HEVOLUTION

ENABLING A HEALTHY LIFESPAN FOR SAUDI ARABIA

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VISION, MISSION, AND VALUES

Hevolution Foundation has been established to catalyze the field of longevity

Vision

Extend healthy lifespan for the benefit of all humanity.

Mission

Drive efforts to extend healthy human lifespan and understand the processes of aging, leveraging a broad set of tools through diverse approaches.

Contents

Abbreviations and Acronyms

DALYs	Disability-adjusted life years
GASTAT	General Authority for Statistics (Saudi Arabia)
GCC	Gulf Cooperation Council
GHC	Gulf Health Council
KAIMRC	King Abdullah International Medical Research Center
KSAU-HS	King Saud bin Abdulaziz University of Health Sciences
LE	Life expectancy
MoH	Ministry of Health (Saudi Arabia)
NAM	National Academy of Medicine (United States)
NCDs	Non-communicable diseases
ROI	Return on investment
SDG	Sustainable Development Goal
STEM	Science, technology, engineering, and mathematics
UN	United Nations
WHO	World Health Organization
WHS	World Health Survey
WHS+	World Health Survey Plus (WHO's flagship household survey program)
YLD	Years of healthy life lost due to disability
YLL	Years of life lost from mortality

Glossary of Terms

Absenteeism	Absenteeism refers to missed days of work.
Aged society	An aged society is one where 14% of the population will be over 65.
Age-dependency ratio	This is the ratio of dependents—people younger than 15 or older than 64—to the working-age population (15–64); data are shown as the number of dependents per 100 working-age population.
Aging society	An aging society is one in which 7% (or more) of the population is over age 65.
Disability-adjusted life years (DALYs)	According to the World Health Organization's Global Health Observatory, "one DALY represents the loss of the equivalent of one year of full health. DALYS for a disease or health condition are the sum of the years of life lost due to premature mortality (YLLs) and the years lived with a disability (YLDs) due to prevalent cases of the disease or health condition in a population."
GCC countries	Gulf Cooperation Council countries are Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.
Healthy life expectancy (HALE) at birth	The World Health Organization's Global Health Observatory defines HALE as "the average number of years that a person can expect to live in 'full health' by taking into account years lived in less than full health due to disease and/or injury."
Life expectancy (LE) at birth	The World Health Organization's Global Health Observatory defines life expectancy at birth as "the average number of years that a newborn is expected to live, if he or she were to pass through life exposed to the sex- and age-specific death rates prevailing at the time of his or her birth, for a specific year, in a given country, territory, or geographic area."
Old-age dependency ratio	This ratio is the population ages 65+ divided by the population ages 16–64.
Presenteeism	Presenteeism refers to reduced productivity at work.
Sustainable Development Goal (SDG) 3	Sustainable Development Goal 3 is "Ensure healthy lives and promote well-being for all at all ages."
Sustainable Development Goal (SDG) Indicator 3.4.1	Indicator 3.4.1 of SDG 3 is the "probability of dying between the exact ages 30 and 70 years from cardiovascular diseases, cancer, diabetes, or chronic respiratory diseases."
Sustainable Development Goal (SDG) Target 3.4	Target 3.4 of SDG 3 is "by 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being."
Young-age dependency ratio	This is the ratio of younger dependents (people younger than 15) to the working-age population (those ages 15–64).

FOREWORD

The average human lifespan has increased dramatically over the last several decades, but the result is more years in the later stages of life, occurring well after our most productive years, when we are often frail and infirm. We are living longer but are not necessarily living better. At the same time, fertility rates are dropping around the world—in some places, well below the population replacement rate.

Substantive and innovative approaches are needed at a fundamental scientific and policy level to enable people to age with health and vitality and to unlock the "longevity dividend." Hevolution Foundation is a global nonprofit organization focused on improving the health of the human lifespan to tackle this challenge.

I have been honored to be a member of the International Commission that co-authored the Global Roadmap for Healthy Longevity published by the United States' National Academy of Medicine (NAM). With various international partners, NAM has hosted events to discuss and promote ideas in the Global Roadmap: one event was held in Singapore on August 24, 2022, in partnership with the National University of Singapore and others; and one was in Washington, DC, on November 14, 2022, in partnership with AARP, one of America's largest nonprofit organizations.

On February 19, 2023, Hevolution Foundation—in partnership with NAM, the King Abdullah International Research Center (KAIMRC), and the Gulf Health Council (GHC)—hosted the third such summit at the King Saud bin Abdulaziz University of Health Sciences (KSAU-HS), Riyadh Campus. The summit, "The Global Roadmap for Healthy Longevity: Enabling Longer, Healthier Lives in the Gulf," explored improving health and extending healthspan, with relevance for the Gulf region and worldwide. This report is a product of that event and related discussions, and of course of the many months of international collaboration that went into producing the Global Roadmap.

Our goal with this report is to explore the themes of the Global Roadmap in relation to the Gulf Cooperation Council (GCC) countries and to the Kingdom of Saudi Arabia specifically, with its unique challenges in the arena of aging. It is intended to inform discussions and present effective recommendations to enable widespread healthy longevity. It addresses the current state of aging and rates of non-communicable diseases, and presents the current efforts toward that end being made in Saudi Arabia, along with recommendations and best practices. It is applicable to decision-makers in governmental, non-governmental, scientific, investment, and other sectors, all of whose actions have a bearing on healthy longevity. This is a science-based approach that also draws on the perspective and participation of multiple actors.

Hevolution Foundation is committed to advancing healthy human lifespan, both globally and regionally. This report is just the beginning of our efforts to help governments and decision-makers united toward the goal of healthy, long lives for all. While not all solutions are globally applicable, there is an opportunity to bring the best ideas from around the world and implement them in the Gulf and specifically in the Kingdom of Saudi Arabia. Hevolution is focused on its global mission of advancing a healthy human lifespan, but we also aim to benefit the region from our headquarters in Riyadh.

Dr. Mehmood Khan
Chief Executive Officer
Hevolution Foundation

Dr. Mehmood Khan

INTRODUCTION

01

The average lifespan has grown dramatically since the mid-1800s. However, the average healthy lifespan (the number of years spent in good health) has hardly increased at all (1).

Although people are indeed living longer, their additional years are usually accompanied by poor health. Most of this disease burden is attributable to age-related, non-communicable diseases (NCDs).

Moreover, many societies around the world are steadily graying: elderly populations are swelling (a phenomenon known as the age wave or the silver tsunami) at the same time as birth rates are falling. Ageing societies are facing a future in which the elderly will noticeably outnumber the working-age population, presenting an unprecedented economic challenge as well as possibly fueling intergenerational tension. This is already the case in some countries such as Japan, where 30% of the population is 65 or older. Clearly—even beyond public health challenges—population aging will usher in fundamental, society-wide changes needed to accommodate a transformed population structure.

In anticipation of this societal transformation, great efforts have been made to put into place government policies and strategies as well as public awareness to ensure better, healthier aging. These efforts range from recognizing aging as a global issue to developing effective strategies for addressing the demographic shift. For instance, United Nations (UN) agencies and international organizations have intensified their efforts to build more resilience—both the resilience of the elderly population in the face of age-related challenges and the resilience of countries to their demographic changes—to counter the underlying effects of aging globally. The UN General Assembly declared the UN Decade of Healthy Aging (2021–2030) to foster collaboration and promote longer, healthier lives (2). Additionally, in 2022 the US National Academy of Medicine (NAM) launched the aforementioned Global Roadmap for Healthy Longevity to ensure that people of all ages can achieve healthy longevity by 2050 (3). Healthy longevity can be defined as the state in which years in good health approach the biological lifespan, with healthy physical, cognitive, and social functioning enabling well-being across populations.

Awareness of the challenges of ensuring that a longer lifespan is a healthy one is rising, and there are signs that countries are taking steps to address them. Toward that end, Hevolution Foundation was established via Royal Order in the Kingdom of Saudi Arabia in late 2018 to drive efforts to extend the healthy human lifespan globally and to help drive understanding of the processes of aging. The Foundation is a unique, hybrid, nonprofit organization that aims to catalyze the healthy longevity field and bring together geroscience experts to work toward healthy aging as a global goal. It operates by providing both science grants and investments to incentivize research and entrepreneurship in the emerging field of "healthspan science" (4).

Saudi Arabia is currently in a favorable demographic position since a large proportion of its population is working age and can support the rest of the population, resulting in a low age-dependency ratio—the ratio of dependents (people younger than 15 or older than 64) to the working-age population (15–64). However, as the working population ages and retires and birth rates continue to decline, this favorable ratio will shift. Thus, the current period represents a golden opportunity for Saudi Arabia to outpace future demographic challenges by investing in healthy longevity.

This report provides a snapshot of health and aging in Saudi Arabia by drawing on recent international and national data for Saudis and describing the overall burden of age-related NCDs relative to neighboring Gulf Cooperation Council (GCC) countries and worldwide. It also describes trends in population demographics and concludes with a summary of gaps, opportunities, insights, and recommendations from the recent summit "Global Roadmap to Healthy Longevity: Enabling Longer, Healthier Lives in the Gulf," held, as noted in the Foreword, on February 19, 2023, by Hevolution Foundation, the US National Academy of Medicine (NAM), and King Abdullah International Medical Research Center (KAIMRC) at the King Saud bin Abdulaziz University for Health Sciences (KSAU-HS).

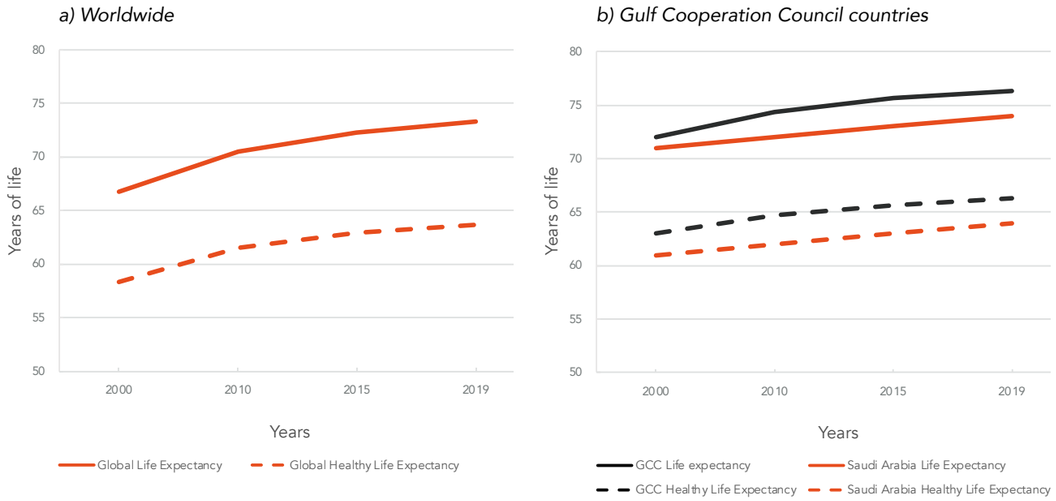
> We must prepare socially, financially, and scientifically for a long lifespan, it's a global imperative."
>
> – Victor J. Dzau, MD, President, National Academy of Medicine, United States

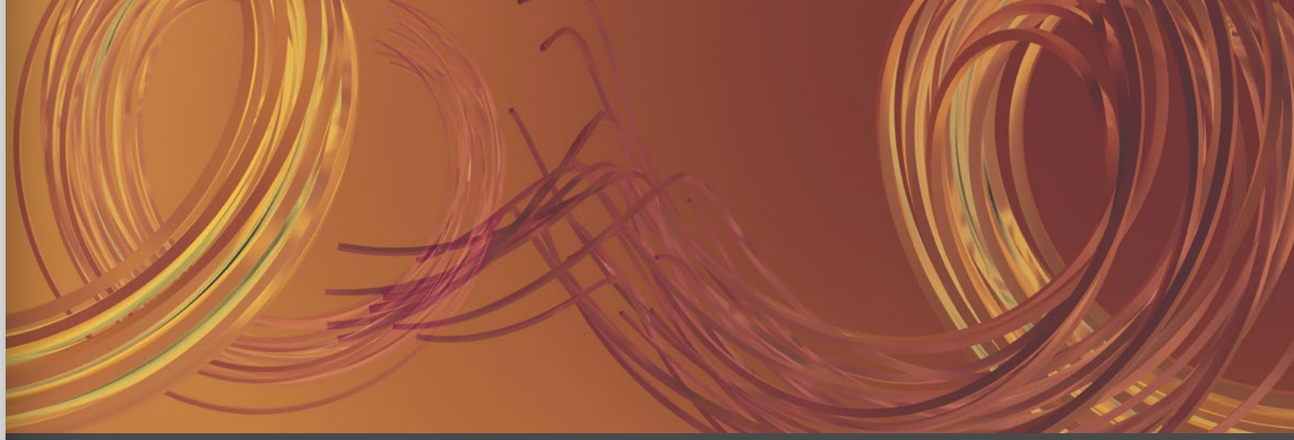
FROM LIFE EXPECTANCY TO HEALTHY LIFE EXPECTANCY

02

In line with global trends, Saudi Arabia has made remarkable improvements in average life expectancy, which has increased from 46 years in the 1960s to 76 years in 2020 (5). Healthy life expectancy (HALE) is defined as the average number of years that a person can expect to live in "full health" by considering years lived in less than full health as a result of disease and/or injury. However, as in many other countries, healthy life expectancy in Saudi Arabia at present is approximately 64 years, reflecting a gap of over 10 years between the number of years lived in good health and actual life expectancy (6). One of the aims of healthspan research is to decrease this morbidity gap between lifespan and healthy life expectancy (see Figure 1).

Figure 1. *Life expectancy and healthy life expectancy, 2000–2019*





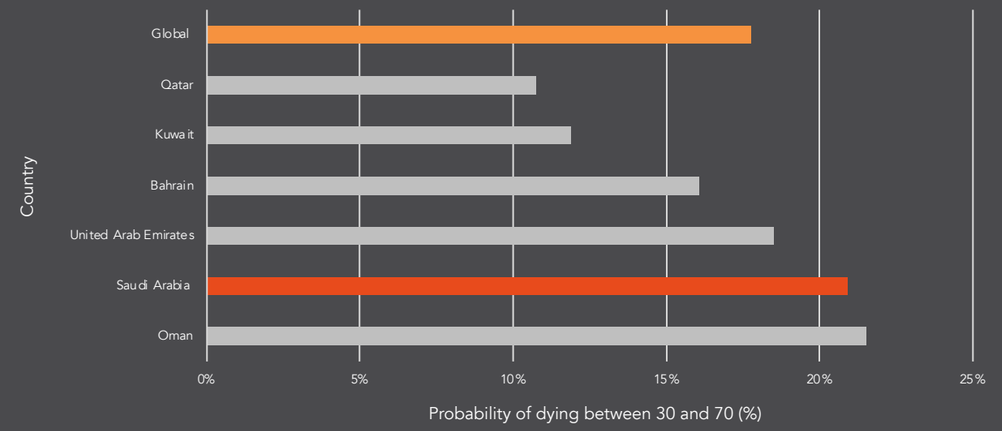
In focus

Sustainable Development Goal Target 3.4: How likely is a 30-year-old to die prematurely?

One of the key targets of the United Nations' Sustainable Development Goal (SDG) 3 is to reduce premature mortality (defined as death between the ages of 30 and 70) from four key non-communicable diseases (NCDs)—cardiovascular diseases, cancer, diabetes, and chronic respiratory diseases—by one-third worldwide by 2030. A one-third reduction in premature mortality from the major NCDs in 2015–2030 would have substantial effects on longevity (up to 0.8 years on average would be gained globally) (7). Conversely, reducing premature deaths requires addressing the root causes of NCDs associated with aging.

The probability that a 30-year-old Saudi will die prematurely from one or more of four key NCDs is 20.9% compared with the global average of 17.8%. This is higher than it is in other GCC countries (except for Oman) (Figure 2). It is also worth noting that the median age in Saudi Arabia is 30 years, and premature deaths are preventable (8). These probabilities are based on the WHO's global health estimates, which are produced from multiple sources including life tables and cause-of-death certificates and are subject to some limitations due to underlying data gaps and uncertainties (9).

Figure 2. *Probability of dying between the ages of 30 and 70 from a non-communicable disease, 2020*



Source: WHO, Global Health Observatory, 2020 (6)

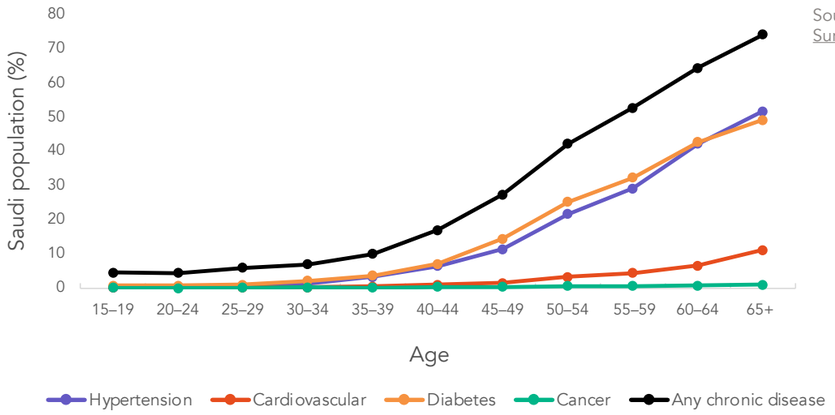
Note: Non-communicable diseases considered are cardiovascular diseases, cancer, diabetes, and chronic respiratory diseases.

WHAT ARE THE MAIN CAUSES OF YEARS LIVED IN POOR HEALTH AND PREMATURE DEATHS IN THE GCC?

03

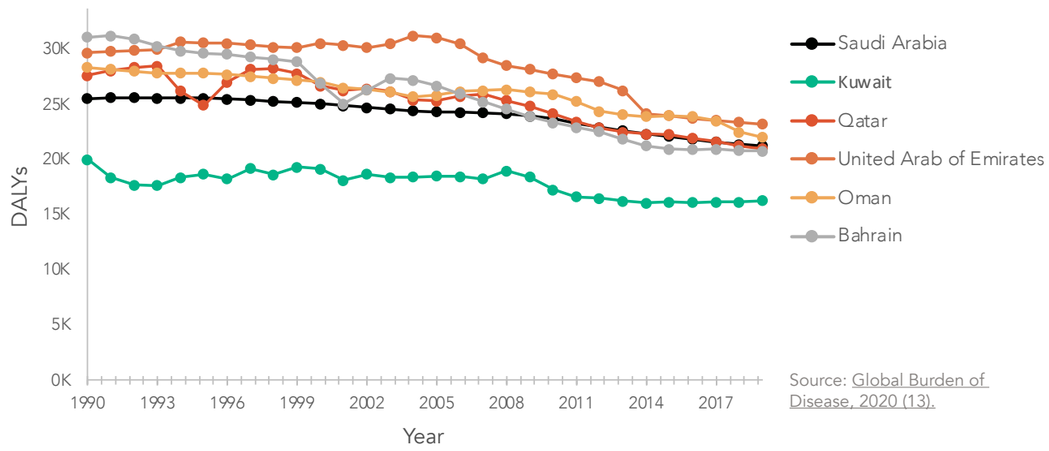
Across the globe we are experiencing a surge of NCDs, as NCDs increase with aging. (Figure 3) (10). The experience of aging poorly results from the impact of the accumulation of a wide variety of molecular and cellular damage over time, leading to a gradual decrease in physical and mental capacity and a growing risk of disease (11). Using age-standardized disability-adjusted life years (DALYs) to measure and compare the disease burden across GCC countries, the data show that four NCDs are the main cause of years lived in poor health and premature deaths. The United Arab Emirates has the highest NCD-attributable DALYs per 100,000 population, followed by Oman, Saudi Arabia, Qatar, Bahrain, and Kuwait (Figure 4) (12).

Figure 3. *Prevalence of self-reported chronic disease among Saudis by age group, 2018*



Source: Family Health Survey, 2018 (11).

Figure 4. *Age-standardized NCD-attributable DALYs per 100,000 individuals in GCC countries, 1990–2019*



Source: Global Burden of Disease, 2020 (13).

> There are dials that we can tune and by tuning them you can actually regulate the rate of aging either to accelerate or just slow it down."
>
> – Dr. Eric Verdin, CEO and President, Buck Institute, United States

Estimated prevalence of diabetes and raised blood pressure among GCC countries

The comparative prevalence rate for diabetes was higher in GCC countries than the global estimate of 9.8%. Diabetes prevalence was highest in Kuwait, at 25%, and lowest in Bahrain at 11.3%, with Saudi Arabia in between at 18.7% (Table 1). The prevalence of elevated blood pressure (a proxy for cardiovascular diseases) was high among all GCC countries, which had a prevalence rate of over 20% across the region. By comparison, the prevalence of elevated blood pressure in the United Kingdom and the United States is 15.2% and 12.9%, respectively. Among GCC countries, the age-standardized estimates for those who have an existing NCD (prevalence) is high.

Table 1. *Estimated prevalence of diabetes and raised blood pressure among GCC countries*

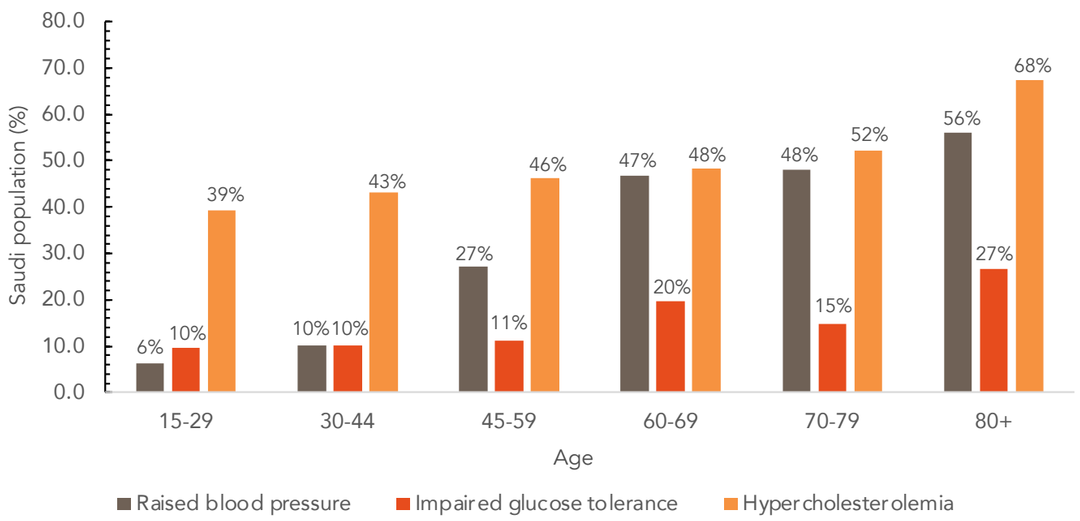
Country	Age-adjusted comparative prevalence of diabetes, 2021 (%)	Age-standardized prevalence of raised blood pressure, 2015 (%)
Bahrain	11.3	21.4
Kuwait	24.9	23.6
Oman	13.8	24.8
Qatar	19.5	22.4
Saudi Arabia	18.7	23.3
United Arab Emirates	16.4	21.1

Sources: Global Cancer Observatory (14); IDF Diabetes Atlas (15); WHO, Global Health Observatory (6).

The prevalence of select biological risk factors for NCDs among older age groups in Saudi Arabia

Biological risk factors (such as raised blood pressure, impaired glucose tolerance, and hypercholesterolemia) significantly increase the risk of NCDs. A survey by the Saudi Arabian Ministry of Health (MoH) in collaboration with the General Authority for Statistics (GASTAT) and the Saudi Health Council was conducted in 2019 based on the World Health Organization (WHO)'s World Health Survey Plus (WHS+) standard questionnaires and further adapted to meet the data needs of the country's national health planning and monitoring key priority indicators. As part of this survey, the prevalence of biological risk factors among older age groups in Saudi Arabia was examined; the results can be seen in Figure 5.

Figure 5. *The prevalence of selected biological risk factors by age group in Saudi Arabia, 2019*



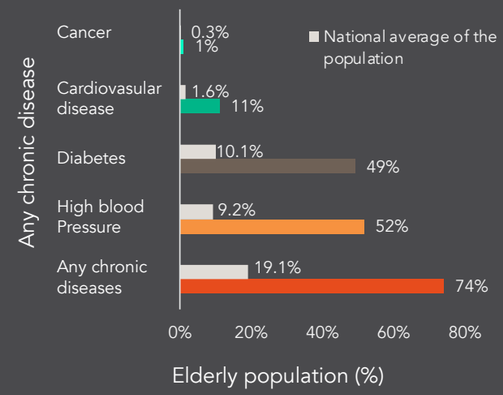
Source: Saudi Arabia, Ministry of Health, World Health Survey, 2019 (16).

In focus

Profile of older Saudis

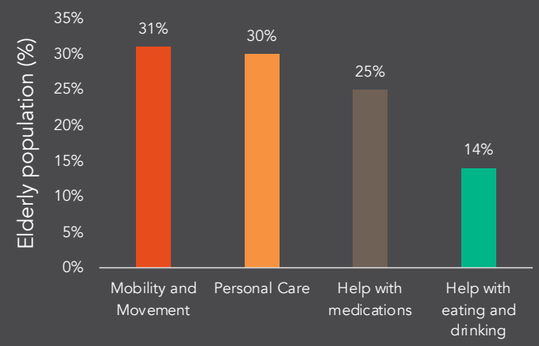
A nationally representative survey of older Saudi adults was conducted in 2017, and a report on the status of the elderly in Saudi Arabia in 2019 by the Family Affairs Council (14).

Figure 6. *Prevalence of self-reported chronic diseases among Saudi elderly (65+) in Saudi Arabia and the national average of chronic diseases, 2018*



Source: Family Health Survey, 2018 (12).

Figure 7. *Elderly population (65+) self-reported daily assistance needs in Saudi Arabia, 2017*



Source: Source: Elderly Survey, 2017 (17).

Note: Chronic diseases include diabetes, cancer, cardiovascular diseases, and high blood pressure.

Chronological age is not the only relevant metric for health

Different factors must be considered when examining the aging of the population (Figures 6 and 7). Different countries experience different patterns of aging, so thresholds identifying aging populations should not be fixed—instead, this requires a tailored approach for each country. A 2019 study published in the Lancet on the impact of population aging across the world used age standardization to calculate the age-related disease burden in each country. The study also ranked how countries compare to a worldwide average 65-year-old by showing the equivalent age in each country (18). Table 2 shows how Saudi Arabia and the rest of the GCC fared in the global ranking (18).

At the top were Switzerland and Japan, where a 76-year-old's health is equivalent to that of an average 65-year-old globally. In Papua New Guinea, which came last, the equivalent age sank to 46 years. While figure 2 showed the probability of premature mortality from four key NCDs, table 2 shows the combined morbidity and premature mortality (DALYS) from all age-related disease burden based on GBD estimates. It is worth noting that while GBD estimates offer international comparability, they also depend on underlying data quality and uncertainties (19). The study also found that, across most countries, the proportion of age-related disease burden is 51% (age-related disease burden is defined as the sum of all DALYs of age-related diseases among adults), with all other disease burdens being non–age related. An aging metric that allows countries to track age-related disease burdens over time could help drive policy discussions about where to allocate resources and improve country comparisons (18).

Table 2. *A global 65-year-old's health status compared across the world, 2017*

COUNTRY	2017 Equivalent age to global 65-year old's
Switzerland	76
Japan	76
Kuwait	75
Bahrain	71
Qatar	70
United States	69
Saudi Arabia	66
Oman	66
United Arab Emirates	58
Papua New Guinea	46

Source: Chang et al., 2019 (18).

PREPARING FOR SAUDI ARABIA'S DEMOGRAPHIC TRANSITION

In focus

How long do we have until we transition into an aged society?

Globally, the transition from an aging society (7% of the population over 65 years) to an aged society (14% of the population over 65 years) is accelerating. While this transition took France 115 years, it took the Republic of Korea (South Korea) only 18 years, a global record (20). Among GCC countries today, Kuwait has the largest proportion of 65+ people, at 4.9%, while Qatar has the lowest at 1.5%. Saudi Arabia's proportion of 65+ is 2.8% (8).

Kuwait is projected to have the fastest transition, of 8 years, reaching an aged society by 2034 (8). Saudi Arabia is likely to be the second fastest with a projected transition period of 10 years, where 7% of the population will be over 65 by 2032 (aging society) and 14% by 2042 (aged society) (8). While Bahrain will be the first GCC country to be considered aging by 2031, it is estimated to have to the longest transition period (15 years). Qatar, Oman, and the United Arab Emirates will start aging a decade later (by 2042–2043). Table 3 shows the projected transition trends among GCC countries.

Table 3. *Speed of aging in GCC and comparator countries: Projected time required to transition from an aging to an aged society*

COUNTRY	Population 65+ in 2022, %	Aging (7% are 65+)	Aged (14% are 65+)	Duration in Years
Bahrain	3.8%	2031	2046	15
Kuwait	4.9%	2026	2034	8
Oman	2.8%	2043	2054	11
Qatar	1.5%	2042	2053	11
Saudi Arabia	2.8%	2032	2042	10
United Arab Emirates	1.8%	2042	2052	10

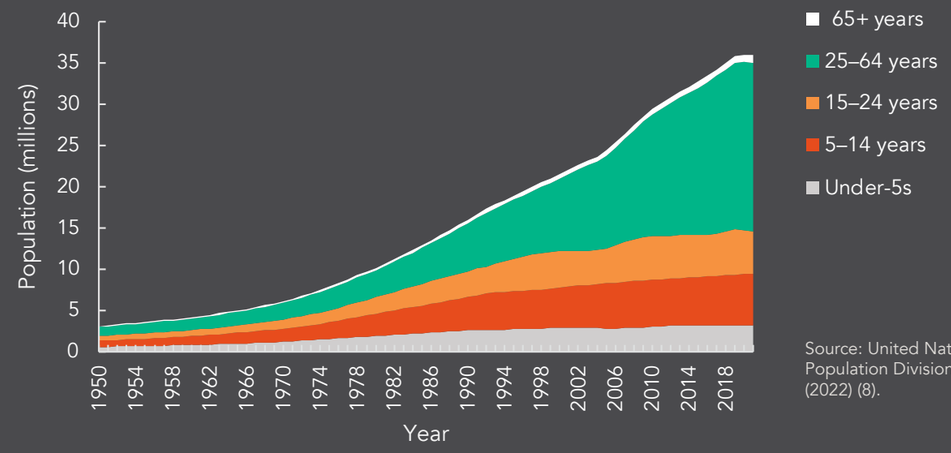
Source: United Nations, Population Division, 2022 (8).

In focus

Changes in age-structure and dependency ratios in Saudi Arabia

The age-structure trends of Saudi Arabia's population show the expansion of the population ages 25–64 from the 1960s to 2020 (Figure 8). This distribution of the population between working age (15–64) versus young and old age groups is an important indicator for the economy and labor force participation (age-dependency ratio). [1]

Figure 8. *Population by broad age group, Saudi Arabia, 1950–2020*



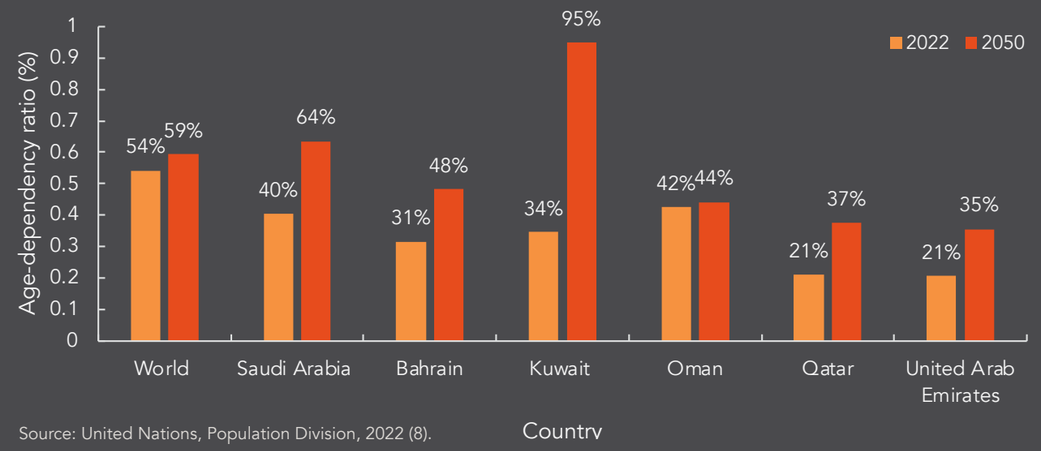
Source: United Nations, Population Division (2022) (8).

Population dependency ratios change because of alterations in the population's age structure, which indicate a change in social requirements. The age-dependency ratio has been declining in Saudi Arabia and the GCC countries generally and is lower than the global rate (see Figure 9). In the GCC, the ratio is lowest in Qatar and the United Arab Emirates (21%) and highest in Oman and Saudi Arabia (42% and 40% respectively) as of 2022 (Figure 9). This ratio is projected to continue declining across all GCC countries as fertility levels drop and the population of working age increases. Fertility rates in 2022 ranged from 2.7 in Oman to 2.5 in Saudi Arabia and 1.5 in the United Arab Emirates (8). The youth-age dependency ratio is the ratio of dependents (people younger than 15 or older than 64) to the working-age population (people 15 to 64); the old-age dependency ratio is the ratio of the population aged 65 and to the working-age population. And while the youth-age dependency ratio is declining in the GCC, the old-age dependency ratio is growing quickly. The old-age dependency ratio is expressed as the number of dependents per 100 persons of working age (25–64) (data are presented for different age categories). This ratio is projected to increase as the population ages, thereby raising the overall age-dependency ratio. Examples of these changes for Saudi Arabia are highlighted in Figure 10.

Saudi Arabia's current youth-age dependency ratio is 36.7%, lower than the global 40%; the country's old-age dependency ratio is 3.6% compared to 15% worldwide. The percentage of the population 65 or older in the country is expected to double by 2029 and increase to 20% by 2050. This means that by 2050 Saudi Arabia will have many fewer people to support its growing number of older dependents, and the number of young people growing up and taking their place in the workforce will have dropped, so this mismatch will not be mitigated by the next generation. This will require a rethinking of societal norms and expectations—thus the urgency of the Global Roadmap for Healthy Longevity.

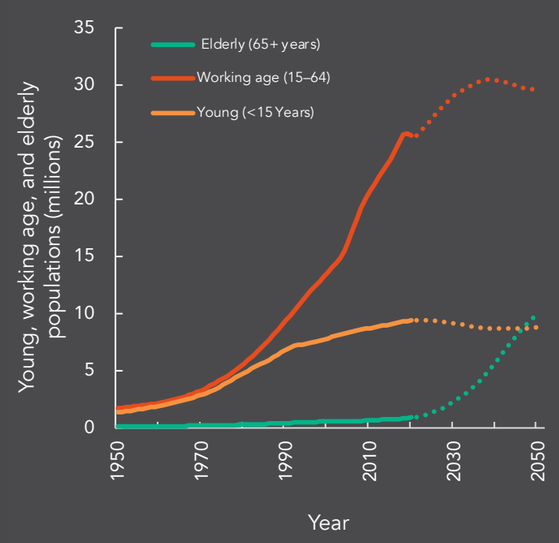
[1] Retirement age is 60 in Saudi Arabia

Figure 9. *Projected age-dependency ratios across GCC countries, 2022–2050*



Source: United Nations, Population Division, 2022 (8).

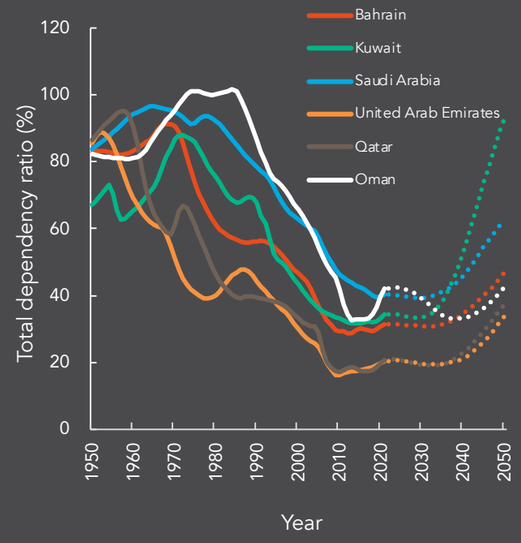
Figure 10. *Size of young, working-age, and elderly populations, Saudi Arabia, 1950–2050*



Source: United Nations, Population Division, 2022 (8).

Note: The dotted lines are projections.

Figure 11. *Age dependency ratio projections, GCC, 1950–2050*



Source: United Nations, Population Division, 2022 (8).

Note: The dotted lines are projections.

> Gulf Health Council Member States have realized the importance of improving the determinants of life expectancy, longevity, and it has been reflected in their future vision strategies and plans."
>
> – Mr. Sulaiman Saleh Al-Dakheel, General Manager, Gulf Health Council, Saudi Arabia

POPULATION AGING: AN OPPORTUNITY AND A CHALLENGE

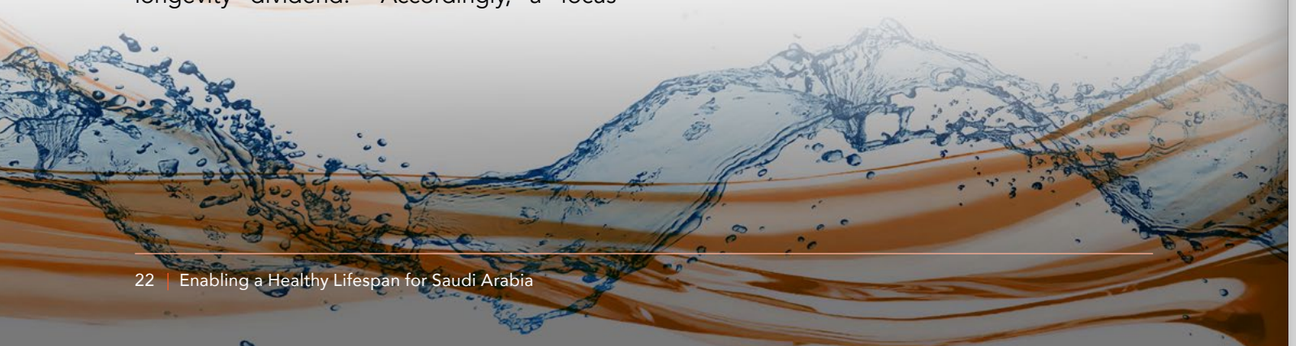
05

Age-related NCDs are negatively impacting health and driving the disease burden, especially among the elderly. These diseases are already straining health systems and government budgets. For example, in 2015, diabetes alone accounted for 17.5% of Saudi Arabia's Ministry of Health expenditures (21).

Beyond direct medical costs, the high burden of NCDs can have an indirect economic cost through absenteeism (missed days of work), presenteeism (reduced productivity at work), unemployment from disease-related disability, and lost productivity due to premature death (22). In the GCC in 2019, the economic impact of just seven major NCDs was estimated to cost SAR 364.9 billion (USD 97.3 billion) annually in direct medical costs and reduced worker productivity (absenteeism and presenteeism), equivalent to 3.4% of GDP (22). As the population ages, the burden of NCDs and their associated costs will likely increase.

Promoting a healthy lifespan, though, can enable workers to accumulate more knowledge and experience and contribute more to society over a longer period. This is essentially what it means to "unlock the longevity dividend." Accordingly, a focus on prevention and healthy aging should be viewed as a long-term investment, not a cost to be avoided or minimized. For example, researchers have shown that achieving the SDG goal of reducing premature mortality is not only achievable but also has a tremendous potential for return on investment (ROI) of 19 to 1 (23).

As already noted, much of the world is in a demographic transition with increasing life expectancy coupled with declining fertility rates. Working-age populations (15–64 years old) are essential for economic productivity, and having a low age-dependency ratio can have a positive impact on labor productivity (24). Saudi Arabia is in an early demographic transition phase, with declining age-dependency ratios. The age-dependency ratio among GCC countries has been decreasing and is lower than it is in the rest of the world, which has dependency ratios of 50–60% (8). This provides Saudi Arabia and GCC countries with a unique window of opportunity to capitalize on the demographic dividend that occurs when the working-age population exceeds the dependent-age population.



Countries that have invested in their youth's health, education, and skills during this transition phase have realized major economic growth. For example, between 1950 and 2008, Thailand's GDP grew by 970% (25). Furthermore, the increase in old age "dependence" is not inevitable. If healthspan is extended, it can help reduce or lower functional and cognitive decline that is closely related to care dependence in older age (26). Healthy aging does not start at 65, but much earlier, and requires a lifelong approach (27).

[2] Seven NCDs: coronary heart disease, stroke, type-2 diabetes mellitus, breast cancer, colon cancer, chronic obstructive pulmonary disease, and asthma

ONGOING EFFORTS, INSIGHTS, AND RECOMMENDATIONS FROM THE GLOBAL ROADMAP FOR HEALTHY LONGEVITY: ENABLING HEALTHIER, LONGER LIVES IN THE GULF SUMMIT

06

Saudi Arabia is investing heavily in health and well-being.

Promoting a fulfilling and healthy life is at the center of Vision 2030's vibrant society Pillar. One of its ambitious goals is to improve life expectancy from 74 years in 2016 to 80 years in 2030. As part of this initiative, several programs have been launched that focus on promoting [continued on the following page]

> We aim today to bring together global and regional leaders from across the ecosystem to discuss the state of the healthspan in the Gulf, and hopefully chart a potential roadmap for the region. The future of living healthy is an ambitious reality."
>
> – H. E. Bandar AlKnawy, MD, FRCPC, FRCP (EDIN), Chief Executive Officer, Ministry of National Guard Health Affairs, and President, King Saud bin Abdulaziz University for Health Sciences, Saudi Arabia

healthy lifestyles; among these programs are the Health Sector Transformation Program, the Quality-of-Life Program, and the Human Capability Development Program (28).

The three priorities for Vision 2030's ongoing health reforms are:

- to improve access to healthcare services,
- to improve the quality and efficiency of the health system, and
- to strengthen prevention against health threats, all of which are relevant to the healthy aging agenda (2).

Saudi Arabia's new model of care programs tackle various aspects of healthy aging through prevention and other programs. This new model of care is centered on the patient, the population, and primary healthcare. It aims to meet the health sector's National Transformation Program's objectives of becoming more efficient, more effective, and more patient-centered, while addressing challenges through innovation (2). It is important to ensure that, as these transformations occur, the focus is on the delay of the onset of diseases (compression of morbidity) rather than solely on treating individual diseases.

Investing in the collection of comprehensive, nationally representative, and standardized data can help us better understand, act, and monitor our progress toward expanding healthspan. Metrics could include biomarkers and objective performance tests. Saudi Arabia's efforts to make nationally representative cross-sectional data available, allow time-trend analyses, and ensure comparability with other countries will also be critical to success. Key themes identified in the Global Roadmap (3) and UN Decade on Healthy Aging (2) reports have been taken into consideration when identifying the challenges and future opportunities.

Efforts should also be made to measure health trajectories as effectively as possible—for instance, tracking data for large populations over time. Such projects are underway, including national longitudinal studies. Globally, health and retirement surveys serve as a major source of data on aging and health. While this cross-sectional survey is available in 46 countries, it has yet to be launched in Saudi Arabia. The Saudi Health Council is currently in the process of piloting a Saudi Health and Retirement Survey that can help fill this gap. Further, such nationally representative studies will deepen our understanding of the changes associated with aging. It will also provide an opportunity to evaluate and form new policies to support aging populations and evaluate their impact. There are several opportunities for better health-related data collection within the Kingdom's health transformation journey to fill these data gaps (29). This includes accelerating the adoption of a unified medical record number, capitalizing on the digital innovation in e-health services such as the Sehaty app and Tawwakkalna app, which proved to be extremely useful during the covid-19 pandemic, better integration, harmonization, and sharing of routinely collected data across health and non-health actors.

The Kingdom is well on its way to building the data infrastructure required to support an emerging biotechnology cluster and research and development initiatives devoted to encouraging collaboration of leaders, research funding, and investments, as well as developing a local talent pool.

> Less than 10% of the health funding goes to public health non-vaccine research, compared to hundreds of billions in developing immunotherapies, chemotherapies, and cellular therapies for cancer."
>
> — Dr. Shahrukh K. Hashmi, Hematologist, Public Health and General Preventive Medicine Specialist, Mayo Clinic, Minnesota, United States, SSMC, Abu Dhabi, United Arab Emirates.

Insights and Recommendations

As referenced above, the "Global Roadmap for Healthy Longevity: Enabling Longer, Healthier Lives in the Gulf" summit was held in Riyadh, co-hosted by NAM, Hevolution Foundation, the King Abdullah International Medical Research Center (KAIMRC), and the Gulf Health Council (GHC) on February 19, 2023. The summit disseminated the findings of the Global Roadmap and explored insights and next steps for the Gulf region. International and regional experts in the field shared their thoughts and recommendations on how societies can strengthen the bonds between generations and leverage the healthy longevity dividend.

The implications of aging in the Gulf were discussed, in addition to effective strategies that can be deployed to put the region on track toward healthy longevity. Speakers explored some of the challenges facing today's generation, including health literacy—ways that people can use their health information most effectively—and related topics. Speakers also pointed to the critical importance of the availability of datasets.

The GCC's healthcare systems face the challenge of a growing aging population living with more chronic diseases. The availability of health data can dramatically transform public health and help decision-makers and healthcare professionals to make informed decisions and to deliver more effective and more personalized care. People in GCC countries should also encourage the pursuit of evidence-based work in both geriatric and non-geriatric research.

> Public health is the key, if you improve all the health ecosystem you can achieve healthy aging"
>
> – Dr. Tareef Yousuf Alaama, Deputy Minister, Ministry of Health, Saudi Arabia

Longevity has arrived for some people, but healthy longevity is still on the horizon for most. For this reason, translating Roadmap insights into actions that can be taken at the regional level, focused on demographic trends, should be a top priority. Moreover, leveraging technology can have a dramatic multiplier effect on accelerate our progress on the road to healthy longevity.

> Hevolution is dedicated to the science that is needed to not only launch, but to drive the opportunity for increasing health across the lifespan and achieving healthy longevity."
>
> – Dr. Linda Fried, Dean of the Mailman School of Public Health, Columbia University, United States

The following recommendations are based on the insights generated during the summit and the five main pillars from NAM's Global Roadmap for Healthy Longevity Report. They offer key actions we can take to face the biggest challenges in the GCC and globally.

1 To ensure integrated public health, social service, person-centered healthcare, and long-term care systems:

a. Re-design the health system, taking an integrated, personalized, and holistic approach.

b. Build capacity in geriatrics and invest in rehabilitation and home healthcare. This can be achieved by reaching out to individuals through different care channels such as digital hospitals.

c. Invest in prevention, population health, and initiatives to maintain health rather than treating poor health when it arises.

d. Build an effective system of long-term care that provides support as people age.

2 To ensure social cohesion augmented by intergenerational connections:

a. Allow the younger generation to participate in longevity- and aging-related activities and bear responsibility for ensuring the older generation keeps up to date on screenings.

b. Combat social isolation at a systemic level in all groups.

c. Revisit current policies and regulations to achieve a strong synergy between intergenerational populations.

3 To make use of research, entrepreneurship, and technology:

a. Study large populations—some that age poorly, others that age well—to learn new mechanisms to target. Additionally, ensure that biobanks and longitudinal data are publicly available to scientists.

b. Increase efforts in late-stage pre-clinical work, progressing into clinical trials. Use real-world evidence and reap the benefits of therapies and drugs.

c. Develop a regional biotech cluster and research and development initiatives, which aim to encourage the funding of basic research to support the field of aging, invest in start-ups, develop original IP, and attract talent.

4 To provide education and training opportunities:

a. Improve and unify life expectancy terminology to create well-defined terms such as healthspan, which helps communicate the most pertinent aspects of healthy longevity.

b. Engage the younger generation and provide initial training in science, technology, engineering, and mathematics (STEM) subjects with a focus on longevity.

c. Integrate defining and understanding ageism early within the education system.

d. Improve health literacy through better engagement between healthcare professionals and patients using simplified terminology and technology.

e. Deploy mentorship programs in which young scientists work alongside senior scientists.

f. Establish healthy aging-related educational programs at places of employment and make these courses available for trainees.

5 To address needed physical environments and infrastructure:

a. Long-term planning for healthy aging should revolve around community engagement and leverage digital tools.

b. Take an ethnographic stance—that is, provide an in-depth analysis within specific cultural or social groups, to help gain an understanding of the goals and needs of the elderly.

c. Embed an emphasis on mental health and well-being in communities.

Addressing the challenges of population aging requires action to be taken at the global, regional, and national levels. Innovative planning and substantive reforms in both developed countries and transitioning countries is required. A detailed strategy and roadmap for the GCC will require collaboration between GCC institutions.

Drafting a local, tailored strategy requires collaboration between countries and institutions. In Hevolution's capacity as a convener, the organization will host a series of global summits to drive efforts toward the goal of living longer and healthier for the benefit of all.

> "I think the important thing is a lot of countries seem to be waiting till they get old before they take action. And I think the time to act is before the country gets old."
>
> – Prof. John Beard, ARC Centre of Excellence in Population Ageing Research, University of New South Wales, Australia

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