# WHAT'S HOT

A Newsletter of

THE GERONTOLOGICAL SOCIETY OF AMERICA

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## A Hidden Epidemic of Malnutrition

America's national obesity epidemic is well documented and often highlighted as a public health priority,[1] as it should be. Less well known are the nation's problems with other forms of malnutrition, which constitute a prevalent, serious, and often unrecognized health threat, especially for older adults.

Broadly defined, malnutrition encompasses any nutritional disorder. It may stem from a diet that is excessive, inadequate, or simply imbalanced, with too much of some nutrients and not enough of others. Malnutrition also may be associated with clinical conditions that impair the body's absorption or use of foods.[2] Under this definition, it is fair to say America has a hidden epidemic of adult malnutrition potentially affecting individuals across all weight categories: overweight or obese, normal weight, and underweight.

Many factors, discussed subsequently, place older adults at particular risk for malnutrition. In 2012, the Academy of Nutrition and Dietetics and the American Society for Parenteral and Enteral Nutrition released a consensus statement encouraging a standardized approach to diagnosing this problem. The two groups define malnutrition as the presence of at least two of six clinical characteristics, which could also be associated with a general physical wasting (cachexia) usually linked to chronic illness[3]:

- Insufficient food intake compared with nutrition requirements.
- Weight loss over time.
- Loss of muscle mass.
- Loss of fat mass.
- Fluid accumulation.
- Measurably diminished grip strength.

Good nutrition reduces complications from acute and chronic illness, aids recovery, and supports optimal functionality throughout the lifespan. Malnutrition boosts the risk for infections, delays wound healing, increases the length of hospital stays, increases hospital readmissions, and increases healthcare costs.[4-6] ◆

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# Aging Is a Risk Factor for Malnutrition

Advanced age alone is a risk factor for malnutrition.[7] Both aging and many of the chronic conditions that often accompany aging are associated with declining nutritional health and muscle mass. In fact, even though individuals may gain weight and body fat as they grow older, the steady decline in food intake that typically occurs over the lifespan makes older adults especially vulnerable to malnutrition.[8,9]

Reduced food intake occurs even in healthy individuals as they age, due to decreased physical activity and physiological changes, including changing metabolism.[9] However, it predisposes individuals to malnutrition when exacerbated by any of a number of factors. Taste disturbances, difficulty accessing or preparing food because of functional limitations or cognitive decline, anxiety, depression, bereavement, and poverty may cause older individuals to eat less.[10-12]

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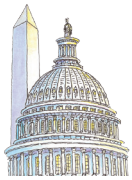


Research presented at the 2014 Annual Scientific Meeting of The Gerontological Society of America adds to this list additional problems that can hamper nutrition:

- A shift in foodways among older widowed women—that is, a change in the way they select, acquire, prepare, and consume food after the dietary habits formed in marriage are no longer functional.[13]
- Reduced occlusal force, which makes chewing difficult and is associated with reduced intake of vegetables, protein, dietary fiber, and vitamins A, E, and C.[14]
- Eating disorders that persist into older age.[15]

Of course, illness and the side effects of medical treatment can both increase nutrient requirements—for example, to facilitate recovery or wound healing—and simultaneously reduce appetite because of altered taste, impaired digestion and nutrient absorption, nausea, vomiting, fatigue, or general malaise.[11] The need to take medications on an empty stomach, avoid certain foods because of medical conditions, or acquire and prepare meals while ill further complicates diet and nutrition.

As with other health conditions, those of lower socioeconomic status are at greater risk of malnutrition.[16] However, a recent study of 138 noncritically ill, cognitively intact adults ages 65-years and older presenting to an emergency department found 60% were malnourished or at risk for malnutrition, and the prevalence of malnutrition was about the same across patient educational levels, sex (male vs. female), and area of residence (urban vs. rural).[17] Factors associated with malnutrition included symptoms of depression, self-reported difficulties eating or buying groceries, and residing in an assisted living facility.

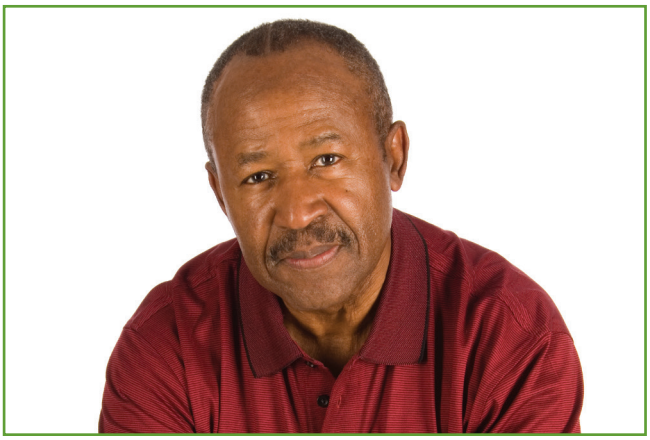
Protein malnutrition, in particular, is an underrecognized, yet highly consequential problem for older adults, including those who are overweight or obese. Protein is a major constituent of virtually all body tissues and is essential for immune response, tissue maintenance and repair, and the production of hormones, enzymes, and blood cells. Aging is generally accompanied by a progressive loss of muscle protein stores and strength under normal circumstances, potentially resulting in a condition called *sarcopenia,* roughly translated from Greek as "lack of flesh." An estimated 5% to 13% of adults ages 60 to 70 years and 11% to 50% of those ages 80 years or older have some degree of sarcopenia, which places them at increased risk of frailty, falling, functional disability, and impaired immune response.[18-22]

When dietary protein is insufficient to meet physiological needs, the risk for sarcopenia increases. Thus, the co-occurrence of sarcopenia and malnutrition is common and leads to an "accelerated age-associated loss of lean body mass, strength, and/or physical performance."[12] The combination of these disorders is associated with a host of preventable and costly problems for older adults, especially if accompanied by weight loss.[12]

Yet, overweight older adults are not necessarily protected. Researchers have noted that the "two greatest epidemiological trends of our times"—the aging of the population and the obesity epidemic—have converged to create a new public health malnutrition problem: sarcopenic obesity.[23–25] Writing in *Obesity Research,* Ronenn Roubenoff notes, "The 'fat frail' have the worst of both worlds as they age—increased weakness due to sarcopenia and a need to carry greater weight due to obesity."[25]

Given the widespread assumption that American diets contain more than adequate protein, sarcopenia and protein malnutrition generally have been a low research priority.[26] However, some researchers question whether the current recommended daily allowance for protein—0.8 grams per kilogram body weight for nonpregnant adults of all ages—is sufficient for optimal functioning at older ages.[26]

Notably, the costs of sarcopenia are high—an estimated $18.5 billion in direct U.S. healthcare expenditures in 2000.[27] ◆



# Ignoring Malnutrition Exacts a Toll on Hospitals, Patients, and Payers

In 1974, physician Charles Butterworth, Jr., wrote that, given growing concern over the high cost of U.S. healthcare, "it seems strange that so little attention has been paid to the essential role of good nutrition in the maintenance of health, and particularly in recovery from acute illness or injury." Butterworth went on to point out the "mismanagement, if not downright neglect, of the patient's nutritional health in our hospitals."[28]

Despite efforts to improve care over the last 40 years, estimates continue to show that 30% to 50% of U.S. adults are malnourished or at risk for malnutrition upon admission to the hospital. These estimates are consistent with prevalence data gathered from around the world.

A study of more than 2,000 elderly hospital patients in Belgium determined that 33% were malnourished and almost 43% were at risk for malnutrition.[29] A study of German hospital patients found that 43% of those age 70 years or older were malnourished, compared with nearly 8% of patients less than 30 years old.[30] Geriatric oncology patients fared worst of all, with 56.2% having malnutrition.

Malnutrition is especially a problem for older adults, because they are more likely to be hospitalized than younger individuals. In 2004, adults ages 65 years and older made up about 12% of the general population, but accounted for 34% of all hospital stays.[31] Moreover, an analysis of data from the nationally representative 2010 Healthcare Cost and Utilization Project (an initiative of the federal Agency for Healthcare Research and Quality) found that hospital patients discharged with a malnutrition diagnosis tended to be older than those without this diagnosis (mean age 64.8 vs. 47.8 years) and to have longer and more costly inpatient care.[32]

Although data on malnutrition among elderly U.S. inpatients are limited, at least one study documented epidemic proportions of adult malnutrition or borderline malnutrition in a subacute-care center in St. Louis (91% of 837 inpatients with a mean age of 76 years).[33]

Unfortunately, longer hospital stays are associated with worsening nutritional status. A study based at a U.S. university hospital documented declines in nutritional status among 31% of adult patients (age ≥18 years) between admission and discharge more than 7 days later.[34] Specifically, 38% of adult patients with adequate levels of nourishment and 20% of those moderately malnourished at admission experienced declines.

The high rates of malnutrition in hospitals stem from myriad factors, including illness-related appetite loss, mood or anxiety disturbances, gastrointestinal problems, difficulty chewing or swallowing, accelerated loss of lean body mass during bed rest, modified diet prescriptions, and *nil per os* (nothing by mouth) orders preceding many diagnostic or therapeutic interventions.[4,35-37] Failure to recognize nutritional problems contributes to the problem of limited nutritional intervention.[3,4,38]

Evidence consistently shows that malnourished patients of all ages tend to fare worse than those who are well nourished, even if the malnourished patients have less severe illness.[39] Patients with malnutrition endure longer hospital stays, more complications, higher rates of depression, slower wound healing (for surgical patients), more healthcare-associated infections, greater incidence of pressure ulcers, worse health outcomes, less likelihood of discharge home with self-care, and greater likelihood of hospital readmission or death.[6,32,33,39-46]

In one study, for example, data from nearly a million surgical patients (age ≥18 years) showed that those with

### Malnutrition: A Contributor to Post-Hospital Syndrome

Hospitalization itself places patients at risk for subsequent adverse health events, says Harlan Krumholz, MD, writing in the *New England Journal of Medicine.* Recently discharged patients, must recover not only from the acute condition that prompted their hospitalization, but also from multiple stresses endured in the hospital—sleep deprivation, inactivity-induced deconditioning, pain, discomfort, treatment and medication side effects, and poor nourishment. "Each of these perturbations," he writes, "can adversely affect health and contribute to substantial impairments during the early recovery period."

During the 30 days immediately following hospital discharge, says Krumholz, patients suffer a post-hospital syndrome, "an acquired, transient period of vulnerability." He says post-hospital syndrome helps to explain why nearly 20% of Medicare patients are readmitted to the hospital within 30 days of discharge and why so few of these readmissions are related to the patient's original diagnosis: just 37% of 30-day readmissions for heart failure patients, 29% for pneumonia patients, and 36% for chronic obstructive pulmonary disease patients.

What can be done to minimize post-hospital syndrome? Says Krumholz, "During hospitalization, clinicians should not only address the urgencies of the acute illness but also seek to promote health actively by strengthening patients and contributing to their physiological reserve. Attention to sleep, nutrition, activity, strength, and judicious symptom management may pay great dividends." ◆

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preexisting malnutrition or weight loss were two to three times more likely to develop intestinal *Clostridium difficile* infection, surgical-site infection, or postoperative pneumonia.[47] Another study revealed that about 45% of patients who fall in the hospital (mean age 71.2 years) are malnourished.[48]

Malnourished patients also accrue higher healthcare costs. In one multihospital study, bills for malnourished patients were increased up to 309%, compared with well-nourished patients.[49]

Furthermore, the effects of malnutrition do not end upon discharge. Inadequate nutritional screening and intervention, coupled with other hospital "traumas," have been identified as the cause of post-hospital syndrome, a newly characterized, hospital-acquired condition (HAC) that leaves recently discharged patients susceptible to an array of new ills, including hospital readmission (see sidebar on page 3).[50]

> "Sleep deprivation and poor nutrition should be considered toxic to the patient—a harmful exposure to be avoided."[50]

Altogether, the prevalence of malnutrition in institutional settings outside the hospital rivals that within the hospital. An international study aggregating data from the United States and 11 other developed countries found the prevalence of malnutrition among older adults (mean age 82.3 years) to be

- 50% in rehabilitation settings.
- 38.7% in hospitals.
- 13.8% in nursing homes.
- 5.8% in the community.[51]

An analysis of a nationally representative, random sample of data from U.S. nursing home assessments documents the rate of chronic malnutrition at more than 12% among residents ages 60 years or older.[52] ◆

# Healthcare Systems and Providers Are Not Attuned to Older Adults' Malnutrition Risk

Malnutrition in the U.S. healthcare system stems from multiple causes. Although nutritional status has a predictable impact on health outcomes, nutritional oversight is not considered a basic function of patient care for physicians and most other clinicians. In hospital settings, it is generally consigned to a proportionately smaller number of staff dietitians.[4] Yet, patients are not referred to dietitians if nutritional problems are not first identified by other providers through routine malnutrition screening. The problem is further compounded when dietitians' care plans are often not fully integrated into the overall patient care plans.

Healthcare providers may not be attuned to patient malnutrition because the topic is given limited attention in medical curricula and training programs. Thirty years ago, the National Academy of Sciences recommended a minimum of 25 hours of nutrition instruction for medical students.[54] Yet in 2008–2009, only 28 (27%) of 105 U.S. medical schools met this benchmark, down from 40 in 2004.[55] Thirty medical schools (29%) required fewer than 13

> "Nutritional support provision does not happen by accident."[53]

## What to Do When Older Adults Don't Eat

When patients are experiencing malnutrition, caregivers can take several steps to try to increase patients' food consumption. These include seeking health care for underlying medical causes of weight loss, improving the dining environment and nutritional value of food choices, providing feeding assistance, and using pharmacologic appetite stimulants.

However, if patients still do not eat adequate solid food, oral nutrition supplements can deliver a range of nutrients tailored for specific medical purposes and have been shown to markedly improve health outcomes.

One study, for example, reviewed 11 years of data (covering the period 2000–2010) on hospitalized adult patients diagnosed with acute myocardial infarction, congestive heart failure, or pneumonia—all diagnoses subject to new Medicare reimbursement rules under the 2010 Affordable Care Act. Researchers analyzed outcomes for over a million illness episodes, comparing one-to-one matched samples of episodes with and without oral nutrition supplementation. For each diagnosis, they found that oral nutrition supplementation reduced the probability of 30-day hospital readmission, length of hospital stay, and episode cost. Overall, combining data across diagnoses, the benefit of oral nutrition supplementation yielded the following:

- 6.9% decrease in the probability in the full-matched sample of hospital readmission within 30 days of discharge (based on data for episodes leading to patient readmission).
- 21.0% decrease in length of hospital stay per illness episode or a 2.3-day reduction, on average.
- 21.6% decrease in hospital costs, or an average savings of $4,734 per illness episode. ◆

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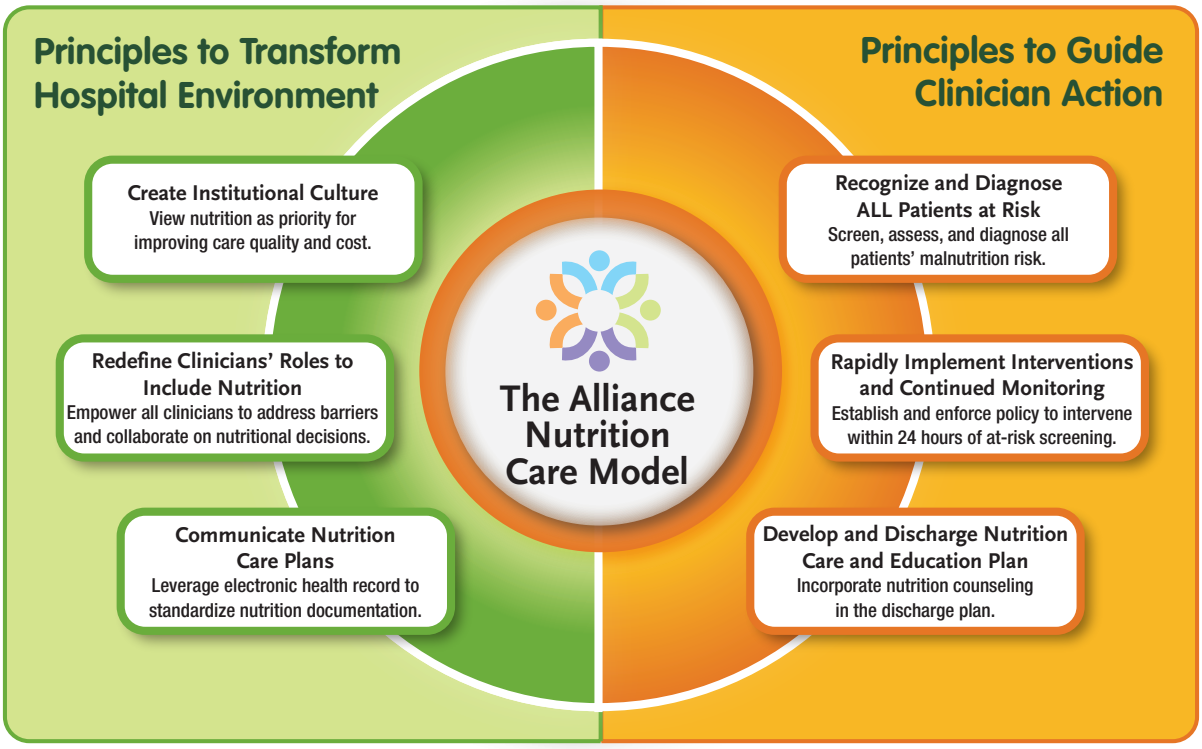
hours of nutrition instruction in 2008–2009, and four offered only optional instruction. Only 25% of surveyed medical schools offered a dedicated nutrition course.

In telling testimony, 79% of 107 surveyed medical school instructors reported that students at their institution received inadequate nutrition instruction, and another 7% didn't know whether students needed more nutrition training.[55] Similarly, only 14% of internal medicine residents say they feel adequately trained to provide nutrition counseling.[56]

Given patients' limited access to dietitians, the Alliance to Advance Patient Nutrition—a collaboration among the Academy of Medical-Surgical Nurses, the Academy of Nutrition and Dietetics, the Society of Hospital Medicine, and Abbott Nutrition—has called for a "deliberately more holistic and interdisciplinary process" to address malnutrition in hospitalized adults (see Figure 1).[4] The new process would involve coordination among nurses (who perform nutrition screening), dietitians (who conduct detailed nutrition assessments and develop interventions), pharmacists (who assess drug-nutrient interactions), and hospitalists and other physicians (who diagnose patients and oversee care plans).

With new incentives for care quality and disease prevention under the Affordable Care Act (ACA)—such as penalties for high rates of 30-day hospital readmission, HACs, and other poor outcomes—the present time is ripe to elevate nutrition within medical education and training programs, as well as health systems generally. ◆

**Figure 1. Nutrition Care Model for Hospitalized Patients**




Source: Used with permission from the Alliance to Advance Patient Nutrition. http://malnutrition.com/getinvolved/hospitalnutritiontoolkit

## Opportunities to Improve Nutrition Awareness, Interventions, and Policy Priorities

The Centers for Disease Control and Prevention's (CDC) Social Ecological Model is appropriate to consider for nutrition. It describes five levels of influence on health behavior: individual, interpersonal, organizational, community, and policy (see Figure 2). As shown in Table 1, each level can provide opportunities for health officials, policymakers, clinicians, patients and their families, and advocates to mitigate older adult malnutrition.

Beginning with the individual, there is a clear need to educate community members about the risks associated with malnutrition, and especially the risks of malnutrition among older adults. Education on prevention can come from mass-media campaigns, targeted outreach to at-risk populations, or one-on-one interactions at clinics, health fairs, pharmacies, etc.

On an interpersonal level, perhaps the most consequential nutrition inter-

actions occur between patients and healthcare providers. Patients tend to view providers, and physicians especially, as credible sources of nutrition information.[57] Furthermore, they are reliant on providers to address their nutritional needs when they are hospitalized or otherwise incapacitated.

Given the impact of nutritional status on health outcomes, and given medical residents' own poor assessment of their nutrition knowledge, physicians must be better prepared to prevent, identify, and resolve patient malnutrition, especially for older adults and other at-risk populations.

A 2014 white paper from three allied groups—the Alliance for a Healthier Generation, the American College of Sports Medicine, and the Bipartisan Policy Center—calls for concrete measures to achieve this goal[58]:

- Development and use of a standard nutrition and physical activity curriculum in medical schools and education programs in related health fields, such as nursing and pharmacy.
- Inclusion of greater nutrition and exercise content in professional licensing and certification exams.
- Increased nutrition and physical activity requirements for residency and continuing medical education programs.
- Greater federal and state support for medical education reforms and for healthcare services that address patients' nutritional and physical activity needs.
- Reimbursement for preventive health services targeting nutrition and physical activity.

Some healthcare professional associations have developed clinical best practice guidelines that support appropriate nutritional care. The American College of Surgeons, for example, calls for routine patient screening to determine the need for preoperative nutrition support.[59] The American Society for Parenteral and Enteral Nutrition (ASPEN) recommends routine nutrition screening for all hospitalized patients, followed by in-depth assessment and nutrition support for patients identified at risk of malnutrition.[60] ASPEN and the Academy of Nutrition and Dietetics recommend the use of a standardized set of diagnostic characteristics to identify and document malnutrition in routine clinical practice.[3]

Consistent implementation of these guidelines, however, requires a supportive practice environment—the next level of intervention.

The organizational level—comprising hospitals and healthcare systems—holds abundant opportunity for reforms to encourage and institutionalize comprehensive nutritional care.

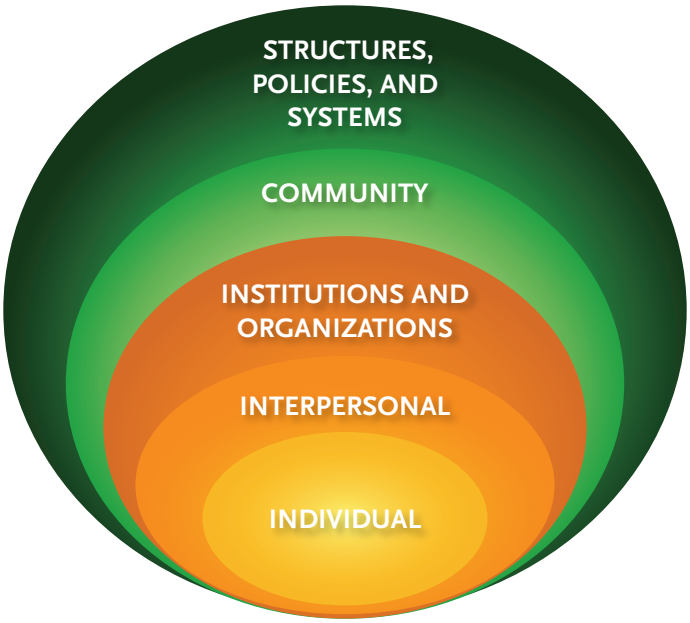
The interdisciplinary Alliance to Advance Patient Nutrition has developed a nutrition care model designed to "transform the hospital environment by creating a culture that views nutrition as a priority."[61] The Alliance recommends defining clinicians' roles to include nutrition screening, standardizing nutrition documentation within the electronic health record, and establishing three core principles to guide clinician action:

1. All patients will be screened for malnutrition risk.
2. At-risk patients will receive nutrition interventions within 24 hours of screening.
3. Nutrition counseling will be included in the discharge plan.

The American Medical Association has issued a statement supporting standardization and accreditation of interdisciplinary nutrition support teams to carry out "comprehensive nutritional screening, assessment and management in hospitals," development of national registries to facilitate information sharing related to nutritional interventions, and reimbursement for nutrition support team services when they "are used to preclude or mitigate adverse health conditions."[62]

Recent Centers for Medicare & Medicaid Services (CMS) changes recognizing the importance of nutrition are affecting the hospital environment, as well. Specifically, CMS has instituted revised diagnostic codes for malnutrition, upgrading both mild and moderate malnutrition from noncomplicating condition status to complicating condition status, which recognizes that these conditions require additional resource use and thus are potentially eligible for higher reimbursement. In addition, CMS recently issued a new rule that permits registered dietitians to order patient diets independently (without the supervision or approval of a physician) within the

**Figure 2. Social Ecological Model**




Source: Centers for Disease Control and Prevention. http://www.cdc.gov/obesity/health_equity/addressingtheissue.html

## Table 1. Malnutrition Prevention: Five Levels of Intervention

**1. Individual Level: Educate families, patients, and caregivers about malnutrition.**

- Launch multimedia malnutrition prevention campaigns.
- Establish a malnutrition awareness day.
- Host malnutrition education programs at health departments and other local venues.

**2. Interpersonal Level: Build routine malnutrition screening and intervention into providers' professional education, training, and practice patterns.**

- Increase healthcare professionals' nutrition and malnutrition training and continuing education.
- Establish competencies in malnutrition education for healthcare professionals.
- Include routine malnutrition screening and intervention in standards of care.

**3. Organizational Level: Establish healthcare system malnutrition screening and intervention models and standards.**

- Include malnutrition screening and intervention in electronic health record templates visible to all healthcare professionals.
- Define clinicians' roles to include malnutrition screening and intervention.
- Use nutrition support teams for comprehensive, coordinated malnutrition care.
- Include malnutrition counseling in patient discharge plans, as appropriate.

**4. Community Level: Build malnutrition screening and intervention into transitions of care models.**

- Include malnutrition screening and intervention in state healthcare quality initiatives and care models, especially those related to healthcare-acquired conditions and readmissions.
- Develop a malnutrition care seal-of-approval program for healthcare systems.
- Include malnutrition screening and intervention in hospital licensure requirements and hospital rating and comparison measures.
- Expand The Joint Commission standard on malnutrition screening to include malnutrition intervention.

**5. Policy Level: Make malnutrition screening and intervention a policy priority.**

*Federal and State Health Goals*

- Add malnutrition into the Healthy People goal for nutrition and weight status.
- Address malnutrition and sarcopenic obesity in state obesity plans.

*Affordable Care Act*

- Emphasize malnutrition screening and intervention in care transitions grants and other relevant grants.
- Make future grants contingent on inclusion of malnutrition screening and intervention in care delivery models, such as integrating nutrition into the Coleman Care Transitions Intervention.

*Older Americans Act (OAA) Reauthorization*

- Strengthen links between nutrition and health.
- Make malnutrition screening and intervention an element of nutrition education.
- Allow states flexibility to provide oral nutrition supplements in addition to regular meals, not just replace them.
- Make the National Resource Center on Nutrition and Aging permanent.
- Provide malnutrition education through the OAA National Family Caregiver Support Program.
- Provide for long-term malnutrition services and support.

*Insurance Coverage*

- Include malnutrition screening and intervention in essential benefits.
- Include coverage for malnutrition screening and intervention in private long-term care insurance policies.
- Include coverage for oral nutrition supplements for malnourished and at-risk Dual Eligible populations.
- Collect and analyze Medicare/Medicaid data to improve outcomes with malnutrition screening and intervention.

boundaries of state licensing and hospital authority to grant privileges.

As noted in the accompanying sidebar, recent national policy changes make it all the more worthwhile for hospitals and healthcare systems to adopt or advocate for such changes to promote quality care and optimal patient health outcomes.

On the community level, independent organizations, local jurisdictions, and states can contribute to a more nutrition-focused health system.

Since 2008, The Joint Commission, an independent hospital accreditation and certification organization, has required nutritional and functional screening within 24 hours of inpatient admission, when warranted by a patient's condition (as defined by established hospital criteria).[63] This standard could be strengthened by requiring routine nutritional screening for all inpatients, as well as nutritional intervention within 24 hours of screening, when clinically indicated.

Associations or state governments could develop a malnutrition care seal-of-approval program for hospitals and healthcare systems that meet designated care standards and can add malnutrition care measures to hospital rating and comparison systems.

Finally, state governments can call for the following:

- Requirements for malnutrition screening and intervention in hospital licensure regulations.
- Malnutrition metrics, goals, or protocols in healthcare quality initiatives, regulations, and care models, especially as they relate to HACs, readmissions, and transitions of care.

A group of stakeholders and subject matter experts convened in 2013 by the Academy of Nutrition and Dietetics and Avalere Health, LLC, reached consensus on several focus areas for malnutrition quality measures. These steps include the definition of malnutrition as a never event (i.e., an event that should never occur), the use of a standardized nutrition care plan, and the development and use of an electronic health record template to support malnutrition care.[64] These measures could be incorporated into healthcare quality improvement initiatives.

Although the elevation of mild and moderate malnutrition from noncomplicating to complicating conditions by the CMS reflects a growing appreciation for the impact of malnutrition on healthcare outcomes, there is ample opportunity to strengthen national and state nutrition policies—the final and most sweeping level of intervention.

## Include Malnutrition in State and Federal Health Goals

Virtually all state health departments have obesity plans, but none focus on sarcopenic obesity or malnutrition.

Similarly, healthy nutrition and body weight are priority U.S. health goals. They are featured in the Healthy People 2020 leading health indicators, U.S. Preventive Services Task Force (USPSTF) recommendations, and the CDC's 15 key indicators of older adult health.[65–67]

### Four Bottom-Line Reasons Hospitals Should Reduce Patient Malnutrition

1. The Deficit Reduction Act of 2005 requires the Centers for Medicare & Medicaid Services (CMS) to stop paying for selected hospital-acquired conditions (HACs) that can reasonably be prevented by following evidence-based guidelines. Among the handful of CMS's currently selected HACs—or so-called **never events**—are Stage III or IV pressure ulcers, falls or trauma resulting in serious injury, and several categories of healthcare-associated infection—all less likely to occur among well-nourished patients.
2. As stipulated under the Affordable Care Act (ACA), the **CMS Hospital Readmission Reduction Program** reduces payments to hospitals with "excess" 30-day readmissions (compared with the national average for a particular patient population) for certain conditions, currently including acute myocardial infarction, heart failure, and pneumonia. Health economic data documented that use of oral nutrition supplements decreased probability of readmission within 30 days by 8.4% for Medicare patients ages 65 years and older with these diagnoses.
3. As required by the ACA, the CMS now rewards acute-care hospitals with **incentive payments for quality-of-care improvements** for select conditions, including acute myocardial infarction, heart failure, pneumonia, post-surgical recovery, and healthcare-associated infections. Notably, malnourished patients are at risk for prolonged surgical recovery and infections.
4. The **CMS Partnership for Patients** program is working to make hospital care safer, more reliable, and less costly. Its focus includes reducing HACs such as pressure ulcers and surgical site infections, as well as reducing preventable readmissions—specific health outcomes that can be linked to malnutrition. The program is also working to improve care transitions, which could benefit from including nutrition interventions. ◆

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More often than not, however, national nutrition policy for older adults focuses on just a few core issues, emphasizing overweight and obesity and chronic disease prevention. Healthy People 2020 indicators address obesity, hyperlipidemia, iron deficiency anemia, and mean daily intake of total vegetables, not malnutrition. Among USPSTF pronouncements are diet-related recommendations addressing cardiovascular disease prevention, iron deficiency anemia, obesity, and vitamin D and calcium supplementation to prevent factures. Finally, among CDC older adult health indicators are three nutritional metrics: eating at least five servings of fruits and vegetables daily, monitoring obesity status, and getting regular cholesterol screenings.

Although these are important aspects of older adult health, they fail to address the serious problems of malnutrition and sarcopenia individuals are likely to face as they age, especially if they become hospitalized or otherwise bedbound or institutionalized.

The recommendations of the National Prevention Council created by the 2010 ACA come closest to addressing malnutrition among older adults. Among the National Prevention Council's recommendations for healthcare systems, for example, are "assessing dietary patterns" and providing "nutrition education and counseling."[68] However, even the council's National Prevention Strategy fails to mention malnutrition or sarcopenia specifically. Instead, its healthy eating recommendations emphasize food deserts (geographic areas where affordable, nutritious food is difficult to obtain), obesity prevention, breastfeeding, food safety, and healthy food choices.

Yet, malnutrition has a more immediate impact on older adults' health outcomes, and potentially leads to higher healthcare costs than even obesity (see sidebar).

Both state and federal health goals should specifically include reduction of malnutrition in the U.S. population and track data related to this goal.

## Emphasize Malnutrition in ACA Grants

The Community-based Care Transitions Program (CCTP) created by the ACA was designed to test strategies to optimize patient transitions from one provider to another and from one healthcare setting to another.[69] As noted on the CCTP website, almost 20% of Medicare patients discharged from a hospital are readmitted within 30 days, costing the program more than $26 billion per year.[69] Among CCTP goals are to reduce these hospital readmissions, improve care quality, and achieve Medicare savings.

Federal grants currently fund 102 CCTP sites. Current grantees should be encouraged to include malnutrition screening and intervention in their transitional care models and among their transitions-of-care quality indicators, and these requirements should be mandatory for future grantees. In addition, the efficacy of care models—such as the Coleman Care Transitions Intervention[70]—should be examined to document their strengths and weaknesses (such as lack of attention to malnutrition) and encourage continued public investment in aging services, as some advocates have recommended.[71]

## Older Americans Act Reauthorization

The Older Americans Act (OAA) was enacted in 1965 to ensure availability of essential community services for older adults. It funds a network of 56 state agencies on aging, 629 area agencies on aging, and nearly 20,000 service providers.[72] The OAA Nutrition Program was authorized in 1972 and is the nation's chief source of funding for community-supported nutrition services for older Americans; the program provided more than half a billion dollars for congregate and home-delivered meals and related expenses in 2010.[73] Given its predominance, the OAA can play a central role in malnutrition prevention.

In the process of reauthorizing the OAA in 2015, lawmakers can take several steps to improve the link between nutrition and health:

- Make malnutrition screening and intervention an element of nutrition education.
- Allow states flexibility to provide oral nutrition supplements in addition to regular meals, not just to replace them.
- Provide malnutrition education through the OAA National Family Caregiver Support Program.
- Provide for long-term malnutrition services and support.
- Make the National Resource Center on Nutrition and Aging permanent.

## Insurance Coverage

Health insurance is known to increase access to covered services.[74] Access to care, in turn, has been called the centerpiece of efforts to eliminate health disparities among populations of different socioeconomic status.[75] Thus, expanded access to critical nutrition services will

### Malnutrition vs. Obesity: Which Is Worse?

A chart review of more than 300,000 patients consecutively admitted to hospitals in Spain with chronic obstructive pulmonary disease showed that, compared with non-obese, adequately nourished patients:

- Patients diagnosed as *obese* were slightly less likely to die in the hospital or to be readmitted to the hospital within 30 days of discharge.
- Patients diagnosed with *malnutrition* had a much higher risk of hospital mortality and a much higher risk of early hospital readmittance, even after adjusting for possible confounding factors. ◆

Source:

Zapatero A, Barba R, Ruiz J, et al. Malnutrition and obesity: influence in mortality and readmissions in chronic obstructive pulmonary disease patients. *J Hum Nutr Diet.* 2013;26(Suppl 1):16-22.

depend, in large part, upon adequate insurance coverage.

Opportunities for expanded coverage exist in both the public and private sectors. Policymakers may consider the following:

- Instituting Medicaid coverage for oral nutrition supplements for at-risk populations.
- Including malnutrition screening and intervention in the essential benefit language associated with the ACA.
- Including coverage for malnutrition screening and intervention in private long-term care insurance.

Of course, insurance data—and Medicare/Medicaid data, in particular—constitute a rich source of information that researchers can analyze to document the health impacts and cost savings associated with malnutrition screening and intervention. ◆

### The Value of Nutrition

Nutritional intervention for malnourished hospital patients has often demonstrated value. Here are two examples:

- A review of 15 studies of oral nutritional supplements or enteral nutritional tube feeding (including 8 randomized controlled trials, the most rigorous form of evidence) documented a 25% reduction in the incidence of pressure ulcers among patients receiving extra nutritional support versus routine clinical care.
- A review of 62 trials with 10,187 randomized subjects suggests that oral protein and energy supplementation for elderly hospital patients may reduce mortality in the undernourished and reduce disease complications for those who are malnourished or at risk of malnutrition. However, additional large-scale trials are needed to confirm findings.

Sources:

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## Conclusion

The year 2015 will mark the 50th anniversaries of Medicare, Medicaid, and the Older Americans Act. This landmark year is an opportune time to reflect on the significant achievements of older adult health policies—such as improving access to care and limiting the threat of medical bankruptcy—and to assure these policies are aligned with current priorities, including a greater focus on preventive care, quality of care, and cost containment. Malnutrition screening and intervention supports all of these goals. Moreover, at a time when the post–World War II generation of baby boomers is rapidly aging onto the Medicare rolls and healthy aging has become a national obsession, both the policy and social environments support an evidence-based approach to malnutrition prevention.

A comprehensive approach to malnutrition prevention should encompass all five levels of CDC's Social Ecological Model, from the individual to healthcare organizations to state and federal health policy. Of particular importance is the widespread use of malnutrition screening and intervention through the use of best practice guidelines, quality indicators, and insurance coverage. Malnutrition prevention, screening, and intervention should be priority national health goals, and the healthcare and public health systems should work together to achieve these goals. ◆

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