MALNUTRITION QUALITY IMPROVEMENT INITIATIVE™

Implementing Quality Improvement and Reporting on the Malnutrition Composite Score (MCS)

Updated May 2025

The Malnutrition Quality Improvement Initiative (MQii) is a project of the Academy of Nutrition and Dietetics, Avalere Health, and other stakeholders who provided guidance and expertise through a collaborative partnership. Support provided by Abbott.

Outline

Suggested Instructions for Use

- This entire presentation can be a valuable resource for people in multiple roles related to nutrition, hospital leadership, quality, and IT
- The MQii team suggests certain subsets of slides that may be most relevant for certain audiences
  - This recommendation is indicated with the **sidebar** located on the right-hand side of each slide
- These recommendations are not requirements, and you may find slides not indicated for specific audiences are needed for additional context/information in some cases

MALNUTRITION QUALITY IMPROVEMENT INITIATIVE

Why Malnutrition Matters

The Malnutrition Quality Improvement Initiative (MQii) is a project of the Academy of Nutrition and Dietetics, Avalere Health, and other stakeholders who provided guidance and expertise through a collaborative partnership. Support provided by Abbott.

Malnutrition Is a Burdensome and Often Under-Identified Condition

Malnutrition Is A Highly Preventable Condition

Up to 50%

of patients at risk of becoming malnourished are affected by malnutrition.

9%

of hospitalized patients are diagnosed with malnutrition.

Up to 31%

of malnourished patients and 38% of well-nourished patients experience nutritional decline during their hospitals stays.

Malnutrition Poses a Significant Burden to Patients and Hospitals

5x

maximum likelihood of in-hospital death compared to general patient population.

56%

higher likelihood of 30-day readmissions, with septicemia as the leading diagnosis upon readmission.

34%

higher costs for a malnourished patient hospital stay compared to non-malnourished patient stays.

Sources: Barrett ML, Bailey MK, Owens PL, Brown MH. Non-maternal and Non-neonatal Inpatient Stays in the United States Involving Malnutrition, 2016. August 30, 2018. U.S. Agency for Healthcare Research and Quality. Available here.

Curtis LJ, Bernier P, Jeejeebhoy K, Allard J, Duerksen D, Gramlich L, Laporte M, Keller HH. Costs of hospital malnutrition. *Clin Nutr.* 2017;36(5):1391-1396.

Academy of Nutrition and Dietetics. Malnutrition Composite Score Specification Manual. June 2022. Available here.

Quality Malnutrition Care Produces Significant Cost Savings for Hospitals

27%

reduction in 30-day readmission rates for a multi-hospital Accountable Care Organization that optimized its malnutrition care.

$4.8M

in cost savings generated by a 4-hospital system that implemented a nutrition-focused quality improvement program.

24%

relative reduction in readmission risk for malnourished patients with a nutrition care plan versus those patients without a care plan.

***For more information on the value of malnutrition care, please visit the Malnutrition Matters page found on the MQii website.**

Sources: 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.

Sulo S, Feldstein J, Partridge J, et al. Budget impact of a comprehensive nutrition-focused quality improvement program for malnourished hospitalized patients. *Am Health Drug Benefits.* 2017;10(5):262- 270.

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. *JPEN J Parenter Enteral Nutr*. 2021;45(2):366-371.

MALNUTRITION QUALITY IMPROVEMENT INITIATIVE™

STEP 1: Implementing Malnutrition Quality Improvement (QI)

The Malnutrition Quality Improvement Initiative (MQii) is a project of the Academy of Nutrition and Dietetics, Avalere Health, and other stakeholders who provided guidance and expertise through a collaborative partnership. Support provided by Abbott.

Quality Malnutrition Care Can Help Hospitals Achieve National Quality Requirements

Optimal malnutrition care reduces adverse patient outcomes for which hospitals increasingly face penalties from the Centers for Medicare & Medicaid Services.

Hospital Readmissions Reduction Program:
3% penalty

Hospital Inpatient Quality Reporting Program:
1/4 reduction to market basket update

Hospital-Acquired Conditions Reduction Program:
1% penalty

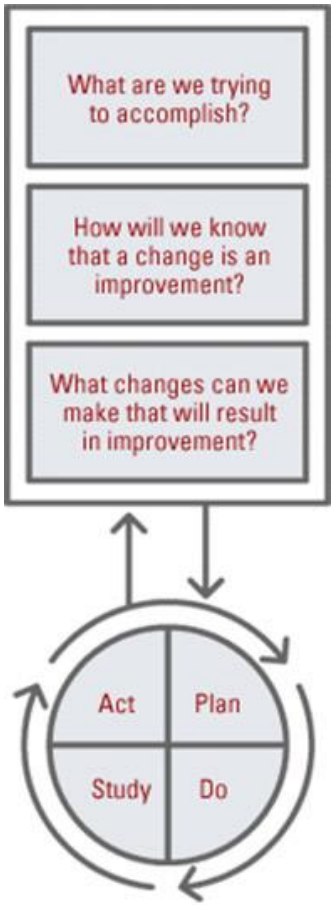
Hospital Outpatient Reporting Program:
1/4 reduction to market basket update

Hospital Value-Based Purchasing Program:
2% penalty

Private payers have established similar efforts to incentivize better care and outcomes.

Implementing Malnutrition QI

1. Work with hospital quality improvement (QI) department to assess hospital's malnutrition care processes and compare to the standard nutrition care process workflow
2. Identify and prioritize top areas for malnutrition care process and documentation improvement
3. Create and implement a plan with care team to address prioritized areas for malnutrition care process and documentation improvement



Using the QI Plan-Do-Study-Act (PDSA) process can help streamline QI implementation. It may take several PDSA cycles to meet quality improvement goals.

Image source: AHRQ. Health Literacy Universal Precautions Toolkit, 2nd Edition: Plan-Do-Study-Act (PDSA) Directions and Examples. Available here.

MALNUTRITION QUALITY IMPROVEMENT INITIATIVE

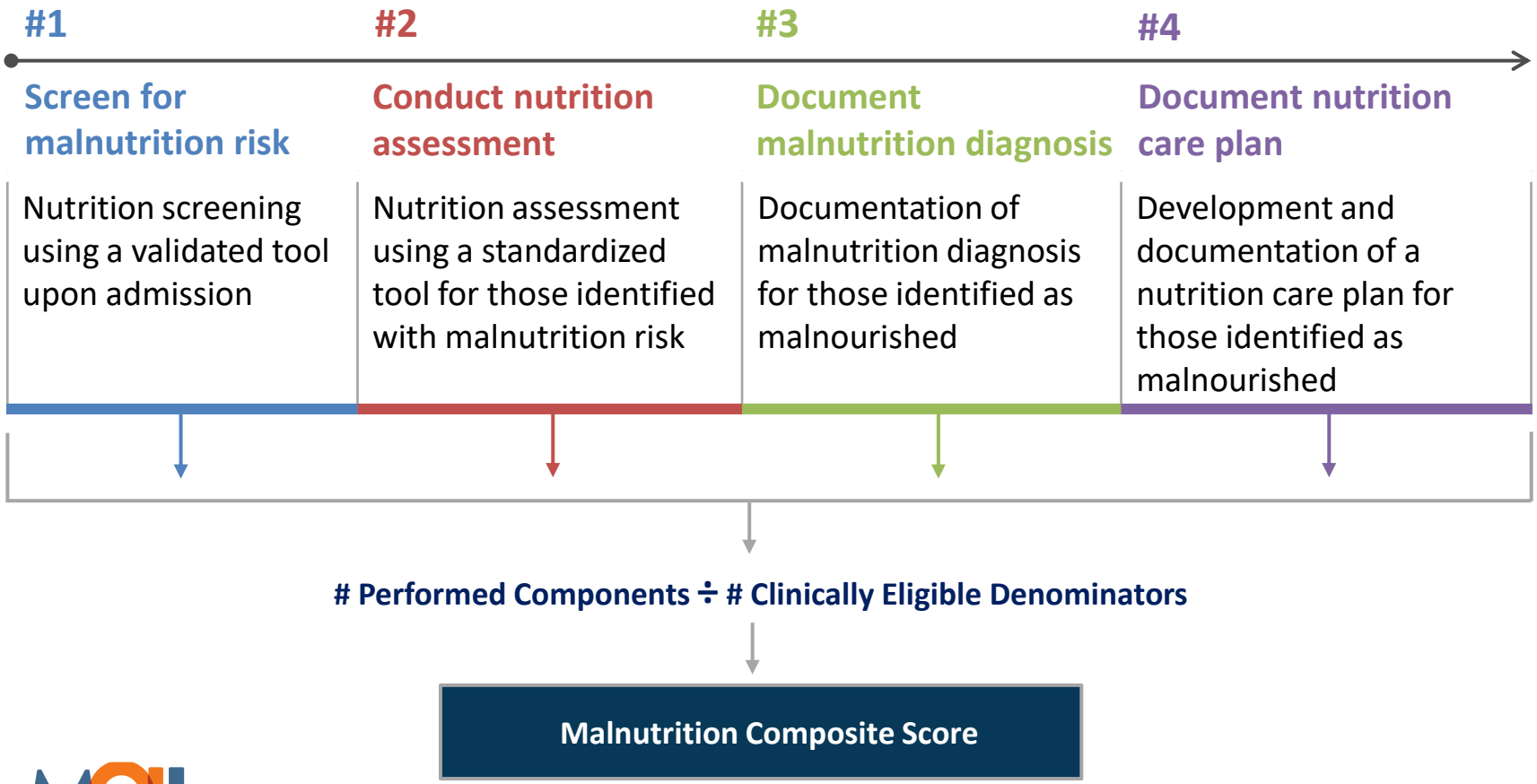
STEP 2: MCS Measure Reporting: Why to Report and How to Begin

The Malnutrition Quality Improvement Initiative (MQii) is a project of the Academy of Nutrition and Dietetics, Avalere Health, and other stakeholders who provided guidance and expertise through a collaborative partnership. Support provided by Abbott.

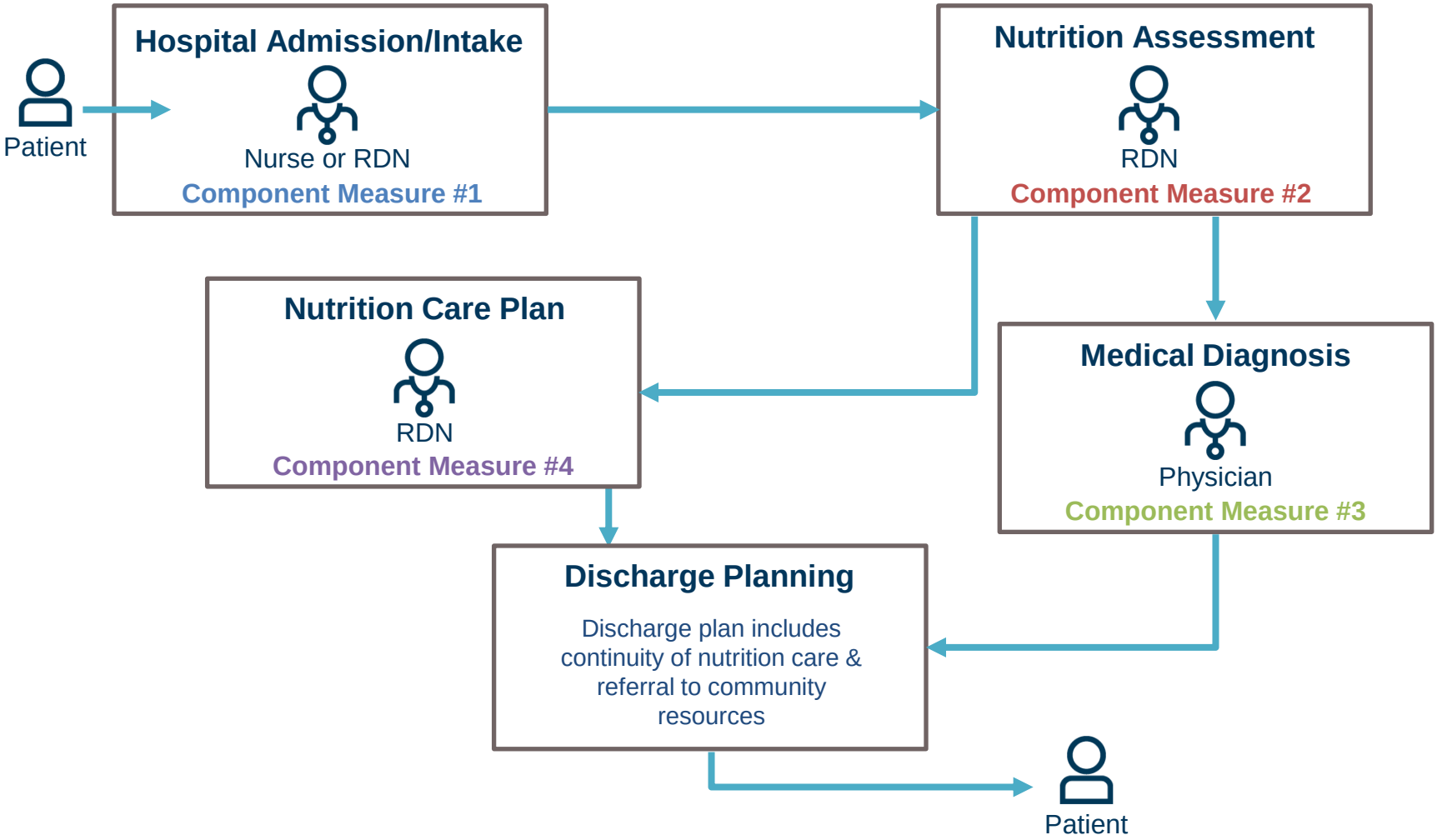
Reasons to Report the MCS

The MCS Is the First Malnutrition-Specific Quality Measure Adopted into a CMS Payment Program

- The MCS represents the first 4 steps of the standard clinical nutrition care process
- The MCS is in the eCQM Category
- Hospitals choose 3 of 9 measures from this category for IQR reporting to CMS



The MCS Components Align With the Appropriate Nutrition Care Process for Hospitalized Patients



MCS: Malnutrition Composite Score

The MCS Measure Aligns with CMS Priorities and Meets Additional Health Equity Requirements

Health Equity	CMS Quality Measures	NQF Key Measure to Address Rural Health	Meets the Joint Commission's New Requirements
Health equity continues to be a priority for CMS, who classified the MCS as a health equity/SDOH measure. Multiple stakeholders are pushing hospitals to address health equity.	The MCS helps improve hospital performance on mandatory measures already in place, such as mortality, readmissions, and total cost of care.	NQF identified the MCS as a key measure to improve rural health and support rural health equity.	The MCS helps hospitals meet The Joint Commission's new standards pertaining to health equity and addressing SDOH.

Aligns with CMS's Latest Interoperability Standards	Reduces Hospital Readmissions and Improves Patient Outcomes
The MCS was developed in close partnership with CMS, meets interoperability standards and required infrastructure, and is included in the Medicare Promoting Interoperability Program for Eligible Hospitals and CAHs beginning in CY 2024.	The MCS reflects the best-in-class nutrition care process and has been demonstrated to reduce hospital readmissions, LOS, and cost of care.

MCS: Malnutrition Composite Score; SDOH: Social Determinants of Health; NQF: National Quality Forum; IQR: Inpatient Quality Reporting; LOS: Length of Stay
Source: National Quality Forum. 2022 Key Rural Measures: An Updated List of Measures to Advance Rural Health Priorities. August 2022. Available here.

Reporting on the MCS Can Improve Identification and Treatment of Malnutrition

PROCESS IMPROVEMENT

- Reporting on the MCS can reward hospitals/health systems for improving their malnutrition care quality processes.
- Reporting can facilitate further improvements leading to better patient outcomes, reduced readmissions, a thus driving higher value care and greater cost-savings.

LEARNING COLLABORATIVE SUPPORT

- More than 300 hospitals/health systems are currently participating in the MQii Learning Collaborative.
- As a result, the Learning Collaborative provides a breadth of key learnings, resources, and guidance for implementing the MCS in hospitals and health systems.
  - There exists a strong foundation of supporters and members with proven history using the component quality measures that make up the MCS.
  - Members have created and tested EHR dashboards that could be applied more widely.

Quality decision makers at Learning Collaborative member institutions have committed to continuing malnutrition quality improvement and have expressed interest in reporting on the MCS. They highlighted their ability to track the measure across care delivery sites, their ability to extract data from their EHR, and their level of performance as key determinants for reporting.

MCS: Malnutrition Composite Score; EHR: Electronic Health Record

Hospital Executives, Quality Leaders, and Vendors Have Indicated Factors Supporting MCS Reporting

Hospital Performance on a Given Measure

Malnutrition can exacerbate existing medical conditions, leading to delayed recovery, poor wound healing, and increased likelihood of readmission. Reporting on the MCS could impact performance on several other quality measures in other payment programs related to these outcomes and exacerbation of other conditions (e.g., CMS' STAR rating measure on readmission rates).

Health Equity Strategy

Notably, CMS has classified the MCS as a health equity measure. Addressing malnutrition in hospitals and across the care continuum also aligns with the priorities of the Biden administration, which include addressing health equity and social determinants of health.

System-Wide Influences

Integrated health systems in population health contracts, such as ACOs, can use this measure for their own QI to help drive initiatives to address malnutrition across the care continuum to improve health outcomes and reduce costs.

Support from EHR Vendors

EHR vendors are optimistic about hospitals' ability to report on a new measure as their systems are dedicated to aligning with CMS quality reporting requirements.

Additional talking points will become available as we seek feedback from more stakeholders over the coming months.

ACO: Accountable Care Organization eCQM: Electronic Clinical Quality Measure; EHR: Electronic Health Record; CMS: Centers of Medicare and Medicaid; MCS: Malnutrition Composite Score

Work With Your Quality Department, IT, and EHR Vendor to Facilitate MCS Measure Reporting

Clinical Care Teams/Administrators

To ensure:

- Identify clinical champion/ influencer, team, and roles to lead implementation
- Care team is properly educated on malnutrition QI and MCS opportunity
- Care team workflows and resources are standardized
- They have a mechanism to track performance throughout the year

Quality Team/IT Staff Team

To ensure:

- Information about standardized care team workflows is captured in correct format and field
- Data are validated and performance is shared with project team to track progress internally

EHR Vendor

To ensure:

- EHR is updated to support and report on the MCS (note many EHRs are dedicated to supporting reporting programs to CMS)
- Identify MCS structured data elements, mapping, frequency, and existing use in other eCQMs

IT: Information Technology; EHR: Electronic Health Record; MCS: Malnutrition Composite Score; QI: Quality Improvement; eCQM: Electronic Clinical Quality Measure

MCS Components Build on One Another to Determine a Final Composite Score Performance

MCS uses three basic calculations to evaluate performance: two for each eligible hospitalization (or episode), and one for aggregate performance in the reporting period (12 months).

1. $$\textbf{\textit{Total Malnutrition Components Score}} = \textit{Component 1} + \textit{Component 2} + \textit{Component 3} + \textit{Component 4}$$

NOTE: Each eligible component will receive either a zero or one.

Numerator component scores:
1 = yes (completed)
0 = no (not completed)

2. $$\textbf{\textit{Total Malnutrition Components Score as Percentage}} = \left(\frac{\textit{Total Malnutrition Components Score}}{\textit{Total Malnutrition Components Score Eligible Denominators}}\right) \times 100$$

3. $$\textbf{\textit{Aggregate Total Malnutrition Components Score as Percentage}} = \frac{(\sum \textit{Total Malnutrition Components Score as Percentage})}{\#\ \textit{Eligible Hospitalizations in the Measure Population}}$$

MCS Eligible Denominators

To calculate the **Total Malnutrition Components Score as Percentage**, hospitals must identify the **Total Malnutrition Components Score Eligible Denominators** for each applicable hospitalization (i.e., totaling either 1, 2, or 4). This sum represents the number of MCS components (or measure observations) that should be performed during a hospitalization based on the patient's clinical malnutrition needs.

NOTE: The **Total Malnutrition Components Score Eligible Denominators** will always be four EXCEPT in ***two*** instances:

- *The **Total Malnutrition Components Score Eligible Denominators** is one for hospitalizations with a performed Malnutrition Risk Screening if the patient is not identified as "at risk" for malnutrition*
- *The **Total Malnutrition Components Score Eligible Denominators** is two for hospitalizations with a performed Nutrition Assessment if the patient is not identified with a "Moderate" or "Severe" Malnourished Status*

MCS Episode Performance Example

Calculating episode performance:

- A hospitalization for a 68-year-old male with a length of stay of 4 days who was *screened for malnutrition risk* (Component 1) and identified at risk for malnutrition
- An RDN performed a *nutrition assessment* (Component 2), identified the patient as a moderately malnourished, and developed a *nutrition care plan* (Component 4)
- The *moderate malnutrition diagnosis* (Component 3) was documented in the EHR by the physician

MCS Episode Performance Example

1. **1** (*Component 1*) + **1** (*Component 2*) + **1** (*Component 3*) + **1** (*Component 4*) = **4** performed component clinical actions

Interpretation: Four Components or Measure Observations were performed or documented

2. **4** (*sum of performed component clinical actions*) ÷ **4** (*clinically eligible denominators*) = 1×100 = **100%**

Interpretation: 100% or four Components or Measure Observations were performed or documented for the four clinically eligible components

Note that higher scores indicate better performance.

Higher Rates Among Each Component of the MCS Indicates Better Overall Performance

After MCS reporting is operationalized, MCS performance can be gauged by first assessing rates associated with each of the measure components.

#1: Rate of Completed Malnutrition Screening

Score reflects percent of all admitted patients who receive a malnutrition risk screening by an RN or RDN.

#2: Rate of Completed Nutrition Assessment

Score reflects percent of patients who screen positive for malnutrition risk who then receive a nutrition assessment by an RDN.

#3: Rate of Malnutrition Diagnosis Documentation

Score reflects percent of patients identified as malnourished during the nutrition assessment who then have a malnutrition diagnosis documented by a physician.

#4: Rate of Documented Nutrition Care Plan

Score reflects percent of patients identified as malnourished during the nutrition assessment who then have a documented nutrition care plan created by an RDN.

MCS: Malnutrition Composite Score; RN: Registered Nurse; RDN: Registered Dietitian Nutritionist

MALNUTRITION QUALITY IMPROVEMENT INITIATIVE

Additional Resources

The Malnutrition Quality Improvement Initiative (MQii) is a project of the Academy of Nutrition and Dietetics, Avalere Health, and other stakeholders who provided guidance and expertise through a collaborative partnership. Support provided by Abbott.

Additional Resources and Information About the MCS Are Offered by CMS, MQii, and the Academy

CMS /

- Malnutrition Composite Score measure information and specifications
- Composite quality measures information from AHRQ and CMS

MQii /

- Malnutrition Quality Improvement Initiative
- MCS for IQR webpage
- Quick Start Guide

QR Code to the MQii MCS Page

Academy of Nutrition and Dietetics /

- Malnutrition Composite Score webpage
- *Journal of the Academy of Nutrition and Dietetics* Oct. 2022 Supplement
- August Quarterly Spotlight on Malnutrition
- November Quarterly Spotlight on Malnutrition

Other /

- Older Adults Will Benefit from a New Proposed CMS Malnutrition Quality Measure
- Proposed CMS Malnutrition Composite Score measure could improve malnutrition care
- ASPEN Webinar on Interdisciplinary Implementation of the MCS

MCS: Malnutrition Composite Score; CMS: Centers for Medicare & Medicaid Services; AHRQ: Agency for Healthcare Research and Quality; IQR: Inpatient Quality Reporting

Opportunities to Provide Input on MCS

- To provide input, submit inquires, and offer formal measure comments on the MCS or any eCQM, use the Office of the National Coordinator for Health Information Technology (ONC) Project Tracking System (Jira) eCQM Issue Tracker.
- For questions about the MCS eCQM, please email malnutritionquality@avalere.com or quality@eatright.org.

As a reminder, do not include any PHI or PII in any MCS eCQM inquiry.

MALNUTRITION QUALITY IMPROVEMENT INITIATIVE

Appendix: IQR Program Overview

The Malnutrition Quality Improvement Initiative (MQii) is a project of the Academy of Nutrition and Dietetics, Avalere Health, and other stakeholders who provided guidance and expertise through a collaborative partnership. Support provided by Abbott.

Appendix: IQR Program Overview

Overview of the Hospital Inpatient Quality Reporting (IQR) Program

Overview

- Established in 2003 as a **pay-for-reporting** program that requires hospitals to submit data on hospital quality and safety measures important to Medicare patients
- Results for IQR measures are **publicly reported** on the Care Compare website
- Hospitals subject to payment reductions under IQR are excluded from the Hospital VBP Program, established by the Affordable Care Act

Timing and Participation

- Performance measures assessing the quality of care are submitted by more than 3,000 participating hospitals
- Data sets are due quarterly or annually, depending on the data set, throughout the calendar year (CY) for measurement

Financial Incentives

- Measures reported in each CY affect payments 2 years later (e.g., reporting in CY 2022 affects payments in Fiscal Year 2024)
- Eligible hospitals that do not participate in the program, or those participating that do not meet all reporting criteria within the year, receive a one-fourth reduction of the applicable percentage increase in their annual payment update. They are also excluded from the Hospital VBP Program, **further reducing performance-based incentive payments**

Quality Measures

- Measures included in IQR are generally focused on reducing hospital-related complications and mortality and ensuring appropriate, high-quality care
- Example measures include hospital-acquired infections, readmissions, mortality; HCAHPS; and specific measure bundles related to AMI, HF, PN, and joint replacements

Sources: Centers for Medicare & Medicaid Services (CMS). FY 2023 Inpatient Prospective Payment Systems (IPPS) final rule. Available here.
CMS QualityNet. Hospital IQR Program Guide for FY 2024. Available here.

IQR: Inpatient Quality Reporting; VBP: Value-Based Purchasing; AMI: Acute Myocardial Infarction; HF: Heart Failure; PN: Pneumonia; HCAHPS: Hospital Consumer Assessment of Healthcare Providers and Systems

For 2024 IQR Reporting, Hospitals Must Report on 6 eCQMs

CMS requires reporting on 3 eCQMs:

- Safe Use of Opioids – Concurrent Prescribing
- Cesarean Birth
- Severe Obstetric Complications

Hospitals must choose 3 additional eCQMs to report from the following list:

• **Malnutrition Composite Score**	• Opioid-Related Adverse Events
• Severe Hyperglycemia	• Severe Hypoglycemia
• Discharged on Antithrombotic Therapy	• Antithrombotic Therapy by the End of Hospital Day 2
• Intensive Care Unit Venous Thromboembolism Prophylaxis	• Venous Thromboembolism Prophylaxis
• Anticoagulation Therapy for Atrial Fibrillation/ Flutter	

Source: CMS QualityNet. IQR Measures. Available here.
IQR: Inpatient Quality Reporting; eCQM: Electronic Clinical Quality Measure