


Perspective Paper

A close-up photograph of a person's hands pouring milk from a clear glass pitcher into a white ceramic cup. The cup is sitting on a matching white saucer. The person is wearing a pink and white striped shirt. The background is slightly blurred, showing a wooden surface.

Extending the Health Span: The Role of Dairy in Healthy Aging

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KEY TAKEAWAYS:

- Globally, the growing number of older adults is rapidly outpacing those of any other age group, placing a burden on the healthcare system.
- Clinicians have begun to view aging in terms of health span, rather than life span, to promote functional independence and reduce strain on healthcare.
- Dairy was demonstrated to improve the health span by closing nutrient gaps in calcium and high-quality protein among older adults while also creating cost savings in healthcare.
- Dairy fits in the food is medicine dialogue and can be used as a practical way to improve the health span.

The world's population of people aged 65 years and older is projected to more than double by 2050, with a faster rate of increase than the population under age 65 years. This means in the coming decades fewer young people will be there to support older adults. Among other things, there will be an increased risk of falls and fractures, affecting functional independence and quality of life among older adults and putting a strain on the healthcare system.

A well-known Australian-based study about dairy's role in providing much-needed nutrients to older adults was published several years ago, and a newly published update gives even more reason to highlight dairy as an ideal way to address global nutrition gaps.

Food as Medicine: Seeking Solutions via Dietary Change

The question of how to extend the health span during an extended life span prompted Dr. Sandra Iuliano, a researcher and nutritionist in the College of Medicine at the University of Melbourne, and colleagues to seek solutions that were practical and effective in helping older adults maintain healthy, productive, and independent lives.

Dr. Iuliano and colleagues closed nutrient gaps in calcium and protein among older adults living in residential care facilities by working with food service staff to increase servings of milk, cheese, and yogurt to recommended quantities of three-and-a-half servings per day. The [randomized clinical trial](#)¹ conducted in over 7,000 older adults with a mean age of 86 years, published in 2021, demonstrated significantly fewer falls and fractures among those who received the dairy food intervention, a result that was evident within the first six months of the two-year trial.

Older adults who consumed dairy foods as part of the clinical intervention maintained their body weight and composition, both in lean muscle mass and fat mass compared to control subjects, who lost weight throughout the study period.

In October 2024, a follow-up publication indicated there were no significant changes detected in [cardiometabolic indicators](#)². These results demonstrated that the consumption of full-fat dairy foods, including milk, cheese, and yogurt, helped older adults maintain their muscle mass, without gaining weight or increasing risk for cardiovascular disease, and significantly reduced their risk of falls and fractures, indicating an increased capacity for functional independence.

The high-quality protein, containing all the essential amino acids necessary for the body to function, calcium, and other micronutrients in dairy make it a nutritional powerhouse, particularly for a demographic that tends to eat sub-optimal levels of calcium and protein, among other things. Dairy foods are also palatable, accessible, and acceptable to most older adults, key factors that help make consuming dairy foods a practical intervention among this age group.

Another added benefit of the dairy intervention that was since published was the [healthcare savings](#)³ associated with it. For a cost of roughly 50 cents per day (US) for the additional dairy products, the researchers estimated a cost savings of over \$5,000 (US) per fracture averted. These clinical research findings strongly indicate dairy has a role to play in the food is medicine dialogue, particularly if provided to susceptible people with significant nutritional needs.

Low Protein and Energy Intake Promotes a Damaging Cycle of Events During Aging

The clinical trial outlined above was conducted in residential care facilities but may be applicable to free-living older adults. Researchers often talk of the vicious cycle that occurs in older adults when dietary protein intake is low. Low

protein intake can accelerate sarcopenia, the age-related loss of muscle mass and function, which in turn can lead to increased risk of falls and fractures and a loss of mobility. Diminished mobility often results in reduced food intake, which can exacerbate the lower protein intake, and the cycle begins anew, each time with lower protein intake.



It is clear that the domino effect instigated by low dietary protein in older adults can have implications not only on musculoskeletal health, but on functional independence, health and well-being.

Countless studies in older adults indicate that as one ages, energy consumption is also reduced. The average person over 70 years of age consumes roughly as many calories as a 4–8-year-old child, which is significantly less than people in

“We prevented a lot of falls and fractures simply by improving nutrition with good old-fashioned milk, yogurt and cheese.”

Dr. Sandra Iuliano
Senior Research Fellow, Austin Health, The University of Melbourne

the 14-50-year age range. The implication is that older adults, who in many instances have greater nutrient needs than their younger counterparts, must select foods wisely to ensure adequate nutrition.

Because older adults consume smaller volumes of food than younger people, choosing nutrient rich options such as milk, cheese and yogurt are key to being well nourished by making every bite count. It is not widely appreciated that one would have to eat roughly eight servings of broccoli to get the same amount of calcium as they'd receive in a glass of milk, at a cost about eight times as high - not a practical or efficient option for most people, particularly older adults.

Dairy's Role in Healthy Aging

Dairy foods, known for their role in supporting growth and development in childhood and adolescence, are equally important to maintaining functional independence into older adulthood. Dairy foods, rich in nutrients and relatively low in calories, can be a key component in the food is medicine concept being promoted around the world. This is particularly the case for older individuals who, based on their health or economic status, often tend to eat sub-optimal diets. Dairy is an efficient source of nutrients that can promote health and improve the health span over the course of the lifespan.

DAIRY LEADERSHIP: A CALL TO ACTION.

As more organizations recognize and subscribe to the food is medicine movement, ensure scientifically sound evidence is utilized when promoting certain food groups. Dairy foods, including full-fat milk, cheese and yogurt, were demonstrated in this large, multi-center clinical trial to offer significant reductions in falls and fractures, without impacting weight or increasing risk for cardiometabolic disease, resulting in healthcare savings. These results should be promoted in evidence-based decision making on what constitutes healthy diets for older adults.

1. Iuliano S, Poon S, Robbins J, Bui M, Wang X, De Groot L, Van Loan M, Zadeh AG, Nguyen T, Seeman E. Effect of dietary sources of calcium and protein on hip fractures and falls in older adults in residential care: cluster randomised controlled trial. *BMJ*. 2021 Oct 20;375:n2364. doi: 10.1136/bmj.n2364. PMID: 34670754; PMCID: PMC8527562.

2. Iuliano S, Hare DL, Vogrin S, Poon S, Robbins J, French C, Seeman E. Consumption of dairy foods to achieve recommended levels for older adults has no deleterious effects on serum lipids. *Nutr Metab Cardiovasc Dis*. 2024 Oct;34(10):2353-2359. doi: 10.1016/j.numecd.2024.06.004. Epub 2024 Jun 13. PMID: 39003129.
3. Baek Y, Iuliano S, Robbins J, Poon S, Seeman E, Ademi Z. Reducing hip and non-vertebral fractures in institutionalised older adults by restoring inadequate intakes of protein and calcium is cost-saving. *Age Ageing*. 2023 Jun 1;52(6):afad114. doi: 10.1093/ageing/afad114. PMID: 37389558; PMCID: PMC10312131.

To view a GDP-webinar featuring Dr. Iuliano, please click [here](#).

For more information on the Global Dairy Platform's Perspective Papers or our Quarterly Webinar Series, please reach out to Dr. Beth Bradley at beth.bradley@globaldairyplatform.com.