Dialogue Proceedings / Measuring the Quality of Malnutrition Care in the Hospitalized Elderly Patient

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DIALOGUE PROCEEDINGS / MEASURING THE QUALITY OF MALNUTRITION CARE IN THE HOSPITALIZED ELDERLY PATIENT

Malnutrition is a leading cause of morbidity and mortality, especially among the elderly. Evidence suggests that 20 percent to 50 percent of patients are at risk for or are malnourished at the time of hospital admission,[1] resulting in a significant impact on patient outcomes, resource use, and costs. Furthermore, malnutrition may be exacerbated during hospital stays due to a variety of factors, including age, surgical procedures, and comorbidities. Malnutrition is most simply defined as any nutrition imbalance that affects both overweight and underweight patients alike and is generally described as either "undernutrition" or "overnutrition."[2,3] A consensus statement by the Academy for Nutrition and Dietetics and the American Society for Parenteral and Enteral Nutrition (ASPEN) further defines malnutrition as a presence of two or more of the following characteristics: insufficient energy intake, weight loss, loss of muscle mass, loss of subcutaneous fat, localized or generalized fluid accumulation, or decreased functional status.[4]

While clinical guidelines recommend screening, assessment and diagnosis, nutritional intervention, education/counseling, discharge planning and use of care plans for patients who are malnourished or at high risk of being malnourished, evidence suggests a gap remains in the delivery of care.[5,6,7,8] Patients who are malnourished while in the hospital have an increased risk of complications, readmissions, and length of stay, which is associated with up to a 300 percent increase in costs.[9] Furthermore, research suggests initiatives that target improving quality of care related to malnutrition in the hospital setting can reduce the burden of malnutrition in the hospital and improve patient outcomes.[10,11]

To explore approaches to measuring and improving the quality of care for patients with malnutrition, Avalere Health, LLC ("Avalere"), and the Academy for Nutrition and Dietetics ("the Academy") co-hosted a Dialogue:[12] 'Measuring the Quality of Malnutrition Care in the Hospitalized Elderly Patient' on November 12, 2013, in Washington, D.C. The Dialogue included participants of various perspectives such as public and private payers, providers, researchers, measure developers, and patient representatives. A full list of participants is provided in Appendix I.

Support for the dialogue was provided by Abbott.

DIALOGUE GOALS

The Dialogue focused on achieving the following goals:

- Establish a common understanding of the current quality landscape for malnutrition and of the scope of the issues impacting the quality of care for this topic area;
- Gain consensus on priority areas for quality improvement and measurement;
- Gain consensus on specific malnutrition quality measure focus areas; and
- Gauge interest in collaborating further on quality improvement and measurement efforts

With these goals in mind, the Dialogue included facilitated discussions of the current health care quality landscape in the U.S. and the current state of quality in malnutrition prevention and management. In addition, participants identified and prioritized a number of specific measure focus areas to improve the quality of malnutrition care. The prioritized measure focus areas represented specific topics around which hospitals should organize quality improvement efforts related to malnutrition.

ESTABLISHING A COMMON UNDERSTANDING ABOUT MALNUTRITION QUALITY

Facilitators opened the Dialogue session by seeking participant perceptions of what constituted high quality care as it relates to malnutrition. The group brainstormed a number of concepts that fell into following broad categories:

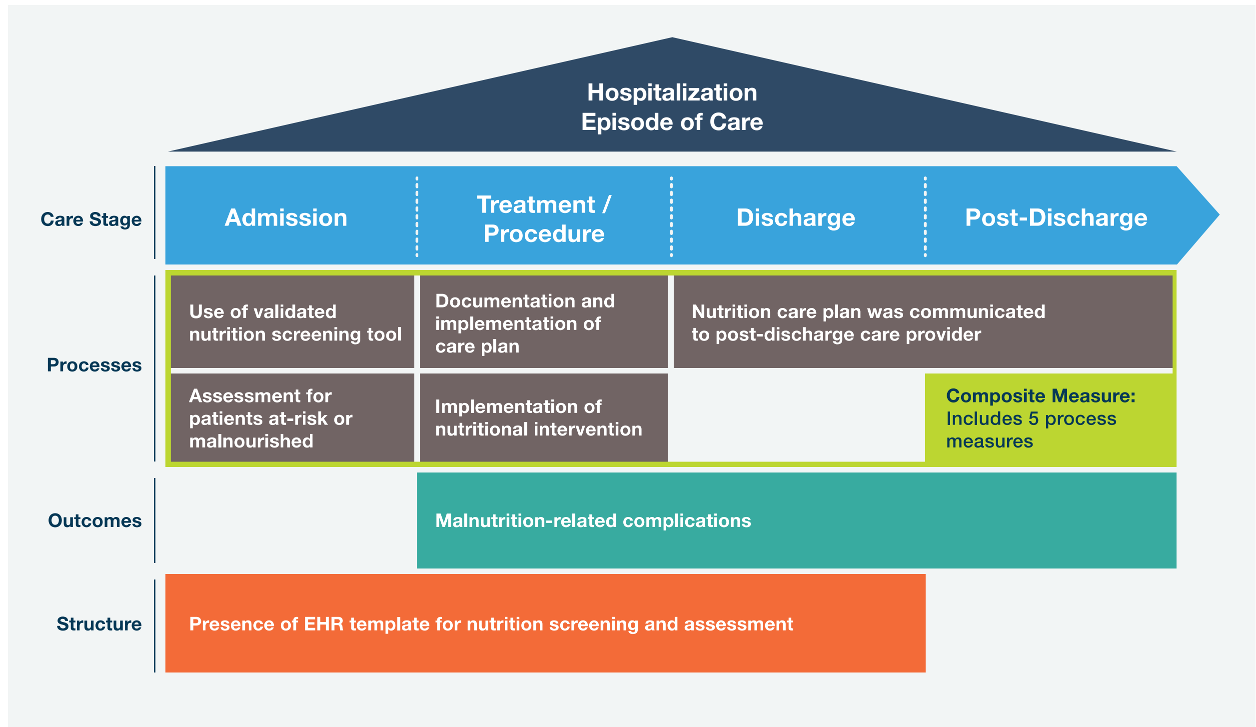
- Early nutritional screening and assessment in the hospital setting with prompt initiation of intervention (if needed) for all patients in the hospital setting.
- Person-centered nutritional intervention that incorporates patient preferences/risk factors.
- Team-based care across types of providers/settings of care on an ongoing basis.
- Improved patient outcomes, including readmissions rates, quality of life, patient satisfaction, complications, and costs related to malnutrition.

To ensure a common understanding of key quality of care concepts and the current evidence base related to malnutrition, Dialogue facilitators led a series of presentations on (1) the state of quality in malnutrition care; and (2) existing clinical guidelines and measure concepts. Dr. Alison Steiber, Chief Science Officer of the Academy of Nutrition and Dietetics, shared data on the prevalence of malnutrition (focusing on undernutrition) in the hospital setting and associated complications, mortality, and costs. Evidence shared by Dr. Steiber included a study by Agarwal et al which demonstrated a significant difference in mortality (5 percent vs. 1 percent) and readmissions (23 percent vs. 18 percent) in malnourished patients compared with “well-nourished” patients.[13] Evidence also shows that

nutritional interventions can impact patient outcomes, including falls in elderly patients following nutritional intervention (10 percent vs. 23 percent in the sample not receiving intervention).[14] Dr. Steiber also shared a recent study where oral nutritional supplements offered to hospitalized patients demonstrated a reduction in the length of stay (21 percent) and episode costs (21.6 percent).[15] It further demonstrated a decrease in the probability of 30-day hospital readmissions (6.7 percent).[15]

Avalere Health staff shared results of an environmental scan of evidence and clinical practice guidelines that support malnutrition measure focus areas and existing quality measures that address malnutrition. The environmental scan demonstrated that despite evidence for the impact of malnutrition and available interventions to address the issue, few quality measures exist to address care for malnutrition. Based on the environmental scan, Avalere proposed a set of eight measure focus areas that would fill gaps in existing measures that cut across care stages within a hospitalization (see figure 1). The analysis supported measure concepts that touched upon the adoption of electronic health record (EHR) nutrition care templates, as well as a variety of key processes of care (e.g. nutritional screening, assessment, intervention, and education), and key malnutrition-related complications.

Figure 1. Results of Avalere's Prioritization of Malnutrition Measure Concepts for Future Development Across the Hospitalization Episode of Care



As a result of these discussions, participants agreed that malnutrition in the hospital setting represents a significant issue with clear implications for patient outcomes and resource use. They also noted that addressing malnutrition aligns with the National Quality Strategy priorities related to patient safety, care coordination, patient and family centered care, population health, and affordability.[16]

Participants further noted several challenges that may impede improving the quality of malnutrition care in the hospital setting:

- There is a lack of recognition of the magnitude of the problem (both the prevalence of malnutrition and its impact on outcomes) and of the value of evidence-based interventions to impact patient outcomes.
- Multiple providers, including physicians, dietitians, and nurses are involved in different aspects of nutritional care across various settings of care, and communication during hand-offs is often inadequate.
- Various information systems are used in nutritional care, including EHRs, food service software, and laboratory software; These systems are not integrated to facilitate information sharing.
- The hospital culture does not regard nutritional care as medical care, and does not facilitate team-based approach to address malnutrition.

Based on this initial discussion, participants agreed that improving outcomes for malnourished patients must involve quality improvement approaches across the health care system. While measurement will be an important aspect of improving quality of care in this area, broad approaches to addressing system change must be considered as well to set the foundation for quality improvement.

MALNUTRITION QUALITY MEASURE FOCUS AREAS-BRAINSTORMING AND PRIORITIZATION EXERCISE

Dialogue participants brainstormed potential quality measure focus areas to improve the quality of malnutrition care within the process, outcomes and structure framework. Through this exercise, participants identified 37 measures in total. These included process measure areas such as nutritional screening, assessment, and intervention, as well as measures of nutrition-related outcomes of care. Participants also identified structural measure areas that addressed system-level approaches to tackle malnutrition.

Participants then prioritized these measure areas based on their perception of the existing evidence-base, performance gap, alignment with national high priority areas, existing gaps in measurement, and feasibility of implementation. While participants focused on measure areas that address hospital care, measures that could be applied

across multiple settings were given priority. A "dot voting" approach was employed, where participants were given the opportunity to vote for a number of prioritized measure areas. Each participant then had the opportunity to vote for one measure area they perceived to be most important or feasible for immediate action (within the next six months to one year). These measure focus areas and results of the prioritization activity are provided in Appendix II.

Participants further brainstormed around the three measure areas that received two or more votes for immediate action during the prioritization exercise. These included quality improvement/measurement efforts in the following areas:

1. Execution of Nutrition Care Plan
2. Malnutrition Defined as a Never Event
3. Presence of EHR Template (Health Information Technology (HIT) Infrastructure to Support Nutrition Care)

A summary of participants' consensus around next steps and barriers or challenges for each of these focus areas is provided in Table 1.

Table 1. Priority Quality Measure Focus Areas: Summary of Next Steps and Potential Barriers/Challenges

Measure Focus Area	Next Steps	Barriers/Challenges
1. Nutrition Care Plan Executed: Participants agreed that standardization and use of a nutrition care plan would have a significant impact on nutrition care practices and patient outcomes.	• Support the integration of a standardized nutrition care plan as a component of the overall patient-centered care plan • Initiate in research for best practices at leading centers • Integrate patients input into care planning • Develop best practice guidelines for planned vs. unplanned readmission • Develop a related measure concept • Test nutrition care plan	• The hospital culture does not support team based care across the hospital episode • There is a lack of data infrastructure to support a nutrition care plan (i.e., data linked across care settings) • There is a lack of standardization of care plans (institutions use unique care plans)

Measure Focus Area	Next Steps	Barriers/Challenges
2. Malnutrition Defined as a Never Event: Participants brainstormed around the establishment of malnutrition in the hospital setting as a "never event," which would raise awareness on malnutrition as well as increase accountability for providers to reduce rates of malnutrition in the hospital setting.	• Define the malnutrition never event • Engage strategic partners, including: · The Institute of Medicine · AARP, Inc. · The Joint Commission · Moore Foundation · The Centers for Medicare & Medicaid Services · The American College of Surgeons • Establish a collaborative for measure development	• The current hospital culture supports/sustains the status quo • There is a lack of awareness of the problem by stakeholders • There is a lack of standardization of data elements to support nutrition • There is a lack of integrated care teams at hospital to support patient safety (dietitians, nurses, physicians, etc.)
3. EHR Template: During discussion on further steps needed, participants expanded their initial focus to include a focus on improvement in HIT to support malnutrition care.	• Define nomenclature, develop a template, and clinical decision support for nutrition care • Engage strategic partners, including: · EHR vendors · Food service technology vendors · Innovators · Office of the National Coordinator for Health Information Technology (ONC) for interoperability standards • Identify/standardize a longitudinal care plan team that includes a dietician, a physician, and a nurse, among others • Collaborate with established registries, including professional societies as well as organizations with data sources that could be utilized for measure development (such as Premier, Inc.)	• The issue is incredibly complex • Multiple data platforms relate to nutrition services that are not coordinated (food service, billing, lab data, etc.)

EHR: Electronic Health Record; HIT: Health Information Technology

CONCLUSIONS AND NEXT STEPS

The Dialogue led to a common understanding of the current malnutrition quality landscape and magnitude of the problem. Participants achieved consensus on specific areas of quality measurement and improvement related to malnutrition in the hospital setting. While participants focused on measures that address hospital care, measures that could be applied across multiple settings were given priority. Measure areas prioritized by stakeholders for future measure development include implementation and execution of patient-centered nutrition care plans, HIT infrastructure to support nutritional care, and establishment of malnutrition as a never event to prevent decline in the health of elderly patients during hospitalizations. There was clear recognition that further stakeholder input and research is required to advance efforts around the prioritized areas. In general, participants expressed interest in remaining engaged in future activities related to the issue.

Potential next steps discussed by participants to address quality of care for malnourished patients include:

- Conducting "best practices" research to identify institutions that have adopted nutrition practices and observed measurable outcomes.
- Convening participants for additional Dialogue sessions to advance specific goals outlined during discussion.
- Further defining a set of measure concepts for potential measure development and testing to fill gap areas.

ENDNOTES

1. Barker LA, Gout BS, and Crowe TC. Hospital malnutrition: Prevalence, identification, and impact on patients and the healthcare system. *International Journal of Environmental Research and Public Health.* 2011;8:514-527.
2. Tappenden K, Quatrara B, Parkhurst, M et al. Critical role of nutrition in improving quality of care: An interdisciplinary call to action to address adult hospital malnutrition. *Journal of Academy of Nutrition and Dietetics.* 2013;113 (9): 482-497.
3. For the purposes of the Dialogue, undernutrition was the primary focus.
4. White JV, Guenter P, Jensen G, et al. Consensus Statement: Academy of Nutrition and Dietetics and American Society for Parenteral and Enteral Nutrition: Characteristics recommended for the identification and documentation of adult malnutrition (undernutrition). *Journal of Parenteral and Enteral Nutrition.* 2012; 36:275-283.
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6. NPUAP and EPUA Panel. National Pressure Ulcer Advisory Panel and European Pressure Ulcer Advisory Panel Pressure Ulcer Treatment Quick Reference Guide. Washington, DC; 2009.
7. Thomas DR, Ashmen W, Morley JE, and Evans WJ. Nutritional management in long-term care: Development of a clinical guideline. *The Journal of Gerontology.* 2000;55(12):M725–34.
8. Weimann A, Braga M, Harsanyi L, et al. ESPEN guidelines on Enteral Nutrition: Surgery including organ transplantation. *Clinical Nutrition (Edinburgh, Scotland).* 2006;25(2):224–44.
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10. Brugler L, DiPrinzio MJ, & Bernstein L. The five-year evolution of a malnutrition treatment program in a community hospital. *The Joint Commission Journal on Quality Improvement.* 1999; 25(4):191–206.
11. O'Flynn J, Peake, H, Hickson, M, et al. The prevalence of malnutrition in hospitals can be reduced: results from three consecutive cross-sectional studies. *Clinical Nutrition.* 2005;24(6):1078–88.
12. A dialogue is a forum for convening multiple stakeholders to discuss pressing healthcare issues facing the community.
13. Agarwal E, Feguson M, Banks M, et al. Malnutrition and poor food intake are associated with prolonged hospital stay, frequent readmissions, and greater in-hospital mortality: Results from the Nutrition Care Day Survey 2010. *Clinical Nutrition.* 2013; 32 (5): 737-745.
14. Neelemaat F, Lips P, Bosmans JE, et al. Short-term oral nutritional intervention with protein and vitamin D decreases falls in malnourished older adults. *Journal of the American Geriatrics Society.* 2012;60(4):691-9.
15. Philipson T, Snider JT, Lakdawalla DN, et al. Impact of oral nutritional supplementation on hospital outcomes. *Am J Manag Care.* 2013;19 (2): 121-128.
16. Agency for Healthcare Research and Quality. About the National Quality Strategy (NQS). Available at www.ahrq.gov/workingforquality/about.htm

APPENDIX 1:

Table 2. Dialogue Participants

Name	Role, Organization
Dayo Jagun, MBBS, MPH (Dialogue Facilitator)	Director, Avalere Health, LLC
Kristi Mitchell, MPH (Dialogue Facilitator)	Senior Vice President, Avalere Health, LLC
Alison Steiber, PhD, RD, LD (Dialogue Facilitator)	Chief Science Officer, Academy of Nutrition and Dietetics
Josh Boswell, JD	Senior Manager, Government Relations, Society of Hospital Medicine
Steve Brotman, MD	Senior Vice President, Payment and Policy, AdvaMed
Nancy Foster	Vice President, Quality & Patient Safety, American Hospital Association
Leslie Kelly Hall	Senior Vice President, Policy, Healthwise
Kessey J. Kieselhorst, MPA, RD, LDN, CDE, CPHQ	Director, Regulatory Performance Improvement, Geisinger Health System
Kevin Larsen, MD	Medical Director, Meaningful Use Office, Office of the National Coordinator for Health Information Technology
Ainsley Malone, MS, RD, LD, CNSC	President, American Society for Parenteral and Enteral Nutrition
Sharon McCauley, MS, MBA, RDN, LDN, FADA, FAND	Director, Quality Management, Academy of Nutrition and Dietetics
Andie Melendez, RN, MSN, HTCP, CHTP	Assistant Clinical Representative, Academy of Medical Surgical Nurses
Jean Moody-Williams, RN, MPP	Director, Quality Improvement Group (QIG), Centers for Medicare and Medicaid Services
Meredith Ponder, JD	Senior Associate, Matz, Blancato & Associates, and Representative, National Association of Nutrition and Aging Services Programs (NANASP)
Kelly Tappenden, PhD, RD, ASPEN	Professor of Nutrition and Gastrointestinal Physiology, Division of Nutritional Services at the University of Illinois at Urbana Champaign Representative, Alliance to Advance Patient Nutrition
Tom Valuck, MD, JD	Partner, Discern Consulting

APPENDIX 2:

Table 3. Quality Measure Focus Areas Brainstormed by Participants and Total Votes* Measure focus areas receiving the most votes are bolded

Proposed Measure Focus Areas	Priority in Short-Term	Combined Priority Votes
Process		
1. Validated nutrition screening	1	4
2. Validated nutrition assessment	1	4
3. Nutrition care plan created		
4. Nutrition care plan executed	**3**	**8**
5. Nutrition care plan communicated to next care provider (post-discharge)		5
6. Patient self-assessment		
7. Continually assess NPO / clear liquid status		3
8. Timely patient education		
9. Timely communication		1
Outcomes		
10. Muscle wasting	1	2
11. Longevity		
12. QOL		
13. ADL		
14. Falls		
15. Wound healing		1
16. Dehydration		
17. Infection rates		
18. Pressure ulcers		
19. Readmissions		
20. Length of stay		
21. Patient satisfaction	1	1
22. Patient experience		1
23. Strengthening family engagement		
24. Malnutrition as never event	**2**	**9**
Structure		
25. Patient bill of nutrition rights		2
26. HL7 standards for interoperability		1
27. Integration of nutrition services into other functional areas		
28. Integration of nutrition services into long-term care		2
29. Workforce: team-based care	1	4
30. Food service integration		1
31. EHR template	**2**	**4**
32. Data infrastructure		
33. System of education / counseling		
34. Patient feedback / participation		
35. Clinical decision support		4
36. Institutional policies / procedures		4
37. Patient reported outcomes		4

*Two of the Dialogue participants did not participate in the prioritization activity

About Avalere Health:

Avalere Health is a strategic advisory company whose core purpose is to create innovative solutions to complex healthcare problems. Based in Washington, D.C., the firm delivers actionable insights, business intelligence tools and custom analytics for leaders in healthcare business and policy. Avalere's experts span 180 staff drawn from Fortune 500 healthcare companies, the federal government (e.g., CMS, OMB, CBO and the Congress), top consultancies and nonprofits. For more information, please visit us at **www.avalerehealth.com**.

About the Academy of Nutrition and Dietetics:

The Academy of Nutrition and Dietetics (formerly the American Dietetic Association) is the world's largest organization of food and nutrition professionals with over 75,000 members. The Academy is committed to improving the nation's health and advancing the profession of dietetics through research, education and advocacy. For more information, please visit **www.eatright.org**.