Use of the Nutrition Care Process Quality Evaluation and Standardization Tool (NCP-QUEST) to Inform Training in a Student Cohort

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BACKGROUND

Provision of Medical Nutrition Therapy (MNT) distinguishes registered dietitian nutritionists (RDN) from other healthcare providers. To communicate effective nutrition care, RDNs use the Nutrition Care Process (NCP): a systematic method for providing and documenting nutrition care. Training students in the NCP is a critical component of their educational journey to becoming a RDN. Leveraging real-world scenarios through case studies gives students an opportunity to apply the NCP in a low-stakes environment, and provides space for instructor guidance and feedback.

The NCP Quality Evaluation and Standardization Tool (NCP-QUEST) is an instrument used to perform documentation quality audits in the clinical setting, and guide improvement efforts. Moreover, it has the potential to demonstrate effectiveness of nutrition care. However, it has not yet been used to assess changes in quality of nutrition care documentation in the classroom. This tool may support instructors in focusing their training efforts.

The objective of this study is to assess changes in quality of nutrition care documentation as students progress through MNT courses.

THEORY: Adult Learning Theory guided design and delivery of courses within the Future Education Model dietetics program.

AUDIENCE: First-year students enrolled in the masters-level Future Education Model dietetics program during the fall semester of 2021.

CURRICULUM: Lecture, peer-to-peer activities, case studies, and standardized patient experiences are used to develop student competence in nutrition care over the course of the semester.

METHODS

- Educational record data from first-year students enrolled in the Future Education Model masters-level dietetics program at The Ohio State University (OSU) during the 2021-2022 academic year were accessed and anonymized (n=31).
- Two case study notes completed by students during the 8th and 15th weeks of the semester were analyzed for quality using the validated NCP-QUEST (Figure 3).
- Differences in mean scores were assessed for changes with paired samples t-tests.
- This study was approved by the OSU IRB.

RESULTS

Figure 1. Note Quality by Category

![Image](image1)

<table>
<thead>
<tr>
<th>Category</th>
<th>Week 8</th>
<th>Week 15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Quality</td>
<td>26%</td>
<td></td>
</tr>
<tr>
<td>Medium Quality</td>
<td>74%</td>
<td>65%</td>
</tr>
</tbody>
</table>

Figure 2. Average NCP-QUEST Scores as Percent of Goal

![Image](image2)

Table 1. Areas of Strength & Opportunities for Improvement

<table>
<thead>
<tr>
<th>Areas of Strength</th>
<th>Opportunities for Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;25 students received point</td>
<td>&lt;1 students received point</td>
</tr>
<tr>
<td>ND1: Problem label of the PES uses standardized terminology</td>
<td>NA4: Assessment data is succinct and relevant</td>
</tr>
<tr>
<td>ND2: Etiology is the root cause of the ND that a nutrition provider can resolve or mitigate S/Sx</td>
<td>ND3: In addition to free text etiology, documents the etiology matrix category</td>
</tr>
<tr>
<td>NI2: A nutrition prescription is written</td>
<td>NI5: Uses standardized terminology to document NI</td>
</tr>
</tbody>
</table>

CONCLUSIONS

Students showed significant improvement between writing their first and second case study notes, indicating gains in knowledge and skill as they progressed through the MNT course.

This study elucidates areas of focus for educators to improve quality of student nutrition notes such as ensuring assessment data supports the remainder of the note (ie: succinct and relevant), using the etiology matrix, and employing standardized terminology to document the intervention. Emphasizing the importance of sequentially linking components of the NCP together (NCP chains) during the education process may support enhancement of these categories.