Take a closer look at clinical indicators of malnutrition

by Jon W. Arnott, MD, CMQ

Clinical documentation specialists can overload physicians when they try to provide too much education about CMS’ documentation requirements. Too much focus on the complexities of the MS-DRG system has led to confusion and panic among physician staff members.

Yet in the 110 pages of discussion on CCs and MCCs in the inpatient prospective payment system regulations, one clinical condition for which professionals frequently query is present in 55%–85% of patient cases—malnutrition. This high incidence of malnutrition is cited in the article “Assessment of Protein Energy Malnutrition in Older Persons, Part II: Laboratory Evaluation,” published in the February 2000 Nutrition.

Malnutrition is a common but under-documented comorbidity. Physicians often acknowledge decreased albumin as a marker for malnutrition. Although this finding may be the most obvious and easiest for physicians to agree upon, it is usually the last piece of evidence to become positive.

Most Americans would be surprised to learn how common malnutrition is in healthcare. No wonder. With traditional descriptors of Marasmus and Kwashiorkor, why would anyone expect to see either of these conditions anywhere but on short-term medical mission trips? Fortunately, two simple entries exist in the coding guidelines: malnutrition and severe malnutrition.

Malnutrition as SOI marker

Documenting malnutrition is important for many reasons, not the least of which is the fact that malnutrition often indicates the patient’s severity of illness (SOI). Malnutrition is one of the most clinically and statistically significant predictors of mortality, as evidenced in clinical articles such as the 1991 Medical Care article “Using Clinical Variables to Estimate the Risk of Patient Mortality,” and the 2006 Gerontology article “Underappreciated Predictors for Postdischarge Mortality in Acute Hospitalized Oldest-Old Patients.”

Cachexia, a physical finding of malnutrition, reflects the wasting seen in the terminal conditions of cancer, COPD, dementia, and HIV/AIDS. Poor wound healing, wound dehiscence, and pressure ulcers (both present and not present on admission) can be explained by depleted protein stores and negative nitrogen balances. Given all this information, it becomes obvious as to the importance of malnutrition and its influence on utilization metrics such as readmission, length of stay, and quality outcomes for all product lines.

Many of the following clinical conditions require patients to receive additional nutritional support and may be indicators of a patient with malnutrition or severe malnutrition:

» Receives nutritional support
» Maintains a prolonged NPO (nothing by mouth) status (postoperative/post-stroke)
» Is frail, elderly
» Suffers from terminal conditions such as (partial list):
  – Dementia
  – COPD

Malnutrition: Sample query form

Editor’s note: Consider adopting this sample malnutrition query form for your CDI program. If this differs from your existing query forms and processes, please consult your legal counsel. Note that this form also differs from the recommendations of AHIMA.

Documentation item for consideration

Patient____________________________   Date___________
Room____________________________

Dear Dr. ________________________________,
During our evaluation, we noted the possibility for documentation of malnutrition/severe malnutrition in your patient’s chart. Malnutrition is present in 55% of hospitalized elderly and in 85% of nursing home populations. It is a major predictor of mortality and prolonged recovery. This condition is counted in your favor only if you document it at least once in the chart. Please document ________________ if you agree in your note.

Thank you,
Jon W. Arnott, MD, CMQ,
and __________________ from Nutritional Services
– Cancer
– HIV/AIDS
– Chronic kidney disease (especially Stage IV and end-stage renal disease)
– Inflammatory bowel disease
– Trauma/burns

Multidisciplinary action as CDI strategy

Capturing malnutrition requires a tactical approach. Clinical documentation specialists do not need to carry the load alone. Your hospital might wish to consider the following two-step process to assist in malnutrition capture:

1. Educate dietary services to not only document the level of malnutrition, but to query physicians on behalf of the CDI specialists. This step adds the value of providing an extra set of eyes finding CCs such as BMI of 19 or less, as well as the ubiquitous BMI of 40 or more. We successfully implemented this process in one hospital. In addition to saving work for the CDI staff, it is also viewed as a natural query given the context.

2. Define malnutrition criteria that are acceptable to the medical staff. Most physicians will not care which criteria CDI specialists use, as long as it doesn’t require too much meeting time and it is simple to use.

Cecil’s *Textbook of Medicine* acknowledges the “lack of a gold standard” of metabolic criteria for malnutrition in hospitalized patients (pp. 1312–1318). Most, but not all, physicians acknowledge an unplanned weight loss of 20% as a marker of malnutrition. Some acknowledge that a well-nourished patient can become nutritionally depleted due to systemic inflammatory responses to severe infections, burns, trauma, and surgical procedures. Few, however, will readily quantify the level of malnourishment. I have found that physicians will accept the proposed evidence-based criteria in the table at left.

Few conditions occur as frequently as severe malnutrition and malnutrition (SM/M). Documentation of SM/M reflects true SOI, risk of mortality, and potential reasons for higher direct costs. Given the prevalence of SM/M, this should be one of every successful CDI program’s most frequent queries.

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Use clinical data to support malnutrition queries

Consider implementing the following information into your facility’s malnutrition query forms or physician education session. The table below provides multiple ways to measure for severe malnutrition.

- **Albumin** is the least desirable since, given its long half-life, it will not turn positive until nearly the 18th day of admission.
- **Prealbumin** will rapidly (within two days) reflect a postoperative patient’s compromise and is useful when total parenteral nutrition is initiated.

Total lymphocyte count requires no additional expense and is rapidly estimated by the following formula: total white blood count (cells per ml) multiplied by the percentage of lymphocytes divided by 100. For example, a white blood count of 5,000 cells per ml, 8% lymphocytes would be calculated as 5,000 x 8 = 4,000; 4,000/100 = 400 cells/ml, which is consistent with severe malnutrition.

The Laboratory Evaluation of Malnutrition

<table>
<thead>
<tr>
<th>Protein</th>
<th>Half-life</th>
<th>Malnutrition CC</th>
<th>Severe Malnutrition MCC</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albumin</td>
<td>18 days</td>
<td>3.0 g/l</td>
<td>&lt;2.8 g/l</td>
<td>For every 2.5 g/l decrease there is a 24 to 56% increase in mortality</td>
</tr>
<tr>
<td>Transferrin</td>
<td>9 days</td>
<td>&lt;200 g/l</td>
<td>&lt;100 g/l</td>
<td>As above</td>
</tr>
<tr>
<td>Prealbumin</td>
<td>2 days</td>
<td>&lt;20 mg/dl</td>
<td>&lt;15 mg/dl</td>
<td>Should increase by 10 mg/day with adequate repletion</td>
</tr>
<tr>
<td>Total Lymphocyte Count</td>
<td>NA</td>
<td>&lt;1,500/ml</td>
<td>&lt;800/ml</td>
<td>4-fold increase in mortality when even a moderate decrease is seen</td>
</tr>
</tbody>
</table>

Assessment of Protein Energy Malnutrition in Older Persons, Part II: Laboratory Evaluation; M.I. Omran MD and J.E. Morley MB, BCh; Nutrition 16:131-140, 2000