Purpose
To enhance the eCAM, a decision support tool based on social determinants of health, to guide nurses in developing a comprehensive shared care plan.

Background
The Patient Centered Assessment Method (PCAM) is a twelve-item assessment tool completed over the telephone or in a primary care setting. It measures patient complexity by assessing social determinants of health, which provides nurses with insight into additional problems that the patient is experiencing. However, the previous ePCAM clinical decision support tool did not assist in the interpretation of results. To add value to the tool, the ePCAM was reworked to provide assistance with interpretation and developing a plan of care. The project employed the Data-Information-Knowledge-Wisdom (DIKW) framework to revise the tool so that it supported knowledge acquisition.

Case Study
Sam Garcia, a 67-year-old Hispanic male was discharged from the hospital 2 days ago and is at his follow-up primary care appointment. His primary language is Spanish and he is unable to communicate in English. He was diagnosed with chronic renal failure. While in the hospital, an AV fistula was surgically created for permanent dialysis access. He is unemployed, lives with his son, and indicates that his resources are limited, but that his son is usually able to make ends meet. He has a good support system of friends and family. He has a minimal understanding about his renal failure and dialysis.

Methods
In order to develop a complete set of consistent assessment responses, nursing student research assistants developed a matrix for each question and the four corresponding assessment levels. New responses were written for the two lower severity assessment levels, and existing response verbiage was rewritten to improve grammatical consistency, using full sentences that follow the structure: category → severity → impact. To assist with decision making, results screen output was prioritized and a care plan screen was developed based on the original PCAM.

Developing Health Concerns From Assessments

<table>
<thead>
<tr>
<th>Question</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>How would you rate your financial resources (include ability to afford all essential medical needs)?</td>
<td>Financially insecure, some resource challenges</td>
</tr>
<tr>
<td>How would you rate the client’s understanding of their health and well-being (symptoms, signs or risk factors) and what they need to do to manage these?</td>
<td>Understanding with significant impact on ability to manage health</td>
</tr>
<tr>
<td>How well do you rate the client’s social network (family, work, friends)?</td>
<td>Strong support system of friends and family</td>
</tr>
<tr>
<td>How does daily activity impact a client’s well-being? (Include current or anticipated unemployment, work, caregiving, access to transportation or support services)</td>
<td>Activity limitations with social networks</td>
</tr>
</tbody>
</table>

The ePCAM Results Screen
The results page highlights priority issues and identifies patient strengths. Patient assessment results that require immediate action are displayed at the top of the page.

ePCAM Care Plan Screen
The Care Plan page aids the nurse in critically thinking about what actions are required, who needs to be involved, what barriers there are to action, and what action will be taken.

Results
The new ePCAM Results page highlights priority issues and identifies patient strengths. Responses are sorted by severity into four categories: “Act Now,” “Plan Action,” “Active Monitoring,” and “Routine Care/Patient Strengths.” Problems in the “Act Now” and “Plan Action” categories automatically populate the newly developed Care Plan page. Additionally, the care plan directs the user to include what action is required, who needs to be involved, barriers to action, and what action will be taken.

Conclusion & Implications
The revised ePCAM translates data (PCAM responses) into information (hierarchical arrangement of problems) and knowledge (planning for action). Usability testing was implemented at undergraduate nursing clinical sites to evaluate the ePCAM. Nursing students found that the tool met its intended purpose by helping them assess patient complexity during discharge planning and that the care plan helped in interpreting results. Next steps involve further development of the care plan by integrating LOINC® codes to improve interoperability.

References