CBE ID

3592e

Title

Malnutrition Care Score

Project

Initial Recognition and Management

Endorsement Status

Endorsed with Conditions

E&M Committee Rationale/Justification

When this measure comes back for maintenance, the committee would like to see:

- Implementation data (to include patients 18 years and older) that examines whether the measure is associated with improved nutritional status or related clinical endpoint

Is Under Review

No

Next Maintenance Cycle

Spring 2029

Previous Endorsement Cycle

Spring 2024

Steward

Commission on Dietetic Registration

1.0 New or Maintenance

Maintenance

1.3 Electronic Clinical Quality Measure (eCQM)

Yes

1.6 Measure Description

This composite measure assesses the percentage of hospitalizations for adults aged 18 years and older at the start of the inpatient encounter during the measurement period with a length of stay equal to or greater than 24 hours who received optimal malnutrition care during the current inpatient hospitalization where care performed was appropriate to the patient's level of malnutrition risk and severity. Malnutrition care best practices recommend that for each hospitalization, adult inpatients are screened for malnutrition risk, assessed to confirm findings of malnutrition risk or concern raised through a hospital dietitian referral order, and, if identified with a "moderate" or "severe" malnutrition status in the current performed malnutrition

assessment, receive a current "moderate" or "severe" malnutrition diagnosis and have a current nutrition care plan performed. A version of this measure, assessing performance only for adults aged 65 years and older, is currently endorsed and active in the IQR program; this submission describes a substantive change in the measure, as the population is changed to all adults aged 18 and older.

1.7 Composite Measure

Yes

1.7 Measure Type

Intermediate Outcome

1.8 Level of Analysis

Facility

1.9 Care Setting

Hospital: Acute Care Facility, Hospital: Critical Access, Hospital: Inpatient

1.10 Measure Rationale

Malnutrition is a leading cause of United States (U.S.) morbidity and mortality. Evidence suggests that 20% to 50% of all patients are malnourished or at risk of malnutrition at the time of hospital admission, with up to 31% of these malnourished patients and 38% of well-nourished patients experiencing nutritional decline during their hospital stays. Insufficiency of available nutrients needed to promote healing and rehabilitation may lead to an increased risk of medical complications, including depression of the immune system, impaired wound healing, muscle wasting, and increased mortality. Malnutrition and weight loss can also contribute to sarcopenia, or a loss of skeletal muscle mass and function, which also impedes an individual’s recovery, mobility, ability to perform daily activities, and independence.

The presence of a malnutrition diagnosis is unique in that it can have complex physiological causes, as well as be multifactorial, with environmental, economic, and psychological origins being possible also. This makes identifying and treating malnutrition an effective step to improve health equity in acute care. There is an inherent connection between malnutrition, food insecurity, and health equity. Food insecurity is present in households concerned about food running out, dietary quality and variety, and quantity of food consumed. Screening for malnutrition can be of significance in identifying and addressing health inequities when malnutrition is caused by food insecurity.

Though malnutrition can be present on admission, it can also develop throughout a hospital course despite a baseline of adequate nutrition status. Hospitalized patients are vulnerable to nutritional decline for many reasons, including dietary restrictions in preparation for medical testing and treatments, as well as poor appetites, nutritional intolerance, and gastrointestinal

problems resulting from existing medical conditions, hospitalization-related stress and anxiety, side effects from medications, and other medical, behavioral, and cultural reasons. Insufficient intake causes further decline in the nutrition status of patients who are malnourished at the time of hospital admission. Hospitalized malnourished patients also have a greater risk of complications, such as development of hospital-acquired infections, functional decline, and in-hospital death. A patient's nutrition status is also considered a key factor in "post-hospital syndrome," a period of increased susceptibility to poor outcomes immediately following hospitalization.[5]

The Global Malnutrition Composite Score (GMCS) electronic clinical quality measure (eCQM) uses the evidence- and consensus-based nutrition care workflow that incorporates both clinical risk factors and patient preferences to evaluate hospital performance into four steps that occur exclusively in the hospital setting. These include the malnutrition risk screening performed by a nurse, RD/RDN, or any other appropriate professional; nutrition assessment performed by an RD/RDN; malnutrition diagnosis documented by a physician or other qualified healthcare professional; and documentation of a nutrition care plan of malnutrition interventions that is developed by an RD/RDN. A version of this measure evaluating performance in adults aged 65 years and older is currently endorsed and active in the CMS IQR program. This submission represents a substantive change, as the measure population will now include all adults aged 18 years and older.

1.11 Measure Webpage

https://ecqi.healthit.gov/ecqm/eh/2024/cms0986v2#quicktabs-tab-tabs_measure-2

1.12a Attach MADiE Output

CMS986-v4-0-000-QDM-5-6.zip

1.13 Data Dictionary

Attached

1.13a Attach Data Dictionary

Final Value Sets for AU2024.zip

1.14 Numerator

This is a continuous variable measure. "Measure Observation 1" = "Encounters with Malnutrition Risk Screening and Identified Result"; "Measure Observation 1" identifies hospital encounters where a "Malnutrition Risk Screening" was performed with a current identified "Malnutrition Screening Finding of Not At Risk Result" or current "Malnutrition Screening Finding of At Risk Result" OR a "Hospital Dietitian Referral" was ordered. "Measure Observation 2" = "Encounter with Nutrition Assessment and Identified Status"; "Measure Observation 2" identifies hospital encounters where a "Nutrition Assessment" was performed with a current identified "Nutrition Assessment Status Finding of Well Nourished or Not Malnourished or Mildly Malnourished", "Nutrition Assessment Status Finding of Moderately Malnourished", or "Nutrition Assessment Status Finding of Severely Malnourished". "Measure Observation 3" = "Encounters with Malnutrition Diagnosis"; "Measure Observation 3" identifies hospital encounters where a current

"Malnutrition Diagnosis" was documented. “Measure Observation 4” = “Encounters with Nutrition Care Plan”; "Measure Observation 4" identifies hospital encounters where a current "Nutrition Care Plan" was performed. "Population 5 Measure Observation TotalMalnutritionComponentsScore" equals the sum of ("Measure Observation 1" plus "Measure Observation 2" plus "Measure Observation 3" plus "Measure Observation 4") "Population 6 Measure Observation TotalMalnutritionCompositeScore as Percentage" = 100 * ("TotalMalnutritionComponentsScore" divided by "TotalMalnutritionCompositeScore Eligible Denominators"). -For each hospitalization, Population Criteria 6 represents the sum of performed Measure Observations 1, 2, 3, and 4 divided by the number of clinically eligible occurrences.

1.14a Numerator Details

All Measure Observations

This includes all the needed data elements to identify a qualifying encounter

During inpatient encounter and/or associated emergency department and/or observation encounter(s)

- Ethnicity
- Payer
- Race
- Administrative Sex
- Encounter Type
- Inpatient Admission Time
- Inpatient Discharge Time
- Date of Birth

1. Ethnicity: Extensional CDCREC, OID 2.16.840.1.114222.4.11.837
2. Payer: Intensional SOP, OID 2.16.840.1.114222.4.11.3591
3. Emergency Department Visit: Extensional LOINC, OID 2.16.840.1.113883.3.117.1.7.1.292
4. Race: Extensional CDCREC
5. Observation Services: Extensional SNOMED, OID 2.16.840.1.113762.1.4.1111.143
6. Encounter Inpatient: Extensional SNOMED, OID 2.16.840.1.113883.3.666.5.307
7. ONC Administrative Sex: Extensional SNOMED, OID 2.16.840.1.113762.1.4.1

Malnutrition Risk Screening/ Hospital Dietitian Referral

Malnutrition risk screening performed by nursing, RDN, or appropriate professional -OR- Hospital Dietitian Referral Ordered

- Documented Malnutrition Risk Screening
- Documented Malnutrition Risk Screening Time Stamp
- Documented Malnutrition Risk Screening Result
- Documented Hospital Dietitian Referral

- Documented Hospital Dietitian Referral Time Stamp

1. Malnutrition Risk Screening: Extensional LOINC, OID 2.16.840.1.113762.1.4.1095.92
2. Malnutrition Screening Finding of Not at Risk Result: Extensional LOINC, OID 2.16.840.1.113762.1.4.1095.34
3. Malnutrition Screening Finding of at Risk Result: Grouping, OID 2.16.840.1.113762.1.4.1095.89
4. Malnutrition Screening Finding of at Risk Result: Extensional SNOMED, OID 2.16.840.1.113762.1.4.1095.38
5. Malnutrition Screening Finding of at Risk Result: Extensional LOINC, OID 2.16.840.1.113762.1.4.1095.94
6. Hospital Dietitian Referral: Extensional SNOMED, OID 2.16.840.1.113762.1.4.1095.91

Nutrition Assessment

Nutrition Assessment performed by RD/RDN in patients screened and identified with malnutrition risk -OR- a Hospital Dietitian Referral

- Documented Nutrition Assessment
- Documented Nutrition Assessment Time Stamp
- Documented Nutrition Assessment Result

1. Nutrition Assessment: Extensional LOINC, OID 2.16.840.1.113762.1.4.1095.21
2. Nutrition Assessment Status Finding of Well Nourished or Not Malnourished or Mildly Malnourished: Grouping (SNOMED, LOINC), OID 2.16.840.1.113762.1.4.1095.96
3. Nutrition Assessment Status Finding of Well Nourished or Not Malnourished or Mildly Malnourished: Extensional SNOMED, OID 2.16.840.1.113762.1.4.1095.48
4. Nutrition Assessment Status Finding of Well Nourished or Not Malnourished or Mildly Malnourished: Extensional LOINC, OID 2.16.840.1.113762.1.4.1095.95
5. Nutrition Assessment Status Finding of Moderately Malnourished: Grouping (SNOMED, LOINC), OID 2.16.840.1.113762.1.4.1095.47
6. Nutrition Assessment Status Finding of Moderately Malnourished: Extensional SNOMED, OID 2.16.840.1.113762.1.4.1095.44
7. Nutrition Assessment Status Finding of Moderately Malnourished: Extensional LOINC, OID 2.16.840.1.113762.1.4.1095.98
8. Nutrition Assessment Status Finding of Severely Malnourished: Grouping (SNOMED, LOINC), OID 2.16.840.1.113762.1.4.1095.43
9. Nutrition Assessment Status Finding of Severely Malnourished: Extensional SNOMED, OID 2.16.840.1.113762.1.4.1095.42
10. Nutrition Assessment Status Finding of Severely Malnourished: Extensional LOINC, OID 2.16.840.1.113762.1.4.1095.97

Malnutrition Diagnosis

Malnutrition diagnosis documented by a physician or eligible provider in patients with Moderate

or Severe Malnutrition result from current Nutrition Assessment

- Documented Malnutrition Diagnosis
- Documented Malnutrition Diagnosis Time Stamp

1. Malnutrition Diagnosis: Grouping (SNOMED, ICD10), OID 2.16.840.1.113762.1.4.1095.55
2. Malnutrition Diagnosis: Extensional SNOMED, OID 2.16.840.1.113762.1.4.1095.53
3. Malnutrition Diagnosis: Extensional ICD-10, OID 2.16.840.1.113762.1.4.1095.54

Nutrition Care Plan

Nutrition care plan performed by RD/RDN in patients with Moderate or Severe Malnutrition result from current Nutrition Assessment

- Documented Nutrition Care Plan
- Documented Nutrition Care Plan Time Stamp

1. Nutrition Care Plan: Extensional SNOMED, OID 2.16.840.1.113762.1.4.1095.93

1.15 Denominator

TotalMalnutritionCompositeScore Eligible Occurrences" is 4 except in the following instances: -If a "Malnutrition Risk Screening" was performed and a "Malnutrition Screening Finding of Not At Risk Result" was identified AND "Hospital Dietitian Referral" was not ordered, then the "TotalMalnutritionCompositeScore Eligible Occurrences" is 1. -If a "Malnutrition Risk Screening" was performed OR a "Hospital Dietitian Referral" was ordered AND a "Nutrition Status Finding of Well Nourished or Not Malnourished or Mildly Malnourished" was identified OR a Nutrition Assessment was not completed , then the “TotalMalnutritionCompositeScore Eligible Occurrences” are 2. -For the reporting facility, the Population Criteria 6 averages the performance of each "TotalMalnutritionCompositeScore as Percentage" across all eligible hospitalizations during the measurement period.

1.15a Denominator Details

For any qualifying encounter with a patient at least 18 years of age or older with an inpatient status length of stay of at least 24 hours, the eligible occurrences (mathematical denominator) equals:

- 1 when there is a Not At Risk Result from Malnutrition Screening AND no Hospital Dietitian Referral order is present
- 2 when a Malnutrition Screening results in an At Risk result OR there is a Hospital Dietitian Referral AND the Nutrition Assessment results in a Well Nourished or Not Malnourished or Mildly Malnourished result OR there is no documented Nutrition Assessment.

In all other scenarios, the eligible occurrence is 4.

No specific codes or value sets are associated with the eligible occurrences (mathematical denominator).

1.15b Denominator Exclusions

None

1.15c Denominator Exclusions Details

None

1.16 Type of Score

Continuous variable, e.g., average

1.17 Measure Score Interpretation

Better performance = Higher score

1.18 Calculation of Measure Score

See attached diagram.

1.18a Attach measure score calculation diagram

1.18 Measure Score Calculation.pdf

1.19 Measure Stratification Details

No measure stratification.

1.20 Types of Data Sources

Electronic Health Records

1.25 Data Source Details

Measured entities will document all data elements directly in the Electronic Health Record. Data will be extracted from the Electronic Health Record by utilizing the value set assigned to the data elements. The report will be patient level.

1.26 Minimum Sample Size

No minimum sample size is required to determine measure performance.

2.1 Attach Logic Model

2.1 Logic Model.pdf

2.2 Evidence of Measure Importance

Addressing malnutrition improves health outcomes and quality of life and decreases complications, hospital readmissions and length of stay, as well as care delivery costs[1]. Clinical consensus recommendations underscore the benefits of early malnutrition identification and systematic nutrition care interventions; coupled with interdisciplinary collaboration, these are critical to remediating malnutrition across the care continuum. Nutrition care best practices also include the engagement of patients and their families in development and implementation of nutrition care plans during hospitalization and upon discharge to enhance recovery and improved outcomes. Studies have demonstrated that implementation of comprehensive nutrition care pathways from inpatient admission through discharge improved identification of patients at high risk of malnutrition, and decreased time to nutrition consult, length of hospital stay, and 30-day readmission rate. Evidence also demonstrates the use of malnutrition quality measures assists health systems to identify malnutrition quality of care performance gaps[2] and improve outcomes when implemented in conjunction with comprehensive quality improvement efforts.[3]

The components of this measure are supported by clinical guidance that recommends the following: (1) malnutrition screening for patients admitted into the acute inpatient care setting; (2) nutrition assessment for patients identified at-risk of malnutrition or with a hospital dietitian referral order to form the basis for appropriate nutrition interventions; (3) appropriate recognition, diagnosis, and documentation of the nutrition status of a patient in order to (4) address their condition with an appropriate plan of care and communicate patient needs to other care providers.[4] These components were originally proposed as four individual measures, though ultimately combined into one composite score based on feedback from both the National Quality Forum (NQF) and the Centers for Medicare & Medicaid Services (CMS).

The process for risk identification, assessment, diagnosis, and treatment of malnutrition necessitates a multi-disciplinary care team that begins with the identification of an initial risk population for a more thorough physical assessment by registered dietitian (RD) or registered dietitian nutritionists (RDN). The RDN in turn provides the necessary treatment recommendations to address nutritional status and the clinical indicators that inform a medical diagnosis of malnutrition completed by a physician. The four component measures individually will only provide a fraction of the necessary information on quality of care for patients at-risk of malnutrition. For example, knowing which patients have been assessed out of those who were initially identified as at-risk, but not knowing if the appropriate proportion of patients were screened upon admission, would be an insufficient assessment of quality of care.

Implementation of this measure supports timely malnutrition risk screening and hand off to the RD/RDN for appropriate nutritional assessment for patients at-risk of malnutrition during the current hospitalization. For patients identified with a moderate or severe malnutrition status from

the nutrition assessment, best practice also recommends a medical diagnosis by a physician or other qualified healthcare professionals and the execution of the nutrition care plan by an RD/RDN. Evidence demonstrates that implementing a standardized protocol for screening, assessment, diagnosis, and care planning results in better identification of malnourished patients and subsequent improvements in rates of nutrition intervention for the malnourished.[4] Outcomes modeling, and those reported in other studies, also demonstrate the benefits to patient outcomes, including reduced risk of 30-day readmissions, length of hospital stay, and complications, as well as improved quality of life after hospitalization.

[1] Sriram K, Sulo S, VanDerBosch G, et al. A comprehensive nutrition-focused quality improvement program reduces 30-day readmissions and length of stay in hospitalized patients. *JPEN J Parenter Enteral Nutr*. 2017; 41(3): 384-391.

[2] Wills-Gallagher J, Kerr KW, Macintosh B, Valladares AF, Kilgore KM, Sulo S. Implementation of malnutrition quality improvement reveals opportunities for better nutrition care delivery for hospitalized patients. *Journal of Parenteral and Enteral Nutrition*. 2022;46(1):243-248. doi:10.1002/jpen.2086

[3] Valladares AF, Kilgore KM, Partridge J, Sulo S, Kerr KW, McCauley S. How a Malnutrition Quality Improvement Initiative Furthers Malnutrition Measurement and Care: Results From a Hospital Learning Collaborative. *Journal of Parenteral and Enteral Nutrition*. 2021;45(2):366-371. doi:10.1002/jpen.1833

[4] Mueller C, Compher C & Druyan ME and the American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.) Board of Directors. Nutrition Screening, Assessment, and Intervention in Adults. Journal of Parenteral and Enteral Nutrition. 2011; 35 (1): 16-24. A.S.P.E.N. Clinical Guidelines (wiley.com)

2.3 Anticipated Impact

The provision of nutrition care in alignment with a patient's malnutrition risk or malnutrition severity has been shown to improve a variety of outcomes of interest. Early hospital-based malnutrition identification and documentation allows care teams to address a patient's condition with an appropriate plan of care and communicate patient needs to other care providers. Identifying and addressing malnutrition early in the episode of care is associated with reduced lengths of stay, 30-day readmission rates, hospital-acquired conditions, and overall healthcare costs[1],[2],[3]. A randomized controlled trial of 652 hospitalized, malnourished older adults aged 65 years and older evaluated the use of a high-protein oral nutritional supplements for its impact on patient outcomes reporting significant reductions in 90-day mortality[4]. Nutrition support for patients identified with risk for malnutrition or malnutrition improves clinical outcomes[5].Nutrition assessments conducted for at-risk patients identified by malnutrition screening using a validated screening tool was associated with key patient outcomes including

less weight loss, reduced length of stay, improved muscle function, better nutritional intake, and fewer readmissions. Additionally, a study of 733 patients from more than a dozen hospitals identified that the completion of a validated assessment for patients who were hospitalized was able to detect predictors of outcomes for malnutrition, such as hospital length of stay, and readmission within 30 days after discharge[6].

[1] Lew CCH, Yandell R, Fraser RJL, Chua AP, Chong MFF, Miller M. Association Between Malnutrition and Clinical Outcomes in the Intensive Care Unit: A Systematic Review. *Journal of Parenteral and Enteral Nutrition*. 2017;41(5):744-758. doi:10.1177/0148607115625638

[2] Meehan A, Loose C, Bell J, Partridge J, Nelson J, Goates S. Health System Quality Improvement. *J Nurs Care Qual*. 2016;31(3):217-223. doi:10.1097/NCQ.0000000000000177

[3] Fry DE. Patient Characteristics and the Occurrence of Never Events. *Archives of Surgery*. 2010;145(2):148. doi:10.1001/archsurg.2009.277

[4] Deutz NE, Matheson EM, Matarese LE, et al. Readmission and mortality in malnourished, older, hospitalized adults treated with a specialized oral nutritional supplement: A randomized clinical trial. *Clinical Nutrition*. 2016;35(1):18-26. doi:10.1016/j.clnu.2015.12.010

[5] Mueller C, Compher C, Ellen DM. A.S.P.E.N. Clinical Guidelines. *Journal of Parenteral and Enteral Nutrition*. 2011;35(1):16-24. doi:10.1177/0148607110389335

[6] Jeejeebhoy KN, Keller H, Gramlich L, et al. Nutritional assessment: comparison of clinical assessment and objective variables for the prediction of length of hospital stay and readmission. *Am J Clin Nutr*. 2015;101(5):956-965. doi:10.3945/ajcn.114.098665

2.4 Performance Gap

Testing activities involving statistical analysis used EHR data from 28 facilities, comprised of academic medical centers, critical access hospitals, and short-term acute care facilities. The sample included a mix of rural and urban facilities, and two EHR systems (Epic [N=9] and Cerner [N=19]).

Table 1. Performance Scores by Decile

Performance Gap

	Overall	Minimum	Decile_1	Decile_2	Decile_3	Decile_4	Decile_5	Decile_6	Decile_7	Decile_8	Decile_9	Decile_10	Maximum
Mean Performance Score	90.3	83.7	84.0	86.1	87.9	88.8	89.5	90.5	91.8	92.6	94.2	98.0	98.2
N of Entities	28	1	3	3	3	2	3	3	2	3	3	3	1
N of Persons / Encounters / Episodes	145,846	310	4945	8644	10,299	5724	11,824	33,921	19,748	13,118	9877	27,746	6304

2.4a Attach Performance Gap Results

CBE-Performance Gaps.docx

2.5 Health Care Quality Landscape

The current measure in place to evaluate the quality of malnutrition care includes only patients aged 65 years and older. There is evidence supporting the presence of malnutrition in adults of all ages.[1] Expanding this measure to include all adults aged 18 and older will better capture quality of malnutrition care for all hospitalized adults, as malnutrition has a significant impact on care and outcomes throughout the life cycle. Additionally, this expansion will help address the known major gap between the presence of malnutrition and its diagnosis and treatment, and major impact of food insecurity identification to help improve health equity.

2.6 Meaningfulness to Target Population

The voice of patients, families, and caregivers is essential to the provision of high-quality care. To ensure that malnutrition care included this unique perspective, a National Dialogue was convened in 2018 among multi-stakeholder representatives from providers, social workers, payers, professional societies, patient and caregiver advocacy groups, and community-based service providers. Participants voiced concern that nutrition status is rarely considered when evaluating overall health status, and that the term “malnutrition” often has a negative connotation among patients and caregivers because of implied fault. However, there was a consensus among the entirety of the group that evaluation of nutrition status and the provision of high-quality nutrition care should be integrated into protocols, pathways, and models throughout the care spectrum.

3.1 Contributions Towards Closing Care Gaps

The importance of nutrition for health was marked when nutritional care was raised to the level of a human right, in close relationship to two well-recognized fundamental rights: the right to food and the right to health. Defined as the state in which everyone has a fair and just opportunity to attain their highest level of health, it is critical to include malnutrition care as a measure of improvement in health equity. Malnutrition is unique because it not only has deeply complex physiological causes, but also a multifactorial environmental, economic, and psychosocial origin. Furthermore, the COVID-19 pandemic reinforced that SDOH, including access to nutritious food, have a major impact on people’s health, well-being, and quality of life and that SDOHs are intrinsically linked to health equity. As such, an individual’s health can be influenced not only by genetics and family circumstances, but also by the environment, policies, and community they live in.

There is an inherent connection between malnutrition, food insecurity, and health equity. Food

insecurity can be counted as the most relevant to cause or affect malnutrition. Food insecurity is present in households concerned about food running out, diet quality and variety, and quantity of food consumed. Screening for malnutrition can be of useful in identifying and addressing health inequities when malnutrition is caused by food insecurity. Addressing malnutrition through the implementation of quality measures that include a nutrition care plan provided by an RDN can help reduce disparities in accessing healthy food and health care. Malnutrition can be directly or indirectly affected by social determinants of health, making it a key diagnosis to improve health inequities. In addition, of all the healthcare settings, acute care houses all the possible resources and community contacts to support a patient with a malnutrition diagnosis.

The main goal of the GMCS is to measure performance related to identification and treatment of malnutrition in the acute care setting. Identifying malnutrition helps flag those who are food insecure and, conversely, identifying food insecurity may suggest the presence of risk of malnutrition. In addition, the GMCS includes an individualized nutrition care plan tailored to address any social determinant of health directly related to the malnutrition diagnosis, hence improving health equity for the patient. More importantly, because it is an interdisciplinary measure, GMCS includes many professional resources, potentially improving care while ensuring a more comprehensive discharge plan.

4.1 Feasibility Assessment

For the assessment of feasibility, we collected data via a feasibility scorecard, which was filled out by three hospital systems. Our goal was to determine the ease of collecting the data needed to report the measure(s) and to determine what changes, if any, would be needed in the hospital's workflow or EHR to support implementation. We developed feasibility scorecards using the CBE's standard scorecard template, customizing each scorecard to include all the data elements needed to calculate each measure. The scorecard includes questions about current and future capabilities related to four categories: workflow, data availability, data accuracy, and data standards. The scorecard rates each data element as 0 or 1. For data elements that received a score of 0 on any of the four feasibility criteria, we asked clinicians to provide a narrative description of what is required to achieve future feasibility.

Three hospital systems, two using Epic and one using Meditech for their EHR systems completed feasibility scorecards ahead of the workflow assessments to (1) show the availability of each data element required to calculate the measure score and (2) identify feasibility concerns at the sites. The scorecard assessed the ease of collecting each data element and the extent to which sites anticipate being able to collect more challenging data elements in the future.

4.2 Attach Feasibility Scorecard

GMCS-Feasibility-Scorecard-ALLRESULTS with plan.xlsx

4.3 Feasibility Informed Final Measure

Overall, the completed feasibility scorecards confirmed the feasibility of implementing the GMCS measure in clinical settings. Two hospital systems (using Epic) rated all data elements needed to compute the GMCS measure as feasible across all four categories. One hospital system (using Meditech) rated all data elements as feasible for workflow but reported feasibility issues (a score of 0) on some GMCS-specific data elements (e.g., Intervention Performed: Nutrition Care Plan, Assessment Performed: Nutrition Assessment Status) for the data availability, accuracy, and standards categories. This hospital system indicated that all data elements are supported by their workflow and would be feasible in the EHR system, but because the GMCS measure is not currently implemented at their sites, they do not have the data elements' value sets coded and available. However, they did not anticipate any feasibility concerns for future implementation.

Given these findings supporting the feasibility of the GMCS with the current specifications, we have not made any adjustments to the final measure in response to the feasibility assessment.

4.4 Proprietary Information

Not a proprietary measure and no proprietary components

5.1.1 Data Used for Testing

Testing activities involving statistical analysis used EHR data from 28 facilities, comprised of academic medical centers, critical access hospitals, and short-term acute care facilities. The sample included a mix of rural and urban facilities, and two EHR systems (Epic [N=9] and Cerner [N=19]).

In addition, to evaluate the importance, usability and use, and face validity of the measure, we developed a web survey with a battery of questions assessing 1) clinicians' views on whether the measure is evidence-based and important to making significant gains in healthcare quality (importance), and 2) whether potential audiences are using or could use performance results for both accountability and performance improvement to achieve the goal of high-quality, efficient healthcare for individuals or populations (usability and use). The survey was distributed to nutrition and dietetics practitioners affiliated with the Academy of Nutrition and Dietetics. Responses were collected between 3/18/24 and 3/31/24, and we received a total of N = 48 survey responses.

5.1.2 Differences in Data

None

5.1.3 Characteristics of Measured Entities

Our analysis is based on data from 145,846 eligible encounters. Eligible encounters were defined

as encounters of patients who are 18 years or older and with a hospital length of stay of 24 hours or longer with any admission diagnosis between 1/1/2022 and 12/31/2022.

The sample comprises patient encounters with a mean age of 60.4 years (standard deviation = 19.1). 52.9% of the sample fell within the 18-64 age group, while 47.1% were aged 65 and older. Just over a half (54.3%) of the sample were female, and 45.7% are male. Ethnicity-wise, 99.2% of the encounters were for the non-Hispanic patients, with 0.6% being Hispanic and 0.2% missing data. The racial composition shows that 70.2% of the encounters were White, 22.5% were Black or African American, and smaller percentages belonged to other racial categories, including American Indian or Native Alaskan, Asian, Native Hawaiian or Pacific Islander, and others. Additionally, 1.2% of the sample are marked as UTD (untested or unknown), with 0.1% missing race data.

The sample displays both similarities and differences in comparison to national estimates. The mean age of individuals in our sample is 60.4 years, which is higher than the national average for inpatient admissions (49.9 years). The higher mean age in our sample may be higher than the national average because GMCS was initially developed, piloted, and validated for screening malnutrition risk in adults aged 65 years and older. Additionally, the patient populations of the facilities in our sample were skewed towards older patients. A slightly larger proportion of individuals in our sample were aged 65 and older (47.1% vs. a national estimate of 40%), while a somewhat smaller proportion fell within the 18-64 age group (52.9% vs the national estimate of 60%). Additionally, our sample has a slightly higher percentage of females (54.3%) compared to the national estimate of 49.5%, and a slightly lower percentage of males (45.7%) compared to the national estimate of 50.5%.

A higher percentage of individuals in our sample are non-Hispanic (99.2%) compared to the national estimate of 80.9%, while a lower percentage are Hispanic (0.6%) compared to the national estimate of 19.1%. When examining racial composition, our sample has a higher percentage of White individuals (70.2%) compared to the national estimate of 75.5%, and a higher percentage of Black or African American individuals (22.5%) compared to the national estimate of 13.6%. Conversely, our sample has lower percentages of individuals from other racial categories such as American Indian or Native Alaskan, Asian, and Native Hawaiian or Pacific Islander, compared to national estimates.

5.1.4 Characteristics of Units of the Eligible Population

Our analysis is based on data from 145,846 eligible encounters. Eligible encounters were defined as encounters of patients who are 18 years or older and with a hospital length of stay of 24 hours or longer with any admission diagnosis between 1/1/2022 and 12/31/2022.

The sample comprises patient encounters with a mean age of 60.4 years (standard deviation = 19.1). 52.9% of the sample fell within the 18-64 age group, while 47.1% were aged 65 and older. Just over a half (54.3%) of the sample were female, and 45.7% are male. Ethnicity-wise, 99.2% of the encounters were for the non-Hispanic patients, with 0.6% being Hispanic and 0.2% missing data. The racial composition shows that 70.2% of the encounters were White, 22.5% were Black or African American, and smaller percentages belonged to other racial categories, including American Indian or Native Alaskan, Asian, Native Hawaiian or Pacific Islander, and others. Additionally, 1.2% of the sample are marked as UTD (untested or unknown), with 0.1% missing race data.

The sample displays both similarities and differences in comparison to national estimates. The mean age of individuals in our sample is 60.4 years, which is higher than the national average for inpatient admissions (49.9 years). The higher mean age in our sample may be higher than the national average because GMCS was initially developed, piloted, and validated for screening malnutrition risk in adults aged 65 years and older. Additionally, the populations of the samples facilities was skewed towards older patients. A slightly larger proportion of individuals in our sample were aged 65 and older (47.1% vs. a national estimate of 40%), while a somewhat smaller proportion fell within the 18-64 age group (52.9% vs the national estimate of 60%). Additionally, our sample has a slightly higher percentage of females (54.3%) compared to the national estimate of 49.5%, and a slightly lower percentage of males (45.7%) compared to the national estimate of 50.5%.

A higher percentage of individuals in our sample are non-Hispanic (99.2%) compared to the national estimate of 80.9%, while a lower percentage are Hispanic (0.6%) compared to the national estimate of 19.1%. When examining racial composition, our sample has a higher percentage of White individuals (70.2%) compared to the national estimate of 75.5%, and a higher percentage of Black or African American individuals (22.5%) compared to the national estimate of 13.6%. Conversely, our sample has lower percentages of individuals from other racial categories such as American Indian or Native Alaskan, Asian, and Native Hawaiian or Pacific Islander, compared to national estimates.

5.2.1 Level(s) of Reliability Testing Conducted

Accountable entity level (i.e., measure score) (e.g., signal-to-noise analysis)

5.2.2 Method(s) of Reliability Testing

Signal-to-noise reliability

Using signal-to-noise reliability, we tested the extent to which a facility's quality of malnutrition care can be distinguished from that of other facilities using the GMCS. In other words, signal-to-noise reliability tests the precision of measure scores. To compute signal-to-noise reliability, we estimated the proportion of observed variability in the GMCS that is due to differences between facilities in the completeness of malnutrition care (signal variance), as opposed to variability due

to differences in care within facilities (noise variance).

For each facility, we computed the facility-specific noise variance as the sample variance of the patient scores on Measure Observation 6 divided by the number of encounters in the facility minus 1. For the signal variance, we used the iterative empirical Bayes method to estimate a single value for all facilities. We then calculated a reliability coefficient for each facility as the ratio of signal variance to the sum of the signal variance and noise variance for that facility. A reliability of 1 indicates perfect reliability, where all variation in the GMCS measure scores reflects between-facility differences rather than within-facility differences.

Test-retest reliability

Using test-retest reliability, we assessed the stability of the GMCS across random samples of encounters. In other words, we tested the extent to which the GMCS measure scores are affected by sampling variability in the encounters used to compute the scores.

To do so, we drew 1,000 bootstrap samples (i.e., sampling with replacement) of encounters stratified by facility, where we kept the original number of encounters within each facility. The randomly sampled sets of encounters from a given facility are assumed to reflect an independent set of re-measurement of the GMCS scores for each facility. Adequate reliability is assumed if the GMCS measure scores calculated from the random datasets for the same IPF are similar.

Within each bootstrap sample, we computed the GMCS measure score for each facility and grouped the 1,000 samples into 500 pairs. We then calculated Spearman's correlation (rho) and the intraclass correlation coefficient (ICC) between those measure scores in each pair of samples to assess how stable the facilities' measure scores remains as they get computed on a different, randomly sampled set of encounters. Spearman's correlation quantifies the strength of the rank-order association between the measure scores in each pair, where a value of 1 indicates perfect positive association. The ICC quantifies the strength of absolute agreement between the facility scores in each pair, where a value of 1 indicates perfect reliability. Following the calculations, we examined the distribution of the resulting 500 Spearman's correlations and ICCs. Adequate reliability is assumed if the GMCS measure rates calculated from the random datasets for the same facility are similar. Note that unlike signal-to-noise, test-retest reliability does not provide a separate reliability coefficient per facility.

5.2.3 Reliability Testing Results

Signal-to-noise reliability

The summary statistics reveal high reliability across the board with coefficients averaging at 0.96 and ranging from 0.69 to 1.00. The median signal-to-noise reliability for the GMCS measure is sufficiently high (above the CBE threshold of 0.6) for all facilities (0.99). Using the CBE threshold

of 0.60, all facilities in our sample would be considered to have a sufficiently high reliability.

Test-retest reliability

Spearman's correlation averaged at 0.97 and ranged from 0.91 to 0.99, and the ICC averaged at 0.96 and ranged from 0.83 to 0.99. Given that a Spearman's correlation of above 0.90 is often considered very strong, and an ICC of above 0.75 is considered good reliability, these results provide evidence of high reliability for the GMCS.

5.2.3a Attach Additional Reliability Testing Results

CBE-Reliability Testing Results.docx

5.2.4 Interpretation of Reliability Results

The results of the reliability analysis indicate that the GMCS is a highly reliable measure, both with respect to signal-to-noise and test-retest reliability. The high reliability coefficients obtained in the signal-to-noise analysis suggest that the GMCS can be reliably used to distinguish between facilities in terms of their completeness of malnutrition care. The high reliability coefficients obtained in the test-retest analysis support that the GMCS is highly stable in the face of random sampling variability in the encounters used to compute the measure scores.

Table 2. Accountable Entity Level Reliability Testing Results by Denominator, Target Population Size

Accountable Entity-Level Reliability Testing Results

	Overall	Minimum	Decile_1	Decile_2	Decile_3	Decile_4	Decile_5	Decile_6	Decile_7	Decile_8	Decile_9	Decile_10	Maximum
Reliability	0.96	0.78	0.82	0.93	0.95	0.97	0.98	0.99	1.00	0.99	0.97	1.00	1.00
Mean Performance Score	90.3	83.7	84.0	86.1	87.9	88.8	89.5	90.5	91.8	92.6	94.2	98.0	98.2
N of Entities	28	1	3	3	3	2	3	3	2	3	3	3	1
N of Persons / Encounters / Episodes	145,846	310	4945	8644	10,299	5724	11,824	33,921	19,748	13,118	9877	27,746	6304

5.3.1 Level(s) of Validity Testing Conducted

Person or encounter level (i.e., data element) (e.g., sensitivity and specificity), Accountable entity level (i.e., measure score) (e.g., criterion validity)

5.3.3 Method(s) of Validity Testing

Empirical validity testing

We found significant differences in the malnutrition screening result across all four patient and encounter characteristics. The direction of the differences was as expected according to prior research, where encounters of older patients had more "at-risk" results than younger patients, longer stays more than shorter stays, readmission encounters more than non-readmissions, and encounters of non-Hispanic black patients more than non-Hispanic white patients.

The φ (phi) effect size, is a measure of association used to determine the strength and direction of the relationship between two categorical variables. It is similar to the Pearson correlation coefficient for continuous variables but is specifically designed for binary (yes/no) data. The φ coefficient ranges from -1 to 1, where -1 indicates a perfect negative association, 1 indicates a perfect positive association, and 0 indicates no association between the variables. For φ effect size coefficient, the values of 0.10, 0.30 and 0.50 indicate, respectively, small, medium and large effects.

The Cohen's h effect size, is a measure of the difference in proportions between two groups. It is used for comparing the proportions of two groups when the data are binary (e.g., success/failure, yes/no). Cohen's h provides a standardized measure of effect size, allowing for comparisons across different studies or contexts. For Cohen's h effect size coefficient, the values of 0.20, 0.50 and 0.80 indicate, respectively, small, medium and large effects.

Unexpectedly, we found non-significant differences for the age and LOS factors, meaning that facilities' GMCS measure scores did not differ meaningfully across encounters of older and younger patients and across longer and shorter stays. On the other hand, as hypothesized, we found significant differences in facilities' GMCS measure scores across the readmission status and race/ethnicity factors. The direction of the differences was as expected, where the GMCS computed among readmission encounters were lower than that of non-readmission encounters, and the GMCS computed among encounters of non-Hispanic black patients were lower than that of non-Hispanic white patients.

Cohen's d is a measure of effect size commonly used in the context of comparing the means of two groups. For Cohen's d effect size coefficient, the values of 0.20, 0.50 and 0.80 indicate, respectively, small, medium and large effects. The Wilcoxon signed-rank test is a non-parametric statistical test used to compare two related samples or paired data, which we used in place of the paired sample t-test in cases where the normality assumption was not met. The Wilcoxon test can be used to calculate an effect size denoted as *r*, which represents the extent to which the measure score in one group differ from the scores in another group. To interpret the r effect size, we used the same cutoffs we used for interpreting Cohen's d.

Data element validity

The results demonstrate no variation in the validity or the data elements by sites, with all sites reporting 100% agreement on all tested data elements.

Face validity

The responses to the web survey revealed overall support among clinicians for the face validity of the GMCS measure. Most clinicians agreed or strongly agreed that the GMCS measure score is an accurate reflection of malnutrition care quality (84.8%; Question a), and most clinicians agreed or strongly agreed that it can be used to distinguish between good and poor quality of malnutrition care (73.9%; Question b). No clinicians strongly disagreed with either of these two statements. Of the clinicians who disagreed with these statements, a commonly expressed concern was that the GMCS measure only captures the completion or documentation of the care components, rather the quality or effectiveness of the provided assessments and interventions.

Finally, we received several recommendations to strengthen the face validity of the GMCS measure. These recommendations included the addition of monitoring and evaluation of care to assess care quality and impacts, to define specific aspects needed in a nutrition care plan, to add a discharge component to the measure, and to promote dietitians' (who are the experts in nutrition) active participation and lead in implementing the measure.

5.3.4 Validity Testing Results

We found significant differences in the malnutrition screening result across all four patient and encounter characteristics. The direction of the differences was as expected according to prior research, where encounters of older patients had more "at-risk" results than younger patients, longer stays more than shorter stays, readmission encounters more than non-readmissions, and encounters of non-Hispanic black patients more than non-Hispanic white patients.

Unexpectedly, we found non-significant differences for the age and LOS factors, meaning that facilities' GMCS measure scores did not differ meaningfully across encounters of older and younger patients and across longer and shorter stays. On the other hand, as hypothesized, we found significant differences in facilities' GMCS measure scores across the readmission status and race/ethnicity factors. The direction of the differences was as expected, where the GMCS computed among readmission encounters were lower than that of non-readmission encounters, and the GMCS computed among encounters of non-Hispanic black patients were lower than that of non-Hispanic white patients.

The responses to the web survey revealed overall support among clinicians for the face validity of the GMCS measure. Most clinicians agreed or strongly agreed that the GMCS measure score is an accurate reflection of malnutrition care quality (84.8%; Question a), and most clinicians agreed or strongly agreed that it can be used to distinguish between good and poor quality of malnutrition care (73.9%; Question b). No clinicians strongly disagreed with either of these two statements. Of the clinicians who disagreed with these statements, a commonly expressed concern was that the GMCS measure only captures the completion or documentation of the care components, rather

the quality or effectiveness of the provided assessments and interventions.

Finally, we received several recommendations to strengthen the face validity of the GMCS measure. These recommendations included the addition of monitoring and evaluation of care to assess care quality and impacts, to define specific aspects needed in a nutrition care plan, to add a discharge component to the measure, and to promote dieticians' (who are the experts in nutrition) active participation and lead in implementing the measure.

5.3.4a Attach Additional Validity Testing Results

CBE-Validity Results (1).docx

5.3.5 Interpretation of Validity Results

The above results collectively provide evidence of high validity for the GMCS measure.

First, the two sets of statistical hypotheses tested in the empirical analyses provide evidence of validity for the GMCS based on its relationship with readmission status and race/ethnicity. In particular, the results indicate that as suggested in the literature, readmission encounters and encounters of non-Hispanic black patients are at higher risks of malnutrition compared to non-readmission encounters and encounters of non-Hispanic white patients, respectively. Further, facilities had significantly lower performance on the GMCS when computed among these higher-risk encounters compared to their lower-risk counterparts. These statistical findings together suggest that the facility scores relate to readmission status and race/ethnicity as expected, providing a form of validity evidence for the GMCS. We did not find evidence of validity for the GMCS with regards to its hypothesized relationship with age and LOS. This may be in part due to the relatively small sample size (N = 28) used in the paired t-tests in the second set of hypotheses. Though this is unlikely to impact overall scoring, future research may benefit from testing data from a larger number of facilities.

Second, the data elements used to construct the GMCS measure were validated by showing perfect agreement with the source EHR data, providing evidence that the data elements are accurate reflections of the malnutrition care provided to patient encounters.

Finally, the results from the clinician web survey suggest that there is overall agreement among clinicians regarding the face validity of the GMCS measure as being an accurate reflection of malnutrition care quality.

5.3.2 Type of Accountable Entity Level Validity Testing Conducted (derived)

Empirical validity testing at the accountable entity-level (e.g., criterion validity, construct validity, known groups analysis), Systematic assessment of face validity of the measure's performance

score as an indicator of quality or resource use

5.4.1 Methods Used to Address Risk Factors

No risk adjustment or stratification

5.4.2a Attach Conceptual Model

Diagram GMCS.zip

6.1.1 Current Status

In use

6.1.2 Current or Planned Use(s)

Public Reporting, Regulatory and Accreditation Programs, Quality Improvement (Internal to the specific organization)

6.1.3 Current Use(s)

Public Reporting, Regulatory and Accreditation Programs, Quality Improvement (Internal to the specific organization)

6.1.3 Program Details

Name of the program and sponsor
CMS IQR
URL of the program
https://ecqi.healthit.gov/ecqm/eh/2024/cms0986v2
Purpose of the program
The Hospital Inpatient Quality Reporting (IQR) Program is a pay-for-reporting program for acute care hospitals. Data collected under the Hospital IQR Program is publicly available to consumers and providers on the Care Compare website.
Geographic area and percentage of accountable entities and patients included
None reported yet
Applicable level of analysis and care setting

Applies to Eligible Hospitals and Eligible Critical Access Hospitals participating in the IQR program.

6.2.1 Actions of Measured Entities to Improve Performance

The Global Malnutrition Composite Score for a facility demonstrates how many of the clinically eligible components of evidence-based malnutrition care were documented for the qualifying population. The goal for the final score is for its value to be closer to 100%. Because it is a composite score, facilities can evaluate which component is not at 100% completion, and thus, directly address the gap(s) in service to address malnutrition care. In addition, the GMCS follows the evidence- and consensus-based Nutrition Care Process (NCP), a quality improvement process designed to standardize terminology and improve consistency in nutrition care to improve outcomes. The four steps of the NCP, Nutrition Assessment and Reassessment, Nutrition Diagnosis, Nutrition Intervention, and Nutrition Monitoring and Evaluation, are captured in the measure observations of the GMCS. Though not a formal part of the NCP, nutrition screening is a

process by which individuals enter the NCP after identification as at risk for malnutrition. Consistency in these steps allows for improved and individualized care to treat patients based on their level of malnutrition and/or malnutrition risk based on both clinical risk factors and patient preferences.

The process for risk identification, assessment, diagnosis, and treatment of malnutrition necessitates an interprofessional care team that begins with the identification of an initial risk population for a more thorough nutrition-focused physical examination (NFPE) by the RDN. The RDN in turn provides the necessary treatment recommendations to address nutritional status and the clinical indicators that inform a medical diagnosis of malnutrition completed by a physician or other eligible provider. The four components, when measured only individually, provide merely a fraction of the necessary information on quality of care for patients at-risk of malnutrition. For example, knowing which patients have been assessed out of those who were initially identified as at-risk, but not knowing if the appropriate proportion of patients were screened upon admission, would be an insufficient assessment of quality of care. The GMCS' inclusion of both individual components and a composite score allows organizations to evaluate data and drive change based on their individual performance.

The GMCS supports timely malnutrition risk screening and hand off to the RDN for appropriate nutrition assessment for patients at-risk for malnutrition. For patients identified with a moderate or severe malnutrition from the nutrition assessment, best practice also recommends a medical diagnosis by a physician or other qualified healthcare professional and the execution of the nutrition care plan by an RDN. Evidence demonstrates that implementing a standardized protocol for screening, assessment, diagnosis, and care planning results in better identification of malnourished patients and subsequent improvements in rates of nutrition intervention for the malnourished.

Nutrition Screening

Nutrition screening is defined as the process of identifying individuals who may have a nutrition diagnosis and therefore may benefit from nutrition assessment and interventions by an RDN. All hospitalized patients should be screened for risk of malnutrition and/or nutrition-related problems. Nutrition screening tools are intended to be simple and require little to no training to execute, thereby allowing for completion by a variety of health professionals, particularly in the acute care setting.

As a workflow element of the NCP, nutrition screening plays an integral role in clinical workflows as the entry point to the NCP to ensure patients are properly channeled to RDNs for nutrition assessments and associated interventions. Likewise, referrals to and/or care pathways including the RDN or nutrition, serve as a parallel route, allowing clinicians to use their judgement in

identifying patients that may benefit from RDN assessment and interventions. Because this is a requirement by The Joint Commission, this workflow should already be present in acute care facilities. Though optimization work may be needed, little effort should be required from implementors.

If there is a need to improve the score in this observation, measure entities may benefit from identifying barriers to completing the screening. A process improvement project can be done to identify and address the facility specific barrier(s). As a reminder, in the absence of nutrition screening, a hospital dietitian referral and/or care pathway decision point can prompt the RDN to complete a nutrition assessment, identify the nutrition status, and develop a patient-specific nutrition care plan of malnutrition treatments and interventions. Creating a standardized set of criteria for initiating a dietitian referral may improve appropriate referral rates while minimizing referrals that do not truly require RDN assessment and/or intervention.

Nutrition Assessment

The second step in optimal nutrition care for patients identified as at risk for malnutrition is performing a nutrition assessment. Nutrition assessment is a systematic approach for collecting, classifying, and synthesizing essential data to describe nutritional status. Using structured nutrition care terminology supports clear and consistent communication of nutrition care indicators representing the unique contribution of the RDN, relevant to supporting a nutrition status problem(s), and understandable to the interdisciplinary team. In the case of validated malnutrition assessment tools, structured nutrition concepts are useful because the indicators are defined and determined to be accurate to support malnutrition identification. RDNs provide a critical analysis of the nutrition findings and compare them against suitable reference standards with a distillation of the most relevant data to support the existence of a nutrition problem and its etiology, also known as the cause and/or contributing factors, of a nutrition problem.

If the scores for this observation were to be low, measure entities are encouraged to involve the facility RDN, and any other affected staff, in reviewing the current process of alerting the RDN when there is a referral or an At Risk nutrition screening result. Once the current process is defined, and gaps are identified, staff can develop a process that addresses the needs with the available resources.

Nutrition Diagnosis

Documentation of a malnutrition diagnosis in the electronic health record (EHR) may vary widely based on hospital policies, RDN and physician/eligible clinician practices, and use of the NCP. Diagnosis and documentation of malnutrition to address a patient's condition with an appropriate plan of care and communication of patient needs to other care providers is essential

to the provision of high-quality care. The nutrition diagnosis problem, found in the Nutrition Assessment, using structured NCP terminology in a PES (problem, etiology, and sign/symptom) statement is a concise communication to the physician and/or eligible clinician of the finding, its cause, and the supporting evidence, thus offering a focused summary of the nutrition status and eliminating the need for providers to review and digest the RDN nutrition assessment analysis.

If this observation has a low score, measure entities will need to address identify the common reasons for the gap between RDN nutrition diagnosis during the Nutrition Assessment, and the physician or eligible clinician's malnutrition diagnosis. Most of the time, educating the physician or eligible clinician in the process of the RDN nutrition diagnosis, and how the PES statement supports the malnutrition diagnosis, is a step towards improving this score. Resources including the EHR system can be leveraged to support improved communication between RDN and physician or eligible clinician and close the gap in care.

Nutrition Care Plan

Optimal nutrition care best practice is comprised of appropriate recognition, diagnosis, and documentation of the nutrition status of a patient to address their condition with an appropriate plan of care addressing the cause of the problem and communicating patient needs to other care providers. Nutrition interventions that address the malnutrition diagnosis in hospitalized patients are key to support patient outcomes.

Appropriate and timely identification of patients eligible for a nutrition assessment, along with subsequent physician or eligible clinician notification of nutrition problem statements and recommended interventions including markers for monitoring the effectiveness of the intervention, are critical in diagnosing malnutrition and providing the necessary follow-up care.

It is important to note that as an established process, the RDN usually includes the Nutrition Care Plan as part of the Nutrition Assessment done in that observation step. Addressing low scores in this step is expected to be mostly through the analysis of steps in place to ensure the Nutrition Care Plan is developed by the RDN, once the malnutrition diagnosis is identified, and that this is actually coded/mapped to the correct data set in the reporting process.

6.2.2 Feedback on Measure Performance

Since initial publication, a total of 21 JIRA tickets have been submitted for the 65+ version of this measure. Additionally, the measure has received numerous expert reviews throughout two separate Annual Update cycles. Several main themes emerged from these tickets, namely:

- Calculation errors in specific scenarios (negative malnutrition risk screening followed by

completion of other components; negative nutrition assessment followed by completion of other components)
- Overlapping codes in nutrition screening and assessment value sets
- Confusion over recommended screening tools based on selected value set codes
- Unclear wording in header description of measure observations and aggregation
- Measure calculation logic that more fairly captures performance of measure observations

6.2.3 Consideration of Measure Feedback

Based on issues identified in JIRA tickets, several changes were made to measure logic, and corresponding header language, namely:

- Update to the measure logic to eliminate calculation errors
- Adjusting age parameter to start during encounter rather than measurement period
- Removal of redundant logic in Measure Observation definitions
- Inclusion of malnutrition diagnoses from previous encounters to better align with clinical practice
- Inclusion of completed Measure Observations during adjacent Emergency Department and/or Observation encounters associated with the eligible Inpatient Encounter
- Updates to names and content of nearly every measure value set to reduce confusion, eliminate overlap, and better capture clinical practice
- Updates to eligible occurrences (mathematical denominator) to more fairly measure performance

6.2.4 Progress on Improvement

Because no formal measure reporting has yet taken place, no concrete data is available to determine the impact of updates to measure logic and header on performance scores. However, the recent rate of JIRA ticket submissions related to the 65+ population version of measure has consistently declined, potentially indicating that issues and questions have been satisfactorily addressed. Likewise, all feedback received during the two Annual Update cycles, including input from a multidisciplinary technical expert panel and patient representatives, has been satisfactorily addressed.

6.2.5 Unexpected Findings

Over the course of measure testing, update, and review, it was clear that in certain circumstances, the logic led to erroneously high performance scores. As a result, a Known Issue, EKI-21, was published to provide guidance to implementers.

Because no formal measure reporting has yet taken place, the QMS team is unaware of other impacts, including those that may directly affect patients. Anecdotally, implementers frequently communicate to QMS that the measure has increased the visibility and perceived importance of malnutrition care in their facilities, but no data is available to substantiate these statements.

Developer POC email

tojeda@eatright.org

Measure Developer POC

Tamaire Ojeda
Commission on Dietetic Registration
120 S. Riverside Plaza
Suite 2190
Chicago, IL 60606
United States

Measured/accountable entity (reliability and/or validity) methodology and results (if available)

Measured entity (reliability and validity) methodology and results (if available), Person or encounter-level (reliability and validity) methodology and results (if available)

The measure developer is different from the measure steward

Yes

Steward Address

United States

Steward Organization

Commission on Dietetic Registration

Steward Organization URL

https://www.cdrnet.org/

Steward POC email

cdr@eatright.org