A Hidden Epidemic of Malnutrition

America's national obesity epidemic is well documented and often highlighted as a public health priority, 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. 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:

- 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
Aging Is a Risk Factor for Malnutrition

Advanced age alone is a risk factor for malnutrition. 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.

Reduced food intake occurs even in healthy individuals as they age, due to decreased physical activity and physiological changes, including changing metabolism. However, it predisposes individuals to malnutrition when exacerbated by any 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.

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.
- Reduced occlusal force, which makes chewing difficult and is associated with reduced intake of vegetables, protein, dietary fiber, and vitamins A, E, and C.
- Eating disorders that persist into older age.

Of course, illness and the side effects of medical treatment can also 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. 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. 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). 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.

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.” The combination of these disorders is associated with a host of preventable and costly problems for older adults, especially if accompanied by weight loss.

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. Writing in Obesity Research, Ronennt Rubenoff 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.”

Given the widespread assumption that American diets contain more than adequate protein, sarcopenia and protein malnutrition generally have been a low research priority. 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.

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