Using Outcomes Data to Advocate for the Nutrition Care Process

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Disclosures

- I am sponsored today by Abbott Nutrition and am employed by the University of Iowa Hospitals and Clinics.
Objectives:

- Demonstrate how dietitians can serve as leaders and institutional change agents through the use of data
  - Describe how to create and implement data collection tools at the facility level
  - Discuss how to generate a data-driven business case to advocate for appropriate dietitian staffing levels
  - Review how data can be used to support the NCP and be used to advocate for nutrition services along the continuum of care
University of Iowa Hospitals and Clinics

- 761-bed hospital, including 190-bed children’s hospital
  - Only academic medical center in Iowa

- Hospital Statistics
  - > 35,000 inpatient admissions
  - > 58,000 ED visits
  - > 200 outpatient clinics and care areas
  - > 962,000 clinic visits
  - > 30,000 major surgical operations
  - > 1,600 Physicians and Advance Practice Providers
  - > 2.6 million meals served
Opportunity and Challenge

- Inadequate resources (dietitians):
  - Risk of not identifying and ultimately treating malnutrition may result in poor patient outcomes
  - Negatively impacts risk adjustment of publicly reported data (underestimates patient complexity)
  - Reduces hospital reimbursement

- How to develop and implement a malnutrition assessment and documentation process across a large inpatient environment
  - To our knowledge, no ideal workflow within our EHR
  - Dietitian documentation alone is not adequate
  - Universal provider education on malnutrition assessment is futile
Strategic Plan – Improve Clinical Documentation
- Malnutrition can contribute significantly to the inpatient MS-DRG

- **Nonsevere (mild and moderate) malnutrition** is a MS-DRG with a comorbidity or complication (CC)

- **Severe protein calorie malnutrition** is a MS-DRG with a major comorbidity and complication (MCC)
Clinical Documentation Matters

<table>
<thead>
<tr>
<th>MS DRG</th>
<th>MS DRG Description</th>
<th>LOS</th>
<th>Total Base Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>326</td>
<td>STOMACH, ESOPHAGEAL&amp;DUODENAL PROC W MCC</td>
<td>11.2</td>
<td>43,651</td>
</tr>
<tr>
<td>327</td>
<td>STOMACH, ESOPHAGEAL&amp;DUODENAL PROC W CC</td>
<td>6.0</td>
<td>22,485</td>
</tr>
<tr>
<td>328</td>
<td>STOMACH, ESOPHAGEAL&amp;DUODENAL PROC W/O CC/MCC</td>
<td>2.6</td>
<td>13,509</td>
</tr>
</tbody>
</table>
Multidisciplinary Team Approach – Pilot Implementation
Clinical Data (n=537)

None: 310
Malnutrition: 227
Mild: 15%
Moderate: 11%
Severe: 74%
Data Collection

- What did we collect?
  - Assessment Date
  - Patient Identifier
  - Unit
  - Reason for Admission
  - Assessment Result
  - Assessment Time
  - Malnutrition Present on Admission
  - Nutrition Screen
Leveraging the EHR

- Collected all data manually during the pilot phase.
- We knew there was virtually no malnutrition template(s) available within our current EHR.
- Shoot for the Stars! - After manual data collection, got together with IT to come up with a wish list.
### Malnutrition Assessment - Adult Malnutrition Assessment

**Time taken:** 1052 38/2017

#### Malnutrition assessment date

Malnutrition assessment date: [ ]

#### Nutrition-focused physical findings

Nutrition-focused physical findings: [ ]

#### Type of Malnourishment

**Type:**
- [ ] Acute illness/injury
- [ ] Chronic illness
- [ ] Impaired social/environmental circumstances
- [ ] Not applicable

#### Acute illness/injury Malnutrition Characteristics

**Energy intake:**
- [ ] Less than or equal to 50% intake of estimated energy needs for greater than or equal to 5 days

**Weight loss:**
- [ ] 1-2% in 1 week
- [ ] Greater than 2% in 1 week
- [ ] 5% in 1 month
- [ ] Greater than 5% in 1 month
- [ ] 7.5% in 3 months
- [ ] Greater than 7.5% in 3 months
- [ ] WNL

**Subcutaneous fat loss:**
- [ ] Mild
- [ ] Moderate
- [ ] Severe
- [ ] WNL

**Muscle loss:**
- [ ] Mild
- [ ] Moderate
- [ ] Severe
- [ ] WNL

**Fluid accumulation:**
- [ ] Mild
- [ ] Moderate
- [ ] Severe
- [ ] WNL

**Grip strength:**
- [ ] Normal
- [ ] Reduced
- [ ] Not assessed

#### Chronic Illness (greater than three months) Malnutrition Characteristics

#### Impaired Social/Environmental Circumstances Malnutrition Characteristics

#### Present on admission

**Was malnutrition present on admission?**
- [ ] Yes
- [ ] No
- [ ] Unable to determine

#### Dietitian Evaluation

**Dietitian evaluation:**
- [ ] Mild (non-severe) malnutrition
- [ ] Moderate (non-severe) malnutrition
- [ ] Severe protein-calorie malnutrition
- [ ] Nutrition risk but not malnourished
- [ ] No nutrition concerns

#### Malnutrition Etiology

**Malnutrition etiology:** [ ]
**Nutrition Diagnosis:**

<table>
<thead>
<tr>
<th>Malnutrition assessment date:</th>
<th>03/09/17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition-focused physical findings:</td>
<td>Moderate temporal depression with sunken orbital and reduced fat mass. Clavicle protruding with loss of muscle noted around scapula/deltoid. No edema. Dry skin.</td>
</tr>
<tr>
<td>Dietitian evaluation:</td>
<td>Severe protein-calorie malnutrition</td>
</tr>
<tr>
<td>Type</td>
<td>Acute illness/injury</td>
</tr>
<tr>
<td>Malnutrition etiology:</td>
<td>Inadequate energy intake</td>
</tr>
<tr>
<td>Energy intake:</td>
<td>Less than 75% intake of estimated energy needs for greater than 7 days</td>
</tr>
<tr>
<td>Weight loss:</td>
<td>Greater than 6% in 1 month [9.9% in two months]</td>
</tr>
<tr>
<td>Subcutaneous fat loss:</td>
<td>Mild</td>
</tr>
<tr>
<td>Muscle loss:</td>
<td>Moderate</td>
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<tr>
<td>Fluid accumulation:</td>
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<tr>
<td>Grip strength:</td>
<td>Not assessed</td>
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<tr>
<td>Was malnutrition present on admission?</td>
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</tr>
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Weight loss related to inadequate energy intake as evidenced by 8% weight change in one month (9.8% in two months), report of low food tolerance and physical signs of muscle/fat loss.

**Nutrition Intervention:**

1. Continue General, low fiber diet, consider lifting fiber restriction as patient is 4 weeks post surgery and reports loose stools.
   - FNS to send Ensure Enlive chocolate and strawberry at PM snack and HS to provide 350 calories and 20 g protein each
   - Family and staff encourage oral intake

2. Continue to monitor K+, PO4, and Mg as patient has had poor intake x1 month and may be a risk for re-feeding. Recommend supplementing with MVI, Thiamine 100 mg x3 days and folic acid.

3. Consider checking vitamin D and supplementing if below normal.

4. Weigh patient 3x per week (standing scale preferred) for continued monitoring of nutritional adequacy and fluid status.

5. Recommend dental consult post admission to determine cause of mouth pain.
Results

- Better identification of malnourished patients
- Improved treatment
- Collaboration among departments
- Increased dietitian staffing
- Evidence based nutrition advocacy
How Many Additional Dietitians Do I Need?


- Understand your staffing/productivity model & your data
  - We assessed 537 patients during the pilot and 227 had malnutrition (42% conversion rate)
  - 42,000 discharges last fiscal year
  - Conservative goal – 30% hospitalized patients are malnourished
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- Current UIHC productivity model indicates that one RD FTE can assess 112 new patients per month = 22 RDs
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(2,500 assessments/112 per FTE = 22)
**Pilot Results**

<table>
<thead>
<tr>
<th>Count of Visit/MRN</th>
<th>Sum of Missed LOS</th>
<th>Sum of Missed $</th>
<th>Sum of Increased LOS</th>
<th>Sum of Increased $</th>
</tr>
</thead>
<tbody>
<tr>
<td>352</td>
<td>168.3</td>
<td>$624,827</td>
<td>172</td>
<td>$660,709</td>
</tr>
</tbody>
</table>

**Total LOS** | **Total Increased $**
| 340.3          | $1,285,536       |

<table>
<thead>
<tr>
<th>Unit</th>
<th>Count of Visit/MRN</th>
<th>Sum of Missed LOS</th>
<th>Sum of Missed $</th>
<th>Sum of Increased LOS</th>
<th>Sum of Increased $</th>
</tr>
</thead>
<tbody>
<tr>
<td>3RCE</td>
<td>71</td>
<td>20.8</td>
<td>$68,919</td>
<td>18.8</td>
<td>$73,034</td>
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<tr>
<td>3RCW</td>
<td>29</td>
<td>9.3</td>
<td>$30,648</td>
<td>18.9</td>
<td>$60,288</td>
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<tr>
<td>4JPE</td>
<td>121</td>
<td>71.4</td>
<td>$278,333</td>
<td>59.6</td>
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<tr>
<td>4JPW</td>
<td>128</td>
<td>66.8</td>
<td>$246,927</td>
<td>63.3</td>
<td>$249,862</td>
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<tr>
<td>4RCE</td>
<td>2</td>
<td>0</td>
<td>$ -</td>
<td>7</td>
<td>$31,693</td>
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<tr>
<td>4RCW</td>
<td>1</td>
<td>0</td>
<td>$ -</td>
<td>4.4</td>
<td>$21,100</td>
</tr>
<tr>
<td>Grand Total</td>
<td>352</td>
<td>168.3</td>
<td>$624,827</td>
<td>172</td>
<td>$660,709</td>
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*Documentation = average of $1,877 per nutrition assessment
Potential for $3,652 per nutrition assessment
Sustaining the Momentum/Next Steps

- Set the stage at the beginning
- Tracking our progress
  - 4% - 10% malnutrition diagnosis Patient outcomes
- Initiatives and new projects
  - Nutrition Support Team
  - Clinical Cancer Center
- Analyzing the data and telling our stories
MQii and eCQMs

- Testing site for eCQMs
- Discrete data points in our EHR translates into reportable and meaningful information
- Real time data