

The Power of Place: A Path to Healthier Cities



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McKinsey Health Institute

The McKinsey Health Institute (MHI) is an enduring, non-profit-generating entity within McKinsey & Co. It was founded on the conviction that, over the next decade, humanity could add as much as 45 billion extra years of higher-quality life (roughly six years per person on average—and substantially more in some countries and populations). MHI's mission is to catalyze the actions needed across continents, sectors, and communities to realize this possibility.





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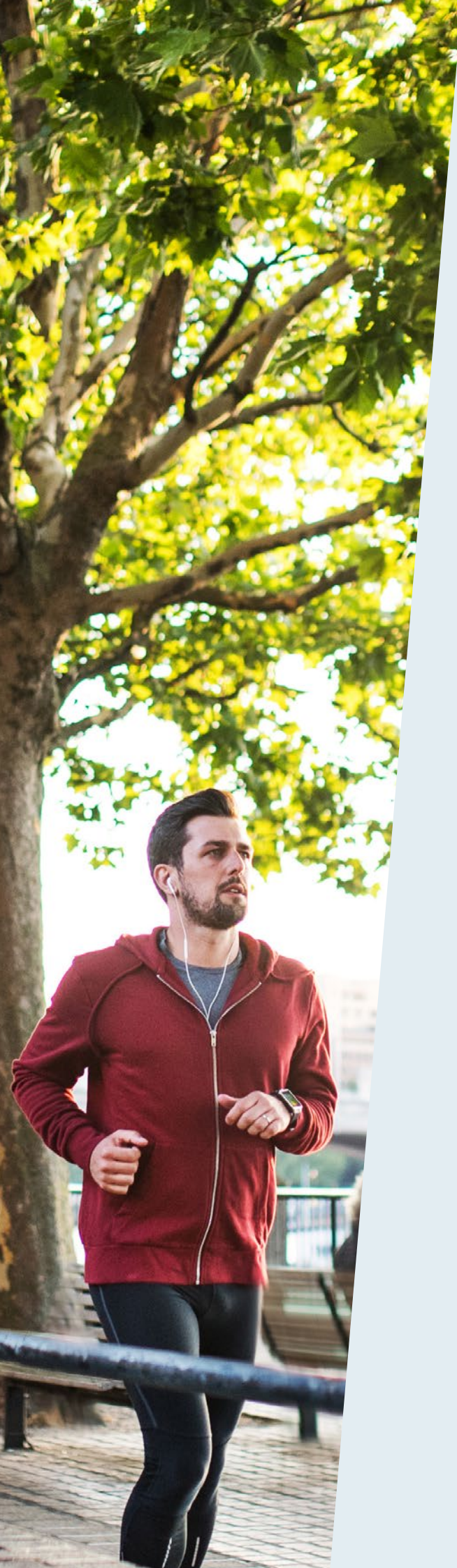
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Executive Summary

Longevity is rising, while years people spend in good health are dwindling. The burden of disease is increasingly age-related, non-communicable, and chronic, with populations experiencing cardiometabolic diseases, cancers and brain health conditions. At the same time, evidence shows that people want more than just the absence of pain and physical suffering: they want good mental, social, spiritual, and physical health in almost equal measure.

The good news is that the drivers of health are well known and are highly modifiable. Twenty-three drivers of health have been identified that have an independent, direct, and causal impact on people's lives. Of these, 19 sit outside of the conventional healthcare system. These drivers of health depend on an interplay between individual choices and behaviors and institutional context. This interplay also suggests that the environment – the place in which people live – has an outsized impact on how many years people spend in good health.

Cities are an effective nexus to influence most of the drivers of health. While the World Health Organization (WHO) first published on healthy cities in 1978, the investment in cities as composite drivers of health has not kept pace with the opportunity. The result is significant, as cities have the potential to add an extra 20-25 billion years of healthier life – approximately five years per urban inhabitant – by addressing the drivers of health to improve the physical, mental, social, and spiritual lives of their populations. Cities are also increasingly relevant as a share of global population: more than half of today's people live in cities and this proportion is projected to grow to 68 percent, and up to 87 percent in high-income countries, by 2050.



Opportunities abound at any level of economic development: at any level of average GDP per capita, the life expectancy between urban geographies across the world differs 10 to 20 years. This suggests that significantly more improvement in life span is possible, no matter how wealthy cities are to begin with.

Cities are a natural place for stakeholders across sectors to come together to advance a common goal – such as population health. Public, private, and social sector players in a city have large influence over all four dimensions of health as well as the underlying drivers.

The McKinsey Health Institute (MHI) has outlined four types of interventions that city leaders can consider: public awareness and health literacy, infrastructure design, cross-sector mobilization, and cross-departmental policy and regulations.

The prize is huge. Depending on where they stand, all cities have an opportunity to initiate or accelerate journeys toward better health for their populations. Together, we can aspire, mobilize, and leverage the full potential of cities to unlock billions of additional healthy years of life.

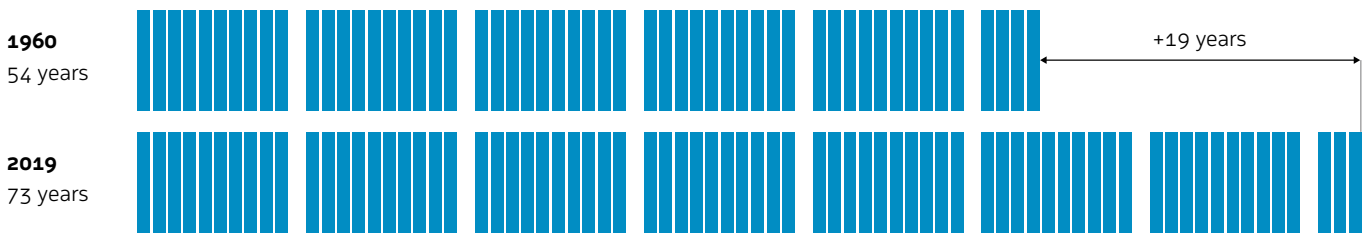
Introduction

Identifying the priority drivers of health, mobilizing stakeholders across sectors, and developing specific interventions at a city level could help add 20-25 billion additional years of higher-quality life – approximately five years for every person living in urban areas worldwide.

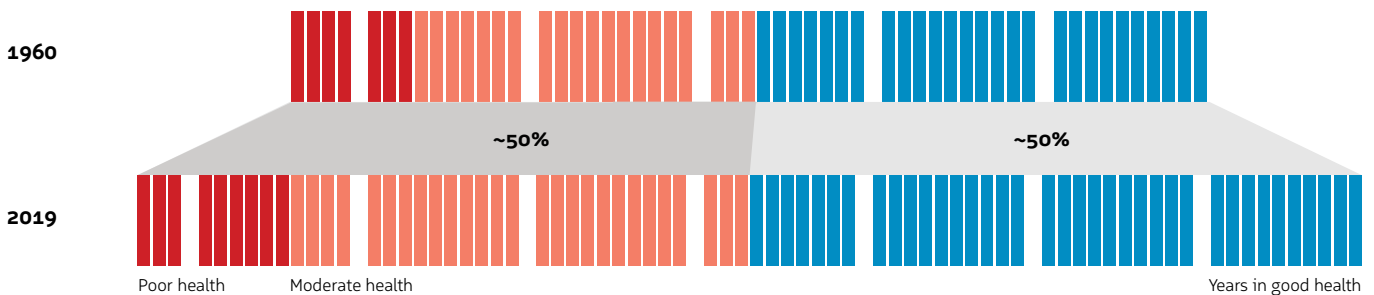


Exhibit 1

Between 1960 and 2019, average global life expectancy increased from 54 years to 73 years¹



...although life expectancy increased, the quality of life for the elderly didn't improve as much



On average, people "pay" for each additional life year with 6 months in less than good health

1. Average global life expectancy and health, years
Source: World Bank Data; IHME data; McKinsey analysis

Children born today can hope to live 20 years longer than their relatives born in the 1960s.¹ The number of centenarians has increased nearly 30 times in the same time frame and is becoming a global phenomenon in many middle- and high-income countries.² These developments should be celebrated.

But the cost of increased life expectancy has been high. For every extra year of life added to life span, half of that increase may be spent in moderate or poor health. This ratio has been roughly constant for decades.³

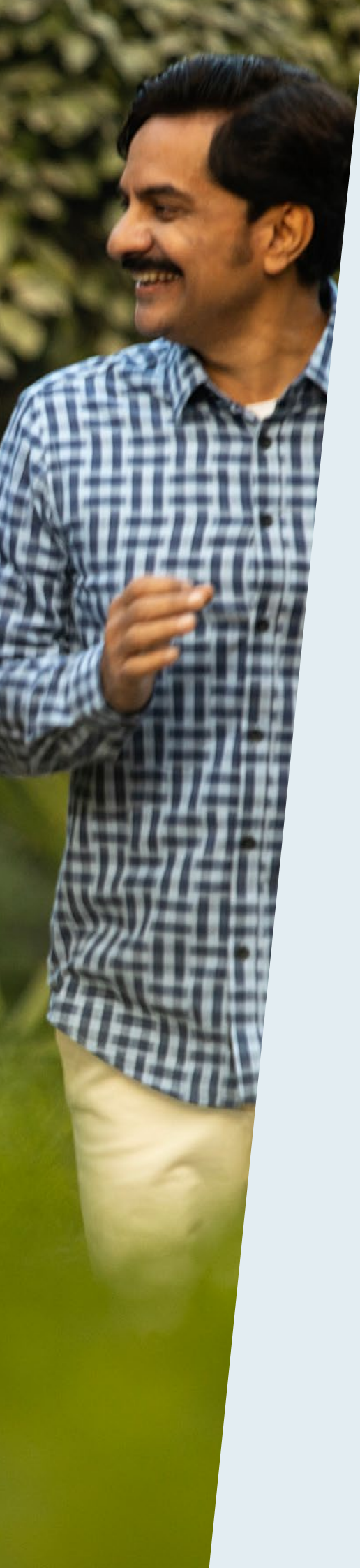
Why hasn't good health accompanied longevity? As the global population ages in unprecedented ways, the burden of disease has shifted to age-related, non-communicable diseases: cardiometabolic diseases, cancers, and brain health conditions. Fifty-one percent of all global disease burden today is caused by age-related illness⁴ broadly associated with the wear and tear of body and mind. By 2030, one in six people worldwide will be over the age of 60.⁵ Populations are aging at faster rates in many low- and middle-income countries (LMICs) than those in high-income countries (HICs) and by 2050, two-thirds of the world's population over the age of 60 will be in LMICs.⁶

1 The World Bank 2021; IHME 2023
2 Buccholz 2021
3 MHI calculations based on World Bank data and IHME data
4 Chang et al. 2019
5 World Health Organization 2022
6 Ibid

Section 1

Most Drivers
of Health
Sit Outside
Conventional
Healthcare
Systems and
Are Modifiable





Conventional approaches to improving health focus almost entirely on physical health.

More than 90 percent of all healthcare expenditures are spent on treating physical disease or physical symptoms⁷. But mental, social, and spiritual health are equally important dimensions of health.⁸ In a survey of 19,000 people across 19 countries, some 85 percent of respondents said their mental health is as important to them as their physical health, and their spiritual and social health were also listed by the majority as “extremely” or “very important.”⁹ People share this view across high-, middle-, and low-income countries.

⁷ Open Access Government 2022

⁸ Coe et al. 2022

⁹ Desmouceaux et al. 2022

Section 1

The blueprint to achieve great physical, mental, social, and spiritual health is exceedingly clear. McKinsey Health Institute (MHI) research identifies 23 drivers that contribute to individual health (Exhibit 2) based on what the evidence is telling us and going beyond conventional healthcare interventions.¹⁰ These drivers include what people put into their bodies, how they spend their time, when and how they move, what their minds and bodies are exposed to, and what they believe about the nature of reality, themselves, and other people.

A typical view assumes that the primary drivers of an individual's health are genetics, chance, and access to and adoption of conventional healthcare interventions. MHI defines conventional healthcare interventions as a handful of widely adopted public health strategies (for example, vaccines, seat belts, and smoking cessation), the timely detection and diagnosis of disease, and access to clinical interventions like pharmaceuticals, surgery, and therapy provided by licensed clinicians. More than 97 percent of health-related public-, private-, and social-sector expenditures in OECD countries are related to delivering more typical and treatment-focused healthcare interventions, indicating a need to change today's health narrative to achieve optimal health and reduce the disease burden.¹¹ Conventional healthcare drivers offer substantial benefits, both in creating more equitable outcomes and offering economic advantages: for example, those who are healthier are often more able to work and less likely to drive up healthcare costs. However, these primary drivers are only a start.

All but four of the 23 identified drivers sit outside conventional healthcare systems. Each of these nonconventional drivers appears to have an independent, direct, material, and causal impact on our health. They are more than a "lifestyle" choice; they reflect the fact that all systems and structures of society (for example, employment, education, markets, broader economic and social context) affect health.

These drivers are often the difference between decades of strong function and decades of poor health or premature death, as is increasingly borne out by literature and evidence. For example, research shows that consistent exercise alone can extend life by up to 6.9 years.¹² Conversely, drinking one or two sugar-sweetened beverages per day is associated with a 14 percent higher risk of mortality from any cause.¹³ More importantly, these drivers are modifiable. They can be improved or weakened based on both individual choices and how systems and structures operate. This is incredibly positive news. Perhaps for the first time in history, most people have meaningful agency over their health for most of their lives, regardless of genetics. This also means that a person's environment and circumstances have more of an impact on health than is generally acknowledged, and a lot of these factors are directly or indirectly influenced by where the person lives.

10 Hartenstein and Latkovic 2022

11 Hartenstein and Latkovic 2022; OECD 2004

12 Reimers et al. 2012

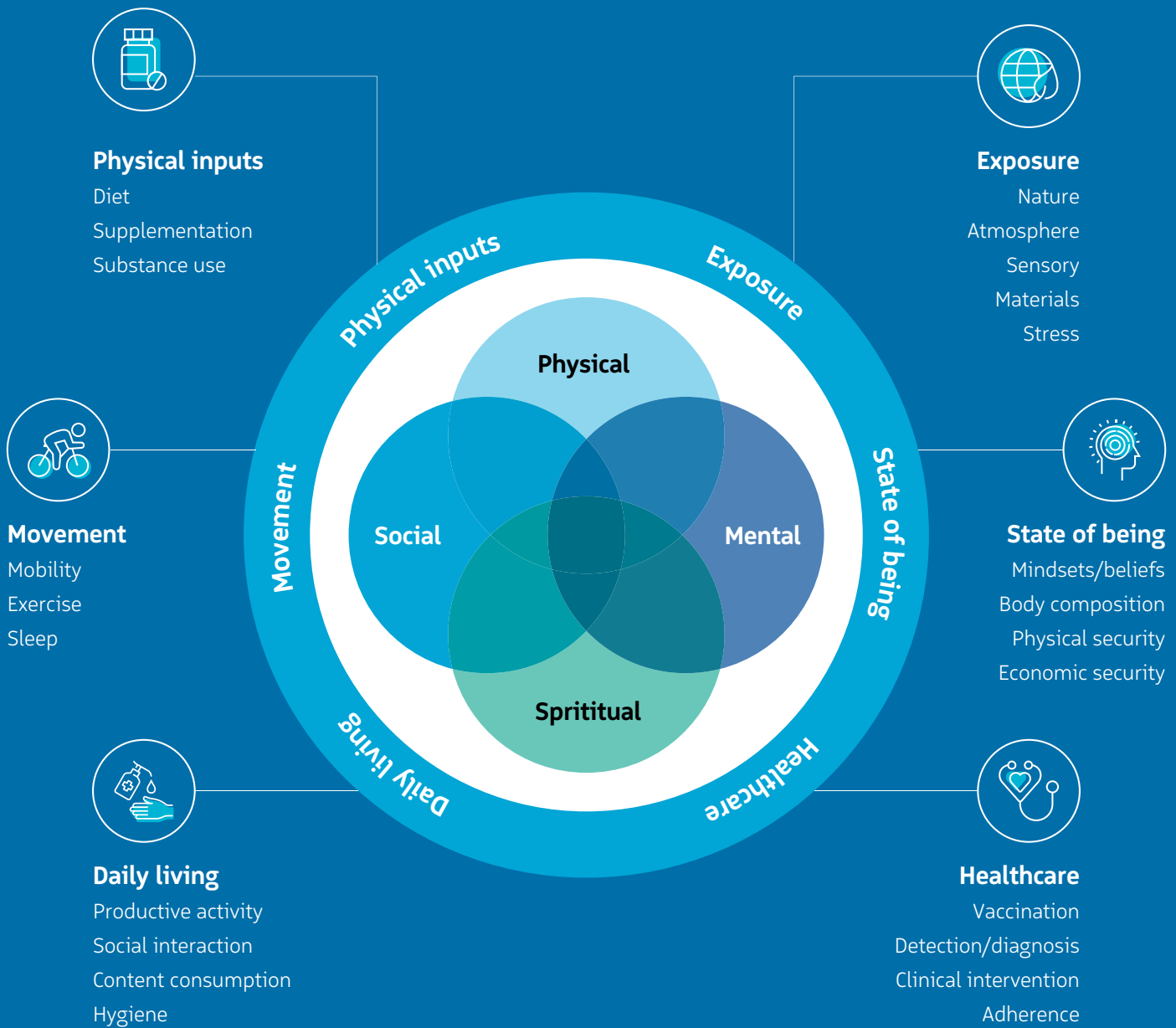
13 Malik et al. 2019

Section 1

Exhibit 2 Health Is Impacted by Many Modifiable Drivers, Most of Which Sit outside Conventional Healthcare

Not exhaustive

Modifiable drivers of health¹



1. Drivers of health are complex, non-linear (e.g. J-curves, U curves) and interact with each other. Each driver can be optimized or sub-optimized based on quantity, type, mix, duration, timing/sequencing. Optimization or sub-optimization are a result of both individual choices and structural/environmental influences
Note: Grounded in the WHO definition: "a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity"



Social drivers include where you live, the state of your housing, the food you have access to, your transportation options, how much education you've received, your financial security, and more.

For example, if your living conditions mean you don't have nearby access to healthy food or affordable

transportation to a better grocery store, don't have access to a safe place to exercise, and can't get much sleep because of your living conditions, you are much more likely to eat poorly, become stressed, get sick, and wind up in an emergency room



Kenneth Frazier, former CEO of Merck & Co. and philanthropist focusing on underserved communities



Section 2

Cities Are
an Effective
Nexus to
Influence Most
of the Drivers
of Health





While the World Health Organization (WHO) has heralded healthy cities for decades, the opportunity to drive positive health impact in cities is still immense.¹⁴

Section 2

Exhibit 3 Cities Are an Effective Nexus to Lift Health

20-25Bn

higher quality life years could be attainable through targeting cities¹, because cities are...



...where people live

...where few stakeholders have outside influence on health

...where health disparity within a place is largest

70%

of world's population projected to live in cities by 2050

The 5

largest companies headquartered in each of the 12 largest cities² in the world account for a combined revenue of over

75%

of the world's cities are more unequal now compared to the two previous decades

58%

of the world's people aged 60 and up resided in urban areas in 2015

\$600Bn

Life expectancy gap of

30 years

is the disparity found between neighborhoods within Chicago

1. Potential in cities is calculated using the split of total impact by country income bands, applying average urbanisation level for each country income band currently (lower level) and expected in 10 years (upper level)

2. Beijing, Dubai, Lagos, London, Mumbai, Nairobi, New York, Paris, Santiago, Sao Paulo, Singapore, Tokyo

Source: McKinsey Analysis, United Nations (2018), Frates et al. (2016), World Urban Forum (2022), United Nations (2015), Holder and Montgomery (2019)

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More than half of the global population today lives in cities, and that proportion is projected to grow to ~70 percent by 2050, with high-income economies seeing up to 87 percent of their population living in urban areas by that time.¹⁵ At the same time, significant inequity often exists within cities – with 75 percent of the world’s cities more unequal now than they were two decades ago.¹⁶

Although promising action toward building healthy cities exists, it is far below the potential on a global scale. Global efforts to advance health in cities include organizations that are affiliated with WHO, such as the Partnership for Healthy Cities, European Healthy Cities Network and City Cancer Challenge.¹⁷ In its recent article,¹⁸ MHI identifies interventions that cities can undertake to quickly advance neglected areas of health: healthy aging and longevity, brain health disorders, climate-related health, and health worker capacity. MHI also details the impact case from interventions like this: an additional 20 billion to 25 billion years of higher-quality life within cities, or an average of five years per person in urban areas (Exhibit 3). The article outlines how, in practice, cities can start their journey through a four-step roadmap for mobilization across stakeholders and sectors. Cities offer vast opportunities for health impact and should be an immediate focus of action.

Opportunities abound at any level of economic development: at all levels of average GDP per capita, the life expectancy between microregions across the world differs by decades (Exhibit 4). While 53 percent of the variation in life expectancy can be explained by a person’s income, the remaining 47 percent are explained by other factors such as health innovations.¹⁹ These facts indicate that opportunities to improve health outcomes exist beyond growing income or stimulating economic growth.

Indeed, cities are critical for improving health because of their direct and indirect influence on all the dimensions of health – physical, mental, social, and spiritual – as well as the underlying drivers.

15 UN Habitat 2022

16 World Urban Forum 2022

17 Other healthy city efforts include C40 Cities, Fast-Track Cities (which targets HIV, TB, HBV and HCV) and Cities Changing Diabetes

18 McKinsey Health Institute (2024) – forthcoming.

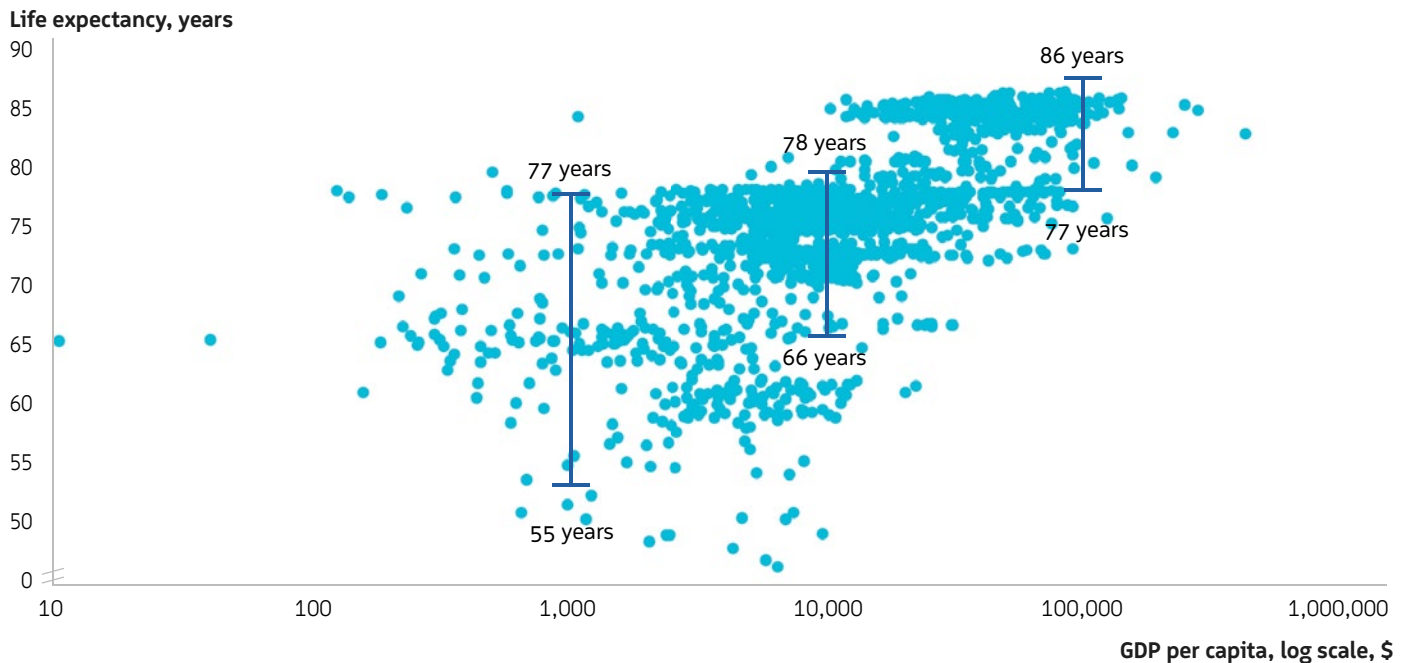
19 McKinsey Global Institute 2022

Section 2

Exhibit 4

Cities Can Look beyond GDP per Capita to Find Ways to Impact Life Expectancy

Life expectancy and GDP per capita for microregions¹ globally, 2019, n = 1703



1. Points displayed were selected by taking microregions captured in McKinsey Global Institute's datasets, then selecting those with a population density greater than 1,500 people/km², in line with World Bank's definitions of a city. Ranges provided between the top and bottom 5 percent of microregions for a given GDP per capita.

Source: McKinsey Global Institute Data

City stakeholders affect how people move, how they interact with one another, how they eat, what stresses and comforts they experience, and how they access healthcare.

- **Physical health²⁰:** Cities greatly impact physical health, by providing access to healthcare for their residents, and by creating the built environment and systems in which people can interact with the physical world. For those who live in cities, health starts with having safe water and air, nutritious food, and shelter. These elements are often made possible through sanitation systems, access to food, meals, and grocery stores, and affordable and

safe housing, all of which are directly influenced by city stakeholders. Residents then look toward basic healthcare, including vaccines, medications, and preventive care. City stakeholders are often responsible for providing healthcare or social care. For example, in the United States in 2020, states provided 46 percent of health and hospital spending, while local governments provided 54 percent.²¹ Cities also influence residents' movements. City design and access to transport have a direct link to population mobility. Local programs and initiatives, as well as urban design, influence people's ability and incentive to exercise. Local

²⁰ MHI's definition: Physical health is the extent to which an individual can competently perform physical tasks and activities without significant discomfort. It includes the capacity to move through the environment in which one lives with confidence and independence and to control one's interactions with the physical world via fine motor control. People with good physical health have sharp sensory capacities, with keen senses of touch, vision, hearing, taste, and smell. Physically healthy individuals are full of energy and vitality, free from the twin scourges of debilitating pain or fatigue.

²¹ Urban Institute 2022

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regulations, external lights, noise, or workplaces within a city also can change how much people sleep.

- **Mental health**²²: City living has both a direct and indirect impact on mental health. While the risk of mental illness is generally higher in urban areas than in rural areas, cities also provide greater access to mental health resources and services for those in need.²³ Access to resources such as mental health clinics, counselling services, homeless and housing support, and substance use programs have direct effects on residents' mental health. Moreover, city policies around policing, crime, and domestic violence have direct implications for people's physical security, while policies and support for food, housing, income security, and access to public services affect economic security. Both of these resource areas indirectly impact mental health. Workplace environments play an important role in mental health and with burnout at an all-time high, employees are looking to a variety of stakeholders for support, including employers.²⁴
- **Social health**²⁵: Cities provide a rich, social backdrop for individuals to pursue their daily lives. Due to their density, cities offer constant opportunities for people to have meaningful social and

economic activity, to feel engaged in their communities, and with their neighbors. Active social engagement and good relationships are integral to health, especially as people age, and have been linked to reduced mortality rates, reduced cognitive disability, less functional disability and frailty, decreased loneliness and depression, increased physical activity levels, and enhanced meaning and quality of life.²⁶ Furthermore, loneliness and social isolation can have a highly detrimental effect on health, as they are associated with higher risks of health attacks and strokes.²⁷

- **Spiritual health**²⁸: Cities offer a context for people to have a sense of meaning, purpose, and belonging. They offer opportunities for productive activity, including work with a sense of purpose, volunteering options, and spaces for reflection and worship. Cities also provide the connectivity for meaningful social interactions including shared meals, conversations, friendships, and marriage/dating, which is intertwined with people's spiritual health. Moreover, a city dweller's exposure to nature, a driver of health and a space for contemplation and relaxation, depends on the availability of parks and green spaces within the city or the infrastructure to access surrounding areas that may be more rural.

22 MHI definition: Mental health is an individual's cognitive, behavioral, and emotional state of being. We need mental health to understand and interact with the world through memory and language. Mental health allows us to experience joy, direct anger, limit harmful impulsive behavior, and avoid serious depressive episodes. Mentally healthy individuals have the resilience to cope with normal stresses and adverse events while maintaining a positive and realistic sense of self.

23 Gruebner et al. 2017

24 McKinsey Health Institute 2022

25 MHI definition: Social health represents an individual's ability to build healthy, nurturing, genuine, and supportive relationships. People in good social health have the capacity to form meaningful connections with others, to both receive and provide social support. Social health gives people a strong sense of belonging to a community.

26 McKinsey Health Institute 2022

27 Das et al. 2021

28 MHI definition: Spiritual health enables people to integrate meaning in their lives. Spiritually healthy people have a strong sense of purpose. They feel a broad sense of connection to something larger than themselves, whether to a community, a calling, or to a form of divinity. Spiritual health helps people feel rooted and mindful in the present moment. We note that strong spiritual health does not necessarily imply the adoption of religious beliefs, in general, or any specific dogma.



Health services such as hospitals and medical equipment are very important, but the health status of individuals and their communities is closely related and highly dependent on the social determinants of health. Among these, the quality of life offered by our cities stands out.

In today's world, where a majority of the population resides in urban areas, it becomes imperative to ensure that urban environments offer good and equitable access to essential services. These

services encompass not only healthcare, but also include access to clean water, reliable energy sources, efficient transportation systems, quality education, recreational opportunities, and a sense of security. Failing to provide these fundamental services can lead to increased levels of conflict and violence within communities. Moreover, it can have detrimental effects on the mental health of individuals and communities.



Pedro García Aspillaga, Former Health Minister, Chile



Section 3

Four Types of Interventions for the Toolbox of Healthy Cities





City leaders have four types of interventions with which they can advance health. Using all of them in concert across public, private and social sector stakeholders promises the biggest prize

(Exhibit 5).

Section 3

Exhibit 5
City Stakeholders Have a Toolbox of Levers to Build Healthy Cities



Lever 1: Public Awareness and Health Literacy

Public awareness and health literacy are used with considerable success to avoid some negative outcomes. Take wide mask-wearing to avoid COVID-19 infections. In terms of the opportunity to enable individuals to be better stewards of their own health, this kind of public health initiative is a good example. In addition to traditional public awareness messaging (for example, mass media, billboards), behavioral interventions such as nudging and education (for example, learning about sleep, nutrition and exercise in school) can encourage residents to make decisions to improve their health. Public awareness is an important tool to influence people's mindsets and beliefs around health and can stimulate conversations and social engagement around health issues.

Example: Singapore's National Steps Challenge

In 2010, 39 percent of Singaporean adults between the ages of 18 and 69 did not have an active lifestyle sufficient for good health.²⁹ In 2015, the Health Promotion Board introduced the National Steps Challenge. Participants use a fitness device and the government's Healthy 365 app to track daily steps, which can then be redeemed for prizes, such as store vouchers or cash rewards.³⁰ Specific competitions are also run for educational institutions³¹, with multiple private sector companies (for example, supermarkets, wellness brands, food & beverage stores etc.)³² providing the prizes. Singapore has also pursued innovative marketing through 'branding takeovers' of metro stations³³ and workouts with celebrities.³⁴ Now in the Challenge's seventh year, the Health Promotion Board has expanded its focus, introducing a sleep challenge in 2021³⁵ and offering a range of corporate challenges in 2023.³⁶ Out of the sedentary people participating in the program, 75 percent achieved recommended levels of physical activity.³⁷ Change has been sustained, with steps increasing by 20 percent during the Challenge, and maintaining at 12 percent after the main Challenge has finished.³⁸ Singapore has also been able to scale the initiative. Within two years, 9 percent of the Singaporean population was enrolled in the Steps Challenge³⁹; within five years, almost 16 percent was enrolled.⁴⁰

29 Health Promotion Board 2016

30 Health Hub Singapore 2023

31 Health Promotion Board 2016

32 Health Hub Singapore 2023

33 The Drum 2017

34 Healthy Workplace Ecosystem 2023

35 Lay and Lui 2021

36 Health Hub Singapore 2023

37 Health Promotion Board 2017

38 Yao et al. 2022; Journal of the American Heart Association 2022

39 Health Promotion Board 2017; Statista 2022

40 Smart Nation Singapore 2023; Statista 2022



Cities have a profound impact on lives and lifestyles. A well-designed city has tremendous potential to shape people's behaviours for better health, social well-being, and sustainability outcomes. At the Singapore Health Promotion Board (HPB), we believe in building a healthy ecosystem that is centred on our citizens' everyday interactions in and with both the built and social environments.

We leverage on technology and data to design interventions that empower citizens to adopt healthy living naturally and effortlessly. We are constantly working across different sectors of society with our partners to grow expertise and capabilities in improving the health of our people. 

Tay Choon Hong, Chief Executive of the
Singapore Health Promotion Board

Lever 2: Infrastructure Design

City leaders play a unique role in designing the built environment. Investing in both physical infrastructure and public spaces as well as digital infrastructure directly and indirectly influences health outcomes in a city.

Cities oversee physical infrastructures such as sanitation systems, public buildings, emergency shelters and public health clinics. Physical infrastructure also encompasses roads, public transportation, bike lanes, walking paths, parks, playgrounds, and other green spaces. Cities also must approve new construction or developments, which affects if and where hospitals, businesses, grocery stores, or affordable housing are built. All of these factors impact the lives of those who live in a city. Digital infrastructure encompasses how technology influences urban residents, such as whether Wi-Fi is free, and access to broadband and charging stations is widely available. Broadband access can be a social determinant of health, as was the case in the United States during the COVID-19 pandemic.⁴¹ In a 2018 McKinsey Global Institute report, researchers found that smart technologies in cities could improve certain quality-of-life indicators by 10 to 30 percent from the time they are introduced via improved chronic disease treatment, more advanced data and analytics to identify risk groups and target interventions, and new engagement methods with patients. If cities deployed 16 smart health applications to the fullest extent, they would have the potential to lower the disease

burden (measured in disability-adjusted life years [DALYs]) by 8 to 15 percent.⁴²

Example: Ahmedabad's Heat Action Plan and Cool Roofs

A one-week long heatwave in Ahmedabad in May 2010 caused temperatures to surpass 46°C.⁴³ This caused an estimated 1,300 excess heat-related deaths, with the greatest impacts recorded among vulnerable populations. In response, Ahmedabad's government developed South Asia's first Heat Action Plan in 2013, which had three components⁴⁴: an emphasis on increased public awareness, through billboards, digital marketing, and partnerships with local organizations; the development of an early warning system, with a seven-day heatwave forecast and plans to mobilize first responders, media agencies, and community groups; and improved health worker training to recognize and treat heat-related illness. Ahmedabad has continued to refine its approach, including the addition of physical infrastructure. In 2017, the city piloted a program to install 'cool roofs,' – coatings for roofs that can keep indoor temperatures 2 to 5 degrees lower. This initiative was then scaled in 2020 to 1,000 government buildings and 15,000 roofs in lower-income housing areas, the latter targeting those communities hardest hit by heatwaves.⁴⁵

This Heat Action Plan contributed to the prevention of deaths both during and outside of heatwaves, with an estimated 1,190 lives saved per year.⁴⁶ In 2015, another extreme heatwave occurred, with fewer than 20 fatalities.⁴⁷

41 Early and Hernandez 2021

42 McKinsey Global Institute 2018

43 Bhalla 2015

44 Ahmedabad Municipal Corporation 2019

45 The Hindu Business Line 2022

46 Hess et al. 2018

47 C40 Knowledge Hub 2019



Example: London's Cycling Action Plan

Since the 2012 Olympics, London has placed significant emphasis at the municipal level on building its cycling network. In 2013, then-mayor Boris Johnson published his Mayor's Vision for Cycling in London, which outlined a plan for the future of cycling in the city.⁴⁸ Johnson's successor, Sadiq Khan, sketched a similar initiative in his recent election manifestos.⁴⁹ Over the past decade, the city has seen a significant growth in cycling infrastructure. Since implementation of the city's first Cycling Action Plan in 2018, London has added more than 340 km to its cycle network, doubling the network's size in five years.⁵⁰ Cycling volumes have also increased, in part due to the rise of cycling as a means of transport during the COVID-19 pandemic. Between 2019 and 2022, cycling increased by 13 percent across the London cycling network.⁵¹ These changes to road and cycling infrastructure have also led to improved health outcomes. In the London neighborhood of Waltham Forest, low-traffic areas demonstrated a three-fold decrease in road traffic injuries between 2012 and 2019, compared with other neighborhoods.⁵² Air quality in areas with fewer motor vehicles has also improved. For example, 2021 measurements found a 3 percent reduction in nitrogen dioxide levels in the Waltham Forest low-traffic neighborhood compared with a 2018 baseline.⁵³

Lever 3: Cross-Sector Mobilization

Outside of government policies and regulation, the mobilization of the private sector and civil society is integral to driving action in health. The private sector is one of the main actors that residents engage with on a day-to-day basis as both employees and as consumers of goods and services. In that sense the private sector influences directly how people eat, move, socialize, work, and how they live. Private sector organizations can bring a lot to the table. They can drive thought leadership, share technical expertise and data, commit resources (time, money and people), and be an engine for deployment of interventions. Non-profit organizations are also vital to health, as they often address health challenges and crises directly, advocate, advance research, and partner with residents and other stakeholders. Finally, residents are integral to healthy cities. Their engagement is critical to design and shape a city's health strategy, providing local input to adapt interventions to local needs and to foster a sense of ownership within the community.

Example: New York City's public-private partnership for food security

Access to healthy food is a prominent issue for the people of New York City. In 2009, 10 percent of residents lived in food deserts, areas with limited access to stores offering healthy food choices.⁵⁴ Strong disparities also existed for food insecurity, with areas of Harlem having fewer supermarkets and

48 Greater London Authority 2013

49 Khan 2021

50 Transport for London 2023

51 Ibidem

52 Lavery et al. 2020

53 Waltham Forest 2023

54 New York Times Editorial 2009; New York State Department of Health 2009

Section 3

bodegas stocking healthy food than markets in other areas of the city, and having higher obesity rates than the city average.⁵⁵ In 2013, the NGO Wholesome Wave aimed to tackle this disparity by working with the Laurie M Tisch Foundation and NYC government to build a public-private partnership to deliver produce prescription programs.⁵⁶ In these programs, hospitals identified obese and overweight children and doctors held monthly meetings with their families to draw up dietary plans. The doctors also handed out produce prescription vouchers, with \$1 per family member, per day, to redeem at participating farmers' markets.⁵⁷ Over time, these produce prescription programs were refined to better suit residents. In 2019, the government improved ease of access by partnering with pharmacies to issue prescriptions.⁵⁸ In 2022, the programs piloted home delivery of fresh food produce.⁵⁹ The effects of these interventions have been substantial, with 40 percent of children lowering their BMI after four months and 71 percent of households having enough of the foods they want to eat, compared to 29 percent before participating in the program.⁶⁰

Example: Cambridge (United Kingdom)'s Time Credits Program

The town of Wisbech in Cambridgeshire faces worse health outcomes than the rest of its county. Deprivation and obesity rates are high, and life expectancy is lower than in other areas of Cambridge and the United Kingdom.⁶¹ Further research showed the importance of underlying social determinants, such as social isolation and a lack of exercise, in influencing these health inequalities.⁶² To address these issues, Cambridge's government partnered with the NGO Spice in 2013 to implement a Time Credits Program⁶³ – an initiative in which individuals could volunteer at one of 16 organizations to engage in activities such as gardening, reading with children, or picking up litter, and earn 'Time Credits' to spend on such social activities as swimming pools and watching films at the cinema.⁶⁴ With this initial pilot proving successful, efforts were quickly scaled across Cambridgeshire, including in the city of Cambridge⁶⁵, with opportunities such as organizing social events for the elderly and volunteering at nature reserves. The program has been sustainable and continues to run today. The effects on volunteers' social, physical and mental health have been significant: in 2022, 97 percent of participants felt less isolated, 84 percent reported better mental health, and 75 percent reported better physical health.⁶⁶

55 Segal 2010

56 Wholesome Wave 2014

57 Ibidem

58 NYC Health 2019

59 NYC Health + Hospitals 2022

60 NYC Health + Hospitals 2014

61 Burgess 2017

62 Cambridge Centre for Housing & Planning Research 2017

63 Ibidem

64 Burgess 2017

65 Ibidem

66 Tempo 2022



Lever 4: Cross-Departmental Policies and Regulations

Government policies and regulations are integral to the provision of healthcare and the health and wellbeing of any population. Cities are playing a growing role in health policy leadership, implementing specific initiatives, such as health worker upskilling, that tackle relevant health issues at a local level.⁶⁷ Policies across different departments and municipal bodies will also have direct and indirect effects on health, and city stakeholders could consider them when developing a holistic health approach. For example, clean air standards and policies on vehicle use (such as the London Ultra Low Emission Zone) directly affect air quality in a city.⁶⁸ Making the consumption of certain products such as alcohol, tobacco, fast foods, or sugar more expensive has lowered use of these products. At its core, the public sector is responsible for setting norms around health and wellbeing, not least in its role as employers. City or municipal governments are no exception and can play an important role in influencing residents' health and wellbeing through locally tailored policies.

Example: Amsterdam's Healthy Weight Approach

Cities can sometimes experience health problems more acutely than the rest of the country. For example, Amsterdam had a child obesity rate of 21 percent in 2013, compared with 15 percent nationally.⁶⁹ The Amsterdam Healthy Weight Approach (AAGG) was launched that year to address this disparity by implementing a systems-level approach with multiple interventions. The AAGG prevents obesity by screening infants at risk of it, implementing healthy corner stores, curtailing junk food marketing and subsidizing sports clubs.⁷⁰ For those who are obese, the city provides tailored nutrition and exercise plans from child health nurses⁷¹, alongside regular check-ins from a volunteer buddy network.⁷² Child obesity rates are often worse in immigrant communities⁷³, so the AAGG has also focused resources in those areas.⁷⁴ The impact has been sizeable, with the prevalence of overweight and obese children falling by 2.5 percentage points between 2012-2015. In real terms, this improvement means 2,500 fewer children⁷⁵ with obesity and an estimated 800 DALYs saved per year.⁷⁶

67 Naylor and Buck 2018

68 Greater London Authority 2023

69 Obesity Policy Research Unit 2017

70 Ibidem

71 Ibidem

72 Hurst 2018

73 Royal Society for Public Health 2019

74 Ibidem

75 Obesity Policy Research Unit 2017

76 MHI calculations, based on IHME data. Statista 2023; Statistics Netherlands 2023; Statista 2023



In Amsterdam we are trying to change the environment so that healthy living becomes the easier option: better cycling lanes, play areas, getting unhealthy food out of schools and sporting facilities, and so on.



Advisor, Public Health Service of Amsterdam⁷⁷

Example: Seoul's Age Friendly Initiative

South Korea has one of the fastest aging societies globally, with the proportion of seniors projected to grow from some 7 percent of the total population in 2000 to 20 percent in 2027.⁷⁸ While Seoul is aging slightly more slowly, it is still expected to become a “super aged society” (in which seniors make up more than 20 percent of the population) by 2027, with almost 2 million senior residents.⁷⁹ With a rapid shift away from intergenerational housing to nuclear households and increasing ratios of single seniors, more older Koreans are living alone and experience feelings of isolation. However, when polled, senior residents in Seoul wanted to participate more: while only 14 percent spent time volunteering, 42 percent wanted to volunteer, with more than half of younger seniors expressing the sentiment. In 2012, Seoul implemented its first Comprehensive Plan for Seniors Citizens, which included the creation of and support for senior community organizations, a skills-matching volunteer program, and the establishment and support of senior clubs and cultural programs. This plan included upgrades to the built environment, promotion and accommodations to encourage use of senior centers, and inclusion of seniors on a policy board building new initiatives within Age Friendly Seoul. Building on its 2012 Plan, Seoul published its Aging Society Master Plan in 2020, which sets ‘the realization of an age-friendly city’ as its main policy goal.⁸⁰ Seoul became the first Korean city to join the WHO’s Global Network of Age-Friendly Cities & Communities (GNAFCC) in 2013.⁸¹

77 Bernard van Leer Foundation 2018

78 Age Friendly Seoul 2016

79 Ibidem

80 Ibidem

81 World Health Organization Age-friendly World 2023

“

[At] our welfare center (established by the program), 400 to 500 members use the restaurant, and almost 1,000 people are attending the classes. It's improved everyday. There are more elderly people who come out to mingle and connect than ever.

”

Age Friendly Seoul program participant⁸²





Cities have the potential to add an extra 25 billion years of healthier life – approximately five years per person in urban areas – by addressing health challenges, directly and indirectly.

Many cities – regardless of their municipal governance structure – are recognizing their power as change agents for health, organizing, and sharing lessons with other urban centers travelling on similar paths.

As part of its commitment to help people live longer and healthier lives, MHI is taking action to advance health in cities by partnering with city-level, national, and global stakeholders. As a non-profit generating entity, MHI aspires to help advance health on the ground in selected cities across continents to then share findings, innovation, resources, and data in the public domain. The aim is to enable others to replicate what proves effective.

The prize is huge. Depending on where they stand, all cities have an opportunity to initiate or accelerate journeys toward better health for their populations. Together, we can aspire, mobilize, and leverage the full potential of cities to unlock billions of additional healthy years of life.



Expert Interview: Jane Halton

Comments and opinions expressed by interviewees are their own and do not represent or reflect the opinions, policies, or positions of McKinsey & Company or have its endorsement.

In an exclusive interview, MHI spoke with Jane Halton (Chair of Council of the Ageing Australia, former Secretary of the Department of Health and Ageing of Australia) about the role of cities in improving health outcomes. A summary of the interview is below.

How can cities influence health? What are some of the most pressing urban health issues that you see?

Access to clean water, good food, and opportunities to exercise and improve one's health are all critical. City design and the way cities work and operate will influence all of them. And importantly, all of this has little to do with the health system.

At the same time, we also know that the most pressing urban health issues vary significantly across the world. In some places, the issues of pollution, air quality, and access to clean water are most important. In many other cities, those are not the priorities. There is a general theme that your environment shouldn't be bad for you. If your environment is not bad, then by definition it enhances your health.

What can cities do to improve health?

A city should be making the healthy choice the easy choice and more economically accessible. We all know the stories of active transport in Amsterdam and Nordics. The systems that support that (e.g., bike lanes, bike racks etc.) facilitate people making those choices. It's easy, more economical, and you get the additional health benefit.

Particularly for older people, the concept of active engagement in cities is really important. A significant issue among older people is loneliness and disengagement. Cities can provide active leisure opportunities and promote positive values around anti-ageism. We know that older people want to stay engaged and relevant, and they want to continue to learn and be of value for the community. People who are actively engaged and feel like they have a purpose are well for longer, and less likely to need formal care for a longer period.

Who are the actors in cities that can influence health?

There are multiple actors that can influence health in cities. In each city, their roles and responsibilities may be different. First, there are city governments. In some cities (particularly city-states), they will be responsible for health provision. In others, they will be primarily responsible for other day-to-day elements like rubbish collection and transport. These influence the social determinants of health and are absolutely material for health outcomes. For a city planner or leader, everything you do will have a health lens if you ask, "is it good for people?"

Then, there are people with a technical responsibility for city design, points of inclusion, and supply chains. For example, if you're reorganizing a market or a supply chain, you should build in health and accessibility into the planning and discussion.

Finally, if you're a business or a non-profit or a community group, you should be conscious of the impact of what you do. Accounting for health is like accounting for climate or nature conservancy in corporate social responsibility. If you have choices, make the one that has a better outcome for health.

Actors should do what they can to make the healthy choice the easy choice. That's the point. It doesn't matter what governance structure you have, or where you are located, you can make healthy choices.





Expert Interview: Helen Pineo

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In an exclusive interview, MHI spoke with Helen Pineo (an urban planner and Research Associate Professor in the Department of Urban Design and Planning at the University of Washington, and an Honorary Associate Professor at University College London) about initiatives that city stakeholders can pursue to promote health for local residents. Dr. Pineo's research focuses on how development, regeneration and urban policy can support health and sustainability. A summary of the interview is below.

Q: What are examples of initiatives that cities could implement to promote healthy aging?

A: Broadly, there needs to be focus on initiatives that foster social connection and everyday encounters. For example, older people may feel unsafe on the streets due to traffic or crime. Adding streetlights, benches, and wider sidewalks and crossings can enable people to leave their homes more often, thereby increasing chance interactions and fostering sense of community and connection. I've seen some great examples of shared streets, pedestrian art installations, and programming that encourages people to gather in the community. This is key to helping the older population stay active, feel safe, and feel comfortable.

Q: Similarly, what can cities do about increased climate risk?

A: Cities are facing many impacts from climate change that affect health and wellbeing. Overheating in cities is especially relevant for the aging population who have greater social isolation, particularly as summer in the northern hemisphere becomes hotter. There are initiatives to tackle this problem that are also low-cost, such as notifying the public about the location of buildings with air conditioning that are open for free use. Going beyond a simple map of 'cooling centers', cities could work with partners to provide activities in those buildings that would have a wider social impact. Initiatives related to education and community support can also be short-term and seasonal, but there seem to be a lot of missed opportunities here. Many residents may not know how to manage their homes to reduce their exposure to heat. It's important that we increase the conversations we have around this issue.

Q: And how about mental health?

A: Reducing gaps in programming in shared spaces like leisure centers would be one intervention that could support mental health and wellbeing for many people in a community. Another would be further emphasis on general practitioners (GPs) and shared public services units as a "one stop shop" where people can go to. NHS England's Healthy New Towns program produced guidance on this concept. One example from a new development in Oxford, called Barton Park, involved funding for a community health development officer and improvements to a neighborhood center. The center includes a GP, a community larder, and a library, and also offers cooking classes and physical activities.

In general, we underestimate the impact of safe and affordable housing on health and wellbeing. There are housing shortages across cities around the world. People are being priced out and have to commute long distances, which means poor sleep, less family life, and higher fatigue. Increasing affordable housing is an important intervention for health.

Q: What should cities keep in mind as they implement interventions to improve health?

A: Any interventions would need to be locally specific and relevant to the city. Built environment interventions are often under-appreciated by those working in the health sector. For example, if social isolation and loneliness are a city's priorities, they could consider built environment interventions that encourage people to use public spaces. It is also important to consider what sort of assets already exist that you could build on.

The challenge is finding those interventions that have the potential for transformative change and impact. Usually these are more expensive – not always – but that can be a challenge. For healthy aging and mental health interventions, there are social infrastructure initiatives that don't have to be too expensive, such as those which make use of existing places, with added activities that are led by community groups and volunteers.

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References

Age Friendly Seoul. 2016. "Introduction of the Current Status of the City of Seoul." Accessed December 15, 2023. <https://afc.welfare.seoul.kr/afc/eng/about/seoul.action>

Age Friendly Seoul. 2016. "Progress of Seoul's Join." Accessed December 15, 2023. <https://afc.welfare.seoul.kr/afc/eng/about/progress.action>

Ahmedabad Municipal Corporation. 2019. "Ahmedabad Heat Action Plan." Accessed December 15, 2023. <https://www.nrdc.org/sites/default/files/ahmedabad-heat-action-plan-2018.pdf>

Bernard van Leer Foundation. 2018. "Supporting parents to keep their children's weight healthy: An interview with Linda Leijdekker." Last modified February 15, 2018. <https://bernardvanleer.org/blog/supporting-parents-to-keep-their-childrens-weight-healthy-an-interview-with-linda-leijdekker/>

Bhalla, Nita. 2015. "Ahmedabad offers way to beat the heat as 1,786 killed in heat wave." Reuters. Last modified May 29, 2015. <https://www.reuters.com/article/india-heatwave-disasters-idINKBN00D2GT20150528/>

Buccholz, Katharina. "Is 100 the New 80?: Centenarians Are Becoming More Common." Last modified February 5, 2021. <https://www.statista.com/chart/18826/number-of-hundred-year-olds-centenarians-worldwide/>. Figure is calculated by dividing the number of centenarians in 2020 (573,423) by the number of centenarians in 1960 (20,119)

Burgess, Gemma. 2017. "What is the Potential for Community Currencies to Deliver Positive Public Health Outcomes? Case Study of Time Credits in Wisbech, Cambridgeshire, UK." *International journal of community currency research*. 21(2):19-32. <https://doi.org/10.15133/j.ijccr.2017.006>

C40 Knowledge Hub. 2019. "Ahmedabad Heat Action Plan 2019." Last modified April 2019. https://www.c40knowledgehub.org/s/article/Ahmedabad-Heat-Action-Plan-2019?language=en_US

Cambridge Centre for Housing & Planning Research. 2017. "Evaluating the Public Health Outcomes of the Cambridgeshire Time Credits Project." Last modified June 2017. https://www.cchpr.landecon.cam.ac.uk/system/files/documents/Interim-Report_3.pdf

Chang, Angela Y, Vegard F Skirbekk, Stefanos Tyrovolas, Nicholas J Kassebaum, and Joseph L Dieleman. 2019. "Measuring population ageing: an analysis of the Global Burden of Disease Study 2017." *Lancet Public Health* 4: 159-67. [https://doi.org/10.1016/S2468-2667\(19\)30019-2](https://doi.org/10.1016/S2468-2667(19)30019-2)

Coe, Erica, Martin Dewhurst, Lars Hartenstein, Anna Hextall, and Tom Latkovic. "Adding years to life and life to years." McKinsey Health Institute. Last modified March 29, 2022. <https://www.mckinsey.com/mhi/our-insights/adding-years-to-life-and-life-to-years>

Das, A., K.P. Padala, C.G. Crawford, A. Teo, D.M. Mendez, O.A. Phillips, B.C. Wright, S. House and P.R. Padala. 2021. "A systematic review of loneliness and social isolation scales used in epidemics and pandemics." *Psychiatry research*, 306. <https://doi.org/10.1016/j.psychres.2021.114217>

Desmouceaux, Clément, Martin Dewhurst, Daphné Maurel, and Lorenzo Pautasso. "In sickness and in health: How health is perceived around the world." McKinsey Health Institute. Last modified July 21, 2022. <https://www.mckinsey.com/mhi/our-insights/in-sickness-and-in-health-how-health-is-perceived-around-the-world>

Early, Jody and Alyssa Hernandez. 2021. "Digital Disenfranchisement and COVID-19: Broadband Internet Access as a Social Determinant of Health." *Health Promotion Practice*. 22(5):605-610. <https://doi.org/10.1177/15248399211014490>

Greater London Authority. 2013. "The Mayor's Vision for Cycling in London - An Olympic Legacy for all Londoners." Last modified March 2013. <https://content.tfl.gov.uk/gla-mayors-cycle-vision-2013.pdf>

Greater London Authority. n.d. "The Ultra Low Emission Zone (ULEZ) for London." Accessed December 15, 2023. <https://www.london.gov.uk/programmes-strategies/environment-and-climate-change/pollution-and-air-quality/ultra-low-emission-zone-ulez-london>

Gruebner, O., M.A. Rapp, M. Adli, U. Kluge, S. Galea, and A. Heinz. 2017. "Cities and Mental Health." *Deutsches Arzteblatt international*, 114(8): 121-127. <https://doi.org/10.3238/arztebl.2017.0121>

Hartenstein, Lars and Tom Latkovic. "The secret to great health? Escaping the healthcare matrix." McKinsey Health Institute. Last modified December 20, 2022. <https://www.mckinsey.com/mhi/our-insights/the-secret-to-great-health-escaping-the-healthcare-matrix>

Health Hub Singapore. n.d. "HPB Rewards Programme." Accessed December 15, 2023. <https://www.healthhub.sg/programmes/healthhub-rewards#home>

Health Hub Singapore. n.d. "National Steps Challenge." Accessed December 15, 2023. <https://www.healthhub.sg/programmes/nsc/corporate-challenge>

Health Promotion Board. 2016. "First Nation-Wide Steps Movement Of An Unprecedented Scale Extended Into Secondary Schools And Junior Colleges." Last modified February 19, 2016. <https://www.hpb.gov.sg/newsroom/article/first-nation-wide-steps-movement-of-an-unprecedented-scale-extended-into-secondary-schools-and-junior-colleges>

Health Promotion Board. 2017. "National Steps Challenge™ Season Two." Accessed December 15, 2023. <https://hpb.gov.sg/newsroom/article/national-steps-challenge-season-two>

Healthy Workplace Ecosystem. n.d. "Step It Up July!" Accessed December 15, 2023. <https://www.team-axis.com/step-it-up-july-sweatitoutwiththestars>

Hess, Jeremy J., Sathish LM, Kim Knowlton, Shubhayu Saha, Priya Dutta, Parthasarathi Ganguly, Abhiyant Tiwari, Anjali Jaiswal, Perry Sheffield, Jayanta Sarkar, S. C. Bhan, Amit Begda, Tejas Shah, Bhavin Solanki, and Dileep Mavalankar. 2018. "Building Resilience to Climate Change: Pilot Evaluation of the Impact of India's First Heat Action Plan on All-Cause Mortality." *Journal of Environmental and Public Health*. <https://doi.org/10.1155/2018/7973519>

Hurst, Dominic. 2018. "How Amsterdam is reducing childhood obesity." BBC News. Last modified April 2, 2018. <https://www.bbc.com/news/health-43113760>

IHME. 2023. "Global Burden of Disease Study 2019." Last modified March 3, 2023. <https://ghdx.healthdata.org/record/ihme-data/gbd-2019-population-estimates-1950-2019>

- Khan, Sadiq. 2021. "Sadiq for London 2021." Accessed December 15, 2023. <https://sadiq.london/wp-content/uploads/2021/04/Sadiq-for-London-Manifesto-.pdf>
- Laverty, Anthony, Rachel Aldred, and Anna Goodman. 2020. "The Impact of Introducing Low Traffic Neighbourhoods on Road Traffic Injuries." SocArXiv. December 18. <https://doi:10.31235/osf.io/46p3w>
- Lay, Belmont and Karen Lui. 2021. "S'pore new Sleep Challenge to get people to sleep 7 hours a day, earn up to S\$30 e-vouchers." Last modified September 13, 2021. <https://mothership.sg/2021/09/sleep-challenge-hpb/>
- Malik, Vasanti S., Yanping Li, An Pan, Lawrence De Koning, Eva Schernhammer, Walter C. Willett and Frank B. Hu. 2019. "Long-Term Consumption of Sugar-Sweetened and Artificially Sweetened Beverages and Risk of Mortality in US Adults." *Circulation* 139, 18: 2113-2125. <https://doi.org/10.1161/CIRCULATIONAHA.118.037401>
- McKinsey Global Institute. 2018. "Smart Cities: Digital Solutions for a More Livable Future." Last modified June 2018. <https://www.mckinsey.com/~media/mckinsey/business%20functions/operations/our%20insights/smart%20cities%20digital%20solutions%20for%20a%20more%20livable%20future/mgi-smart-cities-full-report.pdf>
- McKinsey Global Institute. 2022. "A divided paid in years: Getting more health from each dollar of income." Last modified December 7, 2022. <https://www.mckinsey.com/mgi/our-research/Pixels-of-progress-chapter-3>
- McKinsey Health Institute. 2022. "Addressing employee burnout: Are you solving the right problem?" Last modified May 27, 2022. <https://www.mckinsey.com/mhi/our-insights/addressing-employee-burnout-are-you-solving-the-right-problem>
- McKinsey Health Institute. 2022. "Aging with purpose: Why meaningful engagement with society matters." Last modified October 23, 2023. <https://www.mckinsey.com/mhi/our-insights/aging-with-purpose-why-meaningful-engagement-with-society-matters>
- Naylor, Chris and David Buck. 2018. "The role of cities in improving population health." Last modified June 15, 2018. <https://www.kingsfund.org.uk/publications/cities-population-health>
- New York State Department of Health. 2009. "Table 2: Population, Land Area, and Population Density by County, New York State – 2009." Last modified September 2010. https://www.health.ny.gov/statistics/vital_statistics/2009/table02.htm. Calculation based off figures from both pages.
- New York Times Editorial. 2009. "Fresh Food for Urban Deserts." *New York Times*, March 20, 2009. <https://www.nytimes.com/2009/03/21/opinion/21sat4.html?scp=3&sq=food%20deserts&st=cse>
- NYC Health + Hospitals. 2014. "Doctors at HHC Elmhurst and Bellevue Hospitals Write Fruit & Vegetable "Prescriptions" for Vulnerable Children and their Families." Last modified October 16, 2014. <https://www.nychealthandhospitals.org/pressrelease/doctors-at-hhc-elmhurst-and-bellevue-hospitals-write-fruit-vegetable-prescriptions-for-vulnerable-children-and-their-families/>
- NYC Health + Hospitals. 2022. "NYC Health + Hospitals Launches Produce Prescription Program Study To Improve the Health of Children With Overweight and Obesity." Last modified June 2, 2022. <https://www.nychealthandhospitals.org/pressrelease/health-system-launches-produce-prescription-program-study/>
- NYC Health. 2019. "Pharmacies Partner With Health Department to "Prescribe" Fruits and Vegetables to Low-income New Yorkers With High Blood Pressure." Last modified July 17, 2019. <https://www.nyc.gov/site/doh/about/press/pr2019/pharmacy-to-farm.page#:~:text=July%2017%2C%202019%20%E2%80%94%20The%20Health,prescription%E2%80%9D%20for%20fruits%20and%20vegetables.>
- Obesity Policy Research Unit. 2017. "What can be learned from the Amsterdam Healthy Weight programme to inform the policy response to obesity in England?" Last modified December 18, 2017. <https://www.ucl.ac.uk/obesity-policy-research-unit/sites/obesity-policy-research-unit/files/what-learned-from-amsterdam-healthy-weight-programme-inform-policy-response-obesity-england.pdf>
- OECD Centres. 2004. "Health Spending in Most OECD Countries Rises, with the U.S. far Outstripping all Others." Last modified June 3, 2004. [https://one.oecd.org/document/PAC/COM/NEWS\(2004\)19/en/pdf](https://one.oecd.org/document/PAC/COM/NEWS(2004)19/en/pdf)
- Open Access Government. "WHO says governments spend only 2% of budget on mental health." Last modified March 3, 2022. <https://www.openaccessgovernment.org/who-budget-on-mental-health/130792/>
- Reimers, C. D., G. Knapp, and A.K. Reimers. 2012. "Does physical activity increase life expectancy? A review of the literature." *Journal of aging research*. <https://doi.org/10.1155/2012/243958>
- Royal Society for Public Health. 2019. "Guest blog: What The Netherlands can teach us about obesity."

Last modified November 13, 2019. <https://www.rsph.org.uk/about-us/news/guest-blog-what-the-netherlands-can-teach-us-about-obesity.html>

Segal, Adi. 2010. "Food Deserts: A Global Crisis in New York City. Causes, Impacts and Solutions." *Consilience*, 3:197-214. <https://www.jstor.org/stable/26167795>

Seoul Welfare Foundation. 2015. "Final evaluation." Access December 15, 2023. https://afc.welfare.seoul.kr/files/Seoul,2015_AFC_1th_Final_evaluation.compressed.pdf

Smart Nation Singapore. n.d. "National Steps Challenge™ & Healthy 365 App." Accessed December 15, 2023. <https://www.smartnation.gov.sg/initiatives/health/national-steps-challenge/>

Statista. 2022. "Singapore: Total population from 1980 to 2022 with projections until 2028." Last modified November 23, 2023. <https://www.statista.com/statistics/378558/total-population-of-singapore/>

Statista. 2023. "Population of Amsterdam in 2023, by age." Last modified September 6, 2023. <https://www.statista.com/statistics/1279565/amsterdam-population-by-age/>

Statista. 2023. "Share of the adult population overweight or obese in the Netherlands 2001-2021." Last modified March 9, 2023. <https://www.statista.com/statistics/544067/sahre-of-the-adult-population-with-overweight-in-the-netherlands/>

Statistics Netherlands. 2023. "Population counter." Last modified December 18, 2023. <https://www.cbs.nl/en-gb/visualisations/dashboard-population/population-counter>

Tempo. 2022. "Cambridge Impact Report PowerPoint Presentation." Accessed December 15, 2023. <https://wearetempo.org/project/impact2021-22/>

The Drum. 2017. "Health Promotion Board's National Steps Challenge Season 3 by Publicis Groupe." Last modified December 2017. <https://www.thedrum.com/creative-works/project/publicis-groupe-health-promotion-boards-national-steps-challenge-season-3>

The Hindu Business Line. 2022. "How Ahmedabad tackled its heat waves and saved 1,000 lives a year." Last modified February 25, 2022. <https://www.thehindubusinessline.com/news/science/how-ahmedabad-tackled-its-heat-waves-and-saved-1000-lives-a-year/article65083634.ece#:~:text=Cool%20roofs%20programme&text=Building%20on%20the%20back%20of,households%20and%20local%20government%20buildings>

The World Bank. 2021. "Life expectancy at birth, total (years)." Last modified 2021. <https://data.worldbank.org/indicator/SP.DYN.LE00.IN>

Transport for London. 2023. "Cycling action plan 2." Last modified June 15, 2023. <https://content.tfl.gov.uk/cycling-action-plan.pdf>

UN Habitat. 2022. "Envisaging the Future of Cities: United Nations World Cities Report." https://unhabitat.org/sites/default/files/2022/06/wcr_2022.pdf

Urban Institute. 2022. "State and Local Backgrounders: Health and Hospital Expenditures." <https://www.urban.org/policy-centers/cross-center-initiatives/state-and-local-finance-initiative/state-and-local-backgrounders/health-and-hospital-expenditures>

Waltham Forest. n.d. "Low traffic neighbourhoods in South Leytonstone, Maryland and Forest Gate." Accessed December 15, 2023. <https://enjoywalthamforest.co.uk/work-in-your-area/ltns/>

Wholesome Wave. 2014. "Wholesome Wave's Fruit and Vegetable Prescription Program New York City, 2013 Outcomes." Accessed December 15, 2023. https://www.nyhealthandhospitals.org/wp-content/uploads/2014/10/FVRx-2013_HHC_Report-1.pdf

World Health Organization Age-friendly World. n.d. "Seoul." Accessed December 15, 2023. <https://extranet.who.int/agefriendlyworld/network/seoul/>

World Health Organization Europe. n.d. "WHO European Healthy Cities Network." Accessed December 15, 2023. <https://www.who.int/europe/groups/who-european-healthy-cities-network>

World Health Organization. "Ageing and health." Last modified October 1, 2022. <https://www.who.int/news-room/fact-sheets/detail/ageing-and-health>

World Urban Forum. 2022. "Leave No One and No Place Behind: Addressing Inequalities Within and Between Cities Through SDG Localization." Last modified June 29, 2022. <https://wuf.unhabitat.org/event/leave-no-one-and-no-place-behind-addressing-inequalities-within-and-between-cities-through>

Yao, Jiali, Nicole Lim, Jeremy Tan, Andre Matthias Müller, Rob Martinus van Dam, Cynthia Chen, Chuen Seng Tan and Falk Müller-Riemenschneider. 2022. "Evaluation of a Population-Wide Mobile Health Physical Activity Program in 696 907 Adults in Singapore." *Journal of the American Heart Association*. 2022;11. <https://doi.org/10.1161/JAHA.121.022508>. In line with the article, we define the end of the main Challenge as the period at which rewards are scaled down



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