

Chapter 1

Indicator overview: comparative performance of countries and major trends

This chapter analyses a core set of indicators on health and health systems. Country dashboards shed light on how OECD countries compare across five dimensions: health status, risk factors for health, access, quality and outcomes, and health care resources. OECD snapshots summarise the extent of variation in performance across countries, as well as time trends. Finally, quadrant charts illustrate how much health spending is associated with staffing, access, quality and health outcomes.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Introduction

Health indicators offer a useful ‘at a glance’ perspective on how healthy populations are and how well health systems perform. This introductory chapter provides a comparative overview of OECD countries across 20 core indicators. It also explores how much health spending is associated with staffing, access, quality and health outcomes.

Such comparative analysis does not indicate which countries have the best performing health systems overall. Rather, it identifies some of the relative strengths and weaknesses of different OECD countries. This can help policymakers determine priority action areas for their country, with subsequent chapters in *Health at a Glance* providing a more detailed suite of indicators, organised by topic area.

Five dimensions of health and health systems are analysed in this chapter, covering core aspects of population health and health system performance. For each of these dimensions, four summary indicators are analysed (Table 1.1). These indicators are selected from the publication based on how relevant and actionable they are from a public policy perspective; as well as the more practical consideration of data availability across countries.

Table 1.1. Population health and health system performance: summary indicators

Dimension	Indicator
Health status (chapters 3 and 11)	Life expectancy – years of life at birth Avoidable mortality – deaths per 100 000 people (age standardised) Chronic disease morbidity – diabetes prevalence (% adults, age standardised) Self-rated health – population in poor health (% population aged 15+)
Risk factors for health (chapter 4)	Smoking – daily smokers (% population aged 15+) Alcohol – litres consumed per capita (population aged 15+) Overweight/obese – population with BMI >=25 kg/m ² (% population aged 15+) Air pollution – deaths due to pollution (per 100 000 population)
Access to care (chapter 5)	Population coverage – population eligible for core services (% population) Financial protection – expenditure covered by prepayment schemes (% total expenditure) Service coverage, primary care – needs-adjusted probability of visiting a doctor (% population aged 15+) Service coverage, preventive care – probability of cervical cancer screening (% population aged 15+)
Quality of care (chapter 6)	Safe prescribing – antibiotics prescribed (defined daily dose per 1 000 people) Effective primary care – avoidable asthma/COPD admissions (per 100 000 people, age-sex standardised) Effective secondary care – 30-day mortality following AMI (per 100 000 people, age-sex standardised) Effective cancer care – breast cancer 5-year net survival (% , age-standardised)
Health care resources (chapters 7-10)	Health spending – per capita (US dollars based on purchasing power parities) Health spending share – as a % of GDP Doctors – number of practising physicians (per 1 000 people) Nurses – number of practising nurses (per 1 000 people)

Note: AMI = acute myocardial infarction (heart attack); BMI = body mass index; COPD = chronic obstructive pulmonary disease.

Based on these indicators, *country dashboards* are produced for each of these five dimensions. These compare a country’s performance to others and to the OECD average. Country classification for each indicator is into one of three colour-coded groups:

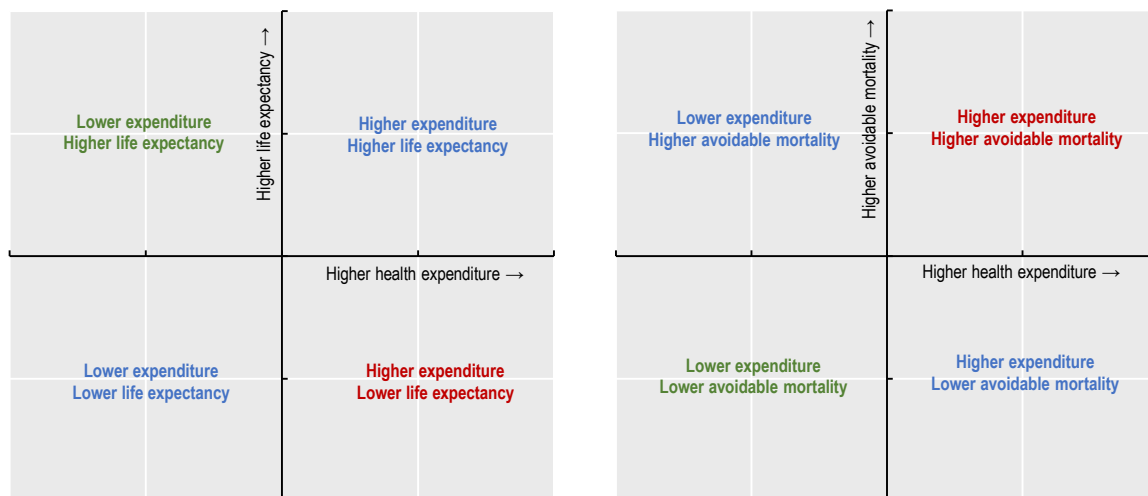
- Blue, when the country's performance is close to the OECD average
- Green, when the country's performance is considerably better than the OECD average
- Red, when the country's performance is considerably worse than the OECD average

The only exception to this grouping is for the dashboard on health care resources (Table 1.6), where indicators cannot be strictly classified as showing better or worse performance. For this reason, the colour coding in this dashboard uses a lighter and darker shade of blue to signal that a country has considerably less or more of a given health care resource than the OECD average.

OECD snapshots provide accompanying summary statistics for each of these indicators. They complement the country dashboards by providing an OECD-wide overview for each indicator. Highest and lowest values per indicator, alongside the OECD average, provide a general sense of the degree of cross-country variation. Countries with comparatively large improvements over time in a given indicator are also shown.

Finally, *quadrant charts* illustrate basic associations between how much countries spend on health and how effectively health systems function. That is, they show the extent to which spending more on health translates into better health outcomes, higher quality of care and improved access to care, across OECD countries; whilst also recognising the importance of major risk factors. The relationship between spending and the number of health professionals is also explored. These quadrant charts only show simple associations at a macro level between indicators rather than causal relationships. That is, their purpose is to stimulate deeper discussions on policy priority setting, by highlighting areas where countries could potentially do better. The centre of each quadrant chart is the OECD average, with health expenditure on the x-axis and the other variable of interest on the y-axis. Figure 1.1 shows the basic interpretation of each quadrant, taking health outcome variables as an example.

Figure 1.1. **Interpretation of quadrant charts: Health expenditure and health outcome variables**



Methodology, interpretation and use

Country dashboards

The classification of countries being close to, better or worse than the OECD average is based on an indicator's standard deviation (a common statistical measure of dispersion). This method is preferred to using a fixed percentage or fixed number of countries per category, since it reflects the degree of variation, i.e. how far a country is from the OECD average. Countries are classified as "close to the OECD average" (blue) whenever the value for an indicator is within one standard deviation from the OECD average for the latest year. Particularly large outliers (values larger than three standard deviations) are excluded from the calculation of the standard deviation in order to avoid statistical distortions. These exclusions are noted under the relevant dashboards.

For a typical indicator, about 65% of the countries (24-25 countries) will be close to the OECD average, with the remaining 35% performing significantly better (green) or worse (red). When the number of countries that are close to the OECD average is higher (lower), it means that cross-country variation is relatively low (high) for that indicator. For example, for obesity rates, 27 countries are close to the OECD average. In contrast, for avoidable mortality, only 16 countries are close to the OECD average.

OECD snapshots

For each indicator, the OECD average, highest and lowest values for the latest available year are shown, corresponding to the data presented in the main chapters of the publication. Countries with comparatively large improvements over time in a given indicator are also shown.

Quadrant charts

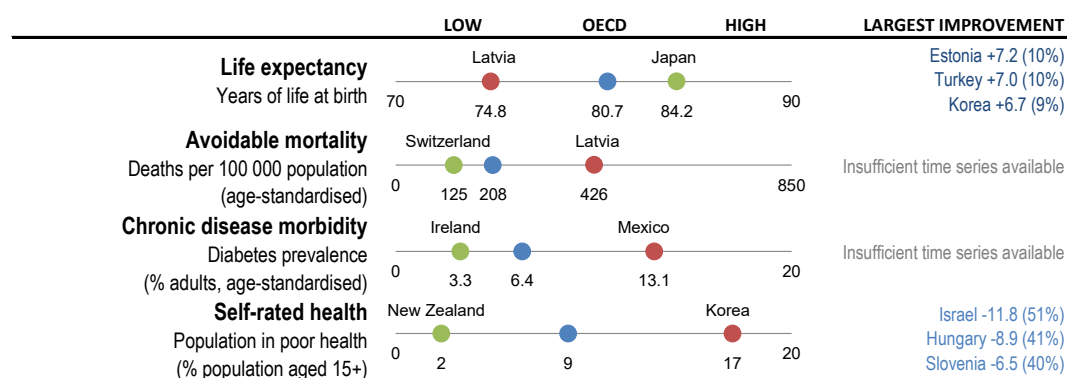
Quadrant charts plot health expenditure per capita against another indicator of interest (on health outcomes, quality of care, access and physical resources). These show the percentage difference of each indicator as compared with OECD averages. The intersection of the axes represents the OECD average for both indicators, so deviations from the midpoint show countries that perform above or below average compared to the OECD average. A simple correlation line is also included. Each country is colour-coded based on a simple (unweighted) risk factors index averaging smoking, alcohol and obesity variables (with blue, green and red having the same interpretation as in country dashboards).

Data from the latest available year are used for both variables in a given quadrant chart. A limitation of this approach is that lagged effects are not taken into account – for example, it may take a few years before higher health spending translates into longer life expectancy, or risk factors translate into higher avoidable mortality rates.

Health status

Four health status indicators reflect core aspects of both the quality and quantity of life. Life expectancy is a key indicator for the overall health of a population; avoidable mortality focuses on premature deaths that could have been prevented or treated. Diabetes prevalence shows morbidity for a major chronic disease; self-rated health offers a more holistic measure of mental and physical health. Figure 1.2 provides a snapshot on health status across the OECD and Table 1.2 provide more detailed country comparisons.

Figure 1.2. **Snapshot on health status across the OECD**



Note: Largest improvement shows countries with largest changes in value over time (% change in brackets).
Source: OECD Health Statistics 2019.

Across these indicators, Japan, Spain, Switzerland and the Netherlands generally have the best overall health outcomes. Hungary, Latvia, Mexico, Poland and the Slovak Republic are consistently below the OECD average for these indicators. Stronger health systems contribute to gains in health outcomes, by offering more accessible and higher quality care. Differences in risk factors such as smoking, alcohol and obesity also explain cross-country variation in health outcomes. Wider determinants of health matter too, notably rising incomes, better education and improved living environments.

Japan, Switzerland and Spain lead a large group of 26 OECD countries in which life expectancy at birth exceeds 80 years. A second group, including the United States and a number of central and eastern European countries, has a life expectancy between 77 and 80 years. Latvia, Lithuania, Mexico and Hungary have the lowest life expectancy, at less than 76 years in 2017. Across the OECD, whilst life expectancy has increased steadily over time, there has been a slowdown in longevity gains in recent years.

Avoidable mortality rates (from preventable and treatable causes) were lowest in Switzerland, Iceland, Japan, Sweden and Norway, where less than 300 per 100 000 people died prematurely. Latvia, Lithuania and Hungary had the highest avoidable mortality rates, at over 800 premature deaths per 100 000 people.

Diabetes prevalence is highest in Mexico, Turkey and the United States, with over 10% of adults living with diabetes (age-standardised data). Age-standardised diabetes prevalence rates have stabilised in many OECD countries, especially in Western Europe, but increased markedly in Turkey. Such upward trends are due in part to rising rates of obesity and physical inactivity, and their interactions with population ageing.

Almost 9% of adults consider themselves to be in bad health, on average across the OECD. This ranges from over 15% in Korea, Lithuania, Latvia and Portugal to under 4% in

Table 1.2. **Dashboard on health status**

	Life expectancy		Avoidable mortality		Chronic disease morbidity		Self-rated health	
	Years of life at birth		Deaths per 100 000 people (age-standardised)		Diabetes prevalence (% adults, age-standardised)		Population in poor health (% population aged 15+)	
OECD	80.7	●	208	●	6.4	●	8.7	●
Australia	82.6	●	145	✓	5.1	●	3.7	✓
Austria	81.7	●	175	●	6.4	●	8.1	●
Belgium	81.6	●	172	●	4.3	✓	8.6	●
Canada	82.0	●	176	●	7.4	●	3.2	✓
Chile	80.2	●	206	●	8.5	✗	6.6	●
Czech Republic	79.1	●	245	●	6.8	●	10.7	●
Denmark	81.2	●	184	●	6.4	●	7.5	●
Estonia	78.2	✗	297	✗	4.0	✓	14.6	✗
Finland	81.7	●	184	●	5.8	●	5.7	●
France	82.6	●	154	✓	4.8	●	8.3	●
Germany	81.1	●	186	●	8.3	✗	8.4	●
Greece	81.4	●	187	●	4.6	✓	10.4	●
Hungary	75.9	✗	388	✗	7.6	●	11.9	●
Iceland	82.7	●	140	✓	5.3	●	6.4	●
Ireland	82.2	●	172	●	3.3	✓	3.4	✓
Israel	82.6	●	134	✓	6.7	●	10.9	●
Italy	83.0	●	143	✓	4.8	●	5.8	●
Japan	84.2	✓	138	✓	5.7	●	14.1	✗
Korea	82.7	●	159	●	6.8	●	17.0	✗
Latvia	74.8	✗	426	✗	4.9	●	15.5	✗
Lithuania	75.6	✗	385	✗	3.7	✓	16.4	✗
Luxembourg	82.2	●	152	✓	4.4	✓	9.3	●
Mexico	75.4	✗	367	✗	13.1	✗	–	–
Netherlands	81.8	●	153	✓	5.3	●	4.6	✓
New Zealand	81.9	●	178	●	8.1	●	2.3	✓
Norway	82.7	●	145	✓	5.3	●	7.2	●
Poland	77.9	✗	268	✗	5.9	●	13.6	✗
Portugal	81.5	●	180	●	9.9	✗	15.3	✗
Slovak Republic	77.3	✗	323	✗	7.3	●	11.3	●
Slovenia	81.1	●	210	●	7.3	●	9.7	●
Spain	83.4	✓	146	✓	7.2	●	6.6	●
Sweden	82.5	●	144	✓	4.8	●	5.7	●
Switzerland	83.6	✓	125	✓	5.6	●	4.1	✓
Turkey	78.1	✗	257	●	12.1	✗	9.4	●
United Kingdom	81.3	●	189	●	4.3	✓	7.1	●
United States	78.6	●	262	✗	10.8	✗	2.6	✓

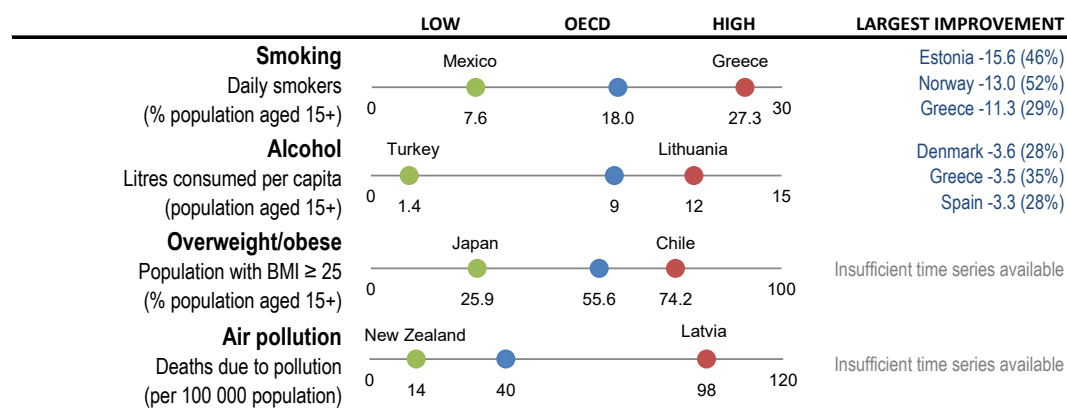
Note: ✓ Better than OECD average; ● Close to OECD average; ✗ Worse than OECD average. Hungary, Latvia and Lithuania excluded from the standard deviation calculation for avoidable mortality, while Mexico and Turkey excluded from diabetes prevalence.

New Zealand, the United States, Canada, Ireland and Australia. However, socio-cultural differences, the share of older people and differences in survey design affect cross-country comparability. People with lower incomes are generally less positive about their health as compared with people on higher incomes, in all OECD countries.

Risk factors for health

Smoking, alcohol consumption and obesity are the three major risk factors for non-communicable diseases, contributing to a large share of worldwide deaths. Air pollution is also a critical non-medical determinant of health. Figure 1.3 provides a snapshot on risk factors for health across the OECD and Table 1.3 provides more detailed country comparisons.

Figure 1.3. Snapshot on risk factors for health across the OECD



Note: Largest improvement shows countries with largest changes in value over time (% change in brackets).

Source: OECD Health Statistics 2019, WHO Global Health Observatory.

Norway and Sweden perform well across these indicators. Smoking causes multiple diseases – the World Health Organization estimates tobacco smoking kills 7 million people in the world every year. Smoking rates range from over 25% in Greece, Turkey and Hungary, to below 10% in Mexico and Iceland. Daily smoking rates have decreased in most OECD countries over the last decade, from an average of 23% in 2007 to 18% in 2017. In the Slovak Republic and Austria, though, smoking rates have risen slightly.

Alcohol use is a leading cause of death and disability worldwide, particularly in those of working age. Measured through sales data, Lithuania reported the highest consumption (12.3 litres of pure alcohol per person per year), followed by Austria, France, the Czech Republic, Luxembourg, Ireland, Latvia and Hungary, all with over 11 litres per person. Turkey, Israel and Mexico have comparatively low consumption levels (under 5 litres). Average consumption fell in 27 OECD countries since 2007. Harmful drinking is of particular concern in certain countries, notably Latvia, Hungary and the Russian Federation.

Obesity is a major risk factor for many chronic diseases, including diabetes, cardiovascular diseases and cancer. Obesity rates have been increasing in recent decades in almost all OECD countries, with an average of 56% of the population being overweight or obese. Obesity rates are considerably higher than the OECD average in Chile, Mexico, the United States, Finland, Portugal and New Zealand. Obesity is lowest in Japan, Korea, and Switzerland. The measure reported here for overweight (including obese) adults is based on both measured and self-reported data. Caution should be taken when comparing countries with reporting differences, since measured data are generally higher.

Air pollution is not only a major environmental threat, but also worsens health. OECD projections estimate that outdoor air pollution may cause 6 to 9 million premature deaths a

Table 1.3. Dashboard on risk factors for health

	Smoking		Alcohol		Overweight / obese		Air pollution	
	Daily smokers (% population aged 15+)		Litres consumed per capita (population aged 15+)		Population with BMI ≥ 25 (% population aged 15+)		Deaths due to pollution (per 100 000 people)	
OECD	18.0	🕒	8.9	🕒	55.6	🕒	39.6	🕒
Australia	12.4	✅	9.4	🕒	65.2	🕒	16.8	✅
Austria	24.3	❌	11.8	❌	46.7*	🕒	38.7	🕒
Belgium	18.9	🕒	10.4	🕒	51.0	🕒	39.4	🕒
Canada	12.0	✅	8.1	🕒	59.1	🕒	14.7	✅
Chile	24.5	❌	7.9	🕒	74.2	❌	34.8	🕒
Czech Republic	18.4	🕒	11.6	❌	55.0	🕒	64.3	❌
Denmark	16.9	🕒	9.1	🕒	51.0*	🕒	30.4	🕒
Estonia	17.2	🕒	10.3	🕒	51.3	🕒	59.9	❌
Finland	14.0	🕒	8.4	🕒	67.6	❌	18.7	✅
France	25.4	❌	11.7	❌	49.0	🕒	25.2	🕒
Germany	18.8	🕒	10.9	🕒	60.0	🕒	45.3	🕒
Greece	27.3	❌	6.5	🕒	55.0*	🕒	76.7	❌
Hungary	25.8	❌	11.1	🕒	62.3	🕒	82.7	❌
Iceland	8.6	✅	7.7	🕒	65.4*	🕒	16.9	✅
Ireland	17.0	🕒	11.2	🕒	62.0	🕒	20.2	✅
Israel	16.9	🕒	2.6	✅	50.9	🕒	23.2	🕒
Italy	19.9	🕒	7.6	🕒	46.0*	🕒	48.7	🕒
Japan	17.7	🕒	7.2	🕒	25.9	✅	42.9	🕒
Korea	17.5	🕒	8.7	🕒	33.7	✅	35.0	🕒
Latvia	24.1	❌	11.2	🕒	54.6	🕒	97.8	❌
Lithuania	20.3	🕒	12.3	❌	53.3*	🕒	82.1	❌
Luxembourg	14.5	🕒	11.3	🕒	58.1	🕒	22.6	🕒
Mexico	7.6	✅	4.4	✅	72.5	❌	33.0	🕒
Netherlands	16.8	🕒	8.3	🕒	47.3*	🕒	31.3	🕒
New Zealand	13.8	🕒	8.8	🕒	66.6	❌	13.6	✅
Norway	12.0	✅	6.0	✅	46.0*	🕒	18.7	✅
Poland	22.7	🕒	10.6	🕒	53.3*	🕒	76.3	❌
Portugal	16.8	🕒	10.7	🕒	67.6	❌	28.3	🕒
Slovak Republic	22.9	🕒	9.7	🕒	51.5	🕒	59.1	❌
Slovenia	18.9	🕒	10.1	🕒	55.6*	🕒	56.8	🕒
Spain	22.1	🕒	8.6	🕒	53.0*	🕒	27.1	🕒
Sweden	10.4	✅	7.1	🕒	48.2*	🕒	18.5	✅
Switzerland	19.1	🕒	9.2	🕒	41.8*	✅	25.2	🕒
Turkey	26.5	❌	1.4	✅	64.4	🕒	46.2	🕒
United Kingdom	17.2	🕒	9.7	🕒	64.3	🕒	32.1	🕒
United States	10.5	✅	8.9	🕒	71.0	❌	24.1	🕒

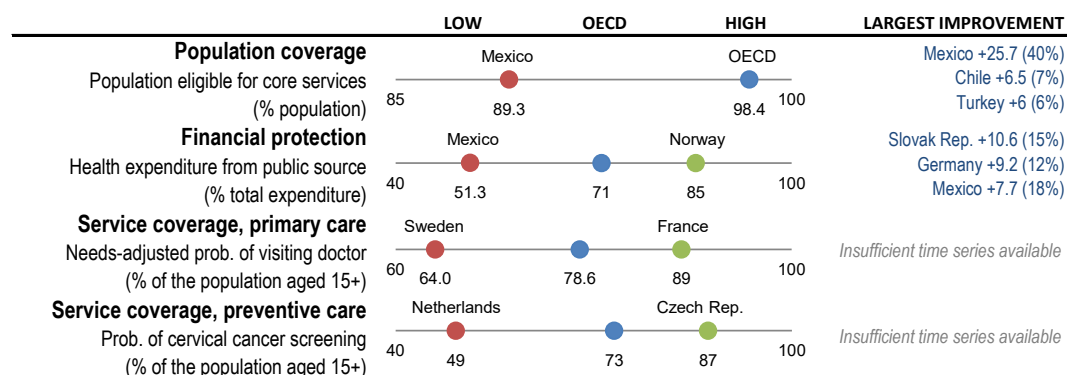
Note: ✅ Better than OECD average; 🕒 Close to OECD average; ❌ Worse than OECD average. Hungary, Latvia and Lithuania excluded from standard deviation calculation for air pollution. * Likely under-estimate of obesity as self-reported.

year worldwide by 2060. Death rates in 2016 ranged from over 80 deaths in Latvia, Hungary and Lithuania, to 15 deaths or less per 100 000 people in New Zealand and Canada.

Access to care

Ensuring equitable access is critical for inclusive societies and high performing health systems. Population coverage, measured by the share of the population eligible for a core set of services, offers an initial assessment of access to care. The share of spending covered by prepayment schemes provides further insight on financial protection. The probability of visiting a doctor, adjusted for need, and the share of women aged 20-69 screened for cervical cancer measure use of needed services. Figure 1.4 provides a snapshot on access to care across the OECD and Table 1.4 provides more detailed country comparisons.

Figure 1.4. **Snapshot on access to care across the OECD**



Note: Largest improvement shows countries with largest changes in value over time (% change in brackets).

Source: OECD Health Statistics 2019.

Austria, the Czech Republic, France, Germany and Luxembourg perform well across these indicators. In terms of population coverage, most OECD countries have achieved universal (or near-universal) coverage for a core set of services. However, in seven countries coverage remains below 95% – Chile, Estonia, Hungary, Mexico, Poland, the Slovak Republic and the United States.

Population coverage, though, is not sufficient by itself. The degree of cost sharing applied to those services also affects access to care. Across the OECD, almost three-quarters of all health care costs are covered by government or compulsory health insurance schemes. However, in Mexico, Latvia and Korea less than 60% of all costs are covered by publicly mandated schemes. Mexico, though, has significantly expanded population coverage and financial protection over the last decade.

One in five people report not seeing a doctor despite having medical need. Cross-country differences in utilisation are large, with need-adjusted probabilities of visiting a doctor ranging from around 65% in Sweden and the United States to 89% in France. Excepting Denmark and the Slovak Republic, wealthier individuals are more likely to see a doctor than individuals in the lowest income quintile, for a comparable level of need.

Uptake of cancer screening is also lower amongst the less well-off. This is despite most OECD countries providing screening programmes at no cost. Overall uptake of cervical cancer screening ranged from just under 50% of women aged 20 to 69 in the Netherlands, to over 85% in the Czech Republic and Austria.

Table 1.4. **Dashboard on access to care**

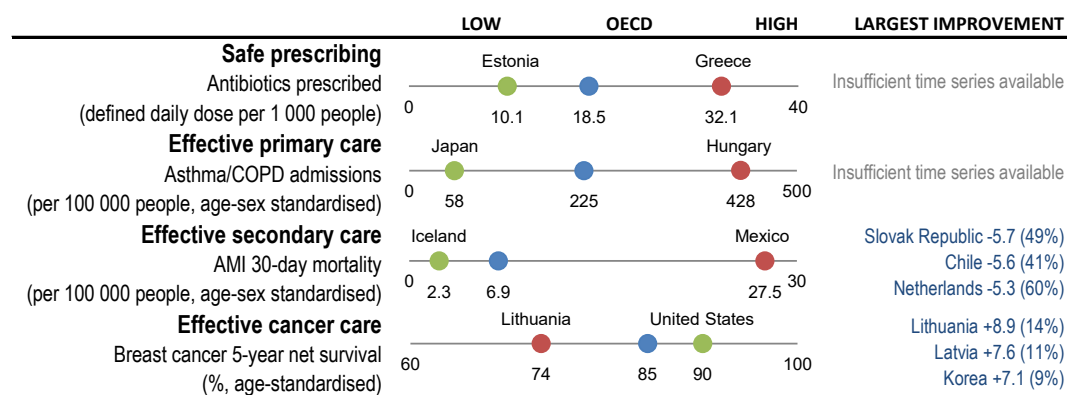
	Population coverage		Financial protection		Service coverage, primary care		Service coverage, preventive care	
	Population eligible for core services (% population)		Health expenditure from public sources (% total expenditure)		Needs-adjusted prob. of visiting doctor (% pop 15+)		Prob. of cervical cancer screening (% pop 15+)	
OECD	98.4	🕒	71.2	🕒	78	🕒	73	🕒
Australia	100	🕒	68.6	🕒	–		–	
Austria	99.9	🕒	74.0	🕒	86	✅	87	✅
Belgium	98.7	🕒	77.2	🕒	86	✅	76	🕒
Canada	100	🕒	73.0	🕒	75	🕒	76	🕒
Chile	94.0	❌	50.1	❌	–		72	🕒
Czech Republic	100	🕒	82.1	🕒	85	✅	87	✅
Denmark	100	🕒	84.0	✅	81	🕒	64	❌
Estonia	94.1	❌	74.7	🕒	75	🕒	58	❌
Finland	100	🕒	76.7	🕒	74	🕒	79	🕒
France	99.9	🕒	77.1	🕒	89	✅	82	✅
Germany	100	🕒	77.7	🕒	86	✅	81	🕒
Greece	100	🕒	60.8	🕒	76	🕒	76	🕒
Hungary	94.0	❌	68.7	🕒	84	🕒	71	🕒
Iceland	100	🕒	81.8	🕒	75	🕒	80	🕒
Ireland	100	🕒	73.3	🕒	75	🕒	69	🕒
Israel	100	🕒	63.6	🕒	–		–	
Italy	100	🕒	73.9	🕒	80	🕒	68	🕒
Japan	100	🕒	84.0	✅	–		–	
Korea	100	🕒	57.4	❌	–		–	
Latvia	100	🕒	57.2	❌	76	🕒	78	🕒
Lithuania	98.1	🕒	65.5	🕒	76	🕒	62	❌
Luxembourg	–		84.9	✅	88	✅	84	✅
Mexico	89.3	❌	51.3	❌	–		–	
Netherlands	99.9	🕒	81.5	🕒	75	🕒	49	❌
New Zealand	100	🕒	78.6	🕒	–		–	
Norway	100	🕒	85.5	✅	77	🕒	66	🕒
Poland	92.6	❌	69.0	🕒	80	🕒	72	🕒
Portugal	100	🕒	66.3	🕒	86	✅	71	🕒
Slovak Republic	94.6	❌	79.9	🕒	74	🕒	69	🕒
Slovenia	100	🕒	71.8	🕒	71	❌	78	🕒
Spain	99.9	🕒	70.6	🕒	84	🕒	69	🕒
Sweden	100	🕒	83.7	✅	64	❌	81	🕒
Switzerland	100	🕒	30.5	❌	–		–	
Turkey	99.2	🕒	77.7	🕒	–		–	
United Kingdom	100	🕒	79.4	🕒	76	🕒	63	❌
United States	90.8	❌	50.2	❌	65	❌	80	🕒

Note: ✅ Better than OECD average; 🕒 Close to OECD average; ❌ Worse than OECD average.

Quality of care

Good quality care requires health services to be safe, appropriate, clinically effective and responsive to patient needs. Antibiotics prescriptions and avoidable hospital admissions for asthma and chronic obstructive pulmonary disease (COPD) measure the safety and appropriateness of primary care. 30-day mortality following acute myocardial infarction (AMI) and breast cancer survival are indicators of clinical effectiveness of secondary and cancer care. Figure 1.5 provides a snapshot on quality and outcome of care across the OECD and Table 1.5 provides more detailed country comparisons.

Figure 1.5. Snapshot on quality of care across the OECD



Note: Largest improvement shows countries with largest changes in value over time (% change in brackets).
Source: OECD Health Statistics 2019.

The overuse, underuse or misuse of antibiotics and other prescription medicines contribute to increased antimicrobial resistance and represent wasteful spending. Total volumes of antibiotics prescribed vary more than three-fold across countries, with Estonia and Sweden reporting the lowest volumes, whereas Italy and Greece report the highest volumes. Across the OECD, the number of antibiotics prescribed has increased slightly over time.

Asthma and COPD are conditions for which effective treatment at the primary care level is well established – and hospital admissions for these conditions may signal quality issues in primary care. Admission rates for asthma vary 12-fold across countries with Mexico, Italy, and Colombia reporting the lowest rates and Latvia, Turkey and Poland reporting rates over twice the OECD average. International variation in admissions for COPD is 15-fold across OECD countries, with Japan, Italy and Mexico reporting the lowest rates and Hungary, Turkey and Australia the highest rates. Combined, there is a lower 7-fold variation across countries for these two respiratory conditions.

Mortality following acute myocardial infarction (AMI) is a long-established indicator of the quality of acute care. It has been steadily declining since the 1970s in most countries, yet important cross-country differences still exist. Mexico has by far the highest 30-day mortality following AMI (28 deaths per 100 admissions); rates are also relatively high in Latvia, Japan, Korea and Estonia. The lowest rates are found in Iceland, Denmark, Norway, Netherlands, Australia and Sweden (all 4% or less).

Breast cancer survival is an important measure of clinical effectiveness, with generally high survival across the OECD. Some of the best survival rates are found in Australia, Japan

Table 1.5. Dashboard on quality of care

	Safe prescribing		Effective primary care		Effective secondary care		Effective cancer care	
	Antibiotics prescribed (defined daily dose per 1 000 people)		Avoidable asthma / COPD admissions (per 100 000 people, age-sex standardised)		30-day mortality following AMI (per 100 000 people, age- sex standardised)		Breast cancer 5-year net survival (%; age- standardised)	
OECD	17.8	●	225	●	6.9	●	84.5	●
Australia	23.5	●	403	☒	3.8	☑	89.5	☑
Austria	12.1	☑	248	●	6.2	●	84.8	●
Belgium	15.9	●	291	●	6.8	●	86.4	●
Canada	14.8	●	253	●	4.8	●	88.6	●
Chile	–		98	☑	8.2	●	75.5	☒
Czech Republic	19.6	●	174	●	6.2	●	81.4	●
Denmark	13.9	●	325	☒	3.2	☑	86.1	●
Estonia	10.1	☑	122	☑	9.6	☒	76.6	☒
Finland	12.6	●	182	●	8.0	●	88.5	●
France	23.0	●	150	●	5.6	●	86.7	●
Germany	12.3	☑	289	●	8.5	●	86.0	●
Greece	32.1	☒	–		–		–	
Hungary	13.4	●	428	☒	–		–	
Iceland	24.6	☒	201	●	2.3	☑	89.1	●
Ireland	24.6	☒	329	☒	5.4	●	82.0	●
Israel	20.5	●	214	●	5.5	●	88.0	●
Italy	28.3	☒	64	☑	5.4	●	86.0	●
Japan	–		58	☑	9.7	☒	89.4	☑
Korea	26.5	☒	263	●	9.6	☒	86.6	●
Latvia	12.1	☑	242	●	13.4	☒	76.9	☒
Lithuania	13.6	●	263	●	8.6	●	73.5	☒
Luxembourg	25.3	☒	203	●	8.5	●	–	
Mexico	–		85	☑	27.5	☒	–	
Netherlands	14.3	●	236	●	3.5	☑	86.6	●
New Zealand	25.8	☒	363	☒	4.7	●	87.6	●
Norway	14.6	●	244	●	3.5	☑	87.2	●
Poland	23.8	●	236	●	4.1	☑	76.5	☒
Portugal	16.4	●	90	☑	7.3	●	87.6	●
Slovak Republic	23.6	●	209	●	5.9	●	75.5	☒
Slovenia	19.0	●	128	●	4.1	☑	83.5	●
Spain	12.6	●	210	●	6.5	●	85.3	●
Sweden	10.2	☑	169	●	3.9	☑	88.8	●
Switzerland	–		138	●	–		86.2	●
Turkey	16.6	●	425	☒	6.8	●	82.1	●
United Kingdom	17.5	●	281	●	7.0	●	85.6	●
United States	–		268	●	5.0	●	90.2	☑

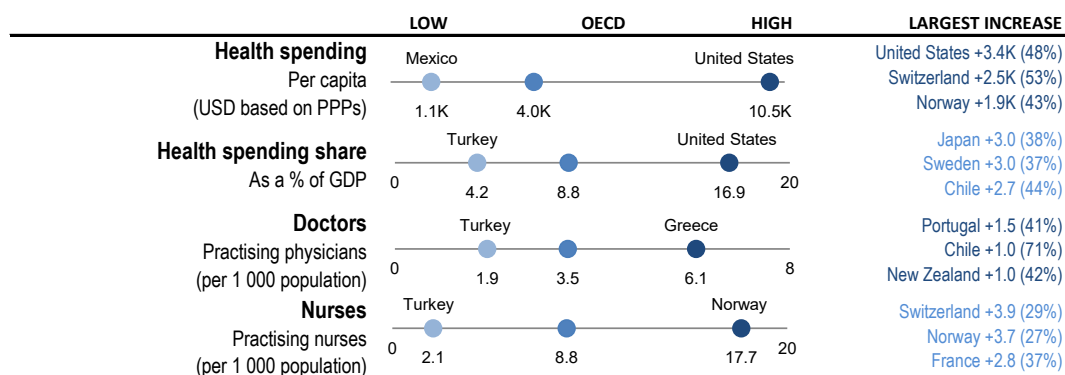
Note: ☑ Better than OECD average; ● Close to OECD average; ☒ Worse than OECD average. Mexico excluded from standard deviation calculation for AMI mortality.

and the United States, while rates significantly below the OECD average are found in Chile, Estonia, Latvia, Lithuania, Poland and the Slovak Republic.

Health care resources

Having sufficient health care resources is critical to a well-functioning health system. More resources, though, do not automatically translate into better health outcomes – the effectiveness of spending is also important. Health spending per capita and as a share of GDP summarise overall resource availability. The number of practising doctors and nurses provide further information on the supply of health workers. Figure 1.6 provides a snapshot on health care resources across the OECD and Table 1.6 provide more detailed country comparisons.

Figure 1.6. Snapshot on health resources across the OECD



Note: Largest improvement shows countries with largest changes in value over time (% change in brackets).
Source: OECD Health Statistics 2019.

Overall, countries with higher health spending and higher numbers of health workers and other resources have better health outcomes, quality and access to care. However, the absolute amount of resources invested is not a perfect predictor of better outcomes – efficient use of health resources and the wider social determinants of health are also critical. The next section will further investigate the associations between health spending and staffing, access, quality and health outcomes.

The United States spends considerably more than any other country (over USD 10 000 per person, adjusted for purchasing power). Health care spending per capita is also high in Switzerland, Norway and Germany. Mexico and Turkey spend the least, at around a quarter of the OECD average. Health spending has grown consistently across most countries over the past decades, other than a temporary slowdown following the 2008 financial crisis. Rising incomes, new technologies and ageing populations are key drivers of health spending growth.

In terms of health spending as a share of GDP, the United States spends by far the most on health care, equivalent to 16.9% of its GDP - well above Switzerland, the next highest spending country, at 12.2%. Germany, France, Sweden and Japan devote the next highest shares of GDP to health. A large group of OECD countries spanning Europe, but also Australia, New Zealand, Chile and Korea, spend between 8-10% of GDP. A few OECD countries spend less than 6% of their GDP on health care, including Mexico, Latvia, Luxembourg, and Turkey at 4.2%.

A large part of health spending is translated into wages for the workforce. The number of doctors and nurses in a health system is therefore an important way of monitoring how resources are being used. The number of doctors ranged from about two per 1 000

Table 1.6. **Dashboard on health resources**

	Health spending		Health spending share		Doctors		Nurses	
	Per capita (USD based on purchasing power parities)		As a % of Gross Domestic Product (GDP)		Practising physicians (per 1 000 population)		Practising nurses (per 1 000 population)	
OECD	3 994	⊙	8.8	⊙	3.5	⊙	8.8	⊙
Australia	5 005	⊙	9.3	⊙	3.7	⊙	11.7	⊙
Austria	5 395	⊙	10.3	⊙	5.2	⬆	6.9	⊙
Belgium	4 944	⊙	10.4	⊙	3.1	⊙	11.0	⊙
Canada	4 974	⊙	10.7	⊙	2.7	⊙	10.0	⊙
Chile	2 182	⬇	8.9	⊙	2.5	⬇	2.7	⬇
Czech Republic	3 058	⊙	7.5	⊙	3.7	⊙	8.1	⊙
Denmark	5 299	⊙	10.5	⊙	4.0	⊙	10.0	⊙
Estonia	2 231	⬇	6.4	⬇	3.5	⊙	6.2	⊙
Finland	4 228	⊙	9.1	⊙	3.2	⊙	14.3	⬆
France	4 965	⊙	11.2	⬆	3.2	⊙	10.5	⊙
Germany	5 986	⬆	11.2	⬆	4.3	⊙	12.9	⬆
Greece	2 238	⬇	7.8	⊙	6.1*	⬆	3.3	⬇
Hungary	2 047	⬇	6.6	⬇	3.3	⊙	6.5	⊙
Iceland	4 349	⊙	8.3	⊙	3.9	⊙	14.5	⬆
Ireland	4 915	⊙	7.1	⊙	3.1	⊙	12.2	⊙
Israel	2 780	⊙	7.5	⊙	3.1	⊙	5.1	⊙
Italy	3 428	⊙	8.8	⊙	4.0	⊙	5.8	⊙
Japan	4 766	⊙	10.9	⬆	2.4	⬇	11.3	⊙
Korea	3 192	⊙	8.1	⊙	2.3	⬇	6.9	⊙
Latvia	1 749	⬇	5.9	⬇	3.2	⊙	4.6	⬇
Lithuania	2 416	⬇	6.8	⬇	4.6	⬆	7.7	⊙
Luxembourg	5 070	⊙	5.4	⬇	3.0	⊙	11.7	⊙
Mexico	1 138	⬇	5.5	⬇	2.4	⬇	2.9	⬇
Netherlands	5 288	⊙	9.9	⊙	3.6	⊙	10.9	⊙
New Zealand	3 923	⊙	9.3	⊙	3.3	⊙	10.2	⊙
Norway	6 187	⬆	10.2	⊙	4.7	⬆	17.7	⬆
Poland	2 056	⬇	6.3	⬇	2.4	⬇	5.1	⊙
Portugal	2 861	⊙	9.1	⊙	5.0*	⬆	6.7	⊙
Slovak Republic	2 290	⬇	6.7	⬇	3.4	⊙	5.7	⊙
Slovenia	2 859	⊙	7.9	⊙	3.1	⊙	9.9	⊙
Spain	3 323	⊙	8.9	⊙	3.9	⊙	5.7	⊙
Sweden	5 447	⊙	11.0	⬆	4.1	⊙	10.9	⊙
Switzerland	7 317	⬆	12.2	⬆	4.3	⊙	17.2	⬆
Turkey	1 227	⬇	4.2	⬇	1.9	⬇	2.1	⬇
United Kingdom	4 070	⊙	9.8	⊙	2.8	⊙	7.8	⊙
United States	10 586	⬆	16.9	⬆	2.6	⊙	11.7	⊙

Note: ⬆ Above OECD average; ⊙ Close to OECD average; ⬇ Below OECD average. United States excluded from standard deviation calculation for both health expenditure indicators. *Includes all doctors licensed to practice, resulting in a large over-estimation.

population in Turkey, Japan, Chile, and Korea, to five or more in Portugal, Austria, and Greece. However, numbers in Portugal and Greece are over-estimated as they include all doctors licensed to practise. There were just under nine nurses per 1 000 population in OECD countries in 2017, ranging from about two per 1 000 in Turkey to more than 17 per 1 000 in Norway and Switzerland.

To what extent does health spending translate into better access, quality and health outcomes, and more health professionals?

Quadrant charts plot the association between health spending and another variable of interest. They illustrate the extent to which spending more on health translates into stronger performance across four dimensions: health outcomes, quality of care, access, and more health professionals. Note, though, that only a small subset of indicators for these four dimensions are compared against health spending. Quadrant charts also show pure statistical correlations, they do not imply causality.

The midpoint of a quadrant chart represents the OECD average, with dots the relative position of countries across health spending and the given indicator analysed. Each country is also colour-coded, based on a simple risk factors index (RFI) of smoking, alcohol and obesity indicators. Green dots indicate countries with a relatively low RFI (e.g. Israel, Norway), blue dots countries with a RFI close to the OECD average, and red dots countries with a relatively high RFI (e.g. Chile, Hungary). The RFI is an unweighted average of these three risk factors. Hence, the United States, for example, is coloured blue despite having high obesity rates, because of relatively low smoking rates and alcohol consumption. See box on “methodology, interpretation and use” for further methodological details.

Health spending and health outcomes

These quadrant charts illustrate the extent to which countries that spend more on health have better health outcomes (noting such associations do not guarantee a causal relationship).

There is a clear positive association between health spending per capita and life expectancy (Figure 1.7). Amongst the 36 OECD countries, 17 countries spend more and have higher life expectancy than the OECD average (top right quadrant). A further 10 countries spend less and have lower life expectancy at birth (bottom left quadrant).

Of particular interest are countries that deviate from this basic relationship. Eight countries spend less than average but achieve higher life expectancy overall (top left quadrant). These countries are Italy, Korea, Portugal, Spain, Slovenia, Greece, Israel and New Zealand. The only country in the bottom right quadrant is the United States, with much higher spending than in all other OECD countries, but lower life expectancy than the OECD average.

Most countries with high overall risk factors (red dots) have lower life expectancy than the OECD average. They are also typically below the trend line, which shows the average spending to life expectancy ratio across OECD countries. The converse generally holds for countries with low risk factors (green dots).

For avoidable mortality, there is also a clear association in the expected direction (Figure 1.8). Amongst 36 countries with comparable data, 16 countries spend more and have lower avoidable mortality rates (bottom right quadrant). A further nine countries spend less and have more deaths that could have been avoided (top left quadrant). Seven countries spend less than average but achieve lower avoidable mortality rates – for example, Italy, Israel and Spain (bottom left quadrant). The United States spends more than the OECD average and has worse avoidable mortality rates. Consistent with life expectancy, countries with higher (lower) risk factors (respectively in red and green dots) typically have higher (lower) avoidable mortality rates.

Figure 1.7. Life expectancy and health expenditure

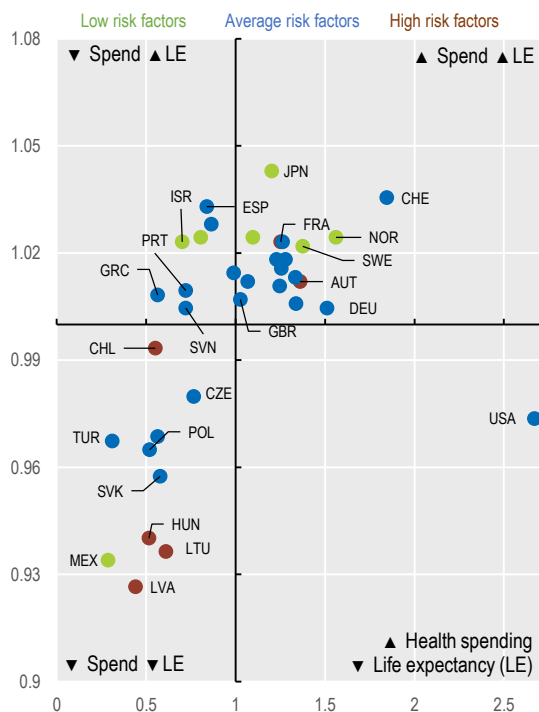
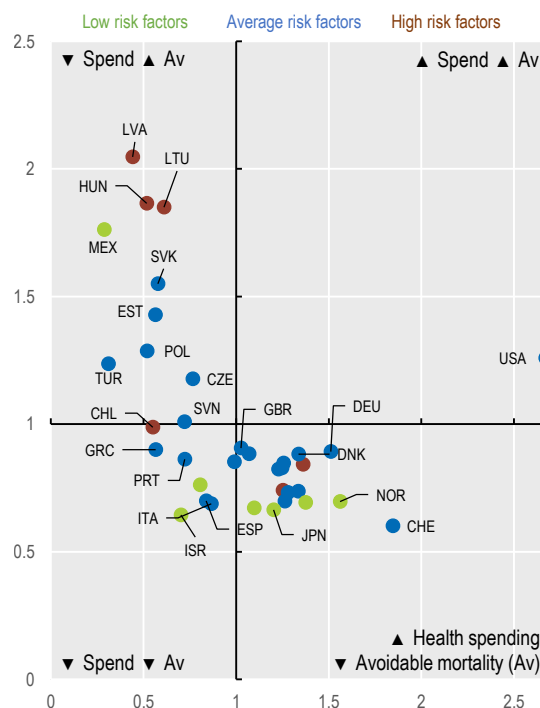


Figure 1.8. Avoidable mortality (preventable and treatable) and health expenditure



Health spending, access and quality of care

These quadrant charts illustrate the extent to which countries that spend more on health deliver more accessible and better quality care (noting such associations do not guarantee a causal relationship).

In terms of access, Figure 1.9 shows that universal (or near-universal) coverage of a core set of services can be achieved even with comparatively low health spending levels – for example, Turkey and Latvia spend under USD 2 000 per person (less than half the OECD average) and still achieve universal population coverage.

Still, six of the seven countries with population coverage rates below 95% do spend relatively less – Mexico, Poland, Chile, Estonia, the Slovak Republic and Hungary (bottom left quadrant). The one OECD country with high spending levels and lower population coverage is the United States. Replacing health expenditure per person with spending by government or compulsory insurance, or spending as a share of GDP, results in very similar patterns.

In terms of quality of care, Figure 1.10 shows the relationship between health spending and breast cancer five-year net survival (an indicator reflecting the quality of both prevention and curative care). There is a clear positive association: among 32 OECD countries, 16 countries spend more on health and have better net survival (top right quadrant); and nine countries spend less and have lower net survival (bottom left quadrant). Six countries have relatively high breast cancer survival despite spending less than the OECD average (Israel, Italy, Korea, Portugal, New Zealand and Spain). In Ireland, health spending is almost 25% higher than the OECD average, yet net survival is slightly below the OECD average.

Figure 1.9. Population coverage for a core set of services and health expenditure

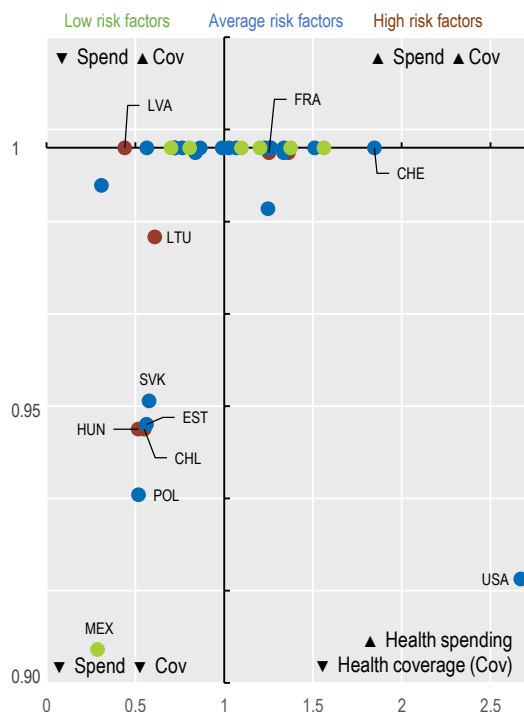
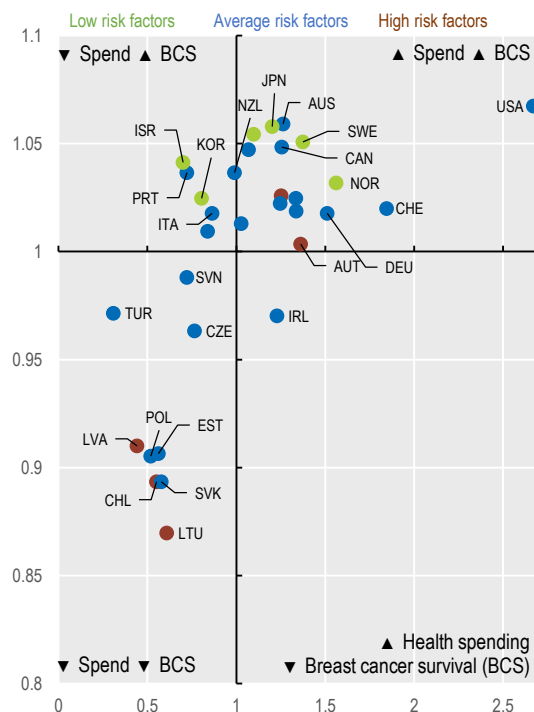


Figure 1.10. Breast cancer survival and health expenditure



Health spending and number of health professionals

These quadrant charts illustrate the extent to which countries that spend more on health also have more doctors and nurses (noting such associations do not guarantee a causal relationship).

There is only a weak positive association between spending on health and number of doctors (Figure 1.11). Nine countries spend more than the OECD average yet have fewer doctors (e.g. Canada, Luxembourg, United States); a further six countries spend relatively little yet have more doctors than average (Czech Republic, Greece, Italy, Lithuania, Portugal, Spain). However, numbers in Portugal and Greece are over-estimated as they include all doctors licensed to practise. Such divergences may also reflect differences in remuneration levels, staff composition and the prominence given to nurse practitioners and other health professionals (as compared with doctors).

The positive association between health spending and number of nurses is much more clear-cut (Figure 1.12). Amongst the 36 OECD countries, 16 countries spent more than the OECD average and also had more nurses per 1 000 people. Likewise, 16 countries spent relatively little and had fewer nurses. Only two countries spent less than the OECD average and had more nurses (Slovenia and, to a lesser extent, New Zealand). Two other countries had comparatively high spending but fewer nurses (Austria and the United Kingdom).

Figure 1.11. **Number of doctors and health expenditure**

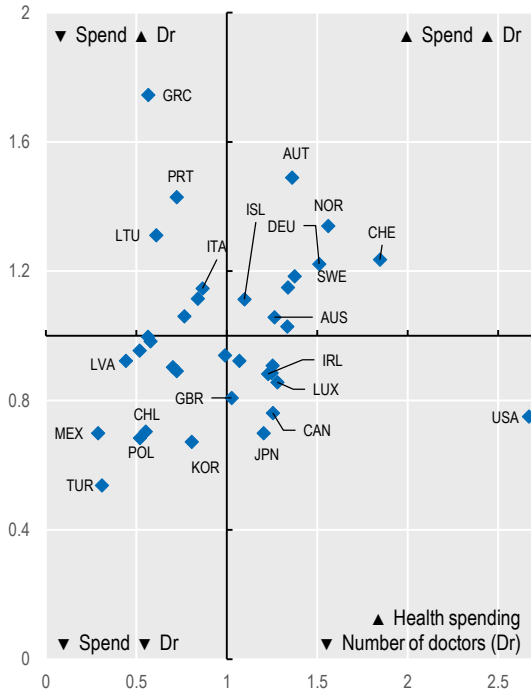
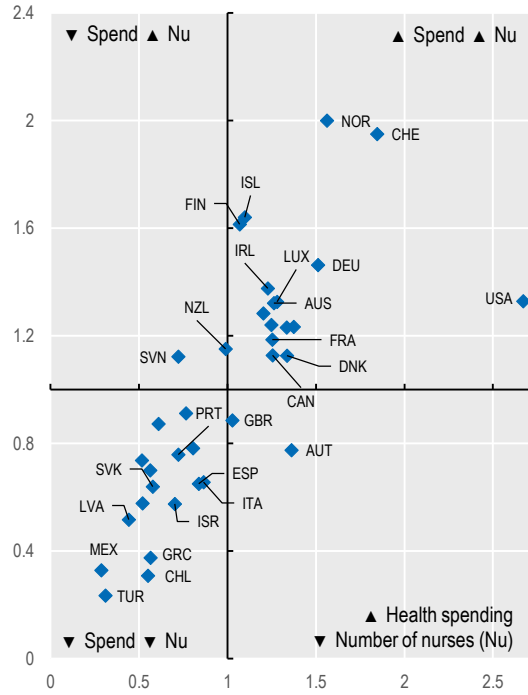


Figure 1.12. **Number of nurses and health expenditure**





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