National Healthy Longevity Benchmarking of Asia

Global Comparison

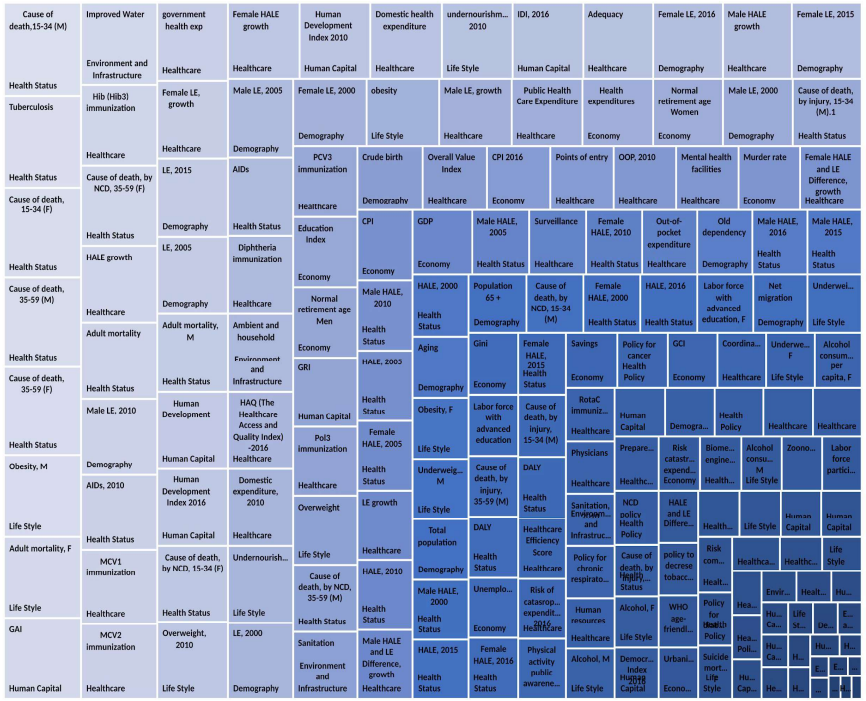
Analytical Precedents: Global Longevity Governance (Big Data Analysis of Longevity Progressiveness in 50 Regions)

"Global Longevity Governance Landscape: 50 Countries Big Data Comparative Analysis of Longevity Progressiveness" is a 540-page analytical case study featuring a sophisticated multidimensional big data analytics that is used to provide intelligible and fact-driven benchmarking of 50 nations in relation to levels of Healthy Longevity, as measured by Health-Adjusted Life Expectancy (HALE), their current gaps between HALE and unadjusted life expectancy, their current levels of success in growing and maintaining National Healthy Longevity and dealing with the issue of aging, and tangible policy recommendations on how to either maintain or improve their standing and optimize their National Healthy Longevity.

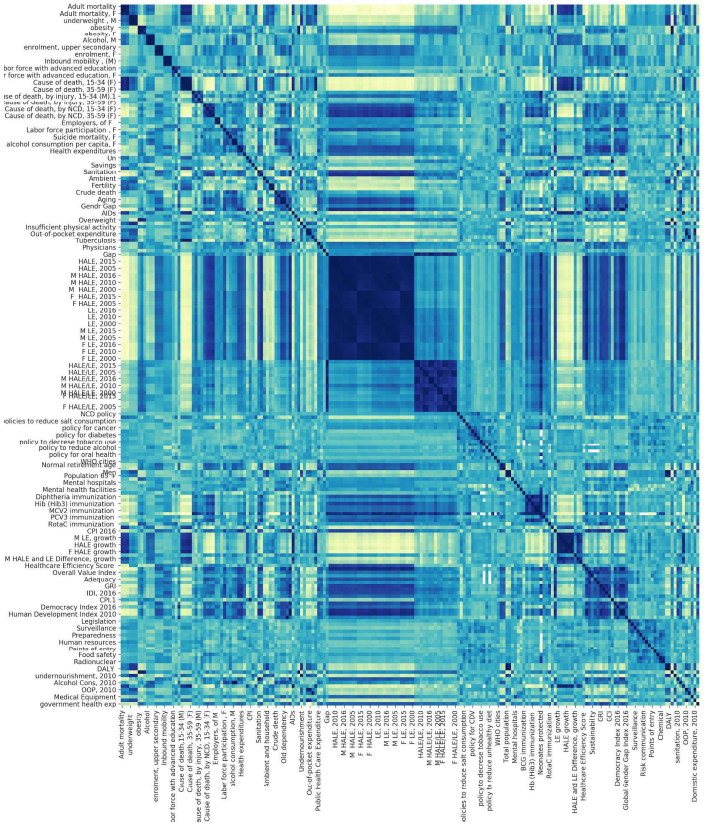
Analytical Precedents: Global Longevity Governance (Big Data Analysis of Longevity Progressiveness in 50 Regions)

50 Countries

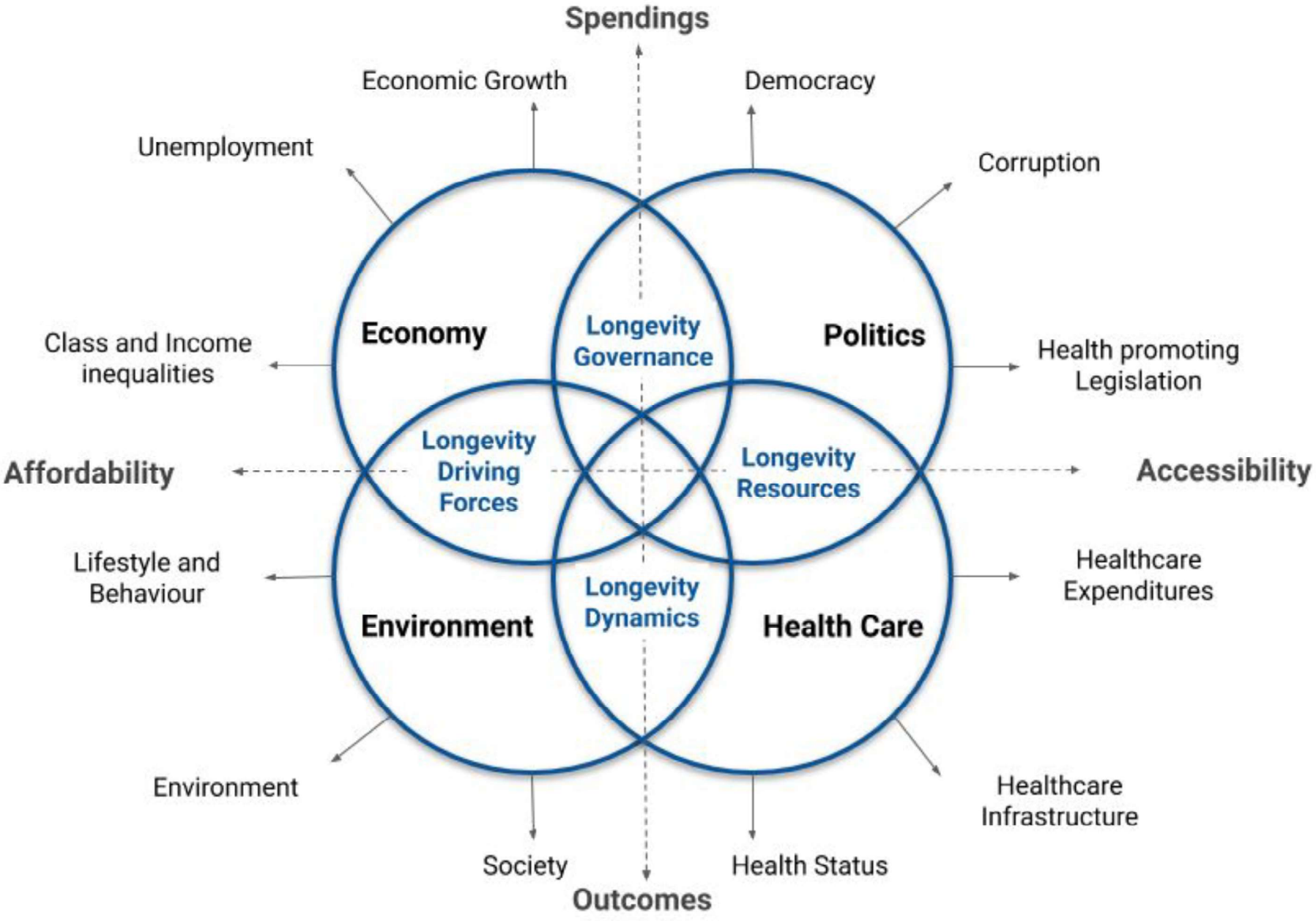
6 Layers and 200 Parameters



Correlations Between Parameters



Analytical Precedents: Global Longevity Governance (Big Data Analysis of Longevity Progressiveness in 50 Regions)



Longevity Ranking Methodology

Health-adjusted life expectancy is affected by various factors and their impact varies across countries. For this reason, the Ranking is based on five domains: economy, health and healthcare, environment and infrastructure, society and demography.

These domains consist of 50 indicators derived from international data sources, including the World Bank, the World Health Organization (WHO), the International Labour Organization (ILO), Organization of Economic Cooperation and Development (OECD).

The rankings show how countries compare in terms of health and wellbeing. The values, on which the rankings are based, show how countries are performing. In particular, they show how different countries compare with the best-performing countries and their potential for improvement. The difference in Index values between countries is sometimes minimal, as there several countries with high level of life expectancy and of the same level of development. A difference of 0.1 or more points can be considered statistically significant.

The Ranking has been calculated using the most relevant, reliable data for 2016 from international sources that is comparable across countries. Data from national sources is often more up to date than international data sets because of the time it takes to process, standardise and introduce data into international data sets. This means that the Ranking does not necessarily reflect the current situation, such as the outcomes of policies that have recently been introduced.

- **Economy:**

Measured by unemployment rate, , poverty rate in old age, living standards using GDP per capita, income Gini coefficient.

- **Health and Healthcare:**

Measured by life expectancy at birth, healthy life expectancy at birth, chronicle disease burden, healthcare expenditures and psychological well-being. Good physical and mental health is critical to social and economic engagement of people.

- **Environment and Infrastructure:**

Measured by access to safe water sources, physical safety, natural factors. These indicators capture the enabling attributes of the communities in which older people live.

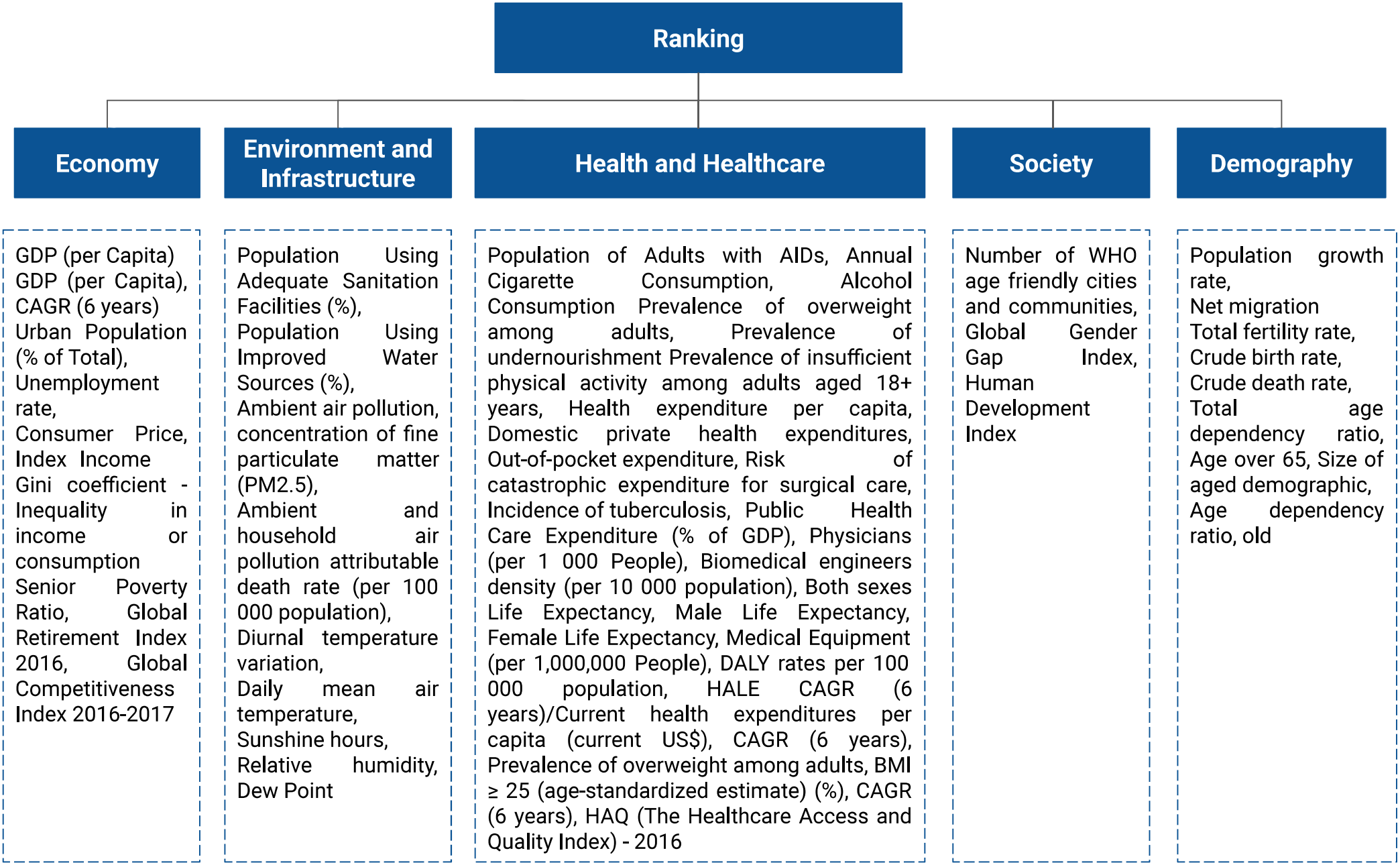
- **Society:**

Measured by social connection and development of human capital.

- **Demography:**

Measured by major demographic indicators.

Longevity Ranking Methodology



Longevity Ranking Methodology

To conduct an in-depth analysis of Global Healthy Longevity, we applied a compound annual growth rate (CAGR) to several metrics from 1-3 levels of key importance. What is CAGR? Compound annual growth rate is a business and investing specific term for the geometric progression ratio that provides a constant rate of return over the time period. It could be calculated using the following formula:

$$CAGR = \left(\frac{V_{end}}{V_{begin}}\right)^{\frac{1}{\#years}} - 1$$

Therefore, we were able to explore different dimensions of countries' performance in some of the crucial indicators. As a result, the following 4-6 levels of metrics have been set up to evaluate countries' HALE and their impact factors (some of them may have been mentioned on the previous page, but it's worth to mention them separately to highlight their importance):

Ranking

Economy	Environment and Society	Health and Healthcare	General Health State
GDP (per Capita), CAGR (6 Years); Adjusted Savings: Net National Savings (% of GNI), CAGR (6 Years); Income Gini Coefficient, CAGR (6 Years)	Ambient Air Pollution, Concentration of Fine Particulate Matter (PM2.5), CAGR (6 Years); Human Development Index Score, CAGR (6 Years)	Both Sexes Life Expectancy, CAGR (6 years); Male Life Expectancy, CAGR (6 years); Female Life Expectancy, CAGR (6 years); Both Sexes HALE CAGR (6 Years); Male HALE CAGR (6 Years); Female HALE CAGR (6 Years); Both Sexes HALE and Life Expectancy Difference, CAGR (6 Years); Male HALE and Life Expectancy Difference, CAGR (6 Years); Female HALE and Life Expectancy Difference, CAGR (6 Years); Public Health Care Expenditure (as % of GDP), CAGR (6 Years); Domestic Private Health Expenditure (% of Current Health Expenditure), CAGR (6 Years); Out-of-Pocket Expenditure (% of Current Health Expenditure), CAGR (6 Years); HALE CAGR (6 Years)/Current Health Expenditures per Capita (Current US$), CAGR (6 Years); HALE and Life Expectancy Difference CAGR (6 Years)/Current Health Expenditures per Capita (Current US$), CAGR (6 Years); HALE CAGR (6 Years)/GDP per Capita CAGR (6 Years); HALE CAGR (6 Years)/Prevalence of Overweight among Adults, BMI ≥ 25 CAGR (6 Years)	Population of Adults with AIDs (%), CAGR (6 Years); Alcohol Consumption (per Capita), CAGR (6 Years;) Prevalence of Overweight among Adults, BMI ≥ 25 (Age-Standardized Estimate) (%), CAGR (6 Years); Prevalence of Undernourishment (% of Population), CAGR (6 Years)

Longevity Ranking of 50 Countries

Rank	Country	Score
1	**Singapore**	**0.755**
2	**Hong Kong, SAR**	**0.750**
3	Israel	0.744
4	Switzerland	0.731
5	Iceland	0.708
6	Luxembourg	0.707
7	United States	0.704
8	New Zealand	0.702
9	Norway	0.692
10	Sweden	0.690
11	Qatar	0.689
12	Denmark	0.687
13	Ireland	0.683
14	Australia	0.682
15	United Kingdom	0.681
16	**Japan**	**0.678**
17	Canada	0.676
18	Netherlands	0.673
19	Finland	0.668
20	Spain	0.667
21	Malta	0.661
22	**Republic of Korea**	**0.659**
23	France	0.657
24	Germany	0.657
25	Belgium	0.655

Rank	Country	Score
26	United Arab Emirates	0.655
27	Austria	0.651
28	Panama	0.645
29	Chile	0.636
30	Italy	0.633
31	Costa Rica	0.632
32	Slovenia	0.620
33	Cuba	0.617
34	Saudi Arabia	0.610
35	Poland	0.607
36	Mexico	0.607
37	Portugal	0.605
38	Czech Republic	0.602
39	Argentina	0.594
40	Slovakia	0.589
41	Estonia	0.586
42	Turkey	0.568
43	Greece	0.564
44	**China**	**0.563**
45	**Indonesia**	**0.525**
46	Brazil	0.521
47	Russia	0.517
48	Iran	0.502
49	**India**	**0.468**
50	South Africa	0.417

Inequality in health, education and income levels of population across countries is increasing between top-ranked, high-income countries and bottom-ranked, predominantly low-income countries.

The countries doing best in the Ranking have social and economic policies to improve healthcare systems, and wellbeing, decrease disease burden and engage healthy lifestyle. They have long-standing social welfare policies on better access to healthcare, as well as, minimization of behavioural risk factors including smoking and alcohol use, as well as diet and low physical activity.

At the same time, bottom-rank low-income countries care about their citizens less than countries doing best in the Ranking. It comes out medicine, insurances, policies, dealing with economics issues. This complex is a reason to inequality in health.