Singapore

Tiger Economy, Diverse Government Programs, Strong Focus on Continuing Education for the Elderly and AgeTech

Singapore

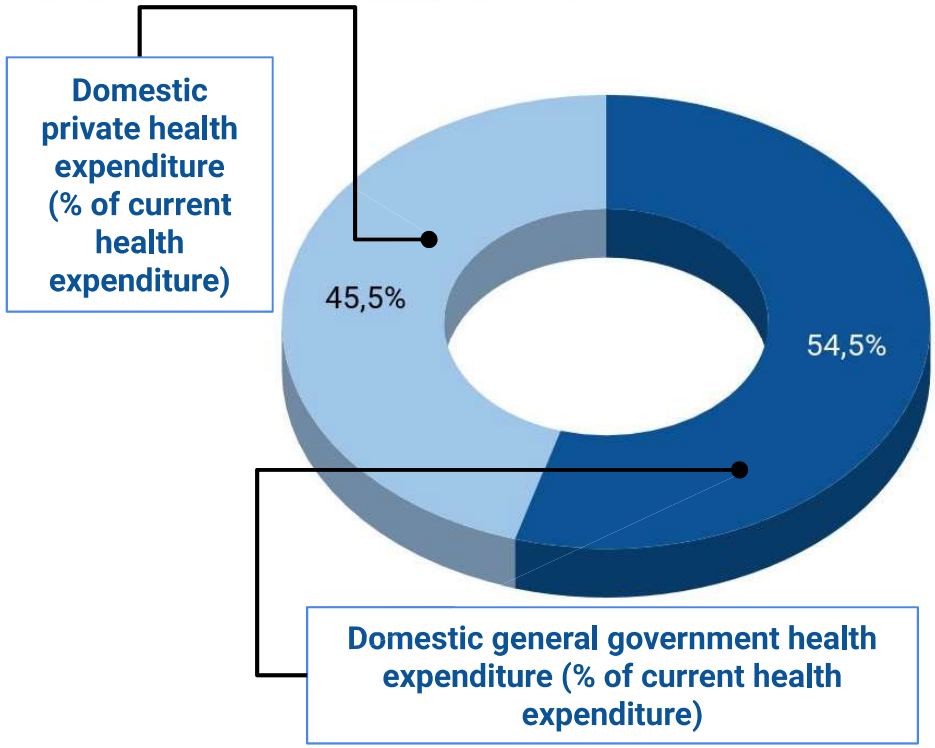
General metrics

HALE	Both Sexes HALE (2016)	76.2 years
	HALE/Life Expectancy Difference 2016	6.7
Economy	GDP per Capita, Current Prices (2016)	56.72 thousand ($)
	Annual GDP Growth (2016)	3 %
Healthcare	Current Health Expenditure per Capita (2016)	2.46 thousand ($)
	Public Health Care Expenditure 2016	4.47 % of GDP
Retirement	Age Dependency Ratio 2016	38
	Population over 65, 2016	12.3 %
	Number of WHO Age Friendly Cities and Communities	1
General Health Status	Alcohol Consumption per Capita (Litres of Pure Alcohol) 2016	2
	Annual Cigarette Consumption (Units per Capita) 2016	851
	Prevalence of Overweight among Adults 2016 (Age-Standardized Estimate)	31.8 % of adults

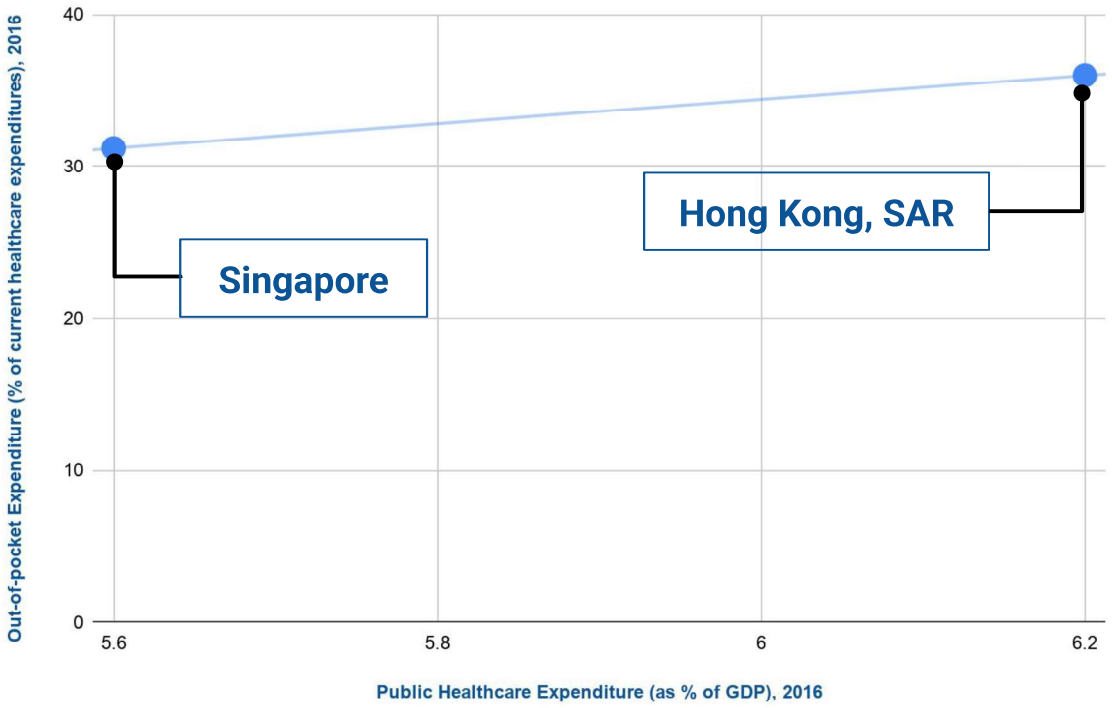
Longevity-Related Indices

- The Healthcare Access and Quality Index -2016: **91**
- Human Development Index 2016: **0.93**
- E-Government Development Index 2016: **0.88**
- Corruption Perceptions Index 2016: **84**
- Global Gender Gap Index 2016: **0.71**
- Democracy Index 2016: **6.38**

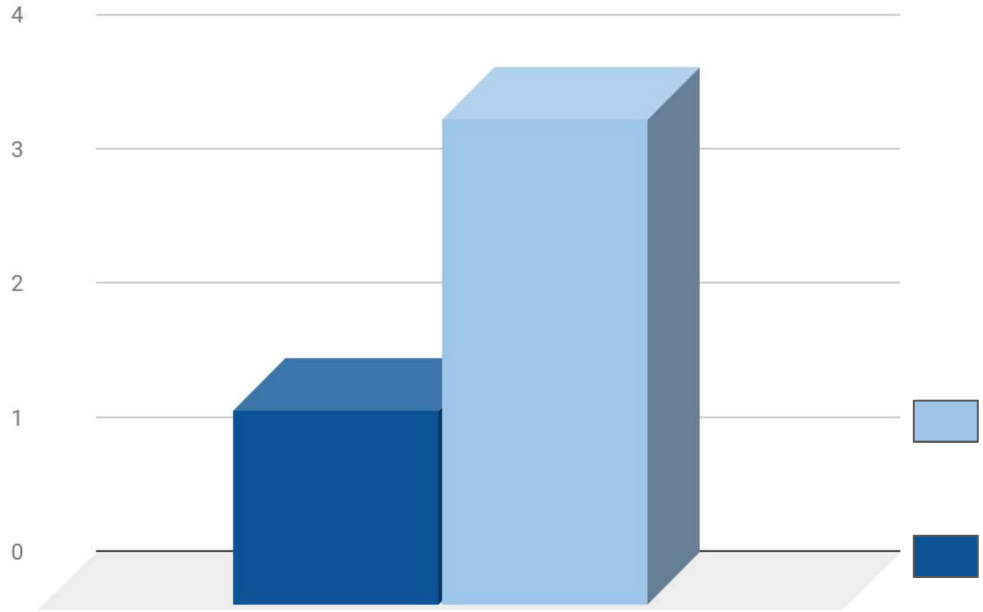
Current Healthcare Expenditure



Countries with high HALE and Life Expectancy and Small Gap



Effectiveness ratios



Chronic disease care is a critical part of a people's health. The patient should be persuaded about exercise, diet and lifestyle change: all important for chronic disease control. Caregivers and patients should be empowered through education, information and communication. Further implementation of eHealth initiatives will lead to the reduction of number of patient visits to hospitals for routine checks, will free up healthcare resources, enabling healthcare staff to better manage their time and focus on priorities.

HALE and Life Expectancy Difference CAGR (6 years)/Current health expenditures per capita (current US$), CAGR (6 years)

HALE CAGR (6 years)/Current health expenditures per capita (current US$), CAGR (6 years)

SWOT Analysis of Healthcare in Singapore

STRENGTHS

- There is a single electronic health record (EHR) in use across the whole country, which makes everything very well-tuned.
- Developed healthcare infrastructure comprises a combination of public 'polyclinics' and hospitals and private medical clinics and hospitals to provide high quality treatment.
- Deliver care to people, focusing on quality, efficiency and cost.
- Developed universal healthcare coverage. Coverage is funded through a combination of government subsidies and private individual savings.

WEAKNESSES

- Healthcare system relies heavily on institutions.
- Certain life-saving procedures result in some of the highest hospital bills that even insurance protection can not fully alleviate.
- Small population size that limits healthcare system potential.
- Despite subsidies long-term care is expensive.
- Out-of-pocket costs make up almost 37% of total healthcare expenditure in Singapore. This figure is almost 3 times as high as the high-income country average and 1.4x higher than the East Asia & Pacific average.

OPPORTUNITIES

- Favorable managing regulations and business environment
- Provision of subsidies to Singaporeans to reduce disparities and obtain treatment at private primary care providers.
- Building a sophisticated national electronic health record system, that collects, reports, and analyzes information to aid in formulation of policy, monitoring of implementation, and sharing of patient records.
- Utilizing their strength in the artificial intelligence industry for meaningful improvements in medical care.

THREATS

- The challenge of funding Singapore's escalating healthcare needs.
- Increasing competition for talent and labor.
- Increasing complexity and costs associated with advancing technology, equipment, treatment and training.
- The trend towards smaller nuclear families.
- Ageing places a great burden on many fronts including health infrastructure, insurance premiums, caregiving professionals and private finances.
- Environmental pollution problems.

Analysis of Strengths and Weaknesses of Health Care System in Singapore

- Singapore gets a lot of attention because of the way it pays for its health care system. What's less noticed is its delivery system. Primary care, which is mostly at low cost, is provided mostly by the private sector.
- Government control applies to public health initiatives. Officials began to worry about diabetes, so they acted. School lunches have been improved. Regulations have been passed to make meals on government properties and events healthier. In Singapore, campaigns have encouraged drinking water, and healthier food choice labels have been mandated.
- Singapore is in forefront of Longevity industry, applying advanced AI opportunities for healthcare and wellness.
- Relatively low level of obesity and decreasing level of overweight among adults. In 2017, 36.2% of Singaporeans aged 18 to 69 are overweight. This is a drop from 2010, when a national survey found 40.1% of adults were overweight.
- The polyclinics is focused on efficiency. They have been designed to process as many patients as quickly as possible.

- There is need to face illnesses that are more typical of this region. In Singapore, about one in five children suffer from asthma. While Singapore itself is not a significant producer of air pollution, neighbouring countries Malaysia and Indonesia still practice slash-and-burn agriculture, as well as intensive logging and heavy industrial manufacturing. This air pollution causes "smog cough", difficulty breathing, respiratory irritation and even asthma.
- Environmental conditions cause negative impact on health-adjusted life expectancy and life expectancy at birth itself. Singapore has high UV levels all year round due to its proximity to the equator, with the UV index (ranging from 0 to extreme levels of 11 and beyond) soaring as high as 9 in some months.
- Singapore has the second-highest proportion of diabetics among developed nations, with one out of nine Singaporeans between 18 and 69 years old being affected by the disease.
- Due to more sedentary lifestyles among Singaporeans, childhood obesity is on the rise.

Summary of Relevant Government-Led Longevity Initiatives in Singapore

The Singapore Government has launched a number of progressive Longevity-related initiatives, including:

- Preventive and active ageing programs that start at the early age of 40.
- The launch of The Silver Academy, a continuing-education program that offers 900 courses, currently with 21,000 students enrolled;
- Barrier-free access for those with restricted mobility;
- Traffic junctions that provide the elderly with more time to cross the street;
- Silver Generation Ambassadors who visit citizens when they turn 65 to determine their needs, and offer referrals to relevant services where necessary;
- Increased funding by the Health Ministry to healthcare infrastructure like hospitals, nursing homes and day care facilities;
- A program that screens five key age-related conditions for $5 or less.

These initiatives are very good first steps toward making Healthy Longevity a major component of their national strategic agenda, but the Government lacks a core focus on financial reform and advanced biomedicine. Despite its efficient, technocracy-driven structure, Singapore currently lacks a coordinated national development plan for Healthy Longevity likely to deliver tangible results.

Timeline of Singapore Government Involvement in Longevity

2007 — **Silver Infocomm Junctions launched by the government agency Infocomm and Media Development Authority.**
Established "a network of community-based digital learning hubs for people aged 50 and older".

2011 — **National Population and Talent Division inaugurated by prime minister.**
National Population and Talent Division run a group called Population.sg that "brings together people with diverse backgrounds to discuss and write about population matters in Singapore…"

2015 — **The National Silver Academy launched.**
A continuing-education program that offers 900 courses, currently with 21,000 students enrolled, organised by the Singaporean Ministry of Health.

2015 — **Modern Ageing incubator, launched.**
To identifying, developing, and scaling up startups that focus on products and services to meet the needs of older adults.

2016 — **The ministerial Committee for Ageing published their Action Plan for Successful Ageing.**
The ministerial committee for ageing had launched the Plan to solve a wide range of issues related to ageing

Singapore

General metrics

Life Expectancy	Both sexes life expectancy (2019)	85.7 years
	Male life expectancy (2018)	80.8 years
	Female life expectancy (2018)	86.1 years
GDP	GDP per capita, current prices (2018)	65.63 thousand ($)
	GDP per capita, PPP (2018)	103.72 thousand ($)
	GDP, current prices (2018)	372.81 billion ($)
Population Ageing	Rate of population ageing	6 (2007-2017)
	Aged over 65 (2018)	18.8%
	Age dependency ratio (2017)	18%
Healthcare Efficiency	Health expenditure (2017)	2.2% of GDP
	Health expenditure per capita (2017)	1.948 thousand ($)
	Healthcare efficiency score (2018)	85.6
Retirement	Total # retired	725 193
	Retired people proportion	13%
	Normal retirement age (Man/Woman)	65 years / 65 years
	Early retirement age (Man/Woman)	62 years / 62 years

Longevity Initiatives

- Age of relevant initiatives: **12 years**
- **15** initiatives focused on non-medical improvement of quality of life
- **1** initiative focused on preventive medicine and healthcare approaches
- **1** initiative involves research or R&D of medicines that directly impact on ageing

Singapore Initiatives Level of Comprehensiveness

Non-Medical Initiatives

Senior Citizen Concession Card

National Innovation Challenge on Active and Confident Ageing Research

National Master Plan on Ageing

Action Plan for Successful Ageing

Continuing Education

Media Development Authority Striving to Improve Elderly Digital Literacy

National Population and Talent Division's SkillsFuture Program

Re-employment of Older Workers Guidance

Financial Reform

Lease Buyback Scheme (LBS)

Medisave

Geroscience R&D

Singapore Parkinson's Disease Translational Clinical Programme

Preventive Medicine

"Advancing Precision Medicine for Cardiovascular Disease and Diabetes in Asian Populations" programe

AgeTech

SHINESeniors Program

Licensing Experimentation and Adaptation Programme

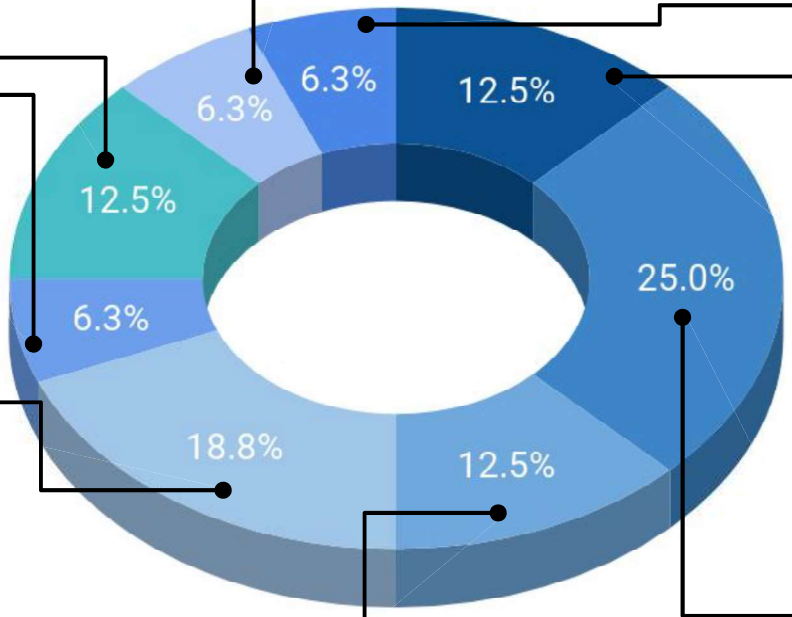
Elderly Healthcare Vouchers

ComCare Long Term Assistance (also known as Public Assistance)

Enhancement for Active Seniors (EASE)

Pioneer Generation Package

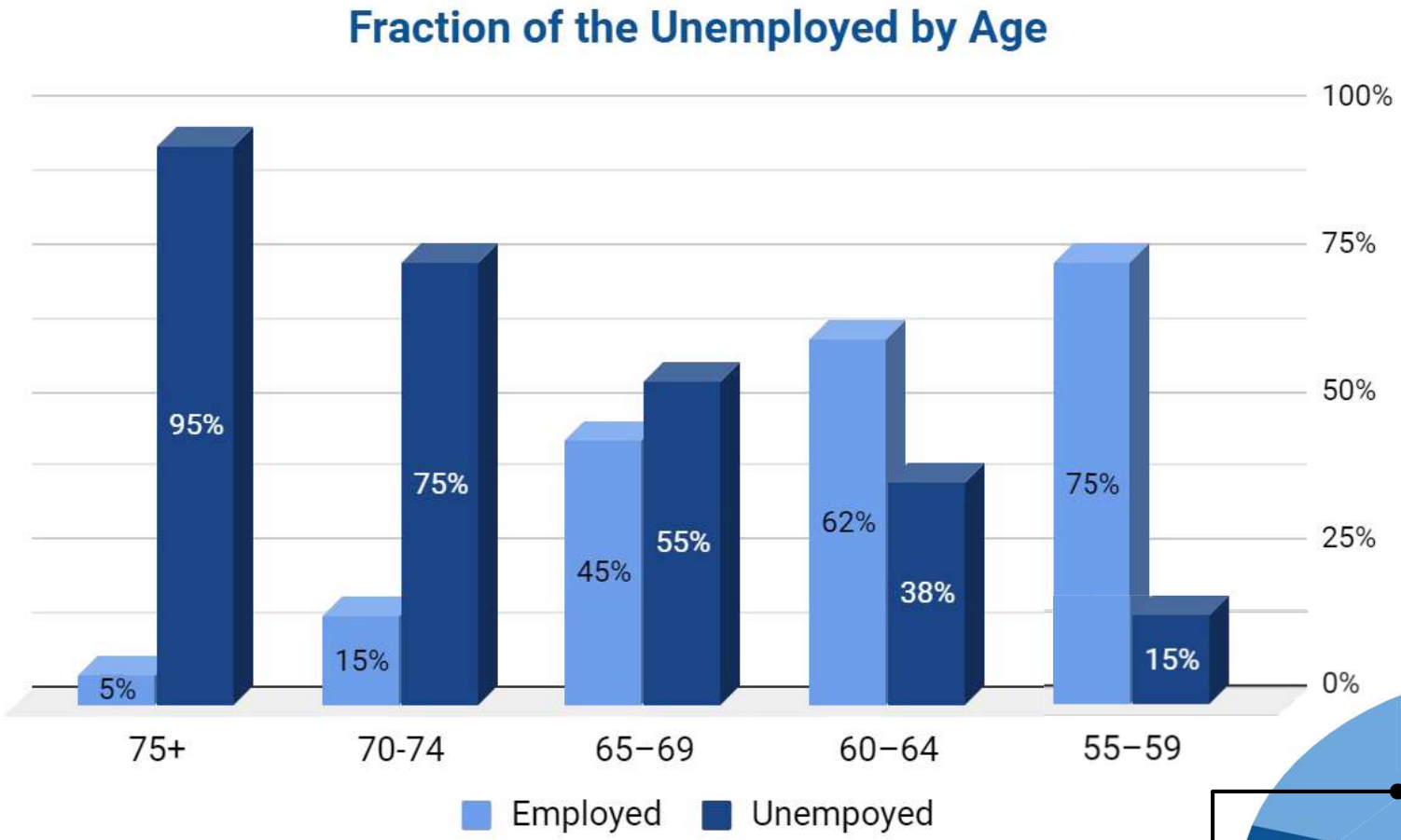
Silver Support Scheme



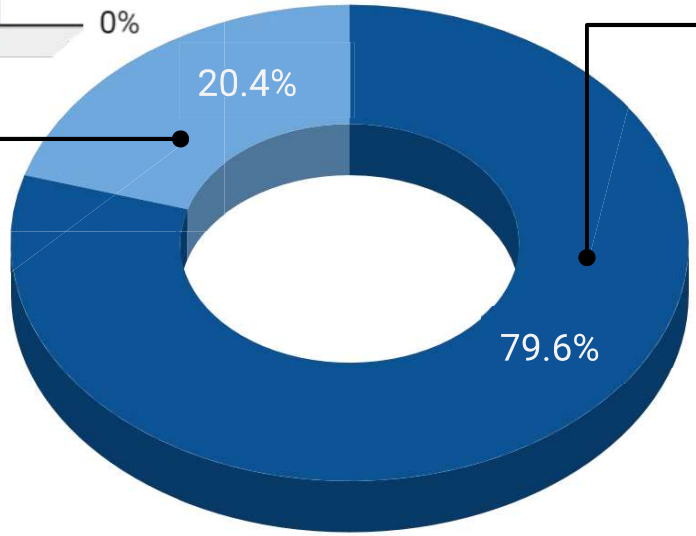
Underrepresented Initiatives

Longevity Industrial Strategy	Healthy Ageing: Lifestyle and Fitness Programs

Singapore Age/Employment Range



Percent of people under 60



Percent of people over 60

Recommendations for Singapore

- **Minimising out-of-pocket medical costs.** Medisave forms only a very small part of total expenditures. The should ensure that basic services remain affordable for everybody.
- **Plan and implement developmentally appropriate programs in school-aged environments, encourage social media responsibility to maintain social network and develop inclusive society for elderly.**
- **Focus on health status of elderly.** Health status is one of the most important indicators of well-being, and it predicts a large proportion of societal expenditures on health and social services for the elderly. It depends on individual lifestyle factors, social and community networks, general socioeconomic. Health status is also reciprocally affected by social and political policies and programs.
- **There is a need to do a better job educating medical students and medical residents on how to adapt to an era of technology-enabled healthcare.**
- **Promote research and initiate a wider utilization of Artificial Intelligence for preventive medicine.** Research is vital in providing the knowledge needed to improve health outcomes and reduce inequalities.
- **Identifying and modifying or avoiding key risk factors for diseases, including diabetes, cardiovascular diseases and respiratory conditions.** It can be caused by lack of exercise, ageing, an unhealthy diet and environmental pollution. If left untreated, it may lead to more serious conditions such as kidney failure, coronary heart disease, blindness and even the need for amputations.Initiate strategies to improve the health of the nation, promote the importance of focusing on socio-demographic factors to ensure delivery of healthy newborns and decrease the burden of mortality factors.
- **Manage to maintain modest overall spending.** Singapore has to calibrate a developed portfolio of targeted tools to address specific problems to respond to aging in the coming years. The coordinated use of these tools ensures that healthcare providers compete on affordability and quality, and that total costs remain relatively low.

South Korea

Tiger Economy, Master Plans for Age-Friendly Cities and Care Services

Republic of Korea

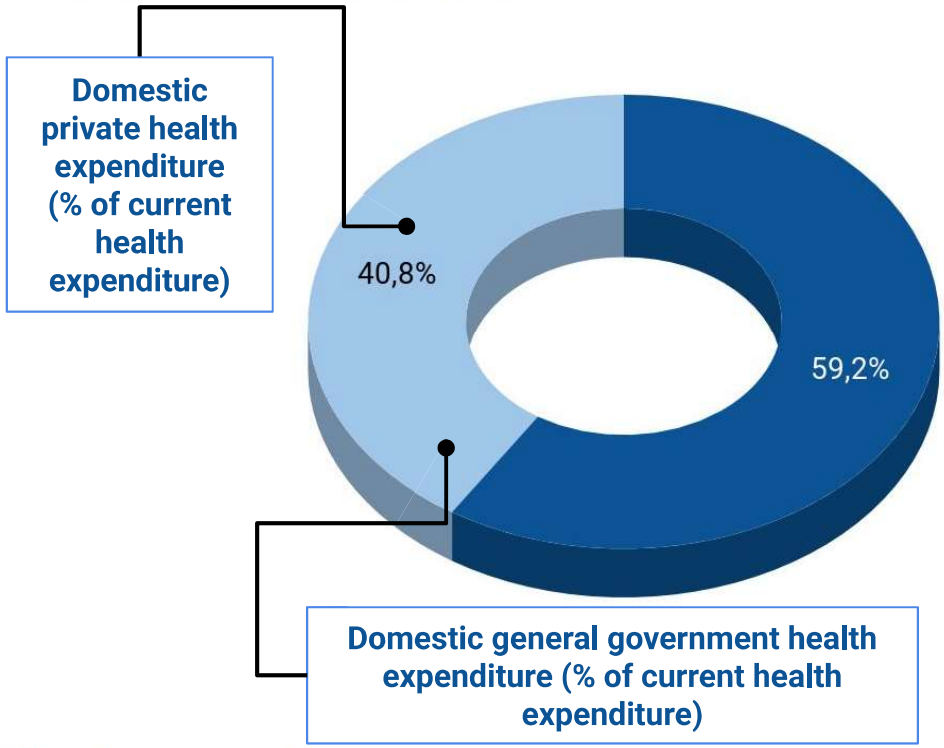
General metrics

HALE	Both Sexes HALE (2016)	73 years
	HALE/Life Expectancy Difference 2016	9.7
Economy	GDP per Capita, Current Prices (2016)	27.61 thousand ($)
	Annual GDP Growth (2016)	2.9 %
Healthcare	Current Health Expenditure per Capita (2016)	2.04 thousand ($)
	Public Health Care Expenditure 2016	7.34 % of GDP
Retirement	Age Dependency Ratio 2016	37
	Population over 65, 2016	13.4 %
	Number of WHO Age Friendly Cities and Communities	11
General Health Status	Alcohol Consumption per Capita (Litres of Pure Alcohol) 2016	10.2
	Annual Cigarette Consumption (Units per Capita) 2016	1667
	Prevalence of Overweight among Adults 2016 (Age-Standardized Estimate)	30.3 % of adults

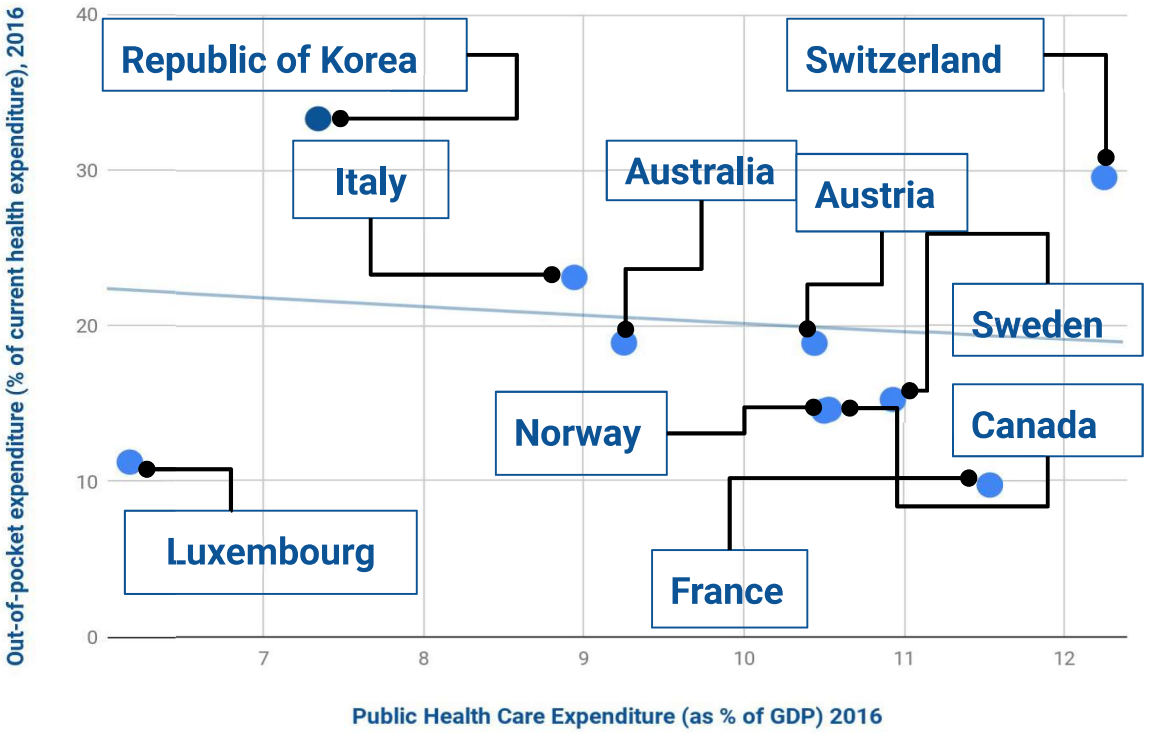
Longevity-Related Indices

- The Healthcare Access and Quality Index -2016: **90**
- Human Development Index 2016: **0.9**
- E-Government Development Index 2016: **0.89**
- Corruption Perceptions Index 2016: **53**
- Global Gender Gap Index 2016: **0.65**
- Democracy Index 2016: **7.92**

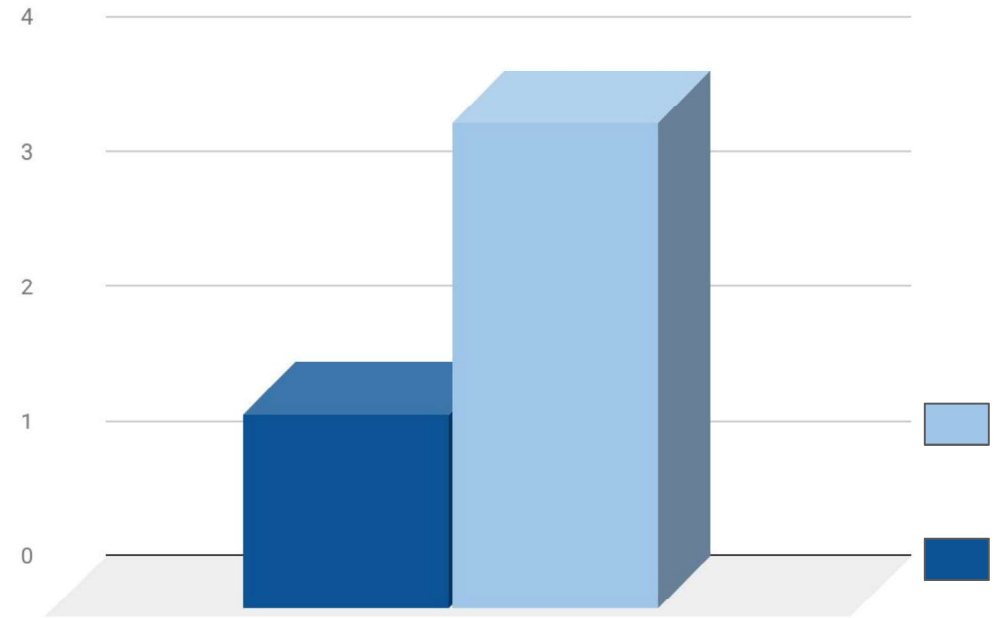
Current Healthcare Expenditure



Countries with High HALE and Life Expectancy and High Gap



Effectiveness ratios



The government should address the following challenges to improve public health and increase average life expectancy: reduce inequality in health coverage outcomes, improve primary health care and coordination between hospitals and long-term care facilities, meet the needs of the aged population.

HALE and Life Expectancy Difference CAGR (6 years)/Current health expenditures per capita (current US$), CAGR (6 years)

HALE CAGR (6 years)/Current health expenditures per capita (current US$), CAGR (6 years)

SWOT Analysis of Healthcare in Republic of Korea

STRENGTHS

- The South Korean health care system has developed quite successfully in several dimensions. Achieving universal health insurance coverage within a very short period was an unprecedented outcome.
- Average life expectancy has increased consistently: while women's life expectancy at birth was 66.7 years in 1970, it grew to 82.4 in 2006, much higher than the world average.
- The infant mortality rate, which is frequently quoted as an index of health care conditions in a country, was 23 per 1000 live births in 1985, but dramatically decreased to 4.7 in 2005.
- The crude death rate decreased to 5 persons per 1000 in 2006.

WEAKNESSES

- In 2013, the share of OOP spending allocated to medical care is 1.7 times higher in Korea that the OECD average and it is the additional burden on the access to the healthcare system.
- 37% of health spending in Korea is financed directly by households.
- Korea has some of the highest levels of supply of hospital services amongst OECD countries and this overcapacity is the major quality issue for the Korean medical system.
- Avoidable admissions for chronic conditions are significantly above the OECD average.

OPPORTUNITIES

- The system of health and welfare for the elderly with age-related disabilities has developed significantly since the launch of the long-term care insurance scheme in July 2008.
- Utilization of complementary and alternative medicine (CAM) is a traditional and important part of South Korea's health services framework.
- South Korea has one of the highest rates of computer and Internet access in the world that opens great opportunities for eHealth.

THREATS

- The suicide rate is the highest in the OECD.
- Tobacco is a major risk factor for at least two of the leading causes of premature mortality: cardiovascular diseases and cancer. One in five deaths among adults aged 30 years and over are attributable to tobacco in Korea.
- Diseases of the circulatory system explain 23.1% of total deaths, while neoplasms explain 27.3%.
- Tuberculosis is one of the most frequently appearing diseases. The incident rates of scrub typhus, mumps and malaria are also quite high.

Analysis of Strengths and Weaknesses of Health Care System in Republic of Korea

- The incidence of communicable diseases is declining in general, largely due to the development of health care technologies, enhanced knowledge about disease and improvements in living conditions.
- Incentives for customer-oriented providers are available. Providers who treat patients in the evenings and at weekends are entitled to claim higher fees than the fees charged during regular working hours.
- There were a total of 593 long-term care hospitals in 2007, a 54% increase from the previous year.
- Government encourages facilities to utilize the advanced technologies and equipment in health effectively and intensively through the limit for their supply. Though the number of big-ticket technologies has increased continuously over the past 15 years.
- The number of all categories of health care personnel has grown continuously.

- Korea reports the third highest excess mortality rates from schizophrenia and bipolar disorder across OECD countries.
- The distribution of alcohol drinking is heavily concentrated. In Korea, the heaviest-drinking 20% of the population drink 66% of all alcohol.
- The share of GDP allocated to health spending (excluding capital expenditure) in Korea was 6.9% in 2013, compared with an OECD average of 8.9%
- Reduced fertility rates led to an increasing aging population. As a result, increasing health costs require additional measures to improve health equity and strengthen health promotion.
- Public sources accounted for 56% of overall health spending, well below the OECD average.
- Services are mainly delivered by the private sector. Nearly 90% of doctors were involved in private facilities that is the additional limitation for the access to the healthcare system.

Summary of Relevant Government-Led Longevity Initiatives in South Korea

- In 2013 the Seoul metropolitan government established the “2020 Master Plan for the Aged Society”.
- In June 2013 Seoul joined the WHO Global Network of Age-friendly Cities and Communities.
- In November 2018, South Korea’s Ministry of Health and Welfare (MOHW) announce that it will be laying the foundation for comprehensive community care to provide the elderly with residential, medical, nursing and care services in their homes and neighborhoods by 2025, shortly before Korea becomes a super-aged society.
- The government is active in relation to preventive medicine, i.e. there is regular management of the diseases and lifestyle habits of people with high blood pressure or diabetes at local clinics (some 1,400 units), using smartphones, etc.
- There is an active development of a Regenerative Medicine Industry, as a heavy investment was made in a “Post-genome Multi-ministry Gene Project” which is a joint initiative of the Ministry of Welfare, Ministry of Future Planning, Ministry of Industry.
- In 2015 50+ policy affecting retirees life vision started. It is an innovative approach that encourages elder people to take active social actions. This programme focuses on three key points “Learning and Exploration”, “Jobs and Social Engagement” and “Culture and Infrastructure”. 50+ services include personalised counselling, education, and new job models.
- As South Korean population is actively ageing and is poised to become the first one where life expectancy will exceed 90 years, the country’s government is making the first steps towards a Healthy Longevity, though South Korea still lacks a coordinated national strategy to handle a super-aged society and all its implications.

History of South Korea Government Involvement in Longevity

2010

Preparations for Seoul Masterplan Begin
Work on what will become the Seoul metropolitan government *Master Plan for the Aged Society*.

SEOUL METROPOLITAN GOVERNMENT

2011

Masterplan Implementation begins
Work on implementation of groundwork begins

2013

Master Plan Establishment
In 2013 the Seoul metropolitan government established the “2020 Master Plan for the Aged Society”.

June 2013

Joining the WHO Network
In June 2013 Seoul joined the WHO Global Network of Age-friendly Cities and Communities.

WHO

2018

Foundation for Providing the Elderly With Services
In November 2018, South Korea’s Ministry of Health and Welfare (MOHW) announce that it will be laying the foundation for comprehensive community care to provide the elderly with residential, medical, nursing and care services in their homes and neighborhoods by 2025, shortly before Korea becomes a super-aged society.

보건복지부

South Korea Ministry of Health and Welfare

South Korea

General metrics

Life Expectancy	Both sexes life expectancy (2019)	80.9 years
	Male life expectancy (2018)	79.5 years
	Female life expectancy (2018)	85.6 years
GDP	GDP per capita, current prices (2018)	31.94 thousand ($)
	GDP per capita, PPP (2018)	42.98 thousand ($)
	GDP, current prices (2018)	1 660 billion ($)
Population Ageing	Rate of population ageing	4.3 (2007-2017)
	Aged over 65 (2018)	14.2%
	Age dependency ratio (2017)	19%
Healthcare Efficiency	Health expenditure (2017)	7.6% of GDP
	Health expenditure per capita (2017)	2.897 thousand ($)
	Healthcare efficiency score (2018)	67.4
Retirement	Total # retired	7 161 073
	Retired people proportion	14%
	Normal retirement age (Man/Woman)	60 years/ 60 years
	Early retirement age (Man/Woman)	50 years/ 50 years

Longevity Initiatives

- Age of relevant initiatives: **9 years**
- **11** of WHO age-friendly cities and communities
- **3** initiatives focused on non-medical improvement of quality of life
- **2** initiatives focused on preventive medicine and healthcare approaches
- **2** initiatives involve research or R&D of medicines that directly impact on ageing

South Korea Initiatives Level of Comprehensiveness

Financial Reform

Korean Civil Service Pension Reform

Preventive Medicine

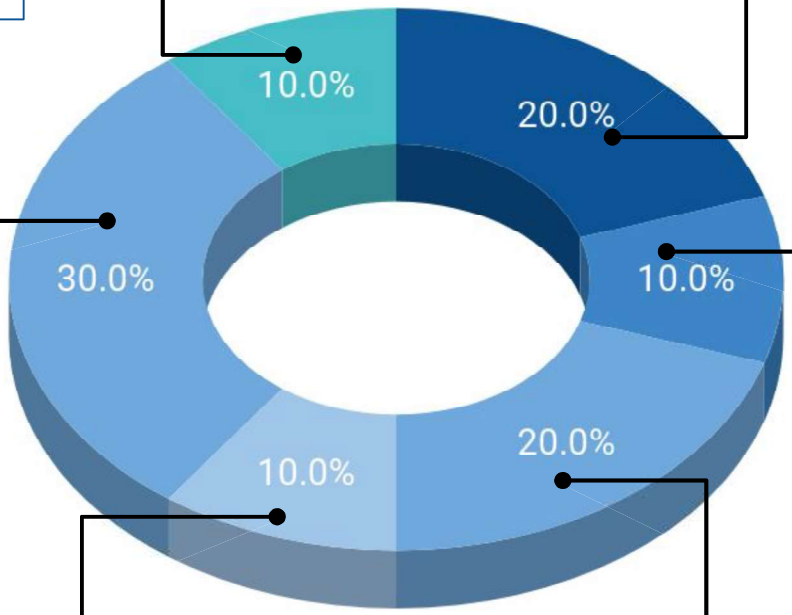
Reinforcement of Preventive Health Care

Allowing non-medical institutions to directly conduct genetic testing for disease prevention

Expansion of genetic testing coverage within health insurance for the selection of targeted therapy, etc.

Continuing Education

The Fourth National Lifelong Learning Promotion Plan (2018-2022)



National Master Plan on Ageing

"2020 Master Plan for the Aged Society"

Urban Planning

Elderly Healthcare Vouchers

Foundation for Providing the Elderly With Services

Geroscience R&D

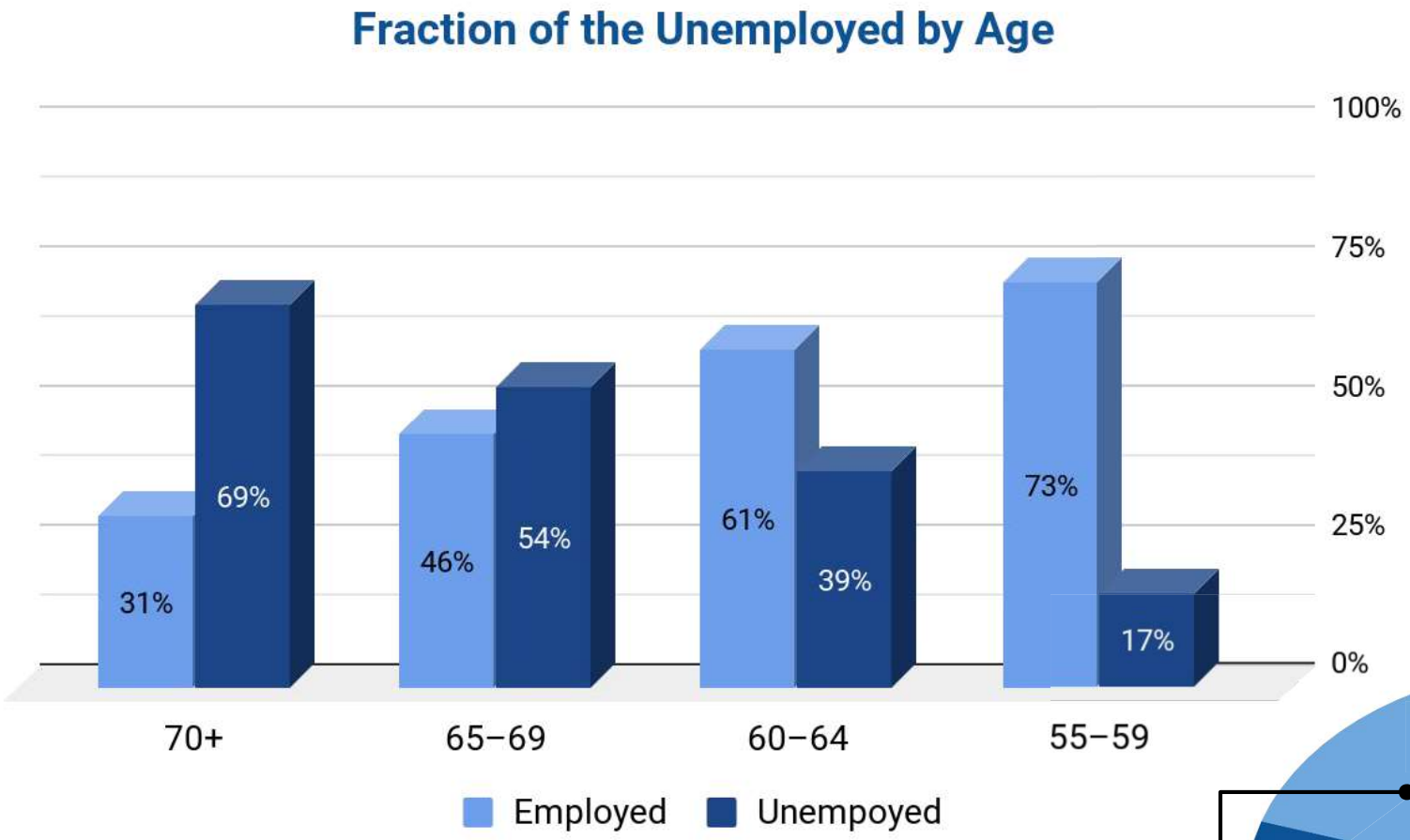
Establishment of National Stem Cell Bank

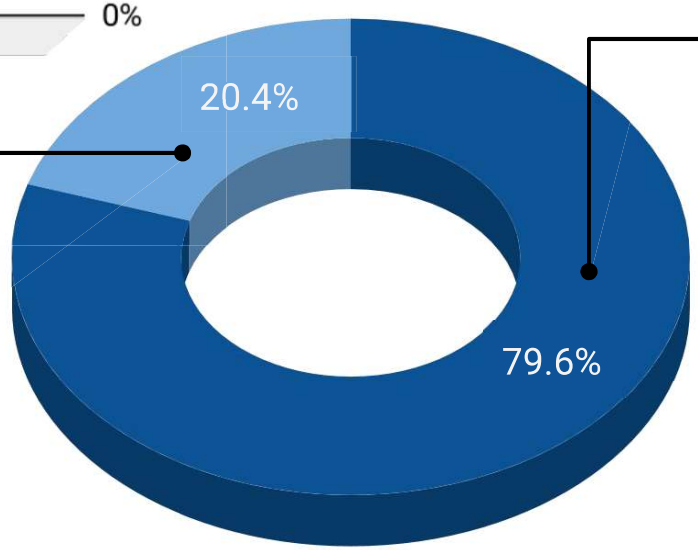
Post-genome Multi-ministry Gene Project

Underrepresented Initiatives

Healthy Ageing: Lifestyle and Fitness Programs	Non-Medical Initiatives	Longevity Industrial Strategy	AgeTech

South Korea Age/Employment Range





Percent of people under 60

Percent of people over 60

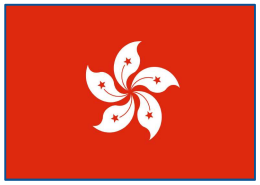
Recommendations for Republic of Korea

- **Continuously generate the patient-centred medical system to provide universal coverage to achieve outstanding patients' outcomes.** Personalized health care is an integral part of a dynamic new trend that takes into account a person's environment, lifestyle, diet, values and lifelong medical data. With this approach, citizens themselves are called upon to play a more active role. Personalized medicine is suited to meet challenges of chronic diseases and ageing.
- **Focus on health status of elderly.** Appropriate health interventions are necessary to address different healthcare issues of ageing population, including specialized treatment programs, regenerative medicine and care support initiatives. Great attention should be paid to supply of advanced gerontological services.
- **Utilizing Artificial intelligence and Machine learning for simplifying the healthcare experience.** Artificial intelligence is the advanced technology that can reduce time and money spent on treatments through the intensive processing of the medication for patients with even more outstanding results.
- **Modifying the behavioural risk factors including obesity, smoking and alcohol consumption.** If to look through the analyses of the health status and medical systems of developed countries the strong correlation between the wrong lifestyles and arising of the CDVs can be pointed out. Practically quarter of the burden of chronic conditions is caused by the tobacco and alcohol use, bad dietary habits and low physical activity, so there is a crucial task for the government to initiate campaigns aimed to reduce the negative impact of these risks on the health status of the population.
- **A smooth shift from the "sick care" to the preventive one** that lies in the broaden utilization of "precision medicine" aimed to tackle symptoms of the most common communicable diseases and their consequences reflected on the mortality rates of the population. Precision medicine alls offers advanced onset on the early biomarkers of ageing to slow down their negative impact on patient's organism and to elongate his lifespan.

Hong Kong

Tiger Economy, Detailed Schemes for the Elderly with an Emphasis on Preventive Care

Hong Kong, SAR



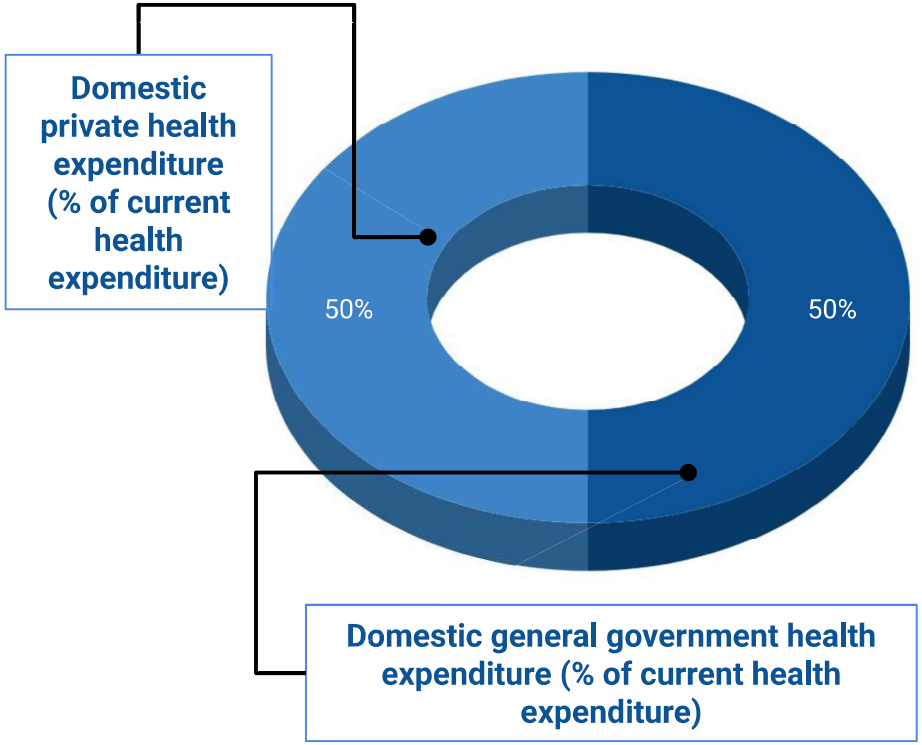
General metrics

HALE	Both Sexes HALE (estimated) (2016)	75.8 years
	HALE/Life Expectancy Difference 2016	8.2
Economy	GDP per Capita, Current Prices (2016)	43.7 thousand ($)
	Annual GDP Growth (2016)	2.2 %
Healthcare	Current Health Expenditure per Capita (2016)	- thousand ($)
	Public Health Care Expenditure 2016	6.0 % of GDP
Retirement	Age Dependency Ratio 2016	40
	Population over 65, 2016	15.8 %
	Number of WHO Age Friendly Cities and Communities	1
General Health Status	Alcohol Consumption per Capita (Litres of Pure Alcohol) 2016	2.86
	Annual Cigarette Consumption (Units per Capita) 2016	-
	Prevalence of Overweight among Adults 2016 (Age-Standardized Estimate)	38.8 % of adults

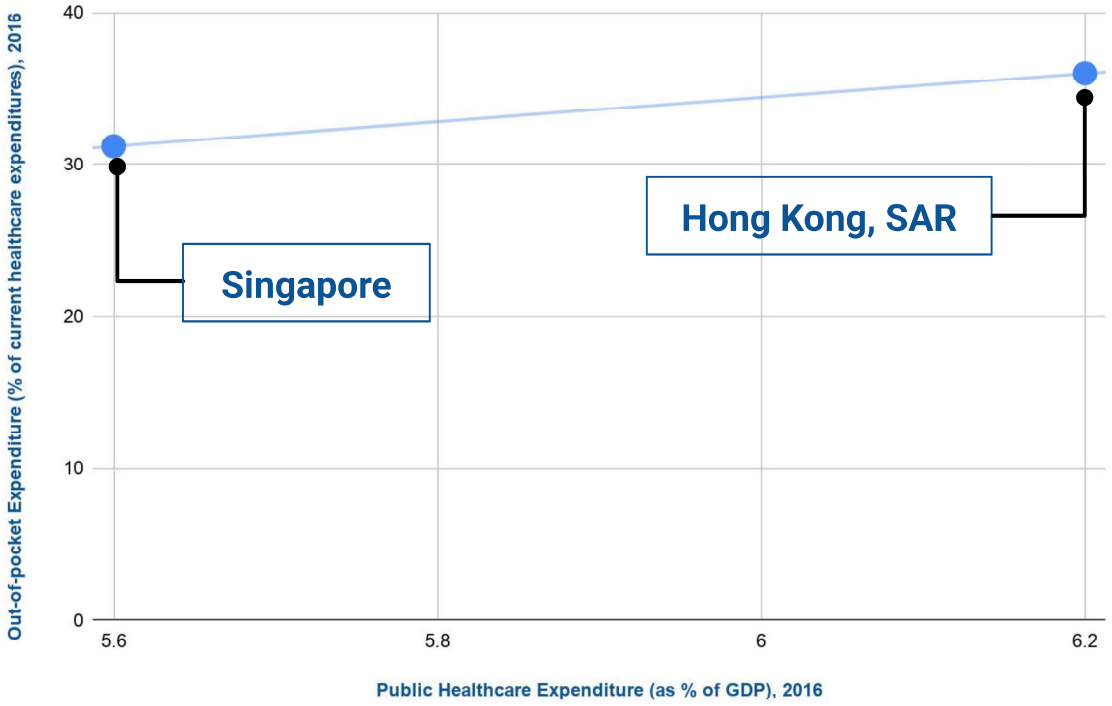
Longevity-Related Indices

- The Healthcare Access and Quality Index -2016: **89.5**
- Human Development Index 2016: **0.930**
- E-Government Development Index 2016: **-**
- Corruption Perceptions Index 2016: **77**
- Global Gender Gap Index 2016: **-**
- Democracy Index 2016: **0.65**

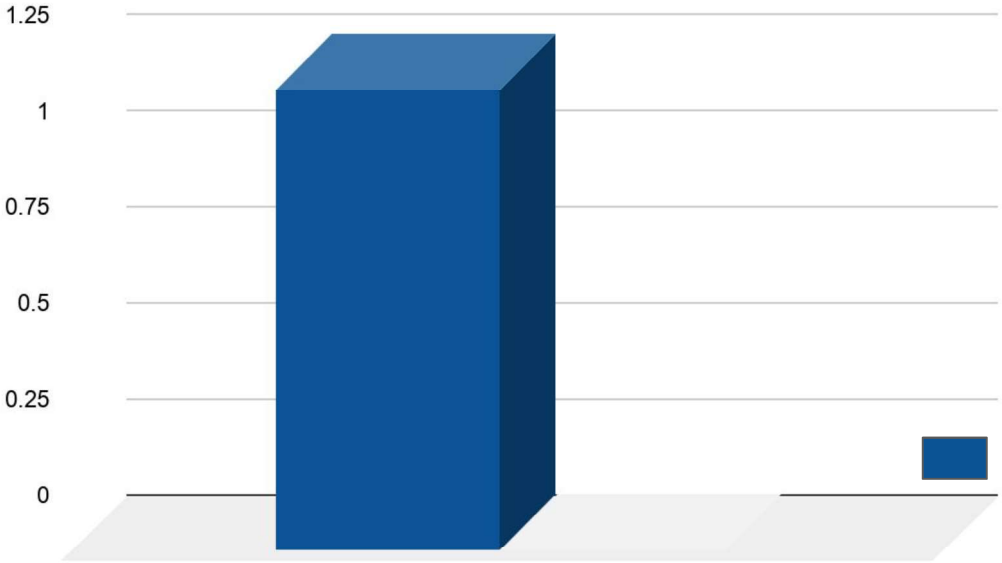
Current Healthcare Expenditure



Countries with high HALE and Life Expectancy and Small Gap



Effectiveness Ratio



To improve health and wellbeing of people living in Iceland government policies should be focused on obesity, tobacco, healthy workplaces, child wellbeing. eHealth initiatives should meet the needs of the aged population.

LE CAGR (6 years)/Current health expenditures per capita (current US$), CAGR (6 years)

SWOT Analysis of Healthcare in Hong Kong

STRENGTHS

- Healthcare system is known for its quality and efficiency, and the healthy population it serves.
- Life expectancy is one of the highest in the world. According to the Department of Health in Hong Kong, life expectancy has reached 81.9 years for males and 87.6 years for females in 2017.
- Infant mortality rate and maternal mortality rate are among the lowest in the world.
- People in Hong Kong are able to enjoy public healthcare services at highly subsidised rates.
- WHO Age-friendly city

WEAKNESSES

- Long waiting times for non-emergency procedures (e.g. cataract surgery, joint replacement surgery)
- Heavy workloads for clinical staff
- Very expensive private system; prices vary greatly depending on doctors' reputation and location.
- High level of prevalence of overweight among adults (38.8% in 2016)
- High level of out-of-pocket expenditure in Hong Kong (36% of current healthcare expenditure) indicates limited access to high-quality preventive services and diseases treatment.

OPPORTUNITIES

- Provision of subsidies to reduce disparities and obtain treatment at private primary care providers.
- Building a sophisticated national electronic health record system, that collects, reports, and analyzes information to aid in formulation of policy, monitoring of implementation, and sharing of patient records.
- Utilizing their strength in the artificial intelligence industry for meaningful improvements in medical care.
- International partnership on Healthy Longevity.

THREATS

- Increasing service demand and staff shortages are leading to an inadequate health service delivery with long waiting times for certain procedures
- Public clinics, with their limited scale, are not able to provide care to patients with lower socio-economic status, thus increasing their risk of hospitalisation.
- Rising burden of non-communicable diseases: six types of non-communicable diseases, namely, cancers, diseases of heart, cerebrovascular diseases, chronic lower respiratory diseases, injuries and poisoning, and diabetes mellitus, accounted for 59.3% of all registered deaths in Hong Kong in 2017.

Analysis of Strengths and Weaknesses of Health Care System in Hong Kong, SAR

- Life Expectancy in Hong Kong is 84.6 years in 2018.
- Improved medical treatment, diet, resilience, adaptability, healthy lifestyles and technology contribute to longer lifespan.
- The government has established an electronic health record refers to a record in electronic format containing health-related data of an individual.
- There private digital initiatives to help shape its healthcare delivery model, optimise resources, and ultimately benefit society.
- The concept of age-friendly city has high level political commitment.
- The government provides public healthcare services free of charge or for a small fee.

- The major contribution to the improvement in life expectancy in Hong Kong for both males and females was mainly attributable to the older population.
- Private health insurance is one of the most expensive in the world. It is essential to have a good private medical insurance. The private clinics have their own market value and often charge their clients higher rates.
- Hong Kong had been relying on the supply of foreign-trained.
- Noncommunicable diseases have become the major disease burden, infectious diseases such as tuberculosis, hepatitis, and schistosomiasis are still the major health problems in poor rural areas. The prevalence of noncommunicable diseases such as cancer, diabetes and cardiovascular disease.
- Hong Kong population experiencing an accelerating ageing trend.
- Fertility rate is decreasing.
- High burden of mental illnesses that significantly contribute to DALY (Disability-adjusted years)

Summary of Relevant Government-Led Longevity Initiatives in Hong Kong

- In 2009 vouchers were introduced in the form of a pilot scheme for the over 70s to use private health services, including preventive care, to supplement existing public services, and in 2017, the government lowered the age threshold to 65.
- In 2018 Health Secretary Professor Yeoh presents the proposal, *"Fit for Purpose: A Health System for the 21st Century"*.
- Since 2015, four universities have been working with District Councils to develop a three-year action plan for each district, identifying directions and actions to enhance the age-friendliness of Hong Kong.
- In March 2018 finance chief Chan Mo-po rolled out some incentives that target the elderly and allocate more resources to improve services for them.
- Labor department has employment programmes specifically for the middle-aged, to provide subsidies to employers of unemployed jobseekers or retirees aged above 60. It is the government's latest effort to promote re-employment of the elderly.
- The Food & Health Bureau, has taken forward the Dementia Community Support Scheme, which aims to provide support services for elderly persons with mild or moderate dementia at District Elderly Community Centres through a "medical-social collaboration" model.
- Given its respectable science base and acute awareness of its demographic challenges, Hong Kong is notable for its lack of geroscience initiative.

History of Hong Kong Government Involvement in Longevity

1997 — **Handover from British Empire to Chinese suzerainty.**

1998 — **Health Centres Establishment.**
In July 1998 the Department of Health established 18 Elderly Health Centres in Hong Kong, one in each district, to offer older people screening services and medical examinations, aiming to enhance primary health care by improving self-care ability, encouraging healthy living.

2008 — **Age-Friendly City Concept.**
In 2008 the Hong Kong Council of Social Service (HKCSS) took the lead in promoting the concept of an age-friendly city by establishing the Age-Friendly Hong Kong Steering Committee.

2009 — **Pilot Scheme of Private Health Services Usage.**
In 2009 vouchers are introduced in the form of a pilot scheme for the over 70s to use private health services, including preventive care, to supplement existing public services, and in 2017, the government lowered the age threshold to 65.

2015 — **Novel Plan for Age-Friendliness.**
Since 2015, four universities have been working with District Councils to develop a three-year action plan for each district, identifying directions and actions to enhance the age-friendliness of Hong Kong.

2016 — **Estate-Based Approach in Service Provision.**
Elderly commission publish blueprint, drafted by experts from five universities, suggesting an "estate-based approach" in service provision so that new residential developments would be "self-containing" where possible. Suggestions include at least one neighbourhood elderly centre in each new or redeveloped public housing estate, as well as in private housing.

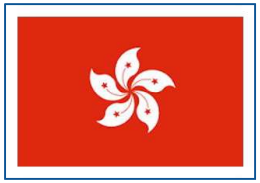
2018 — **"Fit For Purpose", New Incentives and Employment Programme Expansion.**
In 2018 Health Secretary Professor Yeoh presents the proposal, *"Fit for Purpose: A Health System for the 21st Century"*. In March 2018 finance chief Chan Mo-po rolled out some incentives that target the elderly and allocate more resources to improve services for them. Also in 2018, the Labour Department expanded its Employment Programme for the Middle-aged to provide subsidies to employers of unemployed jobseekers or retirees aged above 60. It is the government's latest effort to promote re-employment of the elderly.

衞生署
Department of Health

社聯
HKCSS

勞工處
Labour Department

Hong Kong



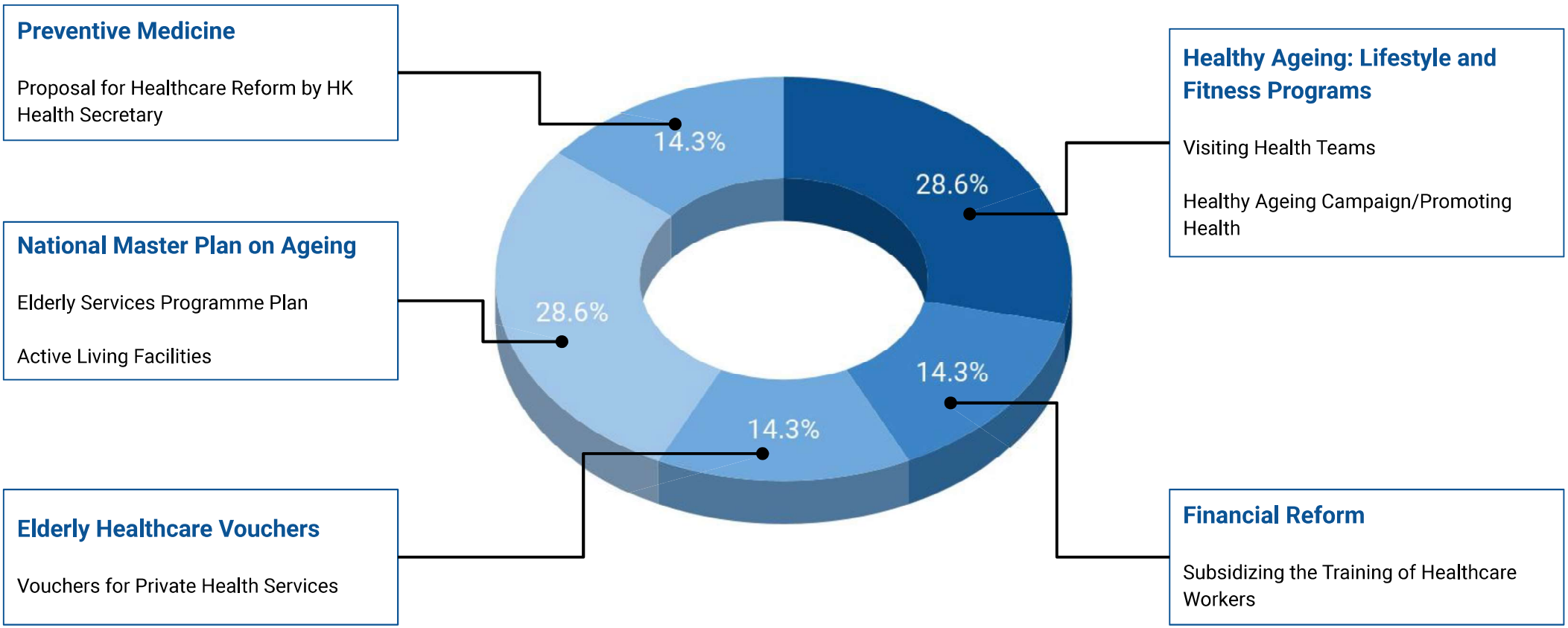
General metrics

Life Expectancy	Both sexes life expectancy (2019)	82.7 years
	Male life expectancy (2018)	80.4 years
	Female life expectancy (2018)	85.53 years
GDP	GDP per capita, current prices (2018)	50.54 thousand ($)
	GDP per capita, PPP (2018)	66.52 thousand ($)
	GDP, current prices (2018)	381.72 billion ($)
Population Ageing	Rate of population ageing	3.8 (2007-2017)
	Aged over 65 (2018)	17.4%
	Age dependency ratio (2017)	23%
Healthcare Efficiency	Health expenditure (2017)	6.2% of GDP
	Health expenditure per capita (2017)	3.670 thousand ($)
	Healthcare efficiency score (2018)	87.3
Retirement	Total # retired	1 205 056
	Retired people proportion	16%
	Normal retirement age (Man/Woman)	65 years/ 65 years
	Early retirement age (Man/Woman)	65 years/ 65 years

Longevity Initiatives

- Age of relevant initiatives: **20 years**
- **9** of WHO age-friendly cities and communities
- **6** initiatives focused on non-medical improvement of quality of life
- **1** initiative focused on preventive medicine and healthcare approaches

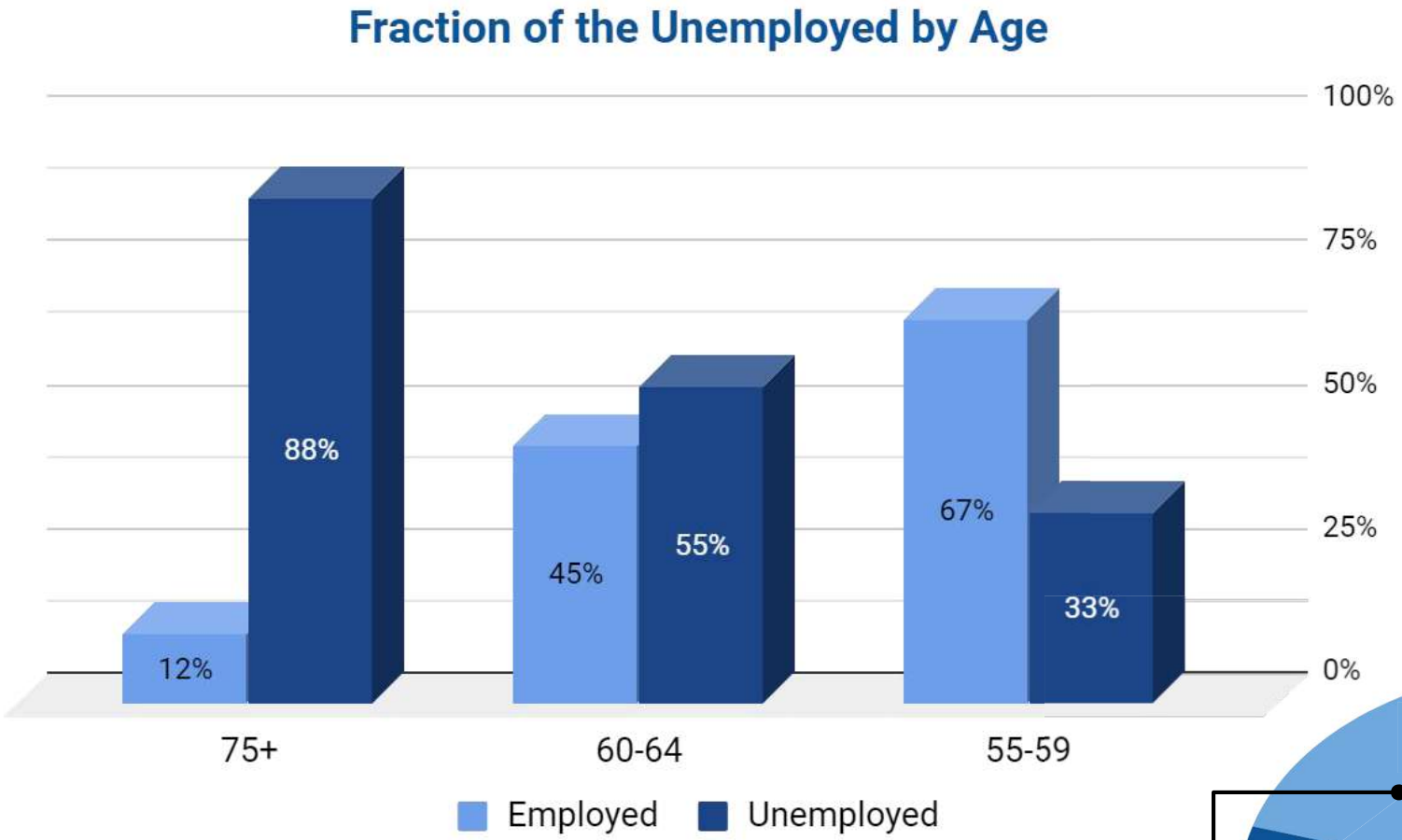
Hong Kong Initiatives Level of Comprehensiveness

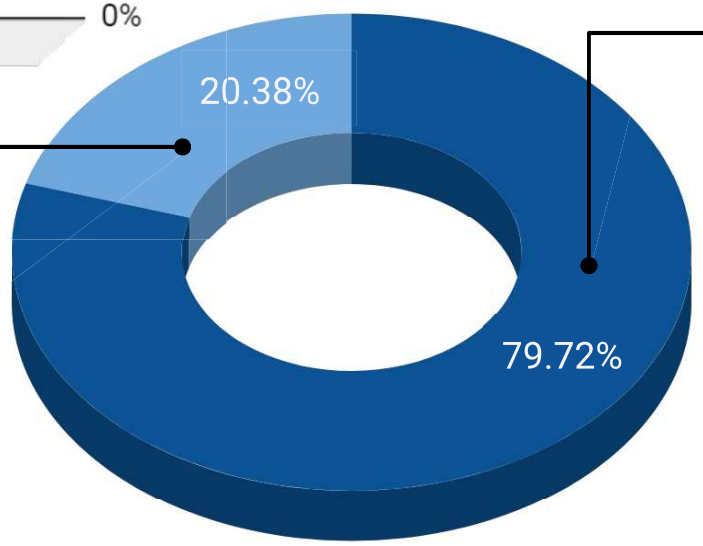


Underrepresented Initiatives

Non-Medical Initiatives	Geroscience R&D	Longevity Industrial Strategy	AgeTech	Continuing Education

Hong Kong Age/Employment Range





Percent of people under 60

Percent of people over 60

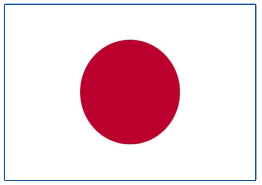
Recommendations for Hong Kong, SAR

- **Large focus on delivery of care that on insurance.** Primary care services are of limited access due to high prices. The health authorities should focus on delivering healthcare services in Hong Kong in line with a more holistic view of health.
- **Improve engagement of staff in healthcare.** The role of health professionals within a paradigm of the social model of health could be the key for improved healthcare services in general, as well as access to healthcare for the population. Even in a public health system as efficient as Hong Kong's, access might increasingly be at risk due to staff shortages, issues related to health insurance coverage, and increasing waiting lists for certain procedures (timeliness).
- **Health system re-orientation towards the changing epidemiological landscape**. The increasing burden of noncommunicable diseases highlights the need to move from sick treatment to prevention of chronic conditions. It requires patients' participation and high health consciousness.
- **Support healthy and disease-free lifestyles with emphasis on health status of elderly.** Promoting healthy, disease-free aging must be a central priority for Japan, and attention must also be paid to the potential for rising rates of risky health behaviour, alcohol consumption and even rates of obesity.
- **Manage to maintain modest overall spending.** Hong Kong should developed portfolio of targeted tools to address specific problems to respond to aging in the coming years. The coordinated use of these tools ensures that healthcare providers compete on affordability and quality, and that total costs remain relatively low.
- **Develop novel financial systems.** It will be necessary for novel financial systems to be developed which monetize Healthy Longevity, and repeatedly reinvest in the technologically-reinvigorated working population, if they are to survive the silver tsunami.

Japan

Early Nation to Face Silver Tsunami,
Age-Friendly Urban Planning,
Robotics for the Elderly and
Joint Research Initiative with the UK

Japan

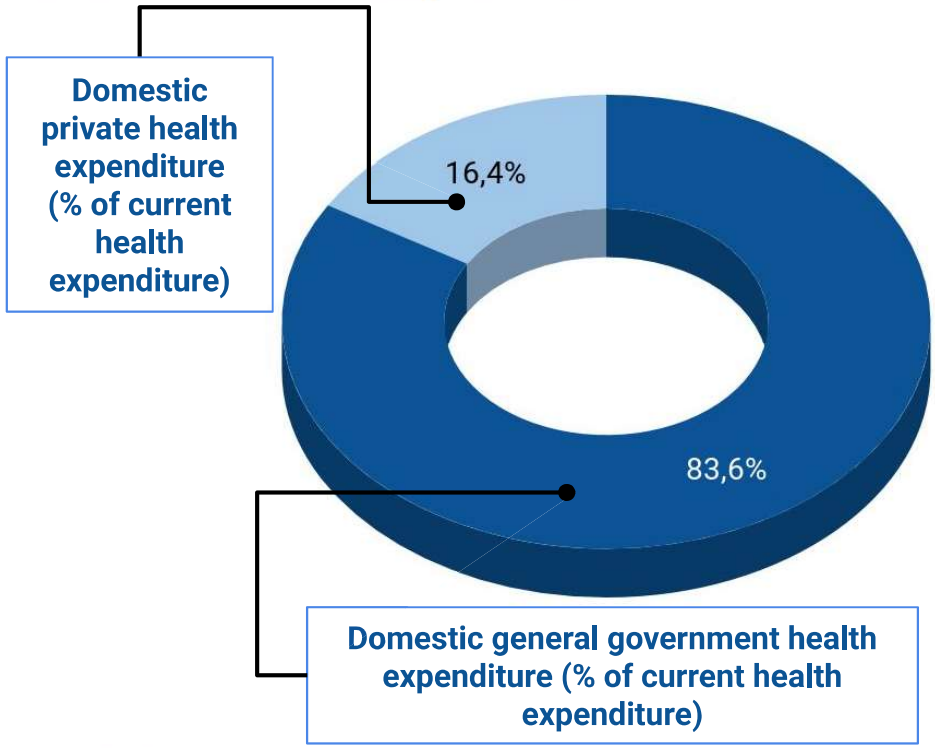


General metrics			
	HALE	Both Sexes HALE (2016)	74.8 years
		HALE/Life Expectancy Difference 2016	9.4
	Economy	GDP per Capita, Current Prices (2016)	38.79 thousand ($)
		Annual GDP Growth (2016)	0.6 %
	Healthcare	Current Health Expenditure per Capita (2016)	4.23 thousand ($)
		Public Health Care Expenditure 2016	10.93 % of GDP
	Retirement	Age Dependency Ratio 2016	65
		Population over 65, 2016	26.6 %
		Number of WHO Age Friendly Cities and Communities	24
	General Health Status	Alcohol Consumption per Capita (Litres of Pure Alcohol) 2016	8
		Annual Cigarette Consumption (Units per Capita) 2016	1583
		Prevalence of Overweight among Adults 2016 (Age-Standardized Estimate)	27.2 % of adults

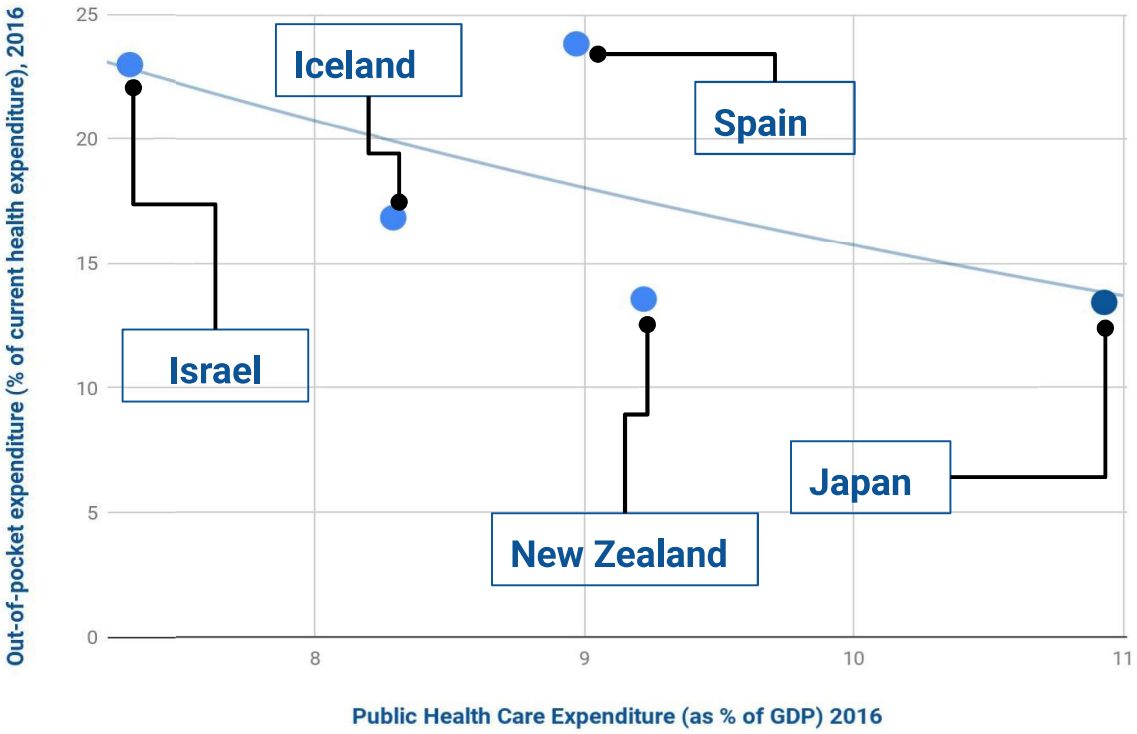
Longevity-Related Indices

- The Healthcare Access and Quality Index -2016: **94**
- Human Development Index 2016: **0.91**
- E-Government Development Index 2016: **0.84**
- Corruption Perceptions Index 2016: **72**
- Global Gender Gap Index 2016: **0.66**
- Democracy Index 2016: **7.99**

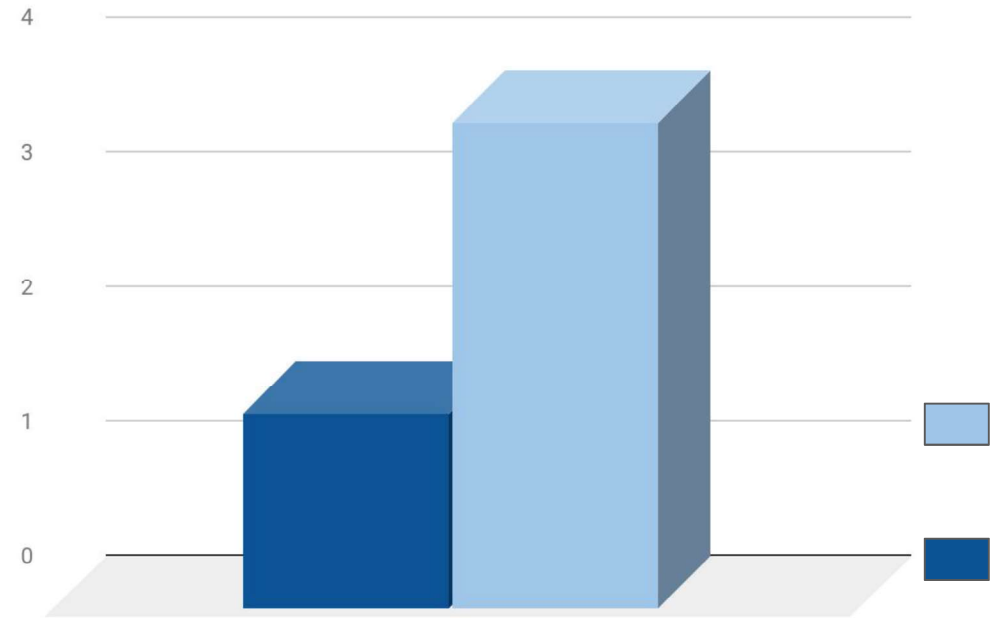
Current Healthcare Expenditure



Countries with High HALE and Life Expectancy and Medium Gap



Effectiveness ratios



Japan is facing a rising burden of chronic disease, and a rising number of frail and elderly persons. In addition, Japan faces some relatively unique public health risks, notably a significant exposure to natural hazards such as earthquakes, floods, typhoons, and tsunamis. So, improvement of public health emergencies systems are in priority.

HALE and Life Expectancy Difference CAGR (6 years)/Current health expenditures per capita (current US$), CAGR (6 years)

HALE CAGR (6 years)/Current health expenditures per capita (current US$), CAGR (6 years)

SWOT Analysis of Healthcare in Japan

STRENGTHS

- Japan has the highest life expectancy among the OECD countries. Life expectancy at birth was 83.9 years in 2015.
- Japan has the lowest obesity rates and low alcohol consumption if to compare with other OECD countries.
- Cancer survival remains to stay at good levels.
- Healthy life expectancy at birth, the average number of years that a newborn can expect to live in full health, rose from 70.4 years in 1990 to 73.9 years for both sexes in 2015.
- The burden of communicable diseases has decreased substantially over the past five decades.

WEAKNESSES

- Japan has the highest dementia prevalence among the OECD countries at 2.7% of population in 2017.
- There are high occupancy rates, especially, among elders for the long-term care.
- The suicide level is significantly above the EU average despite the significant efforts of the government putted to reduce the level starting from 2007.
- Like many other high-income countries, non-communicable diseases (NCDs) are now the leading cause of mortality and morbidity in Japan.

OPPORTUNITIES

- Japanese institutions are fully involved in the process of the of building of communities that can help people with chronic conditions and their families to withstand the illnesses.
- Japanese government have strong aims to improve the healthcare coordination for primary and long-term care sectors to address the challenge of the ageing population.
- Utilising AI opportunities in precision medicine, preventive health, drug discovery.
- There is an increasing demand on the healthcare services.

THREATS

- Ageing of the population is a rising issue for healthcare and pension systems stability.
- There is a high level of smoking among men that is 30%.
- Cancer causes 28.7% of deaths according to the data of 2015 and remains to be the main reason for mortality in Japan.
- Incidents of deaths from tuberculosis are slightly higher than the OECD average.
- There is a heavys salt consumption in Japan.
- Low back pain, headache disorders and diabetes are main reasons for DALY.

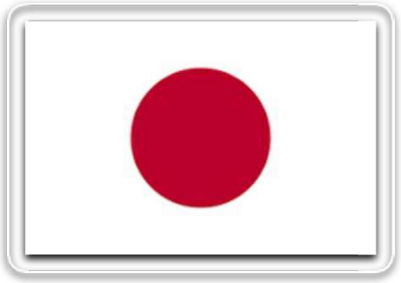
Analysis of Strengths and Weaknesses of Health Care System in Japan

- Health spending averages $4 519 per person (adjusted for local costs), slightly higher than the OECD average.
- Alcohol consumption and transport accident deaths have decreased substantially over the past 50 years.
- Mortality from the cardiovascular diseases is among the lowest in the OECD countries.
- In the past five decades, Japan has achieved a large number of health successes. These include the full implementation of universal insurance coverage, cultivating the world's highest healthy life expectancy, and the control and even eradication of common infectious diseases.
- Personal healthcare access and quality index is 94.1.
- The healthcare system is Japan is comprehensive and consists of two levels: public and private that offer the universal coverage for medical services.

- Hospital admissions for diabetes are higher than the OECD average.
- 20% of population consumes 69% of alcohol and it is third highest concentration in OECD countries.
- There are low screening rates for the breast cancer and mammography.
- Mortality from acute myocardial infarction is 50% higher than the OECD average.
- Negative population growth, an ageing population, low fertility, a shrinking economy, increasing unemployment, and an increasing NCD-related disease burden are considered to be major issues on the way to healthy Longevity improvements.
- Although the overall life expectancy and healthy life expectancy have been increasing in Japan, there are increasing disparities among prefectures, demonstrating a need for region-specific health policies.
- Japan has made limited progress in reducing tobacco consumption over the past few decades, and it remains a leading cause of premature death.

Summary of Relevant Government-Led Longevity Initiatives in Japan

- In 2013, the government passed a measure requiring companies to raise the mandatory retirement age to 65. But full compliance won't be required until 2025.
- In 2019 Medical researchers in Britain and Japan joined forces to research treatments for some of the most debilitating degenerative diseases, including dementia.
- In 2018 Japan's government commits to an 'ageless society' with planned policies encouraging seniors to stay healthy and keep working.
- In 2018 the Ministry of Economy, Trade and Industry (METI) recently inaugurated the Well Ageing Society Summit Asia-Japan in Tokyo in order to ride the wave of the silver tsunami and turn a negative into a positive.
- Urban planning : Japan has stepped up to the challenge of apply the WHO's principles for an age-friendly city, with its municipal plans for Akita and Kanagawa neighbourhoods.
- Investment in robotics : Ministry of Economy, Trade and Industry (METI) has not only renewed its commitment to robotics but has sought to extend their function to improving the lives of the elderly.



History of Japanese Government Involvement in Longevity

2011 — **Akita City joined WHO Global Network for Age-friendly Cities and Communities in 2011.**

2013 — **Government passed a measure requiring companies to raise the mandatory retirement age to 65.**
But full compliance isn't required until 2025.

2013 — **Akita City established the First Akita Age-friendly City Action Plan (2013-2016).**
In the first Action Plan, Akita City promoted senior citizen's social participation, and facilitated motivation and public awareness of Age-friendly City with the help of local community association.

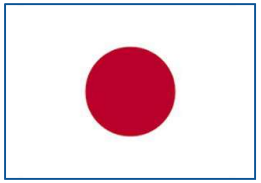
2016 — **Kanagawa prefecture publishes *Healthcare New Frontier - Initiatives based on the Concept of ME-BYO.***
"Curing ME-BYO" the scope of which is something broader than that of "disease prevention" in the context of Western medicine.

2016 — **Society 5.0, Japan's industrial strategy, is introduced**
It includes addresses to the challenges of ageing population. with *"smart approaches, enabled by technology but shaped by smart people".*

Jan 2018 — **Japan's government aims for 'ageless society' planned policy encouraging seniors to stay healthy and keep working.**
The ruling Liberal Democratic Party's related committee broadly approved the draft, and Prime Minister Shinzo Abe's Cabinet endorsed it the same month.

July 2018 — **The Ministry of Economy, Trade and Industry (METI) inaugurate the Well Ageing Society Summit Asia-Japan in Tokyo.**
In order to ride the wave of the silver tsunami and turn a negative into a positive.

Japan



General metrics

Life Expectancy	Both sexes life expectancy (2019)	85.8 years
	Male life expectancy (2018)	81.1 years
	Female life expectancy (2018)	87.1 years
GDP	GDP per capita, current prices (2018)	41.02 thousand ($)
	GDP per capita, PPP (2018)	45.56 thousand ($)
	GDP, current prices (2018)	5 180 billion ($)
Population Ageing	Rate of population ageing	6.2 (2007-2017)
	Aged over 65 (2018)	28.3%
	Age dependency ratio (2017)	45%
Healthcare Efficiency	Health expenditure (2017)	10.7% of GDP
	Health expenditure per capita (2017)	4.717 thousand ($)
	Healthcare efficiency score (2018)	64.3
Retirement	Total # retired	34 293 754
	Retired people proportion	27%
	Normal retirement age (Man/Woman)	65 years / 65 years
	Early retirement age (Man/Woman)	60 years / 60 years

Longevity Initiatives

- Age of relevant initiatives: **8 years**
- **24** of WHO age-friendly cities and communities
- **6** initiatives focused on non-medical improvement of quality of life

Japan Initiatives Level of Comprehensiveness

Healthy Ageing: Lifestyle and Fitness Programs

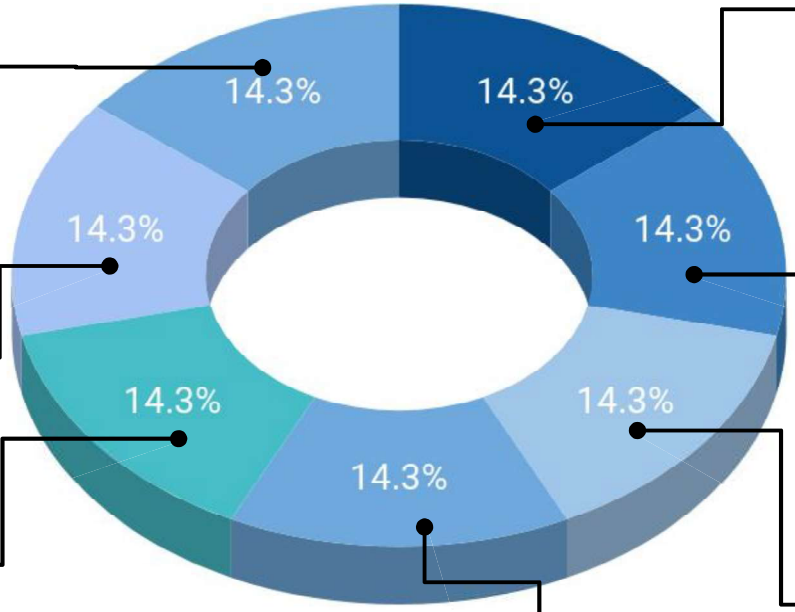
Kakaritsuke physicians

Non-Medical Initiatives

Well Ageing Society Summit

National Master Plan on Ageing

Urban Planning
Society 5.0



Elderly Healthcare Vouchers

Subsidized Medicine

Financial Reform

Retirement Age Increment

Continuing Education

Senior Citizens' Continuing Education Program

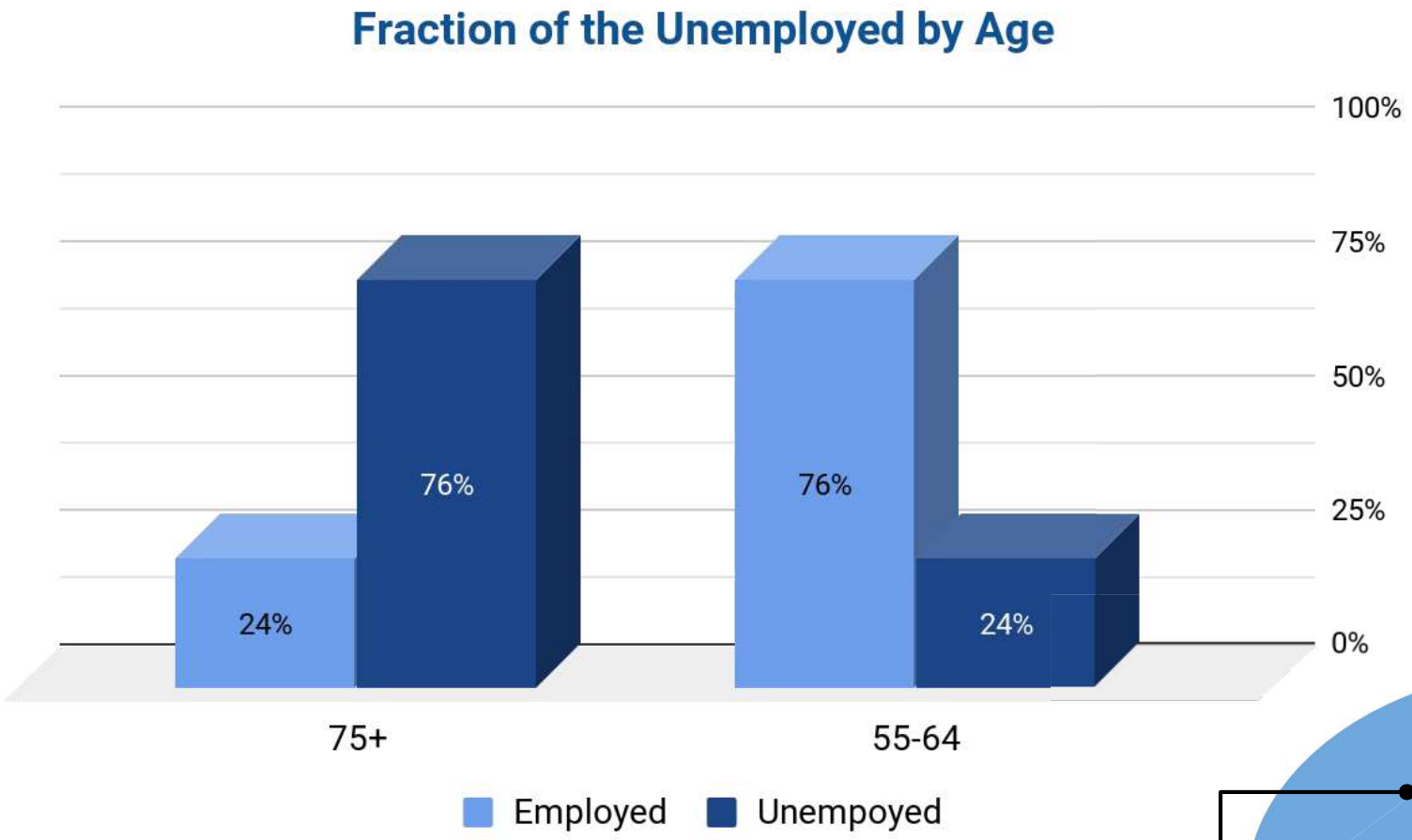
AgeTech

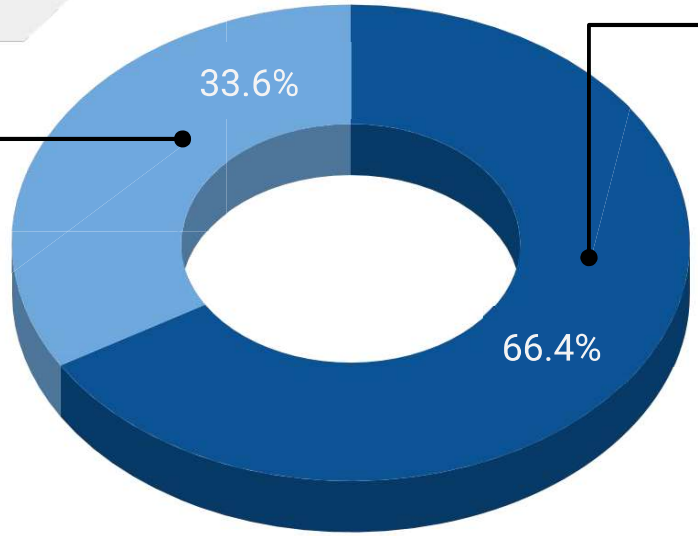
METI Scheme for Elder Care Robots

Underrepresented Initiatives

Preventive Medicine	Geroscience R&D	Longevity Industrial Strategy

Japan Age/Employment Range





Percent of people under 60

Percent of people over 60

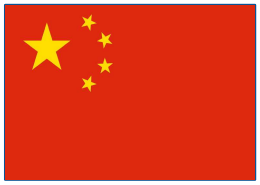
Recommendations for Japan

- **Introduce long term care insurance system.** Japan is facing super ageing problem; the number of elderly population is expected to grow from the current 16 million to 20 million by 2020, and the working population will be expected to decline from 109 million to 100 million during the same period. This demographic change will require drastic reform of healthcare and long-term care systems. Unless tackled, the rapid increase in aging population can impose a large burden on the health care system including universal health insurance system.
- **Support healthy and disease-free lifestyles with emphasis on health status of elderly.** Promoting healthy, disease-free aging must be a central priority for Japan, and attention must also be paid to the potential for rising rates of risky health behaviour, alcohol consumption and even rates of obesity.
- **Development of health information systems for better monitoring and evaluation.** A strong health information system has the potential to be the backbone for monitoring and evaluating different aspects of health check-ups and cancer screening and further developing its secondary prevention policies.
- **Shift from "sick care" to preventive medicine.** The government should focus on reduction of diseases burden through provision of initiatives aiming to deliver more years in good health and decrease the gap between life expectancy and health-adjusted life expectancy. The goal of healthcare policy is to build a sustainable health care system that delivers better health outcomes through care that is responsive and equitable to each member of the society and that contributes to prosperity in Japan and the world.
- **Utilise AI opportunities for precision health for cost-efficiency and improved health outcomes.** Japan should consider using innovative approaches taken in other countries in context of prevention. For example, within the national cancer screening programmes, a use of selected self-sampling tools for cancer screening were found effective in reaching out to non-participants for cervical and colorectal cancer.

China

Economic Giant, History of Intervention in National Demographics, a 5-year Plan on Elderly Care

China



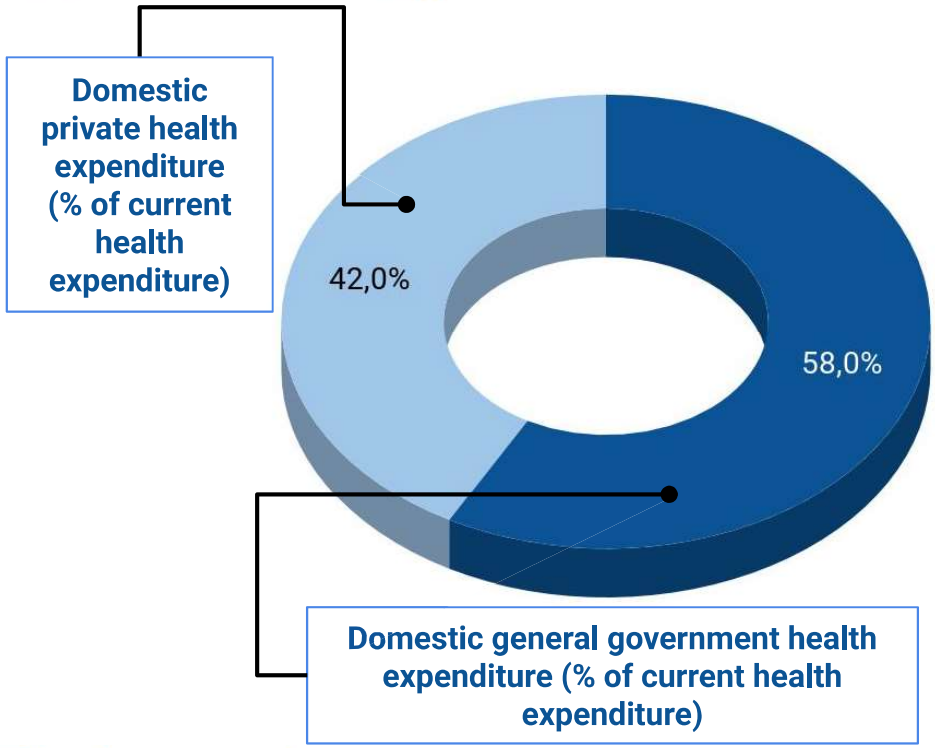
General metrics

HALE	Both Sexes HALE (2016)	68.7 years
	HALE/Life Expectancy Difference 2016	7.4
Economy	GDP per Capita, Current Prices (2016)	8.08 thousand ($)
	Annual GDP Growth (2016)	6.7 %
Healthcare	Current Health Expenditure per Capita (2016)	0.4 thousand ($)
	Public Health Care Expenditure 2016	4.98 % of GDP
Retirement	Age Dependency Ratio 2016	39
	Population over 65, 2016	10.1 %
	Number of WHO Age Friendly Cities and Communities	19
General Health Status	Alcohol Consumption per Capita (Litres of Pure Alcohol) 2016	7.2
	Annual Cigarette Consumption (Units per Capita) 2016	2043
	Prevalence of Overweight among Adults 2016 (Age-Standardized Estimate)	32.1 % of adults

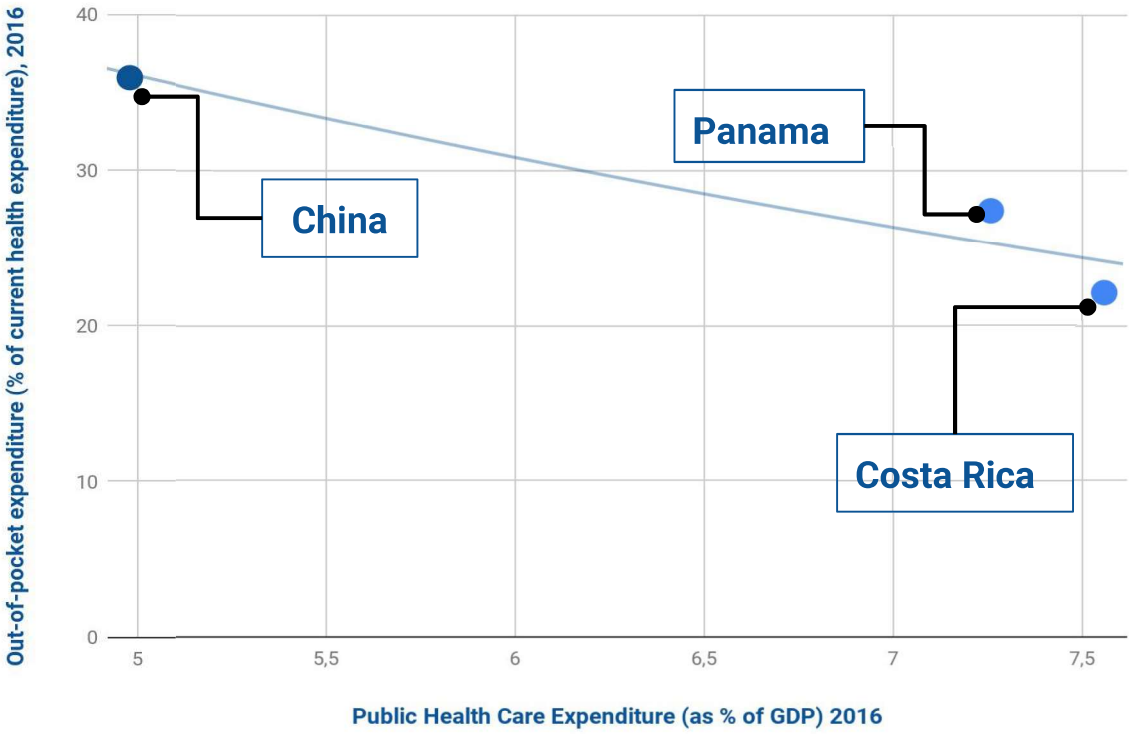
Longevity-Related Indices

- The Healthcare Access and Quality Index -2016: **78**
- Human Development Index 2016: **0.75**
- E-Government Development Index 2016: **0.61**
- Corruption Perceptions Index 2016: **40**
- Global Gender Gap Index 2016: **0.68**
- Democracy Index 2016: **3.14**

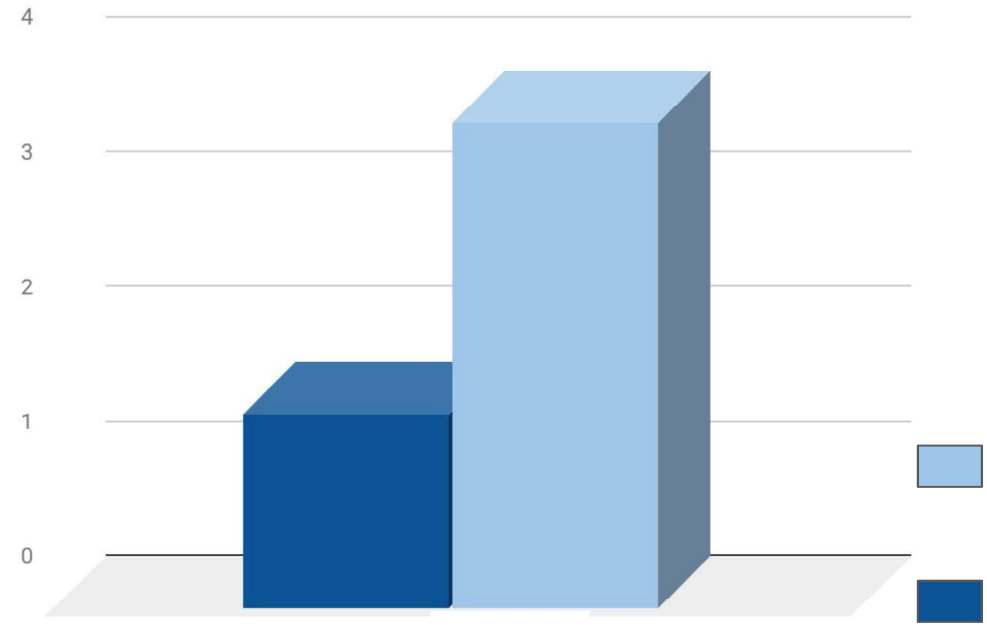
Current Healthcare Expenditure



Countries with Medium HALE and Life Expectancy and Low Gap



Effectiveness ratios



China faces many health challenges. A key component of healthcare should be the promotion of healthy lifestyles and physical fitness, including through the development of healthy cities, to ensure a greater focus on prevention rather than treatment. For greater reduction in infant mortality and rates of infectious diseases, government should invest in expanding health infrastructure, improvement quality of healthcare service and provision of affordable health care in rural areas across country.

HALE and Life Expectancy Difference CAGR (6 years)/Current health expenditures per capita (current US$), CAGR (6 years)

HALE CAGR (6 years)/Current health expenditures per capita (current US$), CAGR (6 years)

SWOT Analysis of Healthcare in China

STRENGTHS

- 95% of the population have insurance for at least basic health coverage that provides treatments on primary care for the population.
- The government claims that public insurance covers 70% of medicare that is a relatively good indicator for healthcare.
- In the then-impoverished country, the system contributed to a remarkable increase in life expectancy by more than 30 years since 1960 to reach 76.2 years in 2016.
- The infant mortality rate in China has fallen greatly, coming down to 18.3 deaths per 100,000 population in 2018.

WEAKNESSES

- The effectiveness of spending on health is low.
- Public health insurance covers only half of the costs of medication.
- Unaffordable healthcare: people with income lower than average do not afford treatment of serious chronic diseases.
- Shortage of healthcare specialist that cause long waiting periods and low quality of care delivery.
- Uneven distribution of hospitals and specialists - people in the remote area have no opportunity to cure serious diseases.
- The smoking rate is still high and stood at 24% in 2010, three percentage points higher than the OECD average of 21%.

OPPORTUNITIES

- Rapidly growing population's wealth is driving overall health care market expansion.
- China is a major market for different multinational health companies.
- There is an overall tendency in the decrease in smoking rates among the world.
- A fast-growing economy that can learn from advanced countries' healthcare systems and invest in the improvement of its own by the development of modern technologies and P4 medicine.

THREATS

- Environmental crises can be the reason for serious injuries, epidemics and diseases.
- The country has a large health care demand gap due to an ageing population, growing urbanization, proliferating lifestyle diseases.
- The obesity rates are rising and are more than in Japan and Korea.
- Continuing failures in the reforming of healthcare.

Analysis of Strengths and Weaknesses of Health Care System in China

- Obesity is much lower than in other OECD countries. The World Health Organization estimated that 4.6% of men and 6.5% of women were obese in China in 2008.
- Healthcare expenditures in China are growing rapidly from year to year with the growth of income.
- The government became highly concerned about the healthcare system that resulted in the implementation the three types of insurances, two of them on a voluntary basis.
- The health status of the population has been improved for several past decades,
- Living standards and health status of the population have been significantly improved since the 1980s.
- From 1990 to 2000, infant mortality decreased from 65 to 31 per thousand live births, and maternal mortality decreased by nearly 50 per cent.

- With 1.6 physicians per 1000 population in 2012, China had much fewer doctors per capita than the OECD average (3.2 physicians).
- The economic success wasn't mirrored on healthcare and such issues as Longevity in particular.
- China's spent on healthcare only 5.4 per cent of gross domestic product (GDP) in 2013 that is much lower as compared to OECD countries.
- The hospitals in China are prevalent in the urban area, in big cities and are very overcrowded, so rural population is left without an appropriate medical establishment and usually get impoverished by the payments for noncommunicable diseases treatment.
- The out-of-pocket cost issue is the most pressing, especially in rural areas.
- Noncommunicable diseases have become the major disease burden, infectious diseases such as tuberculosis, hepatitis, and schistosomiasis are still the major health problems in poor rural areas. The prevalence of noncommunicable diseases such as cancer, diabetes and cardiovascular disease.

Summary of Relevant Government-Led Longevity Initiatives in China

- In 2017 the government announced a 5 year plan on elderly care for providing better quality public services for senior citizens. The plan includes:
  - Improving pension and healthcare systems.
  - A nationwide information network for basic health insurance.
  - A minimum living allowance.
  - Reimbursement for families living in hardship.
  - Incentives for greater involvement of private capital, NGOs and elderly care institutions.
  - Greater investment in geriatric care departments (ranging from care wards to basic exercise facilities).
- **In 2011 a baseline survey of 10, 000 individuals** was conducted for the China Health and Retirement Longitudinal Study (CHARLS) headed by Zhao at Peking University and funded in part by the U.S. In order to enable multidisciplinary studies on issues related to ageing population, every two years it collects a representative sample of Chinese over 44. It reveals dramatic changes to the Chinese Longevity landscape, industry and lifestyle.

History of Chinese Government Involvement in Longevity

20th Century

Baby Boom Under Mao Zedong's Rule.

1980s

Universities For the Elder.

Universities for the elder created, initially for retired cadres of the Chinese Communist Party.

2011

China Health and Retirement Longevity Study.

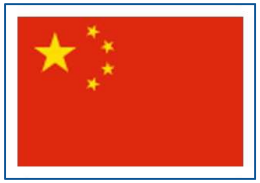
In 2011 a baseline survey of 10, 000 individuals conducted for the China Health and Retirement Longitudinal Study (CHARLS) headed by Zhao at Peking University and funded in part by the U.S. In order to enable multidisciplinary studies on issues related to ageing population, every two years it collects a representative sample of Chinese over 44. It reveals dramatic changes to the Chinese Longevity landscape, industry and lifestyle.

2017

Novel Elderly Care Plan.

In 2017 the government announced a 5 year plan on elderly care for providing better quality public services for senior citizens.

China



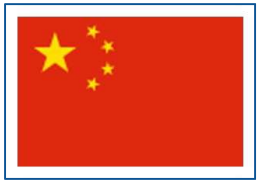
General metrics

Life Expectancy	Both sexes life expectancy (2019)	75.9 years
	Male life expectancy (2018)	75 years
	Female life expectancy (2018)	77.9 years
GDP	GDP per capita, current prices (2018)	10.15 thousand ($)
	GDP per capita, PPP (2018)	19.52 thousand ($)
	GDP, current prices (2018)	14 220 billion ($)
Population Ageing	Rate of population ageing	3.3 (2007-2017)
	Aged over 65 (2018)	11.9%
	Age dependency ratio (2017)	15%
Healthcare Efficiency	Health expenditure (2017)	1.75% of GDP
	Health expenditure per capita (2017)	1.071 thousand ($)
	Healthcare efficiency score (2018)	54
Retirement	Total # retired	147 532 179
	Retired people proportion	11%
	Normal retirement age (Man/Woman)	65 years / 65 years
	Early retirement age (Man/Woman)	60 years / 55 years

Longevity Initiatives

- Age of relevant initiatives: **40 years**
- **9** of WHO age-friendly cities and communities
- **4** initiatives focused on non-medical improvement of quality of life

China Initiatives Level of Comprehensiveness



National Master Plan on Ageing

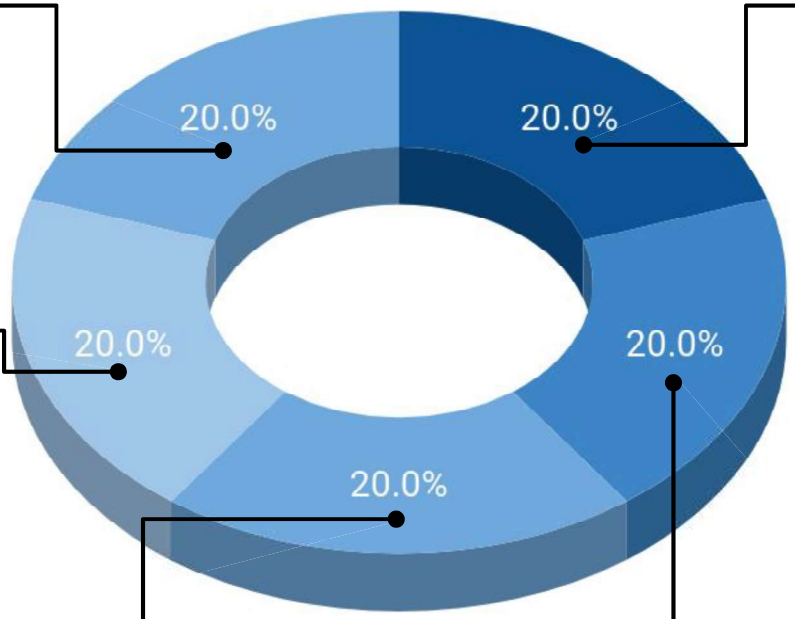
5 year Plan

Healthy Ageing: Lifestyle and Fitness Programs

Promoting Healthy Lifestyle

Non-Medical Initiatives

China Health and Retirement Longevity Study



Continuing Education

"Continuing Elderly Education"

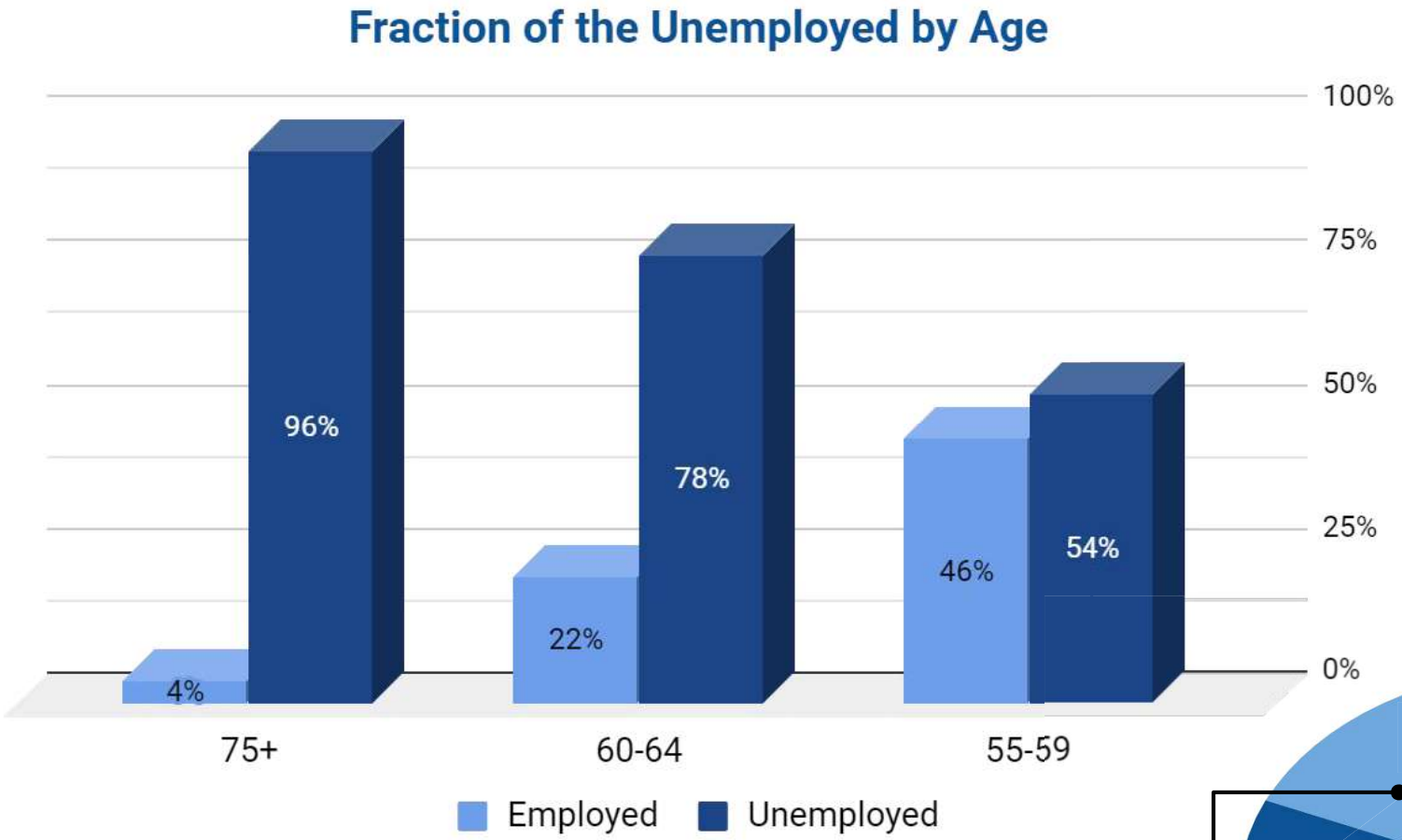
Financial Reform

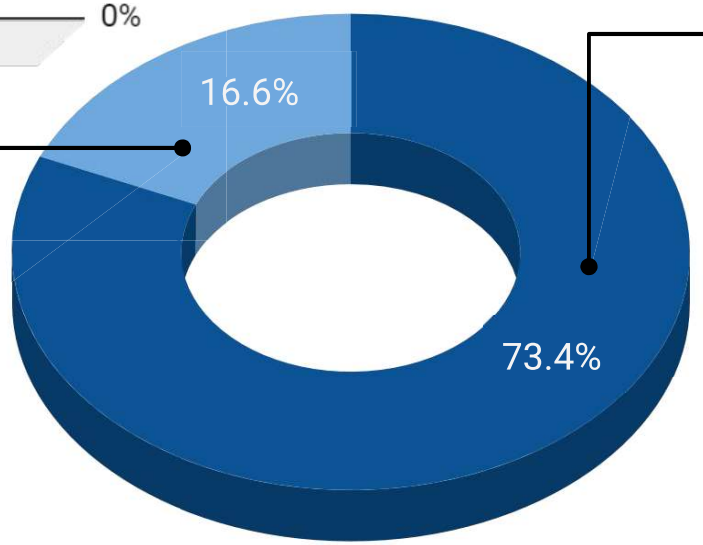
Retirement System Reform

Underrepresented Initiatives

Preventive Medicine	Geroscience R&D	AgeTech	Elderly Healthcare Vouchers	Longevity Industrial Strategy

China Age/Employment Range





Percent of people under 60

Percent of people over 60

Recommendations for China

- **A focus on national-level health status and its temporal trajectory.** Health status is one of the most important indicators of well-being, and it predicts a large proportion of societal expenditures on health and social services for the elderly. Health status depends on individual lifestyle factors, social and community networks, general socio-economic, cultural and environmental conditions. Health status is also reciprocally affected by social and political policies and programs.
- **Improve engagement of staff in healthcare.** Though the government claims that there is basic insurance and treatments for 95% of the population are available, the real situation is the opposite. People find it difficult to receive the qualified treatments because of queries, waiting period and difficult system to sign up for a visit to a doctor. And this is in big cities where the huge public clinics have enough equipment, instruments and well-trained staff.
- **Provide more freedom for private sector development.** Private clinics can bring advanced methods and technologies in treatments, especially, foreign one by following the successful examples of the developed OECD countries that effectively tackle the burden of the noncommunicable diseases and provide the appropriate medications for elders.
- **Health system re-orientation towards the changing epidemiological landscape**. The increasing burden of noncommunicable diseases highlights the need to move from sick treatment to the prevention of chronic conditions. It requires patients' participation and high health consciousness.
- **Combat with undernourishment, poverty and socioeconomic inequality.** Results of our study show an evident linkage of health and wealth. Healthy Longevity in China should be started from the provision of basic services for all population, including adequate sanitation facilities, improved water sources, effective prevention and treatment. The focus also should be made on both the healthcare status of adults and children to create favourable conditions for the growth of future generations.

India

Overpopulation, pollution, poverty, a numerous of government programs, and positive outlook on technology.

Senior Citizens Saving Scheme (SCSS)

This is a government-backed savings instrument offered to Indian residents above the age of 60.

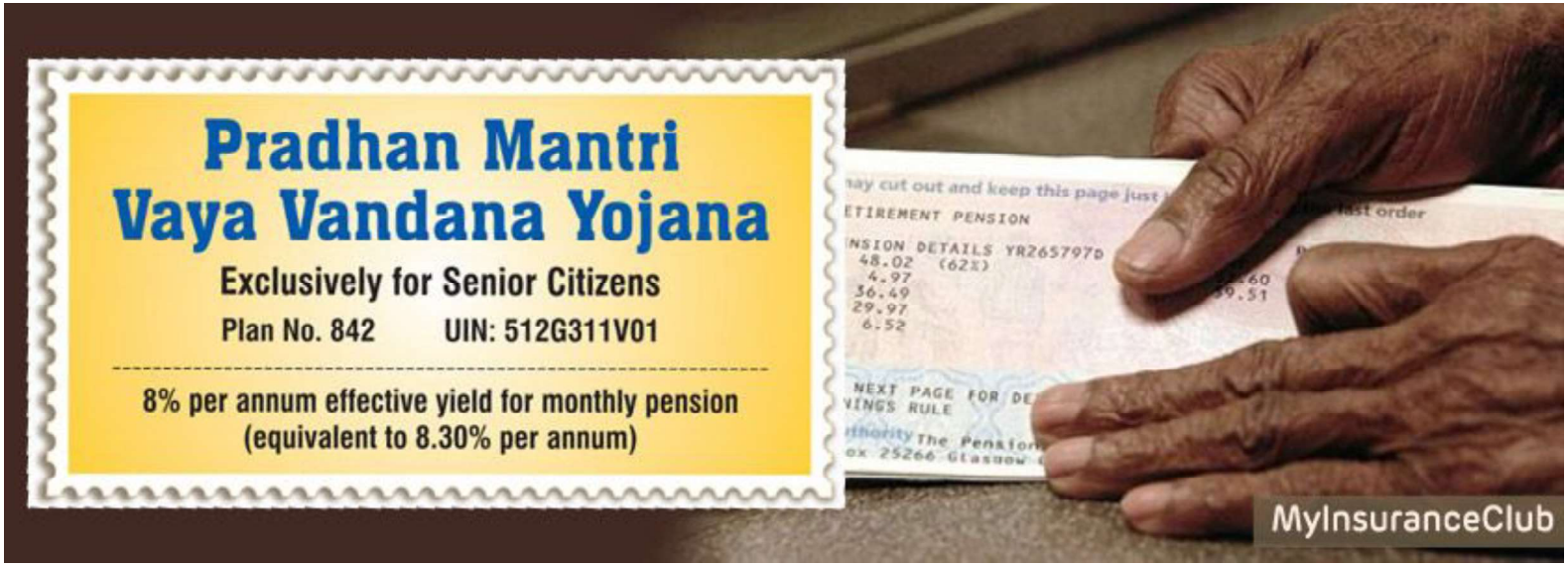
- The deposit matures in five years and can be extended once for an additional three year period.
- One can avail this scheme either through a public/private bank or through the Indian Post office.
- Interest rate for January to March 2019 has been set at 8.6 per cent and is reviewed by the government every quarter.
- The accrued interest is compounded and credited quarterly.
- A minimum deposit of Rs 1,000 and a maximum of Rs 15 lakh can be made via this scheme.
- Investments made under this scheme are eligible for tax exemptions.
- If, for some reason, you wish to withdraw money before the scheme matures, then there will be a penalty charge of 1.5 percent of deposit amount deducted in case the withdrawal is before two years, and 1 per cent after two years.

Source: India Post Office

Pradhan Mantri Vaya Vandana Yojana (PMVVY)

The scheme is managed by the Life Insurance Corporation of India (LIC).

- Under this scheme the beneficiary is assured of 8 per cent per annum return on the deposit. The 'pension', or the return will be payable for a period of 10 years and the beneficiary has the option of choosing the tenure of payment.
- One can subscribe to this until 30 March 2020.
- Under this scheme there is a cap on the amount that can be invested, an individual can invest upto Rs 15 lakh and a minimum of Rs 1,000.
- The scheme has no tax benefits.
- In case of death of the beneficiary before the completion of the tenure, the principal amount will be credited to the nominated beneficiary's account.
- This scheme also has the provision for a premature exit in case of critical illness of self or spouse. In such a case 2 per cent will be withheld as a penalty charge.



Varishta Pension Bima Yojana

Launched by the Life Insurance Corporation of India (LIC), this scheme provides its beneficiaries with a steady 8 per cent per annum interest rate for a period of 10 years.

- Unlike other schemes, one doesn't have to go through any medical check-ups to avail its benefits.
- This scheme, however, has a lock in period of 15 years.
- If the policyholder is diagnosed with a critical illness then one can make an early withdrawal.
- Under this scheme the beneficiary will also get tax exemptions.
- If for some reason you are not satisfied with the scheme then you have 15 days from the start date to cancel it.
- You can opt to get the pension payout monthly, quarterly, half-yearly or annually.
- This is a single premium policy and the premium will vary depending on the pension amount you want.
- Single premium of Rs 6,66,665 enables the policyholder to receive Rs 5,000 per month and an annual premium of Rs 6,39,610 affords the pensioner a sum of Rs 60,000 per annum.

Rashtriya Vayoshri Yojana (RVY)

Launched in 2017 by the Ministry of Social Justice & Empowerment of Government of India.

- This scheme is only available to those senior citizens who are below poverty line, that is, are BPL cardholders.
- Senior citizens suffering from low vision, hearing impairment, loss of teeth, and locomotor disability will be provided with assisted-living devices.
- A committee chaired by the Deputy Commissioner or District Collector with the help of the State governments identifies those who are eligible for this scheme.
- 30% of the beneficiaries from each district will be women.
- Walking sticks, elbow crutches, walkers, hearing aids, wheelchairs, and artificial dentures are some of the aids that are provided under this scheme.
- The scheme will be implemented in 260 districts and benefit almost 5 lakh plus beneficiaries in 2019-2020.

Ministry of Social Justice & Empowerment

Indira Gandhi National Old Age Pension Scheme

Introduced in 2007 by the Ministry of Rural Development of India, this scheme is popularly known as National Old Age Pension Scheme (NOAPS).

- This scheme provides social assistance benefits to senior citizens, widows, and those with disabilities.
- Under this scheme the beneficiary will receive a monthly pension.
- The interesting part about this scheme is that it is a non-contributing scheme, which means that the beneficiary does not have to contribute any amount to receive the pension.
- The beneficiary must be a BPL cardholder and have no regular source of financial support from any other source.
- If the beneficiary is between 60 to 79 years old, a monthly amount of Rs 200 is given and for those above 80 years, a sum of Rs 500.
- The pension amount will be credited to the bank account as furnished by the beneficiary or post office account.

Indira Gandhi National Old Age Pension Scheme is part of the National social assistance program (NSAP)

Megacity Kolkata joins WHO Global Network of Age-friendly Cities and Communities

In 2012, on the International Day of Older Persons, WHO welcomes Kolkata, India as the 105th member of its Global Network of Age-friendly Cities and Communities. Kolkata is the first city to join from WHO's South-East Asia Region. Other member cities include New York, La Plata (Argentina), Canberra and Geneva.

"We live in a rapidly ageing world. For communities to thrive, they need to tap into the experiences of older people and ensure that infrastructure meets their needs," says Dr John Beard, Director of the Department of Ageing and the Life-course at WHO.

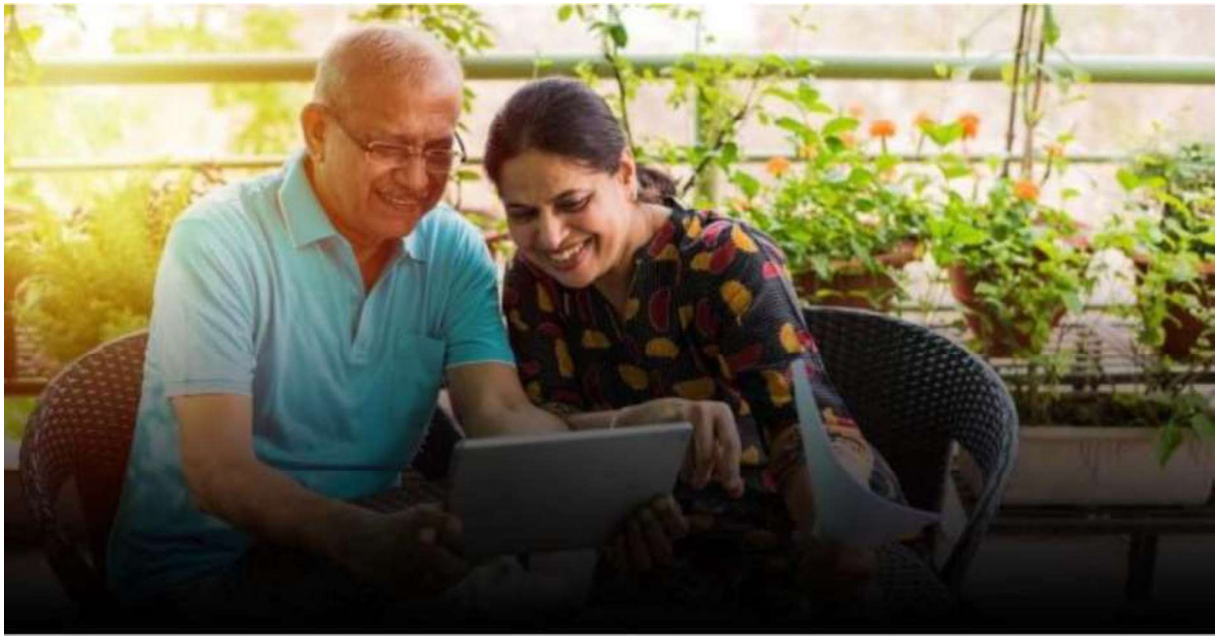
In the years that followed, Kolkata - a megacity with more than 15 million inhabitants, many of them very poor - will join other Network members in assessing its age-friendliness and developing a plan to adapt structures and services to be more accessible to and inclusive of older people.

Source: Creative Commons

India's Seniors Turn to Technology

The past few months have been particularly difficult for the elderly. Being the most vulnerable victims of the pandemic, they have been forced to confine their lives within the walls of their house. A lot of them have children either studying or working abroad and hence are forced to navigate their daily challenges and loneliness without the luxury of stepping out of their homes. Technology has played a big role in allowing these senior citizens to not simply fulfill their daily needs but also stay connected with their loved ones and community at large.

Video calling apps such as Zoom and Google Meet have allowed grandparents to virtually-bless their grandchildren on special occasions and allowed families to celebrate festivals together on the same screen. Loneliness remains a significant challenge, but video calling and social media apps allow the elderly to continue to play an active role in their family and community. During these trying times, many communities have created special WhatsApp groups and host frequent online events that range from spiritual conferences to simple cooking demos to keep the seniors in the community engaged and entertained within their homes itself.



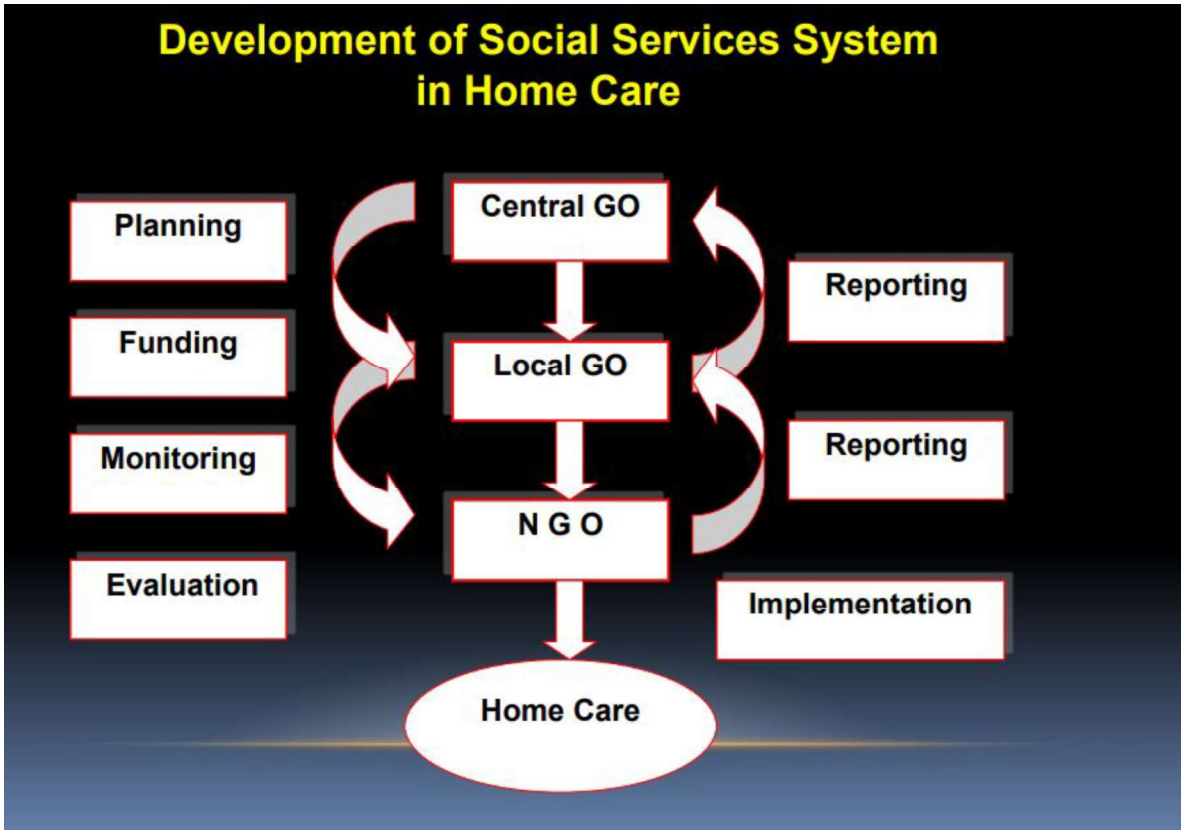
Source: The Better India

The Department of Health, Population and National Family Planning

The Department of Health, Population and National Family Planning Coordinating Board and Department of Manpower also have programmes for the elderly. In general, services for the elderly can be broadly classified into two categories: social care (meals, recreation/sport, and spiritual guidance); and health care (health monitoring, health education, and health services). All Government programmes are coordinated by the State Ministry for People's Welfare and the Alleviation of Poverty, yet it seems that each sector works in isolation. Coordination in programme design and strategies is weak, and the capacity to build and manage programmes is limited in terms of both funds and resources.

As a result, programmes have been limited in scope and impact and fragile in terms of sustainability.

More than 400 social organizations dealing with the elderly have been registered in Indonesia. Most are run by Non Government Organisations (NGOs), and nearly all are united under the Indonesia Elderly Institute or Lembaga Lansia Indonesia. Their missions are varied: some target the better-off elderly, others are professional organizations, and a few cover the elderly among public servants, and army retirees etc.



Source: (Raharjo & Do-Le, 2001).

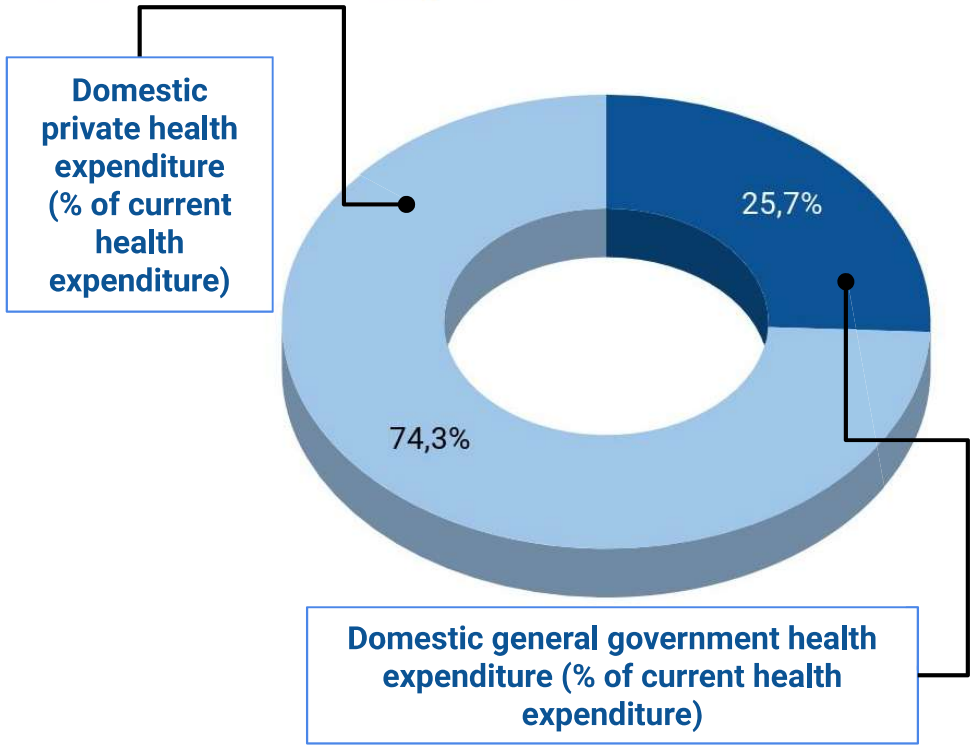
India

General metrics			
HALE	Both Sexes HALE (2016)	59.3 years
	HALE/Life Expectancy Difference 2016	9.26
Economy	GDP per Capita, Current Prices (2016)	1.73 thousand ($)
	Annual GDP Growth (2016)	8.2 %
Healthcare	Current Health Expenditure per Capita (2016)	0.06 thousand ($)
	Public Health Care Expenditure 2016	3.66 % of GDP
Retirement	Age Dependency Ratio 2016	52
	Population over 65, 2016	5.8 %
	Number of WHO Age Friendly Cities and Communities	0
General Health Status	Alcohol Consumption per Capita (Litres of Pure Alcohol) 2016	5.7
	Annual Cigarette Consumption (Units per Capita) 2016	89
	Prevalence of Overweight among Adults 2016 (Age-Standardized Estimate)	19.7 % of adults

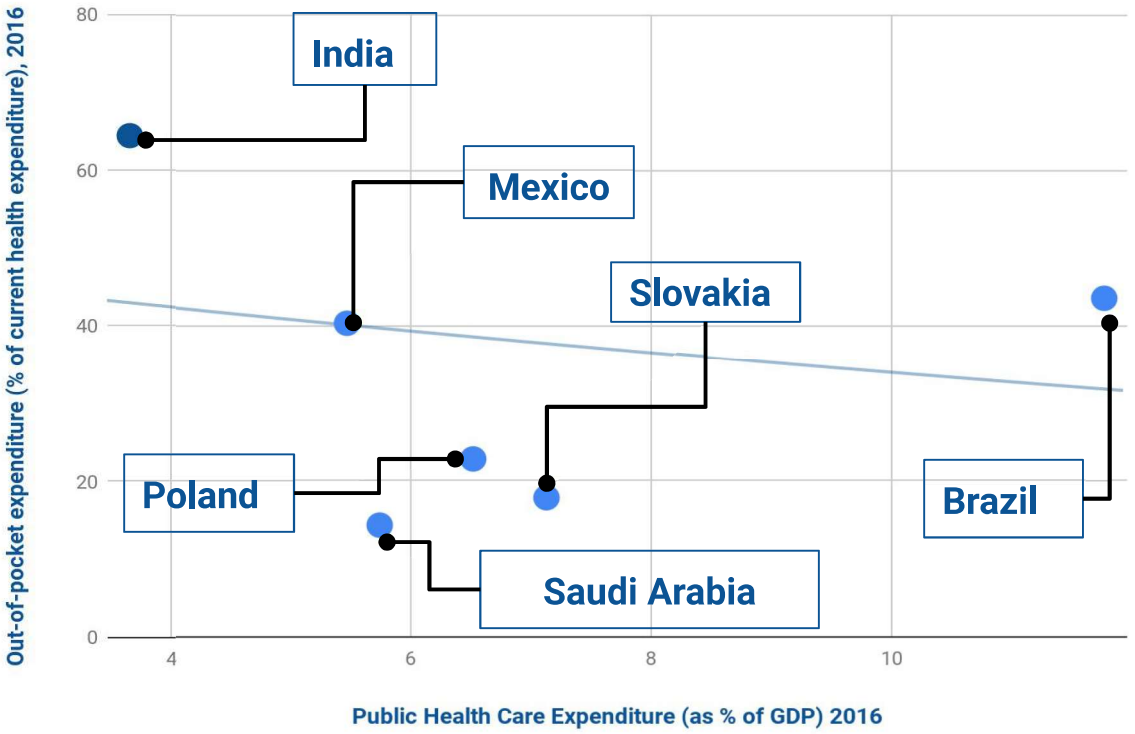
Longevity-Related Indices

- The Healthcare Access and Quality Index -2016: **41**
- Human Development Index 2016: **0.64**
- E-Government Development Index 2016: **0.46**
- Corruption Perceptions Index 2016: **40**
- Global Gender Gap Index 2016: **0.68**
- Democracy Index 2016: **7.81**

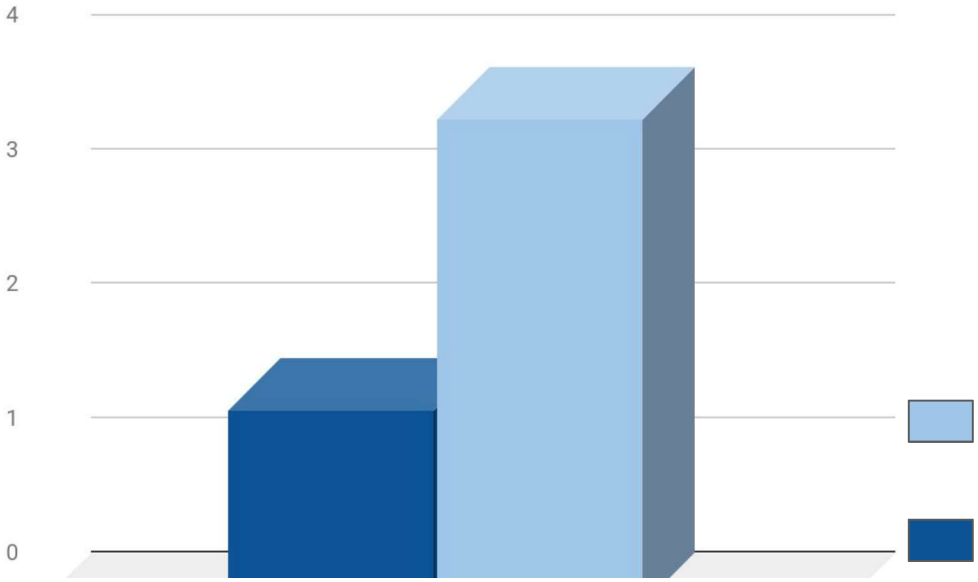
Current Healthcare Expenditure



Countries with Low HALE and Life Expectancy and Medium Gap



Effectiveness ratios



The country faces public health challenges, particularly for the poor. These include child undernutrition, growth in obesity, diabetes, and tobacco use, leading to cancer and other diseases. There are targets to improve public health: accessible and affordable nutritious food, sanitary facilities, health centres in rural areas, affordable health care.

HALE and Life Expectancy Difference CAGR (6 years)/Current health expenditures per capita (current US$), CAGR (6 years)

HALE CAGR (6 years)/Current health expenditures per capita (current US$), CAGR (6 years)

SWOT Analysis of Healthcare in India

STRENGTHS

- Vaccination coverage of the population riches 75% but is lower than in the OECD countries.
- Life expectancy at birth has increased significantly through the past decades for 25 years.
- There was a significant cut in the infant mortality for the few past decades.
- The smoking rates in India are twice lower than in the OECD and are just 10.7.
- India provided the activities to improve access to the clean water up to 93%.

WEAKNESSES

- Total health expenditures in India are 4% of GDP and it is less than half of the OECD average.
- The value of healthcare spending per capita is critically small.
- Public spending on health in India accounted for only 33% of total expenditures while out-of-pocket one were 60% of total expenditures on health in 2012.
- There is a relatively low amount of doctors and nurses in India compared to OECD countries.
- Relatively low level of access to basic sanitation facilities and poor supply of improved water sources.
- High burden of communicable diseases.

OPPORTUNITIES

- The wide range of policies provided by the government to make better sanitation in India and reduce the infant mortality and children's diseases.
- Preventive interventions such as improving access to a clean water supply, reducing the spread of HIV/AIDS through better sexual education, and vaccination campaigns for other diseases will each deliver significant returns.
- India is one of the BRICs countries that is developing rapidly, so it can afford to direct more funds to the healthcare to make it as effective and reliable as in other OECD countries or countries with the same income.

THREATS

- High level of ambient air pollution.
- Chronic diseases are the main reasons for deaths and account almost 50% of total deaths in India.
- The burning of solid fuels is a great risk factor.
- Ischemic heart diseases, lower respiratory infections and chronic obstructive pulmonary diseases are the main reasons for the death in India that can cause a stroke.
- Dietary iron deficiency, headache disorders and low back pain are the most reasons for the disability-adjusted years.
- Socio-economic inequality and high level of poverty.

Analysis of Strengths and Weaknesses of Health Care System in India

- India is a popular destination for medical tourists, given the relatively low costs and high quality of its private hospitals. International students in India should expect to rely on private hospitals for advanced medical care.
- In advanced regions there are usually big hospitals stuffed with all medicines and well-trained personnel that can provide innovative and cost-effective treatment.
- There was a training for the managers of primary health centres and district hospitals to provide efficient administration of the hospital in order to achieve good patient outcomes.
- There was a significant growth in the private sector in order to meet the growing needs and expectations for the outcomes of the population.

- Spending on pharmaceuticals in India is the highest component of the total spendings on health and is 45%.
- The health care system in India is universal. That being said, there is great discrepancy in the quality and coverage of medical treatment in India. Healthcare between states and rural and urban areas can be vastly different. Rural areas often suffer from physician shortages, and disparities between states mean that residents of the poorest states.
- 11% of the lowest economic quintile and 16% of highest one don't undertake any sufficient physical activity.
- Only 16% of households have the access to free or partially fee healthcare and the HAQ index is 41.2.
- The quality of the delivered services varies by the region and the area. 41% of people in rural area and 45% in urban area were not satisfied by their treatments.
- 10% of primary health care centres are without a doctor, 37% are without a laboratory technician and 25% without a pharmacist.
- Lack of adequate coverage by the health care system in India means that many Indians turn to private healthcare providers, although this is an option generally inaccessible to the poor.

Recommendations for India

- **Utilising opportunities of current development of health industry in India.** India is a land full of opportunities for players in the medical devices industry. India's healthcare industry is one of the fastest growing sectors and it is expected to reach $280 billion by 2020. The country has also become one of the leading destinations for high-end diagnostic services with tremendous capital investment for advanced diagnostic facilities, thus catering to a greater proportion of population.
- **Increase the level of health awareness in both urban and rural areas.** The answers may lie in low educational status, poor functional literacy, low accent on education within the healthcare system, and low priority for health in the population, among others.
- **Improve the access and quality of healthcare services.** The government must encourage discussion on the determinants of access to healthcare. It should identify and analyze possible barriers to access in the financial, geographic, social, and system-related domains.
- **Make healthcare affordable and treatment reliable for all population.** The solutions to the problem of affordability of healthcare lie in local and national initiatives. Nationally, the Government expenditure on health must urgently be scaled up, from <2% currently to at least 5%–6% of the gross domestic product in the short term. This will translate into the much-needed infrastructure boost in the rural and marginalized areas and hopefully to better availability of healthcare– services, infrastructure, and personnel.
- **Combat with undernourishment, poverty and socioeconomic inequality.** Results of our study shows an evident linkage of health and wealth. Healthy Longevity in India should be started from the provision of basic services for all population, including adequate sanitation facilities, improved water sources, effective prevention and treatment. The focus also should be made on both healthcare status of adults and children to create favorable conditions for growth of future generations.

Indonesia

Home to the eighth largest population of older persons in the world, long history of government coordinated solutions.

Long History of Government Programs

In the past few years, public policy towards the elderly has become an emerging policy issue for Indonesia. With one-third of all Indonesians predicted to be elderly (i.e. aged 60 years or older) in the year 2050, millions of citizens are vulnerable to old age poverty, since many of them will have little extra income (e.g. from savings or pension) to finance their livelihood in old age. At the same time, they will no longer be able to depend exclusively on assistance from their children/other family members as in the past, since the birth rate is declining and family relations are becoming more strained due to continued modernization and social change occuring in the country.

For more than three decades, Indonesia has made significant progress in its economic and human development. This has resulted in better health conditions for Indonesians and longer life expectancy. The country's life expectancy has increased dramatically during the last three decades, from 45 in 1970 to 66 in 2004. Consequently, the number of Indonesians aged 60 years and older has increased from 4.48% of the population in 1971 to 7.97% of the population in 2000, according the Asia Development Bank.

Existing government programmes for the elderly are limited in terms of funds and resources, rather sectoral, centralized and target oriented. They focus mainly on the poor elderly with specific problems, in particularly those who are neglected with or without families. Such programmes treat the elderly as if their needs and concerns are the same, based on standardized and centralized guidelines for implementation that do not respond to the diverse and changing needs of the elderly population.

With a real partnership among all stakeholders, along with a firm political will to improve the living standards of all elderly Indonesians and a credible mechanism to ensure that all stakeholders follow through with the above commitments, it is hoped that Indonesia can successfully develop a comprehensive aging policy that is able to effectively and sustainably improve the welfare of all elderly Indonesians, both now and in the future.

Ministry of Social Affairs Programs

Traditionally, the elderly have been taken care of by their relatives, with three to four generations of a family living together. However, there is a now a trend towards “nuclear families”, with young couples moving away in search of better jobs. Such change is “very natural”, Nuryana says, but leaves the elderly living on their own.

But now the Ministry of Social Affairs in Indonesia are creating a policy and programme to address long term loneliness and social isolation of this group of older people”, he says. The state and local governments already run a service sending social workers to provide residential care. But this kind of last resort for them is very expensive. It costs the government at least 18 million rupiah (US$1,348) annually to provide social services for each elderly. The Ministry also wants to get more people to continue working in their 60s and 70s. This will allow them to be more financially independent as their children move out.

The Ministry’s approach is threefold:

1. **Promotion and protection of the right of older people**

Protect against exploitation, violence and abuse, discrimination Promote Social, Economic and Political Rights

2. **Strengthening family and community**

First safety nets in family, then community , state as the last resort (welfare society model)

3. **Promote the establishment of commission on the older person**

At the regional, national and local level

KEMENTERIAN SOSIAL
REPUBLIK INDONESIA

Source: NATIONAL POLICY ON AGEING IN INDONESIA

Indonesia

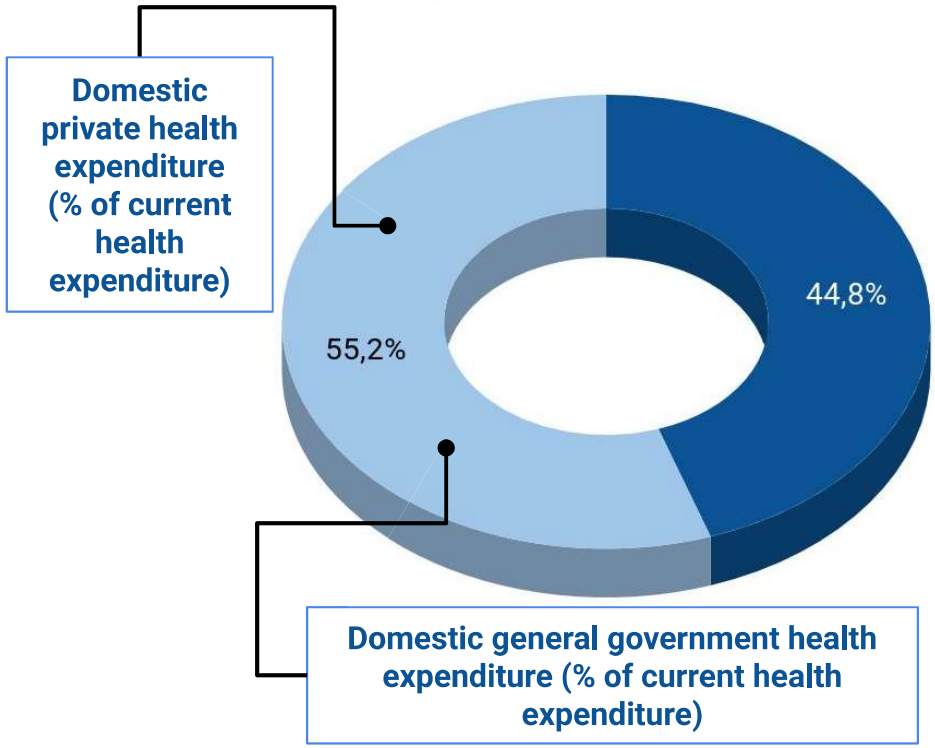
General metrics

HALE	Both Sexes HALE (2016)	61.7 years
	HALE/Life Expectancy Difference 2016	7.49
Economy	GDP per Capita, Current Prices (2016)	3.56 thousand ($)
	Annual GDP Growth (2016)	5 %
Healthcare	Current Health Expenditure per Capita (2016)	0.11 thousand ($)
	Public Health Care Expenditure 2016	3.12 % of GDP
Retirement	Age Dependency Ratio 2016	49
	Population over 65, 2016	5.2 %
	Number of WHO Age Friendly Cities and Communities	0
General Health Status	Alcohol Consumption per Capita (Litres of Pure Alcohol) 2016	0.8
	Annual Cigarette Consumption (Units per Capita) 2016	1675
	Prevalence of Overweight among Adults 2016 (Age-Standardized Estimate)	28.2 % of adults

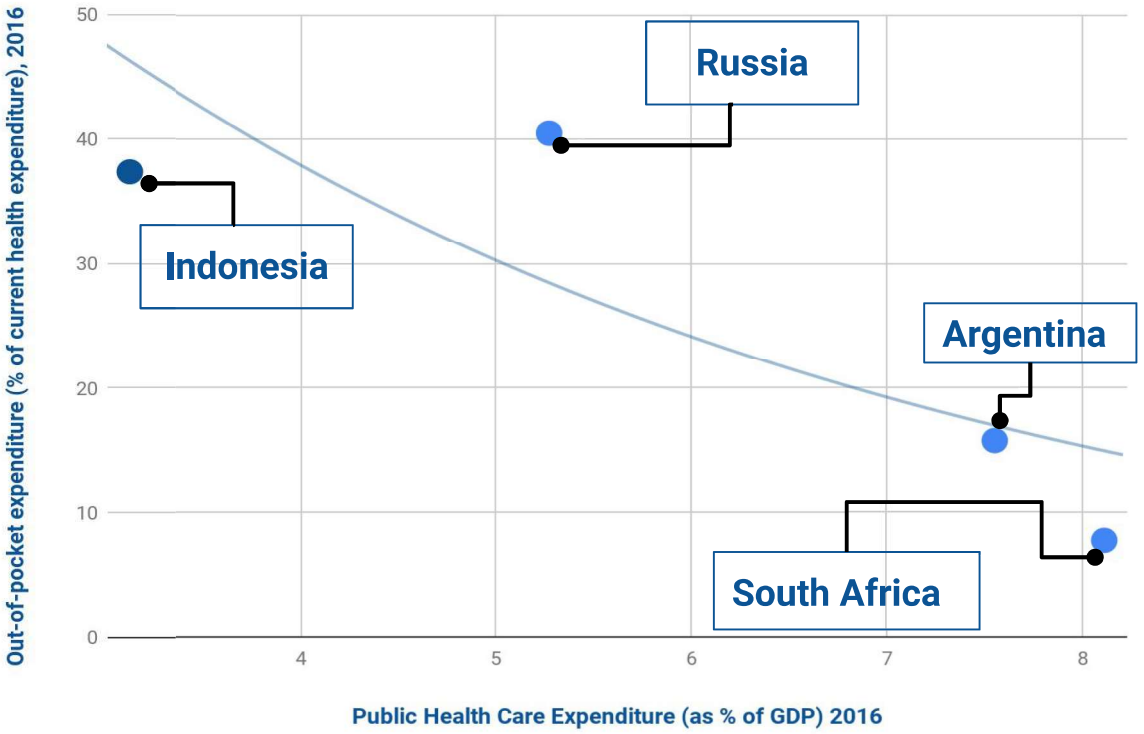
Longevity-Related Indices

- The Healthcare Access and Quality Index -2016: **44**
- Human Development Index 2016: **0.69**
- E-Government Development Index 2016: **0.45**
- Corruption Perceptions Index 2016: **37**
- Global Gender Gap Index 2016: **0.68**
- Democracy Index 2016: **6.97**

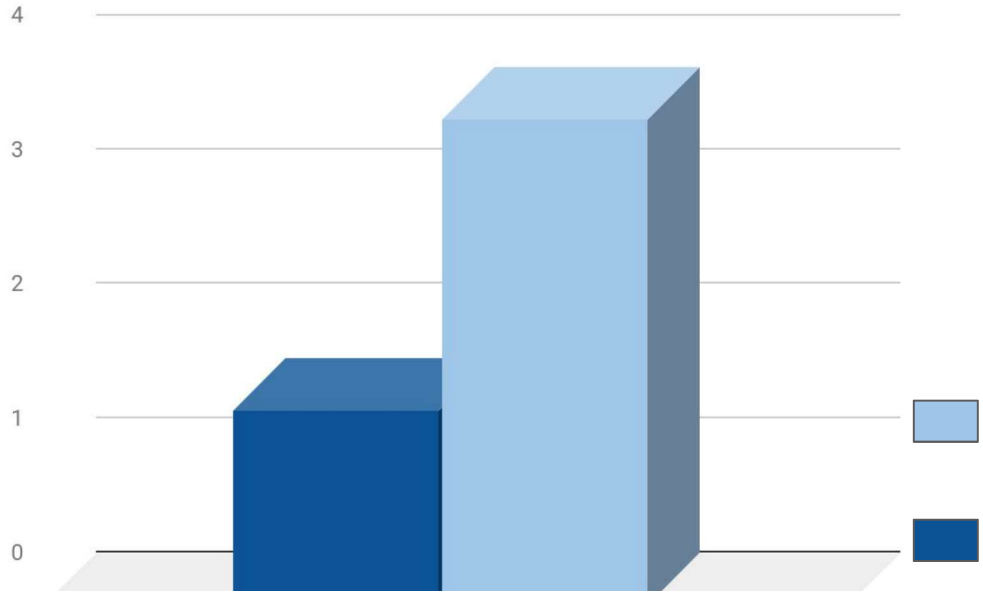
Current Healthcare Expenditure



Countries with Low HALE and Life Expectancy and Low Gap



Effectiveness ratios



There are important regional and socioeconomic inequities in the health system of Indonesia. Health financing also is low and inequitable. Government should concentrate the use of public funds on delivery of public goods and improving equity for priority health outcomes focus on improving health and on managing the whole health system, control the spread of HIV/AIDS by focusing on prevention.

HALE and Life Expectancy Difference CAGR (6 years)/Current health expenditures per capita (current US$), CAGR (6 years)

HALE CAGR (6 years)/Current health expenditures per capita (current US$), CAGR (6 years)

SWOT Analysis of Healthcare in Indonesia

STRENGTHS

- The life expectancy in Indonesia had increased by 25 years for few past decades and it was 70.2 in 2012.
- The coverage for vaccinations for measles is relatively high and is 80%.
- There was also a great decrease in the mortality rate that had fallen from 62 death to 26 death in 2012.
- There was a slight progress in reducing the spread of HIV/AIDS.
- There was a decline in deaths from tuberculosis by more than a half.

WEAKNESSES

- Total spendings on health are 3% of GDP and it is three times less than the OECD average.
- The healthcare spending per capita is $150 that is extremely below the OECD average.
- Only 40% of all healthcare costs are funded publicly that is greatly lower than the OECD average of 72%.
- Cancer and tuberculosis are the second major reasons of premature deaths in Indonesia.
- Risk factors for NCDs, such as high blood pressure, high cholesterol, overweight and smoking, are increasing.

OPPORTUNITIES

- Disease epidemiology patterns in the country have become increasingly complex in recent decades.
- The increasing demand on the health service.
- Development of healthcare tourism
- The Indonesian health system has a mixture of public and private providers and financing.
- Utilizing advanced technologies in healthcare.
- The government can initiate the Longevity plan based on successful experience of developed countries.

THREATS

- There are only 0.3 doctors per 1000 population and 1 nurse per 1000 that is the threatening situation for meeting the healthcare needs of the population.
- There is a very low coverage of vaccination for children against diphtheria, tetanus and pertussis.
- According to the data of the 2016 tobacco smoking is still the major risk factor for the Indonesian people as one fourth of the population reported to smoke daily.
- Stroke is the leading cause of death and it causes 19.2% of death in Indonesia.

Analysis of Strengths and Weaknesses of Health Care System in Indonesia

- There was a significant decrease in maternal mortality from 210 to 168 deaths per 100000 people.
- The life expectancy is growing at relatively high rate of 1.05% per year.
- The regulation for the healthcare is branched out and consists of few institutions for the effective regulation.
- Civil society actively participates in the health sector. Various nongovernmental organizations (NGOs) engage in health-related issues in Indonesia, and play an important role in promoting awareness, preventive measures, fund-raising, policy advocacy and working in 27 partnership with the government on monitoring and evaluation.
- Developed pharmaceutical industry.

- The disability-adjusted years in Indonesia are mainly caused by the dietary risks (11%), high blood pressure (10%) and smoking (9%).
- The causes for years of life lost are mainly cerebrovascular diseases, tuberculosis and road injures.
- Childhood underweight and occupational risks are the main reasons for the death among children up to 5 years old and from 15-49 years old respectively.
- 67.2% of Indonesian has tooth decay.
- Indonesia is ranked among the 10 countries with the highest diabetes and tuberculosis burden.
- 95% of ingredients for pharmaceuticals are imported that can lead to the rise of some of them.
- The access to the healthcare is unequal in different regions and HAQ index is 44.5.
- The high levels of out-of-pocket expenditure impacts access to health services for the poor.

Recommendations for Indonesia

- **Provide wider immunization coverage.** The lack of appropriate vaccinations among children can cause severe problems and spread the broaden epidemics that can lead to the young deaths.
- **Improve engagement of staff in healthcare.** Human resources for health have also grown in the last two decades, with increases in health worker to population ratios. However, the ratio of physician to population is still lower than the WHO-recommended figure, and ongoing geographical disparities exist. There is also a pronounced shortage of nurses and midwives.
- **Expand population coverage.** In response to the high levels of out-of-pocket expenditure and its impact on access to health services by the poor, the Government of Indonesia has to introduce various social insurance programmes for health.
- **Tackle environmental problems.** Bad environmental conditions contribute to poor health and inequality in healthcare status. Indonesia's large cities are prone to pollution, and this can exacerbate existing respiratory conditions like asthma. One of the most significant problems is the fact that tap water in Indonesia is not generally safe to drink.
- **Utilize AI for generating health databases of voluntary self-reported data.** Information on user experience is limited in both the public and private sectors. Requirements for informed consent are regulated but there is no national charter to describe the rights of patients in choice of provider, privacy or information. The ratio of health workers to population has improved over time, but disparities between provinces remain large.
- **Health system re-orientation towards the changing epidemiological landscape**. The increasing burden of noncommunicable diseases highlights the need to move from sick treatment to prevention of chronic conditions. It requires patients' participation and high health consciousness.

New Zealand

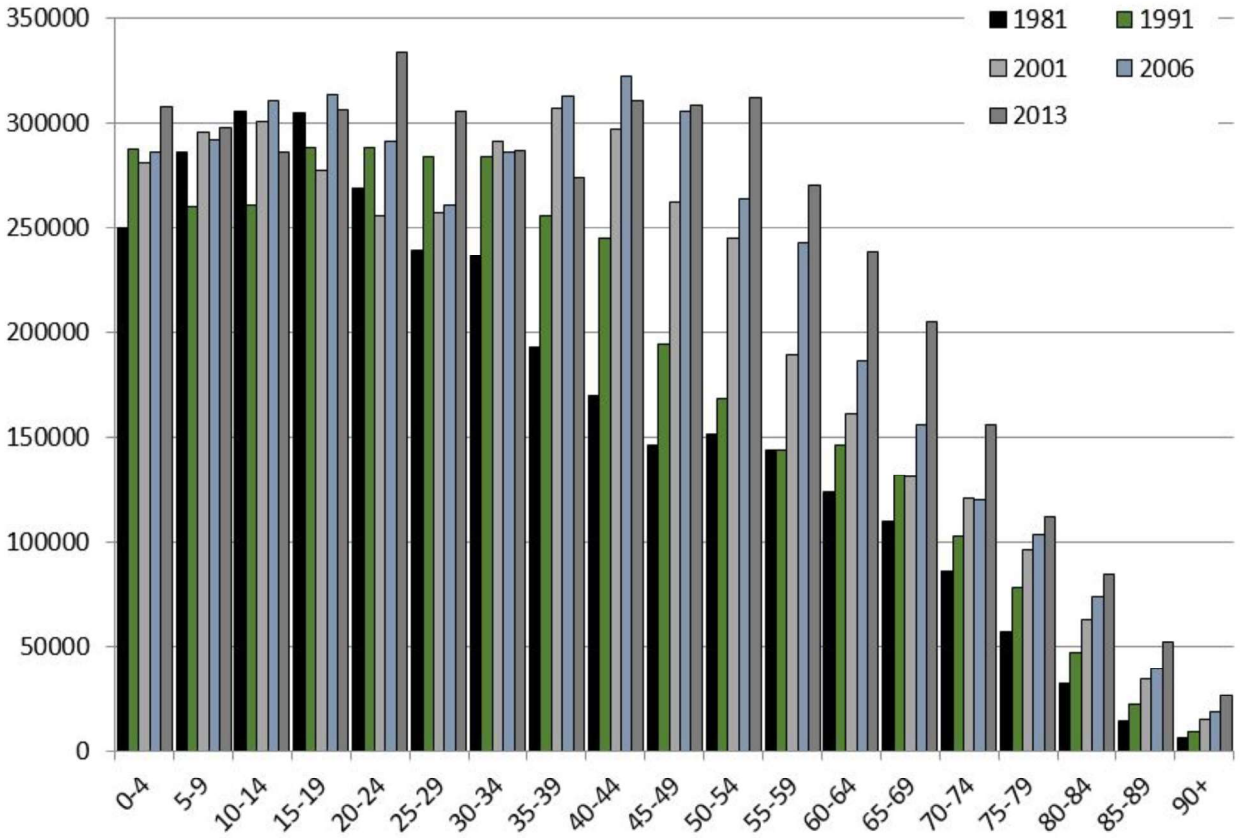
Mixed Health Population, ethnic inequalities, good medical cover, strong scientific base.

Demographics

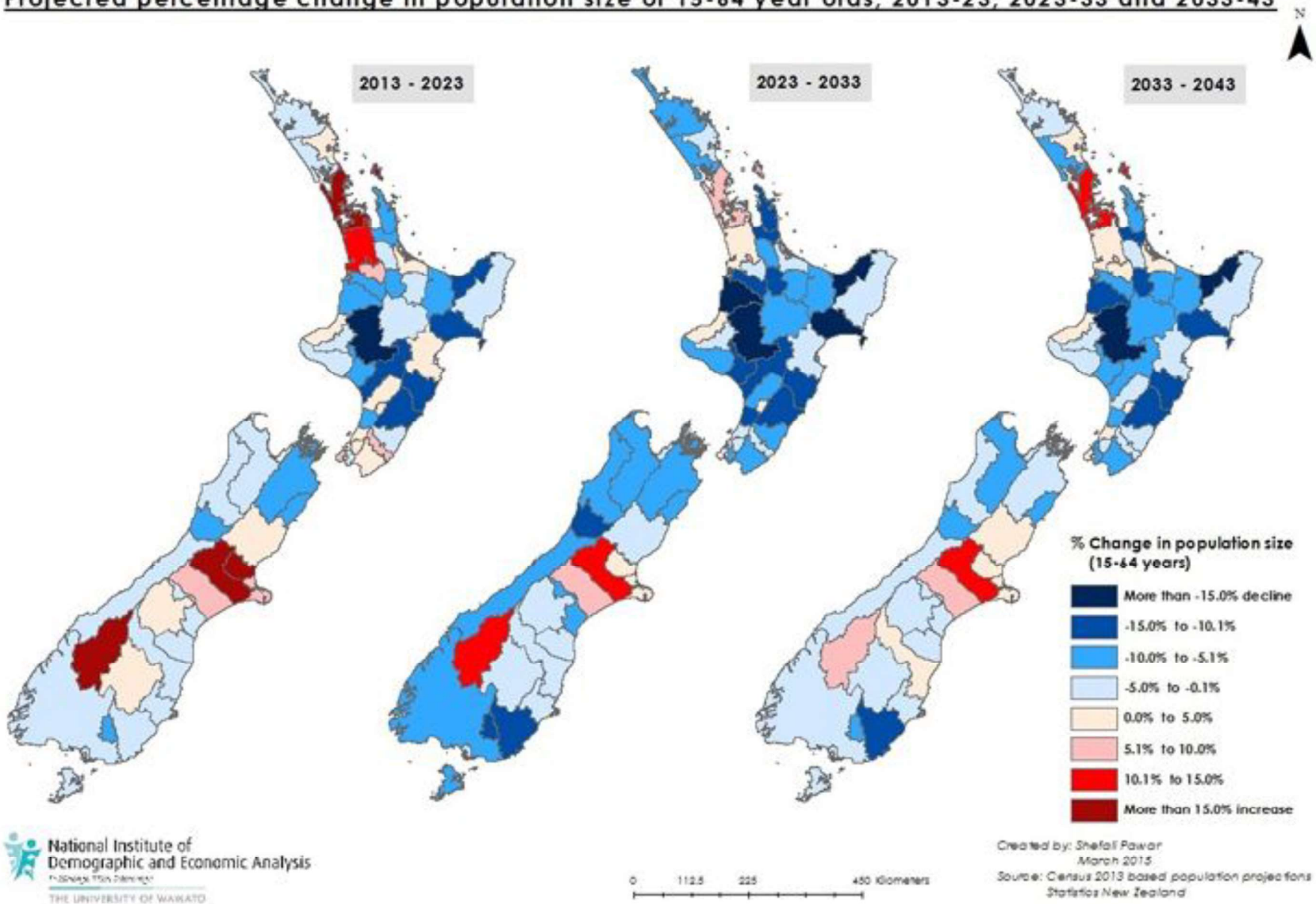
People aged 65 and older currently constitute 15% of New Zealand's population, with just over half (53.4%) being women (Statistics New Zealand, 2019).

Like most Western countries, the number of older New Zealanders has almost doubled since 1998, increasing from 0.44 to 0.74 million people. Ongoing increases in life expectancy mean that the older population in New Zealand is predicted to double to 1.30 million in the next 20 years, and the 85+ age group is expected to double in the next 40 years.

Because of increases in life expectancy and improved well-being, there is likely to be a continued emphasis on **'ageing in place'** – living in the community, with some level of independence, rather than in residential care.



Projected percentage change in population size of 15-64 year olds; 2013-23, 2023-33 and 2033-43



National Institute of Demographic and Economic Analysis

THE UNIVERSITY OF WAIKATO

Created by: Shefali Pawar
March 2015
Source: Census 2013 based population projections
Statistics New Zealand

Research Priorities

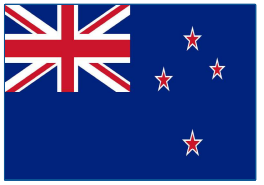
The Ministry of Business, Innovation and Employment (MBIE) is the main funder of research in New Zealand (Ministry of Business, Innovation and Employment, 2019a). MBIE funds researchers directly through Endeavour, Catalyst, and Strategic Science Investments. MBIE also provides research money for distribution by other government agencies with narrow funding priorities, such as the Health Research Council, the Royal Society of New Zealand's Marsden Fund, Crown Research Institutes, and National Science Challenges.

In 2014, MBIE funded the Ageing Well National Science Challenge to increase gerontology research capacity and capability, and effectively address future needs associated with predicted demographic changes in New Zealand (New Zealand Gazette Office, 2014). Ageing Well is one of the three health-focused National Science Challenges, divided across the life span into A Better Start (young people), Healthier Lives (middle age), and Ageing Well (older people). There are also another eight mission-led National Science Challenges to "tackle the biggest science-based issues and opportunities facing New Zealand," ranging from Biological Heritage to Resilience to Nature's Challenges. The initial tranche of Ageing Well funding (2015–2019) focused on five interlinking research strands to reduce disability, increase social engagement, independence, and autonomy, create age-friendly environments, and value older people. The second tranche (2019–2024) is funding larger programs of research focused broadly on Health and Wellbeing in Ageing, and Ageing and Māori (Ageing Well National Science Challenge, 2018).

Research Priorities

The New Zealand Government invests approximately $1.3 billion per annum on research funds across the science sector. In the past 5 years, the Government has directed more health research funding to address health inequities. In addition, Health Research Strategies require successful grant applicants to explain how the team will address health inequities within the research project. There is a concerted effort by research groups and centers to attract and train postgraduate scientists and clinicians in gerontology and geriatric fields. Also, national and international collaborations, which are essential in the National Science Challenge funding model described below, means that there are strong relationships between researchers, stakeholders, communities, and policy makers

New Zealand



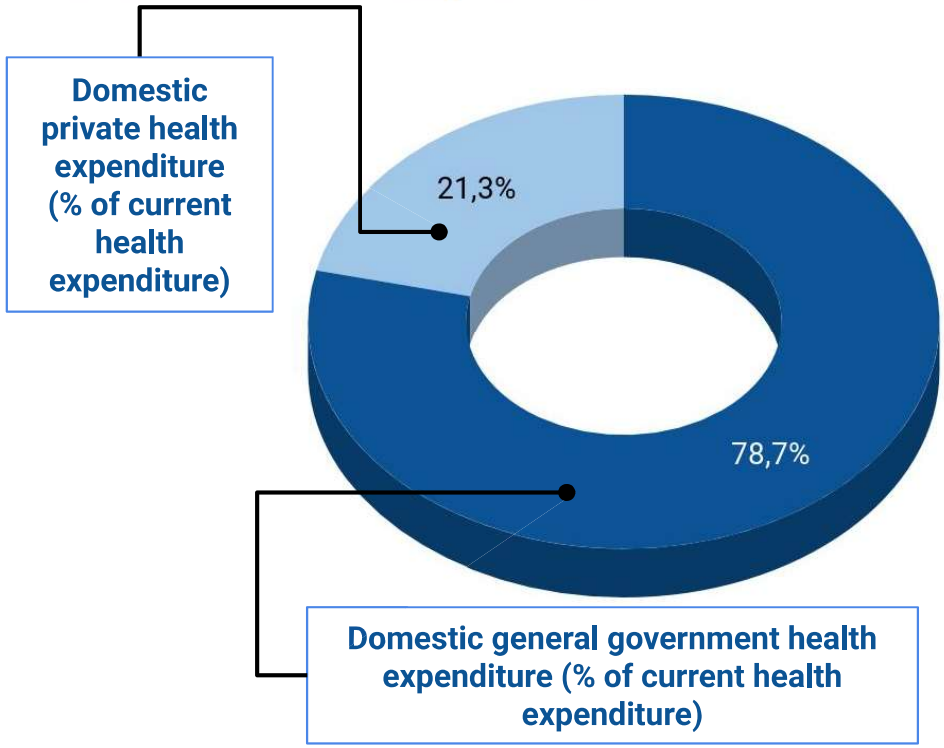
General metrics

HALE	Both Sexes HALE (2016)	72.8 years
	HALE/Life Expectancy Difference 2016	9.4
Economy	GDP per Capita, Current Prices (2016)	40.03 thousand ($)
	Annual GDP Growth (2016)	3.6 %
Healthcare	Current Health Expenditure per Capita (2016)	3.75 thousand ($)
	Public Health Care Expenditure 2016	9.22 % of GDP
Retirement	Age Dependency Ratio 2016	53
	Population over 65, 2016	15 %
	Number of WHO Age Friendly Cities and Communities	2
General Health Status	Alcohol Consumption per Capita (Litres of Pure Alcohol) 2016	10.7
	Annual Cigarette Consumption (Units per Capita) 2016	685
	Prevalence of Overweight among Adults 2016 (Age-Standardized Estimate)	65.6 % of adults

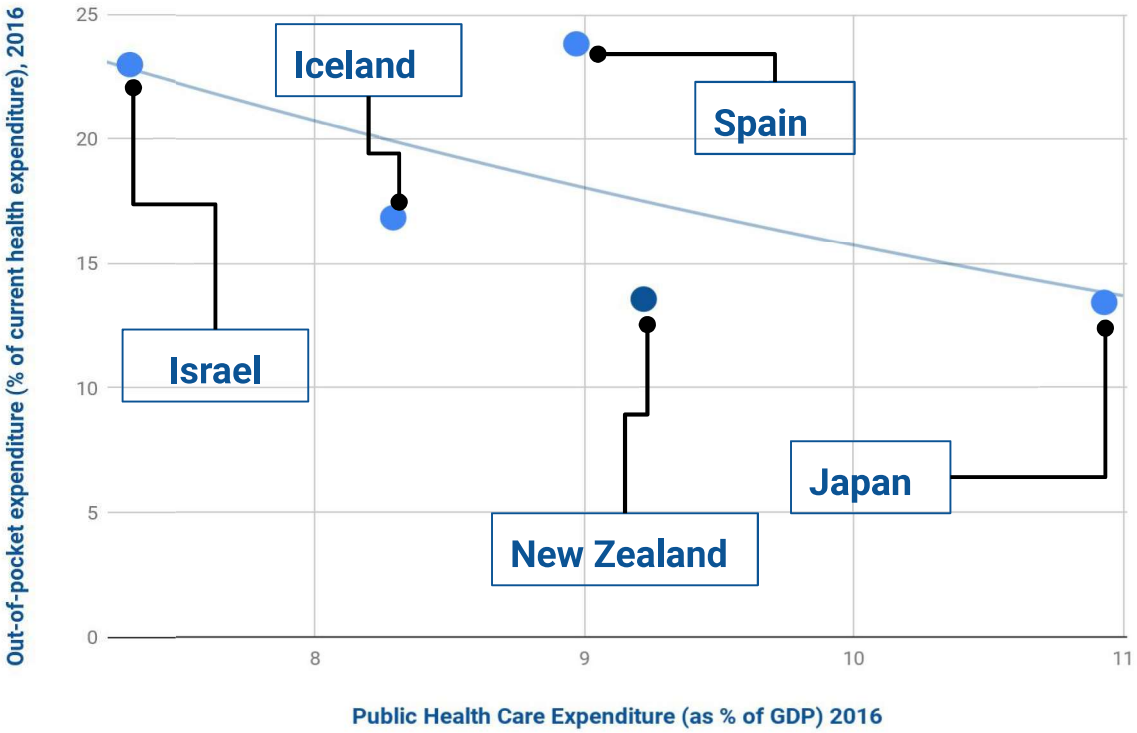
Longevity-Related Indices

- The Healthcare Access and Quality Index -2016: **92**
- Human Development Index 2016: **0.92**
- E-Government Development Index 2016: **0.86**
- Corruption Perceptions Index 2016: **90**
- Global Gender Gap Index 2016: **0.78**
- Democracy Index 2016: **9.26**

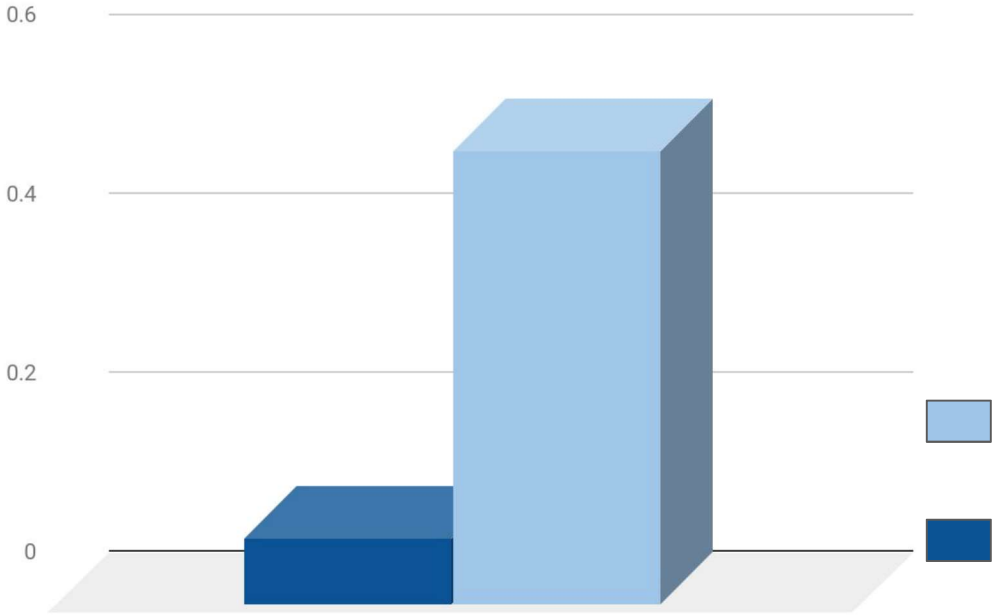
Current Healthcare Expenditure



Countries with High HALE and Life Expectancy and Medium Gap



Effectiveness ratios



The government should commit to reduce smoking rates, the overall negative impact of alcohol, prevent and manage obesity, and to support and encourage healthy eating and physical activity, provide better access to primary health care.

HALE and Life Expectancy Difference CAGR (6 years)/Current health expenditures per capita (current US$), CAGR (6 years)

HALE CAGR (6 years)/Current health expenditures per capita (current US$), CAGR (6 years)

SWOT Analysis of Healthcare in New Zealand

STRENGTHS

- New Zealand has a generally high performing health system, which provides universal coverage and publicly funded access to a large set of core health services.
- Public care is funded through general taxation. This means residents receive free or subsidised medical care.
- Health insurance in New Zealand isn't overly expensive. Some employers offer medical cover.
- Well-developed medical infrastructure. There is a wide range of clinics and private hospitals. Private testing laboratories and radiology clinics are also available.

WEAKNESSES

- The level of hospital admissions for COPD and asthma in New Zealand is one of the highest in the world.
- There are great disparities in the life expectancy and DALYs between New Zealand and Maori with Pacifica tribes.
- Maori health status is poorer because of notably lower socioeconomic status, reduced access to health services and professionals, and health risk factors.
- There is the third highest rate of prevalence of obesity in New Zealand that stands for 30.6% of adults that is the great risk factor for most of chronic diseases.

OPPORTUNITIES

- Encourage a more active lifestyles through health promotion media campaigns and make physical activity an easier choice in the workplace.
- Improve the flow and quality of clinical information utilizing AI opportunities in life science and data generation.
- Enhance physical and eHealth infrastructure to widen the access to qualified healthcare treatment.
- Improve access to care for disadvantaged or underserved populations.

THREATS

- Breast and colorectal cancers are above the OECD average though there were slight improvements in the rates.
- Prevalence of health inequalities between different socio-economic groups.
- Poor diet and lack of physical activity remain key risk factors for the future.
- Ageing of the population is a rising issue for healthcare and pension systems stability.
- Growing burden of non-communicable and chronic diseases as a result of rising concern on behavioral risk factors.

Analysis of Strengths and Weaknesses of Health Care System in New Zealand

- The Human Development Index in New Zealand is 0.908 that is the reason for placement of the country in 'very high human development' category.
- Perinatal, neonatal, post-neonatal mortality rates are all low and have continued to decline.
- Personal healthcare access and quality index is high and is 92.4 that is the evidence for the well-functioning healthcare system in New Zealand.
- New Zealand has universal coverage health system with services provided by public, private and non-governmental sectors. 83.2% of expenditures funded through public sources in 2009–2010 while out-of pocket expenditures 16.8% of expenditure and private health insurance contributed only 4.9% of expenditures in 2009–2010.
- Relatively young population slightly mitigate the pressure on pension system.

- The main causes of death are circulatory diseases, malignancies, ischaemic heart disease, cerebrovascular disease and chronic respiratory disease.
- There was an increase in the rates of termination of pregnancy: from 14 per 1000 in 1990 to 19.2 in 2009.
- There was and increase in incidence of a range of diseases in the Māori population compared the non-Māori population.
- Maori smoking rates are 46% overall, compared with 31% for Pacific, 23% for European/other and 13% for Asian peoples.
- Cancer remains to be the key factor for deaths for the Maori population and the major reason for disability-adjusted years.
- There is unequal distribution of key specialists and other resources among the population and it causes lots of unmet needs in some districts with long waiting lists.

Recommendations for New Zealand

- **Reduce socioeconomic inequalities in health at individual and population level.** Behavioural risk factors tend to be more common among people at a disadvantage because of a lesser education or lower income.
- **Strengthen primary and preventive care.** A core function of a strengthened primary care sector must be the effective management of patients with multiple, complex health care needs, including long-term conditions such as diabetes. The government should devise comprehensive approach to tackling diabetes, high blood pressure and other chronic diseases through public health programmes and public policy.
- **Utilize AI opportunities for future of Healthy Longevity.** Artificial Intelligence may help to improve productivity and efficiency of healthcare system, processes information with less time and provide generated data with the right context for decision making process. Subsequently, AI will enable organisations to complete some complex tasks at scale, at a fraction of the cost of human labour and often with superior results. AI will also supplement and amplify human capability so that people and organisations can achieve even more.
- **Engage healthy lifestyle.** There is rising concern on prevalence of overweight and obesity among adolescents and adults. One of the top priorities for government on the way to Healthy Longevity is to encourage a more active lifestyles through health promotion media campaigns and make physical activity an easier choice in the workplace; tighten regulations of food advertising to better protect children.
- **Introduce long term care insurance system.** New Zealand also faces the rising issue of “silver tsunami”. Challenges related to population ageing should be transformed into plenty of market opportunities. First of all, this demographic change will require drastic reform of healthcare and long-term care systems. Unless tackled, the rapid increase in aging population can impose a large burden on the health care system including universal health insurance system.

Australia

Large, sparse population, many with remote access needs, government focus on care.

Australian Demographics

Support and services for the aged in Australia are provided by a large number of government programs (Commonwealth level — meaning the federal structure which binds the Australian territories under the Crown, the State/Territory level, and local level) as well as programs/support from the community and voluntary sectors (particularly families and carers), the private for-profit sector and the private not-for-profit sector.

Because the aged are able to access 'mainstream' support and services (for example, health care, housing support and income support) that are available to the whole population, it is not possible to precisely identify exactly what is provided to the aged and what it costs.

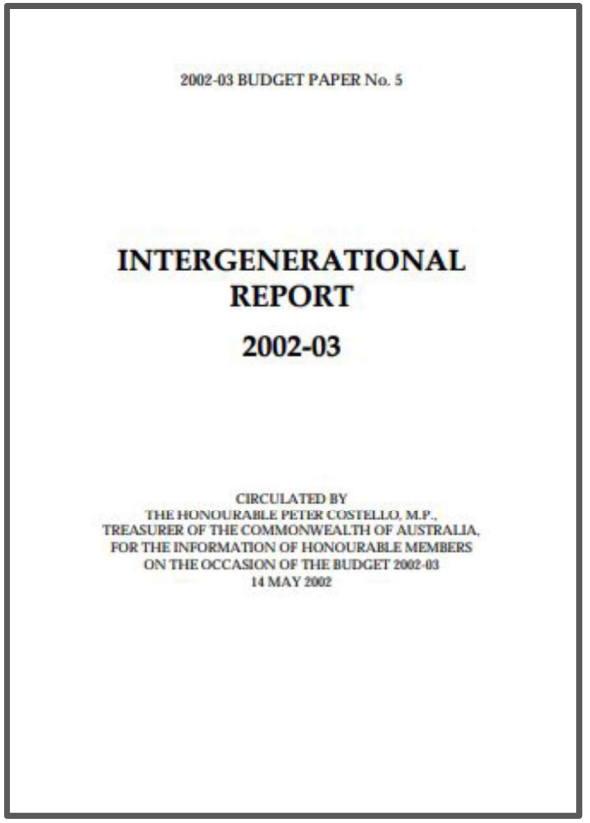
Most assistance and support is provided to that section of the aged population most in need: The frail and the disabled. For many aged over 65 years of age there is no need for specific assistance. With the general trend towards people living longer and being healthier for longer, the main emphasis in terms of assistance and support is towards the 'older' aged that is those aged over 75 80 years of age. It is generally understood that the greatest need for support is in the last two years of a person's life.

In recent years the tendency of policy has been for an increased emphasis on early intervention and 'healthy' ageing combined with 'ageing in place', that is, keeping older people out of health and residential facilities for as long as possible. This is not only more cost effective from a government point of view, (for example, it costs the Commonwealth, on average, approximately $30 000 per annum to fund an average residential aged care bed compared to the average cost of a Community Aged Care Package of approximately $10 000 per annum), it also conforms to the wishes of the vast majority of aged people themselves.

Remote Communities

There has been substantial attention given not only to demographic change in Australia, but also specifically to its rural dimensions. **There is a National Strategy for an Ageing Australia (see next slides)**, but until 2002 it contained very few references to rural and remote areas, and almost none to Indigenous people.

The Intergenerational Report, released in May 2002 raised the level of debate about the potential implications of Australia's ageing for the social security, health and aged care and taxation systems. It asked whether and how the aged care system will cope in twenty and forty years' time, and whether for example the Pharmaceutical Benefits Scheme is sustainable. This same agenda was further promoted through the release by the Treasurer of Australia's Demographic Challenges in February 2004.


2002-03 BUDGET PAPER No. 5

INTERGENERATIONAL REPORT

2002-03

CIRCULATED BY
THE HONOURABLE PETER COSTELLO, M.P.,
TREASURER OF THE COMMONWEALTH OF AUSTRALIA,
FOR THE INFORMATION OF HONOURABLE MEMBERS
ON THE OCCASION OF THE BUDGET 2002-03
14 MAY 2002

Source: The Australian

Remote Communities

A higher proportion of the population is elderly in rural and remote areas than in the cities. In the capital cities, 20.6 percent were 55 or over in 1996, compared with 25 percent for 'small rural centres' and 24.4 per cent for 'other rural areas'. Remote centres, in contrast, had only 12 percent of their population over 55 years of age.

This profile is largely due to two phenomena: the out-migration of young people to the cities for education, work and 'the bright lights'; and significant in-migration of older people because of lower house prices, retirement to small coastal settlements and general perceptions of the positive aspects of life in country areas ("peace and quiet", safety and security) regarded as beneficial for retirement.

There are also some rural and remote differences caused by the national distribution of the Indigenous population. While Indigenous people make up only 2% of the Australian population overall, they are disproportionately distributed in rural and remote areas. Indigenous people comprise 1% of the population of metropolitan areas, 3% of rural zones, 13% of remote centres and 26% of 'other remote areas'. Indigenous people have poorer health status (particularly because of higher rates of chronic disease) and a life expectancy that is around 20 years less than for other Australians.

This results in them needing a range of support services — including aged care — at a younger age than non-Indigenous people. This means that the demographic of rural and remote areas is even more skewed because of the need for such services at an earlier age.

National Strategy for an Ageing Australia

The National Strategy is a framework for a government response to the challenges and opportunities that an older Australia will present. It will be the vehicle for ongoing leadership by the Commonwealth Government in engaging the Australian community on this important issue.

According to the Australian Government, as of 2012, the goal of the National Strategy for an Ageing Australia is to deliver the best outcomes for all Australians regardless of age.

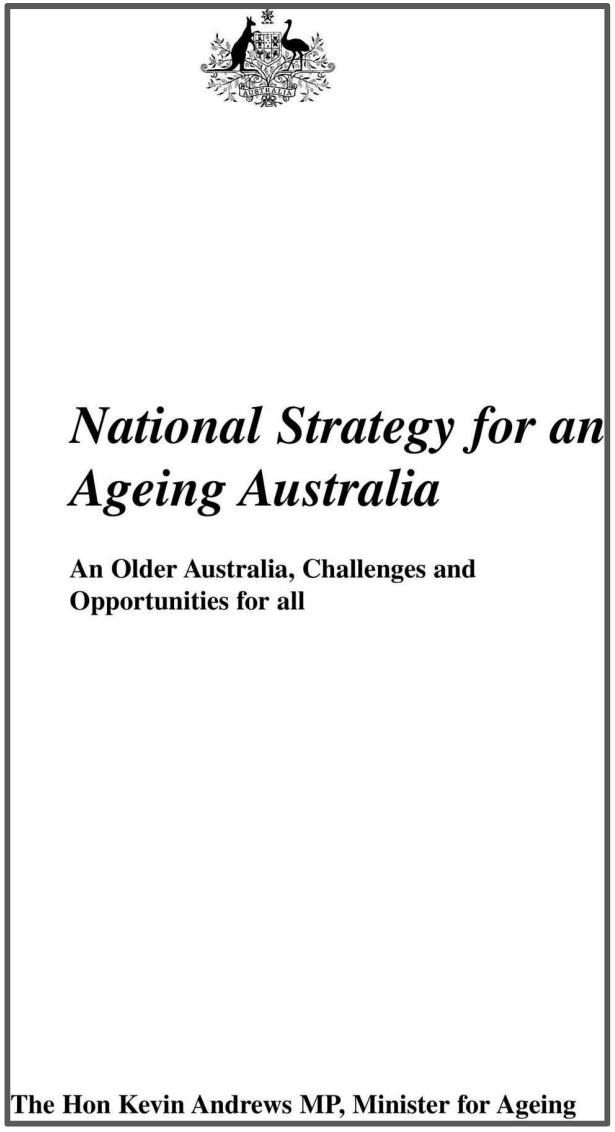
National Strategy Principles

- The ageing of the Australian population is a significant common element to be addressed by governments, business and the community.
- All Australians, regardless of age, should have access to appropriate employment, training, learning, housing, transport, cultural and recreational opportunities and care services that are appropriate to their diverse needs, to enable them to optimise their quality of life over their entire lifespan.
- Opportunities should exist for Australians to make a life-long contribution to society and the economy.
- Both public and private contributions are required to meet the needs and aspirations of an older Australia.
- Public programs should supplement rather than supplant the role of individuals, their families and communities.

National Strategy for an Ageing Australia

It's policies and goals are:

- an ageing workforce and the need for action as the supply of younger entrants drops dramatically but the demand for economic growth persists and competition in a global economy continues to increase;
- the need for adequate levels of, and sustainable sources of, retirement incomes to support retirement living;
- the need for positive individual and community attitudes to ageing;
- the need for age-friendly infrastructure and community support (including housing, transport and communications), to enable greater numbers of older Australians to participate in and remain connected to society;
- the importance of healthy ageing to enable a greater number of older people to remain healthy and independent for as long as possible
- a growing demand for accessible, appropriate and high quality health and aged care services.



Medicare

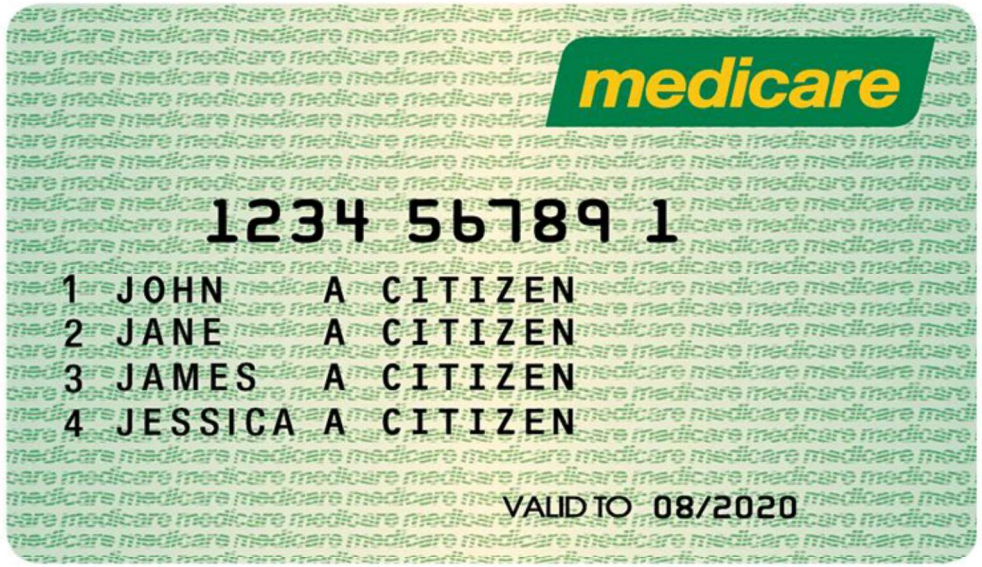
Medicare has been Australia's universal health care scheme since 1984:

- medical services;
- public hospitals;
- medicines

Medicare covers all of the cost of public hospital services. It also covers some or all of the costs of other health services.

The other important part of Medicare is the Pharmaceutical Benefits Scheme (PBS). The PBS makes some prescription medicines cheaper. The PBS lists brand name, generic, biologic and biosimilar medicines. There are over 5,200 products on the PBS.

The Medicare Benefits Schedule (MBS) is a list of all health services that the Government subsidies.



Source: Australian Government Department of Health

Aged Care Initiatives and Programs

Australian Government

Department of Health

The Australian Government funds a wide variety of care programs at a “Commonwealth” (federal) level, with a special emphasis on home care and dementia care and monitoring. This, plus the challenge presented by remote communities, makes Australia fertile ground for the development of tech-enabled home care.

My Aged Care

My Aged Care aims to make it easier for older people, their families, and carers to find information on ageing and aged care in Australia. They provide online information and trained call centre staff to help you get an older person’s needs assessed and to find and access services.

National Aged Care Advocacy Program (NACAP)

NACAP provides free and confidential advocacy support to older people and their carers. It also helps aged care service providers to understand their responsibilities and the consumer rights of the people they care for.

National Dementia Support Program (NDSP)

The NDSP is an Australian Government initiative to fund information, education programs, services and resources.

Aged Care Initiatives and Programs

Residential aged care

Residential aged care is for senior Australians who can no longer live independently at home. The Australian Government funds residential aged care to make it more affordable and accessible.

Specialist Dementia Care Program (SDCP)

The SDCP funds specialist dementia care units in residential aged care homes. The units provide specialised care to people with very severe behavioural and psychological symptoms of dementia. They aim to reduce or stabilise symptoms so that people can move into less intensive care settings.

Commonwealth Home Support Programme (CHSP)

The CHSP provides entry-level support for older people who need some help to stay at home. Service providers work with them to maintain their independence and keep them as well as possible. Find out what service providers need to know about this program.

Dementia-Friendly Communities

Dementia-Friendly Communities is an Australian Government-funded program to build understanding, awareness and acceptance of dementia in the community.

Home Care Packages Program

The Australian Government subsidises organisations to provide home care services to eligible older people. As an approved provider of Home Care Packages, make sure you understand how funding works, the fees you can charge, and what your responsibilities are.

Council on the Ageing (COTA)

COTA Australia is the peak policy development, advocacy and representation organisation for older Australians, representing COTAs in every State and Territory and through them over 500,000 older Australians.
With the eight state and territory COTAs as our members, COTA Australia has two main governance structures to help inform our work:

- COTA Australia Board – made up of representatives of one representative of each of our eight member organisations, along with an independent Chair and up to 2 additional independent Directors.
- National Policy Council – each of the eight member organisations of COTA Australia nominates one elected member as its representative to the National Policy Council (NPC).

Additionally, COTA Australia comes together with its eight member organisations's CEO's and Presidents in the COTA Federation once a year to discuss our collective futures and directions.

COTA Australia speaks to Federal Government Ministers and advisors, Shadow Ministers and other Parties, and the most senior levels of the public service on key issues of relevance. We make submissions to Government and Parliamentary Inquiries.

Council on the Ageing (COTA)

Policy areas for action as identified by the National Policy Council include but are not limited to:

Aged care: Access, consumer choice, quality, long term sustainability.

Health: Access, affordability, choice, reform, advance care directives.

Ageism: Age discrimination, human rights, UN Convention on the Rights of Older People.

Housing: Older Persons Housing Strategy, Liveable Housing (formerly National Dialogue on Universal Housing), future Housing design, retirement living options, public housing stock and rents.

Retirement Incomes: Adequacy, concessions, superannuation.

Employment: Mature age employment, superannuation and Workcover reform.

Essential Services: Affordability, effective concessions.

Non Metropolitan: Regional, rural and remote ageing special issues.

Australia

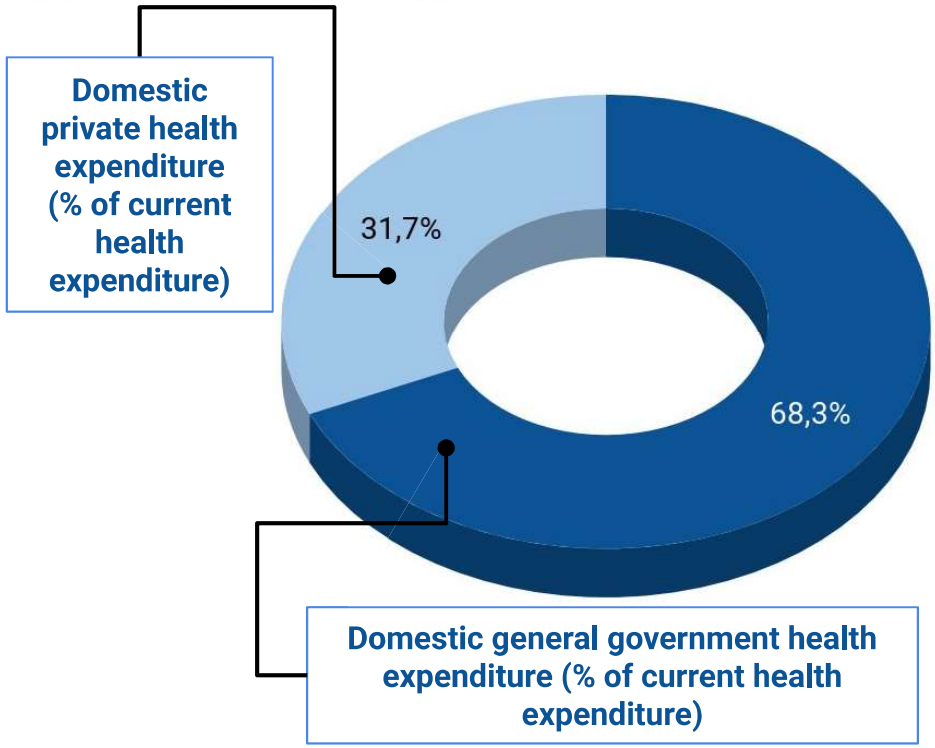
General metrics

HALE	Both Sexes HALE (2016)	73 years
	HALE/Life Expectancy Difference 2016	9.9
Economy	GDP per Capita, Current Prices (2016)	50.02 thousand ($)
	Annual GDP Growth (2016)	2.8 %
Healthcare	Current Health Expenditure per Capita (2016)	5.00 thousand ($)
	Public Health Care Expenditure 2016	9.25 % of GDP
Retirement	Age Dependency Ratio 2016	52
	Population over 65, 2016	15.3 %
	Number of WHO Age Friendly Cities and Communities	28
General Health Status	Alcohol Consumption per Capita (Litres of Pure Alcohol) 2016	10.6
	Annual Cigarette Consumption (Units per Capita) 2016	916
	Prevalence of Overweight among Adults 2016 (Age-Standardized Estimate)	64.5 % of adults

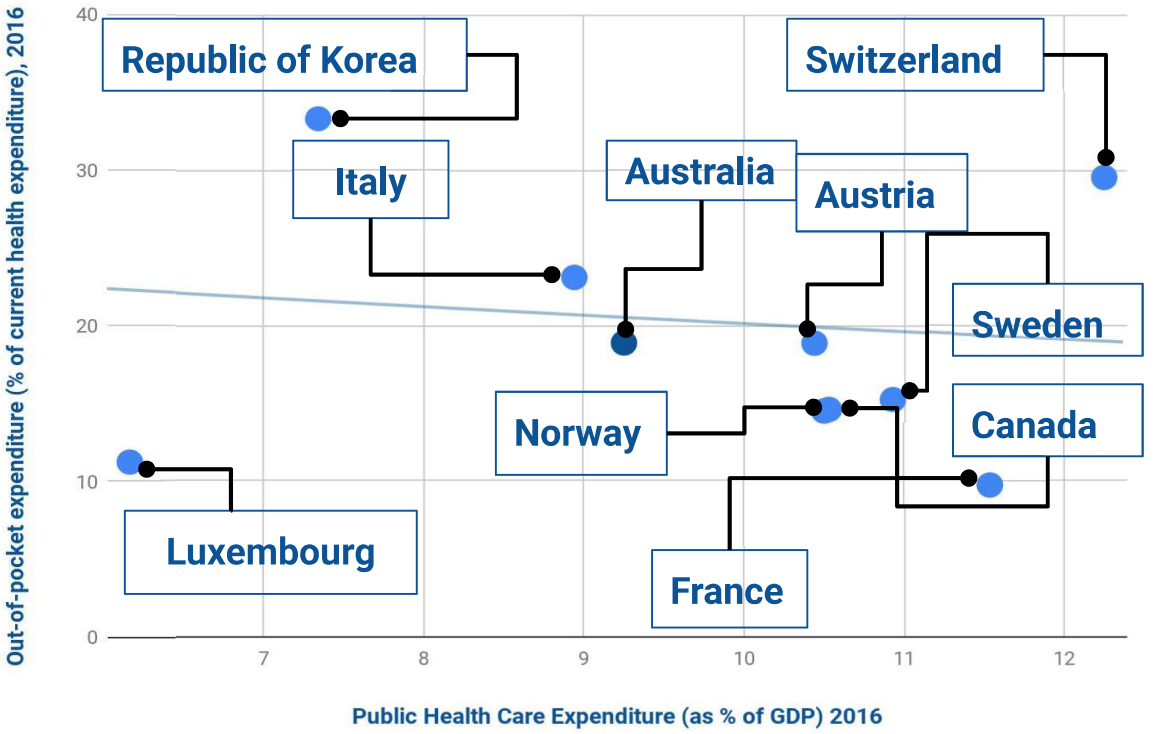
Longevity-Related Indices

- The Healthcare Access and Quality Index -2016: **96**
- Human Development Index 2016: **0.94**
- E-Government Development Index 2016: **0.91**
- Corruption Perceptions Index 2016: **79**
- Global Gender Gap Index 2016: **0.72**
- Democracy Index 2016: **9.01**

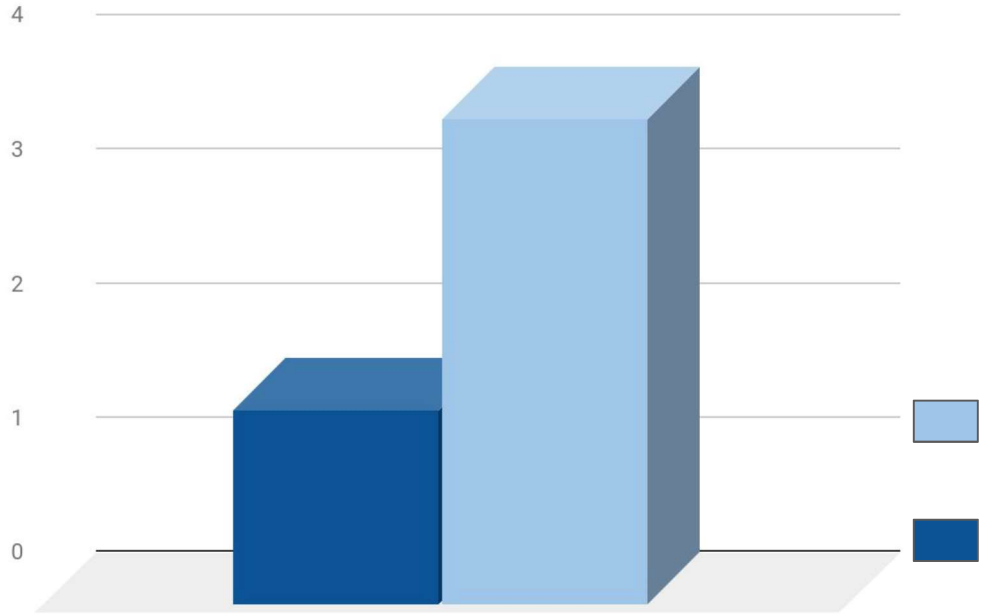
Current Healthcare Expenditure



Countries with High HALE and Life Expectancy and High Gap



Effectiveness ratios



Australians live longer and with more years in a good health. Heart disease is largest cause of death. Adults at high risk of heart attack or stroke should receive appropriate treatment and be aware of their risk factors.

HALE and Life Expectancy Difference CAGR (6 years)/Current health expenditures per capita (current US$), CAGR (6 years)

HALE CAGR (6 years)/Current health expenditures per capita (current US$), CAGR (6 years)

SWOT Analysis of Healthcare in Australia

STRENGTHS

- Australia's healthcare system includes both public healthcare system and private healthcare system, where public healthcare system is comprehensive (Medicare) and provides free or low-cost services for taxpayers with additional benefits.
- High range of different funds that finance services provided by specialists and doctors and hospitals besides government. This funds can be mutual and "for cost".
- Different initiatives of government that helps to encourage people to purchase private insurance.

WEAKNESSES

- The lover level of public healthcare expenditure than average in OECD - 67% in comparison with 72%.
- The health care system is hybrid state model, that makes its' institutions an instrument in political games during elections.
- An average level of doctors and specialists for 1000000 population as was fixed in 2011-12.
- The lack of flexibility in public hospitals that not allow patients to choose the doctor or specialist and makes them to wait for some services for 12 month.
- The highest total cancer rate in the world.

OPPORTUNITIES

- Ability to spend more taxes and funds in investment in research and development and boosting of doctors' and specialists' qualifications.
- Providing more free and low-cost services to people with lower income and giving more subsidies for medicines.
- Government should concentrate more focus on remote population its' life expectancy and HALE in order to increase it and on resource allocation.
- Encourage companies to provide their employees with medical insurance that will allow them to visit private hospital and choose a specialist.

THREATS

- Decrease in costs spent on health in % of GDP in 2017-18 according to Australian Institute of Health and Welfare.
- Existence of unique flora and fauna creates a springboard for the epidemics and severe diseases.
- Non-Indigenous Australians live for up to 7 years less than other population that threats average life expectancy in Australia.
- Less breakthrough progress in medicine that brings new methods and technologies to provide high quality service than in other developed countries.

Analysis of Strengths and Weaknesses of Health Care System in Australia

- Australian people have a high life expectancy (83) and HALE, especially, in comparison with other developed countries. Cigarette and alcohol consumption is lower than in North America and most European countries.
- Medicare covers 100% of costs in public hospitals for general services and 85% of costs for specialists and also 75% of costs for public patients in private hospital that allows reducing out-of-pocket costs.
- Lifetime Health Cover and Medicare Levy Surcharge allow the government to stimulate adults to take private hospital insurance that encourages people to protect and maintain their health on a certain level and make universal healthcare system balanced.
- Deaths in early childhood have reduced substantially over the past 100 years. In 1907, child deaths (aged 0–4 years) accounted for 26% of all deaths compared to less than 1% in 2017.
- Control of infectious disease and better hygiene and nutrition. The decline in the later years was associated with improvements in road safety measures, a decrease of smoking, detection and prevention of CDV and chronic diseases.

- Though Australia received good positions in the investigation carried out by OECD countries it's health care system was weaker than Canadian and German.
- People in remote regions usually live less.
- Public medicine does not allow its patients to choose a doctor or specialist because of a certain load and have a waiting period for up to 12 months on benefits that can be connected with some medical conditions.
- Concerning adults' access to healthcare, 10% of Australians had to wait for 4 months or more for elective surgery whereas only 4% of the patients had to wait for elective surgery in Canada. About 21% of the patients had experienced a care coordination problem in the past 2 years.
- Coronary heart, Alzheimer disease, dementia, cerebrovascular disease and lung cancer with COPD are top causes for death in Australia for the younger and elder population.

Recommendations for Australia

- **Use of bundled payment mechanism** to reduce costs and maintain the quality of services and patients' outcomes. Bundled payments can also be used to reduce unplanned readmissions.
- **Effective allocation of healthcare resources, giving particular attention to remote areas.** The government should appoint more costs to remote regions. This actions will allow spending more on less developed areas and less advanced regions to provide qualified medical aid and healthcare treatment.
- **Conduct additional activities and initiatives to remove crucial causes of popular diseases that can lead to death, especially, among elders.** Lifestyle, habits and working conditions are the first moving point for keeping the nation healthy for long years.
- **Increase investment in healthcare for creation both tangible and intangible assets.** This will allow spending more on research and development to find out more progressive means and ways to conduct surgery and observations that will improve the average level of quality of medicine in Australia.
- **Move from cure to prevention to combat with non-communicable diseases risk factors.** Prevention faces two main barriers. First, most doctors worldwide are trained to diagnose, treat, and cure diseases, but not to prevent them. Incentive schemes in many health care settings reflect that emphasis. Second, the risk factors for these diseases – tobacco use, the harmful use of alcohol, unhealthy diets, and physical inactivity – lie in non-health sectors and are strongly influenced by the behaviours of powerful economic operators.
- **Support a healthy lifestyle.** This means that government should popularize the healthy food and non-alcohol and non-cigarette life to make teenagers and adults healthier that will positively influence HALE and life expectancy with the help of mass media.