be 20%, which is similar to that found in 2007 and lower than that found in hospitals and care homes. There were twice as many patients admitted to long-term Mental Health Units than acute care units but there was no significant difference in prevalence of 'malnutrition between the 2 types of units or source of admission. Most of the 'malnutrition' was high risk, a pattern also observed in hospitals and care homes.

'Malnutrition' was significantly greater in older (≥65 years) than younger patients (< 65 years) (27% v 6% malnutrition) and greater in women than in men (24% v 16% malnutrition), who were younger than women.

A low BMI (<20 kg/m^2) contributed to the categorisation of 60% patients, who were classified as 'malnourished' (medium + high risk). This contribution is intermediate between that found in hospitals and care homes.

A number of units were not meeting national recommendations for calibration of weighing scales. About a third of the Mental Health Units in the survey stated that scales used for weighing patients on all wards had been calibrated in the last 12 months.

Continuity of nutritional care was also not optimal. Whilst the majority of Units linked the results of nutritional screening to care plans this was not routinely followed through into discharge planning. Only just over a third of the units always or usually included nutritional information regarding 'malnourished' patients in discharge letters.

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[10] Russell CA, Elia M. Nutrition screening survey in the UK in 2007. A report by BAPEN., 2008.

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[12] Commission for Social Care Inspection. The state of social care in England 2006-07. 2008:1-206.

[13] Cawood AL, Smith A, Dalrymple-Smith J, et al. Prevalence of malnutrition and use of nutritional support in Peterborough Primary Care Trust (Abs). J Hum Nutr Dietet 2008;21:384.

Acknowledgements

Appendices

BAPEN Nutrition Screening Week 2008 Audit Forms & Guidance Notes for Hospitals, Care Homes and Mental Health Units

Appendix 1 - Hospitals

Sheet 1(a) for Hospitals	*Information about your Hospital*
Hospital Name ……………………………………..	**Code Number** ……………

Please complete by putting an **X** in the appropriate boxes. Please use **black ink.**

1a. What type of hospital?

☐ Acute ☐ Community

2. How many beds? Please state number …………………………

3. Do you have access to a Nutrition and Dietetic service? ☐ Yes ☐ No ☐ ?

4. Do you have access to a Nutrition Support team? ☐ Yes ☐ No ☐ ?

5. Does your hospital / Trust have a Nutrition Steering Committee? ☐ Yes ☐ No ☐ ?

6. Does your hospital / Trust have a Nutrition Screening policy? ☐ Yes ☐ No ☐ ?

7a. Do you know what % patients are screened on admission? ☐ Yes ☐ No ☐ ?

7b. If you have answered 'Yes' to 7a please indicate % of patients screened on admission:

☐ Up to 25% ☐ 26-50% ☐ 51-75% ☐ 76-100%

8. Are patients routinely weighed on admission?

☐ Yes on all wards ☐ On some wards ☐ No ☐ ?

9. Have the scales in your hospital been calibrated in the last 12 months?

☐ Yes on all wards ☐ On some wards ☐ No ☐ ?

10. Is the height of patients routinely recorded?

☐ Yes on all wards ☐ On some wards ☐ No ☐ ?

11. Do you have a care plan for the management of patients identified as at risk of malnutrition / underweight?

☐ Yes ☐ No ☐ ?

12. Is nutrition information routinely included in discharge communications for those identified at risk of malnutrition / underweight?

☐ Always ☐ Usually ☐ Sometimes ☐ Never ☐ ?

13a. Is the practice of nutrition screening audited? ☐ Yes ☐ No ☐ ?

13b. If yes, how often? ☐ Every year ☐ Every 2 years ☐ Every 3 or more years ☐ ?

Thank you

Nutrition Screening Week NSW08

Hospital Sheet 2 (a) (Patient / client data)

To be collected within 72 hrs of admission

Code Number: _____

Ward/location name: _____

Date: _____

Patient Number	Age	Sex	Type of ward *	Where admitted from **	Diagnostic category ***	Other current medical conditions	Is the diagnosis one of cancer?	Oedema present?	Weight (Kg) Actual	Weight (Kg) Recalled	N/A ****	Height (m) if not available calculate from Ulna length Actual	Height (m) Recalled	Height (m) Calculated	Unintentional weight loss (past 3-6mths) Kg	Food intake over past 5 days Normal	Less than normal	V Little or None	Likely food intake over next 5 days Normal	Less than normal	V Little or None	Type of admission Elective	Emergency
	Yrs	M/F	1-5, 8	1-4	1-7	Y/N	Y/N/DK	Y/N															

* **Type of Ward**
1. Medical, 2. Surgical, 3. Orthopaedic/trauma, 4. Care of the Elderly/Stroke, 5. Oncology, 8. Other (Please specify)

** **Where admitted from**
1. Home, 2. Other hospital, 3. Other ward, 4. Care Home.

*** **Diagnostic Category**
1. CNS, 2. GI Disease, 3. Respiratory Disease, 4. Cardio-vascular Disease, 5. Genito/ Renal Disease,
6. Musculoskeletal (including orthopaedic) conditions, 7. Other, 8. Not known

**** **Weight: when not available**
1. Underweight, 2. Normal weight, 3. Overweight

THE BRITISH DIETETIC ASSOCIATION

Royal College of Nursing

NPSA
National Patient Safety Agency

BAPEN
Advancing Clinical Nutrition
www.bapen.org.uk
Registered Charity 1023927

Guidance Notes: Hospitals

Thank you for participating in Nutrition Screening Week 2008. The aim of the survey is to establish the prevalence of the risk of malnutrition in patients and clients admitted to hospitals and care homes in the UK. The results will be presented at the BAPEN Conference in Harrogate in November 2008. Additionally we will analyse and send you the results of your data to enable you to report the scale of the problem in your locality and to compare your data with the national picture. Participating in the Nutrition Screening Week will help demonstrate how you are striving to achieve nutritional standards and your commitment to meeting the nutritional needs of your patients or clients.

The survey is based on 2 questionnaires, a general questionnaire about your hospital and practice of nutritional screening (Sheet 1(a)) and a patient /client data collection sheet (Sheet 2 (a)). Please read the following guidance notes carefully before completing the forms.

Sheet 1(a): Please answer on behalf of your hospital within your Trust. Please provide the information for the hospital as a whole, not a particular area / unit within it. If you wish to include more than 1 hospital within your Trust, please use a separate set of documentation for each hospital.

You will be issued with a code number for each hospital, please write it in the space on the form. If you were allocated a code/s last year please use this code again this year.

If you don't know the answer to any question, please put an x in the box with a question mark beside it.

Sheet 2(a) Patient / Client data: Please collect the required information on all adult patients admitted to medical, surgical, orthopaedic/ trauma, care of the elderly, stroke and oncology wards in your hospital between 00.01 hrs on 1st July and 23.59 hrs on 3rd July 2008. The data should be collected **within 72 hours of the patient's admission to the ward**. If you would like to collect data on patients admitted to other wards, you may do so, but please specify the type of ward in the space at the top of the sheet. Patients admitted via medical/surgical admissions units should also be included if their hospital stay is longer than 24hours.

If patients were screened on admission and the information required is already available and documented in the patients' notes, then this can be directly entered onto the data collection sheets. If not, please obtain and record the information within 72 hours of the patient's admission.

Patients admitted to these wards during the screening period who are under 18 years of age or already established on nutritional support (enteral tube feeding, PEG feeding or parenteral nutrition) *are excluded from the study and therefore should not have data recorded*. Please add any such patients to the form, but simply insert across the row next to their number what method of feeding they are on, e.g. '002 = [excluded – PEG feeding]'

Code number: Please write the same code number inserted on Sheet 1(a) onto each copy of Sheet 2(a) that you use.

Ward/location: Please write the name or number of the ward in the space at the top of Sheet 2(a) using separate sheets for each ward included in the survey.

Patient Number: Please number patients admitted to each ward 001, 002, 003 etc.

Age: Please include patients who are 18years and over give the age of the patient in years. There is no need to include number of months as well.

Type of ward: Please insert appropriate number (see key at the bottom of Sheet 2(a).

Where admitted from: Again, please insert appropriate number from key.

Diagnostic category: Please insert appropriate number. Use a "working diagnosis" if diagnosis is unconfirmed. If the primary diagnosis is an infection or cancer, please use the category number relating to the location of the infection/cancer, for example cancer of the colon should be recorded under diagnostic category 2 (GI disease); pneumonia or chest infection under category 3 (respiratory disease), a urinary tract infection (UTI) under category 5 (genito/renal disease).

Other medical conditions: Please indicate whether the patient has other relevant medical conditions or problems. A yes or no answer only is sufficient – no specific category information is required here.

Oedema Present?: Please indicate whether the patient was or was not oedematous on admission. A yes or no answer only is sufficient.

Weight: Please state weight in kg in appropriate column indicating if weight was an actual measurement or a weight recalled by the patient or carer. If weight of patient is not available, please assess weight status subjectively, i.e. does the patient look underweight, normal weight or overweight.

Height: Please state height in metres in appropriate column indicating if height was an actual measurement, a height recalled by the patient or carer or a value calculated from length of the ulna (see information on measurement of ulna and conversion table). If height (or surrogate measure) cannot be safely obtained e.g. confused, terminally ill, non-compliant patients, please enter N/A.

Recent unintentional weight loss: Please give amount of any weight lost unintentionally in the last 3-6mths. Please do not include any weight lost following use of diuretics. Please give value in kg (1kg =2.2lbs). If recent weights are not available in the patient's notes please ask the patient / carer if they are aware of the amount of any recent weight loss. If patient /carer does not know how much weight has been lost, insert DK (Don't know).

Food intake, past and future: Please tick the relevant boxes. Please use your professional judgement as to the likely food intake over the next 5 days. There is no need to record food intake.

Type of admission to hospital: Please tick if admission was elective or an emergency .

Appendix II – Care Homes

Sheet 1(b) for Care Homes	*Information about your Care Home*
Care Home Name …………………………….	**Code Number** ……………

Please complete by putting an **X** in the appropriate boxes. Please use **black ink.**

1.   What type of Care Home? (please tick all that apply)

☐ Nursing   ☐ Elderly Mentally Ill   ☐ Disabled   ☐ Residential

2.   How many beds? Please state number …………………………

3.   Do you have access to a Nutrition and Dietetic service?   ☐ Yes ☐ No ☐ ?

4.   Is it your policy to weigh residents on admission?   ☐ Yes ☐ No ☐ ?

5a.   Are residents weighed regularly during their stay?   ☐ Yes ☐ No ☐ ?

5b.   If you have answered 'Yes' to 5a, please indicate how often:

☐ Monthly   ☐ As required   ☐ Other, please state ……………………

6.   Have the scales in your home been calibrated in the last 12 months?   ☐ Yes ☐ No ☐ ?

7.   Is the height of residents recorded on admission?   ☐ Yes ☐ No ☐ ?

8.   Do you have a Nutrition Screening Policy?   ☐ Yes ☐ No ☐ ?

9a.   Do you know what % of residents are screened on admission?   ☐ Yes ☐ No ☐ ?

9b.   If you have answered 'Yes' to 8a, please indicate that %:

☐ Up to 25%   ☐ 26-50%   ☐ 51-75%   ☐ 76-100%

10.   Do you have a care plan for the management of residents identified
as at risk of malnutrition / underweight?   ☐ Yes ☐ No ☐ ?

11a.   Is the practice of nutrition screening audited?   ☐ Yes ☐ No ☐ ?

11b.   If yes, how often?

☐ Every year   ☐ Every 2 years   ☐ Every 3 or more years   ☐ ?

Thank you

Care Home Sheet 2(b) Client data

Nutrition Screening Week NSW08

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To be collected for residents admitted during past 6 months

Code Number: _____

Date: _____

Name of Care Home/Unit: _____

Client/Resident Number	Age	Sex	Where admitted from	When admitted	Primary clinical problem	Other current medical conditions	Is the primary clinical problem/diagnosis cancer?	Oedema present on admission?	Weight on admission (kg) Insert NA if not available	Current Weight (kg) Insert NA if not available	Oedema present now?	Height (m). If not available calculate from Ulna length			Unintentional weight loss (past 3-6mths)	Food intake over past 5 days				Likely food intake over next 5 days		
	Yrs	M/F	1-3	1-3	1-10	Y/N	Y/N/DK	Y/N/DK	Kg	Kg	Y/N	Actual	Recalled	Calculated	Kg	Normal	Less than normal	v little or none	Normal	Less than normal	v little or none

Where Admitted From

1. Home, 2. Hospital, 3. Other Care Home

When Admitted

1. Up to 1 mth ago, 2. 2-3mths ago, 3. 4-6 mths ago

Primary Clinical Problem

1. CNS(e.g stroke, dementia, Parkinson's Disease, Alzheimers, MS), 2. GI Disease, 3. Respiratory Disease, 4. Cardio-vascular Disease,
5. Genito/ Renal Disease, 6.Musculoskeletal (including orthopaedic) conditions e.g. post #NOF, 7. Frail Elderly (various reasons),
8. Mental health disorders (e.g. anxiety, depression, psychosis), 9. Sensory impairment (e.g. of sight, hearing, balance), 10. other

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Guidance Notes: Care Homes

Thank you for participating in Nutrition Screening Week 2008. The aim of the survey is to establish the prevalence of the risk of malnutrition in patients and clients admitted to hospitals and care homes in the UK. The results will be presented at the BAPEN Conference in Harrogate in November 2008. Additionally we will analyse and send you the results of your data to enable you to report the scale of the problem in your locality and to compare your data with the national picture. Participating in the Nutrition Screening Week will help demonstrate how you are striving to achieve nutritional standards and your commitment to meeting the nutritional needs of your residents or clients.

The survey is based on 2 questionnaires, a general questionnaire about your Care Home and practice of nutritional screening (Sheet 1(b)) and a client data collection sheet (Sheet 2 (b)). Please read the following guidance notes carefully before completing the forms.

Sheet 1(b): You will be issued with a code number for the Home, please write it in the space on the form. If you don't know the answer to any question, please put an X in the box with a question mark beside it.

Sheet 2(b) Resident / Client data: Please collect the information requested for all residents / clients who were admitted to your Care Home in the past 6 months. Residents who were already established on nutritional support (enteral tube feeding, PEG feeding or parenteral nutrition) *when admitted are excluded from the study and therefore should not have data recorded.* Please add any such residents to the form, but simply insert across the row next to their number what method of feeding they are on, e.g. '002 = [excluded – PEG feeding]'

Code number: Please write the same code number inserted on Sheet 1(b) onto each copy of Sheet 2(b) that you use.

Name of Care Home: Please write the name of your Care Home and /or unit in the space at the top of each Sheet 2(b) that you use.

Resident Number: Please number residents simply as 1, 2, 3 in the order in which their data is recorded.

Age: Please give age of the resident in years. There is no need to include number of months as well.

Primary Clinical Problem: Please insert appropriate number, only one number is required. If the primary diagnosis is an infection or cancer, please use the category number relating to the location of the infection/cancer, for example cancer of the colon should be recorded under diagnostic category 2 (GI disease); pneumonia or chest infection under category 3 (respiratory disease), a UTI under category 5 (genito/renal disease)

Other Medical Conditions: Please indicate whether the resident has other relevant medical conditions or problems. A yes or no answer only is sufficient – no specific category information is required here.

Cancer?: Please indicate if the primary diagnosis or any other ongoing medical condition is one of cancer. A yes, no or don't know answer is sufficient.

Oedema Present?: Please indicate whether the patient was oedematous on admission. A yes or no answer is sufficient. If you do not know insert DK (Don't Know). Please also indicate if resident is oedematous now. A yes or no answer is sufficient.

Weight: Please state weight (in Kg) of resident on admission using documented value in resident's notes. If weight on admission was not recorded, write NA (Not Available). Please state current weight (in kg) of resident in appropriate column. Write NA (Not Available) in box if for any reason it is not possible to weigh the resident.

Height: Please state height in metres in appropriate column indicating if height is an actual measurement, a height recalled by the resident or carer or a value calculated from length of the ulna (see information on measurement of ulna and conversion table). Write NA (Not Available) in box if for any reason it is not possible to obtain a height for the resident.

Recent unintentional weight loss: Please give amount of any weight lost *unintentionally* in the last 3-6mths. Do not include any weight lost due to use of diuretics. Please give value in kg (1kg =2.2lbs). If recent weights are not available in the resident's notes please ask the resident / carer if they know how much weight the resident has recently lost. If resident /carer does not know how much weight has been lost, insert DK (Don't know).

Food intake, past and future: Please tick the relevant boxes. Please use your professional judgement as to the likely food intake over the next 5 days. There is no need to record food intake.

Appendix III – Mental Health Units

Sheet 1(c) for Mental Health Units	*Information about your Mental Health Unit*
Unit Name ………………………………..	**Code Number** ……………

Please complete by putting an **X** in the appropriate boxes. Please use **black ink.**

1a. What type of unit?

☐ Acute Mental Health   ☐ Long stay/rehab unit

2. How many beds? Please state number …………………………

3. Do you have access to a Nutrition and Dietetic service?   ☐ Yes ☐ No ☐ ?

4. Do you have access to a Nutrition Support team?   ☐ Yes ☐ No ☐ ?

5. Does your unit / Trust have a Nutrition Steering Committee?   ☐ Yes ☐ No ☐ ?

6. Does your unit / Trust have a Nutrition Screening policy?   ☐ Yes ☐ No ☐ ?

7a. Do you know what % patients are screened on admission?   ☐ Yes ☐ No ☐ ?

7b. If you have answered 'Yes' to 7a please indicate % of patients screened on admission:

☐ Up to 25%   ☐ 26-50%   ☐ 51-75%   ☐ 76-100%

8. Is it your policy to weigh patients on admission?   ☐ Yes ☐ No ☐ ?

9a. Are patients weighed regularly during their stay?   ☐ Yes ☐ No ☐ ?

9b. If you have answered 'Yes' to 9a, please indicate how often:

☐ Monthly   ☐ As required   ☐ Other, please state …………………….

10. Have the scales in your hospital/unit been calibrated in the last 12 months?

☐ Yes on all wards ☐ On some wards ☐ No   ☐ ?

11. Is the height of patients recorded on admission?   ☐ Yes ☐ No ☐ ?

12. Do you have a care plan for the management of patients
identified as at risk of malnutrition / underweight?   ☐ Yes ☐ No ☐ ?

13. Is nutrition information routinely included in discharge communications for
those identified at risk of malnutrition / underweight?
☐ Always   ☐ Usually   ☐ Sometimes   ☐ Never   ☐ ?

14a. Is the practice of nutrition screening audited?   ☐ Yes ☐ No ☐ ?

14a. If yes, how often? ☐ Every year   ☐ Every 2 years   ☐ Every 3 or more years   ☐ ?

Thank you

Mental Health Unit (Acute - 2c$_1$) (Patient / client data)

Nutrition Screening Week NSW08

To be collected within 72 hrs of admission

Code Number: _____ Ward/location name: _____ Date: _____

Patient Number	Age	Sex	Type of ward *	Where admitted from **	Diagnostic category	Other current medical conditions	Do the medical conditions include cancer?	Oedema present?	Weight (Kg)		Height (m) If not available calculate from Ulna length				Unintentional weight loss (past 3-6mths)	Food intake over past 5 days			Likely food intake over next 5 days			Type of admission	
	Yrs	M/F	6-8	1-4 **	8	Y/N	Y/N/DK	Y/N	Actual	Recalled	N/A ***	Actual	Recalled	Calculated	Kg	Normal	Less than normal	V Little or None	Normal	Less than normal	V Little or None	Elective	Emergency
					8																		
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* Type of Ward
6. Mental Health (acute) 7. Psychiatric ITU 8. Other (please specify)

** Where admitted from
1. Home. 2. Other hospital, 3. Other ward, 4. Care Home.

Diagnostic Category
8. Mental health disorders (e.g. anxiety, depression, psychosis)

*** Weight: when not available
1. Underweight, 2. Normal weight, 3. Overweight

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Mental Health Unit (Longer stay/rehab - 2c$_2$) Client data

To be collected for clients admitted during past 6 months

Nutrition Screening Week NSW08

Code Number: _____   Date: _____   Name of Unit: _____

Client/Resident Number	Age	Sex	Where admitted from	When admitted	Ward Type	Other current clinical conditions?	Do the medical conditions include cancer?	Oedema present on admission?	Weight on admission (kg) Insert NA if not available	Current Weight (kg) Insert NA if not available	Oedema present now?	Height (m). If not available calculate from Ulna length			Unintentional Weight loss (past 3-6mths)	Food intake over past 5 days			Likely food intake over next 5 days		
	Yrs	M/F	1-4	1-3	8-12	Y/N	Y/N/DK	Y/N/DK	Kg	Kg	Y/N	Actual	Recalled	Calculated	Kg	Normal	Less than normal	v little or none	Normal	Less than normal	v little or none

Where Admitted From
1. Home, 2. Hospital, 3. Care Home, 4. Other Unit

When Admitted
1. Up to 1 mth ago, 2. 2-3mths ago, 3. 4-6 mths ago.

Ward Type
8. Other (please specify), 9. Rehabilitation Ward, 10. Elderly Mental Health, 11. Learning Disabilites Unit, 12.Personality Disorders Unit.

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Guidance Notes: Mental Health Units

Thank you for participating in Nutrition Screening Week 2008. The aim of the survey is to establish the prevalence of the risk of malnutrition in patients and clients admitted to hospitals and care homes in the UK. The results will be presented at the BAPEN Conference in Harrogate in November 2008. Additionally we will analyse and send you the results of your data to enable you to report the scale of the problem in your locality and to compare your data with the national picture. Participating in the Nutrition Screening Week will help demonstrate how you are striving to achieve nutritional standards and your commitment to meeting the nutritional needs of your patients or clients.

The survey is based on 2 questionnaires, a general questionnaire about your Unit and practice of nutritional screening (Sheet 1(c)) and client data collection sheets (Sheets 2(c1) and/or 2(c2)). Please read the following guidance notes carefully before completing the forms.

Sheet 1(c): You will be issued with a code number for the Unit, please write it in the space on the form. If you don't know the answer to any question, please put an X in the box with a question mark beside it.

Sheet 2(c1) Patient / Client data: This form is specifically for all adult patients on acute MH wards (including psychiatric intensive care). Please collect the required information on all patients admitted to the acute mental health wards in your hospital between 00.01 hrs on 1st July and 23.59 hrs on 3rd July. The data should be collected within 72 hours of the patient's admission.

Sheet 2(c2) Client/Resident data: This form should be used for longer stay/rehabilitation Mental Health wards/units. Please collect the information requested for all residents / clients currently on the unit who were admitted within the past 6 months.

Clients who were already established on nutritional support (enteral tube feeding, PEG feeding or parenteral nutrition) *when admitted are excluded from the study and therefore should not have data recorded*. Please add any such clients to the form, but simply insert across the row next to their number what method of feeding they are on, e.g. '002 = [excluded – PEG feeding]'

Code number: Please write the same code number inserted on Sheet 1(c) onto each copy of Sheet 2(c) that you use.

Name of Unit: Please write the name of the Unit in the space at the top of each Sheet 2(c) that you use.

Client Number: Please number clients simply as 1, 2, 3 in the order in which their data is recorded.

Age: Please give age of the client in years. There is no need to include number of months as well.

Type of Ward/Unit: Please insert appropriate number, only one number is required.

Other Clinical Conditions: Please indicate whether the client has other relevant medical conditions or problems. A yes or no answer only is sufficient – no specific information is required here.

Cancer?: Please indicate if the primary diagnosis or any other ongoing medical condition is one of cancer. A yes, no or don't know answer is sufficient.

Oedema Present?: Please indicate whether the patient was oedematous on admission. A yes or no answer is sufficient. If you do not know insert DK (Don't Know). Please also indicate if resident is oedematous now (for longterm/rehab only). A yes or no answer is sufficient.

Weight: Please state weight (in Kg) of client on admission using documented value in client's notes, or for acute units if weight of patient is not available, please assess weight status subjectively, i.e. does the patient look underweight, normal weight or overweight.

For longterm/rehab units, if weight on admission was not recorded, write NA (Not Available). Please state current weight (in kg) of client in appropriate column. Write NA (Not Available) in box if for any reason it is not possible to weigh the client,

Height: Please state height in metres in appropriate column indicating if height is an actual measurement, a height recalled by the client or carer or a value calculated from length of the ulna (see information on measurement of ulna and conversion table). Write NA (Not Available) in box if for any reason it is not possible to obtain a height for the client.

Recent unintentional weight loss: Please give amount of any weight lost unintentionally in the last 3-6mths. Do not include any weight lost due to use of diuretics. Please give value in kg (1kg =2.2lbs). If recent weights are not available in the client's notes please ask (if appropriate) the client / carer if they know how much weight the client has recently lost. If client /carer does not know how much weight has been lost, insert DK (Don't know).

Food intake, past and future: Please tick the relevant boxes. Please use your professional judgement as to the likely food intake over the next 5 days. There is no need to record food intake.

Type of admission to unit: For acute units, please tick if admission was elective or an emergency.

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