

Perception of health and access to health care in the EU-25 in 2007

Generally European citizens are satisfied about their health; only about 10% claim to be in bad or very bad health in 2007. There are large differences in the reporting of general health between European countries, but "cultural differences" should be taken into account. A large part of the respondents claiming that their health is bad or very bad (95%) suffer from a chronic (long-standing) illness or condition and/or are limited in their daily activities. Older people are much more likely to report worse health as are people not in the labour market at the time of the survey.

A person's health depends on certain inherent factors and life style, but also on the extent to which they seek and receive the care they need. Of the European citizens 6.4% felt that they had unmet medical needs in examination or treatment during the twelve months preceding the interview. The main reasons for this are that it was too expensive, the person wanted to wait and see if the problem got better, there was a

waiting list or the person could not take time for it. There are large differences between the countries concerning the proportion of respondents claiming to have had unmet medical needs and the reasons they give for it.

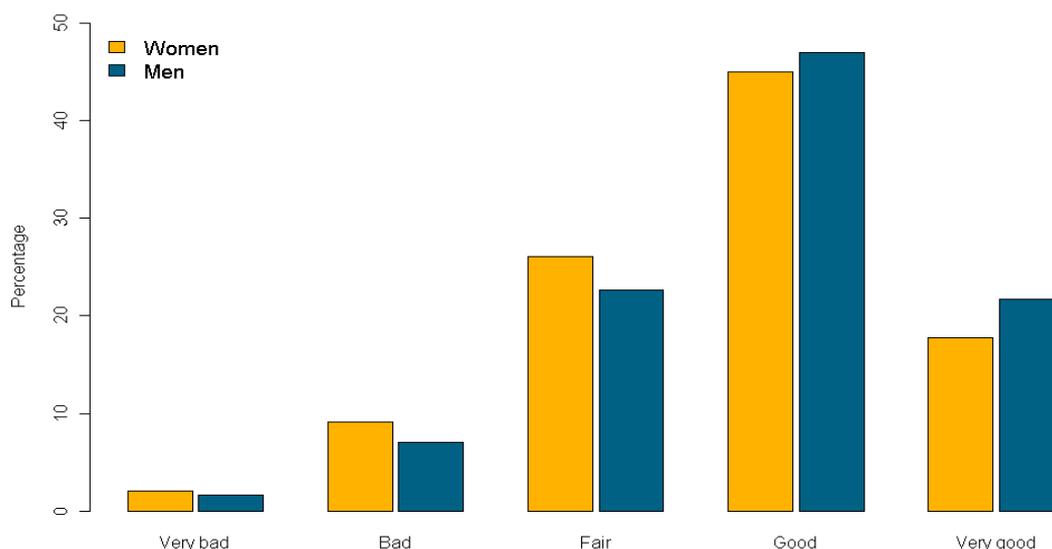
66% of EU-25 population perceive their general health as good or very good

The measurement of self-perceived health is, by definition, subjective. The reference is to health in general rather than to the current state of health. It is expected to include the different dimensions of health, i.e. physical, social and emotional function and biomedical signs and symptoms.

10% of the EU-25 population report bad or very bad general health and 24% of the respondents claim to be in fair health.

The gender difference in reporting of health is not very large, but more women than men report worse health and conversely more men than women claim to be in good or very good health.

Figure 1: Self-perceived health by gender, % of respondents



Source: Eurostat, EU-SILC 2007

Reporting of general health is linked to "cultural differences"

Table 1 shows the proportion of respondents in each of the five answer categories on self-perceived health, by country and gender. The most interesting observation is that the proportion of respondents within one answer category can differ substantially between countries.

The proportion of people reporting very bad health varies from 0.4% in Malta to 4.9% in Hungary, similarly the proportion of people reporting bad general health ranges from 2.0% in Ireland to 17.1% in Hungary.

The largest discrepancy between countries can be found in the proportion reporting very good health; 3.4% of all Latvian respondents, compared with more than half of Greek respondents (53.5%).

These data indicate that Greek respondents answer more positively (proportionally few Greek respondents answer 'fair' or 'good' but more reply 'very good'). But these differences do not necessarily mean that the general health of Greek citizens is objectively much better than that of Latvian citizens.

This implies that when evaluating the proportion of respondents in each of the self-perceived health categories by country, "cultural differences" should always be considered. These "cultural differences" relate to how people generally talk about their personal health and to the general health standards in a country.

Table 1: Reporting of self-perceived health, by country and gender (%)

	Very bad			Bad			Fair			Good			Very good		
	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women
EU-25	1.8	1.6	2.0	8.1	7.0	9.1	24.5	22.7	26.1	46.0	47.0	45.0	19.7	21.7	17.8
Belgium	1.6	1.2	1.9	6.8	5.6	7.9	17.6	16.0	19.2	46.3	47.1	45.7	27.7	30.2	25.4
Czech Republic	2.0	1.9	2.2	10.4	9.1	11.5	26.3	24.8	27.7	41.7	42.0	41.4	19.6	22.2	17.3
Denmark	1.9	1.5	2.3	5.9	4.4	7.4	16.8	15.7	17.8	32.8	34.7	30.8	42.6	43.6	41.7
Germany	1.6	1.5	1.6	7.8	7.0	8.5	30.7	28.6	32.6	46.5	47.2	45.8	13.5	15.7	11.4
Estonia	2.7	2.4	3.0	12.0	10.0	13.6	32.0	32.2	31.7	46.0	47.1	45.1	7.3	8.2	6.6
Ireland	0.5	0.5	0.5	2.0	1.8	2.3	13.3	13.4	13.3	37.2	36.8	37.6	47.0	47.6	46.4
Greece	2.7	2.5	3.0	6.0	5.2	6.8	14.6	12.8	16.3	23.1	22.2	24.0	53.5	57.3	50.0
Spain	2.2	1.7	2.7	9.4	7.7	11.0	20.9	19.6	22.2	51.4	53.4	49.5	16.1	17.7	14.6
France	1.4	1.2	1.5	8.0	6.7	9.1	20.3	18.5	22.0	43.1	43.5	42.8	27.2	30.1	24.6
Italy	2.4	2.0	2.8	8.6	6.9	10.2	25.5	23.2	27.7	51.2	54.0	48.5	12.4	14.0	10.9
Cyprus	2.6	2.6	2.7	7.1	6.1	8.1	13.5	11.9	15.0	30.9	31.0	30.7	45.9	48.5	43.5
Latvia	4.1	3.3	4.7	14.5	11.5	16.9	39.7	38.4	40.8	38.3	43.0	34.6	3.4	3.8	3.0
Lithuania	2.9	2.1	3.6	13.6	11.0	15.8	34.7	32.3	36.6	42.0	46.2	38.6	6.7	8.4	5.3
Luxembourg	1.2	0.9	1.5	5.8	5.2	6.4	18.5	17.8	19.2	44.1	44.9	43.3	30.4	31.3	29.5
Hungary	4.9	4.2	5.4	17.1	14.7	19.2	31.2	30.6	31.7	31.3	32.2	30.5	15.5	18.2	13.2
Malta	0.4	0.5	0.3	4.1	4.0	4.3	21.1	18.8	23.4	44.9	45.2	44.6	29.5	31.6	27.4
Netherlands	0.6	0.5	0.6	4.3	3.4	5.1	18.8	16.9	20.6	53.0	53.8	52.2	23.4	25.3	21.5
Austria	1.6	1.5	1.7	6.7	6.0	7.5	19.2	18.4	20.0	36.2	36.4	36.0	36.3	37.7	34.9
Poland	3.1	2.5	3.6	13.7	12.1	15.1	26.3	24.4	28.1	41.2	42.9	39.7	15.7	18.1	13.5
Portugal	4.7	3.9	5.4	14.3	11.5	17.0	35.1	33.7	36.4	40.1	44.0	36.6	5.8	6.9	4.7
Slovenia	3.1	2.6	3.5	11.3	10.0	12.6	27.7	26.6	28.8	42.1	44.2	40.1	15.8	16.6	15.1
Slovakia	4.8	4.0	5.6	12.8	10.6	14.8	29.3	27.2	31.1	28.7	29.7	27.7	24.4	28.5	20.9
Finland	1.5	1.1	1.9	6.7	6.1	7.2	23.4	23.7	23.2	44.9	46.4	43.7	23.5	22.8	24.1
Sweden	1.0	0.8	1.2	4.2	3.8	4.5	17.2	15.2	19.0	39.9	40.2	39.6	37.8	39.9	35.8
United Kingdom	1.1	1.0	1.2	5.1	4.9	5.3	16.4	15.5	17.3	42.6	42.2	43.0	34.8	36.6	33.2
Iceland	1.0	0.8	1.2	3.6	2.7	4.4	16.2	13.9	18.6	33.0	33.8	32.3	46.2	48.8	43.6
Norway	1.3	0.9	1.6	7.3	6.5	8.0	15.0	14.0	16.1	46.1	47.5	44.6	30.3	31.0	29.7

Source: Eurostat, EU-SILC 2007

Two strong indicators influencing self-perceived health: suffering from any chronic (long-standing) illness or condition and being limited in daily activities because of health problems

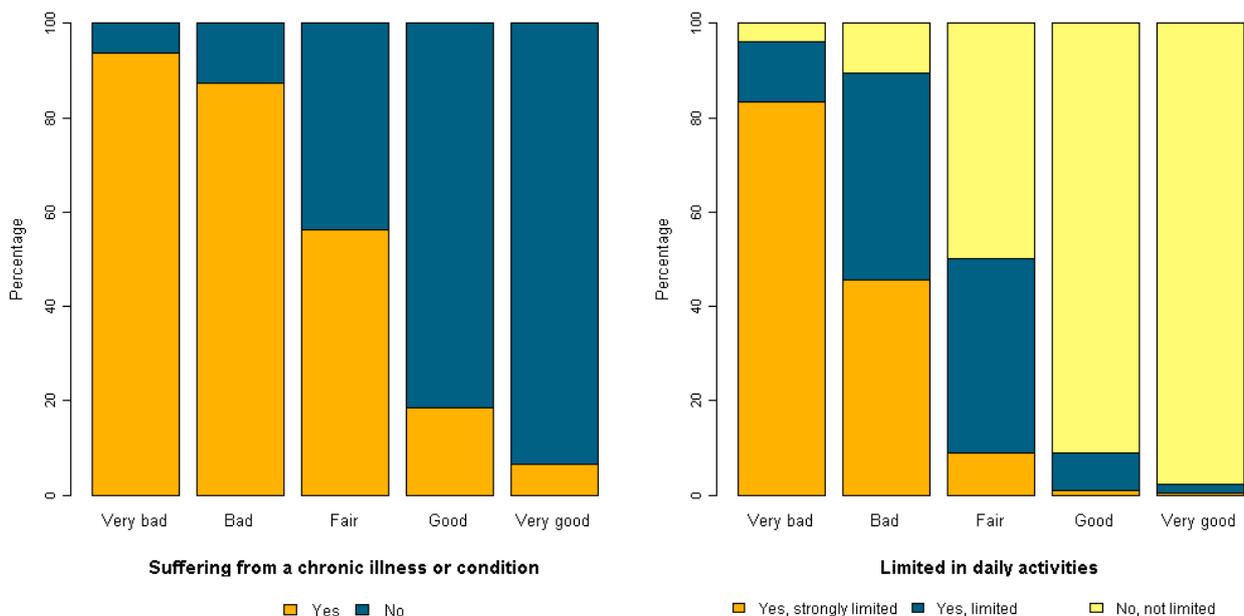
Considering the answers to two other health status questions, it becomes easier to understand why someone would report bad or very bad health (Figure 2).

As could be expected, about 95% of the EU-25 respondents who reported very bad health and 90% of those reporting bad health conditions claim to be limited or strongly limited in daily activities and/or to suffer from a chronic illness or condition.

This is not very surprising since these health conditions are, indeed, reasons for which people perceive their health as not very good.

This also explains why only a small proportion of respondents who reported good or very good health claims to suffer from a chronic illness or condition and/or to be limited in daily activities.

Figure 2: Proportion of respondents suffering from a chronic (long-standing) illness or condition and being limited in daily activities (%)



Source: Eurostat, EU-SILC 2007

Strong relation between self-perceived health and age

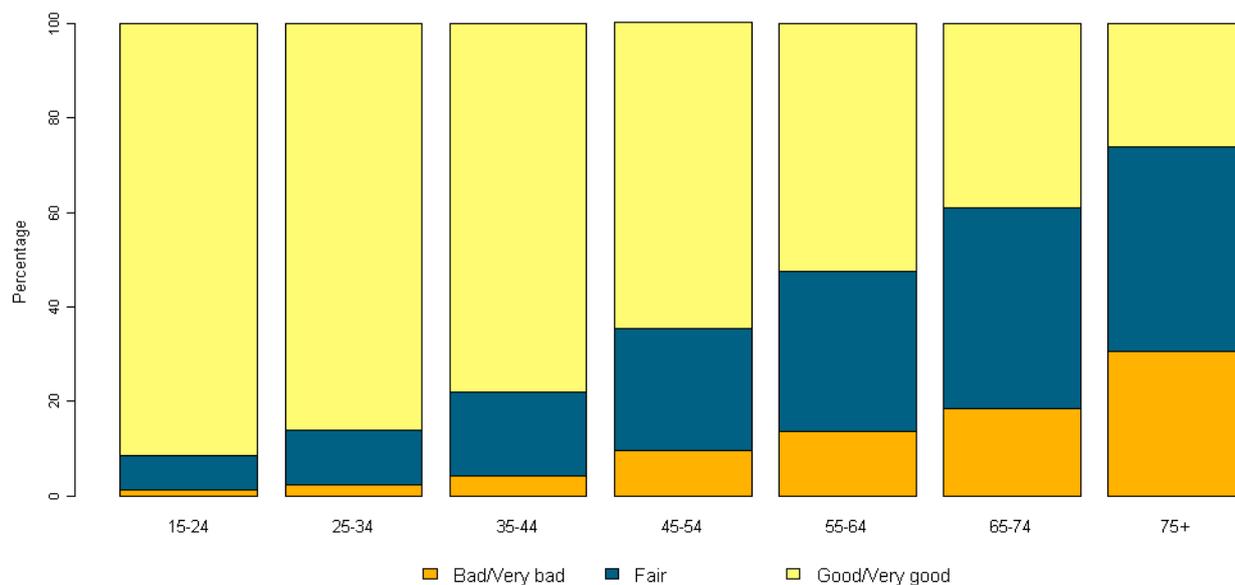
A strong association between self-perceived health and age group is apparent from Figure 3.

Older people in the EU-25 tend to report bad or very bad health more regularly than younger people. For example, 31% of respondents aged 75+ reported bad or very bad health, while for respondents aged 45-54 this percentage was about 10% and of the 15-24 years old respondents only 1% reported bad or very bad health.

Similarly the share of respondents reporting fair health increases gradually with increasing age groups.

Younger people seem to perceive their health as good or very good. Over 90% of respondents aged 15-24 reported good or very good health, while for increasing ages this percentage decreases to about 65% of respondents aged 45-54 and to only 26% of respondents aged 75+.

Figure 3: Self-perceived health by age group (%)



Source: Eurostat, EU-SILC 2007

People out of the labour market declare worse self-perceived health

The relationship between self-perceived health and two other health indicators (limitation in daily activities and suffering from a chronic illness or condition) and age is very strong.

It is interesting to investigate the relationship between self-perceived health and demographic and socio-economic variables simultaneously through a logistic regression analysis. The explanatory factors to be considered are gender, age group, equivalised income quintile by country, country of residence, level of education and activity status.

This model determines the relationship between the reporting of bad or very bad health and the aforementioned factors.

An interesting finding is the order of importance of those factors in explaining bad or very bad self-perceived health (after the indicators 'suffering from a chronic illness or condition' and 'limitation in daily activities'):

1. Age group
2. Activity status
3. Country
4. Level of education
5. Income quintile
6. Gender

Not surprisingly age group is most strongly related to the reporting of bad or very bad health. Activity status and country of residence also appear to be strongly related factors.

The results of the logistic regression model are listed in Table 2.

In order to interpret the results of this analysis, a reference group is chosen as a male EU-25 citizen of age 35-44, with secondary level of education, who is in full-time employment and in the 40-60% equivalised income quintile in his country of residence.

The probability of reporting bad or very bad health in this group is 2.4%, and this probability can be compared with probabilities for individuals that only differ from the reference category by one characteristic.

For example, if the age of the reference category changes from 35-44 to 25-34, the probability that this person reports bad or very bad health is estimated to be 1.2% lower (i.e. half as much).

Table 2: Results from logistic regression for self-perceived health

	Probability of reporting bad or very bad health (%)	
Reference group		2.41
	Difference in probability with respect to the reference group (%)	
Age group	15-24	-2.14
	25-34	-1.24
	35-44	ref
	45-54	2.72
	55-64	2.54
	65-74	2.61
	75+	6.17
Activity status	Employed-full	ref
	Employed-part	0.19
	Inactive	9.34
	Retired	5.45
	Unemployed	4.99
Country of residence	EU-25	ref
	Belgium	-0.67
	Czech Republic	1.55
	Denmark	*
	Germany	0.35
	Estonia	3.16
	Ireland	-1.91
	Greece	-0.81
	Spain	-0.14
	France	-0.39
	Italy	-0.47
	Cyprus	*
	Latvia	5.07
	Lithuania	3.70
	Luxembourg	-0.89
	Hungary	6.13
	Malta	-1.73
	Netherlands	-1.24
	Austria	*
	Poland	2.90
	Portugal	1.49
	Slovenia	2.51
	Slovakia	5.12
Finland	-0.66	
Sweden	-0.85	
United Kingdom	-0.73	
Iceland	*	
Norway	0.55	
Level of education	Primary	1.80
	Lower secondary	0.53
	Secondary	ref
	Post-secondary	-0.50
Equivalised income quintile by country	0-20%	0.61
	20-40%	0.32
	40-60%	ref
	60-80%	-0.18
	80-100%	-0.73
Gender	Male	ref
	Female	-0.26

Source: Eurostat, EU-SILC 2007

* This category is not different from the reference group at the 5% significance level (see Methodological notes).

ref The reference level.

Reference group:

Male EU-25 citizen of age 35-44, whose educational level is secondary education, who is in full-time employment and in the 40-60% equivalised income quintile in his country of residence

How to read:

The probability of reporting bad or very bad health for a person in the reference group is 2.4%.

The other figures are the difference in probability if only one characteristic changes. For example if the person were inactive instead of full-time employed, the probability would rise by 9.3% to 11.7%, keeping all other variables fixed at the reference.

This table does not contain information about people who differ in more than one characteristic from the reference group.

For increasing **age**, the trend of a higher probability of reporting bad or very bad health is obvious.

Being retired, unemployed or in particular inactive corresponds to a higher probability of reporting bad or very bad health.

When looking at the **country of residence**, in some countries, the tendency to report bad or very bad health is not significantly different than for the EU-25 (Austria, Cyprus, Denmark, and Iceland), while in other countries the probability of reporting bad or very bad health is more than twice as high as in the EU-25. Here, possible "cultural differences" in answering questions like this should be kept in mind.

The higher the **educational level** of someone in the reference category is, the smaller the probability that they report bad or very bad health.

Similarly, for **income level** within the country, the higher the income is, the smaller becomes the probability of reporting bad or very bad health. However, the differences between the income levels are not very large.

All other factors taken into account, **women** of age 35-44 are slightly less likely to report bad or very bad health than men, in contrast to what Figure 1 showed for the total EU-25 population.

6.4% of the EU-25 population has perceived unmet medical needs during the 12 months preceding the interview

The link between self-reported health in Europe and some demographic and socio-economic variables has just been established. A related issue is the investigation of how people perceive the accessibility to health care professionals. This is measured in EU-SILC with the following question:

"Was there any time during the last twelve months when, in your opinion, you personally needed a medical examination or treatment for a health problem but you did not receive it?"

This question aims to examine how people perceive the accessibility to health care in their countries. There are generally large differences between the EU countries in terms of the organisation of the health care systems.

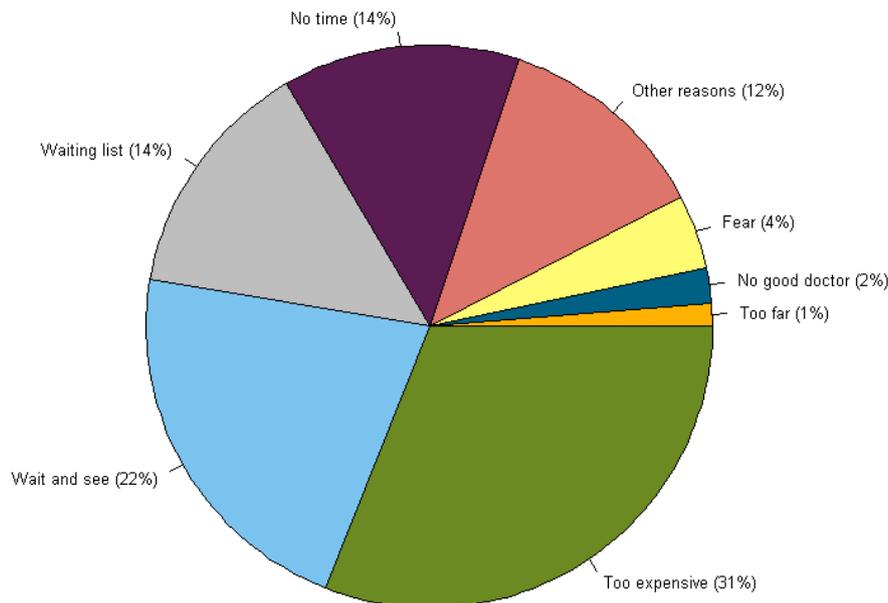
Regardless of the system, people might still feel limited in accessing it because of waiting lists, insufficient knowledge or other constraints.

Therefore this question captures the person's own assessment of their need to consult a health care professional although did not or were unable to do so.

Of the EU-25 respondents, 6.4% claim to have perceived - during the twelve months preceding the interview - that they had medical needs which were not met. These respondents were asked to point out which one of the following reasons applied:

1. Could not afford to (too expensive)
2. Waiting list
3. Could not take time because of work, care for children or for others
4. Too far to travel/no means of transportation
5. Fear of doctor/hospitals/examination/ treatment
6. Wanted to wait and see if problem got better on its own
7. Did not know any good doctor or specialist
8. Other reasons

Figure 4: Reasons for having felt that medical needs were not met



Source: Eurostat, EU-SILC 2007

Applying the percentages of the chart above to the 6.4 % of the EU-25 respondents who perceived they needed medical care but did not receive it, we can conclude that of all respondents, 2.0% (31% of 6.4) judged it was too expensive, 1.4% decided to 'wait and see' if the situation got better, about 0.9%

could not take time off from work or from care for others, and 0.9% were hindered by a waiting list.

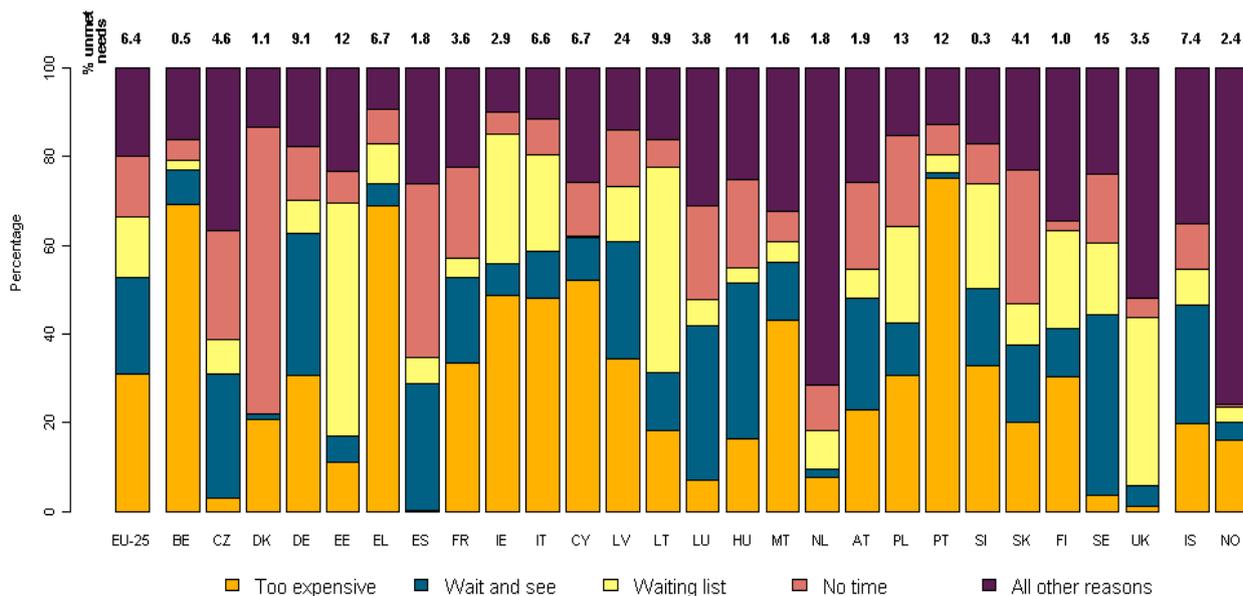
In what follows the focus will be on these four main reasons for not receiving the health care a person needed.

Large difference between countries in reasons for unmet medical needs

Given the fact that each country has its own health care system and health standards, large differences between the countries concerning the reasons for perceived unmet medical needs are to be expected.

These differences are partly "cultural"; hence caution should be exercised in formulating conclusions about cross-country comparisons in Figure 5.

Figure 5: Reasons for having perceived unmet medical needs, by country (%)



Source: Eurostat, EU-SILC 2007

Although the percentages of respondents having perceived unmet needs differ from 0.5% (Belgium) to 12% (Estonia) (see figure 5) we can observe different distributions of the reasons why.

In Belgium, Portugal and Greece the most important reason for having perceived unmet medical needs is that the respondent could not afford it or thought it was too expensive. In Spain, the United Kingdom, Czech Republic and Sweden this concerned a small proportion of respondents having expressed unmet medical needs.

The reason 'wait and see' comes up regularly in Sweden, Hungary, Luxembourg and very rarely in Denmark, Portugal and the Netherlands.

On the other hand, in Estonia, Lithuania and the United Kingdom, relatively more respondents expressed that they could not get the medical help they needed because the waiting list was too long. Waiting list problems are (almost) non-existing in Denmark, Cyprus and Belgium.

In Denmark, Spain and Slovakia the most important reason for having perceived unmet medical needs is that the respondent could not take time because of work, care for children or for others. In Norway and Finland this is the reason that was reported the least.

People in "active population" perceive most unmet medical needs

Figure 6 shows the percentage of respondents claiming to have had unmet medical needs, for each of the four main reasons and by age group.

A general observation is that – for each reason - the highest percentages of unmet medical needs correspond to the age group 25-54.

Younger people aged 15-24 have less medical needs in general, and many of them are still actively supported and supervised by their parents.

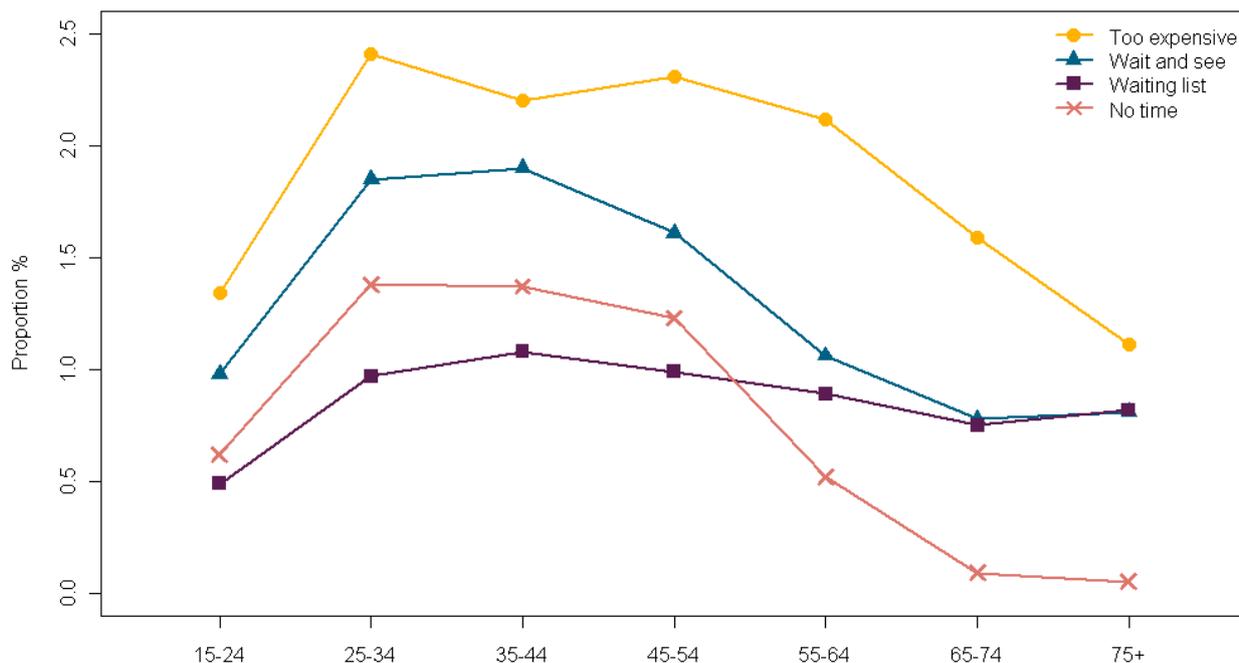
Also with older age groups the percentage is substantially lower¹, except for waiting list.

¹ Please note that the reference population in EU-SILC are private households. EU-SILC hence excludes a substantial part of the elderly (7% of those aged 75+) because they live in collective households or institutions (CENSUS, 2001).

The 25-54 age group represents the "active population", having also dependents that means facing heavy resources and time constraints.

It is not surprising that this group of active people (employed or unemployed) has expressed most unmet medical needs because they did not have time or it was too expensive.

Figure 6: Proportion of respondents having perceived unmet medical needs, by age group (%)



Source: Eurostat, EU-SILC 2007

Country of residence is the most important factor in explaining why someone has perceived unmet medical needs

Similarly, as for the self-perceived health, a logistic regression model has been built in order to determine the role of some demographic and socio-economic variables in the declaration of having perceived unmet medical needs for each of the four aforementioned reasons.

Note that this analysis only holds for 2007 and possible changes over time (i.e. calendar years) are not included. Further analysis showed certain variability over the years 2005-2007, which could also reflect cultural or societal changes over time.

The results of the four logistic regression models are gathered in Table 3.

The reference group is chosen to be a male EU-25 citizen aged between 35 and 44, who is in full-time employment, belongs to the middle-group of equalised incomes of his country of residence, has secondary level of education, is not limited² in daily activity, does not suffer from a chronic condition and perceives his health as fair.

² The distinction between limited and strongly limited is no longer made.

Table 3: Results from logistic regression for unmet medical needs, for the four main reasons

		Probability of unmet medical needs (%) because of			
		Too expensive	Wait and see	Waiting list	No time
<i>Reference group</i>		2.28	3.13	1.21	2.57
Difference in probability with respect to the reference group (%)					
<i>Country of residence</i>	EU-25	<i>ref</i>	<i>ref</i>	<i>ref</i>	<i>ref</i>
	Belgium	-1.98	-3.03	-1.19	-2.51
	Czech Republic	-2.13	*	-0.69	0.80
	Denmark	-1.96	-3.10	*	*
	Germany	0.73	2.85	-0.40	0.40
	Estonia	-0.86	-1.60	5.79	*
	Ireland	*	-2.49	0.41	-1.99
	Greece	4.45	-2.12	*	*
	Spain	-2.27	-1.88	-1.06	-0.43
	France	-0.86	-1.57	-0.93	*
	Italy	1.26	-1.55	0.75	-0.72
	Cyprus	2.51	*	*	*
	Latvia	5.66	8.55	1.82	4.19
	Lithuania	-0.54	-0.73	3.78	-1.23
	Luxembourg	-1.95	*	*	*
	Hungary	-0.53	5.10	-0.75	3.57
	Malta	*	*	*	*
	Netherlands	-2.10	-3.05	-0.95	-2.12
	Austria	-1.70	-1.88	-1.00	-1.27
	Poland	1.52	*	2.18	4.66
	Portugal	5.42	-2.80	-0.72	*
Slovenia	-2.18	-3.01	-1.12	-2.50	
Slovakia	-1.39	-1.56	-0.71	0.77	
Finland	-1.96	-2.84	-0.90	-2.49	
Sweden	-1.39	10.79	2.40	4.54	
United Kingdom	-2.21	-2.73	0.83	-2.04	
Iceland	*	*	*	*	
Norway	-1.76	-2.92	-1.07	-2.53	
<i>Equivalised income quintile by country</i>	0-20%	2.68	*	*	*
	20-40%	1.17	*	0.13	0.28
	40-60%	<i>ref</i>	<i>ref</i>	<i>ref</i>	<i>ref</i>
	60-80%	-0.66	*	0.19	*
	80-100%	-1.53	-0.52	0.20	*
<i>Self-perceived health</i>	Very bad	2.70	-1.58	0.29	-0.69
	Bad	1.21	-0.80	0.27	*
	Fair	<i>ref</i>	<i>ref</i>	<i>ref</i>	<i>ref</i>
	Good	-1.24	-1.00	-0.53	-1.14
	Very good	-1.68	-2.00	-0.94	-1.90
<i>Activity status</i>	Employed-full	<i>ref</i>	<i>ref</i>	<i>ref</i>	<i>ref</i>
	Employed-part	0.35	-0.20	*	*
	Inactive	*	-0.66	-0.13	-1.40
	Retired	-0.67	-0.29	-0.26	-2.03
	Unemployed	2.25	-0.49	-0.50	-1.77
<i>Age group</i>	15-24	-0.49	-0.65	-0.29	-0.34
	25-34	0.47	0.21	*	*
	35-44	<i>ref</i>	<i>ref</i>	<i>ref</i>	<i>ref</i>
	45-54	-0.31	-0.52	-0.23	-0.59
	55-64	-0.55	-1.09	-0.38	-1.31
	65-74	-1.09	-1.83	-0.47	-2.05
	75+	-1.58	-1.54	-0.58	-2.23
<i>Limitation in daily activities</i>	Not limited	<i>ref</i>	<i>ref</i>	<i>ref</i>	<i>ref</i>
	Limited	0.73	0.26	0.48	*
<i>Level of education</i>	Primary	0.63	-0.29	*	-0.66
	Lower secondary	0.16	-0.51	-0.21	-0.49
	Secondary	<i>ref</i>	<i>ref</i>	<i>ref</i>	<i>ref</i>
	Post-secondary	-0.38	*	0.24	0.99
<i>Gender</i>	Male	<i>ref</i>	<i>ref</i>	<i>ref</i>	<i>ref</i>
	Female	0.49	-0.47	0.18	-0.26
<i>Suffering from a chronic condition</i>	No chronic	<i>ref</i>	<i>ref</i>	<i>ref</i>	<i>ref</i>
	Chronic	0.26	0.26	0.47	0.38

Source: Eurostat, EU-SILC 2007

How to read the table

* This category is not different from the reference group at the 5% significance level (see Methodological notes).

ref The reference level.

Reference group:

Male EU-25 citizen of age 35-44, who is in full-time employment and belongs to the 40-60% equivalised income quintile of his country of residence, has secondary level of education, is not limited in daily activity, does not suffer from a chronic condition and perceives his health as fair.

How to read:

The probability of perceiving unmet medical needs because of too expensive for a person in the reference group is 2.3%.

The other figures are the difference in probability if only one characteristic changes. For example if the person reported very bad instead of fair health, the probability would rise by 2.7% to 5.0%, keeping all other variables fixed at the reference.

This table does not contain information about people that differ in more than one characteristic from the reference.

Table 3 shows e.g. that the probability of having had unmet medical needs because of 'too expensive' for a person with these characteristics is 2.3%. If the same person perceived his health as good instead of fair, this probability would drop by 1.2% (i.e. become half as much).

The factor that is most strongly related to unmet medical needs for each reason is **country of residence**. This is reflected by the contrasts in Table 3, where the largest differences are found between the countries.

In Greece, Cyprus, Latvia and Portugal the probability of perceiving unmet medical needs because of 'too expensive' is more than twice as high compared to the EU-25. In Spain, the United Kingdom, Slovenia, Czech Republic and the Netherlands this probability becomes negligible.

For the reason 'wait and see', the probability is substantially higher in Sweden, Latvia, Hungary and Estonia than in EU-25, while in Denmark, the Netherlands, Belgium and Slovenia it is almost zero.

Waiting lists cause citizens of Estonia, Lithuania, Sweden and Poland to report unmet medical needs three times more often than the average EU-25 citizen.

In Poland, Sweden, Latvia and Hungary there seems to be the highest probability of perceiving unmet medical needs because of 'no time'.

The **equivalised income quintile by country** is only an important factor in explaining unmet medical needs because of 'too expensive'. There, the probability ranges from 5.0% in the 0-20% quintile to 0.8% in the 80-100% quintile.

People claiming to be in good or very good **health** are less likely to perceive unmet medical needs, regardless the reason.

Feeling in very bad health corresponds to a 2.7% increase in probability of reporting unmet medical needs because of 'too expensive'. For the other reasons there are no such large contrasts.

Being **unemployed** has a strong effect on the probability of having perceived unmet medical needs because of 'too expensive', it rises with 2.3% compared to a full-time employed person.

Also for the reason 'no time' activity status is an important factor. The probability for people out of the labour market is substantially lower than that for full- or part-time employed people.

The trends over the age groups have already been visualised in Figure 6.

Both being limited in daily activities and suffering from a chronic condition correspond to a modest increase in probability of reporting unmet medical needs over not being limited or not suffering from a chronic condition.

For the reason 'too expensive' **level of education** shows more or less the same trend as the equivalised income quintile by country.

The trend of an increasing probability of expressing unmet medical needs because of 'no time' with higher levels of education might be related to the high workload that often comes along with jobs that require high educational levels.

The role of **gender** in the four models can most easily be explained by the fact that women are generally more attentive to changes in their health status. This could explain that women have a smaller probability of having unmet medical needs for reasons of 'wait and see' or have 'no time'. And at the same time they seem to be confronted with waiting lists more often.

METHODOLOGICAL NOTES

Data source

The data source is the European Statistics of Income and Living Conditions (EU-SILC) survey of 2007, which contains a small module on health, including 3 questions on the general health status and 4 questions on the unmet needs of health care. The reference population is private households as well as current members over 15 years of age within the national territory at the time of the data collection.

Comparability

Some comparability issues concerning the health questions in EU-SILC 2007 should be taken into account. For all the health variables there are some countries which asked questions that do not cover all dimensions the variable should contain.

In Denmark, the question on limitation in daily activities was not asked of those who did not declare having a chronic (long-standing) illness or condition, and in, Germany, the order of the two questions was reversed.

In addition, in each country a non-negligible part of the interviews were *proxy-interviews*, i.e. interviews where the respondent has someone else answer the questions for them.

In theory the proxy respondents are not asked to answer the more subjective questions (like the health questions dealt with here). In most countries (except Finland, United Kingdom, Czech Republic and Poland), though, the proxy respondents did answer the health questions, which could also be a concern for the validity of the answer.

Country codes

EU-25: European Union, including 25 Member States: Belgium (BE), Czech Republic (CZ), Denmark (DK), Germany (DE), Estonia (EE), Ireland (IE), Greece (EL), Spain (ES), France (FR), Italy (IT), Cyprus (CY), Latvia (LV), Lithuania (LT), Luxembourg (LU), Hungary (HU), Malta (MT), Netherlands (NL), Austria (AT), Poland (PL), Portugal (PT), Slovenia (SI), Slovakia (SK), Finland (FI), Sweden (SE) and the United Kingdom (UK).

Data for Romania were not yet available at the time of processing.

Bulgaria did not participate in EU-SILC in 2007.

Iceland (IS) and Norway (NO) are also included.

Description of variable levels

The *activity status* of a respondent is defined as this person's activity during more than 6 months of the

income reference period of their country of residence. 5 categories are used: employed full-time, employed part-time, retired, unemployed and 'other inactive'.

The *level of education* is defined in accordance with the 1997 International Standard Classification of Education (ISCED-97), divided into four levels:

- Primary: ISCED levels 0-1
- Lower secondary: ISCED level 2
- (Upper) secondary: ISCED level 3
- Post-secondary: ISCED levels 4-6

The *equivalised income quintiles* are constructed by country; it is an ordered measure of the equivalised income of a respondent. If a respondent belongs to the first quintile (0-20%), this means that they are amongst the 20% of respondents of their country with the lowest equivalised income during the income reference period. The equivalised income is calculated from the household income taking into account household size and composition.

Logistic regression

In statistics, the logistic regression is a model used for describing the relationship between the occurrence of an event/characteristic/choice of individuals and other characteristics ("explanatory factors") of this individual. Consequently the probability of an event/characteristic/choice of individuals can be predicted based on these other characteristics. This predicted probability is the expected percentage of occurrence of an event/characteristic/choice of individuals when the effects of the explanatory factors are cleared out.

These are the probabilities presented in Tables 2 and 3.

The significance level is set at 5%. For variable levels assigned with a "*" in Tables 2 and 3 the dataset did not provide (enough) evidence to conclude that this level corresponds to a different effect on the occurrence of an event/characteristic/choice of individuals than the reference level.

The demographic and socio-economic variables considered in the presented logistic regression model were selected from an analysis on more demographic and socio-economic variables.

The variables household type, tenure status, marital status and degree of urbanisation were not considered here because of their strong correlation with other variables and since the probabilities of an event/characteristic/choice of individuals for the different levels of these variables did not differ substantially.

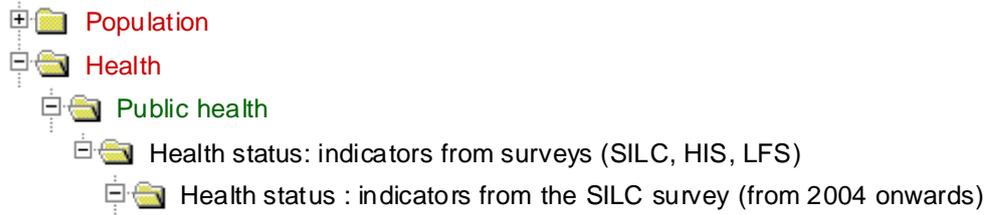
Further information

Data: [Eurostat Website: http://ec.europa.eu/eurostat](http://ec.europa.eu/eurostat)

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