Interdisciplinary Call to Address Hospital Malnutrition

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OBJECTIVES

• Define malnutrition
• Describe how malnutrition can impact recovery during a hospital admission.
• Identify 2 characteristics to support a malnutrition diagnosis
• Identify ICD10 Codes for coding malnutrition
What is Malnutrition

• A state of nutrition in which a deficiency, excess, or imbalance of energy, protein, and other nutrients cause measurable adverse effects on body function and clinical outcomes.

• Inadequate intake of protein and/or energy over prolonged periods of time resulting in loss of fat and/or muscle stores including starvation-related malnutrition, chronic disease or condition related malnutrition, and acute disease or injury related malnutrition

British Association for Parenteral and Enteral Nutrition (BAPEN) 2000
Malnutrition- Why the FUSS?

We screen for cancer and if a patient is at risk for Cancer we take action!

We screen for nutritional risk and when a patient is at risk, how serious are you taking it?

Nutritional Risk must be taken Seriously!
Why the Concern?

• Malnutrition is common in hospitals but often overlooked
• Malnutrition can adversely affect clinical outcomes
• Malnutrition can affect hospital reimbursement and increase costs
The Data

- 50% of patients admitted are malnourished upon admission
- Pt’s who receive high quality nutritional care average a 2.2 day shorter stay
- Oral Nutrition Supplements have a positive impact a patient’s recovery.

Hospital Malnutrition: Prevalence, Identification and Impact on Patients and the Healthcare system. Barker, Gout, Crowe
Critical Role of Nutrition in Improving Quality of Care an Interdisciplinary Call to Action to Address Adult Hospital Malnutrition. Trappenden, Quatrara, Parkhurts, Malone, Fanjiang, Ziegler.
Starving in the hospital. Thomas DR. Nutrition.
Collaboration is the KEY

**Nursing** performs the initial nutrition screen and reassesses regularly

**CNA** aware of intake, meal tolerance, and WEIGHTS

**Dietitians** complete the nutritional assessment with interventions

**Pharmacists** evaluation drug/nutrient interactions

**Rehab** identify weakness and strength needs

**Physicians** over sees the overall care plan and documentation to support reimbursement for services and patient care.
## Keys for Advancing Patient Nutrition (EHR)

| Principle 1: Create Institutional Culture | • Know the facts – nutrition improves patient outcomes  
• Support adequate and appropriate nutrition intervention  
• Identify motivated champions among hospital stakeholders |
|------------------------------------------|---------------------------------------------------------------|
| Principle 2: Redefine Clinicians’ Roles to Include Nutrition | • Empower dietitians  
• Secure nurse and physician leadership  
• Engineer teamwork (eg, daily team huddles) to include nutrition |
| Principle 3: Recognize and Diagnose ALL Patients at Risk | • Assure accountability for malnutrition identification  
• Use valid screening tool and criteria to assess/diagnose malnutrition  
• Include fields for malnutrition characteristics in EHR |
| Principle 4: Rapidly Implement Interventions and Continued Monitoring | • Establish policy to feed patients within 24h of ‘at-risk’ screen  
• Create EHR prompt for diet order when ‘at-risk’ screening data entered  
• Monitor patient’s food and oral nutrition supplement consumption |
| Principle 5: Communicate Nutrition Care Plans | • Leverage EHR to standardize nutrition documentation  
• When present, ensure coding of mild, moderate, or severe malnutrition as complicating condition to primary diagnosis  
• Ensure care discussions include nutrition |
| Principle 6: Develop Discharge Nutrition Care and Education Plan | • Ensure nutrition care plan incorporated into the discharge plan  
• Educate patient and their families  
• Communicate with the patient’s health care providers |
Clinical Complications of Malnutrition

• It is not just for the Underweight. Elevated BMI patients may also be malnourished.
• If left untreated 2/3 of malnourished pt.'s will further decline in their nutritional status.
• 38% of well nourished pt.'s will experience nutritional decline during their stay.
• Both malnourished and those who become malnourished during their stay have higher healthcare costs during their hospital stay.

http://malnutrition.com/progressreport
Clinical complication continued

• Malnourished surgical patients are 2-3 times more likely to develop a surgical site infection or postoperative pneumonia
• Malnourished patients are twice as likely to develop a pressure ulcer
• 45% of patients who fall in the hospital are malnourished
• Malnourished pt.'s spent an average of 12.6 days in the hospital compared to 4.4 days for others pt.'s
• Malnourished have increased mortality

http://malnutrition.com/progressreport
What happens when we Treat Malnutrition?

- 25% reduction in the incidence of pressure ulcers
- 14% fewer overall complications
- 2 day reduction in length of stay
- 28% drop in avoidable readmissions
- Decreased mortality
- Improved quality of life

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3084475/
http://malnutrition.com/getinspired/factsheet
Nutritional Screens

The purpose of nutritional screening is to predict the probability of the outcome due to nutritional factors, and whether nutritional treatment is likely to influence this.

1. Improvement or Prevention of deterioration in mental/physical function
2. Reduced number or severity of complications of disease or treatment
3. Accelerated recovery from disease and shortened recovery
4. Reduced consumption of resources, e.g. length of stay, prescriptions

Nutritional Screens

These screens are reliable and validated:
Malnutrition Screening Tool (MST)
Mini Nutritional Assessment (MNA-SF)
Malnutrition Universal Screening Tool (MUST)
Nutrition Risk Screening (NRS-2002)

Malnutrition Screening Tool (MST)

<table>
<thead>
<tr>
<th>Question</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have you/the patient lost weight recently without trying?</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>0</td>
</tr>
<tr>
<td>Unsure</td>
<td>2</td>
</tr>
<tr>
<td>Yes, how much (kg)?</td>
<td></td>
</tr>
<tr>
<td>1 – 5</td>
<td>1</td>
</tr>
<tr>
<td>6 – 10</td>
<td>2</td>
</tr>
<tr>
<td>11 – 15</td>
<td>3</td>
</tr>
<tr>
<td>&gt; 15</td>
<td>4</td>
</tr>
<tr>
<td>Unsure</td>
<td>2</td>
</tr>
<tr>
<td>Have you/the patient been eating poorly because of a decreased appetite?</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>0</td>
</tr>
<tr>
<td>Yes</td>
<td>1</td>
</tr>
<tr>
<td>Do you feel you look frail or under your most comfortable weight?</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>0</td>
</tr>
<tr>
<td>Yes</td>
<td>1</td>
</tr>
</tbody>
</table>

**Scores:**
- MST of 0 or 1 = no risk for malnutrition
- MST of 2 or more = at risk for malnutrition
MST (Continued)

- MST is validated and reliable
- Only 3 questions which can be included within a current screen in the EHR
- Identifies the risk of malnutrition so referrals are sent to other care providers so adjustments to care can be made
- Allows physicians to receive more information for documentation and possible evidence of malnutrition
- MST had a Specificity and Sensitivity of 93%
Nutrition Screen Comparison Guide

A study conducted in 2011 reveals that the criterion validity of the two comprehensive malnutrition screening tools (MUST and NRS-2002) and the two quick-and-easy malnutrition screening tools (MST and SNAQ) seems to be adequate for malnutrition risk screening of adult hospital inpatients. However, MUST was found to be less applicable due to the high rate of missing values in the questionnaire. Due to its poor specificity, the MNA-SF should not be applied to older hospital inpatients. Our advice is to introduce screening all hospital inpatients on malnutrition with either MST, MUST, NRS-2002 or SNAQ instead of discussing which tool is best to use and at the same time doing nothing.


A Comparison Chart is also available at the link below.

## Characteristics to Support a Diagnosis of Malnutrition

<table>
<thead>
<tr>
<th></th>
<th><strong>Acute Illness or Injury</strong></th>
<th><strong>Chronic Illness</strong></th>
<th><strong>Social or Environmental</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Energy Intake</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Severe Malnutrition</td>
<td>&lt;75% of EEE &gt;7 days</td>
<td>&lt;75% of EEE &gt;1 month</td>
<td>&lt;75% of EEE &gt;3 months</td>
</tr>
<tr>
<td>Severe Malnutrition</td>
<td>≤50% of EEE &gt;5 days</td>
<td>≤75% of EEE &gt;1 month</td>
<td>≤50% of EEE &gt;1 month</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Weight Loss</strong></td>
<td>1-2% 1 week 5% 1 month 7.5% 3 months</td>
<td>5% 1 month 7.5% 3 months</td>
<td>&gt;5% 1 month 7.5% 3 months</td>
</tr>
<tr>
<td></td>
<td>&gt;2% 1 week &gt;5% 1 month &gt;7.5% 3 months</td>
<td>7.5% 3 months &gt;10% 6 months</td>
<td>&gt;10% 6 months &gt;20% 1 year</td>
</tr>
<tr>
<td></td>
<td>5% 1 month 7.5% 3 months 10% 6 months 20% 1 year</td>
<td>&gt;5% 1 month 7.5% 3 months</td>
<td>&gt;10% 6 months &gt;20% 1 year</td>
</tr>
<tr>
<td></td>
<td>&gt;5% 1 month &gt;7.5% 3 months &gt;10% 6 months &gt;20% 1 year</td>
<td>&gt;5% 1 month &gt;7.5% 3 months</td>
<td>&gt;10% 6 months &gt;20% 1 year</td>
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<tr>
<td></td>
<td>&gt;5% 1 month &gt;7.5% 3 months &gt;10% 6 months &gt;20% 1 year</td>
<td>&gt;5% 1 month &gt;7.5% 3 months</td>
<td>&gt;10% 6 months &gt;20% 1 year</td>
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<tr>
<td></td>
<td>&gt;5% 1 month &gt;7.5% 3 months &gt;10% 6 months &gt;20% 1 year</td>
<td>&gt;5% 1 month &gt;7.5% 3 months</td>
<td>&gt;10% 6 months &gt;20% 1 year</td>
</tr>
<tr>
<td><strong>Body Fat</strong></td>
<td>Mild</td>
<td>Mild</td>
<td>Mild</td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td>Severe</td>
<td>Severe</td>
</tr>
<tr>
<td><strong>Muscle Mass</strong></td>
<td>Mild</td>
<td>Mild</td>
<td>Mild</td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td>Severe</td>
<td>Severe</td>
</tr>
<tr>
<td><strong>Fluid</strong></td>
<td>Mild</td>
<td>Mild</td>
<td>Mild</td>
</tr>
<tr>
<td></td>
<td>Moderate to Severe</td>
<td>Moderate to Severe</td>
<td>Moderate to Severe</td>
</tr>
<tr>
<td><strong>Grip Strength</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Measurably Reduced</td>
<td>Measurable Reduced</td>
<td>Measurable Reduced</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Academy of Nutrition and Dietetics / American Society of Parenteral and Enteral Nutritional Clinical Characteristics to support diagnosis of malnutrition. Supported by the CMS and RAC.**
What do the Characteristics look like?
What do the Characteristics look like?
More Characteristics
Nutritional Deficiencies
Why is documentation Important?

• Documentation by all disciplines can help identify areas of risk for malnutrition so referrals can be made and interventions started.
• Shows evidence of malnutrition that can support a diagnosis code.
• Diagnosis coding for malnutrition can increase payment with DRG’s, and for CAH it can show severity of illness which makes it less likely for a stay to be denied.
<table>
<thead>
<tr>
<th>ICD-10 Code</th>
<th>ICD-10 Title</th>
<th>Criteria / Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>E40</td>
<td>Kwashiorkor (should rarely be used in the US)</td>
<td>Nutritional edema with dyspigmentation of skin and hair</td>
</tr>
<tr>
<td>E42</td>
<td>Marasmic Kwashiorkor (should rarely be used in US)</td>
<td></td>
</tr>
<tr>
<td>E41</td>
<td>Nutritional Marasmus (should rarely be used in US)</td>
<td>Nutritional atrophy; severe malnutrition otherwise stated severe energy deficiency</td>
</tr>
<tr>
<td>E43</td>
<td>Unspecific Severe Protein-Calorie Malnutrition</td>
<td>Nutritional edema without mention of dyspigmentation of skin and hair</td>
</tr>
<tr>
<td>E44</td>
<td>Moderate Protein-Calorie Malnutrition</td>
<td>No definition given</td>
</tr>
<tr>
<td>E44.1</td>
<td>Mild Protein-Calorie Malnutrition</td>
<td>No definition given</td>
</tr>
<tr>
<td>E45</td>
<td>Retarded development following Protein-Calorie Malnutrition</td>
<td></td>
</tr>
<tr>
<td>E46</td>
<td>Unspecified Protein-Calorie Malnutrition</td>
<td>See Below</td>
</tr>
<tr>
<td>E46</td>
<td>Unspecified Protein-Calorie Malnutrition</td>
<td>A disorder caused by lack of proper nutrition or an inability to absorb nutrients from food. An imbalance nutritional status resulted from insufficient intake of nutrients to meet normal physiological requirement. Inadequate nutrition resulting from poor diet, malabsorption or abnormal nutrient distribution. The lack of sufficient energy or protein to meet the body’s metabolic demands, as a result or either an inadequate dietary intake or protein, intake of poor quality dietary protein, increased demands due to disease, or increased nutrient losses.</td>
</tr>
<tr>
<td>E64</td>
<td>Sequelae of protein-calorie malnutrition</td>
<td></td>
</tr>
</tbody>
</table>
ICD 10 Codes: E43

E43 is a billable/specific ICD-10-CM code that can be used to indicate a diagnosis for reimbursement purposes. This is the American ICD-10-CM version of E43.

Applicable To: Starvation edema

Approximate Synonyms:
- Diabetes type 1 with severe malnutrition
- Diabetes type 2 with severe malnutrition
- DM 1 w severe diabetic malnutrition
- DM 2 w severe diabetic malnutrition
- Edema due to nutritional deficiency
- Nutritional edema
- Protein calorie malnutrition, severe
- Severe malnutrition due to type 1 diabetes mellitus
- Severe malnutrition due to type 2 diabetes mellitus
- Severe protein calorie malnutrition
- Severe protein-calorie malnutrition (Gomez: less than 60% of standard weight)
E44.0 is a billable/specific ICD-10-CM code that can be used to indicate a diagnosis for reimbursement purposes. This is the American ICD-10-CM version.

Approximate Synonyms

• Moderate protein calorie malnutrition
• Moderate protein-calorie malnutrition (weight for age 60-74% of standard)
• Protein calorie malnutrition, moderate
ICD 10 Codes: E44.1

**E44.1** is a billable/specific ICD-10-CM code that can be used to indicate a diagnosis for reimbursement purposes. This is the American ICD-10-CM version of E44.1.

Approximate Synonyms:

Mild protein calorie malnutrition
Mild protein-calorie malnutrition (weight for age 75-89% of standard)
Protein calorie malnutrition, mild (Gomez 75-90% of standard)
**ICD 10 Codes: E45**

**E45** is a billable/specific ICD-10-CM code that can be used to indicate a diagnosis for reimbursement purposes. This is the American ICD-10-CM version of E45.

**Applicable To**
- Nutritional short stature
- Nutritional stunting
- Physical retardation due to malnutrition

**Approximate Synonyms**
- Arrested development following protein calorie malnutrition
- Arrested development following protein-calorie malnutrition
- Protein calorie malnutrition, arrested development
ICD 10 Codes: E46

**E46** is a billable/specific ICD-10-CM code that can be used to indicate a diagnosis for reimbursement purposes. This is the American ICD-10-CM version of E46.

Clinical Information
- Lack of nutrients in the diet or when the body can not absorb nutrients from food. (i.e. Cancer / treatment)
- Insufficient intake to meet physiological requirement.
- Unbalanced or insufficient diet or defective utilization of nutrients.
- No getting enough nutrients (protein, carbohydrates, fats, vitamins and minerals)
  - lack of specific nutrients in your diet. Even the lack of one vitamin can lead to malnutrition.
  - an unbalanced diet
  - certain medical problems, such as malabsorption syndromes and cancers
- Malabsorption or abnormal nutrient distribution
- Insufficient intake of energy and protein to meet the body’s metabolic demands.
ICD 10 Codes: E46 (continued)

Applicable To

• Malnutrition NOS
• Protein-calorie imbalance NOS

Approximate Synonyms

• Calorie malnutrition
• Deficiency of macronutrients
• Hypoalbuminemia due to protein calorie malnutrition
• Malnutrition
• Malnutrition (calorie)
• Malnutrition, not enough calories in diet
• Nutritional disorder
• Protein calorie malnutrition
• Protein calorie malnutrition w hypoalbuminemia
• Protein-calorie malnutrition with hypoalbuminemia
ICD 10 Reference

http://www.icd10data.com/ICD10CM/Codes/E00-E89/E40-E46/E43-/E43

Please note the codes must be chosen by your coding professionals. It is important to work together to ensure you are choosing the best choice for the situation at hand. By choosing the wrong ICD 10 you may cause red flags with RAC and other regulatory agencies.
Electronic Clinical Quality Measures (eCQMs)

The Academy of Nutrition and Dietetics has (eCQMs) to help you with program implementation and Quality Management.


MALNUTRITION WORKFLOW

- **Screening**
  - Nutrition screening using a validated tool for all patients with a hospital admission

- **Assessment**
  - Nutrition assessment using a validated tool for all patients identified as at-risk for malnutrition

- **Diagnosis**
  - Documentation of nutrition diagnosis for all patients identified as malnourished

- **Care Plan Development**
  - Establishment of a nutrition care plan for all patients identified as malnourished or at-risk for malnutrition

- **Intervention Implementation**
  - Implementation of a nutrition care plan including treatment for all patients identified as malnourished or at-risk for malnutrition

- **Monitoring/ Evaluation & Discharge Planning**
  - Implementation of processes, including discharge planning, that provide ongoing monitoring and support the care of patients identified as malnourished or at-risk for malnutrition
Resources to help with Malnutrition

www.defeatmalnutrition.today

Includes many resources that can help your facility with this project. The link below include a toolkit for the Malnutrition Quality Improvement Initiative.

http://mqii.defeatmalnutrition.today/mqii-toolkit.html
What is the plan after discharge?

It is very important to address this issue during admission, but what is your plan after discharge?

How do you ensure there is not a readmission in 30 days?

Who can help you?
Community Resources

First line of defense is the Aging and Disability Resource Center (ADRC)
1(877)925-0037

Area Agency for Aging and Independent Living (15 different districts within the state)

They are ready to work with Hospitals in care transition programs
Area Agency for Aging and Independent Living (AAAAIL)

- In-home services
- Transportation
- Home Delivered Meals
- Senior Centers (activities, chronic disease management, congregate meals)
- Caregiver support programs
- Participant Directed Services (CDO)
- Home Community Based Waiver (Medicaid)
Conclusion

• Identify the problem
• Document the problem
• Start interventions early
• Continued Documentation
• Consistency of documentation across all disciplines
• Discharge planning to continue intervention after discharge
Case Study #1

Ms. Jane is a 75 year old who was admitted with pneumonia. Her height is 65” and her weight is 179#. During her nursing assessment she stated she had lost around 11# in the last 1 month without trying, and that she has been eating poorly due to decreased appetite.

Using the Malnutrition Screening Tool - Is Ms. Jane at risk of Malnutrition?
Case Study #1 (continued)

Yes The Malnutrition Screening tool is scored at a 3. Anything above a 2 is considered at risk for malnutrition.

A referral is sent to the RD. During the patients interview and nutrition focused physical assessment it is found that Ms. Jane has moderate muscle wasting in the temporalis and deltoid muscles, and fat wasting in hands and face. Her Intake has been less than 50% for the last 2 weeks with a 5.7% weight loss in 1 month.

Using the Characteristics Chart –

Does Ms. Jane have Malnutrition?
Yes. The Characteristics to support a Diagnosis of malnutrition states the patient needs only 2 characteristics to be diagnosed with malnutrition. She actually has 4 (< 50% of intake, 5% weight loss, muscle wasting and fat wasting)

Severe Malnutrition of acute illness
Mr. Joe has been admitted for rehab for a hip replacement. His height is 71” and his weight is 168#. During his nursing assessment he stated that he has not lost any weight without trying but stated that he has been eating poorly due to decreased appetite.

Is Mr. Joe at risk for Malnutrition?
Case Study #2 (continued)

NO

The Malnutrition screening tool scored a 1 which means due to the screening he is not at risk for malnutrition.

However, a referral was sent due to poor appetite, so the RD is able to dig deeper to make sure.
The RD found he has had a poor appetite since his surgery which has been in the past week. He has had no weight changes, no muscle or fat wasting was found, no edema noted. PO intake is ~ 50-75% on most days.

RD provided food preferences and supplements as tolerated.

Mr. Joe only met 1 characteristic for a diagnosis for malnutrition. He is not malnourished.
QUESTIONS?