Roundtable Proceedings /

Advancing Health Equity Through Malnutrition Quality Measurement

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National Minority Quality Forum

Executive Summary

Malnutrition places an immense burden on the healthcare system and poses significant risks to patient health outcomes, hospital performance, and broader community health. A major risk factor behind the clinical presentation of malnutrition is food insecurity, which is "the limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways."[1] Food insecurity may be influenced by a number of factors, including income, employment, race/ethnicity, and disability.[2]

Despite substantial awareness of the burden of malnutrition, rates of diagnosis and identification of malnutrition are low, leaving many malnourished patients potentially undiagnosed and untreated. Malnutrition affects more than 30% of hospitalized patients,[3] but only 9% of discharged patients had a coded malnutrition diagnosis in 2018.[4] Patients require resources or assistance related to nutrition after discharge, but without adequate connections to community-based organizations (CBOs) and programs, patients' needs may not be met—presenting a missed opportunity to improve their health. This phenomenon is magnified in underserved communities, contributing to even larger health disparities.

Improving screening for and identification of malnourished patients in the acute care setting should be followed by developing appropriate interventions to address both malnutrition and food insecurity in culturally appropriate ways beyond the hospital—and these should be coordinated effectively. Such strategies can serve to avoid preventable complications, reduce overall costs, and address health equity.

The Malnutrition Quality Improvement Initiative* (MQii) aims to advance evidence-based, high-quality, patient-driven care for those who are malnourished or at risk of being malnourished. The initiative includes a Learning Collaborative in which participating health systems and hospitals implement quality improvement initiatives around identifying and treating malnutrition. Many track performance based on quality measures and use performance data to further their efforts. Over the years, work across the initiative has expanded and is increasingly focused on continuity of care and addressing needs in the community setting.

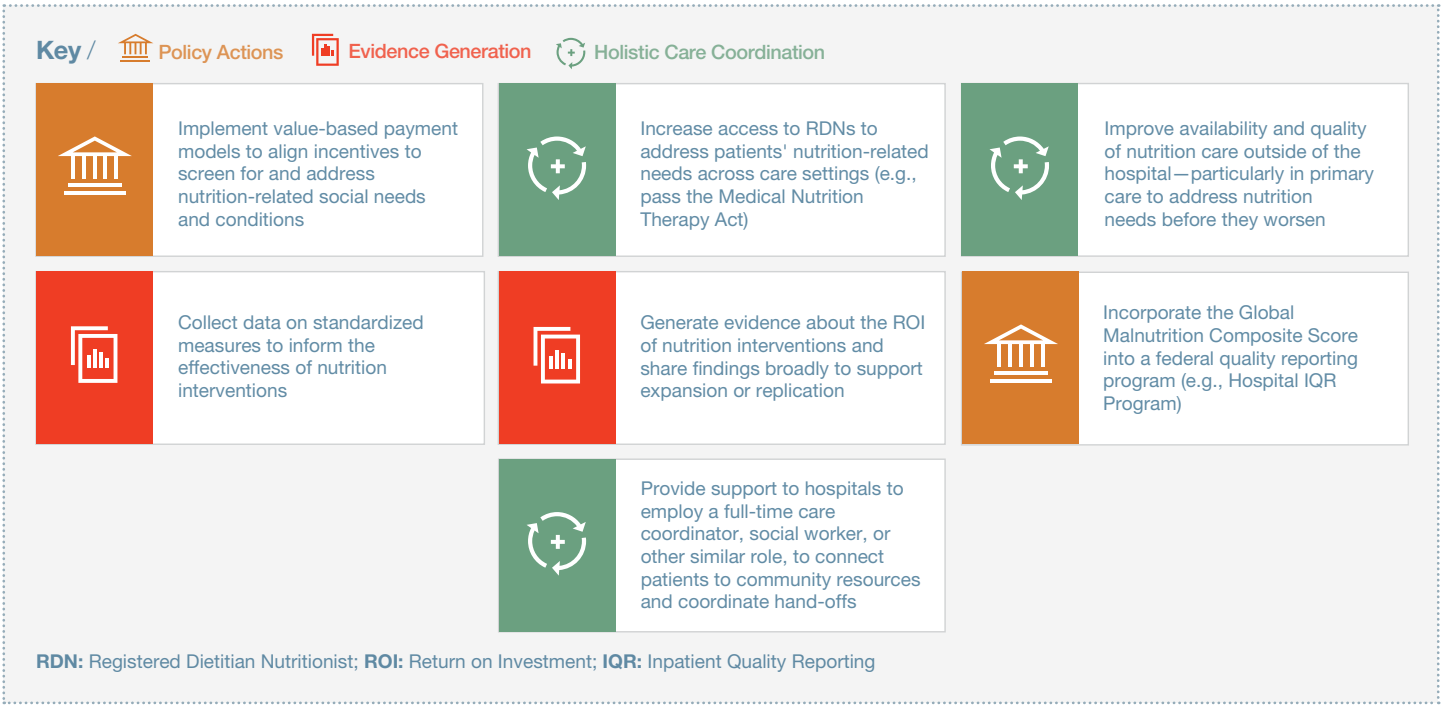
To advance the work of MQii Learning Collaborative health systems and other facilities tackling these issues, a multi-stakeholder group of healthcare leaders and national experts (See Appendix 1) came together for a Roundtable titled "Advancing Health Equity Through Malnutrition Quality Measurement" on March 3, 2022, to discuss connections between health equity, hospital malnutrition care, and food insecurity. Their directive was to identify and share solutions that can be readily implemented or replicated.

Prior to the Roundtable, national experts in the field of malnutrition and food insecurity were interviewed to gather baseline information about factors that drive nutrition-related disparities, existing barriers to addressing malnutrition, and potential roles for hospitals in identifying and treating food insecurity. Those findings served as the framing context for discussion that took place during the Roundtable. Additionally, representatives from MQii Learning Collaborative members, Novant Health New Hanover Regional Medical Center and Memorial Hermann Health System, shared their organizations' approaches to address malnutrition and food insecurity by engaging with patients and community partners.

* The MQii is a project of the Academy of Nutrition and Dietetics, Avalere Health, and other stakeholders who provide guidance and expertise through a collaborative partnership. The Academy of Nutrition and Dietetics provides resources and services to support the MQii. General support is provided by Abbott.

These efforts, and the understanding of existing barriers and challenges that the healthcare system faces when treating malnutrition, brought the Roundtable participants to discuss how solutions could be expanded. Participants focused on pathways to manage and address malnutrition, food insecurity, and health disparities across transitions of care while leveraging malnutrition composite measure performance data, hospital and community partnerships, and relevant experts all working toward the same goal. The conversation made it clear that these pathways and proposed solutions would require coordinated and collaborative efforts from all stakeholders. Solutions that participants considered to be top priorities for action are presented in the figure below.

Top Ranked Solutions to Address Food Insecurity and Malnutrition Proposed by Roundtable Participants



RDN: Registered Dietitian Nutritionist; **ROI:** Return on Investment; **IQR:** Inpatient Quality Reporting

The discussion led to creation of a roadmap to advance malnutrition care and reduce food insecurity. This roadmap reflects all solutions proposed by the experts in attendance and actionable tactics for different stakeholders groups. Roadmap solutions and tactics fall into 4 categories:

- Policy actions
- Evidence generation
- Strategic engagement
- Holistic care coordination

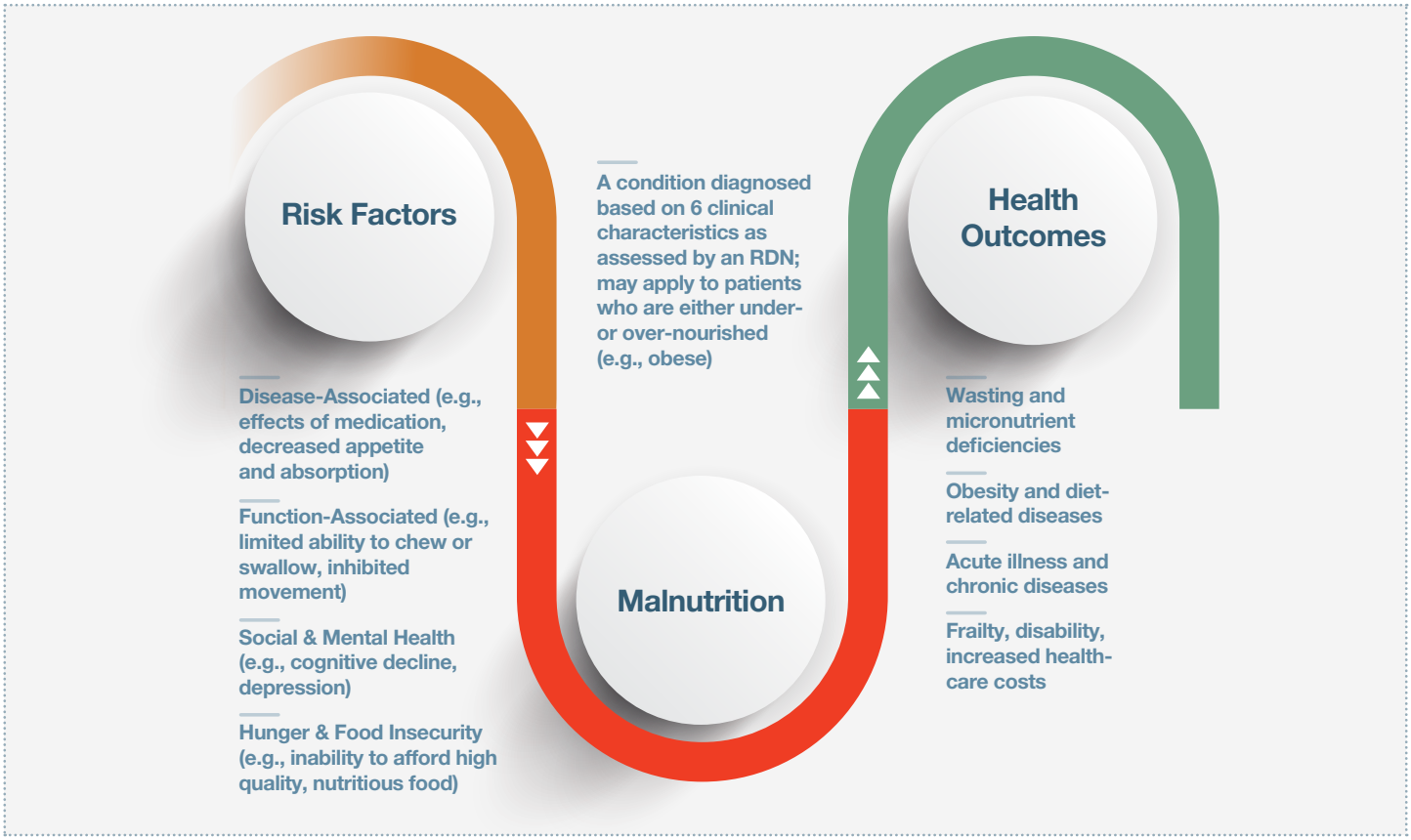
These further represent programs, processes, and other approaches that have been successful in certain settings and could be implemented more broadly across healthcare and/or community health settings. Following this Roundtable, the MQii will continue to advance this work by disseminating these proceedings, continuing to support Learning Collaborative hospitals and health systems, continuing to leverage quality measure data to generate evidence, and supporting the broader adoption of malnutrition quality measures. This document and included roadmap will guide key stakeholders to be a part of comprehensive efforts to come together to advance health equity among underserved populations.

Background

Malnutrition and food insecurity are distinct but related conditions. Not all malnourished patients have underlying food insecurity and not all individuals with food insecurity will develop malnutrition, but the conditions often overlap and both worsen health. Food insecurity--defined by the USDA as "the limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways"[1] --may be influenced by a number of factors including income, employment, race/ethnicity, and disability.[2] Certain neighborhoods may have limited physical access or lack of transportation to full-service grocery stores or supermarkets, which can also limit access to adequate, nutritious food.[5] Whether this state leads to overconsumption of nutrient-poor foods, underconsumption of nutrient-dense foods, or a combination of those factors, it poses a risk factor for malnutrition through nutrient deficiencies, loss of muscle mass, and other effects.

Malnutrition is clinically diagnosed based on 6 characteristics: weight loss, inadequate energy intake, muscle loss, fat loss, fluid accumulation, and diminished grip strength (Figure 1).[6] A study in *Nutrition in Clinical Practice* found that patients with a clinical diagnosis of malnutrition had significantly worse health outcomes and increased healthcare utilization. Malnourished patients stayed on average 4.3 days longer in the hospital and incurred almost $10,000 more per stay as compared to patients without a malnutrition diagnosis. Patients with malnutrition also had 3.4 times greater in-hospital mortality and higher readmission rates.[4]

Figure 1. Malnutrition Risk Factors and Associated Health Outcomes



Sources: White, Jane V. et al. "Consensus Statement of the Academy of Nutrition and Dietetics/American Society for Parenteral and Enteral Nutrition: Characteristics Recommended for the Identification and Documentation of Adult Malnutrition (Undernutrition)". JAND 112, no. 5 (2012): 730-738. https://doi.org/10.1016/j.jand.2012.03.012; The Malnutrition Quality Collaborative. National Blueprint: Achieving Quality Malnutrition Care for Older Adults, 2020 Update. Washington, DC: Avalere Health and Defeat Malnutrition Today; 2020.

Both malnutrition and food insecurity impede health equity due to differing prevalence and risk factors across racial/ethnic groups, geographic settings, and income levels, and the health disparities that result from these differences. An Avalere analysis found higher malnutrition diagnoses and readmission rates for Black, older, rural-living individuals,[7] and the USDA notes higher prevalence of food insecurity among Black, Hispanic, low-income, and rural households.[8]

Screening for food insecurity is also important for understanding a patient's nutrition status. Various community-based and federal nutrition programs that address food insecurity are available across the US and may also help improve adult nutritional status and reduce healthcare utilization,[9] but these programs may be underutilized.[10,11] Additionally, 2 new Z codes (which are ICD-10 codes used to document social risk factors) that reflect food insecurity became available for use in October in 2021; they can be used to measure and document food insecurity status and further facilitate addressing social needs to improve health outcomes.[12] Beginning in the hospital and extending into outpatient settings, it is important for providers to identify malnutrition and food insecurity in patients so they and their colleagues can intervene to address these conditions.

Despite progress toward solutions and leadership support for addressing malnutrition, gaps in care remain. Rates of diet-related disease continue to increase, indicating that patients' nutrition needs are not being met.[13] Further, disparities in access to healthy food and health outcomes continue to widen.[14] Data collection and analyses from the Agency for Healthcare Research and Quality (AHRQ) and other national agencies and collaboratives are enabling better estimates of the magnitude of the problem,[15,16] but such measurement is not occurring consistently across US healthcare institutions. Additionally, the National Minority Quality Forum points out that as the healthcare system shifts toward value-based care, it is important that value assessments adequately reflect results from minority communities, rather than solely population-based averages of the social majority that can lead to overly uniform decision-making on care, coverage, and reimbursement across the entire healthcare system.[17] Without accurate and thorough means of identification, assessment, and treatment of malnutrition for patients in need, healthcare providers are not able to offer tailored interventions to the right patient population.

Quality Measures Support Malnutrition Care and Help Improve Health Disparities

Recognizing the need for quality measurement and improvement to address the problem of malnutrition, the Malnutrition Quality Improvement Initiative (MQii) began in 2013. The initiative aims to advance evidence-based, high-quality, patient-driven care for those who are malnourished or at risk of being malnourished. The project started with development of a comprehensive toolkit and accompanying set of 4 electronic clinical quality measures (eCQMs) for use by inpatient clinical teams at 7 participating health systems. It has since expanded to a 313-member (and growing) Learning Collaborative of hospitals in which RDN leaders implement their own quality improvement projects, many of which track performance on these eCQMs. Their efforts span healthcare settings (even into patients' homes) and are increasingly focused on addressing care following patient discharge and community-based interventions to prevent malnutrition and its consequences.

Quality measurement offers an important tool to drive improvement across the healthcare system and course of care, including into community settings. The Global Malnutrition Composite Score (GMCS), endorsed by the National Quality Forum (NQF),[18] is an electronic composite measure that focuses on 4 steps of the nutrition care process for hospitalized adults: screening, assessment, diagnosis, and care plan documentation.[19] A higher performance score indicates more comprehensive, high-quality care is provided for patients at risk of malnutrition. Tracking hospital performance based on this measure can lead to additional completion of recommended screenings and interventions to address malnutrition, including the detection of food insecurity. Documentation and communication of clinical results and care plans across care transitions, along with referrals to RDNs, community resources, and/or federal nutrition programs (e.g., Supplemental Nutrition Assistance Program [SNAP], home-delivered meals, congregate meals, etc.) post-discharge, all help to increase access to nutritious foods.

Quality measurement also enables a more complete understanding of disparities across different patient groups. Recent analyses of stratified data conducted by Avalere demonstrated wide variation in composite measure scores across age, race, ethnicity, and rural vs. urban geography.[7] For example, data show that younger adults typically have lower GMCS scores. Similarly, Black populations and those identified as "other" races showed slightly higher GMCS scores than White populations while the remaining racial/ethnic groups showed lower scores. Additionally, rural hospitals performed lower than urban hospitals for the GMCS and across 3 of the 4 individual measures.[7]

Alignment with Current Administration's Priorities to Reduce Health Disparities

The Biden administration is actively seeking policy solutions that address health equity through quality measurement and through the expansion and improvement of alternative payment models, standardization of data collection, and prioritization of solutions that reduce health disparities. As part of these efforts to reduce health disparities and improve health equity, they have elevated the priority to address nutrition security—not just food security—among populations at highest risk.

The administration has indicated it intends to address nutrition security through multiple avenues, including:

- 2020–2030 Strategic Plan for National Institutes of Health (NIH) Nutrition Research[20]
- The White House Conference on Food, Nutrition, Hunger, and Health Act of 2021[21]
- Multi-year, $10 billion investment to ensure food and nutrition security both in the United States and abroad[22]
- Nutrition and Health Disparities Implementation Working Group research framework[23]

Further, nutrition experts reflecting various sectors have outlined opportunities to address racial and ethnic disparities in chronic diseases driven by poor diet.[24] Among others, passing the Medical Nutrition Therapy (MNT) Act[25] was highlighted as a key tactic and advocacy area for the Academy of Nutrition and Dietetics to help achieve this goal. The MNT Act enhances Medicare beneficiaries' access to care by providing Medicare Part B coverage for nutrition-related chronic conditions.[26]

Figure 2. Definition of Nutrition Security

Source:United States Department of Agriculture. USDA Actions on Nutrition Security. Accessed March 20, 2022. https://www.usda.gov/sites/default/files/documents/usda-actions-nutrition-security.pdf.

Barriers to Identifying and Treating Malnutrition and Food Insecurity

Preparation for this Roundtable included interviews with the participating experts to gather information that would set a baseline for the discussion that would take place during the Roundtable. Experts shared their views on the factors

that drive nutrition-related disparities, existing barriers to addressing malnutrition, and potential roles for hospitals to identify and treat food insecurity.

Access to nutritious food was highlighted as a serious nutrition-related disparity. The experts identified comparatively higher costs of nutritious food, access to grocery stores, and resources to afford nutritious food as factors affecting access to nutritious food.

Throughout the Roundtable, participants reinforced that these access issues and barriers to reducing disparities were of top concern.

When discussing how hospitals could play a role in addressing these disparities and malnutrition status, experts emphasized the need for screening for malnutrition to occur at various stages and by trained staff. Once patients are identified as malnourished, food insecure, or at risk, there must be action to address this risk. Several experts mentioned the need to ensure that the right staff (such as RDNs)—who are knowledgeable about nutrition and available supports—be involved in care planning, referrals, and coordination of services for patients. This includes coordinating with payers and community providers to ensure that patients are connected to services and supports upon discharge from hospital stays. Interviewees added that it would be important for the system to evolve to hold hospitals accountable for benchmarks related to nutrition and ensure patients are connected to services.

Figure 3. Most Common Challenges to Addressing Malnutrition and Food Insecurity

Other nutrition-related disparities that were shared included lack of nutritional literacy and awareness of nutritious food options, low-income status, and lack of transportation to access nutritious options. Factors that contribute to these disparities may include more marketing of less nutritious options, sedentary lifestyles, social stigma, and systemic racism. When asked about existing barriers to address these nutrition-related disparities, experts focused on the lack of necessary incentives to measure and address malnutrition and limited community engagement to ensure nutrition-related services and supports are available to patients (Figure 3).

Discussion also highlighted barriers to effectively address food insecurity, summarized in Figure 4. Personnel resources are stretched already; there is minimal capacity to dedicate staff time to ensure care planning is holistic and includes social supports. Furthermore, knowledgeable and trained staff may not be available in all health systems. Staff must be trained in nutrition-related needs as well as community assets and referral networks to effectively move patients from discharge to home with their nutrition needs met. This is difficult to maintain and there is a lack of payment incentives and/or evidence of ROI for hospitals to justify taking this on. Raised as a major area of concern by the experts, there need to be systematic incentives for hospitals to improve their malnutrition care processes and invest resources to build competencies in this area.

Beyond the internal hospital barriers, experts also shared perspectives on barriers to partnerships between hospitals and community organizations to treat malnutrition. Top concerns were the lack of capacity to maintain relationships and communicate across these settings. Discharge planning and connections across referral platforms are often not coordinated, leading to a lack of sustainability among both entities. The experts noted it would be important for hospitals and CBOs to have high-quality, knowledgeable staff to work together and sustain close, trusting relationships to ensure patient care is coordinated through care transitions and post-discharges. There are instances in which health systems, health plans, community organizations, and other stakeholder groups have overcome these barriers and implemented efforts to collaboratively and innovatively improve nutrition status and food security. The experts highlighted numerous examples of such approaches to address malnutrition and food insecurity across the country and led by various stakeholders (see Appendix 2). During the Roundtable, participants discussed which solutions could be near-term strategies to scale efforts for broader adoption.

Figure 4. Barriers that Hospitals Face in Addressing Health Equity, Malnutrition, and Food Insecurity

Barriers to Successful Identification and Treatment	Barriers to Relationships with Community-Based Organizations	Barriers to Address Health Equity
Hospitals lack incentives or accountability to screen for malnutrition	Lack of knowledge of community assets	Discharge planning does not adequately address food insecurity
Data gap regarding intervention effectiveness exists	Overburdened staff	Optimal staff rarely included in planning
Evidence is needed to demonstrate ROI of hospital interventions	Inadequate referral management to connect to community-based organizations	Staff insufficiently trained on available services

Identifying Solutions Through a Roundtable of National Experts

Aligned with the stated federal priorities and to continue advancing nutrition care in the US, this Roundtable, cohosted by Avalere, the Academy of Nutrition and Dietetics, and the National Minority Quality Forum, brought together national experts and organizational leaders to discuss existing innovative approaches and actionable solutions to address malnutrition and food insecurity.

The Roundtable was designed to meet 3 primary objectives:

- Increase awareness of the connections between health equity, hospital malnutrition care, and food insecurity, and identify the most effective ways to communicate those connections to inspire action
- Identify opportunities that hospitals can pursue to target and address malnutrition and food insecurity through malnutrition quality measurement
- Determine pathways that manage and address malnutrition, food insecurity, and health disparities across transitions of care

Participants were invited based on their experience and expertise as leaders in their respective fields. Individuals reflected various stakeholder groups, including:

- Advocacy organizations
- Community nutrition organizations
- Federal government
- Food service organizations
- Health plans
- Healthcare providers
- Professional organizations
- Research/academia

Roundtable moderators began by defining the following key terms to ensure alignment of their use: “health equity,” “health disparities,” “social determinants,” and “social risks” (see Figure 5).

After reviewing the importance of improving malnutrition care and its connection to health disparities and health equity, the moderators invited members of the MQii Learning Collaborative to share their clinical experiences implementing relevant interventions.

Figure 5. Key Term Definitions

Learning from Clinical Case Studies

MQii Learning Collaborative members have undertaken various efforts to implement innovative interventions to address malnutrition that improve the health of their patients, build relationships across their community, and advance health equity. These interventions begin with increasing screening and improving appropriate assessments for malnutrition and food insecurity within the walls of the hospital. Many have leveraged data based on the malnutrition eCQMs to gauge performance and monitor progress toward shared goals of increased identification, improved treatment interventions, and improved outcomes for malnourished patients. Quality measure data serve as the foundation for hospitals' iterative evaluation of standards of care and quality improvement efforts in coordination with all stakeholders and partners. Collecting robust data and engaging in cycles of improvement based on those data can help to improve multiple aspects of acute and long-term care practices that address malnutrition and food insecurity in an equitable manner.

However, these healthcare organizations have also begun to think outside of their walls and address needs in their communities to ensure patients have the right resources and services post-discharge. Due to their presence in the community and sometimes even directly in the home of some patients, CBOs are uniquely positioned to identify and respond to individual health and social needs. Relationships with community providers enable staff at these organizations to connect patients to services and supports as well as collect real-world data on environmental conditions, patients' needs, and barriers related to accessing resources. Community providers may also often have connections to schools, churches, and other trusted institutions to reach those in need. Therefore, they are key partners for healthcare institutions to address food insecurity, malnutrition, and health disparities.

During the Roundtable, representatives from 2 long-time members of the MQii Learning Collaborative, Novant Health New Hanover Regional Medical Center (NHNHRMC) and Memorial Hermann Health System (MHHS), shared their organizations' approaches to addressing malnutrition and food insecurity by engaging with their patients and surrounding communities.

Novant Health New Hanover Regional Medical Center Transition of Care Program

Representing NHNHRMC, the chief community impact officer, clinical nutrition manager, and Clinical Outreach Dietitian described how awareness of the burden of malnutrition in their patient population led them to develop a malnutrition transitions of care program, with the Clinical Outreach Dietitian performing in-home visits with patients in and around Wilmington, North Carolina. This Transitions of Care (TOC) program, depicted in Figure 6 below, evolved through quality improvement efforts that the organization undertook beginning in 2016.[27] The TOC program's initial goal was to improve the bridge between the hospital, home, and community. NHNHRMC enrolls patients who are screened for malnutrition and identified as food insecure in the acute setting into its TOC program. Upon discharge to the home, the TOC program picks up where that acute care ends.

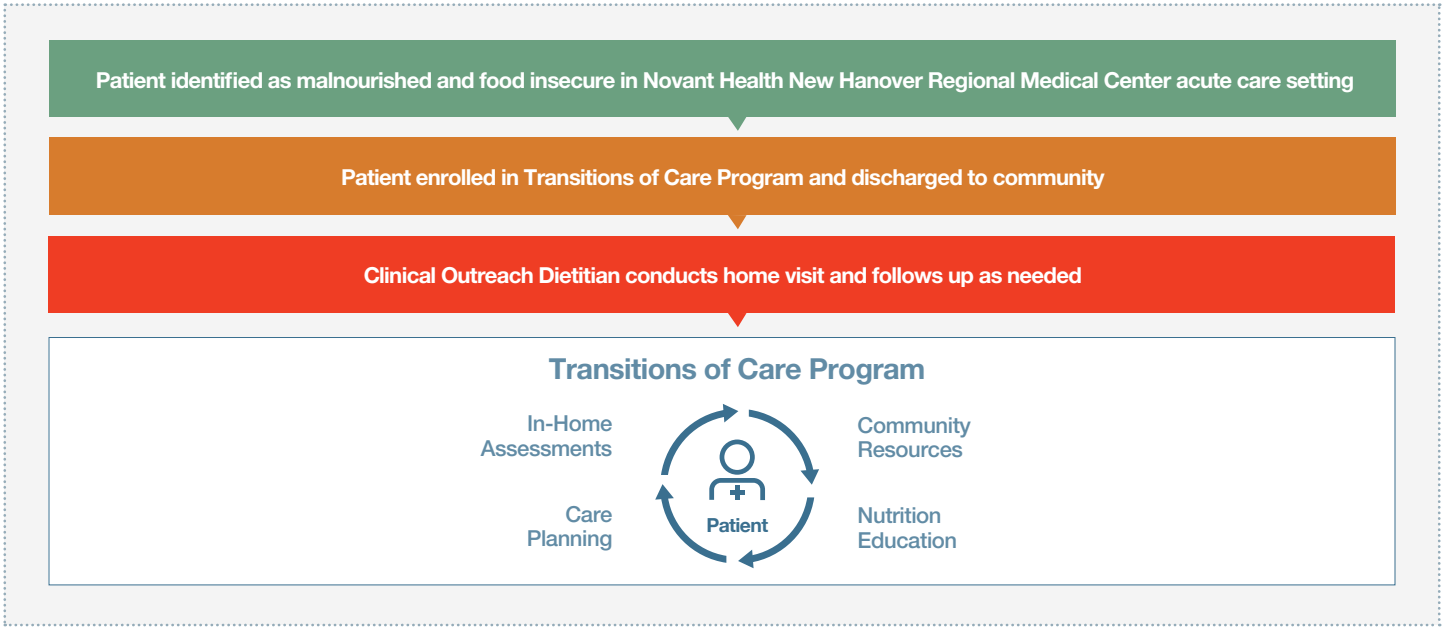
> "By being in the patient's home, we've been able to more broadly assess and address community needs, such as food insecurity… We've been increasingly identifying [food insecure] patients in the home when [the clinical outreach dietitian] is actually there, seeing what's happening."
>
> **Angela Lago, MS, RD, LDN**
> **Novant Health New Hanover Regional Medical Center**

A Clinical Outreach Dietitian follows the patient home, conducting home visits at least twice in the first 30 days and at regular intervals for the full 90 days post-discharge. During these visits, the Clinical Outreach Dietitian assesses nutritional status and access to food, provides nutrition education, and works with the patients to develop a care plan that leverages all available and appropriate community resources.

Memorial Hermann Health System Community Resource Centers

MHHS was represented by its clinical nutrition manager, director of clinical nutrition, and director of hospital operations for their Transformation Hub, presenting on their strategy to address food insecurity and malnutrition across Southeast Texas. MHHS' approach to addressing malnutrition focuses on ensuring that patients are set up for success when discharging to the community. When an individual patient is identified as malnourished in the acute setting, an RDN develops a nutrition care plan. Upon discharge, the patient's paperwork includes active orders and information from the RDN-developed nutrition care plan. It includes each patient's active diet plan, recommended foods, coupons for local food options, and suggestions for Community Resource Centers (CRCs). MHHS currently has 6 CRCs that aim to connect community members to healthcare provider and community food resources, navigate eligibility for assistance programs and food programs, improve health literacy, and provide

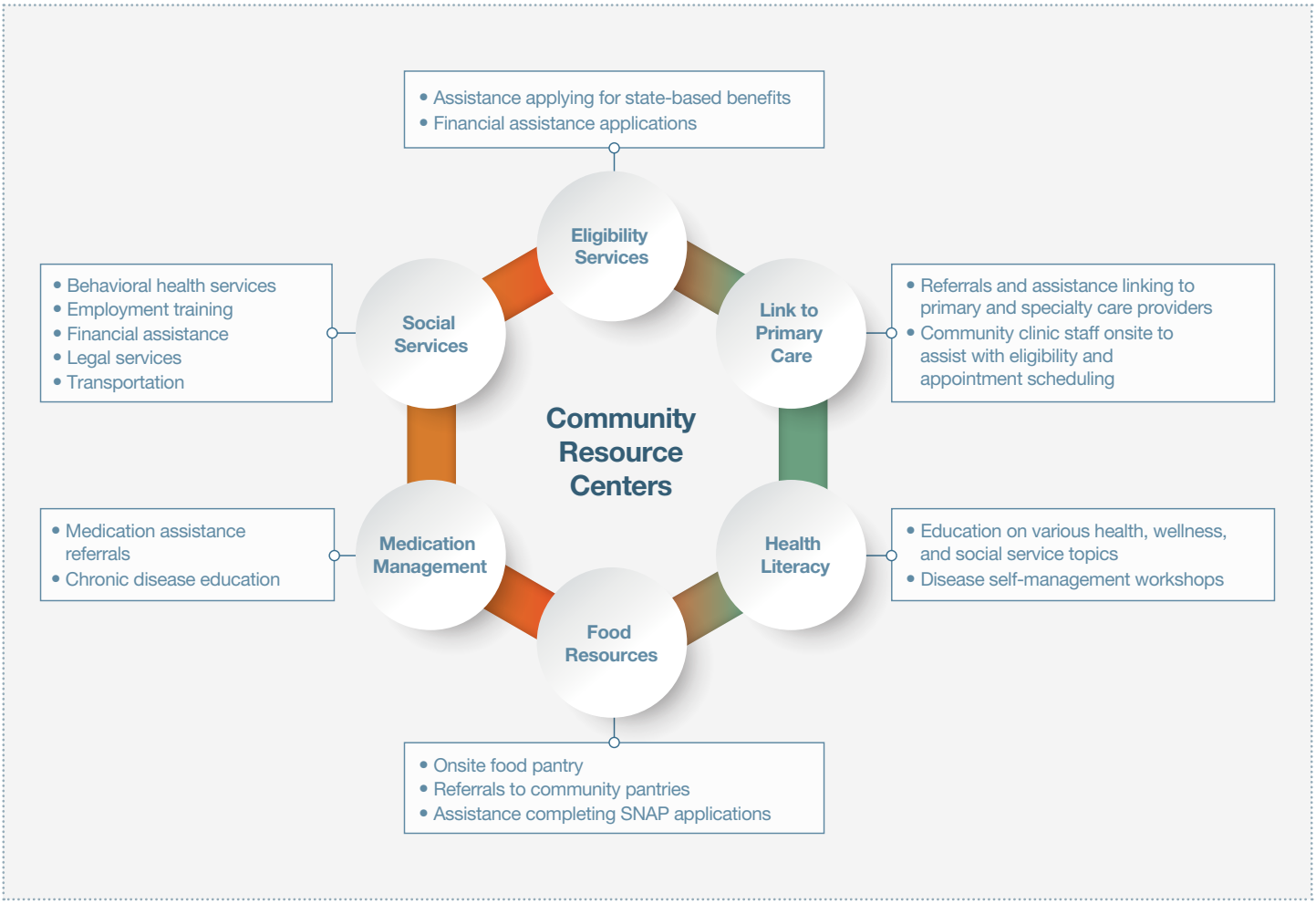
Figure 6. NHNHRMC Transitions of Care Program



Through this program, NHNHRMC's presence in the community and in the home has made a considerable impact on the health of their patients. Results showed reduced readmissions and emergency department visits among the patient population identified as malnourished and food insecure. They also were able to improve their identification rate of food insecure patients, broadening the program's reach. Additionally, the program has helped develop stronger partnerships with companies and organizations in the area and has led to additional collaborative efforts such as food prescription programs in their outpatient clinics and community gardens at various health system locations.

numerous social services. (Inspiration for these CRCs has been described previously.[28]) All 6 CRCs can offer a wide array of services and support to patients after they have discharged from an acute stay (see Figure 7). The CRCs aim to connect patients to resources to meet their social and medical needs to ensure a successful transition home and avoid unnecessary hospital readmissions that may be tied to food insecurity and malnutrition.

Figure 7. MHHS Services Offered to Patients through Community Resource Centers



Actionable Solutions for Relevant Stakeholders /

After learning about these efforts, Roundtable discussion drove toward expansion and replication of success, focusing on 3 topics:

- **Measurement of malnutrition in the hospital to inform effective solutions in the community**
- **Overcoming barriers in the hospital setting to connect hospitals to community organizations that provide access to food resources**
- **Policy and education initiatives that can raise awareness and connect patients to resources**

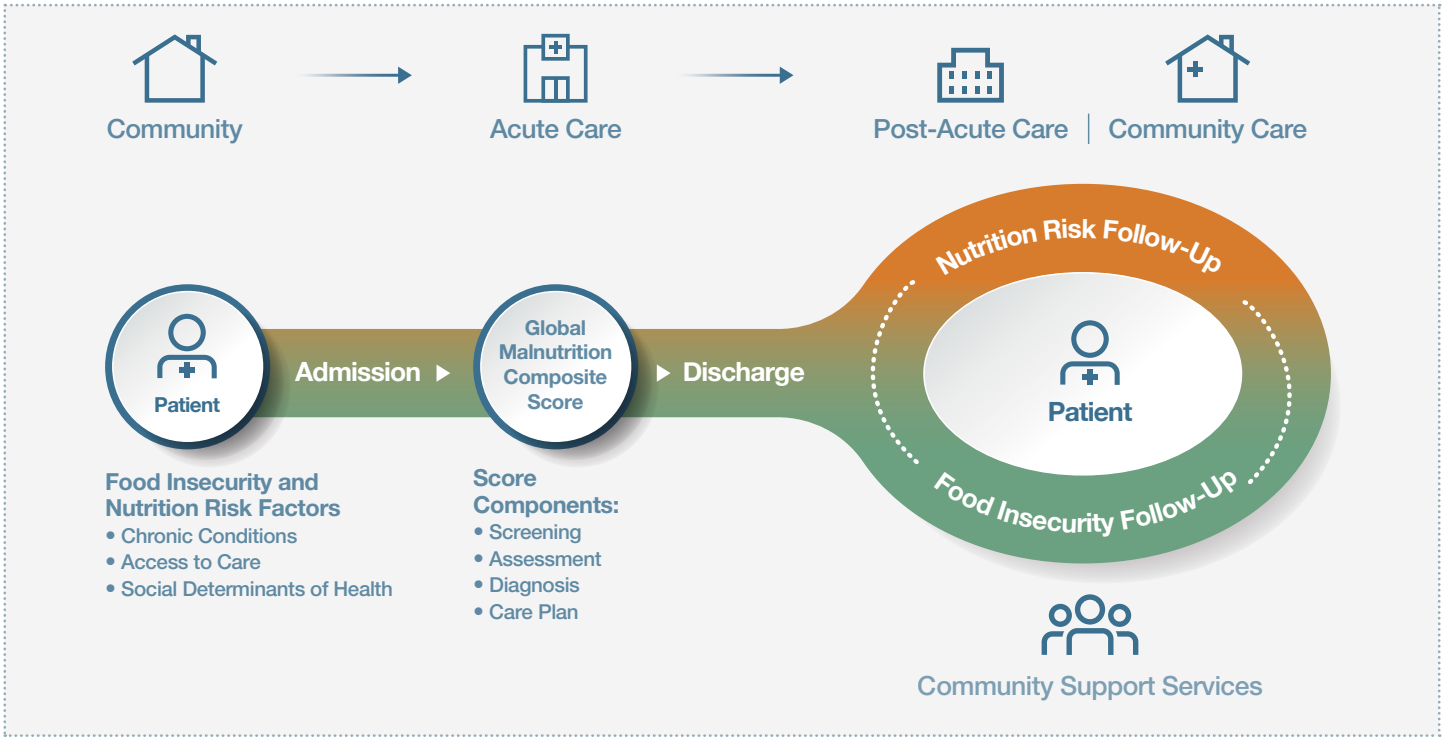
Discussion focused on interventions that target malnutrition and food insecurity through hospital and community-led interventions. Proposed solutions included those that demonstrate improved health outcomes or positive ROI, and those that enhance connections between hospitals and community organizations providing food services through discharge and post-discharge care pathways. Participants also underscored the importance of collaboration across multiple disciplines to meet patient needs during admission and post-discharge, and addressing policy and reimbursement barriers that currently impede progress.

Roundtable cohosts presented Figure 8 to participants as a recommended care pathway to jointly address nutrition and food insecurity risk.

> "Hospitals can be the appropriate place to identify malnutrition and address it efficiently but…our focus needs also to be on what happens after the hospital. We need to bolster the funding for the community-based programs where those individuals will be getting assistance."
>
> **Bob Blancato, MPA**
> **National Association of Nutrition and Aging Services Programs; Defeat Malnutrition Today Coalition; Elder Justice Coalition**

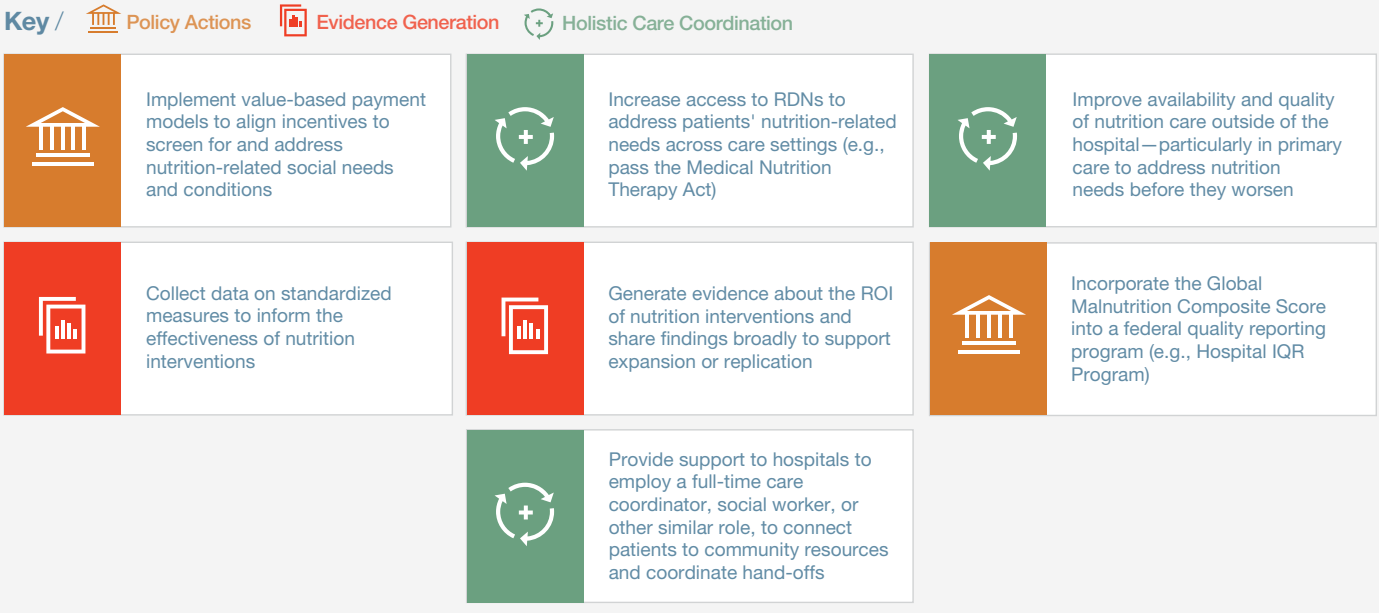
This figure accounts for the broad array of related risk factors that contribute to health disparities, along with use of the GMCS to inform how to address the disparities. Many Roundtable participants noted that this is an optimal pathway that could be achieved if certain barriers were addressed or specific actions taken. They proceeded to share their ideas for implementable solutions to address nutrition and food insecurity risk across this care pathway.

Figure 8. Recommended Care Pathway to Address Nutrition and Food Security Risk



All solutions discussed during the Roundtable are listed in Table 1. When asked to prioritize the proposed solutions, participants selected those presented in Figure 9, which fall into 3 categories: policy actions, evidence generation, and holistic care coordination.

Figure 9. Top-Ranked Solutions to Address Food Insecurity and Malnutrition Proposed by Roundtable Participants



RDN: Registered Dietitian Nutritionist; **ROI:** Return on Investment; **IQR:** Inpatient Quality Reporting

The Roundtable discussion made it clear that quality measurement is key for increasing identification of those at risk for malnutrition and/or food insecurity. Indeed, following a structured care process and tracking performance based on standardized measures was recognized as a key step to begin and underpin most other strategies. While the hospital can serve as an anchor for this process, comprehensive policy and programmatic changes are needed to move forward to align incentives to address malnutrition and support holistic care coordination within the hospital walls and outside in the community. The experts emphasized that changes to healthcare policies and federal nutrition programs, hospital actions, and bidirectional community partnerships can support the healthcare system to scale existing interventions, leverage data to share successes, and incentivize expansion of interventions.

> "We need to directly incentivize and reward providers for caring for patients who are at risk for malnutrition…and directly addressing social determinants of health."
>
> **Elizabeth Drye, MD, MS**
> **National Quality Forum**

The conversation stressed that most proposed solutions will require coordinated and collaborative efforts from relevant stakeholder groups. Implementing single changes such as increasing the number of RDNs available in the hospital or incorporating quality measures into federal programs, without concerted efforts to address how to improve performance, will likely fall short in driving sustainable change. Rather, collective efforts need to be taken to align incentives, coordinate policies, broaden leadership support, and strengthen partnerships in the community. Relevant stakeholders representing health systems, CBO leaders and staff, federal and state policy leaders, innovative health plans, clinical providers of multiple specialties, nutrition researchers, hospital and health systems administrators, and educators must be included and indeed collaborate to support such improvement.

Roadmap to Advance Malnutrition Care and Reduce Food Insecurity

Based on the solutions proposed by Roundtable participants, a roadmap was developed to highlight actionable tactics. This roadmap provides direction to relevant stakeholder groups about actions they can take to begin overcoming the challenges identified by Roundtable experts. The proposed solutions aim to advance health equity through malnutrition and food insecurity interventions. The associated tactics reflect programs, processes, and other approaches that have been successful in certain settings and could be implemented more broadly across healthcare and/or community health settings.

As presented in Table 1 below, the proposed solutions and tactics fall into 4 categories:

- **Policy actions**
- **Evidence generation**
- **Strategic engagement**
- **Holistic care coordination**

Table 1. Roadmap to Improve Efforts to Address Malnutrition and Food Insecurity

Proposed Solutions	Tactics	Policy Leaders	Administrators	Providers	Plans	CBOs
Policy Actions						
Incorporate the Global Malnutrition Composite Score measure into a federal quality reporting program	Support inclusion of the Global Malnutrition Composite Score measure in final Inpatient Prospective Payment System rule for inclusion in the Hospital IQR Program for voluntary reporting	✓				
	Engage in advocacy to support inclusion of the Global Malnutrition Composite Score measure in the Hospital IQR Program (e.g., write a comment letter)		✓	✓		✓
Align incentives to screen for and address nutrition-related social needs and conditions by implementing value-based payment models	Support policies on the state or federal level to incentivize screening for malnutrition and food insecurity in inpatient and outpatient healthcare settings by providers and health plans	✓				
	Support policies on the state or federal level that incentivize coordination of care with RDNs and other practitioners who can best meet patients' social needs	✓				
	Consider directing the CMS Innovation Center to develop, implement, and evaluate a new model of care that provides comprehensive nutrition care in the clinical setting as well as connections to community resources and federal nutrition programs to meet social needs	✓				
	Partner with providers participating in value-based contracts or alternative payment models that will reimburse screenings for malnutrition and food insecurity and/or coordination of care with RDNs or other clinically qualified nutrition professionals		✓		✓	

Proposed Solutions	Tactics	Policy Leaders	Administrators	Providers	Plans	CBOs
	Sign the Healthy Food in Health Care Pledge and ensure that food purchased and served in health systems is nutrient-dense		✓			
	Participate in alternative payment models or offer value-based contracts that incentivize screening for malnutrition and food insecurity and/or coordinating care with RDNs or other clinically qualified nutrition professionals		✓	✓	✓	
	Participate in an alternative payment model such as the new Accountable Care Organization Realizing Equity, Access, and Community Health Model through the CMS Innovation Center		✓	✓	✓	
	Participate in the CMS Innovation Center's Medicare Advantage Value-Based Insurance Design Model and offer food and nutrition-related benefits (such as healthy groceries)				✓	
	Partner with providers participating in value-based contracts or alternative payment models that will allow for reimbursement for screening for malnutrition and food insecurity					✓
Increase access to RDNs to address patients' nutrition-related needs across care settings	Support activities to pass the Medical Nutrition Therapy Act so that Medicare would cover appointments with RDNs for more patient populations to receive education and counseling	✓				
	Advocate for the passing of the Medical Nutrition Therapy Act (e.g., by writing comment letters, publishing blogs and commentary articles, testifying in Congressional meetings, etc.) so that Medicare would cover visits for more patient populations and incorporate into staffing procedures upon passage		✓	✓	✓	✓
	Require Medicaid plans to cover access to RDNs for patient education and counseling	✓				

Proposed Solutions	Tactics	Policy Leaders	Administrators	Providers	Plans	CBOs
Facilitate patients' access to and registration for government nutrition assistance programs and financial assistance programs, and improve and expand those benefits	Review and update federal and state policies and procedures around enrollment to ensure individuals can easily access programs such as SNAP and the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)	✓				
	Review and update federal and state policies and procedures to ensure eligible individuals can earn the Child Tax Credit and Earned Income Tax Credit	✓				
	Analyze barriers to use of these programs to identify areas for improvement or expansion, and then implement such changes	✓				✓
	Consider evidence-based approaches to optimize health outcomes for SNAP recipients (e.g., incentives for healthy food purchases) and incorporate into future farm bills	✓				
	Employ staff who are capable and well versed on the available assistance programs for nutrition assistance (e.g., SNAP, WIC) and financial assistance (e.g., Child Tax Credit, Earned Income Tax Credit)		✓		✓	
Evidence Generation						
Generate evidence about the ROI of nutrition interventions and share findings broadly to support expansion or replication	Provide research funding (e.g., through the NIH) for healthcare institutions to conduct such studies	✓				
	Collect data on use of standardized malnutrition care processes (such as those supported by NQF #3592e) to generate evidence about the ROI of nutrition interventions	✓	✓	✓		
	Conduct systematic reviews and meta-analyses on a periodic basis (such as through AHRQ) to provide the most up-to-date information about disease burden and effective interventions for use by researchers and practitioners	✓		✓		

Proposed Solutions	Tactics	Policy Leaders	Administrators	Providers	Plans	CBOs
	Contribute to the collection and analyses of data to show the ROI of nutrition interventions by participating in a pilot study and/or joining national efforts (e.g., MQii Learning Collaborative)		✓	✓	✓	✓
	Analyze proprietary data on member populations that prove the health benefits and financial value of nutrition interventions				✓	
	Disseminate research findings on ROI studies through conferences, publications, and other professional avenues	✓	✓	✓	✓	✓
Collect data on patient experiences with nutrition services and incorporate the data into healthcare and/or community-based initiatives	Provide funding for research including collection of data (e.g., via focus groups or surveys) on patient perspectives and the integration of these findings into healthcare policies, public health programs, etc.	✓	✓			
	Convene, facilitate, and/or participate in working groups or focus groups to articulate and understand barriers to care that exist at the policy level and can be changed	✓	✓	✓	✓	✓
	Support data collection on patient experience by working with health system, health plan, and CBO partners, where appropriate		✓	✓	✓	✓
	Partner with providers within the health system and community to hold discussions that aim to understand barriers to care that exist at the contracting level and to find solutions to overcome such barriers		✓	✓	✓	✓
	Track quality improvement metrics related to food insecurity and food access in Community Health Needs Assessments	✓	✓			

Proposed Solutions	Tactics	Policy Leaders	Administrators	Providers	Plans	CBOs
Strategic Engagement						
Implement a health system-based community resource center and implement learnings from existing examples (such as in the example shared by Memorial Hermann Health System)	Implement learnings from existing examples such as in the example shared by Memorial Hermann Health System to expand the volume and reach of community resource center models		✓			
	Coordinate with health systems that may offer their own resource centers to augment services where and as needed, serving as community partners					✓
	Evaluate capacity to develop and offer hospital-based resource centers to meet patient needs, providing financial and strategic support in partnership with patient-facing clinicians		✓			
Collect data on standardized measures to inform the effectiveness of nutrition interventions	Disseminate evidence of interventions through publications and conferences (such as through the NIH, professional associations, etc.) to share findings broadly with healthcare administrators and leaders to gain buy-in and support expansion	✓	✓	✓	✓	✓
	Leverage public position to disseminate models of success and evidence to broad national or state audiences through conferences, webinars, and peer-reviewed literature	✓	✓		✓	
	Contribute to development of state plans and/or resource inventories addressing food and nutrition-related needs, such as the Massachusetts inventory and state plan					✓
	Engage with partners in healthcare systems or community organizations to design interventions and evaluate them through pilot studies				✓	
	Consider opportunities to develop and implement relevant quality measures focused on social determinants of health		✓	✓	✓	

Proposed Solutions	Tactics	Policy Leaders	Administrators	Providers	Plans	CBOs
Holistic Care Coordination						
Invest in and implement technical infrastructure to share data on patient health and participation among community-based organizations and acute care settings	Invest in referral platforms to connect individuals to services in the community addressing social needs, ensuring sustainable models of reimbursement and growth for all partners	✓			✓	
	Participate in bidirectional data sharing through portals implemented by health systems and health plan partners			✓	✓	✓
	Promote interoperability of patient information and referrals to ensure effective care coordination across settings	✓	✓	✓	✓	
Increase use of ICD-10 Z codes among all care team members to document and track data on various social determinants of health (including food insecurity)	Increase awareness of and education on the use of Z codes—especially the 2 new codes focused on food insecurity, Z59.41: Food Insecurity, and Z59.48: Other specified lack of adequate food—by providers nationally	✓	✓	✓	✓	
	Ensure universal screening for food insecurity and promote the appropriate use of Z codes across practice providers to document and track data on various social determinants of health, including food insecurity		✓	✓		
Employ a clinical outreach RDN to visit patients in their homes and better identify and address nutrition-related issues (such as in the example shared by New Hanover Regional Medical Center)	Leverage models and lessons learned from examples shared during the Roundtable to increase the availability of clinical outreach RDNs in the community to visit patients in the home to better identify and address nutrition-related issues	✓	✓	✓		

Proposed Solutions	Tactics	Policy Leaders	Administrators	Providers	Plans	CBOs
Provide support to hospitals to employ a full-time care coordinator, social worker, etc., to connect patients to community resources and coordinate their hand-offs	Invest in care coordination staff and adjust staffing procedures and policies to ensure that sufficient qualified care coordinators, nurse navigators, and social workers are available to support care planning across all departments to address patients' social needs when discharging to the community		✓		✓	
	Provide resources and training to clinical healthcare staff to improve their knowledge of care coordinators as well as available lists/databases of relevant community and federal nutrition services		✓	✓	✓	✓
Implement a health system-based community resource center	Implement learnings from existing examples shared during the Roundtable (see Memorial Hermann Health System case study) to expand the volume and reach of community resource center models		✓			✓
	Evaluate capacity to develop and offer hospital-based resource cen-ters to meet patient needs, providing financial and strategic support in partnership with patient-facing clinicians		✓	✓		
Improve availability and quality of nutrition care (i.e., medical nutrition therapy) outside of the hospital—and particularly in primary care to diagnose and treat malnutrition before it is a comorbidity diagnosed in the inpatient setting	Standardize procedures to identify food insecurity, including use of validated tools such as the Hunger Vital Sign, and document it consistently in health records		✓	✓		
	Employ RDNs throughout outpatient clinics (including in specialty areas) to assess nutrition status on regular visits and help integrate RDNs into interdisciplinary care teams		✓	✓		
	Employ RDNs throughout public and private health plans and community-based organizations to assess needs, provide counseling and education, and connect to further clinical resources as needed				✓	✓
	Encourage Medicaid MCO and Medicare plan partners to implement policy to routinely screen for food insecurity using the Hunger Vital Sign validated screening tool			✓	✓	

Proposed Solutions	Tactics	Policy Leaders	Administrators	Providers	Plans	CBOs
	Facilitate partnerships among health systems, health plans, and CBOs to raise awareness of the availability of nutrition programs and services in the community			✓	✓	✓
	Employ clinical outreach specialists to visit patients in their homes and better identify and address nutrition-related issues		✓	✓	✓	
	Develop and test quality measures related to malnutrition in outpatient settings		✓	✓		
	Implement and validate screening tools, such as the Malnutrition Screening Tool, in outpatient settings			✓		
Increase/improve physician/nursing/ pharmacist education on the importance of nutrition and how to access qualified clinicians to treat and assess malnutrition	Require completion of courses focused on various aspects of nutrition during medical/nursing school and continuing education to enhance knowledge of malnutrition (and commonly associated conditions), nutrition care processes, and RDNs' roles in patient care	✓	✓	✓		
	Encourage completion of courses focused on social determinants of health, disparities, and equity during both medical/nursing school and continuing education to enhance knowledge and skills to address these issues	✓	✓	✓		
	Coordinate educational opportunities for physicians about nutrition care processes and the roles of RDNs		✓			
	Familiarize health system and practice staff with available resources and programs that may exist in the community and facilitate connections and referrals for services to address nutrition-related needs		✓	✓		✓
	Coordinate with academic professional societies to endorse various courses and trainings related to healthy nutrition, the role of nutrition in health outcomes, and efforts to address food insecurity			✓		

Next Steps & Future Directions

Pre-Roundtable interviews, case study presentations, and facilitated discussion yielded many insights proposed and discussed by expert participants during the Roundtable. Following this Roundtable and the publication of these proceedings, MQii stakeholders will seek to advance this work by accomplishing the following:

1. **Disseminate these proceedings to broadly promote the findings and actionable roadmap**
2. **Continue to support Learning Collaborative hospitals in implementing and evaluating their respective quality improvement projects addressing malnutrition and food insecurity**
3. **Continue to collect and analyze data from hospitals on their malnutrition quality measure performance and other measures of interest to generate evidence on the value of nutrition care and its opportunities to close disparities and advance equity**
4. **Support broader reporting on the malnutrition quality measures, including through advocating for inclusion of the Global Malnutrition Composite Measure in Medicare's Hospital Inpatient Quality Reporting Program**

Further, by carrying out the tactics presented by the roadmap, identified stakeholders will be part of a comprehensive effort to implement multiple solutions and address barriers that burden healthcare and social systems across the US. Collectively, these solutions spanning 4 key strategy areas will enable patients across communities and settings of care to access, engage with, and benefit from the highest quality resources and care related to food and nutrition to optimize health. Beginning with identification of malnutrition in the acute care setting, continuing through interventions implemented at the time of patients' discharge and solutions integrated within the community, this diverse group of stakeholders can come together to advance health equity among underserved populations.

Appendices

Appendix 1: List of Roundtable Participants

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Appendix 2: Innovative Approaches to Address Malnutrition & Food Insecurity

During the interviews conducted prior to the Roundtable, national experts highlighted numerous innovations that have already been taken on by health systems, health plans, community organizations, and other partners to address malnutrition and food insecurity. Some of the approaches highlighted included:

- **Jesse Hill Market – Partnership between Grady Health, Open Hand Atlanta, and Atlanta Community Food Bank for a Hospital-Based Healthy Café**
- **MedStar Good Samaritan FoodRx Program**
- **Wholesome Wave/Public Health Institute Partnership with Grocers in LA**
- **University of Maryland HAIR Program for Health and Healthcare Education**
- **MassHealth Accountable Care Organization Flexible Services**
- **Makin' Groceries Mobile Market from Humana and Second Harvest**

Appendix 3: About Avalere Health, the Academy of Nutrition & Dietetics, & the National Minority Quality Forum

Avalere Health is a healthcare advisory services firm with experience in quality improvement and measurement. The Academy of Nutrition and Dietetics is the world's largest organization of nutrition and dietetics practitioners committed to optimizing health through food and nutrition, and advancing the profession through research, education, and advocacy. The National Minority Quality Forum is a not-for-profit research and educational organization dedicated to creating an American health services research, delivery and financing system whose operating principle is to reduce patient risk for amenable morbidity and mortality while improving quality of life.

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April 2022