



**Nutrition:**  
A Solution for  
the Unprecedented  
Challenge of 21st  
Century **Aging**

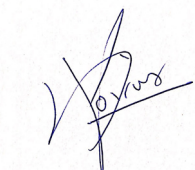


One of the most important trends shaping global society today is the accelerated collective aging of the world's population. This unalterable demographic fact has profound implications for the global economy, government, private and public health care systems, and literally billions of people and their families around the world. It also creates an unprecedented opportunity – indeed, an obligation – to fundamentally re-imagine what it means to live a healthy, active, fulfilling life into our 80s, 90s, and beyond.

Our goal with this report is to focus on an under-recognized area of impact – nutrition – and its critical connection to aging healthily. We aim to engage policy makers, advocates and the public in a discussion about shifting our approaches and priorities to nutrition throughout the life course and especially in older age. We hope you will use this report and its recommendations as a tool to support advocacy and research, to drive public policy and individual behavior changes, and ultimately to help improve the lives of older people, now and in the future.



Michael W. Hodin, PhD  
CEO  
Global Coalition on Aging



Dominique Poiroux  
Executive Vice President  
Nutricia Advanced Medical Nutrition

# Table of Contents

A New Vision for Aging.....	1
The Decade of Healthy Aging.....	2
Our Aging World.....	3
The New Conditions of Aging.....	5
The Role of Medical Nutrition in Combating the Conditions of Aging.....	7
Recommendations for Action.....	11







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# A New Vision for Aging

The global population in 2020 will include 1 billion people over age 60, a trend unlike any in our world history. It is part of a shift toward a greater ratio of older people to young due to the parallel phenomenon of lower global birth rates. Our current era's miracle of longevity has been made possible by medical and technological advances – along with fundamental improvements in sanitation and nutrition – that allowed the conquering of diseases which limited global life expectancy to just 47 years as recently as 1950.<sup>1</sup> These advances have not only lengthened average lifespan by 25 years in less than a century, thereby generating a new understanding of

what it means to be older, but they are also now leading us to transform the very definition of health and develop a new vision for aging. Today, functional ability, not merely the absence of disease, is the metric by which we must measure health as we age.

Our focus must shift to enabling people to age in good health; to remain active and independent for decades into their older years; and to have the opportunity to start a second career, launch a new business, engage in part-time work, travel, play sports, and spend fulfilling time with their families.

# The Decade of Healthy Aging



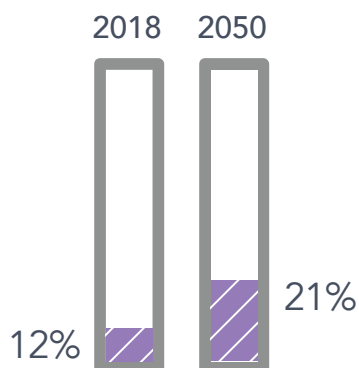
The new understanding of aging forms the foundation for the World Health Organization's (WHO) Decade of Healthy Ageing starting in 2020 – judged from “the perspective of the functional ability that enables older people to be, and to do, what they have reason to value.”<sup>2</sup> According to the WHO, this shift toward an emphasis on functional ability “will require fundamental changes in the clinical focus on care for older people, as well as the way care is organized, funded, and delivered across health and social sectors.”<sup>3</sup> Among these fundamental changes is a new focus on identifying and mitigating age-related conditions that affect people in advancing years.

This means focusing not only on non-communicable diseases (NCDs), including cardiovascular disease, diabetes, and Alzheimer's disease, but also the conditions of aging such as declining vision and hearing; cognitive

decline; a weakened immune system; deteriorating bladder and skin health; and weakening bone density and muscle mass, all of which hinder the ability to age in good health.

Many lifestyle factors impact whether we will age in good health, such as a balanced diet, regular physical exercise, social connection and contact. One cannot overstate the central role nutrition plays in healthy aging. Simply put, there is no healthy aging without healthful nutrition. Good nutrition supports people's resilience and ability to recover from illness or injuries – the critical factors that determine functional ability, enhance quality of life and enable healthy aging.

# Our Aging World



Global proportion of the population over 60 years old

So, where does the world stand today when it comes to healthy aging? Three key demographic facts illuminate the challenge.

- **The global population is aging rapidly:** Today, 929 million people are 60 or over, roughly 12% of the global population. By 2050, the over-60 population will reach 2 billion, about 21% or one in five people around the world.<sup>4</sup> In the developed world, there are already more people over the age of 60 than under 15.<sup>5</sup> By 2050, this will be true globally.<sup>6</sup>

- **A new category of older people is rising:** The global population of the “oldest-old” (aged 80 years and over) is growing even faster. By 2050, researchers project that 434 million people will be 80 or over – more than triple the number today.<sup>7</sup> The projection is 1.5 times the entire population of America, but this is a demographic opportunity barely recognized.<sup>8</sup>
- **Healthy lifespans have not kept pace with longevity:** The latest international research suggests that various health conditions cause people to lose an average of nine years of healthy life in their final years.<sup>9</sup> While age is not directly correlated to health expenditures, health in older age is important to managing global health costs as well as supporting quality of life.

These facts indicate the need for a new approach toward promoting healthy aging and confirm the wisdom of the WHO’s focus on functional ability as the global health community works toward a new strategy on aging and health.





*"Since many of the disorders of older age are preventable, and many of their determinants begin earlier in life, systems will need to include effective strategies for the prevention of disease and declines in capacity. At younger ages, and when capacity is high, the priority will be on preventing the common non-communicable diseases by enabling physical activity and good nutrition."*

*World Health Organization's Global Strategy and Action Plan on Ageing and Health  
Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture including for older persons.*

# The New Conditions of Aging

As longevity increases, nutrition becomes an even greater factor than in prior decades in terms of its influence on functional ability. We are all aware of the dangers posed by ailments like cardiovascular disease and diabetes, but rising longevity rates bring new risks to the forefront. Some conditions of aging progress gradually, in ways that can be difficult to identify – slowly robbing people of their mobility, their independence, their dignity and their joy in life over time. These conditions need not be an inevitable part of aging, but age does increase the risk of their development.

Consider declining muscle mass (**sarcopenia**): According to research published by Harvard Medical School, people lose as much as 3% to 5% of muscle mass per decade after the age of 30.<sup>10</sup> Once people reach age 60, the process accelerates and muscle mass is estimated to decline by 3% each year.<sup>11</sup> This extreme loss of muscle mass, compounded by physical inactivity, can negatively affect people's ability to perform activities of daily living as well as their resilience and ability to bounce back after a

health incident, leading to hospital admissions and institutionalization. When few people reached age 60, this problem went unnoticed or undiagnosed. But in an era where hundreds of millions of people will live beyond 80, preserving muscle mass becomes a critical factor for remaining mobile and independent – and preventing serious injuries that disproportionately and negatively affect older adults. For example, a report presented to the American Society for Bone and Mineral Research in 2015 concluded that people with low muscle mass are 2.3 times more likely to suffer a fracture such as a broken hip or collarbone.<sup>12</sup>

Older people often incur injuries after suffering a fall – up to 90% of all hip fractures in older people result from falls. A third of people over 65 fall annually, and almost 60% of those who fell in the previous year will fall again. The WHO describes proportionally older people have the highest risk of death or serious injury arising from a fall and underlines this risk increases with age. Factors such as physical inactivity, reduced muscle strength, impaired gait and

balance often observed in older people increase the risk of falling and fractures. As millions of older adults and their families can attest, a hip fracture can generate a cascade of issues that limit functional ability – such as the need for hospitalization and rehabilitation; the loss of mobility and independence; and the increased need for caregivers. The Kaiser Permanente Center for Health Research found that for women in excellent health over the age of 80, a hip fracture nearly triples the risk of dying within a year.<sup>13</sup>

**Osteoporosis** or bone density loss also accelerates as people age. Today, osteoporosis affects 200 million women worldwide, including 20% of women aged 70, 40% of women aged 80 and 67% of women aged 90.<sup>14</sup> Obviously, as the aging of the global population increases, bone density loss will continue to pose a rising risk to healthy aging and functional ability. According to the International Osteoporosis Foundation, by 2050, the incidence of hip fracture is projected to increase by 310% among men and 240% among women.<sup>15</sup>

After fracturing a hip, up to 20% of community-dwelling patients require long-term nursing care, while fewer than half regain their previous level of functional ability.<sup>16</sup>



**Sarcopenia** is a condition characterized by loss of skeletal muscle mass and function, which can lead to loss of strength, increased likelihood of falls, and loss of autonomy.<sup>16</sup>



**Osteoporosis** is a condition defined by reduced bone strength and loss of density that increases the risk for fractures in older adults.<sup>17</sup>

When it comes to healthy aging and preserving functional ability, the question we need to ask is can these aging conditions be mitigated, or even reversed?

# The Role of Medical Nutrition in Combating the Conditions of Aging

A growing body of research demonstrates the link between diet and health over the course of our lifetimes. Yet, in older adults the impact of nutrition on health is generally overlooked. Older people often experience a loss of appetite due to both physiological factors like changes to the digestive system, hormonal changes, disease, pain, changes to the sense of smell, taste and vision, as well as psychosocial factors like loneliness and social isolation. A poor appetite can lead to reduced food intake increasing the risk of weight loss, nutritional deficiencies and declining muscle mass that together result in a state of malnutrition. Malnutrition can exacerbate physical and cognitive decline leading to a loss of strength or frailty. Too often and incorrectly, we view the conditions of aging, such as weight loss, declining muscle mass,

loss of strength and frailty as normal parts of aging – not associated with people’s nutritional intake. This contributes to malnutrition among older people often going unnoticed, undiagnosed and unmanaged despite its significant contribution to a loss of functional ability.

In Europe alone, 33 million adults are either malnourished or at risk of malnutrition, and one in four patients admitted to hospitals is malnourished.<sup>17</sup> Feeling weak and unable to perform daily tasks can be related to malnutrition that can worsen into muscle loss and frailty, which can lead to hospitalization, a poorer quality of life and increased mortality.

For example, European patients suffering from malnutrition have 75% longer hospital stays, which



*“Aging exhausts our reserves, which can make us more vulnerable to health conditions or traumatic health events like a fall.*

*Nutrition is a key element in building and maintaining our reserves, and can both play a role in overall health and have an impact on our recovery.”*

*Prof. Dr. Juergen M. Bauer, MD, PhD  
Center for Geriatric Medicine  
Heidelberg University, Germany*

contributes to the €170 billion European nations spend annually to manage this public health issue.<sup>18</sup> The loss of muscle mass while hospitalized or on bed rest is not equal across ages either. A sedentary healthy young person will experience just a 2% muscle mass loss in 28 days, whereas it takes only three days for an older person to lose more than 10%.<sup>19</sup> Nutrition must be considered an element of whole body health to preserve functional ability, particularly in clinical settings or when recovering from an episode of ill-health.

Medical nutrition is also instrumental in enabling people to age in good health and recover more quickly from any health setbacks. Increasingly, research is demonstrating that medical nutrition is a supportive care intervention that can measurably support recovery and build resilience in institutional care settings as well as at home. While not a treatment for disease, medical nutrition is part of a comprehensive medical strategy that has a range of benefits helping a patient return to a healthy aging trajectory:

- **Fewer Health Complications:** Compared to patients who receive only routine care, patients with access to medical nutrition products have between 25% and 50% fewer medical complications.<sup>20</sup> Malnourished hospital patients and patients in institutional care settings prescribed medical nutrition regimens experience an average weight gain of 3% more than other patients, helping them to sustain life or optimize health.<sup>21</sup>
- **Reduced Deaths:** Appropriate medical nutrition care reduced deaths by 24% compared to patients receiving standard care.<sup>22</sup>
- **Reduced healthcare costs:** In addition to these individual-centered benefits, medical nutrition plays an important role in lowering healthcare costs. Global healthcare spending

is projected to more than double to \$18.28 trillion USD by 2040, placing incredible strains on government and private health care systems.<sup>23</sup> Patients provided with medical nutrition to support their health have 12% lower healthcare costs and experience a 16.5% reduction in hospitalizations compared to those treated with standard care.

Experts have stated that aging – taken by itself – has far less impact on healthcare expenditures than other health factors, and medical nutrition, both at home and in institutional settings, is a key element to supporting overall health.<sup>24</sup> Enabling people around the world to age in good health – with the help of medical nutrition when recovering from an episode of ill health – can play a critical role in enhancing quality of life while managing overall healthcare spending.

*Medical nutrition is grounded in clinical research and formulated to meet a patient's specific nutritional needs that cannot be met through normal food alone.*



# Recommendations for Action

The WHO World Report on Ageing and Health, published in 2015, is clear about the role of nutrition in promoting healthy aging. It argues that nutrition should be integrated into health and social systems which is an important step toward promoting functional ability among older people and enabling them to age in good health for decades. In order to make further progress in achieving these goals, we offer the following recommendations:

- **Build on the trend of health literacy and individual health empowerment:** People are increasingly looking at good nutrition as a healthy lifestyle choice. This trend toward greater individual ownership of health can be leveraged to encourage understanding of nutrition as a crucial factor in healthy aging. The European Patients Forum position statement on food and nutrition is a useful and replicable model of delivering evidence-based nutrition information to the public at times of ill-health.<sup>25</sup>
- **Launch public campaigns grounded in facts and evidence:** Governments, the private sector and the global healthcare community should work

together to raise awareness about the role of nutrition in maintaining health and rebuilding strength as we age, and to educate people about the steps they can take to remain active and independent into their 80s, 90s and beyond.

- **Conduct new research on the impact of nutrition on healthy aging:** While we are becoming more aware of the role good nutrition plays in determining our health, we are just beginning to understand the direct impacts of nutrition in combating conditions of aging such as cognitive decline, frailty and immune health impairments. The global healthcare community should engage in coordinated research to pinpoint the most effective nutritional approaches to deal with the modern conditions of aging that help determine functional ability in older adults.
- **Make nutrition a centerpiece of the global health agenda focused on active and healthy aging:** Nutrition must be a core component of the work of international policy-making bodies, as well as for nation-state leadership convened on global health.



*"More policy-makers are looking to promote the maintenance of health rather than just the management of conditions, but there is not enough information available on the relationship between nutrition and chronic conditions, including how good nutrition provides support for our immune systems as we age."*

Professor Philip Calder  
BSc(Hons), PhD, DPhil, RNutr, FSB, FAFN  
Head of Human Development & Health, Professor of Nutritional Immunology  
Lead for Infrastructure NIHR Southampton Biomedical Research Centre  
University of Southampton, U.K.

- **Engage new partners and test new approaches:** Promote public private partnerships and coalitions that explore new routes, care pathways and models to promote healthy aging. Jointly, various actors in the aging ecosystem can set up living labs to experiment and develop new models advancing comprehensive approaches to healthy aging.
- **Lead a cultural change across the healthcare community:** Healthcare providers should have access to training in order to take a proactive approach to nutrition when managing chronic disease and conditions such as muscle mass deterioration and frailty that inhibit healthy aging.

Appropriate nutritional care should incorporate systematic, effective screening for malnutrition and ensure people have access to nutritious foods or medical nutrition when their needs cannot be met through their regular diet. This requires the

engagement and education not only of the medical community, but also caregivers, family members and older people themselves.

## Conclusion

A focus on nutrition combined with physical and social activity provides a strong foundation for healthy and active aging. As the world embraces the WHO's Decade of Healthy Ageing, nutrition plays an important role in addressing a myriad of challenges that accompany longer lives. As such, it is also a critical component of a much-needed comprehensive approach to healthier longevity that can help billions of people around the world live their entire lives in good health, with independence and dignity as they age.

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