

Food Insecurity, Malnutrition, and the Health of Older Adults:
Testimony for the United States Senate Special Committee on Aging

July 12, 2017

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The opinions herein are solely my own, and do not reflect the official position of any
organization

Chairman Collins, Ranking Member Casey and Members of the Aging Committee, thank you for this opportunity to testify, and help shine a spotlight on the importance of food security and nutrition in America's seniors.

Food insecurity, defined as uncertain or limited access to nutritious food¹, affected 12.7% of American households in 2015, or over 40 million Americans.² Though the American economy has been out of recession since 2009, food insecurity rates have been slow to decline, and remain higher than pre-recession levels.² Food insecurity is a particular problem for older Americans, as many live on a fixed income, and often have worse health than younger adults. These health conditions are often caused or exacerbated by an inadequate diet. Two related concepts also important for understanding the public health implications of food insecurity: hunger and malnutrition. Food insecurity may cause hunger, which is a physiological experience "that, because of prolonged, involuntary lack of food, results in discomfort, illness, weakness, or pain..."¹ Malnutrition "refers to deficiencies, excesses or imbalances in a person's intake of energy and/or nutrients."³

The picture of food insecurity and malnutrition in older adults is changing. Historically, an older, frail person consuming a restricted 'tea and toast' diet with scant calories exemplified food insecurity and malnutrition. However, the advent of cheap but non-nutritious foods has given rise to the coexistence of food insecurity and obesity, along with complications of obesity, such as diabetes and heart disease. Less healthy foods are often much cheaper, on a per-calorie basis, than healthier foods such as fresh fruits and vegetables, lean protein, and whole grains. Because adhering to a healthy diet is vital both for maintaining health and managing many illnesses once they occur, food insecurity can significantly affect health even for older adults who are not frail or underweight. It is

critical to realize that, far from being paradoxical, food insecurity and obesity go hand-in-hand.

Key risk factors for food insecurity include being a racial/ethnic minority, disability⁴, social isolation, and having a low income.² The latter three are particularly important for older adults. Epidemiological studies have associated food insecurity with a large and growing number of health conditions, including obesity^{5, 6}, diabetes⁷, hypertension⁸⁻¹⁰, coronary heart disease⁸, congestive heart failure⁸, chronic kidney disease^{11, 12}, depression and serious mental illness^{13, 14}, and osteoporosis.¹⁵ Furthermore, food insecurity may exacerbate these illnesses once they occur. For example, food insecurity is associated with worse blood sugar control among diabetes patients^{16, 17}, and increased use of expensive healthcare services such as inpatient admissions and emergency department visits.^{18, 19} Given all this, it is not surprising that food insecurity is estimated to result in \$77 billion dollars in excess healthcare expenditures annually.¹⁸ Even more importantly, food insecurity has been associated with a 30% increased risk of mortality over long-term follow-up.²⁰

Food insecurity is also important in the management of illnesses that are not caused by food insecurity. For example, while there is no evidence that food insecurity causes breast cancer, adequate nutrition is vital when undergoing breast cancer treatments such as chemotherapy. The body simply cannot respond appropriately to chemotherapy when nutrition is compromised. Similarly, adequate nutrition is needed for healing after surgery, or to recover from a broken bone sustained in a fall. Even infectious diseases, such as tuberculosis or pneumonia, are much more deadly in the presence of malnutrition. Studies

have estimated that achieving nutrition goals would reduce the global burden of tuberculosis by 20%.²¹

As scientific knowledge has grown, experts have developed a conceptual model of the relationship between food insecurity and chronic illness.²² While there are likely many ways that food insecurity affects health, three key pathways have strong scientific support. The first, and perhaps the most obvious, is through dietary quality. As described above, food insecurity can lead to worsened dietary quality, malnutrition, and hunger, with attendant consequences on health. Second, people experiencing food insecurity face competing demands for their scarce resources, often leading to cruel choices. Those with food insecurity frequently make trade-offs between food and other necessities, such as medications, housing, or heating. This is particularly relevant to health in the context of medications. What is sometimes called the “Treat or Eat” trade-off, where individuals face difficulties affording food, medication, or both, is all too common. Almost one third of American adults with chronic illness report this trade-off.²³ Patients unable to adhere to their medical therapy for this reason face needless suffering, solely because they cannot otherwise afford enough to eat. Third, food insecurity’s effects are psychological: food insecurity worsens stress, depressive symptoms, and anxiety, and can sap the “cognitive bandwidth” needed for self-management of complex illnesses.

The problems associated with food insecurity have led to interventions meant to improve health and healthcare use by addressing nutrition. Programs have generally taken one of two forms. The first, sometimes called “linkage” interventions, involves assessing for food insecurity and/or nutrition issues in clinical care, followed by “linking” patients to community resources to help meet these needs, such as enrolling in the Supplemental

Nutrition Assistance Program (SNAP), or referral to a local food pantry. The other type of intervention, sometimes called “direct provision”, involves providing food directly to those in need. Both of these are emerging areas of scientific investigation, where knowledge of how best to intervene is increasing rapidly. From this new evidence, we are seeing that these types of programs can lead to important improvements across a wide variety of health outcome types, including clinical, health service use, and expenditures.

Examining clinical outcomes, a recent study of a “linkage” program run by Massachusetts General Hospital and the non-profit organization Health Leads, found that the intervention led to important improvements in blood pressure and cholesterol control.²⁴ A study from Feeding America, America’s largest network of food banks, found that education and providing foods tailored to the needs of diabetes patients at local food pantries improved blood sugar control.²⁵ A particularly promising type of “direct provision” intervention is medically-tailored meal delivery, where fully prepared meals, specially tailored to the medical needs of participants, are delivered to their homes. In California, a medically-tailored meal delivery organization, Project Open Hand, found that medically tailored meal delivery decreased depressive symptoms, and increased medication adherence and dietary quality in patients with HIV and diabetes.²⁶ A study of a similar medically-tailored meal organization in Boston, Community Servings, also found improvements in dietary quality in diabetes patients with meal delivery.²⁷

Studies of SNAP deserve special attention. As our nation’s largest food security intervention, SNAP is known to reduce the depth and breadth of food insecurity. However, recent evidence shows that, even though it is not designed specifically to do so, SNAP may have important effects on health. Studies of SNAP have found that participation led to

improved dietary quality²⁸, emergency low blood sugar events went down during a period of increased SNAP benefit levels²⁹, the SNAP-education program helps improve fruit and vegetable consumption and lower consumption of sugar-sweetened beverages³⁰, and that making additional resources available for purchasing fruits and vegetables helped achieve the healthy diets they need.^{31, 32}

Regarding health service utilization and expenditure, the evidence is also clearly in favor of nutritional interventions. A recent study found that SNAP participation was associated with approximately \$1400 less in annual healthcare expenditures.³³ A study of Meals on Wheels-type meal delivery programs for older adults found that these programs helps keep older adults out of nursing homes.³⁴ Most recently, a study of Commonwealth Care Alliance's dually eligible Medicare-Medicaid beneficiaries found that both a Meals on Wheels-type non-tailored food intervention and a medically tailored meals intervention from Community Servings had important benefits, showing reductions in emergency department visits and ambulance transportation.³⁵ This translated into cost savings: participants in the non-tailored food program had \$1900 lower annual healthcare expenditures, and participants in the medically tailored meal program had \$6500 lower annual healthcare expenditures.³⁵

It is important to note that public-private partnerships are at the heart of these nutrition interventions. The charitable food system is a critical stop-gap for those facing hunger, but the federal government provides the bulk of nutrition program spending in the U.S., and the charitable system could not make up for a funding reduction. By no means, however, is the federal government is working alone. Partnerships with state and local agencies, healthcare delivery systems, social service providers, and non-profit

organizations enable federal resources to be efficiently targeted to those in need, and maximize the health gains achieved. The interventions described above make clear what public-private partnerships can accomplish. In addition to spending on nutrition programs in, for example, the Farm Bill, waivers and pilot programs within Medicare and Medicaid have been vital to developing and testing new interventions, as has specific legislation like the Ryan White CARE Act, and research funding from the NIH, CDC, AHRQ, and PCORI.

While there is always more to learn, and no single study is ever definitive, the evidence is compelling when taken together. Food insecurity, along with malnutrition and hunger, are major public health threats for older adults. Nutrition programs offer important improvements in health, healthcare use, and health spending. As a scientist, I always want to learn more, study more, and improve on what we already have. I can spend years trying to get a study just right. But you, as senators and policy makers, need to make decisions now, based on the best available evidence. Therefore, my unequivocal advice is this: Don't just protect but expand our investment in food security and nutrition programs for our nation's seniors. This will promote healthy aging, and improve the public's health.

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