

# Living longer in better health: Six shifts needed for healthy aging

As many individuals live well past retirement age, stakeholders are examining how interventions, data, and innovation can transform aging.

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**Today, the vast majority** of adults across the world can expect to live decades past retirement age. The number of older adults<sup>1</sup> will more than double to an estimated 1.6 billion by mid-century,<sup>2</sup> marking one of the most profound demographic shifts in human history. However, while global society should celebrate having, on average, an additional 20 years of life expectancy since 1960,<sup>3</sup> it has not been as successful in extending the span of *healthy* life. A person on average will live ten more years in medium or poor health, impacting the ability to live life fully and leading to increases in care and dependency.

These are real and profound challenges. The McKinsey Health Institute (MHI), however, believes this shift is too often framed in the negative, neglecting the opportunities presented as the shape of society transforms. We suggest expanding from the legacy framing of three phases of life—childhood, adulthood, and old age to encompass healthy aging. Instead, our analysis recognizes the reality that many people will live from two to three decades past their retirement age, where one could choose to be in school at 50 and choose to be employed at 80. Society should focus on capacity, not age, recognizing the potential for many to contribute as volunteers, advisers, community leaders, workers, board members, active family members, and innovators.

MHI has identified action on six important shifts that could make it possible for governments, businesses across sectors, not-for-profit organizations, health and well-being stakeholders, and individuals to unlock improvements in healthy aging. These are as follows:

- invest in the promotion of healthy aging

- improve measurements of health and get better data
- scale interventions proven to promote healthy aging
- accelerate innovation across the healthy aging ecosystem
- unleash the potential of all industries to enable healthy aging
- empower and motivate older adults to live to their full potential

In this article, MHI examines the effects of an aging population, the framework for holistic healthy aging, and actions that can be taken on the six shifts.

## **The aging world's effects on the economy**

By 2050, the absolute number of those older than 65 will more than double to 1.6 billion individuals, growing from 9.4 percent to 16.5 percent of the total population.<sup>4</sup> While this reflects the benefits of additional life span, the magnitude of this growth is unprecedented, and will create challenges as care demands increase and dependency ratios shift.<sup>5</sup>

In 1950, for every person over the age of 65, there were 11.7 working-age people. Today, there are seven, and this is expected to shrink to 4.4 by 2040. Certain “superaged” societies,<sup>6</sup> including Italy, Japan, and South Korea, will experience more

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<sup>1</sup> The term “older adults” refers to those aged 65 and older.

<sup>2</sup> UN Population Division Data Portal, United Nations, 2022 revision.

<sup>3</sup> “Life expectancy at birth, total (years),” World Bank, 2020.

<sup>4</sup> UN Population Division Data Portal, 2022.

<sup>5</sup> Global life expectancy has more than doubled since 1900; *Prioritizing health: A prescription for prosperity*, McKinsey Global Institute, July 8, 2020.

<sup>6</sup> The UN defines “superaged” societies as those with more than 20 percent of the population aged 65 or older; Mohammad Javad Koohsari, Tomoki Nakaya, and Koichiro Oka, “Activity-friendly built environments in a super-aged society, Japan: Current challenges and toward a research agenda,” *International Journal of Environmental Research and Public Health*, September 2018, Volume 15, Number 9; UN Population Division Data Portal, 2022.

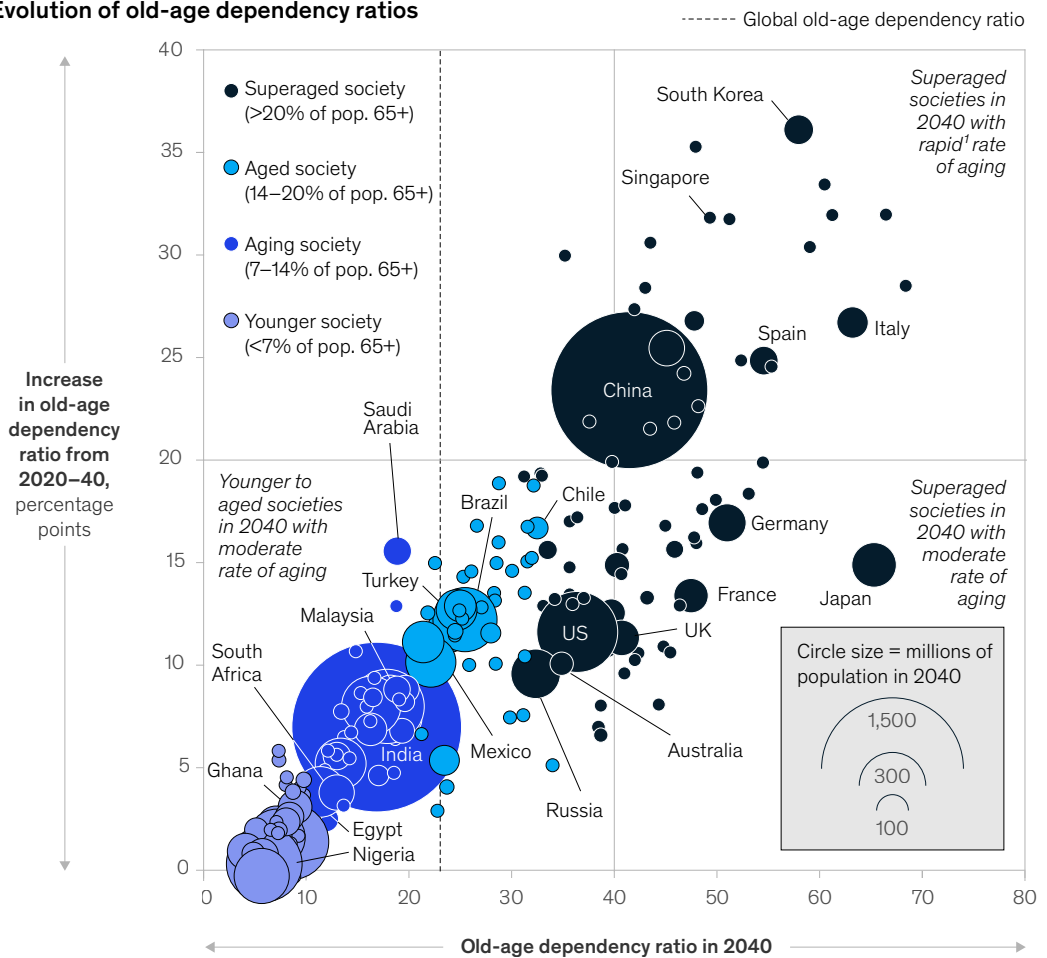
dramatic shifts. Japan had a dozen working-age people for every older adult in 1950; today, there are roughly two working-age adults, and by 2040 that number may shrink to just above 1.5.<sup>7</sup> All told, the world's old-age dependency ratio<sup>8</sup> will more than triple between 1950 and 2050.<sup>9</sup>

The urgency to act varies among countries, driven by the expected rate of change (Exhibit 1). Countries where populations are aging more slowly—for example, Ghana, which has a projected old-age dependency ratio of 8.4 by 2040<sup>10</sup>—have a slightly longer runway to scale successful initiatives from

Exhibit 1

### Some 'superaged' societies will see old-age dependency ratios increase substantially through 2040.

Evolution of old-age dependency ratios



<sup>1</sup>Increase of old-age dependency ratio from 2020–40 is >20 percentage points. Source: *World Population Prospects 2022*, United Nations

<sup>7</sup> For Japan, there were 12.2, 1.98, and 1.53 working adults per person above 65 in 1950, 2020, and 2040, respectively; UN Population Division Data Portal, 2022.

<sup>8</sup> Old-age dependency ratio is defined as the number of people 65 and over divided by the size of the current working age population; UN Population Division Data Portal, 2022.

<sup>9</sup> For the world, the old-age dependency ratio was 8.5 in 1950 and is projected to be 26.3 by 2050; UN Population Division Data Portal, 2022.

<sup>10</sup> UN Population Division Data Portal, 2022.

superaged countries. Still, even for the countries where populations are aging more slowly, the proportion of people over 65 will almost double over the next decades.<sup>11</sup>

A healthier, more engaged generation of those over age 65 has the potential to contribute broadly around the world, whether it's at a professional, personal, or community level. For example, in the United States, the 50-plus age group will contribute \$12.6 trillion to the economy by 2030.<sup>12</sup> In the United Kingdom, for example, it is estimated that a one-year extension of working life increases GDP by about one percent.<sup>13</sup> This results in higher spending power and active leisure engagement, which spur new products and services tailored to the specific needs of this consumer group.

Within the scope of this article, we focus on the potential of an aging world but also recognize the challenges ahead. For example, the need for greater levels of care will increase, driven by both increases in life expectancy and rates of neurodegenerative diseases,<sup>14</sup> with more than 150 million people globally expected to suffer from dementia by 2050.<sup>15</sup> Informal and formal caregivers and health systems will face increased strain, exacerbating the critical shortage of home health aides and personal caregivers.<sup>16</sup> Similarly, the cost of healthcare globally will rise, from 8.6 percent today to a projected 9.4 percent of GDP by 2050.<sup>17</sup> This economic impact could be magnified by potential reductions in global GDP due to years lost to disability, as well as premature death from age-related diseases.<sup>18</sup>

Given these challenges, MHI recognizes that we must examine healthy aging through a lens that encompasses all four dimensions of health: physical, mental, social, and spiritual.

## Understanding today's older adults

The four dimensions of health are shaped by social and personal influencing factors that support a holistic view of health (Exhibit 2). The importance of a more holistic approach to health has been demonstrated in practice. For example, the Okinawa Centenarian Study, a population-based study of 100-year-olds and other older adults in Okinawa, Japan, found that longevity and health reflected physical activity; a balanced, healthy, and calorie-restricted diet; a sense of belonging and rituals; a supportive social network (*moai*); and having a purpose to begin each day (*ikigai*)<sup>19</sup> (see sidebar "Examples of individuals across the globe show that healthy aging is possible").

This concept of health extending beyond physical attributes resonates with older adults. A recent MHI survey found that the majority of older adults think all four dimensions of health are important.<sup>20</sup> Notably, perceived health and quality of life do not necessarily decline with age, underscoring the idea that individuals' perception of personal health extends beyond the physical. While respondents over age 65 were more likely to have one or more health conditions, two-thirds reported good or very good perceived overall health. Another recent MHI survey focused on understanding

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<sup>11</sup> Simple average of percentage increase in the share of the over 65 population for "younger societies" is 173 percent; UN Population Division Data Portal, 2022.

<sup>12</sup> "The Longevity Economy Outlook," AARP, accessed October 2022.

<sup>13</sup> Ray Barrrell, Simon Kirby, and Ali Orazgani, "The macroeconomic impact from extending working lives," Department for Work and Pensions, 2011.

<sup>14</sup> This may disproportionately affect women, who provide the majority of informal care for people living with dementia—accounting for 70 percent of caregiving hours; "Dementia: Key facts," World Health Organization, September 20, 2022.

<sup>15</sup> "Worldwide dementia cases to triple by 2050 to over 150 million people," Alzheimer's Research UK, January 6, 2022.

<sup>16</sup> Robert Espinoza, "8 signs the shortage in paid caregivers is getting worse," PHI, February 2, 2017.

<sup>17</sup> Global Burden of Disease Health Financing Collaborator Network, "Past, present, and future of global health financing: A review of development assistance, government, out-of-pocket, and other private spending on health for 195 countries, 1995–2050," *Lancet*, April 25, 2019, Volume 393, Number 10,187.

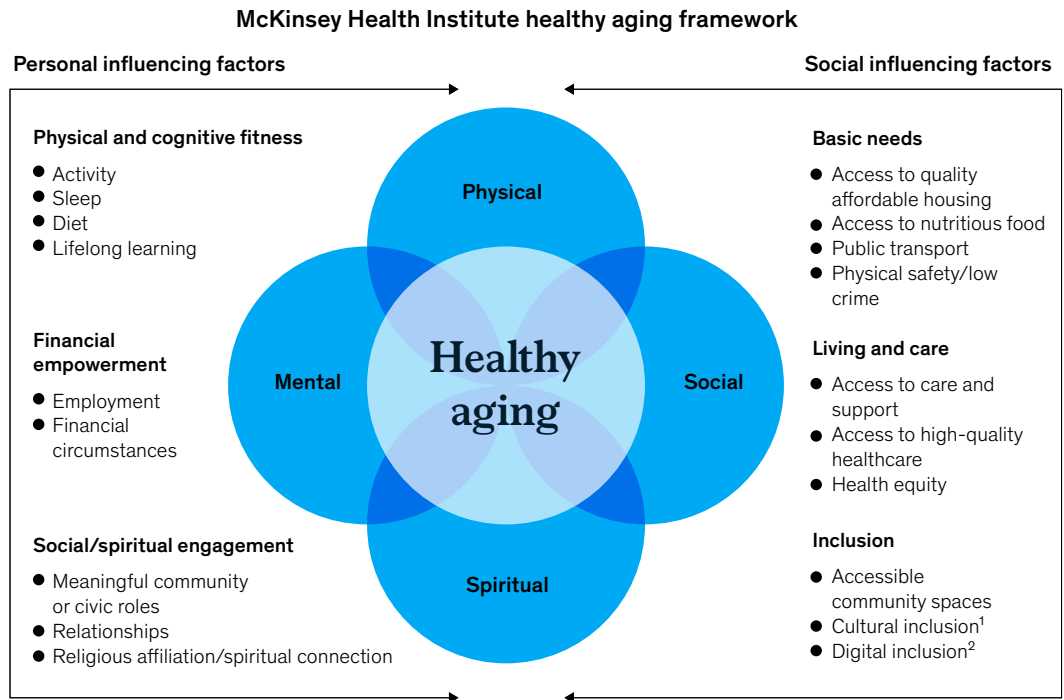
<sup>18</sup> *Prioritizing health*, July 8, 2020.

<sup>19</sup> "The OCS Study," Okinawa Research Center for Longevity Science, accessed September 2022.

<sup>20</sup> Clément Desmouceaux, Martin Dewhurst, Daphné Maurel, and Lorenzo Pautasso, "In sickness and in health: How health is perceived around the world," McKinsey Health Institute, July 21, 2022.

Exhibit 2

**The McKinsey Health Institute healthy aging framework is influenced by social and personal factors.**



<sup>1</sup>Eg, attitude toward aging.  
<sup>2</sup>Eg, digital products and services.

generational differences found that 70 percent of baby boomers perceived their overall quality of life as high—eight percentage points higher than Gen Z respondents.<sup>21</sup>

The personal and social influencing factors can include how physical and cognitive fitness overlap. For example, numerous studies have shown a link between higher levels of physical activity and better brain health. This includes a 2019 meta-analysis concluding that physical activity, especially that of a moderate to vigorous intensity, had positive impacts on cognition and that physical activity even reduced

the risk of developing cognitive disorders, including Alzheimer’s disease.<sup>22</sup>

When examining social and spiritual engagement, social scientists have identified social isolation and loneliness as an increasing problem, with rates of reported loneliness in older adults reaching 20 to 34 percent across China, Europe, Latin America, and the United States.<sup>23</sup> According to the US Centers for Disease Control and Prevention, social isolation increases the risk of premature death—a risk that is similar to those seen with smoking, obesity, and physical inactivity.<sup>24</sup>

<sup>21</sup> “Addressing the unprecedented behavioral-health challenges facing Generation Z,” McKinsey, January 14, 2022.  
<sup>22</sup> Kirk Erickson et al., “Physical activity, cognition, and brain outcomes: A review of the 2018 physical activity guidelines,” *Medicine & Science in Sports & Exercise*, June 2019, Volume 51, Issue 6.  
<sup>23</sup> “Social isolation and loneliness among older people: Advocacy brief,” World Health Organization, July 29, 2021.  
<sup>24</sup> “Loneliness and social isolation linked to serious health conditions,” US Centers for Disease Control and Prevention, accessed October 2022.

## Examples of individuals across the globe show that healthy aging is possible

**A 75-year-old grandmother** from South Korea is an award-winning bodybuilder who regularly competes with people in their 30s. According to the BBC, she started working out, on the advice of her doctor, to help manage the pain of her spinal stenosis, a chronic back condition. She said, “I see a lot of people giving things up when they’re old. They think, ‘Now I’m getting old, there’s nothing I can do.’ But I just want to tell them, even if you’re old, do not ever give up on anything.”<sup>1</sup>



A 76-year-old retired teacher in Lesotho, South Africa, recently founded a community organization to help orphaned and vulnerable children cope through difficult times. She works closely with the children, teaching independence and emotional strength. She says, “My advice to all the women out there, retired or not . . . is to strive . . . [to be] . . . the most educated woman in your community. Respect the old and spend time with the elderly.”<sup>2</sup>

An Italian man was 60 years old when he founded the company that made him a billionaire at 87. After a full career as an engineer, he used his severance check to begin building probe cards—tools to test the quality of microchips in production—from his kitchen in the Milan region. This experiment resulted in his company becoming one of the top two probe card manufacturers in the world. His lifelong “inventiveness,” according to his nephew, shows age is no barrier to entrepreneurial success.<sup>3</sup>



<sup>1</sup> “The 75-year-old bodybuilder wowing audiences,” BBC News, December 17, 2019.

<sup>2</sup> “A day in the life of Mosotho women: Stories of strength and responsibility,” African Clean Energy, accessed October 2022.

<sup>3</sup> Giacomo Tognini, “How to become a billionaire at 87,” *Forbes*, June 1, 2022.

People living in high-income countries enjoy up to a 27-year difference in healthy life expectancy (HLE) at birth, compared with people born in low- and medium-income countries.<sup>25</sup> However, within a country, the HLE can vary widely—for example, in England, people living in the least advantaged areas have a 19-year lower HLE than those in the most advantaged areas.<sup>26</sup>

### Six shifts to support healthy aging globally

MHI has identified six shifts that would be needed to see a step change in healthy aging across the four dimensions of health (Exhibit 3).

#### Shift 1: Invest in the promotion of healthy aging

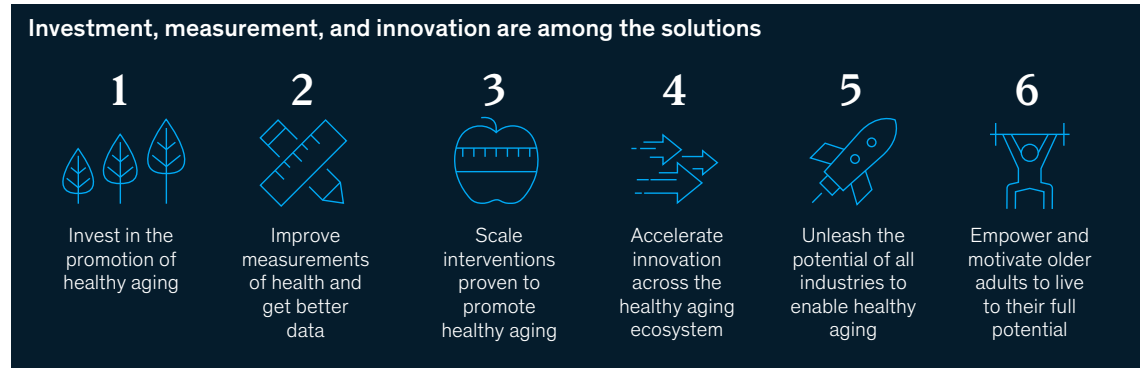
Globally, there is underinvestment in prevention of disease or impaired mobility. For example, European countries invest, on average, 2.8 percent of their health budget on prevention.<sup>27</sup> While the

<sup>25</sup> “Healthy life expectancy, years,” World Bank, 2017–19.

<sup>26</sup> “Health state life expectancies by national deprivation deciles, England: 2017 to 2019,” Office of National Statistics, released April 25, 2022.

<sup>27</sup> The case for investing in public health, World Health Organization, 2014.

## Six shifts for healthy aging are needed.



path to healthy aging begins at adulthood, there is much that can be done for individuals in later years. More prevention efforts should be focused on conditions correlated to age, such as dementia and sensory impairments.<sup>28</sup> Other prevention efforts could focus on how adults manage conditions such as depression throughout their lives, how older adults can continue to find purpose, social connections, and financial security, and strategies to encourage lifelong physical activity, even as mobility changes with age. Moreover, previous studies have indicated that prevention programs—both clinical (for example, hearing technology for those hard of hearing)<sup>29</sup> and nonclinical (for example, focusing on improving housing, social connections, and fitness)<sup>30</sup>—can improve the quality of life for older adults, which can reduce the need for medical care over time. Interestingly, only 20 percent of the modifiable contributors to an individual’s health are related to medical care, with nonclinical factors driving the other 80 percent<sup>31</sup> (see sidebar “The burden of aging in older adults could be improved through preventative lifestyle interventions” (Exhibit 4).

Investing in these preventative measures—across all four dimensions of health—can enable older people to enjoy a higher quality of life, increase social and economic contribution, and potentially reduce long-term healthcare costs. Investment should be complemented by research to identify future evidence-based preventative measures, with real-world data-based trials for promising interventions, such as wearables, as well as “moonshot” interventions, such as targeting and treating aging itself (see sidebar “What if science could ‘target’ and potentially slow down the detrimental effects of aging?”).

### Shift 2: Improve measurements of health and get better data

Even in high-income, technologically advanced countries, no standardized data set can illuminate older people’s diverse health capacity over time across the four dimensions of health, let alone their surrounding personal attributes, behaviors, and environmental factors. Although technologies to capture the various data exists, gaining access to and integrating and linking these data sets

<sup>28</sup>According to the World Health Organization, up to 35 percent of those over age 65 fall each year. See *WHO global report on falls prevention in older age*, March 17, 2008.

<sup>29</sup>In the United Kingdom, one study found that 30 percent of outpatients tested had an undiagnosed hearing loss that could be addressed. There is strong evidence that provision of hearing technology to people with hearing loss supports social activity, decreases risk of depression, and may reduce the risk of dementia. See *What works: Hearing loss and healthy ageing*, NHS England, May 2017.

<sup>30</sup>Nonclinical factors—housing, social supports, financial security, personal security, nutrition, opportunities to learn and make decisions, mobility, the ability to build and maintain relationships, and the ability to contribute—all contribute to older adults’ broader health and capacity. See *World report on ageing and health*, WHO, 2015.

<sup>31</sup>Sanne Magnan, “Social determinants of health 101 for health care: Five plus five,” National Academy of Medicine, October 9, 2017.

## The burden of aging in older adults could be improved through preventative lifestyle interventions

**A key focus for MHI** is improving brain health, which includes strengthening cognitive function, improving mental health, and effectively preventing and treating mental, neurological, and substance-use disorders. Mental and neurological disorders contribute a substantial portion of disease burden in individuals over 65. The likelihood of individuals requiring improvements in brain health as they age only increases as people live longer lives with more years spent in less-than-optimal health.

To protect brain health as individuals age, we must look across all dimensions of health—mental, physical, social, and spiritual—for both risk and protective factors. Risk factors for cognitive decline include some mental- and physical-health conditions, such as depression, high blood pressure, and diabetes, as well as some medications. As individuals live longer with these conditions or more years in poor health, the risk of these conditions negatively affecting brain health increases. Addressing inactivity, social isolation, and loneliness may help prevent cognitive

decline, and individuals who maintain hobbies, reduce or better manage stress, keep a daily routine, and have sufficient sleep may have improved brain health. These elements act as pillars for optimal social and spiritual health.

To prevent the potential for dramatic increases in disease burden due to less-than-optimal health and aging populations, we must address mental, physical, social, and spiritual factors, with an eye toward preventing and treating brain health.<sup>1</sup>

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<sup>1</sup> "Cognitive health and older adults," National Institute on Aging, accessed October 2022; "Senior brain boosters: Tips for maintaining brain health," Harvard Pilgrim HealthCare, accessed October 2022; "Healthy aging," Weill Institute for Neurosciences Memory and Aging Center, University of California San Francisco, accessed October 2022; The Council's Blog, "How does spirituality change the brain?," blog entry by Dr. Mark Gold, Council on Recovery, May 7, 2019.

remain a major challenge. Additionally, these measurements are limited and do not always reflect an older adult's priorities, whether it's lifting a grandchild, driving long distances, or still being able to sew.

The first step may be to define a standardized data catalog and measurements leveraging several existing examples.<sup>32</sup> Governments may also consider sharing and integrating data sources across public institutions, healthcare, academia, businesses, and individuals to create high-quality, integrated longitudinal data spanning all four dimensions of health. Achieving this requires establishing a collaborative exchange of data that protects patient

privacy, including strict data privacy measures and intellectual-property rights. This richness in data could enable a better understanding of the widely varying needs of older adults and passively track conditions specific to older adults (for example, cognitive performance over time), providing a solid evidence base for policies or personalized interventions. The long-term goal is to create data-driven measurements of holistic health, supported by standardized, integrated data.

### **Shift 3: Scale interventions proven to promote healthy aging**

A recent study estimated that older adults' disability-adjusted life years<sup>33</sup> (DALYs) could be

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<sup>32</sup> There are several possible examples to consider, including the Intrinsic Capacity (IC) created by the World Health Organization. See *World report on ageing and health*, WHO, 2015 and *2018 Active ageing index analytical report*, United Nations Economic Commission for Europe, October 2019.

<sup>33</sup> That is, years spent in poor health.



## What if science could ‘target’ and potentially slow down the detrimental effects of aging?

**In the future**, pharmacological and dietary interventions may be focused on preventive targeting of the modifiable mechanisms of aging. Regulators are beginning to recognize aging as an underlying, targetable condition, generating more focus on and funding for aging research and initiatives. “There has been a shift in how we have considered aging, from something that we needed to account for and eliminate by statistical adjustment to a causal factor in disease [...] This shift in thinking is important because it places aging at the forefront of medicine,” said Luigi Ferrucci, Scientific Director, National Institute on Aging.<sup>1</sup> One example is the TAME trial (Targeting Aging with Metformin), a clinical trial approved by the FDA targeting aging.<sup>2</sup> In another example, the National Institutes of Health in the United States increased its budget for aging-related research

and conditions from \$2.6 billion in 2014 to \$5.7 billion in 2021, which is more than double in seven years.<sup>3</sup> The private sector also is continuing to double down on aging research: venture capital (VC) has been raising their investment in anti-aging research. Notably, longevity VC investment had reached a record of \$3.8 billion in 2021.<sup>4</sup>

Companies such as BioAge Labs are amassing longitudinal data of centenarians to understand, on a molecular biological level, the factors underpinning a long and healthy life. This involves the multiomic study of high-quality longitudinal data sets, with proteomic, metabolomic, and transcriptomic analysis of thousands of proteins and RNA transcripts. Unraveling the biological process of aging requires comparisons both within the same person (understanding how the pathways change

with age) and among different people (identifying the differences responsible for longevity).

Eric Verdin from the Buck Institute said, “When you modify aging you are actually targeting the biggest risk pathway for diseases. Medicine right now is targeting diseases as if they were independent occurrences, and granted, they have their own risk factors, but they also have a common trunk, and the biggest common trunk is aging. As a risk factor, your age is seven times more important than your cholesterol level concerning your risk of a heart attack. Aging used to be considered unmodifiable, but now we have identified several pathways that control the aging rate. Dialing these pathways up or down can change not only life expectancy but also health span, the healthy years of life.”

<sup>1</sup> Sebastien Thuaud, “Reflections on aging research from within the National Institute on Aging,” *Nature Aging*, January 14, 2021.

<sup>2</sup> “The TAME Trial: Targeting the biology of aging. Ushering a new era of interventions.” American Federation for Aging Research.

<sup>3</sup> “Estimates of funding for various research, condition, and disease categories (RCDC),” NIH, May 16, 2022.

<sup>4</sup> PitchBook Data funding data as of June 1, 2022.

reduced by almost 30 percent, solely by applying proven interventions. These could include following a healthy diet; participating in physical activity; addressing social behaviors (such as smoking cessation); and ensuring access to vaccines, medicines for heart disease, diabetes and stroke prevention, and mental-health therapy.<sup>34</sup> In the

words of one doctor, “Exercise is the closest thing we have to an anti-aging pill.”<sup>35</sup>

Examples of scalable interventions can include the following:

— *Boosting quality of life while managing age-related disease*, as seen in the peer-reviewed

<sup>34</sup> *Prioritizing health*, July 8, 2020.

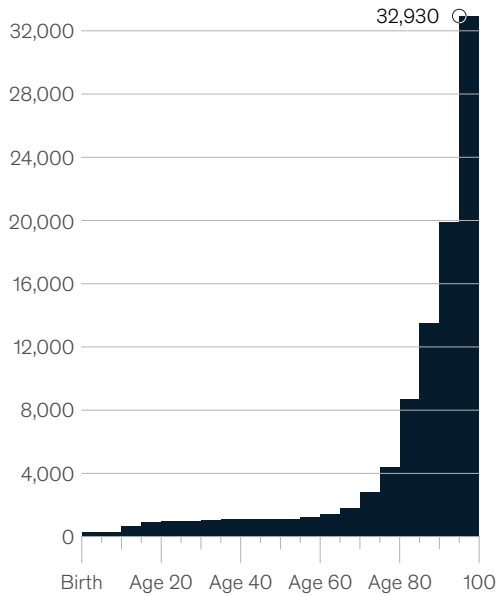
<sup>35</sup> Balvant P. Arora, “Anti-aging medicine,” *Indian Journal of Plastic Surgery*, October 2008, Issue 41 (Supplement).

Exhibit 4

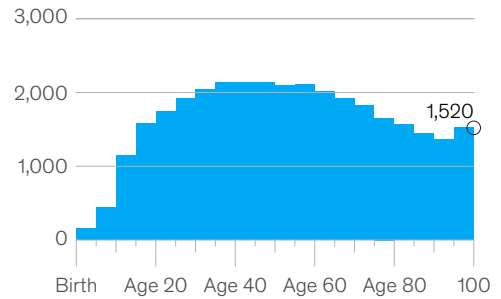
## Neurological disorders, mental disorders, and substance-use disorders are correlated with less healthy aging.

**Disability-adjusted life years (DALYs),<sup>1</sup> number per 100,000 by age group for brain health conditions**

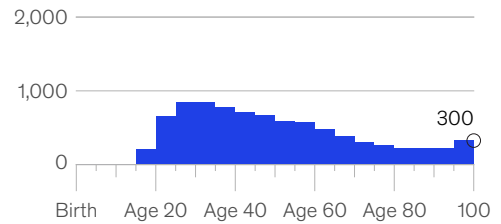
**Neurological disorder DALYs**



**Mental disorder DALYs**



**Substance-use disorder DALYs**



<sup>1</sup>Left and right sides of exhibit are intentionally scaled differently.  
Source: Global burden of disease, 2019, Institute for Health Metrics

NEXUS model for early-stage dementia, which suggests incorporating social and physical activities, stress reduction, cognitive exercise, support groups, and digital programs<sup>36</sup> into in-home and facility-based eldercare. Similarly, access and use of technology could increase quality of life. Game-based therapy such as the *Tovertafel* system stimulates physical activity and is correlated with reduced sadness and increased social interaction in adults living with mid- to late-stage dementia.<sup>37</sup>

— *Engaging initiatives that combat isolation and provide a sense of purpose*, as seen in multiple programs with demonstrated outcomes, such as engaging the elderly to look after children,<sup>38</sup> returning to school,<sup>39</sup> and embracing innovative semiprofessional setups that engage older adults in new ways.<sup>40</sup> Additionally, these interventions could potentially address challenges in other areas, such as by expanding the workforce or increasing the level of volunteering.

<sup>36</sup>“Evidence-based NEXUS at Silverado Brain Health Program shows benefit to individuals in the early stages of Alzheimer’s disease,” Cison PRWeb, October 12, 2022.

<sup>37</sup>“Why is research so important?” Tover, accessed October 2022.

<sup>38</sup>Ashley McGuire, “Toddlers and seniors together: The benefits of intergenerational care,” Institute for Family Studies, March 27, 2019.

<sup>39</sup>“Across China: University for aged let Chinese elderly enjoy retired life,” Xinhua News Agency, January 6, 2022.

<sup>40</sup>For example, Unilever’s U-Work program: Avivah Wittenberg-Cox, “Flexibility for all: Unilever’s vision of the future of work” *Forbes*, May 23, 2021.

- *Programs and technology that promote independence and aging in place*, as seen in Japan’s multigenerational affordable-housing complexes that integrate government-funded formal care<sup>41</sup> or Singapore’s Senior Group Homes, which bring older people with mobility challenges together in a cluster of rental units.<sup>42</sup> This could be technologically supported through minimally invasive methods, such as wearables or Vayyar’s radar technology, which detects even minor falls without cameras or wearables.<sup>43</sup>
- *Humanistic approaches to care that promote a connection with direct carers and prioritize holistic care*, as seen in newer approaches to residential care that incorporate person-centered care and the natural environment (such as the Eden Alternative<sup>44</sup> or the Green House Project<sup>45</sup>), or in community care models, such as the Buurtzorg care model in which nurses in self-managing small teams take full responsibility for making “their” clients stronger and independent.<sup>46</sup>

#### **Shift 4: Accelerate innovation across the healthy aging ecosystem**

Innovation should include, but also exceed far beyond, the traditional focus on life sciences. To drive innovation across the four dimensions of health as a society, society needs to foster and fund collaborations at the intersection of life sciences, digital, technology, and services. There is already substantial venture capital entering the field of aging, and some companies are starting to tailor their product and service to the older population (for example, remote assistance and fast medical consultation services).<sup>47</sup> Governments could further support these efforts by taking a

whole-of-government approach to healthy aging, promoting the role of collaboration and support across all departments. It could also champion “focused research organizations” for topics that fall through the cracks as neither viable for private-sector investment nor large enough for government investment—for example, availability of comprehensive data sets<sup>48</sup> (see sidebar “Learning from successful interventions in other countries: South Korea’s impressive journey toward increasing the healthy life expectancy holds lessons for all”).

There are two areas that would benefit from greater, more ambitious innovation:

- Improving dementia treatment and outcomes require a holistic approach of both pharmacological and non-pharmacological interventions. Globally, dementia is the sixth-greatest contributor to disability burden for people aged 55 and up—estimated to contribute 55.1 million DALYs in 2030<sup>49</sup> and having led to an annual global cost of \$1.3 trillion in 2020<sup>50</sup>—highlighting the imperative to act. On pharmaceuticals, more global collaboration, such as data sharing and decisive financing, could drive R&D toward success. For example, a government-backed megafund could allow multiple avenues for dementia drug development to help overcome the traditionally high rates of R&D failure. This should be complemented by non-pharmacological interventions. It is well known from long-term large sample-size studies (for example, a study of more than 500,000 individuals in the UK Biobank) that exercise, particularly at a vigorous intensity, substantially decreases the risk of developing dementia.<sup>51</sup> Physical activity—in all its forms, from household

<sup>41</sup> “Private sector’s role in healthy aging: Case studies from the Healthy Aging Prize for Asian Innovation,” Japan Center for International Exchange, November 15, 2021.

<sup>42</sup> *Singapore’s long-term care system adapting to population aging*, Asian Development Bank, September 2020.

<sup>43</sup> Laura Lovett, “Vayyar launches Walabot Home for fall detection,” *MobiHealthNews*, October 24, 2018.

<sup>44</sup> Jane Burgess, “Improving dementia care with the Eden Alternative,” *Nursing Times*, August 2015.

<sup>45</sup> Lauren W. Cohen et al., “The Green House model of nursing home care in design and implementation,” *Health Services Research*, February 2016.

<sup>46</sup> Ira Jeglinsky-Kankainen et al., “Buurtzorg – an innovative model for caring elderly at home,” Karelia University of Applied Sciences, *Online Journal of Aging*, February 2017.

<sup>47</sup> “How to close the digital gap for the elderly,” *World Economic Forum*, January 19, 2021.

<sup>48</sup> Adam Marblestone et al., “Unblock research bottlenecks with non-profit start-ups,” *Nature*, January 11, 2022.

<sup>49</sup> Nathaniel Counts, “Dementia storm on the horizon,” *International Monetary Fund*, December 2021.

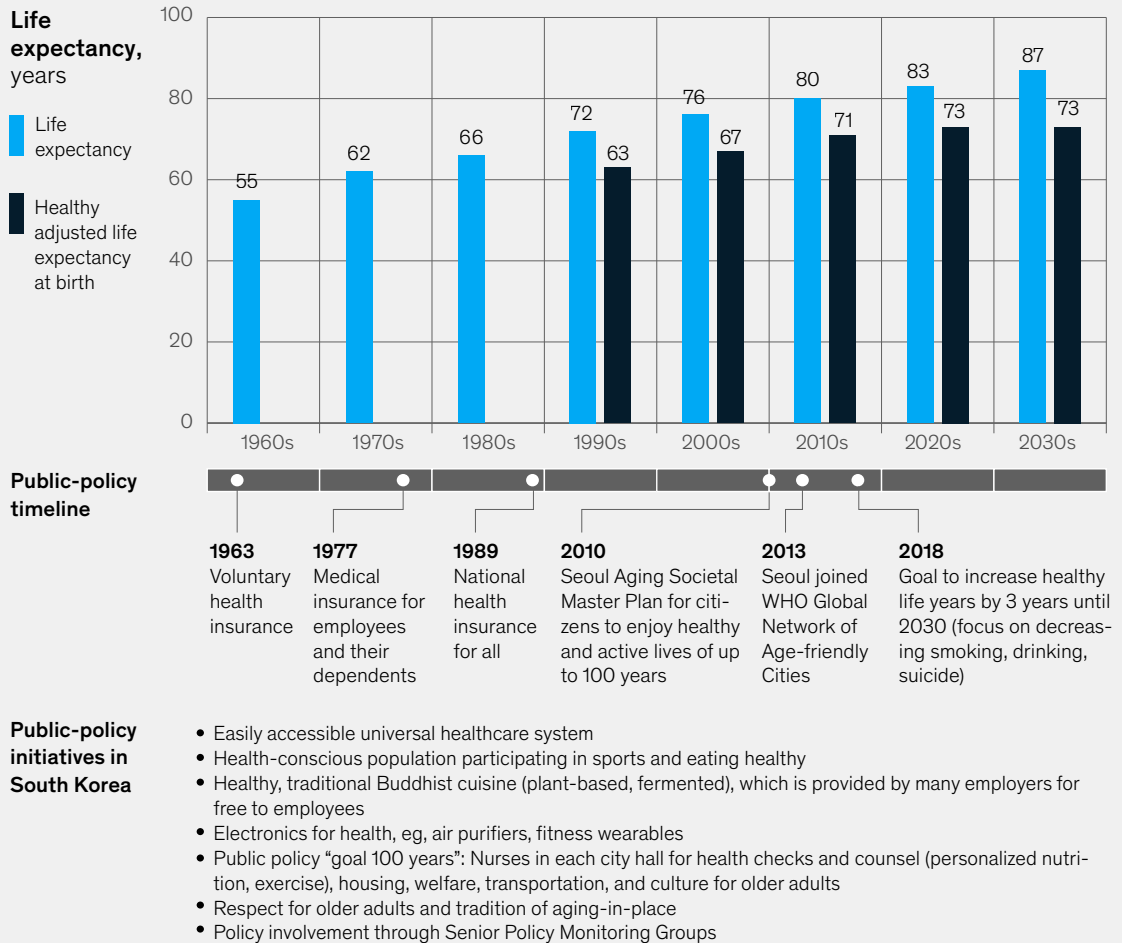
<sup>50</sup> David E. Bloom, “How to address Alzheimer’s disease and support healthier ageing,” *World Economic Forum*, February 17, 2022.

<sup>51</sup> Rachel Fairbank, “What types of exercise reduce dementia risk?,” *New York Times*, September 14, 2022.

# Learning from successful interventions in other countries: South Korea's impressive journey toward increasing the healthy life expectancy holds lessons for all

Exhibit

## South Korea is projected to have the highest life expectancy in the world by 2030.



Source: Arte; "Global, regional, and national disability-adjusted life-years (DALYs) for 359 diseases and injuries and healthy life expectancy (HALE) for 195 countries and territories, 1990-2017: A systematic analysis for the Global Disease Study 2017," *Lancet*, Nov 10, 2018, Volume 392, Issue 10,159; Jong-Chan Lee, "Health care reform in South Korea: Success or failure?," *American Journal of Public Health*, Jan 2003, Volume 93, Issue 1; *Korea Herald*; OECD; Statista; World Bank Group; World Health Organization

chores to walking, swimming, and running—especially early in life, has been connected to neuroprotective impact on cognitive function. As adults age, we should encourage continuing, or developing new, healthy habits and hobbies that have been linked to improved cognitive function, such as dancing<sup>52</sup> and playing chess.<sup>53</sup>

- Closing the care workforce gap for aged care is a human challenge with a financial imperative. In the United States alone, the cost of informal caregiving for the elderly exceeds \$500 billion annually.<sup>54</sup> In Australia, more than 35,000 aged care workers are needed to fill the shortage.<sup>55</sup> Countries are taking different approaches. For example, the Singaporean government is supporting institutions to raise salaries,<sup>56</sup> and the Swiss Ministry of Health is testing a concept called “time bank,” in which people volunteer to look after the elderly who require assistance, with the number of hours spent on caring deposited into their individual social security accounts. In the Singaporean example, once volunteers reach the age at which they want support, then, according to the time deposit, a volunteer will look after them.<sup>57</sup> No one single intervention, however, will likely be sufficient to address the massive shortfall in the care force and the pressures of affordability. But affordable, accessible care solutions will be needed to ensure dignity and independence in old age.

### **Shift 5: Unleash the potential of all industries to enable healthy aging**

Health is relevant across all sectors, and there is potential to develop products and improve infrastructure to support healthy aging. Non-

health players could both develop products and services for the needs of older adults and provide inclusive infrastructure, especially in the workplace. Employers could offer eldercare funds, integrate older adults into the workforce (for example, by creating formal “second-career” pathways for older adults who have retired to reenter the workplace—such as Unilever’s U-Work program, first piloted in ten countries, which was so successful that Unilever began an internship program for those over age 60 in Argentina)<sup>58</sup>—and work to reduce age discrimination in the workplace. The most exciting interventions are likely to come from cross-sector collaborations—imagine receiving free rides on public transport for each completed short workout,<sup>59</sup> stage-appropriate nutrition nudges at the grocery store checkout, or smart-home technology that could identify and prevent physical or cognitive decline. These interventions can complement “age tech” innovations seen in traditional older adult medical-care settings, such as the Bocco Emo robot, which monitors older adults in nursing homes and engages patients in “conversation” while notifying staff that nursing care is required.<sup>60</sup>

Additional potential examples of how sectors could support healthy aging through products, services, or infrastructure include the following:

- The public sector could redesign its citizen support model to make services more accessible, such as designing around “stage” rather than age. For example, the Japanese government developed a policy guideline to implement an “age free” society that included measures across all dimensions of health.<sup>61</sup>

<sup>52</sup> “Dancing and the brain,” Harvard Medical School, 2015.

<sup>53</sup> Alvin Powell, “Chess is more than a game for researcher focused on brain health,” *Harvard Gazette*, November 12, 2021.

<sup>54</sup> “Cost of informal caregiving for U.S. elderly is \$522 billion annually,” Rand Corporation press release, October 27, 2014.

<sup>55</sup> “Overseas recruitment won’t solve Australia’s aged care worker crisis,” *The Conversation*, August 24, 2022.

<sup>56</sup> “Navigating workforce shortages in healthcare sector,” RSM, October 27, 2021.

<sup>57</sup> “Time is money”: People in Switzerland can actually deposit their time in banks,” WION, January 5, 2022.

<sup>58</sup> Andrea Felsted, “Every business could use a granfluencer,” *Bloomberg*, May 6, 2022.

<sup>59</sup> For example, both Mexico and Russia have trialed free subway tickets in return for 10–30 squats. See Kate Carter, “Mexico’s latest way to beat the obesity epidemic: make commuters do squats for free subway tickets,” *Guardian*, January 27, 2015.

<sup>60</sup> Catherine Shu, “Startups at CEs showed that elder tech can help everyone,” *TechCrunch*, January 6, 2022.

<sup>61</sup> “Measures to address Japan’s aging society,” Japan Public Relations Office, February 2021.

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In addition, the public sector could provide leisure activities as a service to increase social connectivity, as seen in Canada's arts organizations and community centers, which offer dance or writing activities.<sup>62</sup>

- Parts of the tech and gaming industry are designing more accessible, age-inclusive platforms for older adults to support physical, mental, and social engagement, including those with visual, mobility, or auditory impairments. For example, Xbox has designed an adaptive controller for players with reduced mobility and older adults,<sup>63</sup> and several organizations provide accessible versions of phones and tablets.<sup>64</sup>

## **Shift 6: Empower and motivate older adults to live to their full potential**

Individuals have an important role to play in their own health. MHI believes that a combination of health education, public- and private-sector innovation, and the robust application of public policy will improve individuals' ability to influence their own health outcomes. For the aging world, this will require several measures:

- *Education and widespread adoption of self-directed practices that enhance an individual's role and responsibility in their healthy aging.* This includes physical activity, healthy diets, social connections, and cognitive engagement—and it is important to adopt these habits as early as possible in life, ideally in childhood or early adulthood to reap the greatest gains later in life. To foster these activities, there should be sufficient support to maintain good vision (for example, financial support for cataract surgeries).
- *Ongoing community involvement by volunteering, working, or engaging in purposeful activity for as long as possible.* In New York, the Department for the Aging is encouraging retirees from New York City government agencies to seek part-time, temporary work assignments that allow them to remain active and serve their community.<sup>65</sup>
- *Inclusive public-sector infrastructure for an aging society to drive active participation over dependence.* This includes, for example, focusing on stage, not age, in the distribution of social services, and providing an accessible,

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<sup>62</sup>Irving Rootman, Peggy Edwards, Frances Grunberg, Mélanie Levasseur, eds., *Promoting the Health of Older Adults: The Canadian Experience*, Toronto: Canadian Scholars, 2021.

<sup>63</sup>"Gaming for seniors with the Xbox Adaptive Controller," Xbox News, December 17, 2019.

<sup>64</sup>For example, GrandPad has developed a simplified tablet to streamline video calling for older adults.

<sup>65</sup>"Older adult employment," New York City Department for the Aging, accessed October 2022.

affordable, frequent, and safe public-transportation system that is designed for the needs of older participants (for example, increased volume of alarm sounds, larger-print signs).

## A new era for healthy aging

At a time of rapid demographic change, it is vital to seize this opportunity to promote healthy aging and participation for older adults. Whether considering one's own mortality, the aging of family members, or the greying of the workforce, it's important to ask: How can people live longer in better health? MHI, in its focus on "adding years to

life and life to years," believes healthy aging is an imperative. People should expect and demand an extended health span in their older years and will need to decide on how to use this capacity.

Increasing years spent in good health is possible if all stakeholders embrace both the potential and the challenge. Together, MHI seeks to engage with leading organizations globally to catalyze practical action on the most pressing challenges facing the aging world today.

We know what is possible. Together, society can create a world where older adults and societies can expect a longer and higher quality of life.

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