Improving Patient Outcomes & Decreasing Hospital Costs Through Nutrition

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Research Objective/Hypothesis: Nutrition-focused quality improvement (QI) initiatives were implemented to determine if early malnutrition risk identification and initiation of nutrition therapy impacted length of stay (LOS), readmission rates, and medical diagnosis of malnutrition.

Relevance: The Nutrition-focused QI initiative incorporated the 4 electronic clinical quality measures (eCQMs) which are part of the Malnutrition Quality Improvement Initiative (MQii). These include completion of the malnutrition screening tool (MST) within 24 hours of admission, completion of a nutrition assessment for patients identified as at risk for malnutrition, appropriate documentation of a diagnosis, and implementation of a nutrition care plan for patients identified as malnourished after a completed nutrition evaluation.

Background: Approximately 30-55% of patients are malnourished upon hospital admission leading to increased morbidity, mortality, LOS, costs and readmission rates. Many patients continue to lose weight after discharge and are at increased risk of readmission with associated adverse health outcomes.

Methods: The QI, along with a Comprehensive Malnutrition Platform, was fully implemented in February 2016 in three Catholic Health Initiatives (CHI) hospitals. Nurses screened patients on admission using the Malnutrition Screening Tool (MST) and initiated oral nutritional supplements (ONS) twice daily for patients at risk for malnutrition as identified by the MST score. Retrospective electronic medical records for 20,697 adult patients (age 18 and over) admitted between September 2014 and February 2015 (historical group) were compared with those admitted between September 2016 and February 2017 (post-QI Initiative). Treatment patients were defined as a nutrition sensitive group, i.e. patients who had an MST score 2 or higher and received an ONS or had one of the malnutrition ICD-9 or ICD-10 codes documented during their hospital stay. All other patients were placed in the control group.

Results / Outcomes: The median time from patient hospital arrival, admission and MST to ONS initiation was reduced by 29.1%, 14.9% and 39.3%, respectively (all p <0.01). Decreases in LOS and readmission rates were 0.88 days (p<0.05) and 0.15% (p<0.1) greater for the treatment group compared to the control group. Patients diagnosed with malnutrition increased from 3.14% to 6.84% (p<0.01) after the QI project.

Conclusions: The results show the importance of nutrition to advance patient recovery, as evidenced by a shorter LOS in the hospital. Both health and economic outcomes among malnourished hospitalized patients can be significantly improved through nutrition-focused QI intervention. These results highlight the importance of adequate nutrition screening, education, and treatment of all hospitalized patients, particularly those identified with malnutrition.

Implications for Policy or Practice: Now that CHI has implemented a nutrition-focused QI initiative, select CHI facilities are joining the MQii Learning Collaborative to test and adopt the eCQMs to further refine and optimize their nutrition care process.

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Research Outcomes Results

RDN Assessment within Twenty-Four Hours of Nutrition Screening Referral is Feasible

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Research Objective/Hypothesis: Determine the average amount of time it took for the registered dietitian nutritionist (RDN) to complete an initial assessment for referrals triggered from the nutrition screening tool (NST).

Relevance: Faster response times to assess patients identified as at risk for malnutrition from the NST can translate to more timely implementation of nutrition interventions to prevent or treat malnutrition.

Background: The 2nd step of the Malnutrition Quality Improvement Initiative (MQii) is assessment, and the 2nd proposed electronic clinical quality measure (eCQM) is completing a nutrition assessment within 24 hours of receipt of a referral. Many practitioners have expressed concern that it is not feasible to complete an assessment within 24 hours due to perceived inadequate clinical nutrition staffing. The facility in this study has an average census of 180, is staffed with 3.4 full-time equivalent RDNs, and weekend coverage includes both Saturday and Sunday.

Methods: The medical records of all patients with a positive trigger from an NST during the months of January-June 2018 were reviewed. Data collected included dates and times for the following: hospital admission, completion of nutrition screen by registered nurses (RNs), and completion of nutrition assessment by RDNs. Time to place a nutrition referral after completion of the screen was not recorded, as the referral was generated automatically when the form containing the NST was signed electronically.

Results / Outcomes: Of the 145 referrals received from the NST, the RDNs average response time was 15 hours and 35 minutes. One hundred thirty-three (91.7%) of the patients were assessed by an RDN within 24 hours of receiving a referral.

The average time from admission to completion of the NST by the RN was 8 hours and 4 minutes. Therefore, on average, patients were seen by the RDN within 24 hours of admission (average time 23 hours and 39 minutes).

Conclusions: Completing a nutrition assessment within 24 hours of receiving a referral triggered by the NST should be feasible in facilities with similar clinical nutrition staffing.

Implications for Policy or Practice: A goal of completing nutrition assessments within 24 hours of receiving a referral should be considered as part of the MQii implementation process. Assessment of current response times and analysis of any barriers should occur before making this decision.

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