

1 Health-related inequalities: Framework and key findings

This chapter provides an overview of the report on socio-economic inequalities in health and health systems. It presents the rationale of the report as well as the overall approach selected to analyse inequalities in 33 OECD and EU countries. Key findings on inequalities in risk factors and health outcomes are discussed followed by a presentation of inequalities in utilisation of health services, unmet needs for health care and financial hardship when seeking care. The results confirm that people from disadvantaged socio-economic backgrounds frequently are in worse health, have higher exposure to risk factors and struggle more to access the health system than the better-off or better educated. However, the extent of these inequalities differs across countries. The chapter also assesses whether some countries systematically concentrate inequalities in health and health systems and concludes by discussing policy options to redress them.

Note by Turkey:

The information in this document with reference to “Cyprus” relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the “Cyprus issue”.

Note by all the European Union Member States of the OECD and the European Union:

The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

1.1. Why a report on health-related inequalities? Introduction and method

1.1.1. Health is essential to well-being and increases a person's chance of being productive...

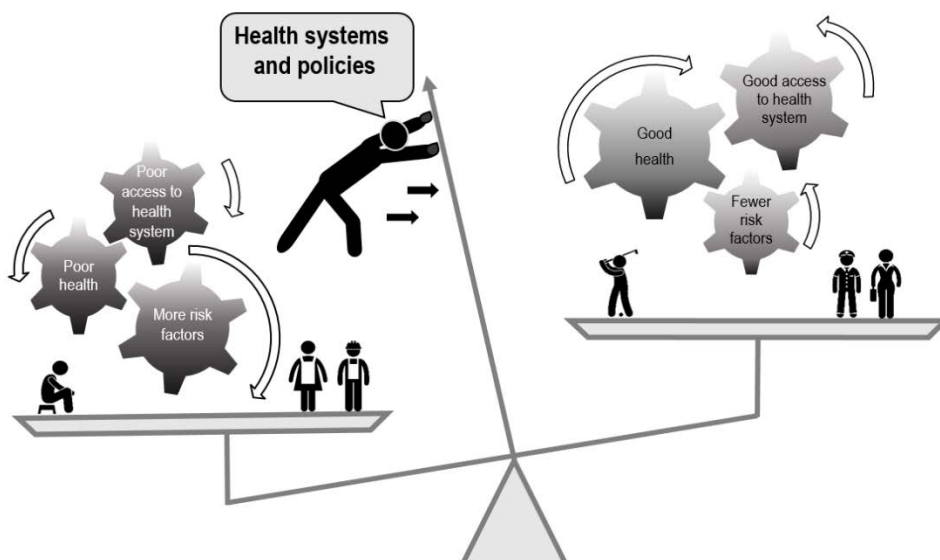
Health is one of the main components of a good life, and it is of intrinsic value. Data collected in the context of the OECD's Better Life Index¹ from around 145 000 citizens around the world suggest that health is the number one priority for living a good life for the majority of people.

Being in good health also contributes to other important outcomes such as labour market outcomes, educational achievement and allows for an active participation in community life. Particularly important in an economic context is the impact on labour market outcomes: good health translates into a better chance of finding a job, being more productive and ultimately creates opportunities for people to improve their standing in life (Chapter 2 of this report will discuss this further). The *Preventing Ageing Unequally* report (OECD, 2017^[1]), showed that, at all ages, men and women in bad health work less and earn less when they work. Over the course of a career, bad health reduces lifetime earnings by 33% and 17% for men with low and high levels of education, respectively (and with smaller effects overall for women). This is detrimental to economies and societies at large.

1.1.2. ...but the odds are stacked in favour of the better-off

The least well-off and less educated are less likely to be in good health, which is, among other things, explained by a higher exposure to risk factors detrimental to their health and lower access to preventive and health care services. Moreover, these inequalities persist over a life cycle. Growing up in favourable socio-economic circumstances leads to higher levels of educational attainment, which, in turn, is associated with higher income and better health in later stages of life. Poor health can have intergenerational effects. This is true, for example, for mental health problems where recent research has shown that maternal mental ill health is likely to negatively affect the mental health of children and grandchildren (Johnston, Schurer and Shields, 2013^[2]). It is also associated with lasting effects on children's educational attainment, future household incomes, and the increased probability of engaging in criminal activity.

Figure 1.1. Health, risk factors and access to the health system: The odds are stacked in favour of the better-off



Note: Each side of the scale represents the nexus of the relationships between risk factors, health and access to the health system which reinforce one another positively (right side of the scale) or negatively (left). People of lower (higher) socio-economic standing are more likely to land on the left (right) side of the scale. The size of the cogwheels indicates the value of the indicators used to measure these domains for the two population groups. Health systems and policies can contribute to redressing the balance.

1.1.3. Health systems and policies can contribute to redressing the balance

Health is influenced by a range of social, economic and environmental determinants, but by ensuring access to care of good quality, as well as through prevention and public health policies, health systems play a key role in improving health outcomes.

Health systems can contribute to reducing inequalities if they enable access to services based on needs rather than the ability to pay. In most OECD and EU countries, national health system strategies and policies highlight the importance of ensuring access to quality care for everyone and protecting all people against the cost of illness. These targets are also incorporated in global health policy frameworks. Sustainable Development Goal 3.8 on Universal Health Coverage emphasises access to quality care, affordability and financial protection. Ensuring access to quality health services and more broadly investing in people's health is also a central recommendation in OECD's *Framework for Policy Action on Inclusive Growth* (2018^[3]). Finally, the European Pillar of Social Rights states that “everyone has the right to timely access to affordable, preventive and curative health care of good quality” (Tajani, Ratas and Juncker, 2017^[4]).

Figure 1.1 captures the nexus of the interacting phenomena described above and summarises the framework that guides the empirical analyses of this report. Overall, poorer health, high exposure to risk factors and problems accessing the health system tend to go hand in hand and to be more common among the less well-off and disadvantaged. On the other hand, those with higher socio-economic status generally adopt healthier lifestyles, find it easier to access the health system and are in better health overall. These effects can also reinforce each other and, as mentioned before, also influence labour market and educational outcomes.

A range of health policy levers exist to redress these health-related inequalities. These include, for example, public health interventions to reduce the high exposure of risk factors among disadvantaged population groups, making sure a sufficient number of health providers are available in poorer areas, and guaranteeing that the entire population is covered against the cost of health care. Ultimately, these policies can also contribute to ensuring that economic prosperity can be shared by the entire population.

Of course, the challenge of health inequalities also needs to be seen in a country-specific context. In many OECD countries, particular population groups such as indigenous peoples, ethnic and linguistic minorities concentrate socio-economic disadvantages but may also face additional barriers to access². In other countries, barriers of access may be concentrated in certain regions that are economically disadvantaged or scarcely populated. All this to say that when comparing health inequalities across countries, context is important. It also means that, in addition to the generic health policy levers described above, more country-specific policy responses –also going beyond the health system- may be necessary to redress inequalities in health.

1.1.4. This report provides a comparative assessment of health-related inequalities in 33 OECD and EU economies

This report measures and compares a range of inequalities in health and health systems across countries providing evidence on the main imbalances as described by the three cogwheels in Figure 1.1. Hence, the focus of the report is on analysing differences across population groups with different socio-economic status. While it is acknowledged that gender-specific differences in health also exist, any analysis is generally outside of the scope of this report. However, due to the fact that the social gradients for risk factors are different between men and women, socio-economic differences for this domain are analysed separately for both sexes. Inequalities in health related to migration status or ethnicity are also not considered in this report.

The comprehensive analysis is produced mainly using national health surveys from 33 EU and OECD countries: the 2014 European Health Interview Survey wave 2 for 30 European countries (EU countries, Iceland and Norway), the Canadian Community Health Survey 2015-16, the Chilean National Socio-Economic Characterization Survey 2017, and the US Medical Expenditure Panel Survey 2016. Drawing

heavily on this data, the report measures and compares inequalities across socio-economic groups in the following domains: health status, risk factors, health care utilisation and unmet needs. Other data sources are used to assess differences in coverage and financial protection. It is acknowledged that the use of national health surveys, typically excludes some population groups that are particularly affected by health inequalities, such as the homeless or irregular migrants.

A large and ever-evolving body of research proposes different approaches to measuring inequalities, some of which originate from epidemiologists, others from economists. In particular, an array of methods exist to generate, based on the distribution of the variable in the population, a number summarising the level of inequality in a way which allows comparisons across time and/or countries. These summary measures all have different properties and in particular reflect different and equally valid value judgements of what constitutes more or less unequal circumstances³. The methodological choices made in this study are briefly explained in Box 1.1. The fact remains that different approaches can lead to different assessments of how unequal countries are relative to one another. In the preparation of this report, alternative approaches were tested but for the sake of clarity and brevity, not all can be presented here. Instead, rather than trying to rank countries on the basis of one set of assumptions, the approach followed distinguishes three broad groups of countries which consistently have relatively low, intermediate or high levels of inequality under different assumptions and across sets of variables which cover the same domain of analysis. Where country groupings vary substantially under different assumptions, differences are explicitly discussed.

The report is structured as follows: Chapter 2 briefly describes the relationship between health and labour market outcomes, demonstrating the importance of improving health to activate and increase the productivity of the working-age population. Subsequently, the distribution of major risk factors for health and of health outcomes along the socio-economic gradient are analysed. The rest of the report describes in more detail the different types of the imbalances depicted in the “access of health system” cogwheel in Figure 1.1. It looks into inequalities in the utilisation of health services (Chapter 3), in unmet need for health care (Chapter 4) and reviews the coverage and financial protection provided by OECD and European health systems (Chapter 5).

Box 1.1. Summary description of the methodological approach to measure inequalities in this report

The report's main objective is to estimate whether and the extent to which people across the social spectrum are more or less exposed to risk factors, in good health or have better access to care (measured by service utilisation and unmet needs for care) in OECD and EU countries (each of these categories being labelled a domain of inequality in this box). This required a number of key methodological choices which are outlined here along with their rationale. More details on the methods are provided in the relevant chapters.

Standardisation

Assessing the gap between socio-economic groups for risk factors, health outcomes and access to care requires factoring out other determinants which may explain differences in each domain between these groups but are not amenable to policy. For instance, if the better-off are older than the least advantaged on average, part of the health gap between these groups can be attributed to age and a simple tabulation of health and socio-economic status is likely to underestimate socio-economic inequalities. To measure inequalities more accurately, **indirect standardisation** (O'Donnell et al., 2008^[5]) **is used where relevant**. For instance, an age and sex standardisation is used to compare health status between education groups. To compare the utilisation of care between income groups, the impact of differences in age, sex, and health status between these groups are similarly neutralised⁴. The standardised probabilities serve as a basis for contrasting the situation of the least and most advantaged.

Choice of a marker of socio-economic inequalities

Education, income, occupation and wealth are the main markers of socio-economic status which can be used as the dimension along which inequalities in each domain are captured. These markers are generally correlated and at the same time each can have an intrinsic marginal impact on some of the variables of interest in this study. An intuitive example is that better education can increase a person's awareness of the importance of a healthy diet while the associated higher income influences the type of food they can purchase (e.g. processed food is cheaper and unhealthier). The distributions and correlations of these variables in two populations are likely to differ, which would intuitively impact how unequal they might appear if one marker of socio-economic status is used rather than the other. An option to address this concern is to measure and compare inequalities along different markers simultaneously, as done for instance by Huisman, Kunst and Mackenbach (2005^[6]) for smoking, Devaux and Sassi (2013^[7]) for obesity, and Hu et al (2016^[8]) for health.

For the sake of clarity and concision, this report mostly focuses on one socio-economic marker for each domain examined. **Education is selected for health and risk factors**, as it has a larger explanatory power of differences and, for similar reasons, **income is selected for access**. These markers are also more commonly used in the literature which measures inequalities in these respective domains, which increases the comparability of this report with other studies.

Measurement approaches preferred by epidemiologists and economists

Studies aiming to quantify health-related inequalities originate mostly from two groups of disciplines, epidemiology and public health on the one hand and economics on the other. The former is more prolific on inequalities in health status and risk factors and the latter on access to care and coverage of services. In public health and epidemiology, the most commonly used summary measures to assess inequalities which take into account the entire distribution of the population across socio-economic dimensions are the *slope* and *relative index of inequalities*. Economists generally privilege measures which originate from the income-inequality literature such as (*generalised*) *concentration indices* (for more detailed presentation of these concepts see Chapters 2 and 3 respectively).

In this report, to pragmatically facilitate comparison with the most relevant bodies of literature, the approach privileged by epidemiologists (***slope and relative index of inequalities***) **is adopted for health and risk factors while concentration indices are used for variables describing access**.

Absolute and relative inequalities

Comparing inequalities across populations requires a value judgement on what constitutes inequality and hence a reduction of inequalities. Intuitively, relative measures of inequalities would consider equivalent situations where the ratio between the health of the better and worse off are identical, while absolute measures of inequalities would consider equivalent situations where the difference between these two groups is the same. For instance, if smoking rates among the better-off were reduced from 20% to 10% and those of the worse-off from 30% to 20% over the same time period, the absolute inequality in smoking among the two groups would remain constant while the relative inequality would increase (moving from a situation where the worse-off smoked 1.5 more than the better-off to one where they smoke twice as much) – see Kjellsson Gerdtam and Petrie for a full discussion (2015^[9]). Both approaches to measuring inequalities are equally valid and many studies present both types of measures including Devaux and Sassi (2013^[7]) and Hu et al (2016^[8]). The latter, as well as Mackenbach et al (2016^[10]) look at trends in health inequalities and find that while relative inequalities have been increasing, absolute inequalities have been stable or even have decreased.

As reducing absolute, rather than relative, inequalities could be construed as a more realistic policy objective, this report focuses on the former. In other words, **this body of work primarily reports and compares**

absolute inequalities which factor in the level of the variable of interest – so that if two countries have the same relative inequality, the one with the higher average will be considered more unequal⁵.

Consolidating results and grouping countries

The previous discussion demonstrates the existence of a number of reasonable alternative approaches to measuring and comparing inequalities. The fact that in most domains a number of indicators exist to illustrate different dimensions complicates matters further. For instance, health is often captured by at least three types of variables in surveys: self-assessed health, limitations in daily activity and the presence of chronic diseases; access to services is captured by enquiring about the utilisation of services (including consultations with various providers, hospitalisation, coverage of preventive services) as well as unmet needs.

Each set of methodological choices on any of the above variables is likely to lead to different assessments of how unequal countries are relative to one another for each variable of interest.

As the previous discussion hints, the general choice made in this report is to complement rather than duplicate the academic literature which typically focuses on the study of one domain – or even one variable within a domain – and reviews trends and/or sets of countries by comparing absolute and relative inequalities, and/or using different markers of socio-economic status. In contrast, this report goes for breadth by:

- Looking at the various domains in turn, in each case using all variables common to most surveys for a large set of countries;
- Selecting an approach to measuring inequalities by domain which generally allows comparison with the existing literature. In the preparation of this report, alternative approaches were nevertheless comprehensively tested. In most cases, the results differed or converged in a manner consistent with the implication of the underlying methodological choices and reporting all results would not have added value. Instead, through various chapters, results using alternative approaches are selectively presented when they meaningfully help nuance results. Detailed results of interest to specialists of each domain are also presented in the annexes.
- Considerable effort is put into summarising and consolidating the information. Rather than trying to rank countries finely on each variable of a given domain, the approach seeks to distinguish three broad groups of countries which have relatively low, high or intermediate levels of inequality when looking at variables jointly in a given domain. The robustness of the final groupings is then comprehensively tested⁶.

1.2. Key findings on inequalities related to health

1.2.1. Poor health behaviour is more prevalent among the disadvantaged

Lifestyles play an important role in explaining population health. For example, while at population-level around half of the decline in mortality by cardio-vascular diseases in the United Kingdom between 2000 and 2007 can be attributed to improvement in treatment, the reduction in risk factors accounts for an additional third of the mortality decline and it is much more important in explaining improvements among the lower income-groups (Bajekal et al., 2012^[11]). Most behavioural risk factors are indeed more prevalent among disadvantaged individuals. The report shows:

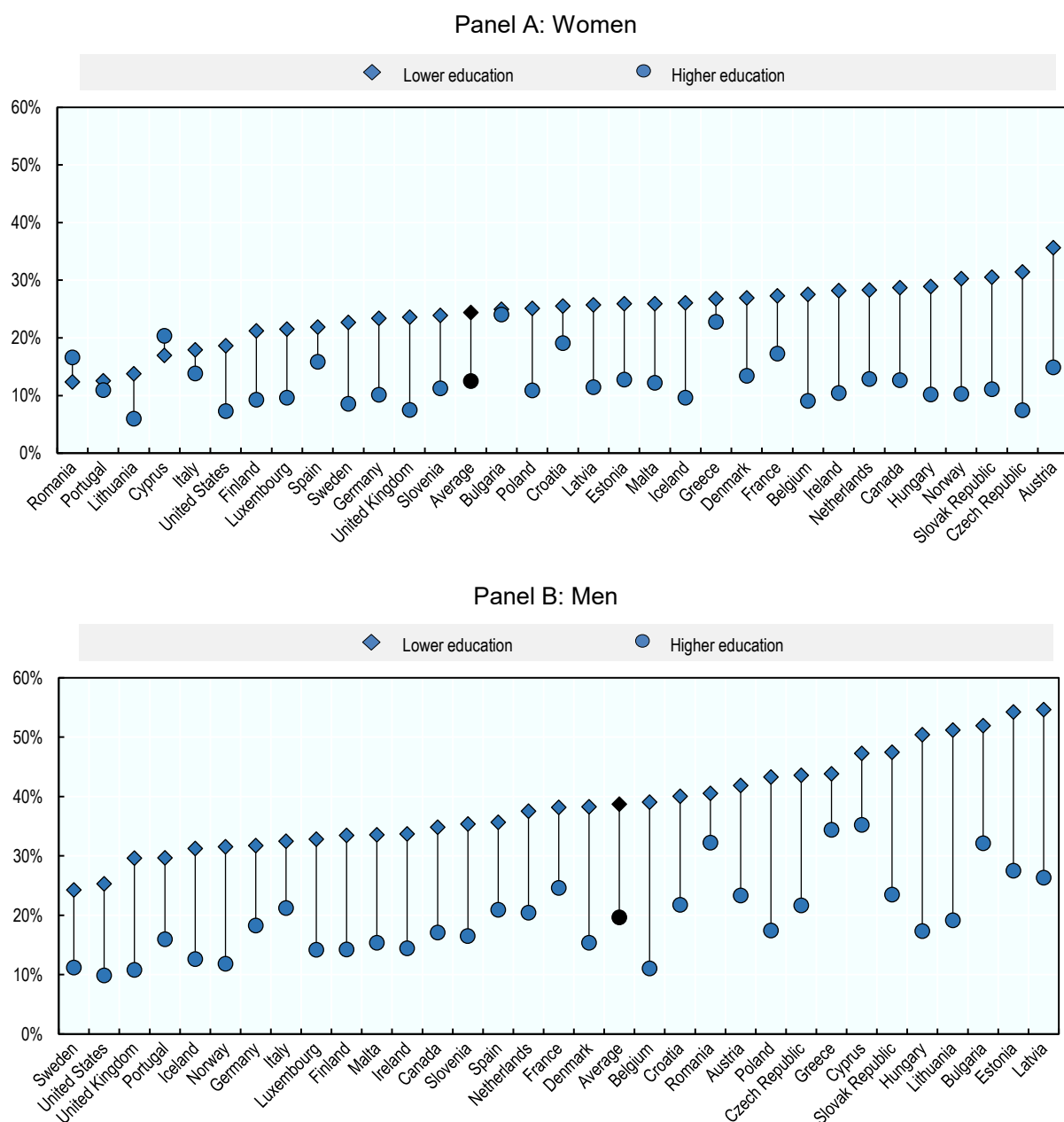
- Overweight and obesity, which are known risk factors for numerous health problems, have increased in many European and OECD countries over the past decades (OECD, 2017^[12]; OECD/EU, 2018^[13]). For both men and women, the prevalence of overweight and obesity is

generally higher among the low-educated. On average, the gap in overweight and obesity rates between those with tertiary education and those without a high school degree stands at 16 percentage points for women (36% for the most educated and 52% for the least educated) and at 4 percentage points for men (54% vs 58%). In all countries included in the analysis, the distribution of obesity and overweight is significantly unequal and to the detriment of the least educated for women. The same is true for men in 18 countries (in 13 countries the gradient is not significant). In Poland, inequalities are to the detriment of the most educated men. In Luxembourg, France, Spain, Italy and Denmark inequalities to the detriment of the less educated are relatively high for both men and women.

- Although smoking rates have been decreasing over the past decades, tobacco consumption remains a major public health issue worldwide. Across all European and OECD countries, more men than women tend to smoke. In total, one in five women and nearly one in three men are daily or occasional smokers. For both women and men, smoking rates are twice as high for people in the lowest education group compared to those in the highest one on average across 32 countries (Figure 1.2). The summary measures indicate significant inequalities to the detriment of women with lower education in 26 countries and to the detriment of higher educated women in three countries (Portugal, Romania and Cyprus). No gradient was found in the remaining three countries. For men, inequalities to the detriment of the least educated are significant everywhere and highest in the Baltic countries, Belgium and Hungary.
- Harmful alcohol use is a leading cause of death and ill health worldwide, especially in people of working age (Sassi, 2015^[14]). Rates of heavy drinking (defined as consuming a daily amount of pure alcohol of 20 grams or more for women, and 40 grams or more for men) vary across countries, and are generally more common among men than women. On average across 28 European and OECD countries (27 in the case of women), 5% of men report heavy drinking compared to 3% among women. However, there is no clear social gradient in hazardous drinking habits in the majority of countries. Among women, heavy drinking becomes a greater problem as education decreases in three countries (Lithuania, Romania and Canada) and as education increases in seven (Austria, Belgium, Germany, Norway, Denmark, the United Kingdom and Luxembourg), and with no clear gradient in the remaining 17 countries. For men, those with higher education are less likely to be heavy drinkers but the population-level gradient in drinking habits is only significant in around half of the countries (13 out of 28).

Generally, these results are in line with previous research on inequalities in the exposure to risk factors.

Figure 1.2. Age-standardised probabilities of smoking by education level



Note: Results correspond to the age-standardised probabilities. For women, the difference between education groups are significant at the 95% confidence level for all countries except Bulgaria, Cyprus, Greece and Portugal. For men, all difference are significant at the 95% level. See Chapter 2 for an overview of what the different education levels exactly refer to.

Source: OECD estimates based on national health survey data.

1.2.2. Across all countries, the chance that the least educated assess their health as poor is twice as high as for those with a high level of education

On average across OECD and EU countries, life expectancy at birth has increased by over ten years since 1970. However, large inequalities in life expectancy exist by socio-economic status including education

level, income or occupational group. On average across countries for which data are available, people without high-school diploma can expect to live about 6 years less than those with tertiary education.

This education gap in life expectancy is due to higher mortality rates among the least educated at different ages. The least educated people have, for example, higher death rates from circulatory diseases and cancer (Mackenbach et al., 2016^[10]; Mackenbach et al., 2017^[15]). The greater prevalence of smoking and of excessive alcohol consumption, particularly among low-educated men contribute to these higher mortality rates.

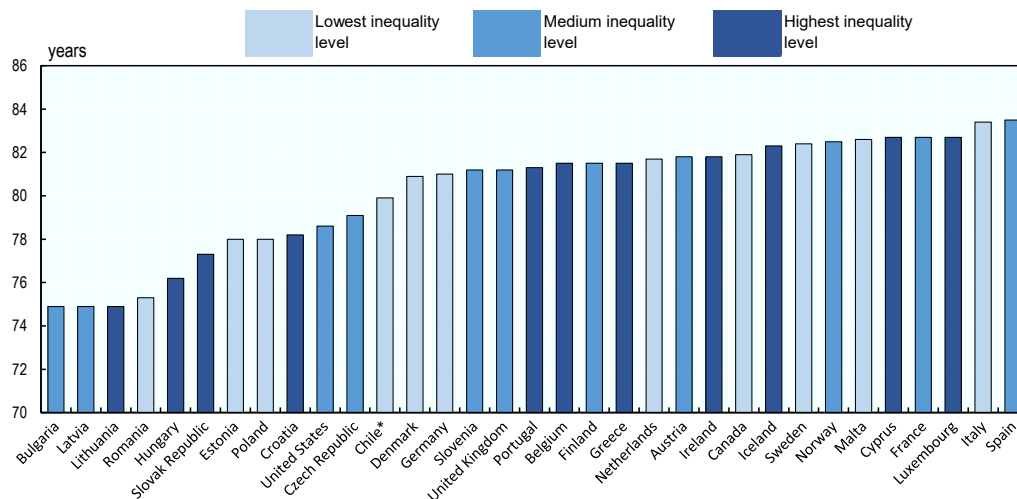
This report assesses the magnitude of the association between the socio-economic position and ill health measured by poor self-assessed health status, limitations in daily activities and multiple chronic conditions. The analysis shows that:

- Around one third of the population in the countries analysed assess their own health as poor. Differences in the age-sex standardised probabilities of poor self-assessed health between the highest and lowest education groups are substantial and significant in all countries. On average, 44% of those with a low level of education consider their health condition as poor compared to only 23% among those with tertiary education. This gap is particularly high in the United States, Luxembourg and Portugal where it reaches around 30 percentage points or more. It is comparatively low in Romania, Malta and Italy (less than 16 percentage points).
- Similar shares of the populations report limitations in daily activities (28%) and suffering from multiple chronic conditions (31%). However, the gaps between education groups are less pronounced for these variables. They stand at 16 percentage points for activity limitations and 11 percentage points for multi-morbidities.
- For the three variables which capture health status, population-level summary measures of inequalities show a gradient detrimental to the poor in all countries.

Considering jointly the information on inequalities across different health status variables suggests inequalities are consistently higher (or lower) in some countries. Additional analyses combining the inequalities for self-assessed health, activity limitations and multiple chronic conditions were undertaken to distinguish three groups of countries with low, intermediate and high levels of inequalities (see Box 2.6 in Chapter 2). Results are presented in Figure 1.3, which ranks countries by increasing life expectancy at birth and where the colour of the bar indicates the level of inequality based on this grouping (darker shades correspond to more widespread inequalities to the detriment of the least educated). This clustering shows, for example, that the highest education-related inequalities in health outcomes are found in Lithuania, Hungary and the Slovak Republic, while they are low in some Nordic countries (Denmark and Sweden) but also in Germany, the Netherlands as well as Romania and Poland.

The figure highlights that the correlation between the overall health status in a country (as measured by life expectancy at birth) and the level of education-related health inequalities is weak. Social inequalities in health outcomes can be high (Luxembourg), intermediate (Spain) and low (Italy) in countries with the highest life expectancy. The same is true for the countries at the bottom of the scale, where inequalities are high in Lithuania, intermediate in Bulgaria and Latvia and low in Romania.

Figure 1.3. Life expectancy at birth and summary level of education-related health inequalities across European and OECD countries



Note: The figure ranks countries by increasing life expectancy at birth while the colour of the bar indicates the level of inequality (darker shades correspond to more widespread inequalities to the detriment of the least educated). The levels of inequality are calculated based on a principle component analysis (see Chapter 2).

*The data for multiple chronic conditions was not available for Chile, however various analyses based on comparisons of data for self-assessed health and activity limitations demonstrate that the country belongs to the low inequality group.

Source: OECD estimates based on national health survey data.

The clustering of countries into the three different inequality groups is relatively consistent if *relative* inequality instead of *absolute* inequality measures are used. Using income instead of education as a marker of socio-economic differences, however, does lead to some changes in the inequality clustering. In particular, Sweden, Estonia, Denmark, Slovenia, the United Kingdom and the United States belong to the high inequalities group when socio-economic status is captured through income; and Ireland, Lithuania and Greece when health inequalities by education are measured. Yet, this should not be a surprise. Each country is characterised by a distribution of the population across education levels which can be more or less unequal; the wealth gap between people in the first and last income quintile is also likely to vary across countries; and the marginal impacts of income and education on health are unlikely to be identical.

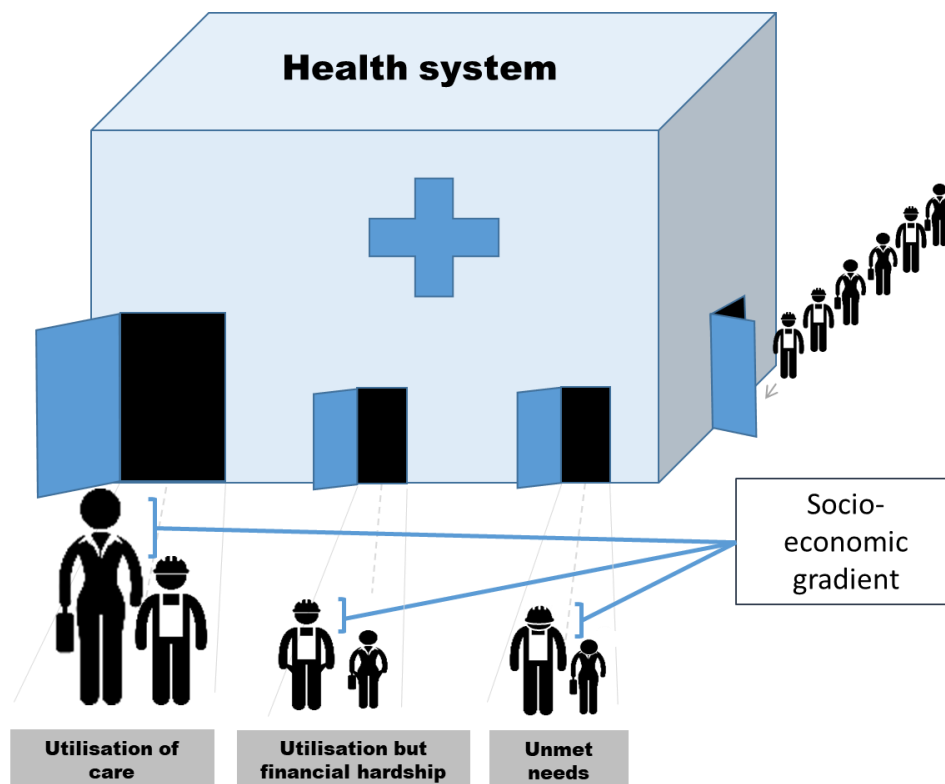
1.3. Key findings on inequalities in health systems

As outlined in the initial framework, if health systems provide care to all segments of the population based on need while protecting people from financial hardship, they contribute to moderating health and economic inequalities. This section examines the extent of inequalities in access to care.

- A first question is whether people obtain the services they should, given their needs. One strategy to answer this question consists in examining whether, for a given health status – a proxy of need – people have a comparable level of utilisation of the health care system.
- A second approach focuses more explicitly on determining whether people's needs are indeed met by asking them the question directly and enquiring about the type of barrier which precluded them from obtaining care.
- A frequently cited reason for forgoing care is cost but different people can make different choices when faced with having to pay for care. Indeed, some patients use the health system but face financial hardship as a result. Measuring affordability is therefore a third angle.

Figure 1.4 reframes the above approaches as three possible scenarios which can unfold when people turn to the health system. The first, and hopefully most frequent scenario (depicted by the first door), is that people will access quality care. However, some of them may suffer financial hardship in the process (second door). Finally, they may find their needs will not be (fully) met (third door), either due to barriers of access or low quality of services. The likelihood that these scenarios will unfold depends on patients' socio-economic circumstances. Better-off people may be in a more favourable position to navigate the system and obtain better quality care, to overcome barriers to care and ensure their needs are met. They are also less likely to face financial hardship. In sum, even if most health systems aim to treat people equally, the extent to which they do is the object of this section.

Figure 1.4. Access to affordable quality care: Possible hurdles and related inequalities scenarios.



Note: Figures simplistically portray people of higher (woman) or lower (man) socio-economic circumstances and their size represents the relative likelihood they have of facing a result rather than another when accessing the health care system (scale is not proportional).

1.3.1. More often than not, the use of curative and preventive services is concentrated among the better-off

People access the health system when they have the need for care and, hopefully, their utilisation of the system is commensurate to their needs. A natural starting point in evaluating whether inequalities in accessing the health system exist is hence to explore whether, for the same level of needs, people with different income have a comparable level of utilisation of the health system.

The better-off are more likely to see a doctor than the poor but once access is established the number of visits varies less systematically with income

Income-related inequalities exist in the utilisation of some – but not all – curative health care services across EU and OECD countries:

- When controlling for differences in health care needs, a person with low-income is five percentage points less likely than a person with high income to see a GP (67% vs. 72%). The gap in the needs-adjusted probability is more than ten percentage points in seven countries (Bulgaria, Croatia, Finland, Greece, Latvia, Poland and Romania). The summary measure of inequality shows that the probability of seeing a GP in a year is more concentrated among higher income groups in slightly more than half of the countries (18 out of 32). The reverse is however true in Denmark and Spain. There is no social gradient in the probability of seeing a GP in 12 countries.
- Inequalities are much more pronounced for the probability of seeing a specialist. When controlling for differences in health care needs, a person with low income is 12 percentage points less likely than a person with high income to see a specialist (39% vs 51%). The summary measure of inequality show that the probability of a specialist visit is disproportionately concentrated among the better-off in all but three countries.
- Once access to a GP is secured, low-income patients have at least as many and sometimes more visits to the GP than the rich in all but one country. Similarly, the number of visits to the specialists is equally distributed in the majority of countries (18 out of 31). An intuitive interpretation of these findings is that lower-income people struggle more to reach the system but that once they have, they are in general likely to receive the same level of care as their higher-income counterparts.
- In the majority of countries (24 out of 33), the probability of hospital admission is not associated with income levels (after adjusting for differences in needs).

For preventive services, the probability of utilisation raises with income in most countries

Despite fairly low inequalities in access to a GP, lower-income people consistently have a lower utilisation of preventive services in virtually all countries suggesting problems in the provision of comprehensive primary care for the entire population.

- In general, access to preventive services varies greatly across countries. For instance, among the three categories of cancer screening reviewed, cervical cancer screening has the highest coverage on average (71%) - yet it ranges from 27% in Romania to 87% in the Czech Republic over the last three years prior to the survey. Moreover, across OECD and EU countries, four in ten persons above 65 are immunised against the flu but this ratio is as low as 1% in Estonia and as high as 90% in Finland.
- For cervical, breast and colorectal cancers, the probabilities that low-income people in the target population will have undergone screening in the recommended period are 17, 13 and 6 percentage points lower than that of high-income people. Inequalities in favour of the rich prevail in the majority of countries but are slightly less systematic or marked for colorectal cancer (which has the lowest coverage rate).
- People in the lowest income quintile are nearly 20 percentage points less likely to have seen a dentist in a year. Summary measures point to very high inequalities detrimental to the poor in all but one country (Ireland). On the other hand, flu immunisation among the elderly is the least unequally distributed service among all preventive activities analysed, but given the small size of the samples for that population in various countries, these results are less robust.

Some countries are better at ensuring a more equal distribution of various types of care than others

Considering jointly the degree of income-related inequalities in the utilisation of the different health care services described above, some general patterns emerge. Based on the average rank of each country's inequality index across seven services (GP visit, specialist visit, dentist visit, hospitalisation, as well as

cervical, breast and colorectal cancer screenings), countries are clustered into groups reflecting the overall level of inequalities in the utilisation of these preventive and curative services:

- the lowest levels of inequalities are found in Denmark, Estonia, Germany, Ireland, Lithuania, Luxembourg, the Netherlands, the Slovak Republic, Sweden, and the United Kingdom.
- the highest levels of inequalities are observed in Bulgaria, Croatia, Cyprus, Finland, Greece, Italy, Latvia, Poland, Romania, Slovenia, Spain, and the United States.
- The intermediate group comprises Austria, Belgium, Canada, the Czech Republic, France, Hungary, Iceland, Malta, Norway, and Portugal.

1.3.2. The less well-off are more likely to report unmet needs

Asking people whether they faced barriers when trying to access care and the type of barrier they faced provides useful insights when assessing how accessible a health system is, a key dimension of health system performance. Unfortunately, the levels of unmet needs reported in national surveys depend to a large extent on the way the questions are asked, limiting the comparability across countries. For European countries, the results presented here (based on EHIS) differ substantially from those based on the survey of income and living conditions (EU-SILC) due to differences in the survey methodology. To improve international comparability of this important access indicator, additional efforts are needed to harmonise questionnaires.

All types of unmet needs are more concentrated among the least well-off

Delaying and forgoing care due to problems with availability or affordability is common in EU and OECD countries. In the year preceding the survey, more than a quarter of adults who felt they had a need for health care had faced some barriers in accessing services. Based on the EHIS survey of 2014, this proportion ranged from 10% in Norway to more than 40% in Estonia, Iceland, Latvia, Portugal, and Ireland.

In nearly all EU and OECD countries, there is a clear social gradient in unmet needs. Lower-income people experience more barriers to accessing care than the better off, with variations across countries and across reasons for unmet needs.

Turning to the different types of unmet needs the results of the analysis show:

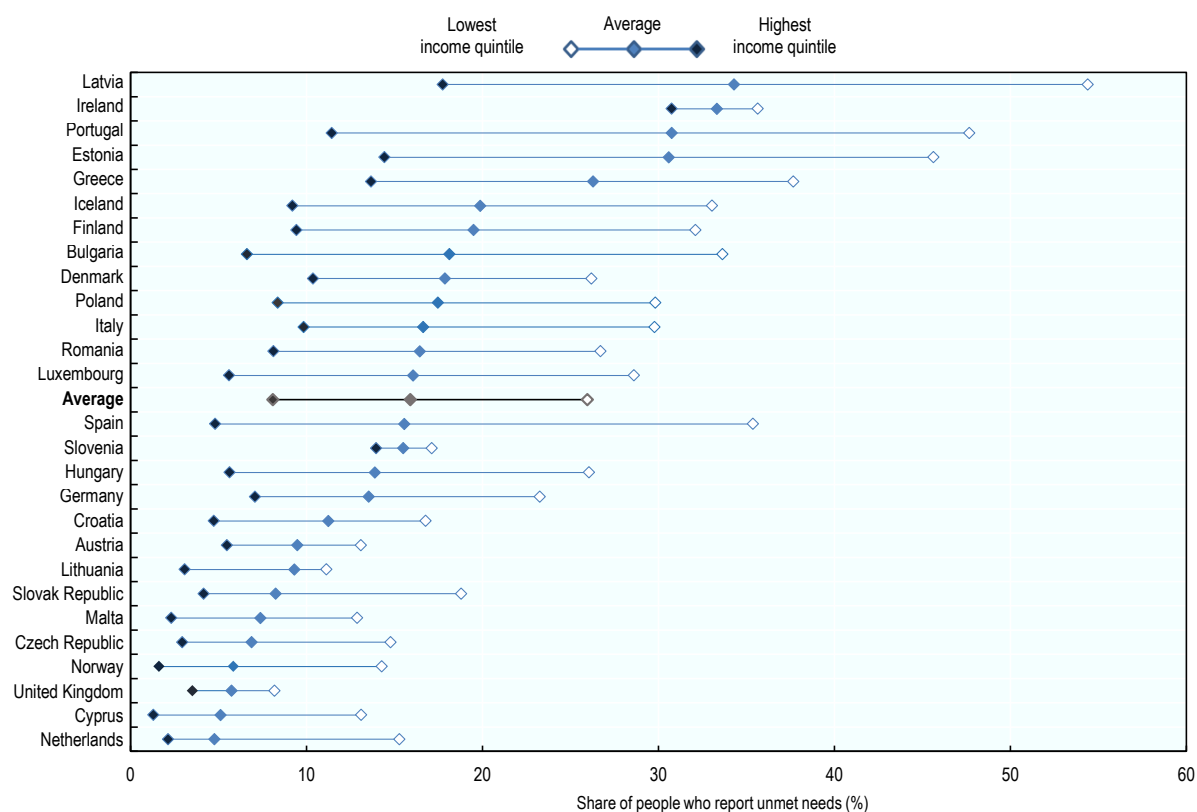
- Unmet needs due to long waiting times rise when households' income decreases in more than half of the countries. On average in EU and OECD countries, people in the lowest income quintile have a 20% chance of having postponed care due to waiting times versus 16% in the highest income quintile. This gap is 10 percentage points or above in Portugal, Italy and Finland, and inequalities significantly disadvantage the poor in 16 countries.
- Unmet needs due to long distance or transport problems also increase as income decreases in virtually all countries. On average in EU and OECD countries, 6% of people with low income have not received care soon enough or not at all for these reasons, compared to 2% in people with high income. The gradient of inequality to the disadvantage of the poor is significant in 26 countries. This type of unmet need is most common and very unequally distributed in Latvia, Croatia and Italy.
- Unmet care needs due to costs are more concentrated among lower income groups in all countries. 26% of people in the lowest income segment decided not to receive the care they needed due to financial reasons (either medical care, dental care, a prescribed medicine, or mental health care) compared to 8% of people with the highest level of income (Figure 1.5). Portugal, Latvia, Spain, and Estonia display the largest concentration of unmet needs for financial reasons among lower income groups, whereas inequalities are smallest in Austria, Ireland, Slovenia and the United Kingdom. Yet, among the latter, Ireland displays very high levels of unmet needs due to costs.

Some countries concentrate inequalities in unmet needs

All in all, patterns emerge for some countries when considering jointly the degree of inequality in the various types of unmet needs described above. This analysis shows that:

- The highest income-related inequalities for unmet needs to the detriment of the poor are found in Portugal, Italy, Finland, Bulgaria, Croatia, Latvia, Iceland, Greece and Germany. In seven of these countries, the proportion of people with at least one unmet need is above or at the average of all countries considered (28%). Bulgaria stands out as having a relatively low level of unmet needs but very large inequalities to the detriment of the poor.
- In the Netherlands, Denmark, Poland, Romania, Ireland, the Slovak Republic, Slovenia, Cyprus, Norway, the United Kingdom and Austria, inequalities in unmet needs are the most evenly distributed across income groups. Unmet needs in seven of these countries are below average. Ireland, Denmark and Poland stand out in this group because their very high levels of unmet needs (above 35%) seems to affect all income groups in a similar fashion.
- Hungary, Spain, France, Luxembourg, Lithuania, Sweden, Estonia, Czech Republic and Malta have more intermediate levels of inequalities in unmet needs.

Figure 1.5. Proportion of the population forgoing care because of the cost, by income quintile



Note: Data from 27 European countries. France, Sweden and the United States are not included in this chart because the data was not strictly comparable due to different wording in the questions (see more details in Chapter 4).

Source: OECD estimates based on national health survey data.

These results suggest that countries with lower (higher) levels of unmet needs generally also have lower (higher) degrees of absolute inequalities, but the correlation is not very strong.

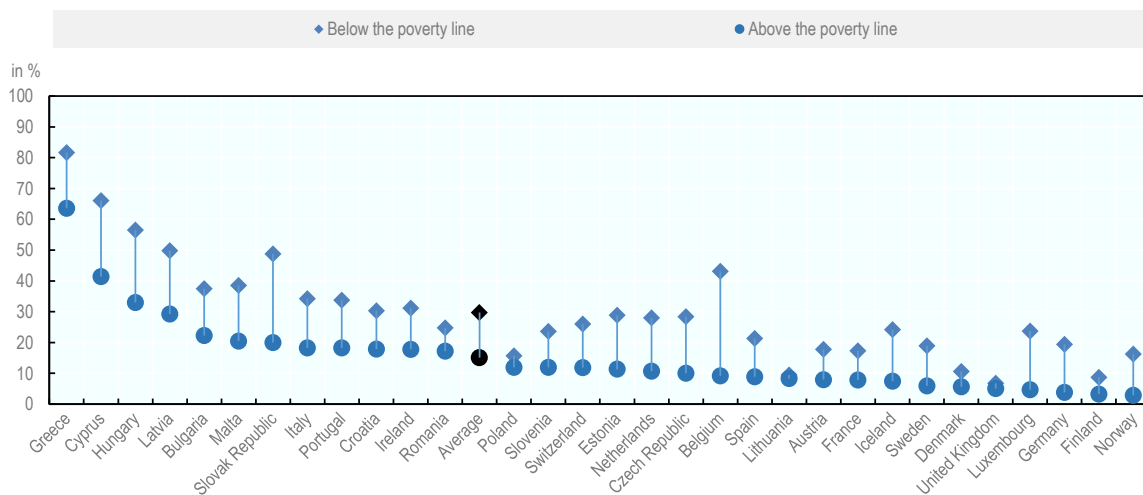
1.3.3. Even if access to care is assured, it can lead to financial hardship – especially for the poor

If people turn to the health system and obtain care, it can put a financial strain on some households, especially those with low income. This is due to the fact that health service utilisation frequently requires direct payments by patients. In all OECD and EU countries, access to key health services is partly financed through third-party payment mechanisms for the majority of the population, such as tax-financed government schemes or social health insurance. Yet, when they seek care, people may nevertheless end up spending out of their own pocket if the costs of services are not fully covered or services not included in the collectively financed benefit baskets. Faced with the need to pay, some patients may simply forgo needed care. Others may pay but suffer financial hardship as a result. The results show:

- Based on the results of the 2016 survey on income and living conditions (SILC) undertaken in Europe, people with low income are more likely to declare finding care unaffordable. Nearly 17% of the population declared they could only afford care with difficulty or great difficulty but the proportion was 30% for those below the poverty line⁷ (representing around 15% of the population). These difficulties are most pronounced in Greece where more than 60% of the people above the poverty line report difficulties in affording health care services (reaching more than 80% for those below the poverty line) (Figure 1.6).
- In that survey, the United Kingdom, Finland, Denmark and to a lesser extent Lithuania, stand out as countries where problems with affordability are below average and the poor do not seem to face considerably higher affordability issues than the rest of the population. On the other hand, differences in the affordability across income groups are very high in Belgium and the Slovak Republic.

Figure 1.6. Share of households with difficulties to afford health care services, 2016

Share of households that responded being able to afford health care services only with difficulties or with great difficulties



Note: Below the poverty line refers to households with 60% or less of median equalised income.

Source: EU-SILC ad-hoc module 2016.

Low-income households are more likely to face catastrophic health expenditure

Financial hardship due to health service utilisation is more likely to occur in lower income households. This outcome can be measured with data from household budget surveys applying the concept of “catastrophic health spending”. This indicator identifies households that spend a high proportion of their resources on health care via out-of-pocket payments. Using the methodology recently developed by the WHO Regional Office for Europe, the proportion of households facing catastrophic health spending ranges from around 1% in Slovenia, the Czech Republic, Ireland and the United Kingdom to 15% in Lithuania, with an average of 5.5% for the 19 countries included in this report (WHO Regional Office for Europe, 2019^[16]). Everywhere, households in the bottom income quintile are considerably more likely to incur catastrophic health spending.

The design of the package of the collectively financed health care goods and services as well as population coverage can both play a role in explaining the wide variation between countries in the population shares facing catastrophic health expenditure. Hospital care and medical outpatient care are covered relatively well in most EU and OECD countries. This is not necessarily the case for pharmaceuticals and dental care. High out-of-pocket costs for pharmaceuticals is the main reason why poor people face catastrophically high health care costs. Faced with high costs of dental treatment, people with low income may forgo care altogether because they cannot afford it in countries with low coverage for this type of care.

Most OECD and EU countries have achieved or are on the way to achieve universal health care coverage but in a number of countries including the Bulgaria, Romania, Estonia, Poland, the United States and Mexico, a substantial part of the population is not covered against the cost of care. Obviously, households without any type of financial protection are more likely to encounter catastrophically high health care costs than those with coverage.

1.4. Conclusions

1.4.1. In all health domains analysed, inequalities to the detriment of the most disadvantaged prevail

Throughout the publication and as described in this chapter, the latest evidence shows the existence of health-related inequalities to the detriment of disadvantaged groups in all OECD and EU countries:

Nearly everywhere, less educated people are more likely to be overweight and smoke and even if the social gradient for hazardous alcohol consumption is less clear, overall, behavioural risk factors are more likely to take a toll on the health of those with lower education.

Poor health – as assessed by people themselves, or when they report limitations in activities and chronic diseases – is systematically more concentrated among those with lower education.

In most countries, for a given level of need, the better-off are more likely to see a doctor than the poor. These inequalities exist for visits to GPs and specialists alike, but are much more pronounced for specialists. However, once access to a doctor is established the number of visits does not vary with income in the majority of countries. The use of preventive services is almost systematically concentrated among higher income groups.

Unmet care needs due to costs are more concentrated among those with lower income in all countries. Unmet needs for care due to distance and waiting times is less common but also to the detriment of the poor in the vast majority of countries.

In all countries for which data is available, the share of households reporting difficulties to afford health care is higher for those with an income below the poverty line. Low-income households are also more likely to face catastrophic health expenditure.

However, there are substantial differences in the extent to which these inequalities exist across countries.

1.4.2. *Some pattern emerge when jointly analysing inequalities across different domains*

One question this conclusion attempts to explore is whether some storylines emerge from pulling together the various results presented in the different chapters of this report. In each thematic chapter, inequalities in risk factors, health, service utilisation and unmet needs were measured along a range of indicators. This information was used to group countries depending on whether they generally displayed lower, intermediate or higher levels of inequalities in each domain. It is important to underline that these classifications, which summarise the wealth of results obtained for each inequality domain, are both relative by nature⁸ and in part arbitrary as driven by the decision to systematically divide countries in three groups. They also reflect the position taken in this report to presents results on absolute (versus relative) inequalities, when both measures can be legitimately used to assess inequalities and would not systematically result in the same ranking⁹.

As a final summary, Figure 1.7 presents an inequality overview for 14 key indicators covered in the different domains discussed in this publications, i.e. risk factors (Section 3 in Chapter 2), health outcomes (Section 4 in Chapter 2), service utilisation (Chapter 3) and unmet needs (Chapter 4)¹⁰. While some countries appear to fare better than others when jointly comparing the ranking across the 14 indicators, no clear systematic pattern can be discerned at first sight. Yet, such a comparison suggests:

- No country displays exclusively low or high inequalities across all indicators of the four domains and all countries bar one have high and low inequalities for at least one indicator. The only exemption is the United Kingdom, which does not rank in the high inequality category for any of the 14 indicators presented here.
- For the selected indicators of the risk factors and health status domains, Canada and Romania combine relatively low education-related inequalities. This finding, however, needs to be seen in the context with overall indicator *levels*. In both countries, the share of the population being overweight is above the OECD and EU average. The same is true for smoking rates for men in Romania. For Canada, the low inequalities in the indicators of health outcomes presented here mirror the very low education-related inequality in life expectancy. This is, however, not the case in Romania.
- On the other hand, Luxembourg, Belgium and the Slovak Republic combine relatively high inequalities in the domains of risk factors and health status. But again, levels matter. In Luxembourg and Belgium, smoking rates and the share of the population being overweight are below average. Health outcome indicators in Belgium are also consistently better than on average across all countries analysed. That said, in addition to displaying high inequalities in the health outcomes indicators presented here, the Slovak Republic also has the largest difference in life expectancy across education groups.
- When it comes to the health system indicators, inequalities in service utilisation and unmet needs are generally lower in Denmark, Ireland, the Netherlands and the United Kingdom. Looking at the probabilities of having a visit to the doctor, dentist or cancer screening, Denmark, Germany, Ireland and Luxembourg are successful in keeping differences across income groups at bay. For unmet needs, Austria, Norway, Ireland and the United Kingdom are among the countries that manage to have low inequalities. However, Ireland is among the countries with the highest rates of unmet needs overall. This suggested that, regardless of socio-economic characteristics, all population groups have similar problems to get access to the system. Austria, on the other hand, combines small differences across population groups with low levels of unmet needs overall.
- Income-related inequalities in utilisation and unmet needs go hand in hand and seem generally higher in Bulgaria, Latvia, Croatia, Greece and Finland. This may suggest a certain regularity in health systems: when countries struggle to deliver equal utilisation of health services across different population groups they also face problems to prevent inequalities in unmet needs. This may partly reflect limitations in the level of coverage and financial protection in those countries. With the exception of Finland and Croatia, these countries generally have above average shares of out-of-pocket payments for health care – they are as high as 45% in Latvia and 48% in Bulgaria.

Figure 1.7. Dashboard on inequalities in risk factors, health outcomes, access and unmet needs

(Light/medium/dark blue indicate low/intermediate/high levels of inequality)

	Risk factors				Health Outcomes			Health care utilisation				Unmet Need		
	Overweight women	Overweight men	Smoking women	Smoking men	Self-assessed health	Activity limitations	Chronic conditions	Probability of GP Visit	Probability of specialist visit	Probability of dentist visit	Probability of breast cancer screening	Forgone care due to costs	Delayed/forgone care due to waiting times	Delayed/forgone care due to distance
Austria														
Belgium												na	na	na
Bulgaria														
Canada												na		
Chile	na	na	na	na			na					na	na	na
Croatia														
Cyprus			#											
Czech Republic														
Denmark								#						
Estonia													#	
Finland														
France														
Germany														
Greece														
Hungary														
Iceland														
Ireland														
Italy														
Latvia														
Lithuania														
Luxembourg														
Malta														
Netherlands														
Norway														
Poland		#											#	
Portugal			#											
Romania			#											
Slovak Republic														
Slovenia														
Spain								#						
Sweden														
United Kingdom														
United States									na				na	na

Note: Key indicators were chosen for each of the four domains as discussed in the respective chapters. Categorisation of countries for each indicator are based on inequality indices presented in the annexes of Chapter 2 to 4. For each indicator, countries were clustered into three groups of equivalent size. Light/medium/dark blue indicate low/intermediate/high levels of inequality to the detriment of the poor/less educated for a given indicator. A white cell indicates no significant inequality. Countries with inequalities to the detriment of the rich/higher educated were ranked in the category of lower levels on inequality (cells are marked with #). Not all countries had data available to measure inequalities for all indicators (na).

Source: Analysis presented in the report based on national health surveys.

1.4.3. Policies to redress inequalities in health

This report shows that inequalities in health and health systems are widespread, and most OECD and EU countries could make societies more inclusive by tackling them. A wide range of policy options exists to make this happen.

While health systems and policies are often built and therefore presumed to treat people with similar needs equally, more tailored solutions still seem to be required to reduce inequalities. Public health interventions, for instance, should be more explicitly evaluated for their ability to reduce harmful practices among the less advantaged. Some policies could focus in particular on those population groups that are most prone to adopting unhealthy lifestyles. Improving health literacy should also help close the inequality gap on risk factors and access to care. Health literacy is generally lower among the poor and less educated, creating a barrier in understanding and applying health information as well as problems navigating the health system effectively. While many of the policies to enhance health literacy aim to develop individual knowledge and empowerment to act on health information, they can also focus on creating an enabling environment, for example, by improving professionals' communication skills (Moreira, 2018^[17]).

Beyond public health interventions and health literacy, the health care system can also contribute to redress health-related inequalities. The large differences in cancer screening rates between the rich and the poor in some countries indicate that current screening programmes and primary health care models are not succeeding in delivering recommended preventive care to the entire population. A reconfiguration of primary health care delivery towards more patient-centred models may be needed to better reach out to population groups of lower socio-economic status who frequently live in disadvantaged areas (OECD, forthcoming^[18]). New strategies to recruit and retain doctors in underserved areas or the implementation of new service delivery models may help to decrease inequalities in access to care. These models can include, for example, mobile health clinics, which already provide a variety of primary care services to populations living in rural or disadvantaged urban areas in a number of OECD countries. Beyond primary care, better infrastructure and capacity planning as well as the introduction of waiting times guarantees may help alleviate the problem of long-waiting times for treatment – which is also more common among poorer population groups.

When it comes to financial protection, countries that automatically cover the entire resident population and where coverage is not occupation-based are more effective in avoiding that disadvantaged groups “fall through” the safety net as they may not have access to the type of jobs that would guarantee coverage at all time. When designing benefits packages, countries should strive to implement policies explicitly limiting the financial burden of those on low incomes.

Addressing health inequalities experienced by particular disadvantaged population groups in some countries, such as indigenous peoples, ethnic and linguistic minorities, which may face additional barriers to health care, can require more tailored approaches than those set out above. A key focus should lie on improving access to health services that are responsive to particular health care needs and culturally appropriate. Developing adequate resources to support health literacy for these population groups is also crucial since -compared to other population groups- they may also face potential language and cultural barriers.

While a large part of the response to redressing health inequalities certainly lies within the health system, additional policies beyond the health sector are also key. These include a range of labour market, education, environmental, housing and social policies, which not only benefit the poor but also contribute to reducing inequalities in health (James, Devaux and Sassi, 2017^[19]; OECD, 2017^[11]). Policies that boost the incomes of families with low incomes, including changes in taxation, benefits and minimum wages, can contribute to improved health outcomes for many people on low income. Employment policies adapted for the disadvantaged can have the dual benefit of increasing employment and improving the health among such groups. Policies that improve educational attainment will have a direct impact on health by improving

health literacy. To this aim, a number of countries have implemented dedicated health education classes in schools (Moreira, 2018^[17]). Reducing air pollution in cities could disproportionately improve health outcomes of the poor, since often it is those living in communities with low socio-economic status that are more exposed to air pollutants than better-off areas. Poor housing conditions and certain neighbourhood characteristics such as the risk of crime can also negatively influence health –with low-income households generally more affected. To address these issues, policies targeting better housing infrastructure and rental assistance programmes have shown some positive health impact.

1.4.4. Inequality is only one dimension when assessing the performance of a health system

The intention of this report is to provide an overview of inequalities in health and health systems. At the same time, it needs to be stressed that inequalities are only one aspect to consider when measuring the overall performance of a health system. Indeed, good performance on inequalities does not necessarily imply good performance on health outcomes or other important system domains. For instance, among the countries that generally display lower inequalities in health status, life expectancy in Sweden is seven years higher than in Romania. Conversely, while inequalities in risk factors and health outcomes are frequently high in both Belgium and Hungary, life expectancy in the former is more than five years higher, and, on average, Belgians report better health outcomes. And while Ireland appears to be faring relatively well in limiting overall health system-related inequalities, the level of unmet needs remains very high – which means that all population groups are equally affected by access limitations. In summary, the diagnostic presented here on inequalities should be used to nuance the assessment of a country's performance and not as the sole criterion in evaluating a health system. The country-specific summary tables presented in the annex to this chapter can serve as a starting point for these discussions (Annex Table 1.A.1-7).

1.4.5. A better harmonisation of national health surveys is desirable to make international comparisons more robust

Most results presented in this publication stem from national health surveys. Health surveys are a vital tool in evaluating population health and additional issues of relevance of a health system in a national context. In particular, they often are the only data source that allows the comparison of results across the socio-economic scale, whether it is measured through education or income. At the same time, comparing results of health surveys internationally is always a challenge. The wording of questions across surveys may differ and even if the questions are identical the possible answers may vary. Beyond survey design, there are other methodological issues that may hamper comparability. This refers, for example, to sample sizes used, and the questions whether the surveys are representative for the entire population or certain population groups excluded.

A key lesson from this report is that international efforts should be strengthened in harmonising health surveys across OECD countries. While within Europe much has been achieved with the repeated waves of the European Health Interview Survey (EHIS) there is little co-operation beyond this. Comparing results of more closely aligned surveys should be beneficial to policy makers in all OECD countries.

A final point on data limitation concerns quality of care. To assess whether there are quality differences in the health care services received between socio-economic groups, regular health surveys are of limited use. The reason for this is that the vast majority of respondents are not in a position to assess whether the care they received is of adequate quality. Typically, they will not know whether the health professionals they consulted follow evidence-based guidelines for treatment or whether all safety-standards were applied. Yet, one component of quality that patients are able to evaluate is their experience when seeking care. Expanding on this, OECD is currently working on the development of a patient-reported indicators survey (PaRIS) to shed some light on outcomes that matter to patients. In the future, this survey instrument may also be used to assess differences in the quality of services received between socio-economic groups.

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Annex 1.A. Summary tables

Annex Table 1.A.1. Key results, country-by-country

	Austria		Belgium		Bulgaria		Canada	
	Level	Summary measure of inequality	Level	Summary measure of inequality	Level	Summary measure of inequality	Level	Summary measure of inequality
Risk factors								
Smoking, M ^a	33%	0.24*	27%	0.35*	45%	0.24*	22%	0.21*
Smoking F ^a	28%	0.23*	20%	0.25*	28%	-0.02	18%	0.21*
Overweight and Obesity, M ^a	56%	0.12*	54%	0.09*	62%	-0.02	65%	0.04*
Overweight and Obesity, F ^a	40%	0.28*	42%	0.33*	47%	0.17*	52%	0.14*
Heavy drinking, M ^a	2%	0.01	7%	0.09*	2%	0.05*	4%	0.02*
Heavy drinking, F ^a	1%	-0.01*	7%	-0.08*	1%	0.00	2%	0.01*
Health								
Poor self-assessed health ^a	22%	0.21*	23%	0.27*	34%	0.24*	43%	0.25*
Limitations in daily activity ^a	32%	0.17*	23%	0.22*	25%	0.21*	19%	0.13*
2+ chronic diseases ^a	34%	0.16*	28%	0.16*	26%	0.09*	15%	0.09*
Access								
Prob. of a doctor visit ^b	86%	0.014*	84%	0.011*	77%	0.059*	76%	0.022*
Prob. of a GP visit ^b	76%	0.011*	79%	0.012*	74%	0.061*	71%	0.026*
Nb. of GP visits ^b	0.65	0.000	-	-	0.75	-0.022	2.48	0.000
Prob. of a specialist visit ^b	63%	0.032*	48%	0.019*	32%	0.137*	32%	0.056*
Nb. of specialist visits ^b	0.53	0.024*	-	-	0.56	-0.094*	1.06	0.024
Prob. of hospitalisation ^b	15%	0.016	10%	-0.027	10%	0.001	8%	-0.068*
Prob. of cervical screening ^c	87%	0.018*	76%	0.025*	52%	0.088*	76%	0.018*
Prob. breast screening ^c	73%	0.025*	75%	0.030*	32%	0.052*	74%	0.023*
Prob. colorectal screening ^c	71%	0.015*	35%	0.010	7%	0.009*	49%	0.018*
Prob. of Flu vaccination ^c	20%	0.018*	59%	-0.010	-	0.000	58%	0.017*
Prob. of dentist visit ^c	72%	0.026*	60%	0.044*	45%	0.069*	66%	0.069*
Unmet needs								
Forgone care due to cost ^c	9%	-0.013*	-	-	18%	-0.047*	-	-
Waiting time ^c	11%	-0.002	-	-	4%	-0.008*	19%	0.001
Distance ^c	2%	-0.003*	-	-	4%	-0.016*	2%	0.000

Note: Summary measures of inequality: a Slope index of inequality by education, b Concentration Index by income c Generalised Concentration Index by income. * the summary measure is significant. Explanations about data and methods can be found in the relevant chapters.

Source: Results in the report.

Annex Table 1.A.2. Key results, country-by-country

	Chile		Croatia		Cyprus		Czech Republic		Denmark	
	Level	Summary measure of inequality	Level	Summary measure of inequality	Level	Summary measure of inequality	Level	Summary measure of inequality	Level	Summary measure of inequality
Risk factors										
Smoking, M ^a		-	33%	0.19*	44%	0.18*	36%	0.27*	23%	0.23*
Smoking F ^a		-	26%	0.02	19%	-0.09*	23%	0.21*	20%	0.16*
Overweight and Obesity, M ^a		-	67%	0.00	59%	-0.05	64%	0.06	54%	0.21*
Overweight and Obesity, F ^a		-	48%	0.23*	38%	0.20*	49%	0.20*	40%	0.24*
Heavy drinking, M ^a		-	3%	0.04	1%	0.03	4%	0.02	6%	0.01
Heavy drinking, F ^a		-	0%	0.00	1%	0.03	2%	0.00	6%	-0.05*
Health										
Poor self-assessed health ^a	42%	0.21*	41%	0.26*	20%	0.29*	32%	0.27*	24%	0.27*
Limitations in daily activity ^a	8%	0.08*	34%	0.24*	22%	0.21*	36%	0.16*	37%	0.11*
2+ chronic diseases ^a	-	-	37%	0.16*	20%	0.20*	30%	0.12*	28%	0.14*
Access										
Prob. of a doctor visit ^b	22%	0.089*	77%	0.026*	66%	0.039*	86%	0.008*	83%	-0.013*
Prob. of a GP visit ^b	16%	0.043*	72%	0.025*	14%	0.050*	75%	0.000	80%	-0.017*
Nb. of GP visits ^b	0.69	-0.012	0.83	0.018	0.41	-0.006	0.57	-0.030*	0.75	-0.051*
Prob. of a specialist visit ^b	10%	0.176*	48%	0.076*	61%	0.041*	62%	0.036*	35%	0.005
Nb. of specialist visits ^b	0.31	0.113*	0.59	-0.041	0.55	0.014	0.6	0.002	0.72	-0.006
Prob. of hospitalisation ^b	5%	-0.008	10%	0.027	8%	0.025	12%	0.023	8%	-0.046
Prob. of cervical screening ^c	72%	0.007*	77%	0.043*	65%	0.046*	87%	0.029*	64%	0.047*
Prob. breast screening ^c	61%	0.022*	67%	0.046*	66%	0.054*	77%	0.039*	82%	-0.007
Prob. colorectal screening ^c	-	-	31%	0.026*	18%	0.018*	57%	0.008	48%	0.003
Prob. of Flu vaccination ^c	-	-	25%	0.001	33%	0.012	16%	0.006	48%	-0.014
Prob. of dentist visit ^c	6%	0.010*	54%	0.046*	48%	0.053*	76%	0.029*	81%	0.020*
Unmet needs										
Forgone care due to cost ^c	-	-	11%	-0.022*	5%	-0.020*	7%	-0.018*	18%	-0.038*
Waiting time ^c	-	-	22%	-0.013*	8%	-0.010*	11%	-0.004	23%	-0.002
Distance ^c	-	-	6%	-0.012*	0%	0.000	6%	-0.010*	3%	-0.006*

Note: Summary measures of inequality: a Slope index of inequality by education, b Concentration Index by income c Generalised Concentration Index by income. * the summary measure is significant. Explanations about data and methods can be found in the relevant chapters.

Source: Results in the report.

Annex Table 1.A.3. Key results, country-by-country

	Estonia		Finland		France		Germany		Greece	
	Level	Summary measure of inequality	Level	Summary measure of inequality	Level	Summary measure of inequality	Level	Summary measure of inequality	Level	Summary measure of inequality
Risk factors										
Smoking, M ^a	39%	0.33*	23%	0.23*	33%	0.18*	25%	0.18*	41%	0.14*
Smoking F ^a	20%	0.19*	17%	0.21*	25%	0.14*	19%	0.20*	28%	-0.02
Overweight and Obesity, M ^a	56%	-0.04	61%	0.07*	53%	0.13*	59%	0.13*	66%	0.13*
Overweight and Obesity, F ^a	51%	0.19*	47%	0.16*	41%	0.35*	44%	0.21*	48%	0.26*
Heavy drinking, M ^a	2%	0.07*	6%	0.00	-	-	4%	0.02	3%	0.01
Heavy drinking, F ^a	0%	0.00	4%	0.01	-	-	3%	-0.03*	1%	-0.01
Health										
Poor self-assessed health ^a	42%	0.23*	37%	0.30*	32%	0.27*	29%	0.22*	26%	0.31*
Limitations in daily activity ^a	38%	0.18*	38%	0.18*	26%	0.19*	23%	0.16*	30%	0.25*
2+ chronic diseases ^a	26%	0.06*	49%	0.12*	36%	0.12*	50%	0.10*	26%	0.16*
Access										
Prob. of a doctor visit ^b	76%	0.028*	75%	0.045*	90%	0.011*	87%	0.008*	77%	0.028*
Prob. of a GP visit ^b	66%	0.025*	68%	0.049*	88%	0.011*	79%	0.000	59%	0.032*
Nb. of GP visits ^b	0.47	0.001	0.52	-0.017	0.78	-0.025*	0.9	-0.043*	0.67	0.007
Prob. of a specialist visit ^b	51%	0.041*	42%	0.083*	49%	0.058*	65%	0.029*	47%	0.044*
Nb. of specialist visits ^b	0.71	-0.044	0.53	0.046*	0.7	-0.011	0.91	-0.013	0.61	0.006
Prob. of hospitalisation ^b	10%	-0.066*	9%	-0.003	12%	-0.008	15%	-0.034*	9%	0.028
Prob. of cervical screening ^c	58%	0.042*	79%	0.035*	82%	0.034*	81%	0.024*	76%	0.024*
Prob. breast screening ^c	39%	0.005	86%	0.019*	87%	0.020*	74%	0.006	60%	0.042*
Prob. colorectal screening ^c	16%	-0.006	30%	0.001	64%	0.025*	74%	0.012*	23%	0.013*
Prob. of Flu vaccination ^c	1%	0.000	91%	-0.003	55%	-0.004	48%	-0.005	52%	0.016*
Prob. of dentist visit ^c	50%	0.035*	57%	0.038*	55%	0.026*	82%	0.010*	48%	0.029*
Unmet needs										
Forgone care due to cost ^c	31%	-0.054*	19%	-0.043*	19%	-0.051*	14%	-0.028*	26%	-0.042*
Waiting time ^c	18%	0.013*	20%	-0.024*	14%	-0.003	25%	-0.011*	16%	-0.008*
Distance ^c	4%	-0.008*	4%	-0.009*	3%	-0.009*	4%	-0.009*	8%	-0.010*

Note: Summary measures of inequality: a Slope index of inequality by education, b Concentration Index by income c Generalised Concentration Index by income. * the summary measure is significant. Explanations about data and methods can be found in the relevant chapters.

Source: Results in the report.

Annex Table 1.A.4. Key results, country-by-country

	Hungary		Iceland		Ireland		Italy		Latvia	
	Level	Summary measure of inequality	Level	Summary measure of inequality	Level	Summary measure of inequality	Level	Summary measure of inequality	Level	Summary measure of inequality
Risk factors										
Smoking, M ^a	34%	0.41*	21%	0.24*	24%	0.27*	29%	0.17*	44%	0.36*
Smoking F ^a	22%	0.29*	18%	0.24*	20%	0.27*	18%	0.04*	20%	0.20*
Overweight and Obesity, M ^a	61%	-0.01	65%	0.02	62%	0.01	53%	0.13*	58%	-0.06
Overweight and Obesity, F ^a	49%	0.19*	48%	0.20*	48%	0.22*	36%	0.25*	54%	0.10*
Heavy drinking, M ^a	4%	0.08*	1%	0.02	9%	0.03	-	-	8%	0.06*
Heavy drinking, F ^a	1%	0.01	1%	0.00	8%	-0.02	-	-	2%	-0.01
Health										
Poor self-assessed health ^a	39%	0.38*	26%	0.34*	17%	0.28*	31%	0.22*	51%	0.31*
Limitations in daily activity ^a	30%	0.26*	26%	0.21*	28%	0.23*	27%	0.14*	43%	0.19*
2+ chronic diseases ^a	37%	0.17*	37%	0.22*	24%	0.17*	32%	0.13*	41%	0.08*
Access										
Prob. of a doctor visit ^b	84%	0.013*	76%	0.011*	78%	0.003	81%	0.019*	77%	0.035*
Prob. of a GP visit ^b	76%	0.003	68%	0.010	74%	0.004	75%	0.015	71%	0.027*
Nb. of GP visits ^b	0.71	-0.016	0.45	-0.007	0.78	-0.015	1.23	-0.036*	0.47	-0.024
Prob. of a specialist visit ^b	62%	0.030*	37%	0.051*	35%	0.008	55%	0.060*	55%	0.066*
Nb. of specialist visits ^b	0.76	-0.005	0.5	-0.037	0.59	0.039*	0.84	-0.001	0.39	0.016
Prob. of hospitalisation ^b	13%	0.007	8%	-0.025	16%	0.000	8%	0.024*	11%	-0.056*
Prob. of cervical screening ^c	71%	0.033*	80%	0.012	69%	0.000	68%	0.038*	78%	0.033*
Prob. breast screening ^c	65%	0.042*	66%	0.021	68%	0.012*	67%	0.042*	47%	0.039*
Prob. colorectal screening ^c	23%	-0.002	42%	0.021*	38%	-0.001	43%	0.039*	30%	0.015*
Prob. of Flu vaccination ^c	28%	0.017*	53%	0.008	54%	-0.001	41%	-0.001	4%	0.006*
Prob. of dentist visit ^c	46%	0.055*	70%	0.041*	93%	0.003	46%	0.044*	49%	0.046*
Unmet needs										
Forgone care due to cost ^c	14%	-0.040*	20%	-0.050*	33%	-0.013*	17%	-0.038*	34%	-0.063*
Waiting time ^c	13%	-0.011*	29%	-0.010	24%	-0.005	30%	-0.022*	24%	0.002
Distance ^c	3%	-0.006*	4%	-0.008*	8%	-0.007	9%	-0.016*	7%	-0.023*

Note: Summary measures of inequality: a Slope index of inequality by education, b Concentration Index by income c Generalised Concentration Index by income. * the summary measure is significant. Explanations about data and methods can be found in the relevant chapters.

Source: Results in the report.

Annex Table 1.A.5. Key results, country-by-country

	Lithuania		Luxembourg		Malta		Netherlands		Norway	
	Level	Summary measure of inequality	Level	Summary measure of inequality	Level	Summary measure of inequality	Level	Summary measure of inequality	Level	Summary measure of inequality
Risk factors										
Smoking, M ^a	43%	0.43*	24%	0.25*	28%	0.26*	30%	0.22*	22%	0.26*
Smoking F ^a	13%	0.13*	18%	0.23*	22%	0.19*	22%	0.21*	20%	0.26*
Overweight and Obesity, M ^a	58%	0.05	55%	0.25*	66%	0.06	53%	0.13*	57%	0.12*
Overweight and Obesity, F ^a	53%	0.19*	39%	0.39*	55%	0.13*	45%	0.21*	40%	0.15*
Heavy drinking, M ^a	7%	0.17*	6%	0.06*	7%	-0.02	-	-	2%	0.01
Heavy drinking, F ^a	1%	0.06*	4%	-0.11*	2%	0.00	-	-	2%	-0.03*
Health										
Poor self-assessed health ^a	52%	0.28*	30%	0.41*	17%	0.26*	23%	0.20*	21%	0.23*
Limitations in daily activity ^a	36%	0.28*	36%	0.28*	17%	0.13*	29%	0.14*	17%	0.19*
2+ chronic diseases ^a	31%	0.13*	39%	0.24*	23%	0.09*	28%	0.15*	24%	0.18*
Access										
Prob. of a doctor visit ^b	76%	0.016*	88%	0.008	79%	0.002	76%	0.005	77%	0.011*
Prob. of a GP visit ^b	74%	0.016*	82%	0.005	76%	-0.001	70%	0.000	74%	0.011*
Nb. of GP visits ^b	0.66	-0.018	0.7	-0.023	0.64	0.003	0.59	-0.010	0.47	0.017
Prob. of a specialist visit ^b	38%	0.031*	54%	0.025*	34%	0.048*	42%	0.023*	33%	0.047*
Nb. of specialist visits ^b	0.5	-0.029	0.81	0.070*	0.5	-0.020	0.64	0.038*	0.3	0.021
Prob. of hospitalisation ^b	13%	-0.036	11%	-0.065*	8%	0.024	8%	-0.005	9%	0.006
Prob. of cervical screening ^c	62%	0.029*	84%	0.027*	64%	0.034*	49%	0.013*	66%	0.056*
Prob. breast screening ^c	46%	0.020*	81%	-0.007	58%	0.044*	80%	0.013	76%	0.026*
Prob. colorectal screening ^c	28%	-0.002	57%	0.018*	27%	0.005	23%	-0.003	31%	-0.008
Prob. of Flu vaccination ^c	5%	0.001	47%	0.006	53%	-0.015	73%	-0.019*	24%	0.006
Prob. of dentist visit ^c	47%	0.023*	79%	0.017*	56%	0.041*	79%	0.037*	78%	0.030*
Unmet needs										
Forgone care due to cost ^c	9%	-0.021*	16%	-0.043*	7%	-0.019*	5%	-0.022*	6%	-0.020*
Waiting time ^c	14%	-0.009*	32%	-0.001	27%	-0.015*	11%	-0.004	4%	-0.004*
Distance ^c	4%	-0.009*	3%	-0.012*	2%	-0.004*	2%	-0.005*	1%	-0.002*

Note: Summary measures of inequality: a Slope index of inequality by education, b Concentration Index by income c Generalised Concentration Index by income. * the summary measure is significant. Explanations about data and methods can be found in the relevant chapters.

Source: Results in the report.

Annex Table 1.A.6. Key results, country-by-country

	Poland		Portugal		Romania		Slovak Republic		Slovenia	
	Level	Summary measure of inequality	Level	Summary measure of inequality	Level	Summary measure of inequality	Level	Summary measure of inequality	Level	Summary measure of inequality
Risk factors										
Smoking, M ^a	34%	0.29*	28%	0.20*	41%	0.07*	39%	0.32*	29%	0.23*
Smoking F ^a	21%	0.16*	14%	-0.04*	13%	-0.07*	22%	0.23*	22%	0.16*
Overweight and Obesity, M ^a	64%	-0.07*	57%	0.07*	63%	-0.03	62%	0.09*	65%	0.02
Overweight and Obesity, F ^a	47%	0.16*	50%	0.35*	49%	0.16*	46%	0.16*	48%	0.36*
Heavy drinking, M ^a	5%	0.02	11%	0.22*	12%	0.12*	2%	0.08*	4%	0.07*
Heavy drinking, F ^a	2%	-0.01	2%	0.00	2%	0.05*	1%	0.00	1%	0.01
Health										
Poor self-assessed health ^a	38%	0.25*	50%	0.48*	28%	0.12*	35%	0.37*	35%	0.29*
Limitations in daily activity ^a	23%	0.15*	32%	0.23*	16%	0.07*	40%	0.25*	38%	0.15*
2+ chronic diseases ^a	35%	0.05*	43%	0.23*	18%	0.00	30%	0.21*	41%	0.10*
Access										
Prob. of a doctor visit ^b	82%	0.032*	84%	0.023*	46%	0.068*	75%	-0.003	72%	0.019*
Prob. of a GP visit ^b	77%	0.032*	75%	0.002	45%	0.068*	69%	-0.008	66%	0.019*
Nb. of GP visits ^b	0.65	-0.008	0.4	-0.019*	0.53	0.017*	0.54	0.002	0.86	-0.082*
Prob. of a specialist visit ^b	56%	0.075*	48%	0.105*	17%	0.109*	44%	0.012	43%	0.064*
Nb. of specialist visits ^b	0.64	0.028*	0.45	0.048*	0.31	0.048*	0.63	0.035*	0.77	-0.027
Prob. of a hospital visit ^b	13%	0.018	9%	-0.020	4%	0.065*	12%	0.027	11%	-0.022
Prob. of cervical screening ^c	72%	0.046*	71%	0.026*	27%	0.050*	69%	0.023*	78%	0.027*
Prob. breast screening ^c	59%	0.034*	84%	0.006	7%	0.018*	54%	0.028*	61%	0.022*
Prob. colorectal screening ^c	20%	0.013*	57%	0.021*	6%	0.009*	35%	0.000	69%	0.037*
Prob. of Flu vaccination ^c	10%	0.019*	48%	-0.004	6%	0.010*	14%	0.009	12%	0.009
Prob. of dentist visit ^c	53%	0.050*	49%	0.063*	15%	0.029*	75%	0.033*	59%	0.045*
Unmet needs										
Forgone care due to cost ^c	17%	-0.039*	31%	-0.070*	16%	-0.036*	8%	-0.025*	15%	-0.011*
Waiting time ^c	26%	0.012*	26%	-0.019*	3%	-0.003*	6%	-0.005*	21%	0.007
Distance ^c	5%	-0.007*	3%	-0.009*	2%	-0.005*	1%	-0.002	3%	-0.010*

Note: Summary measures of inequality: a Slope index of inequality by education, b Concentration Index by income c Generalised Concentration Index by income. * the summary measure is significant. Explanations about data and methods can be found in the relevant chapters.

Source: Results in the report.

Annex Table 1.A.7. Key results, country-by-country

	Spain		Sweden		United Kingdom		United States	
	Level	Summary measure of inequality	Level	Summary measure of inequality	Level	Summary measure of inequality	Level	Summary measure of inequality
Risk factors								
Smoking, M ^a	31%	0.21*	18%	0.17*	19%	0.23*	17%	0.18*
Smoking F ^a	21%	0.06*	16%	0.22*	16%	0.21*	12%	0.14*
Overweight and Obesity, M ^a	61%	0.16*	55%	0.21*	59%	0.10*	71%	0.06*
Overweight and Obesity, F ^a	45%	0.38*	44%	0.21*	51%	0.19*	60%	0.24*
Heavy drinking, M ^a	5%	0.04*	2%	0.01	18%	0.02		-
Heavy drinking, F ^a	2%	-0.01	3%	-0.03	17%	-0.09*		-
Health								
Poor self-assessed health ^a	29%	0.27*	25%	0.16*	24%	0.26*	43%	0.35*
Limitations in daily activity ^a	25%	0.16*	30%	0.12*	30%	0.17*	24%	0.16*
2+ chronic diseases ^a	30%	0.19*	31%	0.07*	25%	0.12*	18%	0.13*
Access								
Prob. of a doctor visit ^b	85%	0.012*	66%	0.003	77%	0.004	65%	0.053*
Prob. of a GP visit ^b	77%	-0.008*	60%	-0.012	74%	0.002	-	-
Nb. of GP visits ^b	0.5	-0.032*	1.68	-0.020	0.59	-0.044*	-	-
Prob. of a specialist visit ^b	55%	0.071*	34%	0.064*	34%	0.047*	-	-
Nb. of specialist visits ^b	0.37	0.015	1.79	-0.049*	0.46	0.042*	-	-
Prob. of a hospital visit ^b	8%	0.025	9%	0.012	9%	-0.011	7%	-0.064*
Prob. of cervical screening ^c	69%	0.050*	81%	0.053*	63%	0.023*	80%	0.016*
Prob. breast screening ^c	80%	0.032*	91%	0.015*	59%	0.021*	80%	0.035*
Prob. colorectal screening ^c	26%	0.028*	25%	-0.025*	49%	-0.012*	63%	0.042*
Prob. of Flu vaccination ^c	-	-	38%	0.008	79%	-0.004	72%	0.018*
Prob. of dentist visit ^c	47%	0.046*	71%	0.013*	74%	0.032*	41%	0.069*
Unmet needs								
Forgone care due to cost ^c	16%	-0.061*	15%	-0.021*	6%	-0.010*	5%	-0.013*
Waiting time ^c	17%	-0.011*	18%	-0.011*	15%	-0.003	-	-
Distance ^c	2%	-0.002*	2%	-0.007*	2%	-0.004*	-	-

Note: Summary measures of inequality: a Slope index of inequality by education, b Concentration Index by income c Generalised Concentration Index by income. * the summary measure is significant. Explanations about data and methods can be found in the relevant chapters.

Source: Results in the report.

Notes

¹ Data extracted available on 18 October 2018 from <http://www.oecdbetterlifeindex.org/responses/>.

² These barriers can relate to language and cultural traits but also the experience of discrimination, racism and trauma (Matlin et al., 2018^[22]). For example, in France, migrants are in poorer self-assessed health than the non-migrant population (Berchet and Jusot, 2012^[25]). In Sweden refugees are significantly more likely to be in poor mental health than the non-refugees population (Hollander, 2013^[23]). In Australia, the indigenous population has a shorter life-expectancy than the non-indigenous population, and they are at least twice as likely to rate their health as fair or poor (AIHW, 2018^[26]).

³ For synthetic reviews of the different approaches to measuring inequalities please see: Wagstaff, Paci et van Doorslaer (1991^[20]), Regidor (2004^[21]), and Kjellsson, Gerdtham and Petrie (Kjellsson, Gerdtham and Petrie, 2015^[9])

⁴ To ensure standardisation on the partial effect of the standardising variable only, the standardisation process controls for additional variables it may be correlated with (O'Donnell et al., 2008^[5])

⁵ Absolute measures of inequalities also possess the mirror property (Erreygers and Van Ourti, 2011^[24]) by which the ranking of countries is the same if the variable under consideration is expressed as an achievement (percentage of non-smokers) or a shortfall (smoking prevalence), which is particularly important for bounded (binary) variables which are frequently used to present the information in this survey.

⁶ The general principles underlying the groupings and sensitivity analyses are the following. For a given set of methodological assumptions, countries are ranked by increasing level of summary measure of inequalities for each indicator. Tests are carried out to assess how inequalities across indicators relates (for instance do countries with high inequalities in self-assessed health also have high inequalities in the number of chronic diseases), and the groupings based on these. As similar work is done using other summary measures, new groupings are elaborated and major discrepancies between groupings analysed for the countries concerned. The groupings are finalised in a way which ensures most consistency across different methods and assumptions.

⁷ 60% of national median equivalised disposable income is considered as the poverty line threshold here.

⁸ They position countries in relation to one another on each dimension separately rather than on an absolute scale.

⁹ See for instance Kjellsson, Gerdtham and Petrie for a more detailed definition (2015^[9])

¹⁰ The nature of the data used in Chapter 5 “affordability and financial protection” did not lend itself to the elaboration of a summary measure of inequalities comparable for the range of countries covered.



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