

# 4

## Inequalities in unmet needs for health care

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This chapter focuses on individuals who have faced barriers in accessing health care and as a result declare that their needs have not been met, and it assesses the extent to which the distribution of unmet needs is unequal across income groups. The chapter starts with a brief discussion of the unmet needs variable and how it relates to other access measures. Unmet needs across income groups are then analysed for 31 countries. Reasons for unmet needs which are more linked to the supply of services - distance and waiting time - are first reviewed, followed by affordability. Where possible, the analysis of unmet needs for financial reasons explores medical care, dental care and prescription drugs separately. The chapter concludes by analysing patterns of unmet needs across countries.

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### 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.

## 4.1. Introduction

The fact that people use health care services does not mean that their needs are systematically or adequately met. The report's introductory chapter identified a range of possible outcomes when people turn to the health system. In most cases, they will receive care, hopefully of appropriate quality, even if some may suffer from financial hardship in the process. However, for a range of reasons, their needs may not be (fully) met if they face some barriers in accessing specific services and, as a result, either postpone or give up on the idea of seeking out services they felt they needed.

This chapter examines unmet needs for medical care across EU and OECD countries. It starts with a short discussion of the unmet needs variable, which highlights in particular that results on levels of unmet needs in countries are sensitive to the precise nature of the question asked (4.2). Based on data from national health surveys, it then turns to an analysis of inequalities in access to care due to problems with long waiting times and distance (4.3) and for financial reasons (4.4) before concluding by assessing whether some countries systematically display larger inequalities in unmet needs (4.5).

## 4.2. Unmet needs for health care: a commonly used indicator of access

### 4.2.1. *Unmet needs: a pragmatic but specification-sensitive indicator of access*

Asking people whether their needs for care have been met is a pragmatic way of capturing barriers in access to health services. Yet, measuring unmet needs for health care presents a number of methodological challenges (EXPH, 2017<sup>[1]</sup>). A comprehensive approach to the issue would require: (i) an understanding of the nature of a person's specific needs based on her/his health status, illness and preferences; and (ii) an assessment of whether these needs have been adequately met according to clinical standards factoring in options effectively available to patients. This type of exercise, which would already be challenging at a single disease level, does not lend itself to establishing a measure of (lack of) access at the level of a health system for an entire population. Thus, in most cases, unmet needs are simply measured based on people's perception collected in surveys, which also generally seek to concurrently identify the type of barriers people faced, for instance, cost, distance, or waiting time.

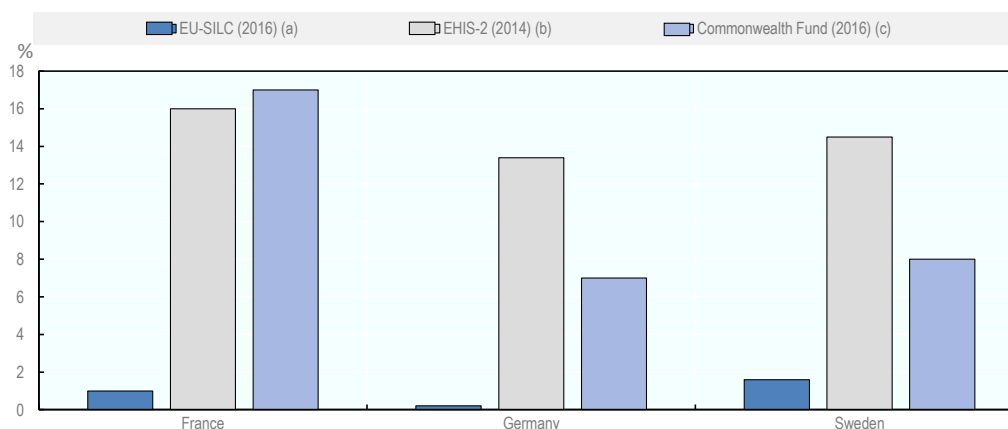
Unmet needs is a frequently used measure of access to health care in Europe and OECD countries. The European Commission most recently reaffirmed the importance of this indicator when it proclaimed the European Pillar of Social Rights in 2017 (Tajani and Juncker, 2017<sup>[2]</sup>) and chose a Social Scoreboard of 12 core indicators to monitor its implementation. For health, the declaration stipulates that “*everyone has the right to timely access to affordable, preventive and curative health care of good quality*” and the core indicator measuring achievements is “self-reported unmet needs for medical care”. Within Europe, data on unmet needs is available from a variety of surveys, for example, the EU-Statistics on Income and Living Conditions (EU-SILC) undertaken annually since 2005, the European Community Household Panel (ECHP), the Survey on Health, Ageing and Retirement in Europe (SHARE), and the European Health Interview Surveys (EHIS) which covers 28 EU Member States, Iceland and Norway. Beyond Europe, countries asking respondents about unmet needs in national surveys include, for instance, Canada, the United States, Chile, Korea, New Zealand and Turkey. Finally, the International Health Policy survey carried out by the Commonwealth Fund in 11 industrialised countries also provides data for Australia and Switzerland (in addition to the previously listed countries).

Unfortunately, data on unmet needs are not always collected in a harmonised and consistent manner. Unmet needs measures suffer from comparability issues which may arise, even in seemingly comparable surveys from differences in sampling methods, translation of the question, and cultural biases (Ecorys Nederland B.V., Erasmus University Rotterdam and GfK Belgium, 2017<sup>[3]</sup>). The main concern is that levels of unmet needs may greatly vary within countries depending on the survey method used and the

formulation of the question. For example, the EU-SILC, EHIS, and the Commonwealth Fund surveys report different levels of unmet needs for financial reasons within countries (Figure 4.1). Despite these issues, results from 31 surveys were deemed sufficiently compatible to be considered for inclusion in the analysis presented in this chapter (see Box 4.1).

**Figure 4.1. The level of unmet needs due to financial costs varies across surveys**

Share of unmet needs for medical care due to financial reasons in three countries, by different survey



Note: (a) Unmet need for medical examination due to financial reasons. (b) Unmet need due to financial reasons for medical care, dental care, medicines, and mental health problems. (c) Had a medical problem but –because of cost- did not visit doctor; skipped medical test, treatment or follow up recommended by doctor; and/or did not fill prescription or skipped doses.

Source: Commonwealth Fund International Health Policy Survey; Eurostat database for EU-SILC; Eurostat database for EHIS-2 for Germany and Sweden; OECD estimates based on EHIS-2 data for France.

### Box 4.1. Surveys and data used in this chapter

#### European countries

Data from the European Health Interview Survey 2014 (EHIS wave 2) are used for European countries, including 27 EU Member States plus Norway and Iceland (29 European countries in total). Belgium did not ask respondents about unmet needs on the level of the individual.

The EHIS survey questionnaire (Eurostat, 2013<sub>[4]</sub>) appears more designed to prompt respondents to think about the barriers in access to care they face than to measure the overall level of unmet needs in health care systems. The first two questions on unmet needs enquire whether the person has “delayed health care” because of waiting times or distance/transport problems respectively. The instructions clarify that this should also cover instances when the people decided not to seek care for those reasons and that respondents should only mention instances where they felt these delays were detrimental to their health. The third question focuses only on situations where people decided to forgo care for financial reasons (as opposed to postpone or forgo in the first two questions) and enquires about specific types of care (medical, dental, prescription drugs, and mental health problems) in the past 12 months. Given the difference in formulation of the three questions, EHIS cannot be used to assess the relative importance of the three types of barriers in a given country.

An interesting feature of EHIS is that among people who do not declare having unmet needs, it distinguishes people whose needs were met from those who had ‘no need for health care’. In this chapter, by default, the proportion of people with unmet needs exclude people who answered having

'no need for health care', except in France and Sweden where the distinction was not made in the questionnaire. As a result, the proportion of the population declaring unmet needs for these two countries are underestimated when compared with the rest of Europe (since the denominator contains both people who are no sick and those sick without unmet needs).

#### **Canada (partially included)**

The Canadian Community Health Survey 2014-15 (CCHS) collects a range of individual information, including unmet needs due to waiting time, transport problems, and financial reasons in the past 12 months. The Canadian survey enquires about "difficulties experienced in obtaining care" which is broadly comparable with the EHIS questions asked in terms of "postponing or forgoing care" (for waiting times and transport problems). However, it is less comparable with the EHIS formulation of the question on unmet needs for financial reasons which only mentions forgoing care. Data for Canada is thus limited to unmet needs for transport and waiting times. Like EHIS, the CCHS identifies people with no need for care and they are excluded from the analysis making it directly comparable with EHIS results.

#### **United States (partially included)**

The Medical Expenditure Panel Survey 2016 (MEPS) is used for the United States. It collects information on unmet needs for medical care, dental care and prescription drugs. It enquires about delayed and forgone care in the past 12 months but does not distinguish people with no need for care (as in Sweden and France above). Furthermore, for those who had unmet need, only the main reason is identified (in the European surveys, reasons for unmet needs are not mutually exclusive). As 85% of those reporting unmet needs name cost as the main reason, the chapter only presents inequalities across income groups for unmet needs for financial reasons (for the three types of care available).

### **4.2.2. On average, more than one in four adults report facing barriers in access across EU and OECD countries**

Based on an analysis of the different surveys available, on average, around 28% of adults who felt they had a need for care in the past 12 months reported having either forgone care due to financial reasons, or delayed or forgone care due to long waiting times or distance to travel or transport problems. This proportion ranges from 10% in Norway to 47% in Ireland (see Annex Table 4.A.3). In Sweden and France, around 30% of adults declared unmet needs. In Canada, 19% of adults who had a need for care in the past 12 months reported these were not met due to waiting times or transport problems alone.

Data from the European surveys provide an opportunity to analyse simultaneously people's perception of unmet need and their actual needs and utilisation – questions seldom explored. The following sub-sections examine whether (i) people who declare experiencing unmet needs for medical care consume fewer services than those who do not and (ii) whether people with a chronic disease who have no contact with the system declare unmet needs.

*In many countries, people who experience barriers to care have a lower utilisation of health services than those who do not.*

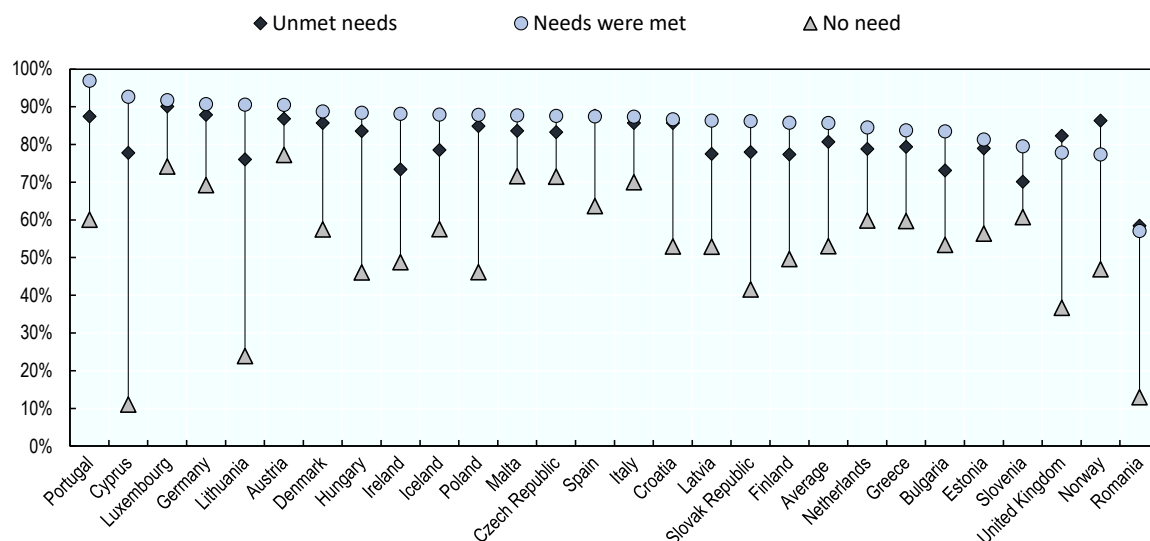
In general, actual patterns of utilisation are consistent with people's perception of their needs. More specifically, people who declare having 'no need for medical care' have far fewer visits to a doctor in the year than people who have needs – regardless of whether these were met or not. Among people who declare having needs, those who do not experience any barrier to access care, usually are more likely to have seen a physician than those who experienced such barriers. Figure 4.2 presents the needs-adjusted probabilities of seeing a doctor<sup>1</sup> for three groups of people: those declaring no needs for medical care, those whose needs for medical care were met, and those who declare having forgone medical care for

financial reasons<sup>2</sup>. In all countries, people without needs for care have a lower probability to see a doctor than those who do, which is consistent with expectations.

In most countries, among people who said they had a need for care, people who experienced no financial barrier to access medical care have a higher likelihood of doctor visits than those who experienced financial barriers<sup>3</sup>. This suggests that the financial barriers people express they have experienced do translate to an extent into lower access. The difference between the probabilities of these two groups is significant in 18 out of 27 countries. In seven countries (Croatia, Denmark, Estonia, Luxembourg, Malta, Romania and Spain), the difference is not significant, while in Norway and the United Kingdom, people who have 'unmet needs for financial reasons' have a significantly higher probability of doctor visit than those whose needs were met.

A similar but more marked pattern is observed for dental care. For this type of service, people who declare unmet needs are considerably less likely to have actually seen a dentist compared to those without unmet needs. In all but two countries, people with no need for dental care have a lower probability of visit than those with needs, regardless whether these were met or not. Denmark and Norway constitute an exception where people with unmet needs for dental care are significantly less likely to have visited a dentist than people who declared they had no need. Furthermore, in all but three countries (Romania, Slovenia and Hungary), people whose needs were met have a higher probability of having seen a dentist than those whose needs were not met; the difference in these probabilities is on average 24 percentage points – three times as high as the 8 percentage point difference for medical care.

**Figure 4.2. Needs-standardised probability of a doctor visit, in relation to perception of unmet needs**



Note: People are categorised into three groups: those with needs who have forgone medical care due to financial reasons, those with needs who have not forgone medical needs due to financial reasons, and those who have no need for medical care. For each group, the mean of the needs-adjusted probability of doctor visits is calculated.

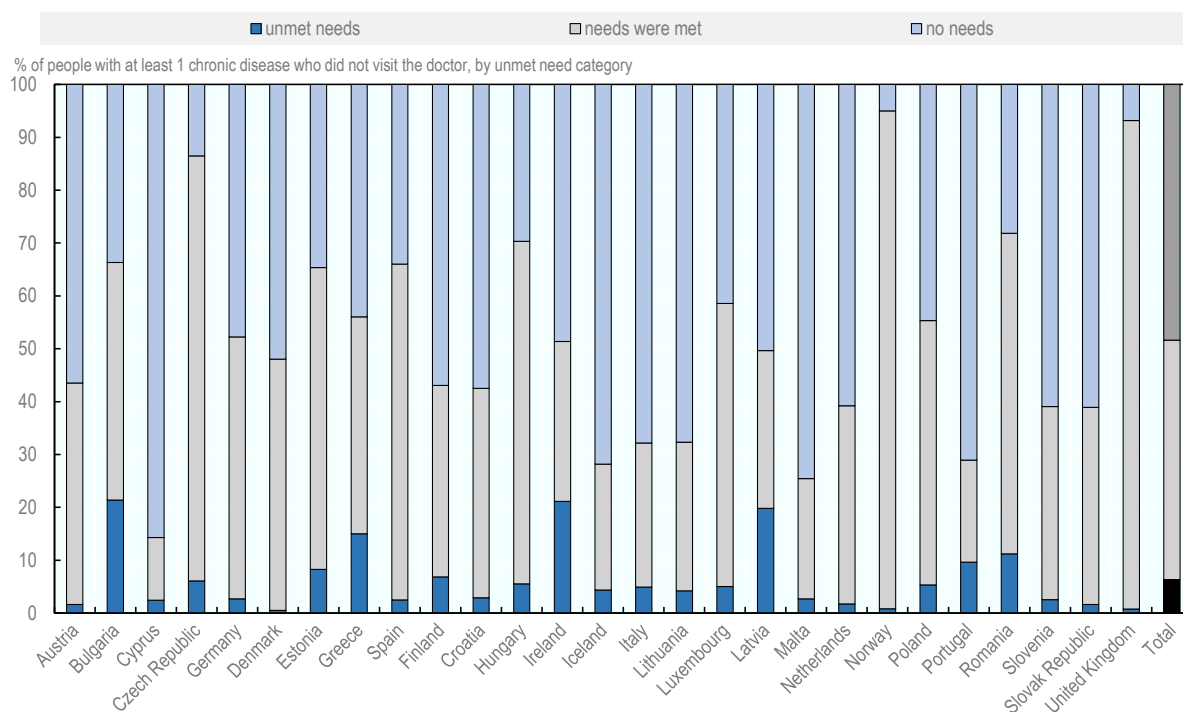
Source: OECD estimates based on EHIS-2 data.

*Some people who can be expected to have regular contacts with the system fail to do so but generally do not attribute this to barriers in access.*

Given the widespread use of self-declared unmet needs, it is interesting to explore whether people who might be objectively deemed in need for some level of medical care actually feel that way. Following a suggestion set out in a recent report (Ecorys Nederland B.V., Erasmus University Rotterdam and GfK Belgium, 2017<sup>[3]</sup>), data from the European survey was used to identify people who declare having a chronic disease but have not in fact seen a physician in the year prior to the survey. The broad-brush assumption is that given the importance of managing chronic conditions to avoid potential deteriorations, one would expect people who know they have a chronic disease to have at least one contact with the doctor in the year.

The data suggests that 10% of people with at least one chronic condition have actually not seen a physician during the year prior to the survey<sup>4</sup>. Interestingly, more than half (53%) of these people report that their needs for medical care were met during the year and 43% said “they had no need for medical care” (Figure 4.3). Only 4% state that “they have unmet needs for medical care due to financial reasons”. In other words, 96% of the adults with a chronic condition who have not seen a doctor for over a year report no needs for care or no unmet needs. Although not all people with chronic diseases may indeed need to see the doctor once a year, this finding highlights some potential biases of unmet needs variables: some people who declare no need may not realise they objectively need health care which suggests issues with properly understanding their condition; others may choose not to rely on physicians to manage their condition and may turn to nurses or other health professionals to carry out routine check-ups.

**Figure 4.3. People with at least one chronic disease who did not visit a doctor mostly reported their “medical needs were met”**



Source: OECD estimates based on EHIS-2 data.

### 4.3. Lower income people are often less likely to find services readily available

People who have to travel far for care or cannot secure timely access may decide not to turn to the health system or postpone doing so. This section analyses unmet needs due to waiting times or distance and reviews whether they are more prevalent among the less well-off.

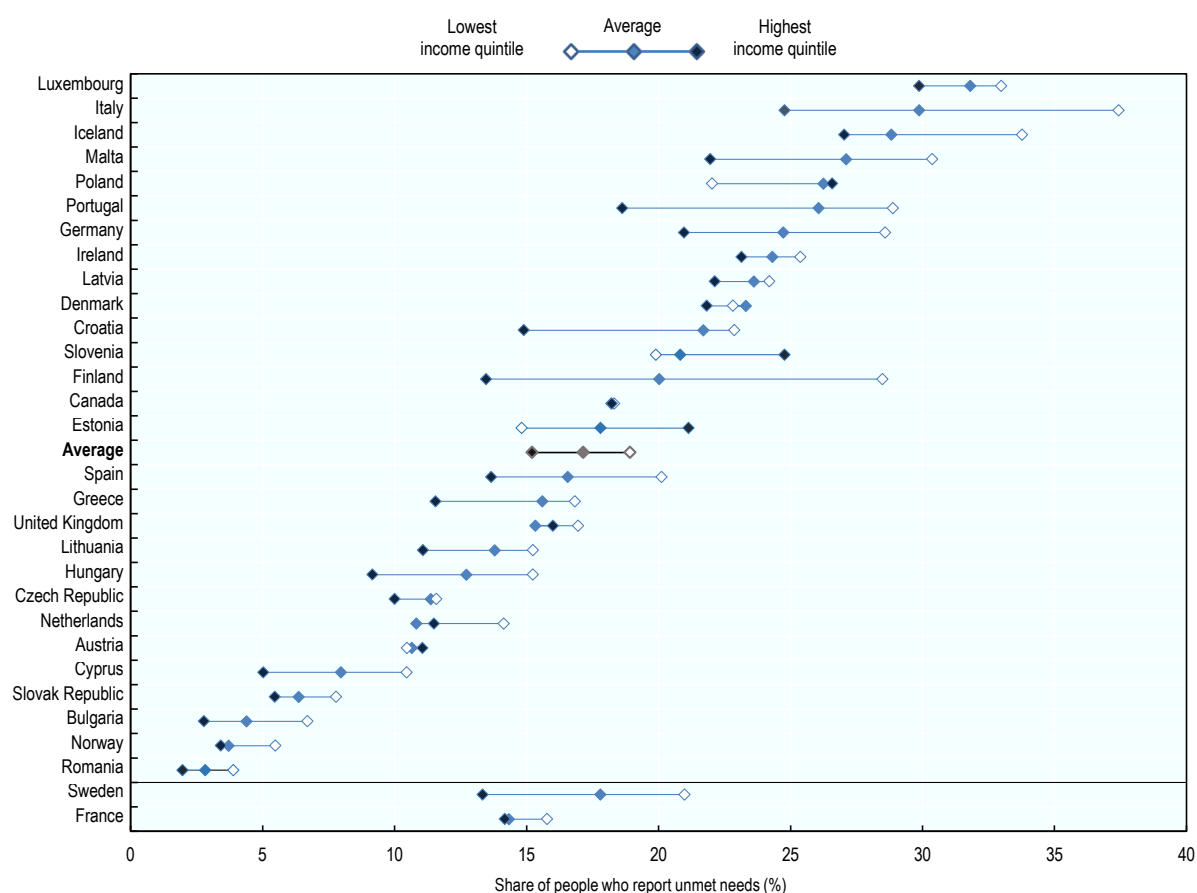
#### ***4.3.1. Delays in obtaining care due to waiting times are more frequent among low-income people in half of the countries studied***

The proportion of people declaring having delayed or forgone health care due to waiting time varies across health systems. On average in EU and OECD countries, 18% of adults report having delayed or forgone health care due to waiting times. Figure 4.4 presents the average levels of unmet needs for this reason, ranging from 3% in Romania to 32% in Luxembourg.

Problems with access due to waiting times are more common among people with low income in more than half of countries. Yet, across EU and OECD countries, the difference in the proportion of high- and low-income adults facing long delays is not very large: 20% of people with the lowest level of income are likely to report delayed or forgone care due to waiting times compared to 16% of the population in the highest income segment. However, these averages mask variable patterns across countries. The poor have a significantly higher probability than the rich of postponing care due to waiting times in 16 out of 30 countries and the gap is between 7 and 15 percentage points in Croatia, Italy, Malta, Sweden, Germany, Portugal and Finland. In Estonia, Slovenia and Poland, people with high income are more likely than those with low income to declare postponing or forgoing care due to waiting times (Annex Table 4.A.3).

This trend is also confirmed when the entire population is analysed, as opposed to limiting the analysis to a comparison of the two most extreme income groups' average view. In most countries, at population level, the higher people's income is, the less likely they are to delay or forgo care due to waiting times in half of the countries. The income-related gradient of inequality, measured with the generalised concentration index (GCI) (see Box 3.1 in Chapter 3) that takes into account the full distribution of unmet needs across income levels, is negative in all but 5 out of 30 studied countries, indicating the probability of foregoing care due to waiting time increases as income falls. However, the GCI is only significant in 16 countries (Annex Table 4.A.3 and Annex Figure 4.A.1). The gradient is reverse and significant in Estonia and Poland, where people declare more unmet needs due to waiting time when their income increases. The difference across the income distribution is not significant in twelve countries (Austria, Canada, the Czech Republic, Denmark, France, Iceland, Ireland, Latvia, Luxembourg, the Netherlands, Slovenia and the United Kingdom).

**Figure 4.4. Unmet needs due to waiting times, by income quintile**



Note: Data from 29 European countries and Canada. The analysis is restricted to people who had needs for health care, except in France and Sweden where people with needs and those with no needs could not be distinguished. The average does not include these two countries.  
Source: OECD estimates based on national health survey data.

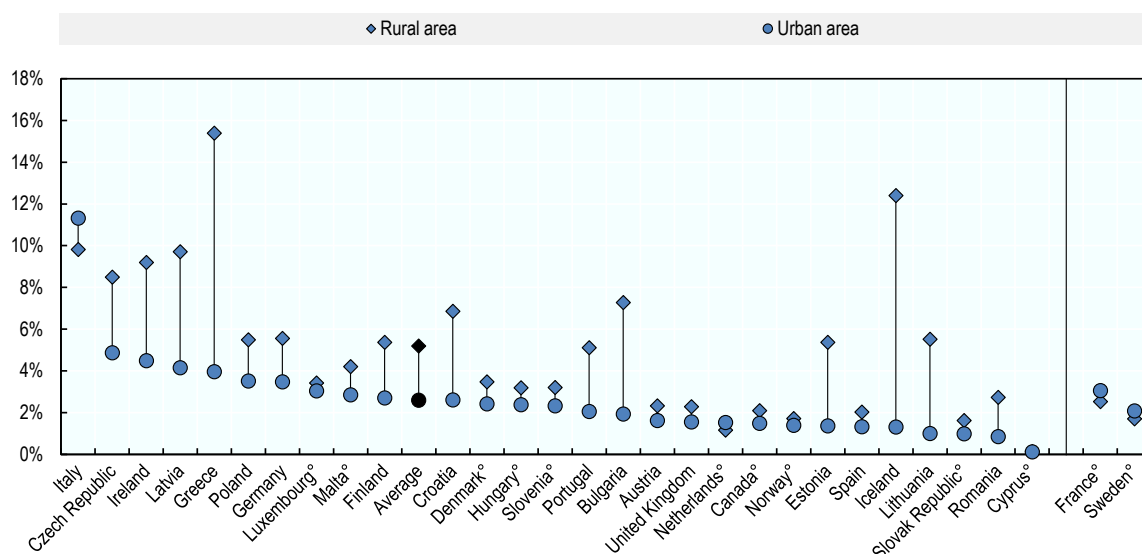
### **4.3.2. In most countries, delayed or forgone care due to transport problems is concentrated among those with low income and people living in rural areas**

Problems to access health services caused by long travelling distance or transport issues vary across countries. Among people who have needs for health care, overall in EU and OECD countries, 4% of adults report having delayed or forgone care due to distance or transport, with this share ranging from 0% in Cyprus to 9% in Italy. Spain and Norway stand out as countries where landmass and geography could potentially undermine access and yet the proportion of people experiencing transport and distance problems are among the lowest of all 30 countries.

Virtually everywhere, people living in rural areas are more likely to delay or forgo care due to distance or transport problems than those in urban areas. Figure 4.5 displays the proportion of rural and urban dwellers encountering this type of issue. People living in rural areas have a higher proportion of unmet needs due to distance in nearly all countries, and this difference is significant in 18 countries. The largest gaps are observed in Iceland and Greece. Italy, which has the highest proportion of unmet needs due to distance, stands out as the only country where distance and transport issues are significantly (although not considerably) larger in urban than rural areas.



Figure 4.5. Unmet needs due to distance or transport problems, by degree of urbanisation



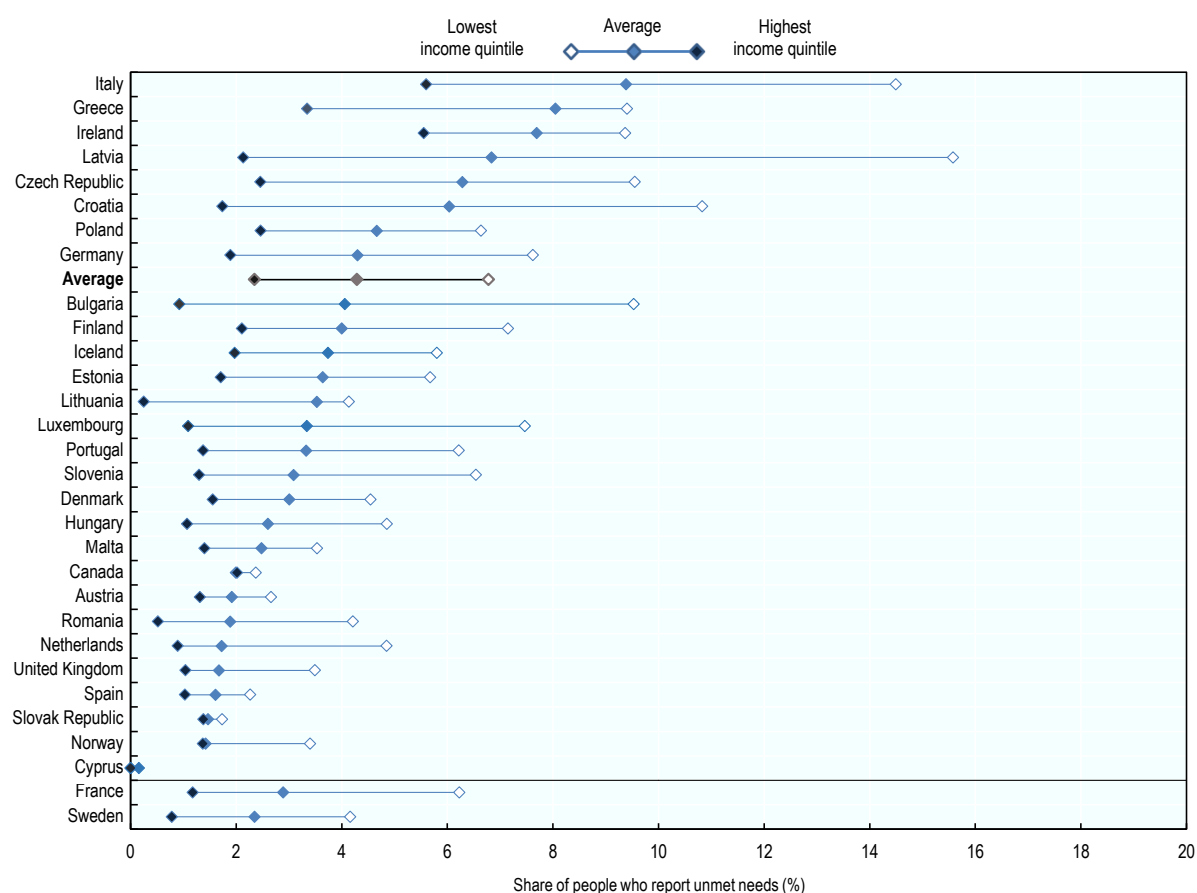
Note: The analysis includes 29 European countries and Canada. The analysis is restricted to people who had needs for health care, except in France and Sweden where people with needs and those with no needs could not be distinguished. The average does not include these two countries. ° indicates countries for which the difference is not significant.

Source: OECD estimates based on national health survey data.

The higher people's income is, the less likely they are to experience difficulties in accessing care due to long distance or transport problems. Figure 4.6 illustrates the gradient of inequalities, showing the level of delayed or forgone care due to distance or transport problems for the people in the highest and lowest income quintiles. On average in EU and OECD countries, 6% of people in the low-income segment have not received care soon enough or not at all, compared to 2% of the population group with high income. The largest differences are observed in Latvia, Croatia, and Italy which are also among the countries with the greatest level of unmet needs due to distance or transport, as well as Bulgaria which, with 4% of people experiencing distance or transport problems, is just below average.

Unmet needs due to transport problems and distance increase as income decreases in all but four countries. The overall gradient of income-related inequality (measured by the generalised concentration index) is negative and significant in 26 countries. In Cyprus, Ireland, Canada and the Slovak Republic, the GCI is close to zero and not significant, suggesting that there are no notable differences in unmet need due to distance and transport issues across income groups in those countries (see Annex Table 4.A.3 and Annex Figure 4.A.2).

**Figure 4.6. Unmet needs due to distance or transport problems, by income quintile**



Note: The analysis is based on 29 European countries plus Canada. The analysis is restricted to people who had needs for health care, except in France and Sweden where people with needs and those with no needs could not be distinguished. See Annex Table 4.A.3 for detailed results. Source: OECD estimates based on national health survey data.

### 4.3.3. Summary of inequalities in unmet needs due to problems of service availability

Care that is not within physical reach or would take too long to obtain is *de facto* not readily available to the patient in need. Overall, in the vast majority of EU and OECD countries, these problems are not evenly distributed in the population and affect the poor more. Table 4.1 summarises the direction and level of inequalities (and also ranks countries by degree of inequality).

**Table 4.1. Summary of inequalities in unmet needs due to availability issues**

Looking at the following availability issues, ↓	Increases as your income becomes higher	No significant difference across income groups	Decreases as your income becomes higher
Probability of delayed or forgone care due to waiting times... →	POL, EST	SVN, LVA, FRA*, CAN, LUX, DNK, AUT, GBR, CZE, NLD, IRL, ISL	ROU, NOR, SVK, BGR, GRC, LTU, CYP, SWE*, ESP, HUN, DEU, HRV, MLT, PRT, ITA, FIN
Probability of delayed or forgone care due to distance or transport... →		CYP, CAN, SVK, IRL	ESP, NOR, AUT, GBR, MLT, ROU, NLD, DNK, HUN, SWE*, POL, EST, ISL, PRT, FRA*, DEU, FIN, LTU, GRC, SVN, CZE, LUX, HRV, BGR, ITA, LVA

Note: Within each cell, countries are ranked from lowest to highest degree of inequality using the generalised concentration index. (♦) Data for France and Sweden are not strictly comparable.

Source: OECD estimates based on national health survey data.

The highest levels of inequalities for waiting times are found in countries where the total proportion of people declaring unmet needs is above average<sup>5</sup>. This is the case when inequalities are clearly detrimental to the poor (Finland, Italy, Portugal) as well as more widespread among the rich (Estonia and Poland). By contrast, in Canada, Denmark, Latvia and Luxembourg, the high levels of unmet needs due to waiting times affect people of all income to a comparable extent (the GCIs are low).

For unmet needs due to distance and transport, Italy and Latvia stand out as countries where the proportion of people affected is among the highest and the inequalities to the detriment of the poor are the largest. In Greece and Ireland, the problem is also common but somewhat more equally distributed in the population. Bulgaria is a particular case where despite having near average level of unmet needs, inequalities to the detriment of the poor are very high.

## 4.4. Everywhere lower-income people are more likely to delay or forgo care because of the cost

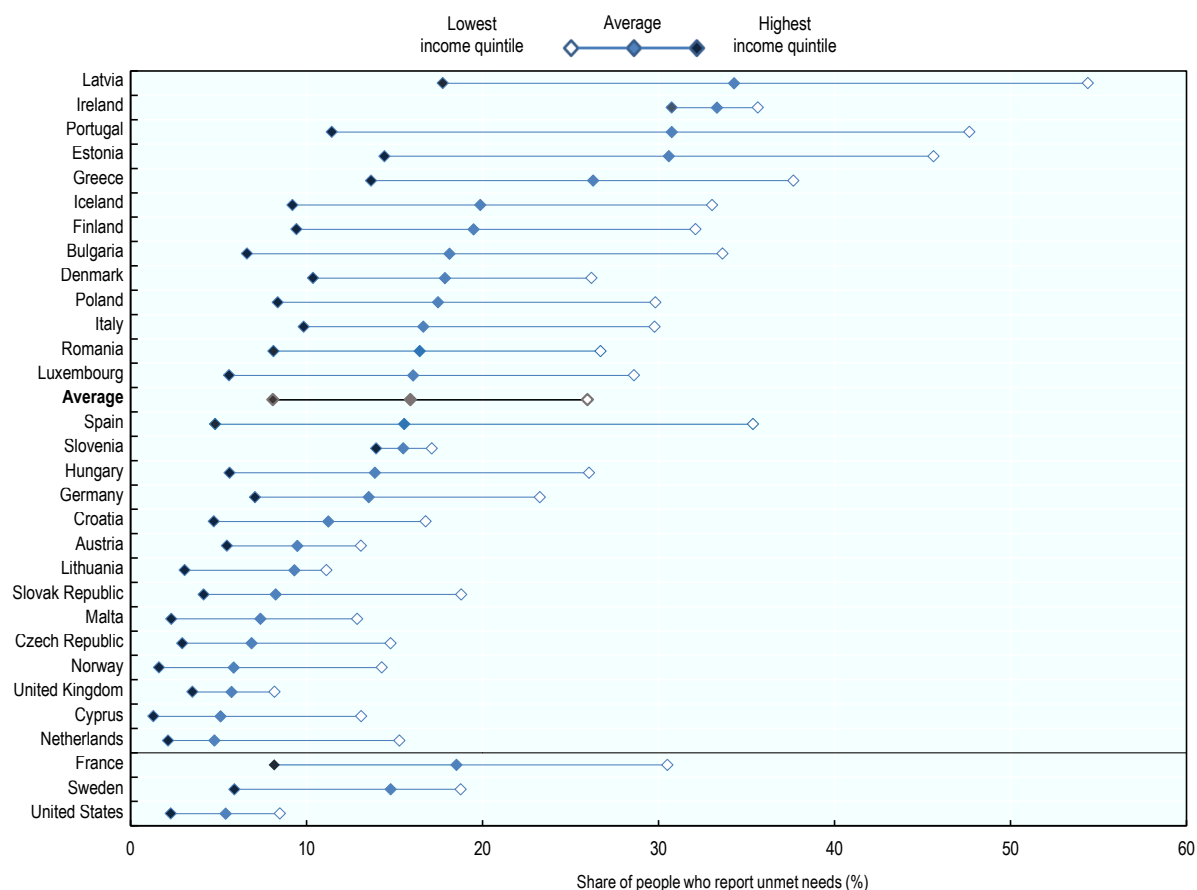
### 4.4.1. Affordability is more of a barrier to care among the poor

On average in EU and OECD countries, in the year prior to the survey, 16% of adults decided not to seek care they feel they needed because they could not afford it. There are notable differences across countries with less than 6% of the population declaring unmet needs for financial reasons in the Netherlands, the United Kingdom, Cyprus and Norway and more than a quarter in Greece, Estonia, Portugal, Ireland and Latvia (Figure 4.7). Unsurprisingly, the less well-off are three times more likely to have unmet needs for financial reason than people with high income: across all countries, 26% of people in the lowest quintile forgo care for financial reasons compared to 8% of people in the highest income segment (Annex Table 4.A.3).

The proportion of people declaring unmet needs for financial reasons was only 5% in the United States, a surprisingly low figure, which suggests that despite asking seemingly comparable questions, when it comes to unmet needs, the American survey (MEPS) is of limited comparability with the European survey (EHIS)<sup>6</sup>. Indeed, the 2016 Commonwealth Fund Survey asked a question similar to the one from EHIS in six EHIS countries as well as the United States (see Annex Table 4.A.1). For EHIS countries, the percentage of people who responded having foregone care for financial reason was in the same range in

both surveys. In contrast, in the Commonwealth Fund Survey, 33% of adults in the United States responded having unmet needs for financial reason, nearly seven times more than in the MEPS.

**Figure 4.7. Proportion of the population forgoing care because of the cost, by income quintile**



Note: Data from 29 European countries plus the United States. The analysis is restricted to people who had needs for health care, except in France, Sweden and the United States where people with needs and those with no needs could not be distinguished. These countries are excluded from the average.

Source: OECD estimates based on national health survey data.

The overall gradient of income-related inequality in unmet needs due to financial reasons is significant in all countries, and to the detriment of lower-income people (see generalised concentration index in Annex Table 4.A.3). Portugal, Latvia, Spain, Estonia and Iceland display the largest degrees of inequality, whereas Austria, Ireland, Slovenia and the United Kingdom have the lowest inequalities (Table 4.2).

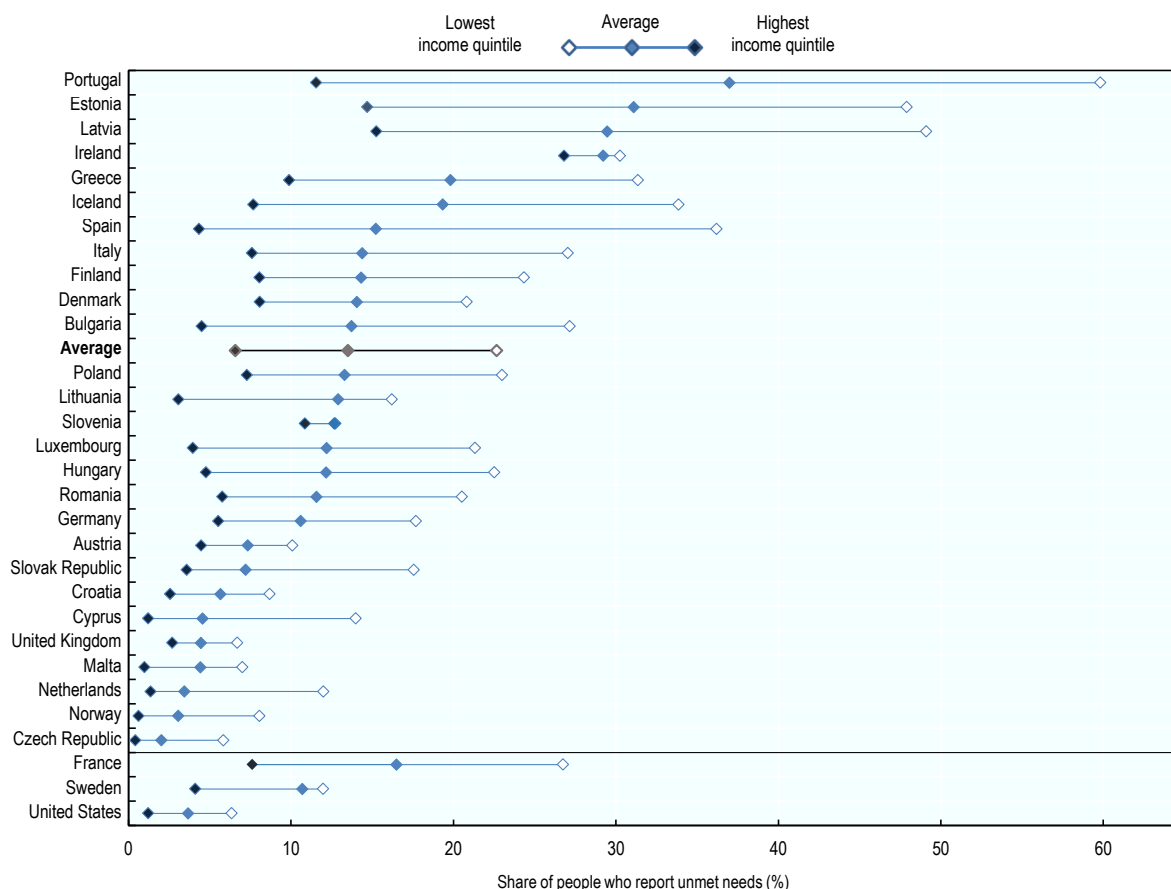
#### **4.4.2. Dental care is more frequently forgone due to cost than medical care or prescribed medicines**

The remainder of this section looks at unmet needs due to financial reasons specifically for three types of care: medical care, dental care, and prescribed medicines. Information on forgone prescribed medicines is particularly interesting and can be construed as a more objective measure of unmet needs for financial reasons. Indeed, people not purchasing their prescribed medication chose not to follow a specific recommendation for treatment given by a professional because of the financial pressure.

Dental care is the most frequent type of care that people forgo because of financial issues. On average in EU and OECD countries, 14% of adults report unmet needs for dental care due to costs, compared to 8% for medical care and 7% for prescribed medicines. Variation across countries are large for these three types of care. Forgone dental care varies from 2% in Czech Republic to 37% in Portugal. Unmet need for medical care ranges from only 1% in Norway to 23% in Latvia, while forgone prescribed drugs stands between 1% in the United Kingdom and 18% in Latvia and Ireland.

People in the lowest income quintile have a higher proportion of unmet needs for financial reasons than those in the highest for medical, dental care and medicines in practically all countries. The largest gaps in unmet needs between the top and bottom quintile are found for dental care. Figure 4.8 shows that on average 7% of adults in the highest income group report foregoing dental care due to financial reasons, compared to 23% in the lowest income group. Similar patterns are seen for medical care and prescribed medicines. Regarding forgone medical care, the proportion is 4% in the highest income group versus 13% in the lowest income quintile, while it is 3% versus 13% for prescribed medicines (Annex Table 4.A.2).

**Figure 4.8. Proportion of the population with unmet needs for dental care due to financial reasons, by income quintile**



Note: Data from 29 European countries plus the United States. The analysis is restricted to people who had needs for health care, except in France, Sweden and the United States where people with needs and those with no needs could not be distinguished. These countries are excluded from the average.

Source: OECD estimates based on national health survey data.

#### 4.4.3. Summary of inequalities in unmet needs for financial reasons

The higher people's income, the less likely they are to forgo care for financial reasons. The income-related gradient of inequality (measured with the generalised concentration index) is negative and significant in virtually all countries for all types of care, with varying degrees of inequality across countries (see Annex Figure 4.A.3-6). Table 4.2 summarises the degree of inequalities in unmet needs for financial reasons for the three types of care as well as overall.

**Table 4.2. Summary of inequalities in unmet needs due to financial reason**

Looking at affordability, ↓	No significant difference across income groups	Decreases as your income becomes higher
Probability of forgone care (medical, dental, mental, or prescribed drugs) due to cost... →		GBR, SVN, USA*, IRL, AUT, CZE, MLT, CYP, NOR, LTU, SWE*, HRV, NLD, SVK, DEU, ROU, ITA, DNK, POL, HUN, GRC, LUX, FIN, BGR, ISL, FRA*, EST, ESP, LVA, PRT
Probability of forgone medical care due to cost... →	SVN, IRL	GBR, USA*, DNK, NOR, AUT, SWE*, LTU, SVK, DEU, MLT, ESP, CZE, NLD, HRV, LUX, HUN, ROU, CYP, POL, FRA*, EST, FIN, ISL, ITA, PRT, BGR, GRC, LVA
Probability of forgone dental care due to cost... →	SVN	CZE, GBR, HRV, AUT, IRL, MLT, USA*, NOR, SWE*, NLD, CYP, DEU, SVK, ROU, POL, FIN, DNK, LUX, HUN, ITA, BGR, GRC, FRA*, ISL, EST, LVA, ESP, PRT
Probability of forgone prescribed drugs due to cost... →	IRL	USA*, GBR, AUT, SWE*, CYP, LTU, NLD, NOR, SVN, CZE, DEU, ESP, HRV, MLT, ITA, DNK, ROU, LUX, SVK, EST, HUN, FIN, ISL, POL, GRC, PRT, BGR, LVA

Note: Countries are ranked from lowest to highest degree of inequality using the generalised concentration index. (♦) Data for France, Sweden, and the United States are not strictly comparable.

Source: OECD estimates based on national health survey data.

Taken at population level and measured with GCIs, inequalities are significant and detrimental to those with lower income for the three types of care nearly everywhere (as well as for the combination variable which, in addition, includes mental health<sup>7</sup>). Latvia and Portugal are among the countries displaying the highest inequality for all three types of care as well as overall. Greece and Bulgaria are in the top third of countries for inequalities in unmet need for financial reason overall and stand out as having particularly high inequalities for both prescription medicines and medical care. In Iceland, Finland and Poland, the proportion of people not filling a prescription because of the cost is well above average and inequalities to the detriment of the poor are particularly high.

Countries where inequalities in unmet needs due to costs are low generally have lower levels of unmet needs, with some exceptions. The United Kingdom, for example, displays low levels of inequalities for all four variables and indeed has overall low levels of unmet needs (around 6% of people foregoing any type of care). However, some countries with substantially higher overall levels of unmet needs, such as Austria (9%), Slovenia (15%) and Ireland (33%) also display very low levels of inequalities. On the other hand, Norway, the Netherlands, Cyprus and the Czech Republic have similar levels of overall unmet needs for financial reasons as the United Kingdom, but the inequalities across income groups are more pronounced.

#### 4.5. Synthesis and conclusions

Asking people whether they faced barriers when trying to access care and the type of barrier they faced provides useful insights into how accessible a health system is, a key dimension of health system performance. The usefulness of this type of indicator is well understood in at least 35 of 41 EU and OECD

countries which inquire about unmet needs in national surveys. Unfortunately, the levels of unmet needs reported depend to a large extent on the way the questions are asked, limiting the comparability across countries. Looking forward, additional efforts should be made to harmonise questionnaires which could also include questions regarding cultural appropriateness of care.

This chapter provides new evidence on the level of unmet needs for health care and their degree of income-related inequalities across EU and OECD countries, based on national health survey data for 31 countries.

#### ***4.5.1. 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 care had faced some barriers in accessing services. 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. The results presented in this chapter consistently show that lower-income people experience more barriers to accessing care than the better off, with variations across countries and across reasons for unmet needs. These findings are aligned with previous studies which indicate that low-income people concentrate more unmet needs for health care than high-income people (Eurostat, 2018<sup>[5]</sup>; Fjær et al., 2017<sup>[6]</sup>).

Turning to the different types of unmet needs:

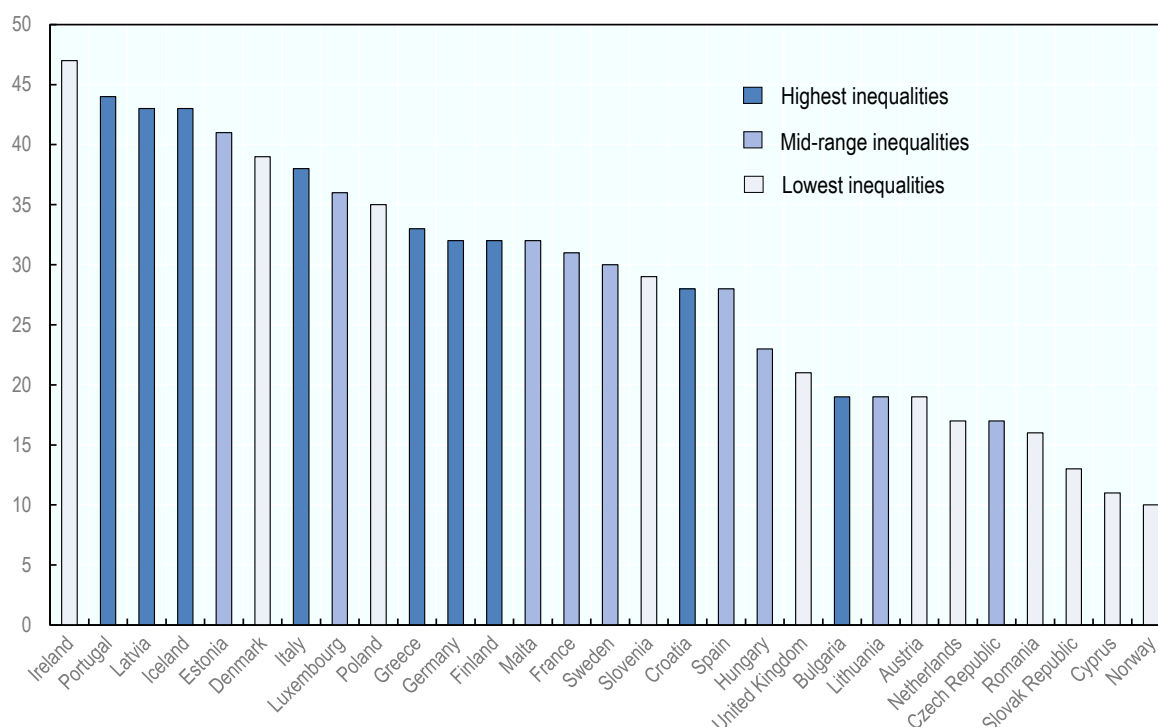
- Unmet needs due to long waiting times rise when households' income decreases in more than half of the countries. On average in EU and OECD countries, people in the lowest income quintile have a 20% chance of having postponed care versus 16% in the highest income quintile. This gap is between 7 and 15% in Croatia, Italy, Malta, Sweden, Portugal, Germany 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.
- The poor have more unmet care needs due to costs than the rich in all countries. 26% of people in the lowest income segment decided not to avail 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. Portugal, Latvia, Spain, and Estonia display the largest degrees of inequality, whereas inequalities are smallest in Austria, Ireland, Slovenia and the United Kingdom.

#### ***4.5.2. Some countries concentrate inequalities in unmet needs***

The final question is whether patterns emerge for some countries when considering jointly the degree of inequality in the various types of unmet needs described above. The grouping presented in Figure 4.9 and further explained in Annex Table 4.A.4 results from ranking each countries' level of inequality for each unmet need reason separately (based on the GCIs). The sum of the three ranks is used to identify countries with overall higher, lower and intermediate levels of inequality in unmet needs. Figure 4.9 ranks countries by decreasing proportion of people who declared at least one unmet need of any type while the colour of the bar indicates the level of inequality based on the grouping explained above (darker shades correspond to more widespread inequalities to the detriment of the poor). This analysis shows:

- 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 4.9. Proportion of people with any unmet need and summary level of inequalities, European countries**



Note: The date for Sweden and France are not strictly comparable (level of unmet need underestimated). The whole range of information used in the synthesis was not available for Canada and the United States and they are not included.

Source: OECD calculation based on national health survey data.

These results suggest that countries with lower (higher) levels of unmet needs generally also have lower (higher) levels of absolute inequalities, but the correlation is not very strong. There are in fact many exceptions. In Ireland, the country with the highest reported level of unmet needs in the survey, people from all levels of income are equally affected. It is possible that the entitlement criteria to obtain a Medical Card, which –with some exceptions- is only available for people below a certain income level-, plays a role in limiting inequalities, but the fact remains that a large proportion of adults feel constrained in their access to care.



Generally, the results in this chapter provide experts with information to refine their understanding of unmet needs and assess how important it is to design measures which more specifically target the least well-off if they are indeed more frequently facing access barriers.

#### ***4.5.3. Policy responses must be adapted to the barriers to care and target those most affected***

While inequalities in accessing health care to the detriment of the poor for reasons of availability as well as for affordability can be observed in nearly all EU and OECD countries, the policy options to address these issues may differ. Generally, these policies can also aim to reduce inequalities in the utilisation of services as indicated in Chapter 3.

One policy option to redress inequalities in unmet need or service utilisation is related to health literacy. As was shown in this chapter, a notable proportion of people with chronic conditions do not see the need for regular visits to a doctor. Some of this may be explainable by a lack of understanding of their condition. It also has an inequality aspect since health literacy is generally lower among socially disadvantaged people, creating a barrier in understanding and applying health information which results in problems navigating the health system effectively. Lack of health literacy can hence lead to a lower than appropriate utilisation of health care services. Policy responses to address the lack of health literacy include interventions aiming to develop individual's knowledge and empowerment to act on health information (e.g. counselling and training sessions at the community level), and to promote an enabling environment to ease understanding health information (e.g. ease access to information, improve professionals' communication skills) (Moreira, 2018<sup>[7]</sup>).

In some countries, particular minority groups of low socio-economic status, such as indigenous people or migrants may face additional barriers when accessing the health system related to language and cultural barriers but also discrimination exacerbating health inequalities. Policies to address these issues should aim at building capacity of health service providers to provide culturally safe and responsive services and by developing culturally appropriate resources to support health literacy for these population groups (e.g., interpretative services, awareness and understanding of different beliefs, values and lifestyle).

Improving the availability of services is for a large part a matter of working on service delivery – making sure that care is available near the place where people live and at times when people need to use the system. One issue impeding equal access in many OECD countries is the uneven geographic distribution of doctors and the difficulties in recruiting and retaining doctors in certain regions especially those in remote and sparsely populated areas. Generally, the density of physicians is consistently greater in urban regions, reflecting the concentration of specialised services such as surgery and physicians' preferences to practice in urban settings (OECD/EU, 2018<sup>[8]</sup>). A number of OECD countries have taken actions to improve service availability in underserved areas, either by targeting medical students early in their training to convince them to pursue a career in rural areas, by providing financial incentives to physicians to practice in remote areas or by re-orientation of service delivery models towards more team-based practice models including an expanded scope of practice by nurses (OECD, 2016<sup>[9]</sup>). A more widespread use of telemedicine solutions such as the remote patient monitoring in particular in rural areas could also help to reduce the urban-rural divide in service access. One particular issue limiting the availability of primary care services is related to the short opening hours of GP practices which may force patients to go to hospital emergency departments instead if community-based services are otherwise not available. Here, OECD countries implemented a range of solutions to improve access and quality of out-of-hours primary care including incentives to doctors to extend their normal office hours, organisational support to encourage the participation of primary care physicians to deliver out-of-hours primary care and making greater use of other health professionals (Berchet and Nader, 2016<sup>[10]</sup>).

Long-waiting times for inpatient and outpatient treatment can be related to lack of physical infrastructure and workforce shortages but, in some cases, may also be due to inefficiency in the care delivery process.

In some countries, people with complementary private health insurance (which is typically concentrated among the better-off) may be able to “jump the queue” and receive care quicker than those waiting on public waiting lists, adding a social dimension to this problem. For surgery, waiting time guarantees have become the most common and effective policy tool in OECD countries to tackle long waiting times (Siciliani, Borowitz and Moran, 2013<sup>[11]</sup>). These can be enforced either by setting waiting time targets and holding health providers to account for achieving the targets, or by allowing patients to choose alternate health providers, including the private sector, if patients have to wait beyond a maximum time.

Unmet need due to lack of affordability is strongly related to lack in coverage. Chapter 5 of this report focuses on this topic and explores this relationship in detail.

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# Annex 4.A. Additional results on unmet needs

## Description of variables

Annex Table 4.A.1. Unmet needs variables in different surveys

	Variable specification
EHIS	<b>Forgone or delayed care due to waiting times:</b> Dummy variable with people who reported having forgone or delayed care due to long waiting times, versus those who have no forgone or delayed care for this same reason in the past 12 months. Excludes people who reported they had no need for health care, except in France and Sweden.
	<b>Forgone or delayed care due to distance or transports:</b> Dummy variable with people who reported having forgone or delayed care due to distance or transports problems, versus those who have no forgone or delayed care for this same reason in the past 12 months. Excludes people who reported they had no need for health care, except in France and Sweden.
	<b>Unmet needs for medical care due to financial reasons:</b> Dummy variable with people who reported having forgone medical care due to financial reasons, versus those who have no forgone medical care for this same reason in the past 12 months. Excludes people who reported they had no need for health care, except in France and Sweden.
	<b>Unmet needs for dental care due to financial reasons:</b> Dummy variable with people who reported having forgone dental care due to financial reasons, versus those who have no forgone dental care for this same reason in the past 12 months. Excludes people who reported they had no need for health care, except in France and Sweden.
	<b>Unmet needs for prescribed medicines due to financial reasons:</b> Dummy variable with people who reported having forgone prescribed medicines due to financial reasons, versus those who have no forgone prescribed medicines for this same reason in the past 12 months. Excludes people who reported they had no need for health care, except in France and Sweden.
	<b>Forgone care due to financial reasons:</b> Dummy variable with people who reported having forgone either medical care, dental care, mental care or prescription drugs to financial reasons, versus those who have not forgone care for any of these reason in the past 12 months. Excludes people who reported they had no need for health care, except in France and Sweden.
MEPS 2016, USA	<b>Unmet needs for medical care due to financial reasons:</b> Dummy variable with people who reported having forgone medical care because they could not afford it or because the insurance company would not approve/cover/pay, versus those who have no forgone medical care for these reasons in the past 12 months. Does not exclude people who reported they had no need for health care.
	<b>Unmet needs for dental care due to financial reasons:</b> Dummy variable with people who reported having forgone dental care because they could not afford it or because the insurance company would not approve/cover/pay, versus those who have no forgone medical care for these reasons in the past 12 months. Does not exclude people who reported they had no need for health care.
	<b>Unmet needs for prescribed medicines due to financial reasons:</b> Dummy variable with people who reported having forgone prescribed medicines because they could not afford it or because the insurance company would not approve/cover/pay, versus those who have no forgone medical care for these reasons in the past 12 months. Does not exclude people who reported they had no need for health care.
	<b>Foregone care due to financial reasons:</b> Dummy variable with people who reported having forgone either medical care, dental care or prescription drugs due to financial reasons, versus those who have not forgone care for any of these reason in the past 12 months. Does not exclude people who reported they had no need for health care.
CCHS 2017, Canada	<b>Forgone or delayed care due to waiting lists:</b> Dummy variable with people who reported having difficulties getting an appointment or long waiting times, versus those who have not experienced these difficulties in the past 12 months. Considers the following 5 types of care: routine, specialist, immediate care, non-emergency surgery and non-emergency tests (MRI, CT scan, and angiography). Excludes people who reported they did not require any of these types of care.
	<b>Forgone or delayed care due to distance or transports:</b> Dummy variable with people who reported having difficulties to access care due to transportation problems, versus those who have not experienced these difficulties in the past 12 months. Considers the following 5 types of care: routine, specialist, immediate care, non-emergency surgery and non-emergency tests (MRI, CT scan, and angiography). Excludes people who reported they did not require any of these types of care.
Commonwealth Fund survey 2016	Proportion of adults who a medical problem but did not visit doctor; skipped medical test, treatment or follow up recommended by doctor; and/or did not fill prescription or skipped doses

Note: Chile was excluded as the reporting period is only 3 months.

## Numerical results

**Annex Table 4.A.2. Descriptive statistics and generalised concentration indices: unmet needs for financial reasons for medical care, dental care and prescription drugs**

	Unmet needs for medical care				Unmet needs for dental care				Unmet needs for prescription drugs			
	Q1	Mean	Q5	GCI	Q1	Mean	Q5	GCI	Q1	Mean	Q5	GCI
EU25	14%	8%	4%		23%	14%	7%		13%	7%	3%	
OECD	13%	8%	4%		24%	15%	7%		13%	7%	3%	
Total	13%	8%	4%		23%	14%	7%		13%	7%	3%	
Austria	5%	3%	1%	-0.006*	10%	7%	4%	-0.010*	4%	2%	1%	-0.005*
Bulgaria	23%	11%	4%	-0.035*	27%	14%	5%	-0.039*	20%	10%	3%	-0.033*
Croatia	11%	8%	2%	-0.015*	9%	6%	3%	-0.009*	9%	6%	1%	-0.014*
Cyprus	11%	4%	1%	-0.019*	14%	5%	1%	-0.020*	5%	2%	1%	-0.009*
Czech Republic	11%	5%	2%	-0.012*	6%	2%	0%	-0.007*	10%	4%	1%	-0.013*
Denmark	3%	2%	1%	-0.004*	21%	14%	8%	-0.031*	8%	4%	1%	-0.015*
Estonia	17%	10%	4%	-0.020*	48%	31%	15%	-0.056*	12%	6%	1%	-0.021*
Finland	19%	12%	5%	-0.026*	24%	14%	8%	-0.031*	19%	11%	5%	-0.028*
Germany	8%	4%	2%	-0.010*	18%	11%	6%	-0.021*	8%	4%	1%	-0.013*
Greece	30%	19%	10%	-0.035*	31%	20%	10%	-0.040*	24%	16%	7%	-0.032*
Hungary	11%	5%	2%	-0.016*	23%	12%	5%	-0.035*	15%	6%	1%	-0.027*
Iceland	16%	8%	3%	-0.030*	34%	19%	8%	-0.053*	16%	9%	3%	-0.030*
Ireland	22%	21%	19%	-0.007	30%	29%	27%	-0.011*	19%	18%	18%	-0.006
Italy	23%	12%	7%	-0.032*	27%	14%	8%	-0.036*	12%	7%	5%	-0.014*
Latvia	39%	23%	10%	-0.051*	49%	29%	15%	-0.059*	35%	18%	6%	-0.050*
Lithuania	4%	3%	1%	-0.007*	16%	13%	3%	-0.032*	4%	4%	1%	-0.009*
Luxembourg	12%	6%	2%	-0.016*	21%	12%	4%	-0.031*	12%	7%	2%	-0.017*
Malta	7%	5%	3%	-0.011*	7%	4%	1%	-0.011*	9%	4%	1%	-0.014*
Netherlands	10%	3%	1%	-0.014*	12%	3%	1%	-0.018*	7%	1%	1%	-0.010*
Norway	3%	1%	0%	-0.005*	8%	3%	1%	-0.012*	7%	3%	1%	-0.011*
Poland	15%	9%	4%	-0.019*	23%	13%	7%	-0.029*	22%	10%	3%	-0.032*
Portugal	25%	15%	6%	-0.034*	60%	37%	12%	-0.088*	21%	11%	3%	-0.033*
Romania	13%	9%	5%	-0.017*	21%	12%	6%	-0.028*	12%	8%	4%	-0.016*
Slovak Republic	5%	2%	1%	-0.007*	18%	7%	4%	-0.022*	12%	5%	2%	-0.017*
Slovenia	6%	4%	6%	-0.003	13%	13%	11%	-0.007	9%	6%	4%	-0.011*
Spain	8%	3%	1%	-0.011*	36%	15%	4%	-0.064*	8%	3%	1%	-0.013*
United Kingdom	2%	1%	1%	-0.002*	7%	4%	3%	-0.008*	1%	1%	0%	-0.003*
France*	9%	4%	1%	-0.020*	27%	16%	8%	-0.043*	-	-	-	-
Sweden*	5%	3%	1%	-0.007*	12%	11%	4%	-0.014*	6%	4%	2%	-0.008*
United States*	3%	1%	1%	-0.003*	7%	3%	1%	-0.011*	3%	2%	1%	-0.003*

Note: Proportion of adults who had unmet needs in the past 12 months. Q1 is the lowest income quintile and Q5 the highest. (♦) In France, Sweden and the US, the proportions are calculated over the total adult population (including both people who have needs for care and those who have no needs), while in the other countries, the proportions are over adult population who has needs.

Source: OECD calculations based on EHIS 2, MEPS and CCHS.

**Annex Table 4.A.3. Descriptive statistics and generalised concentration indices: Unmet needs for financial reasons, due to waiting times, transport and overall**

	Unmet needs for financial reasons				Unmet needs due to waiting times				Unmet needs due to distance or transports				All (either of the 3)
	Q1	Mean	Q5	GCI	Q1	Mean	Q5	GCI	Q1	Mean	Q5	GCI	Mean
EU25	26%	16%	8%		20%	18%	16%		6%	4%	2%		28%
OECD	27%	17%	9%		21%	19%	17%		6%	4%	2%		28%
Total	26%	16%	8%		20%	18%	16%		6%	4%	2%		28%
Austria	13%	9%	5%	-0.013*	10%	11%	11%	-0.002	3%	2%	1%	-0.003*	19%
Bulgaria	34%	18%	7%	-0.047*	7%	4%	3%	-0.008*	10%	4%	1%	-0.016*	19%
Canada	-	-	-	-	19%	19%	19%	0.001	2%	2%	2%	0.000	19%
Croatia	17%	11%	5%	-0.022*	23%	22%	15%	-0.013*	11%	6%	2%	-0.012*	28%
Cyprus	13%	5%	1%	-0.020*	10%	8%	5%	-0.010*	0%	0%	0%	0.000	11%
Czech Republic	15%	7%	3%	-0.018*	12%	11%	10%	-0.004	10%	6%	2%	-0.010*	17%
Denmark	26%	18%	10%	-0.038*	23%	23%	22%	-0.002	5%	3%	2%	-0.006*	39%
Estonia	46%	31%	14%	-0.054*	15%	18%	21%	0.013*	6%	4%	2%	-0.008*	41%
Finland	32%	19%	9%	-0.043*	28%	20%	13%	-0.024*	7%	4%	2%	-0.009*	32%
Germany	23%	14%	7%	-0.028*	29%	25%	21%	-0.011*	8%	4%	2%	-0.009*	32%
Greece	38%	26%	14%	-0.042*	17%	16%	12%	-0.008*	9%	8%	3%	-0.010*	33%
Hungary	26%	14%	6%	-0.040*	15%	13%	9%	-0.011*	5%	3%	1%	-0.006*	23%
Iceland	33%	20%	9%	-0.050*	34%	29%	27%	-0.010	6%	4%	2%	-0.008*	43%
Ireland	36%	33%	31%	-0.013*	25%	24%	23%	-0.005	9%	8%	6%	-0.007	47%
Italy	30%	17%	10%	-0.038*	37%	30%	25%	-0.022*	14%	9%	6%	-0.016*	38%
Latvia	54%	34%	18%	-0.063*	24%	24%	22%	0.002	16%	7%	2%	-0.023*	43%
Lithuania	11%	9%	3%	-0.021*	15%	14%	11%	-0.009*	4%	4%	0%	-0.009*	19%
Luxembourg	29%	16%	6%	-0.043*	33%	32%	30%	-0.001	7%	3%	1%	-0.012*	36%
Malta	13%	7%	2%	-0.019*	30%	27%	22%	-0.015*	4%	2%	1%	-0.004*	32%
Netherlands	15%	5%	2%	-0.022*	14%	11%	11%	-0.004	5%	2%	1%	-0.005*	17%
Norway	14%	6%	2%	-0.020*	5%	4%	3%	-0.004*	3%	1%	1%	-0.002*	10%
Poland	30%	17%	8%	-0.039*	22%	26%	27%	0.012*	7%	5%	2%	-0.007*	35%
Portugal	48%	31%	11%	-0.070*	29%	26%	19%	-0.019*	6%	3%	1%	-0.009*	44%
Romania	27%	16%	8%	-0.036*	4%	3%	2%	-0.003*	4%	2%	1%	-0.005*	16%
Slovak Republic	19%	8%	4%	-0.025*	8%	6%	5%	-0.005*	2%	1%	1%	-0.002	13%
Slovenia	17%	15%	14%	-0.011*	20%	21%	25%	0.007	7%	3%	1%	-0.010*	29%
Spain	35%	16%	5%	-0.061*	20%	17%	14%	-0.011*	2%	2%	1%	-0.002*	28%
United Kingdom	8%	6%	4%	-0.010*	17%	15%	16%	-0.003	3%	2%	1%	-0.004*	21%
France*	31%	19%	8%	-0.051*	16%	14%	14%	-0.003	6%	3%	1%	-0.009*	31%
Sweden*	19%	15%	6%	-0.021*	21%	18%	13%	-0.011*	4%	2%	1%	-0.007*	30%
United States*	10%	5%	2%	-0.013*	-	-	-	-	-	-	-	-	-

Note: Proportion of adults who had unmet needs in the past 12 months. Q1 is the lowest income quintile and Q5 the highest. (♦) In France, Sweden and the US, the proportions are calculated over the total adult population (including both people who have needs for care and those who have no needs), while in the other countries, the proportions are over adult population who has needs.

Source: OECD calculations based on EHIS 2, MEPS and CCHS.

**Annex Table 4.A.4. Summary of inequalities: Detailed results and discussion**

	Overall inequalities rank (1)	Rank inequalities of unmet needs for financial reason	% unmet needs for financial reasons	Rank inequalities of unmet needs for waiting times	% unmet needs for waiting list	Rank inequalities of unmet needs for transport	% unmet needs for transport	% of population with any unmet need
Portugal	1	1	31	3	26	13	3	44
Italy	2	14	17	2	30	2	9	38
Finland	3	8	19	1	20	10	4	32
Bulgaria	4	7	18	14	4	3	4	19
Croatia	5	19	11	5	22	4	6	28
Latvia	6	2	34	26	24	1	7	43
Iceland	7	6	20	10	29	14	4	43
Greece	8	10	26	13	16	8	8	33
Germany	9	16	14	6	25	11	4	32
Hungary	10	11	14	7	13	19	3	23
Spain	11	3	16	8	17	27	2	28
France*	12	5	19	22	14	12	3	31
Luxembourg	12	9	16	25	32	5	3	36
Lithuania	14	21	9	12	14	9	4	19
Sweden*	15	20	15	9	18	18	2	30
Estonia	16	4	31	29	18	15	4	41
Czech Republic	17	25	7	18	11	6	6	17
Malta	18	24	7	4	27	23	2	32
Netherlands	19	18	5	17	11	21	2	17
Denmark	20	13	18	24	23	20	3	39
Poland	20	12	17	28	26	17	5	35
Romania	22	15	16	21	3	22	2	16
Ireland	23	27	33	16	24	16	8	47
Slovak Republic	24	17	8	15	6	28	1	13
Slovenia	25	28	15	27	21	7	3	29
Cyprus	26	23	5	11	8	29	0	11
Norway	27	22	6	19	4	26	1	10
United Kingdom	28	29	6	20	15	24	2	21
Austria	29	26	9	23	11	25	2	19

Note: The rank of inequalities for unmet needs variables is derived from data in previous tables and 1 denotes the highest inequalities detrimental to the poor.

(♦) In France, Sweden and the US, the proportions are calculated over the total adult population (including both people who have needs for care and those who have no needs), while in the other countries, the proportions are over adult population who has needs.

Source: OECD calculations based on EHIS 2, MEPS and CCHS.

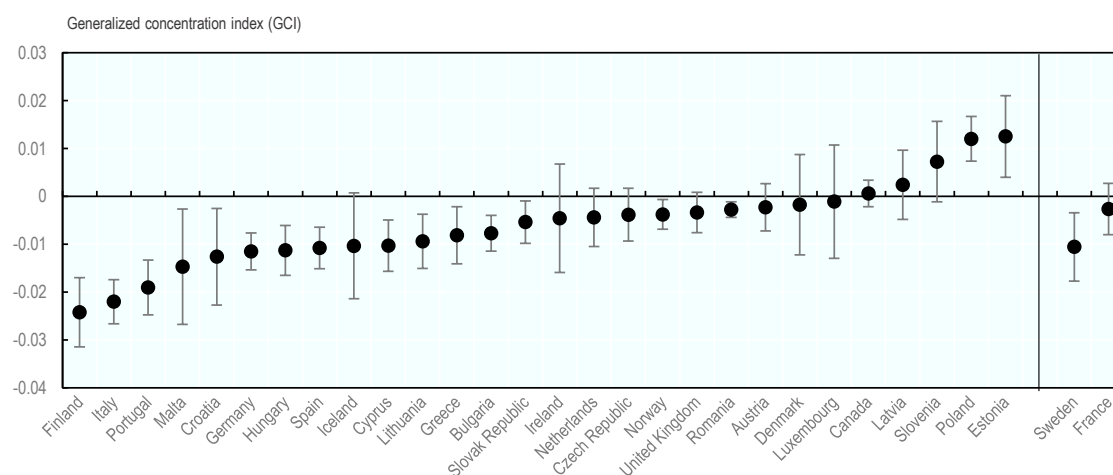
## Explanation and Sensitivity analysis

The analysis presented above results from first attributing a rank to each country for its level of inequality (measured by the GCIs sorted from the highest inequality detrimental to the poor up). A separate ranking is produced for each unmet need reason. The sum of the ranks for 3 reasons leads to the summary ranking (1) and subsequent grouping. Broadly speaking, countries in the high inequalities group rank in the top third of highest inequalities for at least 2 types of unmet needs (rank below 10). Countries in the low inequality group, tend to rank in the bottom third of inequalities for at least 2 types of unmet needs (rank 20 or above).

Separately, a set of PCAs were also undertaken including: (i) on GCIs for 3 types of unmet needs (financial, transport, waiting times), (ii) on GCIs for all types of unmet need including unmet costs for various types of care, and (iii) on the GCIs combined with levels of unmet needs. The correlations of the various unmet needs GCIs were generally low and the first axis of the PCA tended to explain only half of the information. Nevertheless, all PCAs led to groupings which were broadly similar to the one presented above. In fact, the correlation between the value of the country rank derived from the GCI PCA and the one above was more than 90%. Finally, additional ranking were elaborated on the sum of GCIs, on the sum of the absolute values of GCIs, again leading to similar groupings.

## Graphs of generalised concentration indexes

**Annex Figure 4.A.1. Inequality index for the probability of delayed or forgone care due to waiting times (GCI)**

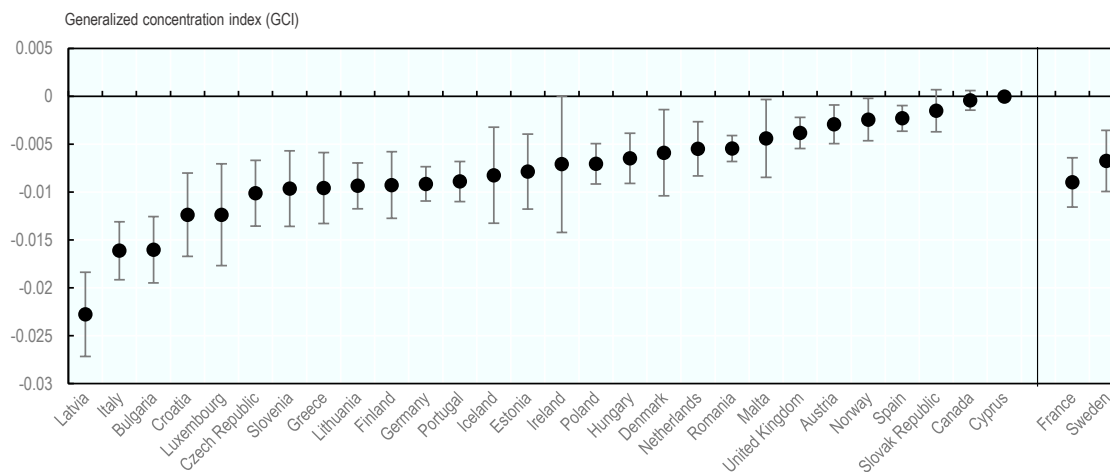


Notes: The generalised concentration index measures the degree of income-related inequalities in the probability of delayed or foregone care due to waiting lists. The error bars represent the 95% confidence intervals. If the GCI is significantly above (below) 0, inequalities are in favour of the rich (the poor). If the error bars cross the 0 line, there is no significant inequality. Data for the United States, Sweden and France are not strictly comparable.

Source: OECD calculations based on national health survey data.



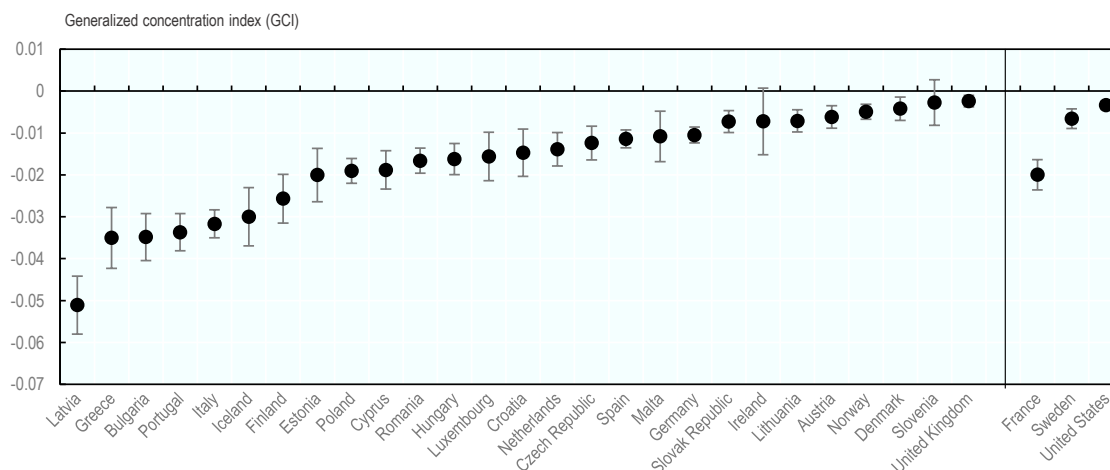
**Annex Figure 4.A.2. Inequality index for the probability of delayed or forgone care due to distance/transport problems (GCI)**



Notes: The generalised concentration index measures the degree of income-related inequalities in the probability of delayed or forgone care due to distance or transport problems. The error bars represent the 95% confidence intervals. If the GCI is significantly above (below) 0, inequalities are in favour of the rich (the poor). If the error bars cross the 0 line, there is no significant inequality. Data for the United States, Sweden and France are not strictly comparable.

Source: OECD calculations based on national health survey data.

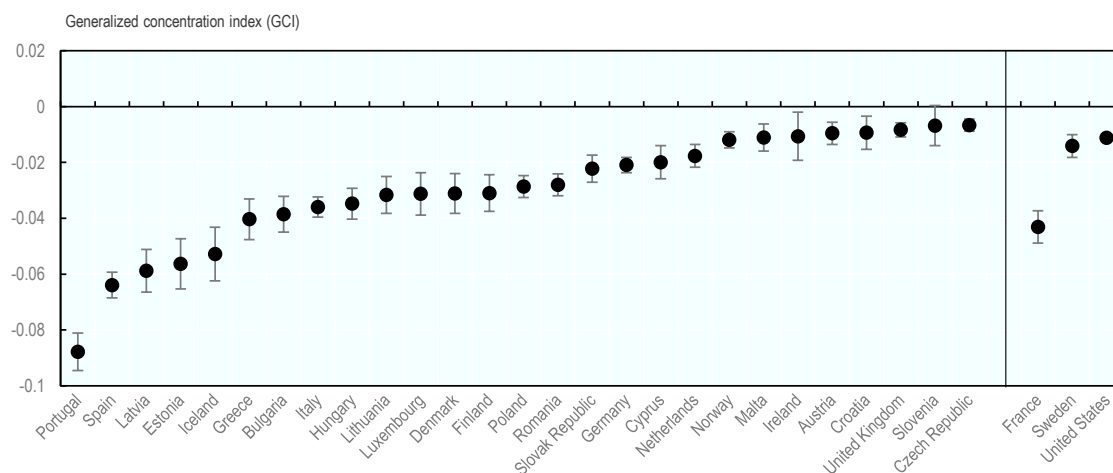
**Annex Figure 4.A.3. Inequality index for the probability of forgone medical care due to financial reasons (GCI)**



Notes: The generalised concentration index measures the degree of income-related inequalities in the probability of forgone medical care due to financial reasons. The error bars represent the 95% confidence intervals. If the GCI is significantly above (below) 0, inequalities are in favour of the rich (the poor). If the error bars cross the 0 line, there is no significant inequality. Data for the United States, Sweden and France are not strictly comparable.

Source: OECD calculations based on national health survey data.

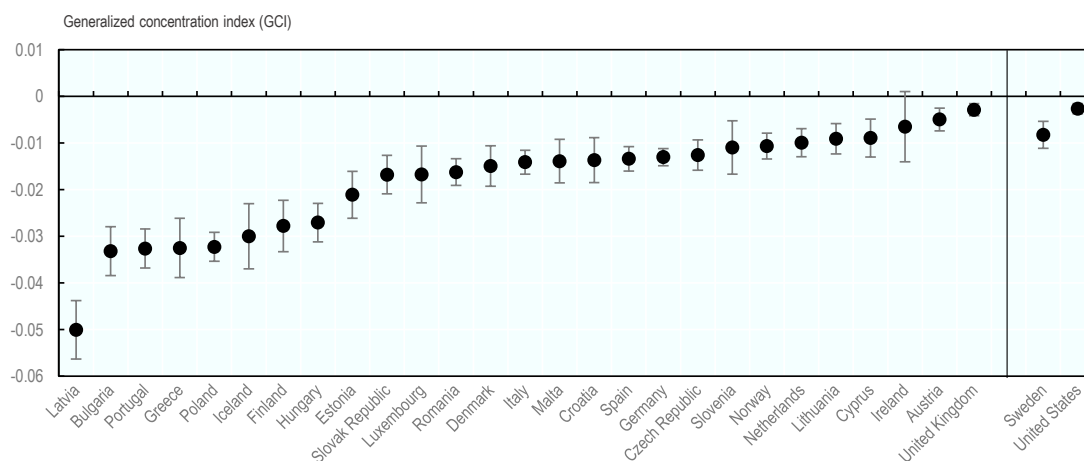
**Annex Figure 4.A.4. Inequality index for the probability of forgone dental care due to financial reasons (GCI)**



Notes: The generalised concentration index measures the degree of income-related inequalities in the probability of forgone dental care due to financial reasons. The error bars represent the 95% confidence intervals. If the GCI is significantly above (below) 0, inequalities are in favour of the rich (the poor). If the error bars cross the 0 line, there is no significant inequality. Data for the United States, Sweden and France are not strictly comparable.

Source: OECD calculations based on national health survey data.

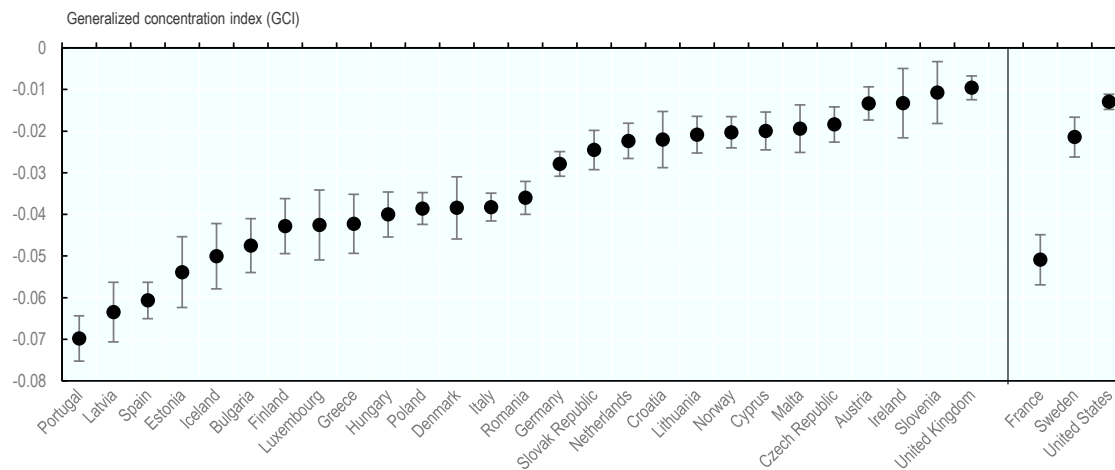
**Annex Figure 4.A.5. Inequality index for the probability of forgone prescription drugs due to financial reasons (GCI)**



Notes: The generalised concentration index measures the degree of income-related inequalities in the probability of forgone prescription drugs due to financial reasons. The error bars represent the 95% confidence intervals. If the GCI is significantly above (below) 0, inequalities are in favour of the rich (the poor). If the error bars cross the 0 line, there is no significant inequality. Data for the United States, Sweden and France are not strictly comparable.

Source: OECD calculations based on national health survey data.

**Annex Figure 4.A.6. Inequality index for the probability of forgone care (any type) due to financial reasons, inequality index (GCI)**



Notes: The generalised concentration index measures the degree of income-related inequalities in the probability of delayed or forgone care (any type) due to financial reasons. The error bars represent the 95% confidence intervals. If the GCI is significantly above (below) 0, inequalities are in favour of the rich (the poor). If the error bars cross the 0 line, there is no significant inequality. Data for the United States, Sweden and France are not strictly comparable.

Source: OECD calculations based on national health survey data.

## Notes

<sup>1</sup> Per the methodology described in the previous chapter.

<sup>2</sup> In EHIS, the questions on unmet needs only specify the type of care for unmet needs for financial reasons. The comparison between perceived need and actual utilisation is thus only possible for medical and dental care.

<sup>3</sup> Few studies have analysed the relationship between unmet needs and utilisation. Allin, Grignon and Legrand (2010<sup>[12]</sup>) are an exception in that regard. Using data from the 2003 Canadian Community Health Survey, the authors find that having taken into account differences in health status and socio-economic characteristics, people with unmet need due to waiting time have a 22% higher probability of visiting a GP within the last 12 month (and more visits) than those who do not. However, the study does not differentiate between people with no need and people with no unmet needs – and their results cannot be compared with those presented here.

<sup>4</sup> They represent more than 5% of the adult population.

<sup>5</sup> The correlation in part reflects by the nature of the inequality indicator selected: by construction, if the average proportion of people with a given characteristic in a population is very high or very low, the difference between high and low income people cannot be very high, and thus the GCI which is linked to these absolute inequalities also tends to be lower.

<sup>6</sup> Part of this may be attributed to the fact that the MEPS does not distinguish people with no need from those with no unmet needs but the gap with other surveys remains too large to dispel doubts about the reliability of a comparison between MEPS and EHIS on unmet needs for financial reasons.

<sup>7</sup> The proportion of people reporting unmet need for mental care for financial reason were generally too low to be analysed separately. They are however included in the aggregate variable of unmet need for financial reason.



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