European Commission

Special Eurobarometer 445

Report

Antimicrobial Resistance

Fieldwork
April 2016
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Survey requested by the European Commission,
Directorate-General for Health and Food Safety
and co-ordinated by the Directorate-General for Communication

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Special Eurobarometer 445

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(DG COMM "Strategy, Corporate Communication Actions and Eurobarometer" Unit)

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INTRODUCTION

Antimicrobial agents are synthetic or natural substances used to destroy or prevent the growth of bacteria, viruses and other micro-organisms (antibiotics are microbial agents which only react against bacteria). Since penicillin was introduced in the 1940s, antimicrobial medicines have been used for the medical treatment of humans and animals and as disinfectants and preservatives. They have played an essential role in treating infectious diseases and reducing the risk of post-surgical complications.

However, there is increasing concern that antimicrobial agents are declining in effectiveness, with the emergence and spread of microbes, which are resistant to the most affordable and effective drugs. While the emergence of resistant microorganisms is a natural biological phenomenon, it is exacerbated by the inappropriate use of antimicrobials in human and veterinary medicine and their unnecessary use in non-therapeutic situations, and also by environmental pollution involving antibiotics. The rise of resistant microbes is a threat to global public health. It is responsible for the avoidable deaths of humans and animals, increased healthcare and veterinary costs, and productivity losses.

In response, the European Union put in place an Action Plan against antimicrobial resistance for the period 2011-2016. This Action Plan is intended to prevent the spread of microbial infections, ensure the appropriate use of antimicrobials, and undertake research into effective ways to combat resistance.[1] A Progress Report on the Action Plan - published in February 2015 - shows the state of play of steps taken to address this issue.[2] An evaluation of the Action Plan was commissioned by the Directorate General for Health and Food Safety (DG SANTE) in September 2015. The evaluation, which is currently in progress, aims to analyse whether the actions set out in the Action Plan were the most appropriate actions to be taken to combat AMR and which elements worked well or not and to identify areas for further improvement and set recommendations for the future. Given the widespread persistence of misconceptions about the nature and effectiveness of antimicrobials, communication, education and training form an integral part of this strategy. Since 2008, the European Centre for Disease Prevention and Control (ECDC) has coordinated the "European Antibiotic Awareness Day" (EAAD), a European health initiative that provides a platform for and supports national campaigns to raise awareness on prudent use of antibiotics.[3]

As part of this strategy, the European Commission seeks to monitor levels of public use of and knowledge about antibiotics. The Directorate-General for Health and Consumers commissioned an EU wide survey in late 2009, published in April 2010 as Special Eurobarometer 338.[4] A second survey was carried out in May-June 2013 (Special Eurobarometer 407, published November 2013).[5] The current survey tracks progress on public use of and knowledge about antibiotics, and also introduces some new topics. The report addresses the following objectives:

- identify the use of antibiotics among the EU public: whether they have taken antibiotics in the last year, how they obtained them, and for what reason they took them;
- measure the levels of public knowledge about the nature and effectiveness of antibiotics and the risks associated with their unnecessary use;

[1] Communication from the Commission to the European Parliament and the Council, Action plan against the rising threats from Antimicrobial Resistance, COM (2011) 748, November 15, 2011 (http://ec.europa.eu/dgs/health_food-safety/docs/communication_amr_2011_748_en.pdf)

[2] Commission Staff Working Document: Progress report on the Action plan against the rising threats from Antimicrobial Resistance (2015), 11 March 2015 (http://ec.europa.eu/health/antimicrobial_resistance/docs/2015_amr_progress_report_en.pdf)

[3] European Centre for Disease Prevention and Control, "European Antibiotic Awareness Day" (http://ecdc.europa.eu/en/EAAD/Pages/Home.aspx)

[4] http://ec.europa.eu/public_opinion/archives/ebs/ebs_338_en.pdf

[5] http://ec.europa.eu/health/antimicrobial_resistance/docs/ebs_407_en.pdf

- determine the impact of the information Europeans have received, as well as their knowledge and attitudes;
- obtain perceptions of the most appropriate policy response to antibiotic resistance;
- assess knowledge of and attitudes towards the use of antibiotics in agriculture and the environment.

This survey was carried out by TNS Opinion & Social network in the 28 Member States of the European Union between the 9th and 18th April 2016. Some 27,969 respondents from different social and demographic groups were interviewed face-to-face at home in their mother tongue on behalf of Directorate-General for Health and Food Safety. The methodology used is that of Eurobarometer surveys as carried out by the Directorate-General for Communication ("Strategy, Corporate Communication Actions and Eurobarometer" Unit).

Note: In this report, countries are referred to by their official abbreviation. The abbreviations used in this report correspond to:

Belgium	BE	Latvia	LV
Bulgaria	BG	Luxembourg	LU
Czech Republic	CZ	Hungary	HU
Denmark	DK	Malta	MT
Germany	DE	The Netherlands	NL
Estonia	EE	Austria	AT
Greece	EL	Poland	PL
Spain	ES	Portugal	PT
France	FR	Romania	RO
Croatia	HR	Slovenia	SI
Ireland	IE	Slovakia	SK
Italy	IT	Finland	FI
Republic of Cyprus	CY *	Sweden	SE
Lithuania	LT	United Kingdom	UK

European Union – weighted average for the 28 Member States	EU28
BE, IT, FR, DE, LU, NL, DK, UK, IE, PT, ES, EL, AT, SE, FI	EU15 ***
BG, CZ, EE, HR, CY, LT, LV, MT, HU, PL, RO, SI, SK**	NMS13 ****
BE, FR, IT, LU, DE, AT, ES, PT, IE, NL, FI, EL, EE, SI, CY, MT, SK, LV, LT	Euro area
BG, CZ, DK, HR, HU, PL, RO, SE, UK	Non euro area

* Cyprus as a whole is one of the 28 European Union Member States. However, the 'acquis communautaire' has been suspended in the part of the country which is not controlled by the government of the Republic of Cyprus. For practical reasons, only the interviews carried out in the part of the country controlled by the government of the Republic of Cyprus are included in the 'CY' category and in the EU28 average.

** Provisional abbreviation which in no way prejudges the definitive name of this country, which will be agreed once the current negotiations at the United Nations have been completed

*** EU15 refers to the 15 countries forming the European Union before the enlargements of 2004 and 2007.

**** The NMS13 are the 13 'new Member States' which joined the European Union during the 2004, 2007 and 2013 enlargements.

We wish to thank the people throughout the European Union who have given their time to take part in this survey. Without their active participation, this study would not have been possible.

KEY FINDINGS

A third of Europeans have taken antibiotics in the last year

- Around a third (34%) of respondents say that they have taken antibiotics in oral form at any time in the last 12 months, very similar to the figure obtained in the last survey in 2013 (35%).
- Usage varies by country: it is highest in Malta (48%) and Spain (47%), and lowest in Sweden (18%) and the Netherlands (20%).
- Women are more likely than men to take antibiotics, and use is higher among those with low levels of education and those who have more difficulties paying bills.
- The vast majority of Europeans obtain antibiotics from their health care provider.
- Bronchitis, flu and a sore throat are the most commonly cited reasons for taking antibiotics.

Knowledge of antibiotics has remained constant since 2013

- Only around a quarter (24%) of Europeans give the correct answer to four questions about antibiotics, and the European average of correct answers is 2.5 out of 4. These figures are similar to those recorded in 2013.
- Most Europeans (84%) are aware that unnecessary use of antibiotics makes them become ineffective, and a similar proportion (82%) know that you should only stop taking antibiotics after taking all of the prescribed dose as directed.
- However, less than half (43%) of Europeans know that antibiotics are ineffective against viruses, and just over half (56%) know that they are ineffective against colds and flu.

A third of Europeans receive information about right use of antibiotics

- Only a third (33%) of respondents recall receiving information about not taking antibiotics unnecessarily in the last 12 months, the same proportion as in 2013.
- This proportion ranges from 68% in Finland to 15% in Italy.
- Respondents are most likely to say that they received the information from a doctor (32%), a television advertisement (27%) or the television news (26%).
- Around a third (34%) of those respondents who received information about the misuse of antibiotics say that the information changed their views on antibiotics, slightly lower than in the 2013 survey (36%).
- Most (67%) of the respondents whose views were changed by information on antibiotics say that, as a result, they will always consult a doctor about the need to take antibiotics.
- Europeans express interest in receiving (more) information on a range of topics, such as information on the medical conditions for which antibiotics are used, how to use antibiotics, antimicrobial resistance, and the links between the health of humans, animals and the environment.
- Respondents see doctors (84%) as the most trustworthy source of information on antibiotics.

Europeans support action at all levels to tackle antibiotic resistance

- Europeans are aware that action is needed at all levels, with 35% in favour of action at global and EU level. 28% think that action should be taken at national/regional level, whereas 19% consider it should be tackled at the invididual level or within the family.

Just over a third are aware of the EU ban on the use of antibiotics on farm animals

- More than half of Europeans (56%) agree that sick animals should be treated with antibiotics if this is the most appropriate treatment, while a third (34%) disagrees.
- Just over a third of Europeans (37%) say that they were aware that the use of antibiotics to stimulate growth in farm animals is banned in the EU.

I. USE OF ANTIBIOTICS

The first set of questions deals with respondents' use of antibiotics, asking whether they have used them in the last year, how they obtained them, and the reason for which they took them.

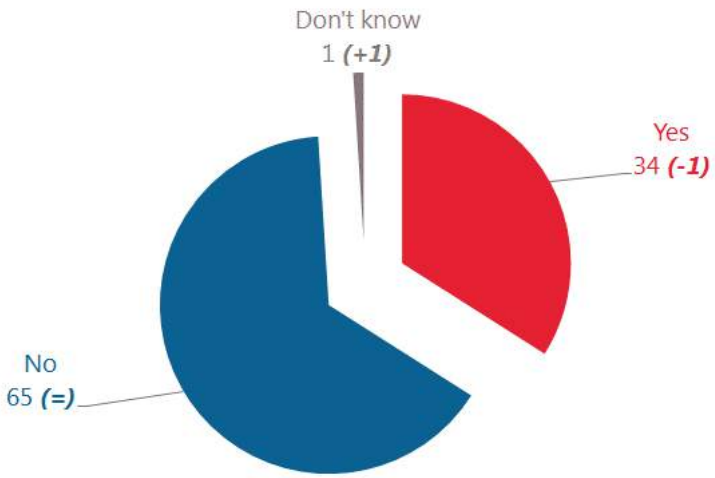
1 Antibiotics use during the last year

-A third of Europeans have taken antibiotics-

Firstly, respondents were asked whether they have taken antibiotics in oral form at any time in the last 12 months.[6]

Around one third (34%) of respondents say that they have taken antibiotics during the last year. This is very similar to the figure that was obtained in the 2013 Eurobarometer survey, when 35% said they had taken antibiotics.

QB1 Have you taken any antibiotics orally such as tablets, powder or syrup in the last 12 months?
(% - EU)

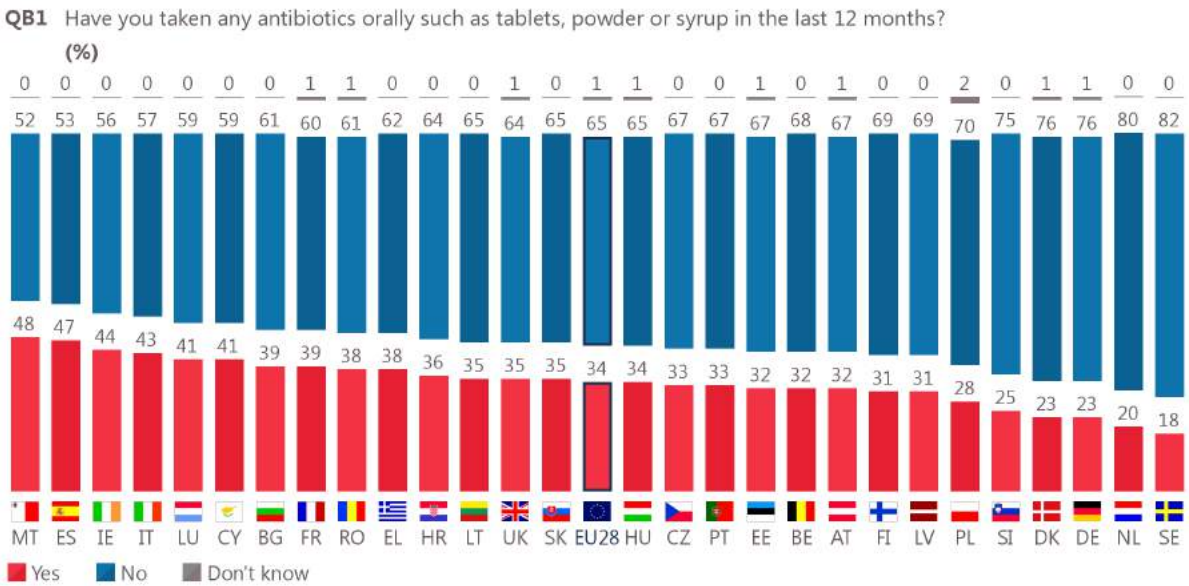


(April 2016 - May-June 2013)

Total base (N=27,969)

There is substantial variation between Member States, as was the case in the 2013 survey. In all countries, fewer than half of the respondents say that they have taken antibiotics. However, while nearly half of those polled in Malta (48%) and Spain (47%) answer positively, less than a quarter of those polled in Sweden (18%), the Netherlands (20%), Germany (23%) and Denmark (23%) have taken antibiotics in the course of the last year.

[6] QB1. Have you taken any antibiotics orally such as tablets, powder or syrup in the last 12 months? ONE ANSWER ONLY. "Yes", "No", 'DK'.



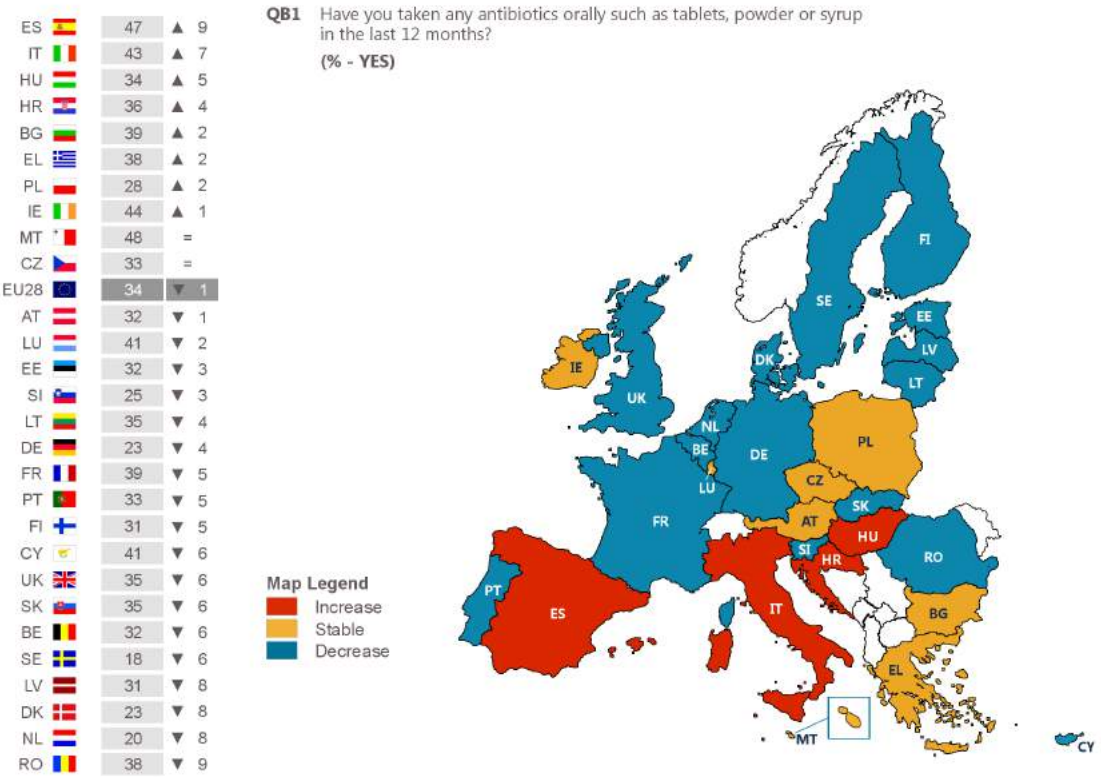
Total base (N=27,969)

There have been some changes at the country level since the 2013 survey, although in general the level of change is less pronounced than in the previous survey (which measured change between 2009 and 2013). Overall, countries are more likely to show a decrease since 2013 than an increase: in 16 countries there has been a decrease, in 4 an increase, while findings have remained stable in 8 countries[7].

In Spain, the proportion of those taking antibiotics has increased by 9 percentage points since 2013. The next biggest increase is found in Italy (+7). The largest decreases are found in Romania (-9), Latvia, Denmark and the Netherlands (all -8).

[7] In this question and throughout the survey, change is considered to be 'stable' where there has been a change of no more than 2 percentage points since 2013.

Trend since 2013: Proportion of respondents who have taken antibiotics in the last 12 months



Total base (N=27,969)

There are some noteworthy differences between **socio-economic groups** of respondents:

- Women (37%) are more likely than men (31%) to have taken antibiotics in the last year. This difference is similar to that observed in 2013.
- Education also influences the likelihood of taking antibiotics. Respondents whose education ended at or before the age of 15 are more likely to have taken antibiotics than those who finished their education at 16 or older (39% compared with 32-33%).
- Related to this, respondents who are not working are more likely to have used antibiotics, specifically housepersons (41%), unemployed respondents (38%) and students (37%).
- In terms of household type, single adults living with children are more likely than those in other types of households to have used antibiotics (38% compared with 33-35%).
- Those who have more difficulties paying bills are more likely to have used antibiotics. More than two fifths (44%) of respondents who have difficulty paying their bills 'most of the time' have used them, compared with less than a third of those who 'almost never' have trouble paying bills (31%).

- The use of antibiotics appears to decrease as knowledge increases: those who answered all four questions about antibiotics correctly are less likely to have used them than those who got one answer correct or none at all (31% compared with 40% and 35% respectively). It is striking that two fifths (40%) of those who say they received information on the misuse of antibiotics nevertheless take them, compared with a third (32%) of those who say they did not receive this information. This runs counter to the expectation that levels of antibiotic use should be lower among those Europeans who had received information about their misuse.

QB1 Have you taken any antibiotics orally such as tablets, powder or syrup in the last 12 months?
(% - EU)

	Yes	No	Don't know
EU28	34	65	1
Gender			
Man	31	68	1
Woman	37	63	0
Education (End of)			
15-	39	61	0
16-19	33	66	1
20+	32	67	1
Still studying	37	63	0
Socio-professional category			
Self-employed	31	69	0
Managers	30	70	0
Other white collars	35	64	1
Manual workers	32	67	1
House persons	41	59	0
Unemployed	38	62	0
Retired	35	64	1
Students	37	63	0
Household situation			
Single Household without children	34	65	1
Single Household with children	38	62	0
Multiple Household without children	33	67	0
Household with children	35	64	1
Difficulties paying bills			
Most of the time	44	56	0
From time to time	39	61	0
Almost never/ Never	31	69	0
Knowledge about antibiotics			
4 correct answers	31	69	0
3 correct answers	33	67	0
2 correct answers	35	64	1
1 correct answer	40	59	1
0 correct answers	35	63	2
Received information about antibiotics			
Yes	40	60	0
No	32	68	0

Total base (N=27,969)

2 Ways of obtaining antibiotics

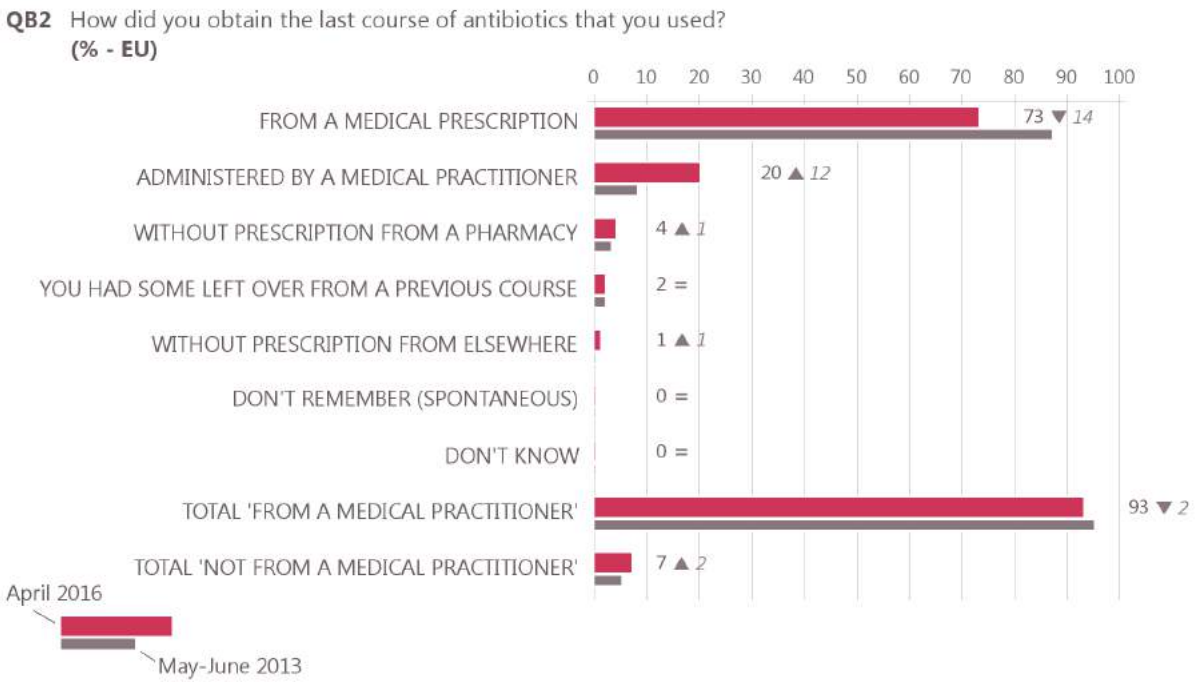
-The vast majority of Europeans obtain antibiotics from their health care provider-

To establish the most common sources of antibiotics used by European citizens, the survey asked how respondents obtained the last course of antibiotics they used.[8] It is important to identify how Europeans obtain antibiotics, as the Community strategy on the prudent use of antimicrobials emphasises the need for Member States to ensure that systemic antibacterial agents, such as antibiotics, be limited to prescription-only use.[9]

Almost all respondents (93%) say that they obtained their last course of antibiotics from their health care provider. By far the most common source of antibiotics was a medical prescription (73%), but a further 20% received antibiotics directly from a medical practitioner. Notably, there is a persistent minority who still consume antibiotics without a prescription (4%) or use those left over from a previous course (2%).

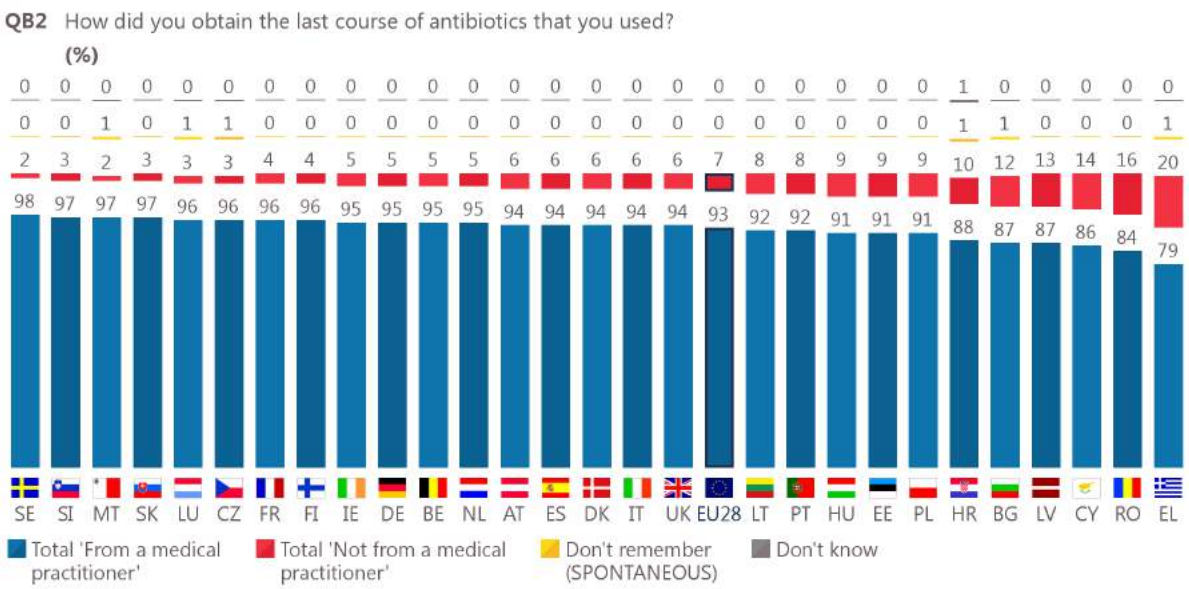
There have been some changes since the 2013 survey, with respondents now less likely to say that they obtained antibiotics from a medical prescription (-14 percentage points) and more likely to say they obtained them directly from a medical practitioner (+12). These changes are likely to relate to a slight change in the way the question was asked. In the 2016 survey, the order of the first four response options was rotated, whereas in 2013 the order was kept constant. This is likely to have affected the proportions giving individual answers. When examining changes since 2013, the analysis therefore focuses on change for combined responses, based on two groupings: 'from a medical practitioner' (either 'from a medical prescription' or 'administered by a medical practitioner') and 'not from a medical practitioner' (all other sources). This analysis shows a slight decrease in the proportion saying they obtained antibiotics from a medical practitioner (-2 percentage points) and a corresponding increase (+2 percentage points) in the proportion saying they obtained them in other ways.

[8] QB2 How did you obtain the last course of antibiotics that you used? ONE ANSWER ONLY. "From a medical prescription", "Administered by a medical practitioner", "You had some left over from a previous course", "Without prescription from a pharmacy", "Without prescription from elsewhere", "Don't remember (SPONTANEOUS)", "Don't know".
The results for the answers "From a medical prescription" and "Administered by a medical practitioner" are regrouped into the answer "Total from a medical practitioner"; the results for the answers "You had some left over from a previous course", "Without prescription from a pharmacy" and "Without prescription from elsewhere" are regrouped into the answer "Total not from a medical practitioner".
[9] Council Recommendation of 15 November 2001 on the prudent use of antimicrobial agents in human medicine, (2002/77/EC), http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2002:034:0013:0016:EN:PDF.



Base: Respondents who have taken antibiotics (N=9,582)

In all countries, a substantial majority of respondents say they obtained antibiotics from a medical practitioner. The lowest levels are found in Greece (79%), Romania (84%), Cyprus (86%), Latvia (87%), Bulgaria (87%) and Croatia (88%). In all other countries, more than nine in ten of those polled say they obtained antibiotics in this way, with the highest proportion found in Sweden (98%).



Base: Respondents who have taken antibiotics (N=9,582)

In most countries findings have remained stable since 2013, in terms of the proportion that obtained antibiotics from a medical practitioner. Just three countries show an increase: Ireland (+4 percentage points), Romania (+4) and Belgium (+3) [10].

In eight countries the proportion has decreased. The largest decreases are found in Poland (-7 percentage points), Croatia (-6) and Latvia (-5).

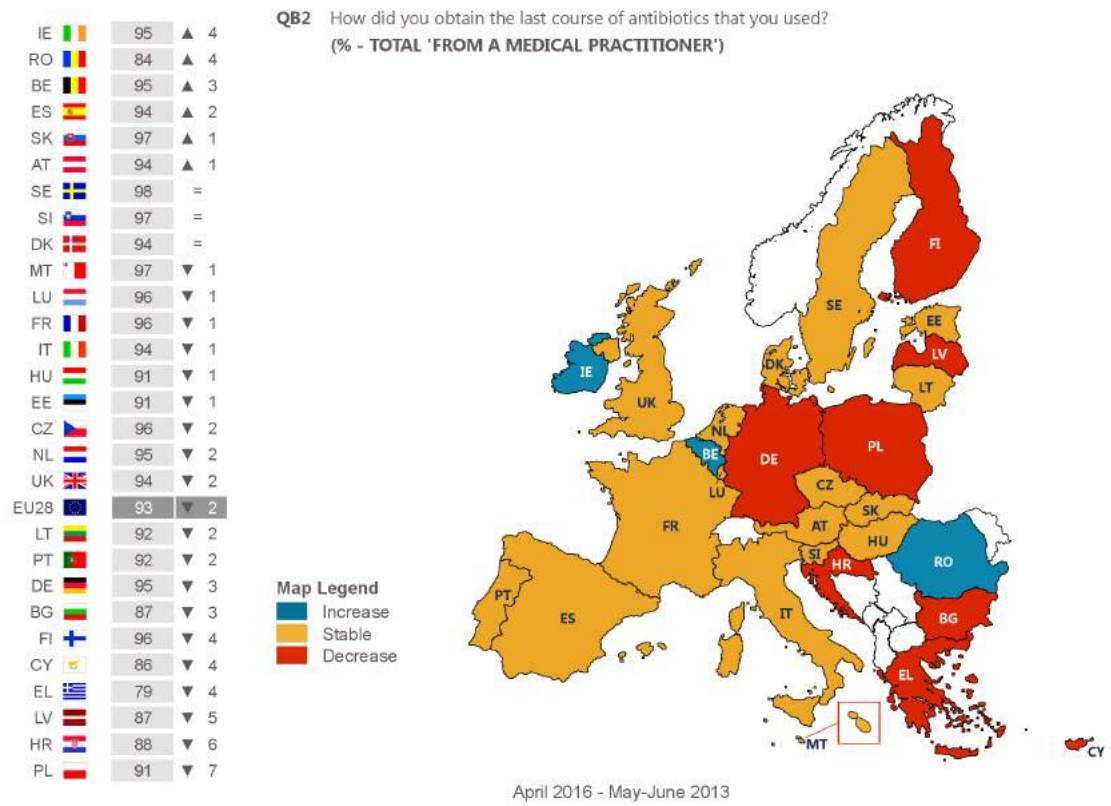
QB2 How did you obtain the last course of antibiotics that you used?
(%)

	Total 'From a medical practitioner'	Apr. 2016 - May-June 2013	Total 'Not from a medical practitioner'	Apr. 2016 - May-June 2013	Don't remember (SPONTANEOUS)	Don't know
EU28	93	▼ 2	7	▲ 2	0	0
IE	95	▲ 4	5	▼ 4	0	0
RO	84	▲ 4	16	▼ 4	0	0
BE	95	▲ 3	5	▼ 1	0	0
ES	94	▲ 2	6	▼ 2	0	0
SK	97	▲ 1	3	▼ 1	0	0
AT	94	▲ 1	6	▼ 1	0	0
SE	98	=	2	=	0	0
SI	97	=	3	=	0	0
DK	94	=	6	=	0	0
MT	97	▼ 1	2	=	1	0
FR	96	▼ 1	4	▲ 2	0	0
LU	96	▼ 1	3	=	1	0
IT	94	▼ 1	6	▲ 1	0	0
EE	91	▼ 1	9	▲ 2	0	0
HU	91	▼ 1	9	▲ 1	0	0
CZ	96	▼ 2	3	▲ 1	1	0
NL	95	▼ 2	5	▲ 2	0	0
UK	94	▼ 2	6	▲ 2	0	0
LT	92	▼ 2	8	▲ 2	0	0
PT	92	▼ 2	8	▲ 3	0	0
DE	95	▼ 3	5	▲ 4	0	0
BG	87	▼ 3	12	▲ 5	1	0
FI	96	▼ 4	4	▲ 4	0	0
CY	86	▼ 4	14	▲ 4	0	0
EL	79	▼ 4	20	▲ 4	1	0
LV	87	▼ 5	13	▲ 6	0	0
HR	88	▼ 6	10	▲ 4	1	1
PL	91	▼ 7	9	▲ 7	0	0

Base: Respondents who have taken antibiotics (N=9,582)

[10] In this question and throughout the survey, change is considered to be 'stable' where there has been a change of no more than 2 percentage points since 2013.

Trend since 2013: Proportion of respondents who obtained their antibiotics from a medical practitioner



Base: Respondents who have taken antibiotics (N=9,582)

There are differences between **socio-demographic groups** on this question, specifically by gender and age. Women are more likely than men to have obtained their last course of antibiotics from a medical practitioner (95% compared with 90%), and older people are more likely than younger people to have obtained antibiotics in this way (96% of those aged 55 or over, falling to 87% of those aged 15-24).

Those with a good knowledge of antibiotics are slightly more likely to have obtained their last course of antibiotics from a medical practitioner (96% of those who answered at last three out of four questions correctly, compared with 89-91% of those who answered not more than two questions correctly).

QB2 How did you obtain the last course of antibiotics that you used?

(% - EU)

	Total 'From a medic practitioner
EU28	93
Gender	
Man	90
Woman	95
Age	
15-24	87
25-39	91
40-54	93
55 +	96
Knowledge about antibiotics	
4 correct answers	96
3 correct answers	96
2 correct answers	91
1 correct answer	89
0 correct answers	89

Base: Respondents who have taken antibiotics (N=9,582)

3 Reasons for taking antibiotics

-Bronchitis, flu and a sore throat are the most common reasons for taking antibiotics-

Respondents who said they had taken antibiotics in the last year were asked for which reasons they had taken them. The interviewer presented respondents with a card on which a variety of illnesses and symptoms were printed, some of which antibiotics treat effectively (e.g. pneumonia) and some of which antibiotics are ineffective at treating (e.g. cold, flu).[11] This question allows us to determine the extent to which Europeans use antibiotics appropriately[12].

The most common responses among the listed options are bronchitis (18%, no change since 2013), flu (16%, down from 18% in 2013) and a sore throat (14%, up from 11% in 2013). There was also an increase in the proportion of respondents saying they took antibiotics for a fever (11%, compared with 7% in 2009).

The most common answer is non-specific, with over a fifth (23%, +2 percentage points since 2013) of those polled saying that they took antibiotics for reasons other than the list of options given to them.

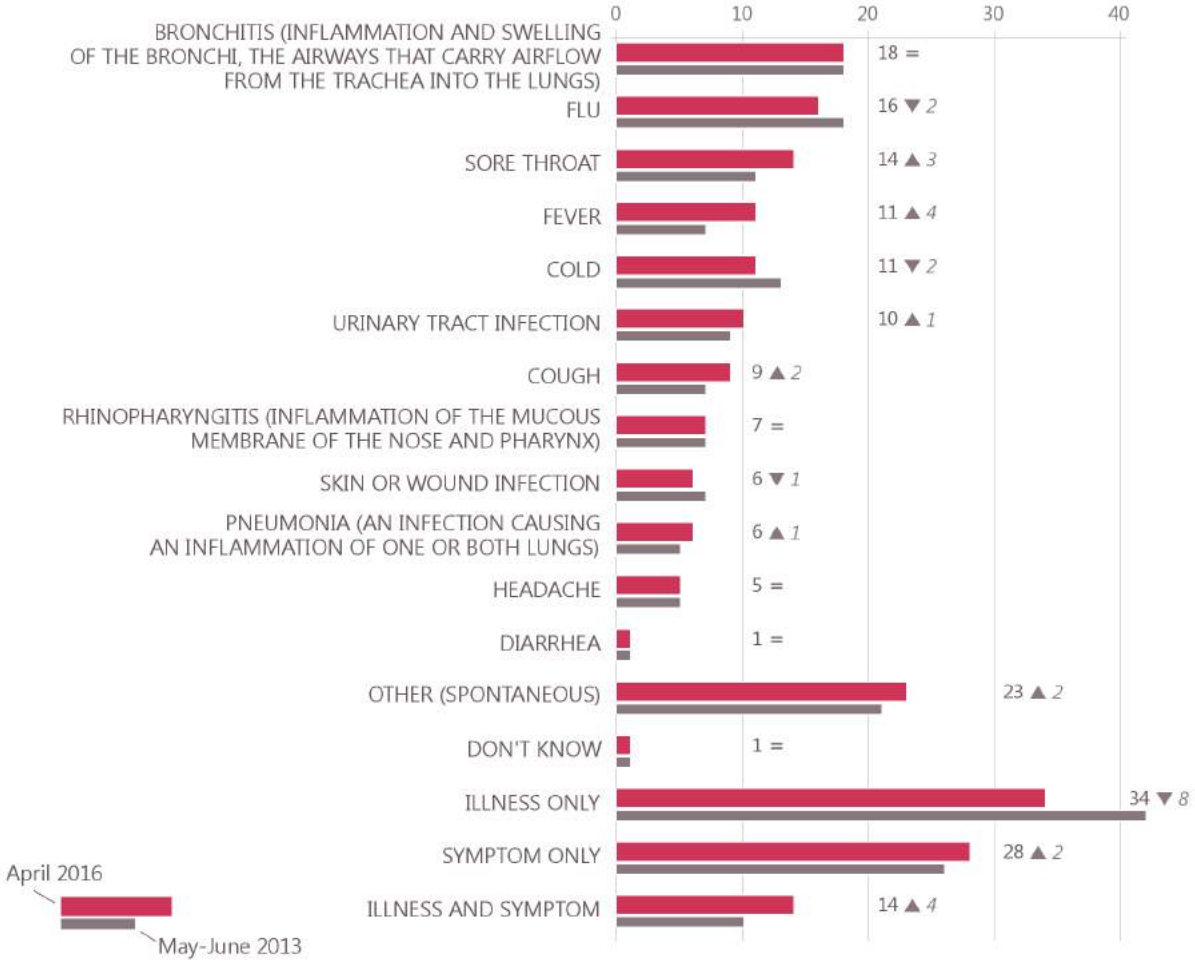
Overall, one in seven (14%, +4 percentage points since 2013) of those taking antibiotics do so to treat both illnesses and symptoms, while one in three respondents (34%, -8) take them to treat illness alone, and more than one in four (28%, +2) to treat symptoms alone.[13].

[11] QB3 What was the reason for last taking antibiotics that you used? MULTIPLE ANSWERS POSSIBLE. "Pneumonia (an infection causing an inflammation of one or both lungs)", "Bronchitis (inflammation and swelling of the bronchi, the airways that carry airflow from the trachea into the lungs)", "Rhinopharyngitis (inflammation of the mucous membrane of the nose and pharynx)", "Flu", "Cold", "Sore throat", "Cough", "Fever", "Headache", "Diarrhea", "Urinary tract infection", "Skin or wound infection", "Other (SPONTANEOUS)", "Don't know".

[12] Antibiotics are ineffective against colds and flu, which are caused by viruses. Most sore throats and bronchial infections are caused by viruses and should not be treated with antibiotics, but in some cases bacteria can be the cause of these illnesses, and then antibiotics are appropriate.

[13] The results for the answers "Pneumonia (an infection causing an inflammation of one or both lungs)", "Bronchitis (inflammation and swelling of the bronchi, the airways that carry airflow from the trachea into the lungs)", "Rhinopharyngitis (inflammation of the mucous membrane of the nose and pharynx)", "Flu" and "Cold" are regrouped into the answer "Illness only". The results for the answers "Sore throat", "Cough", "Fever", "Headache", "Diarrhea", "Urinary tract infection" and "Skin or wound infection" are regrouped into the answer "Symptom only". Any combination of answers containing at least one answer used in the regrouping "Illness only" and at least one answer used in the regrouping "Symptom only" is regrouped into the answer "Illness and symptom".

QB3 What was the reason for last taking the antibiotics that you used? (MULTIPLE ANSWERS POSSIBLE) **(% - EU)**



Base: Respondents who have taken antibiotics (N=9,582)

There are clear differences between respondents in different Member States on the question as to the reason for their last course of antibiotics.

- At least a quarter of those polled in Italy (27%) and Slovakia (26%) say they took antibiotics to treat bronchitis. However, only a small minority give this answer in Denmark (3%) and Sweden (5%).
- In Bulgaria, almost a third (31%) of respondents say they take antibiotics to combat flu, with a large proportion of respondents in Greece (28%) saying the same. At the other extreme, only 1% of respondents in Sweden take antibiotics in these circumstances, as do 3% of those polled in Denmark and 4% in the Netherlands.
- On the question of whether respondents used antibiotics to treat a sore throat, the highest proportions are found in Croatia (27%), Hungary (25%) and Bulgaria (23%). The smallest proportions giving this answer are found in the Netherlands (1%), Romania (5%) and Finland (5%).
- Respondents in Bulgaria are the most likely to say they take antibiotics to treat a fever (28%), followed by those in Italy (25%) and Greece (21%). The lowest proportions are found in the Netherlands (1%), Sweden (2%) and the UK (2%).
- Around a quarter of respondents in Greece (26%) say they used antibiotics to treat a cold, with high proportions also found in Bulgaria (24%), Latvia (23%) and Romania (22%). Respondents in Sweden and Finland (both 1%) are the least likely to say this.

- Relatively large proportions of respondents say they take antibiotics to treat a urinary tract infection in the Czech Republic, Croatia and the Netherlands (all 17%).
- More than a quarter (27%) of respondents in Bulgaria say they took antibiotics for a cough.
- Respondents in Finland (17%) are the most likely to take antibiotics for rhinopharyngitis, while those in Sweden (20%) are the most likely to take antibiotics for a skin or wound infection. A quarter (25%) of respondents in Denmark say they last took antibiotics for pneumonia, much higher than for any other country,

Overall, one in seven (14%) respondents across the EU take antibiotics to treat both illnesses and symptoms. This is much higher in Bulgaria (36%) than in other countries, with the lowest proportions found in the UK (2%) and Sweden (3%). Respondents in Poland (49%), Lithuania (44%), Belgium (43%) and Romania (43%) are the most likely to take antibiotics for illness only, while those in Sweden (44%), Croatia (42%) and the UK (40%) are most likely to take antibiotics for symptoms only.

QB3 What was the reason for last taking the antibiotics that you used? (MULTIPLE ANSWERS POSSIBLE) **(%)**

	Bronchitis (...)	Flu	Sore throat	Fever	Cold	Urinary tract infection	Cough	Rhinopharyngitis (...)	Skin or wound infection	Pneumonia (...)	Headache	Diarrhea	Other (SPONTANEOUS)	Don't know	Illness only	Symptom only	Illness and symptom
EU28	18	16	14	11	11	10	9	7	6	6	5	1	23	1	34	28	14
BE	**21**	11	7	6	7	7	5	13	12	5	4	*2*	21	0	43	29	7
BG	25	**31**	23	28	24	5	27	6	2	11	8	*1*	9	0	41	15	36
CZ	**20**	8	**20**	9	10	17	12	10	6	7	4	*1*	15	1	32	38	14
DK	3	3	13	6	2	11	5	9	13	**25**	1	*0*	28	0	33	33	7
DE	**19**	18	10	10	15	13	9	5	7	7	3	*1*	24	1	36	26	13
EE	11	8	**13**	6	**13**	7	12	8	4	8	6	*1*	37	0	26	27	10
IE	16	**22**	16	8	5	7	10	4	8	2	5	*1*	22	0	34	32	12
EL	12	**28**	11	21	**26**	5	16	7	*3*	6	**9**	*3*	20	0	40	16	24
ES	12	**17**	16	10	15	6	4	5	3	3	6	*1*	35	0	34	20	12
FR	**19**	18	11	5	6	8	8	8	6	3	5	*2*	28	1	37	25	9
HR	12	13	**27**	*2*	14	**17**	9	7	6	5	6	3	16	2	24	42	17
IT	**27**	20	21	25	6	13	16	10	*2*	4	4	*2*	10	0	29	33	27
CY	8	**23**	8	5	16	7	5	7	5	5	*3*	*3*	28	0	41	20	11
LV	11	14	15	3	**23**	3	8	4	5	5	5	*1*	28	0	42	21	10
LT	**22**	16	12	13	17	4	9	4	4	6	7	*2*	21	1	44	22	12
LU	**20**	13	7	6	11	10	6	5	7	7	*3*	5	26	0	39	26	9
HU	12	20	**25**	17	16	9	15	6	*4*	12	**9**	*4*	14	1	31	31	23
MT	11	18	**22**	11	11	5	11	6	7	2	7	*1*	27	0	27	32	14
NL	6	4	*1*	*1*	2	**17**	5	10	13	9	3	*1*	39	0	23	33	5
AT	**23**	18	11	16	8	16	9	8	9	10	5	*1*	16	0	36	28	20
PL	**24**	21	16	14	19	6	8	5	3	9	7	*1*	13	0	49	19	18
PT	7	**22**	9	3	8	11	3	5	9	7	*2*	*2*	30	1	38	25	6
RO	16	15	5	9	**22**	6	8	7	5	8	7	*1*	30	0	43	13	15
SI	13	8	**14**	11	9	10	9	8	8	9	6	*0*	26	1	27	34	11
SK	**26**	14	20	16	2	9	12	8	4	5	6	*1*	16	0	35	32	17
FI	16	10	5	4	*1*	9	5	**17**	13	5	2	*1*	22	0	41	32	5
SE	5	1	9	2	1	14	4	12	**20**	11	*0*	2	29	0	24	44	3
UK	**12**	6	11	2	6	**12**	6	1	10	5	3	*0*	30	2	25	40	2

Highest percentage per country *Lowest percentage per country*

Highest percentage per item | Lowest percentage per item

Base: Respondents who have taken antibiotics (N=9,582)

At the overall EU level, there have been only small changes since 2013 in the proportions taking antibiotics for different reasons. However, there have been some large changes at the country level.

- The proportion saying they take antibiotics for bronchitis has fallen the most in the Czech Republic (-14 percentage points) and Austria (-11).
- The biggest increase since 2013 in the proportion using antibiotics against flu is found in Greece (+6 percentage points). Large decreases are found in Malta (-12 percentage points), Luxembourg, Austria and Romania (all -11).
- In most countries, there have been only small changes in the proportions using antibiotics for a sore throat. The largest increases are found in the Czech Republic (+8 percentage points) and Poland (+7), while the largest decreases are found in Slovenia (-9 percentage points) and Malta (-8).
- The proportions using antibiotics for a fever have increased the most in Italy (+14 percentage points) and Bulgaria (+12), while the largest decrease is found in Slovakia (-7 percentage points).
- There have been large decreases in the proportions saying they take antibiotics for a cold in Austria (-16 percentage points) and Romania (-13), whereas the largest increase is found in the Czech Republic (+5 percentage points).

QB3 What was the reason for last taking the antibiotics that you used? (MULTIPLE ANSWERS POSSIBLE)

(%)

	Bronchitis (...)	Apr. 2016 - May-June 2013	Flu	Apr. 2016 - May-June 2013	Sore throat	Apr. 2016 - May-June 2013	Fever	Apr. 2016 - May-June 2013	Cold	Apr. 2016 - May-June 2013
EU28	18	=	16	▼ 2	14	▲ 3	11	▲ 4	11	▼ 2
BE	21	▼ 3	11	▼ 6	7	▼ 3	6	▲ 2	7	▼ 2
BG	25	▲ 4	31	▼ 3	23	▲ 6	28	▲ 12	24	▲ 1
CZ	20	▼ 14	8	▼ 8	20	▲ 8	9	▼ 1	10	▲ 5
DK	3	▼ 3	3	▼ 5	13	▲ 4	6	▲ 5	2	▼ 1
DE	19	▼ 2	18	▲ 1	10	▲ 3	10	▲ 3	15	▼ 2
EE	11	▼ 2	8	▼ 6	13	▲ 4	6	=	13	▼ 3
IE	16	=	22	▲ 2	16	=	8	▲ 5	5	▼ 7
EL	12	▲ 4	28	▲ 6	11	▼ 3	21	▲ 9	26	▲ 3
ES	12	▲ 4	17	▼ 3	16	▲ 3	10	▲ 3	15	▼ 2
FR	19	=	18	▲ 2	11	=	5	▼ 2	6	▼ 4
HR	12	▼ 3	13	▲ 2	27	▼ 3	2	▲ 1	14	▼ 1
IT	27	▼ 3	20	▲ 3	21	▲ 5	25	▲ 14	6	▲ 2
CY	8	=	23	▼ 8	8	▼ 1	5	▼ 2	16	▼ 8
LV	11	▼ 1	14	▼ 4	15	▲ 4	3	▼ 1	23	▼ 3
LT	22	=	16	▼ 5	12	▼ 1	13	▲ 5	17	▼ 2
LU	20	▲ 3	13	▼ 11	7	▲ 1	6	▼ 1	11	▲ 3
HU	12	▼ 2	20	▼ 4	25	▼ 2	17	▲ 1	16	▼ 3
MT	11	▲ 2	18	▼ 12	22	▼ 8	11	=	11	=
NL	6	▼ 3	4	▼ 2	1	▼ 5	1	=	2	▼ 2
AT	23	▼ 11	18	▼ 11	11	=	16	▼ 3	8	▼ 16
PL	24	▲ 2	21	▼ 1	16	▲ 7	14	▲ 7	19	▲ 1
PT	7	▼ 2	22	=	9	▼ 6	3	▼ 3	8	▼ 3
RO	16	▲ 4	15	▼ 11	5	▼ 1	9	=	22	▼ 13
SI	13	▲ 2	8	▼ 2	14	▼ 9	11	▲ 3	9	▲ 2
SK	26	▼ 6	14	▼ 6	20	▼ 5	16	▼ 7	2	▼ 3
FI	16	▼ 4	10	▲ 3	5	▼ 2	4	▲ 1	1	▼ 3
SE	5	▲ 1	1	▼ 5	9	=	2	=	1	▼ 2
UK	12	=	6	▼ 7	11	▲ 3	2	▼ 1	6	▼ 1

Top 5 answers

Base: Respondents who have taken antibiotics (N=9,582)

There are a number of clear differences between **socio-demographic groups** concerning the likelihood of taking antibiotics to treat the five most common illnesses and symptoms:

- Findings are similar between men and women, although women are slightly more likely than men to use antibiotics for symptoms only (29% compared with 25%).

- Older respondents are more likely than younger respondents to take antibiotics for bronchitis (22% of those aged 55 or over, falling to 12% of those aged 15-24). For other illnesses, however, older respondents are slightly less likely to take antibiotics; for example, 10% of those aged 55 or over take antibiotics for a sore throat, compared with 14-17% in younger age groups.
- As in previous surveys, objective knowledge of antibiotics mostly leads respondents to take antibiotics in ways consistent with that knowledge. The proportion that uses antibiotics for flu ranges from 6% among those who answered all four questions correctly, to 24% among those who got no correct answers. Similarly, the proportions using antibiotics for a cold range from 3% to 20%, and from 12% to 21% for those using antibiotics for a sore throat.

QB3 What was the reason for last taking the antibiotics that you used? (MULTIPLE ANSWERS POSSIBLE)
(% - EU)

	Bronchitis (inflammation and swelling of the bronchi, the airways that carry airflow from the trachea into the lungs)	Flu	Sore throat	Fever	Cold	Illness only	Symptom only	Illness and symptom
EU28	18	16	14	11	11	34	28	14
Gender								
Man	16	18	13	12	12	35	25	14
Woman	19	15	15	10	10	34	29	14
Age								
15-24	12	19	16	13	14	33	34	12
25-39	15	17	17	11	12	35	30	14
40-54	17	15	14	11	10	33	26	14
55 +	22	15	10	10	9	35	25	14
Knowledge about antibiotics								
4 correct answers	19	6	12	4	3	32	30	7
3 correct answers	19	11	11	7	7	37	28	8
2 correct answers	15	23	15	15	15	35	26	19
1 correct answer	17	22	16	16	15	33	28	19
0 correct answers	21	24	21	20	20	33	22	26

II. KNOWLEDGE OF ANTIBIOTICS

The second set of questions concern objective knowledge of antibiotics. Respondents were asked if each of four statements about antibiotics was 'true' or 'false'. The statements are as follows:

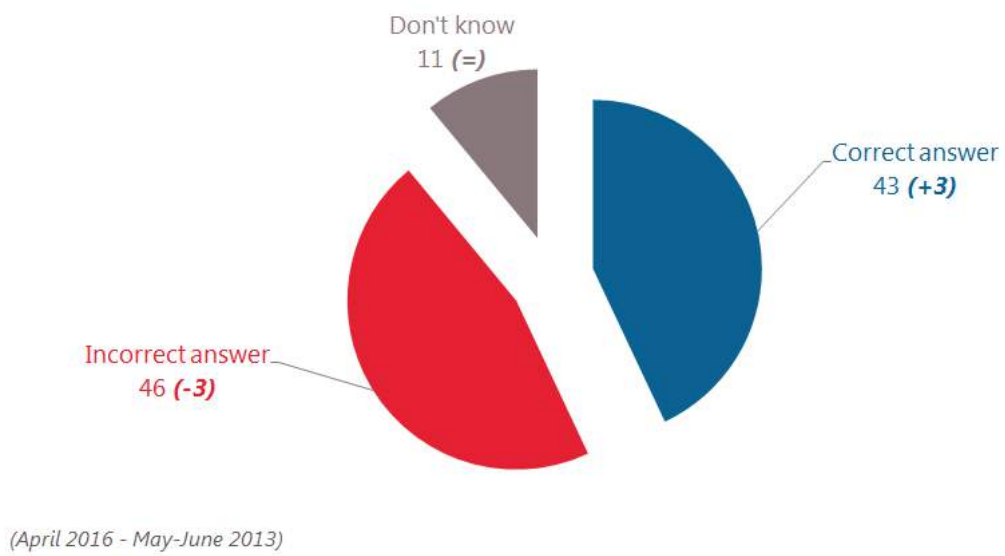
- Antibiotics kill viruses (FALSE)
- Antibiotics are effective against colds and flu (FALSE)
- Unnecessary use of antibiotics makes them become ineffective (TRUE)
- Taking antibiotics often has side-effects, such as diarrhea (TRUE)

1 Do antibiotics kill viruses?

-Less than half of Europeans are aware that antibiotics are ineffective against viruses-

Respondents were asked if it is true or false that antibiotics kill viruses.[14] Just over four out of ten (43%) of those polled correctly replied that antibiotics do not kill viruses. This is an improvement on 2013, when 40% of respondents held this opinion. Just under half (46%) gave the incorrect answer (-3 percentage points), while more than one in ten (11%) Europeans could not answer the question, a proportion unchanged since 2013.

QB4.1 For each of the following statements, please tell me whether you think it is true or false.
Antibiotics kill viruses (% - EU)



(April 2016 - May-June 2013)

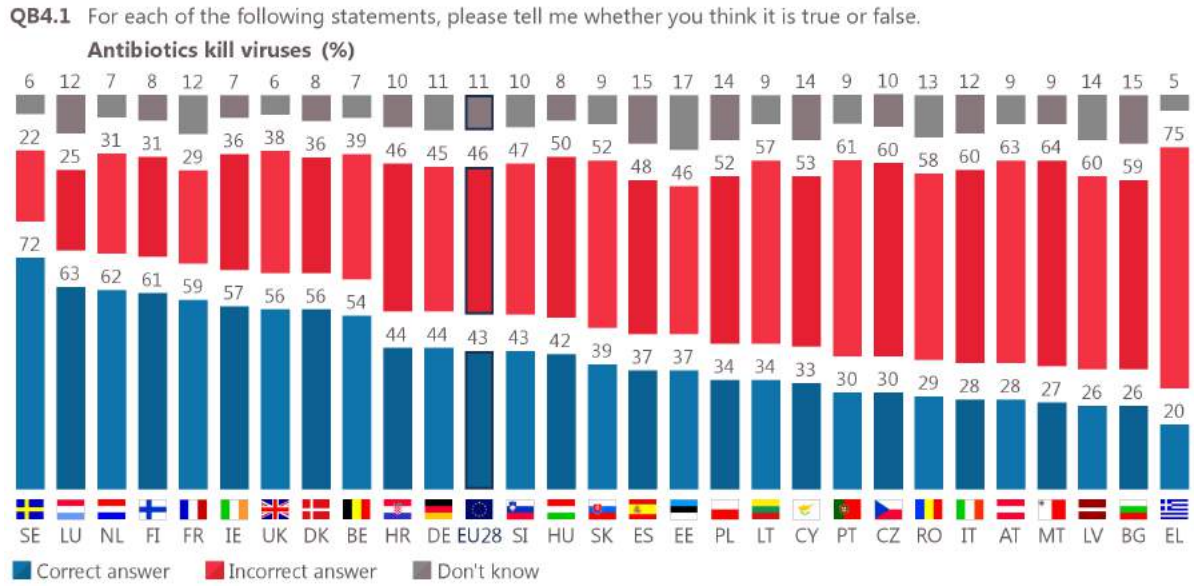
Correct Answer=False

Total base (N=27,969)

There are significant differences on this question at country level. In nine countries, a majority of respondents correctly answered that antibiotics do not kill viruses. In Sweden, almost three quarters (72%) of respondents gave the correct reply. In the other eight countries, where a majority of respondents gave a correct answer, the proportion ranges between 54% and 63%.

[14] QB4.1 For each of the following statements, please tell me whether you think it is true or false. Antibiotics kill viruses. ONE ANSWER ONLY. "True", "False", "Don't know".

In 9 countries, less than a third (33%) of those polled gave the correct answer. Levels of knowledge are lowest in Greece (20%), followed by Bulgaria (26%), Latvia (26%) and Malta (27%).



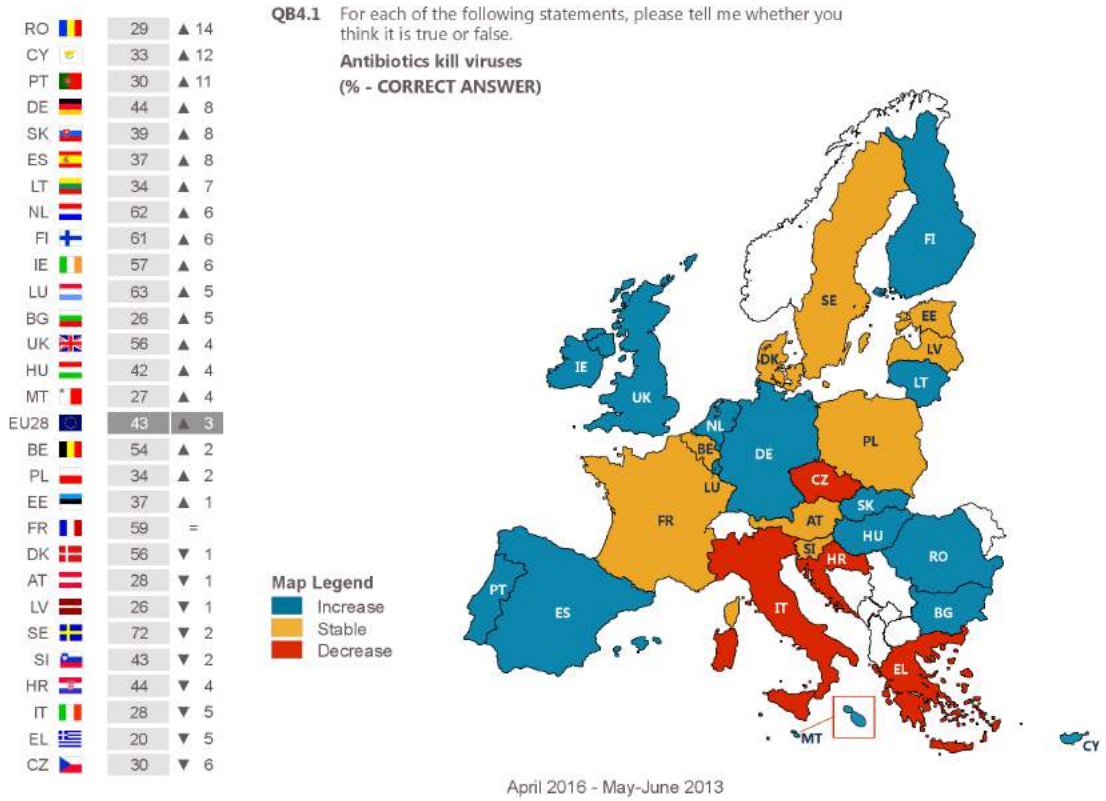
Correct Answer=False

Total base (N=27,969)

The majority of countries saw an increase in the proportions of respondents answering this question correctly since 2013. Nine countries show an increase of more than 10 percentage points: Romania (+14), Cyprus (+12) and Portugal (+11).

There were only four countries where levels of knowledge decreased by more than two percentage points: the Czech Republic (-6 percentage points), Greece (-5), Italy (-5) and Croatia (-4).

Trend since 2013: Proportion of respondents who know that antibiotics do not kill viruses



Correct Answer=False

Total base (N=27,969)

In terms of **socio-demographic** variations, women are slightly more likely than men to give the correct answer (45% compared with 41%), and respondents in the middle age bands are more likely to answer correctly than those in the youngest or oldest age bands (45% of 25-39 year olds and 47% of 40-54 year olds, compared with 41% of those aged 15-24 and 40% of those aged 55 or over).

The main difference is by level of education. Less than a third (30%) of those whose education ended at or before the age of 15 correctly said that antibiotics are ineffective against viruses, while more than half (56%) of those whose education ended at or after the age of 20 gave this answer.

Personal experience of taking antibiotics appears to have only a minor impact; in fact, those who have taken antibiotics in the previous 12 months are less likely than those who haven't taken antibiotics to answer correctly (40% compared with 45%). Receipt of information appears to have a positive effect: those who say they had received information about antibiotics are more likely than those who haven't received information to give the correct answer (54% compared with 38%).

QB4.1 For each of the following statements, please tell me whether you think it is true or false.

Antibiotics kill viruses (% - EU)

	Incorrect answer = True	Correct Answer = False	Don't know
EU28	46	43	11
Gender			
Man	48	41	11
Woman	45	45	10
Age			
15-24	47	41	12
25-39	47	45	8
40-54	45	47	8
55 +	46	40	14
Education (End of)			
15-	54	30	16
16-19	49	41	10
20+	36	56	8
Still studying	46	43	11
Taken antibiotics in last 12 months			
Yes	50	40	10
No	44	45	11
Received information about antibiotics			
Yes	38	54	8
No	50	38	12

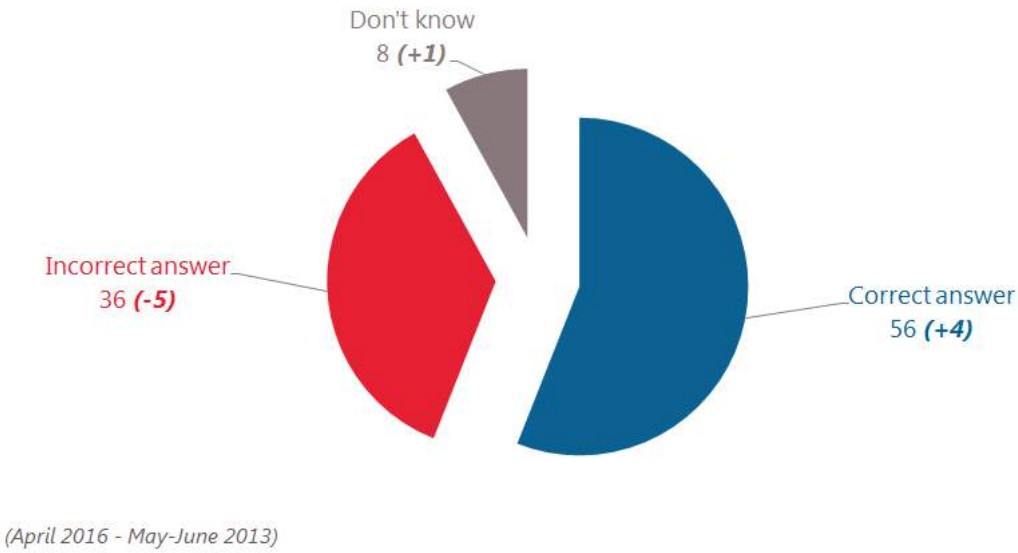
Total base (N=27,969)

2 Are antibiotics effective against cold and flu?

-A slim majority of Europeans are aware that antibiotics are ineffective against cold and flu-

Respondents were asked if it is true or false that antibiotics are effective against cold and flu.[15] Just over half (56%) of respondents gave the correct answer that antibiotics are not effective in these cases, an increase of 4 percentage points since 2013. Just over a third (36%) gave the incorrect answer (-5 percentage points), while 8% could not give an answer (+1 percentage point).

QB4.2 For each of the following statements, please tell me whether you think it is true or false.
Antibiotics are effective against colds and flu (% - EU)



(April 2016 - May-June 2013)

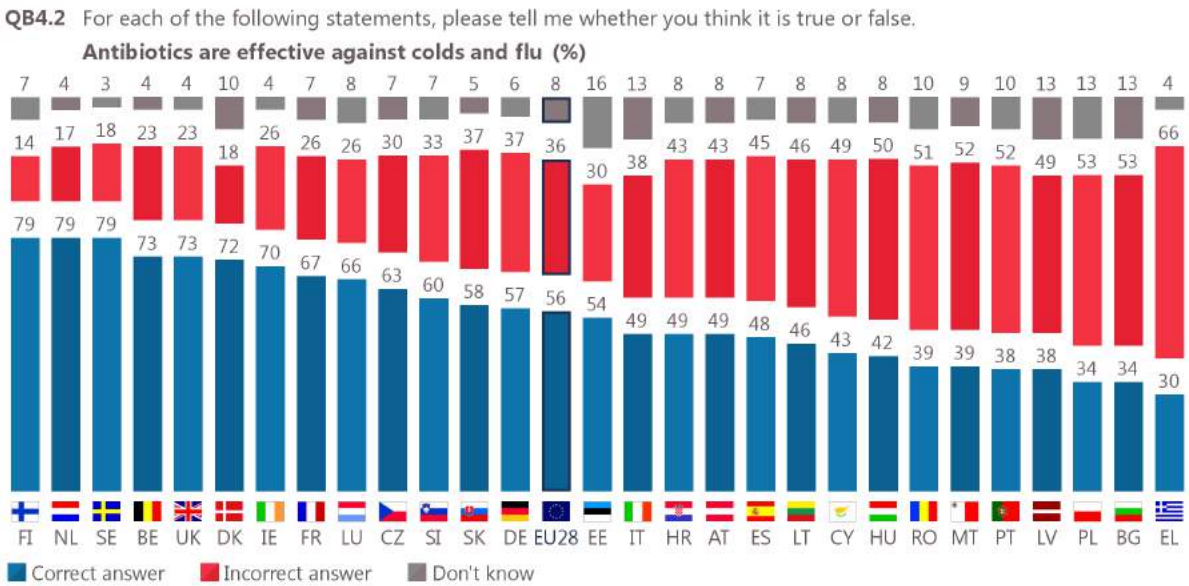
Correct Answer=False

Total base (N=27,969)

The country-level distribution shows some similarities to that for the previous question. In 14 Member States, the proportion of respondents giving the correct answer to this question represents the majority. Overall, more than three quarters of respondents gave the correct answer in Finland, the Netherlands and Sweden (all 79%).

Respondents are least likely to answer the question correctly in Greece (30%), Bulgaria (34%) and Poland (34%).

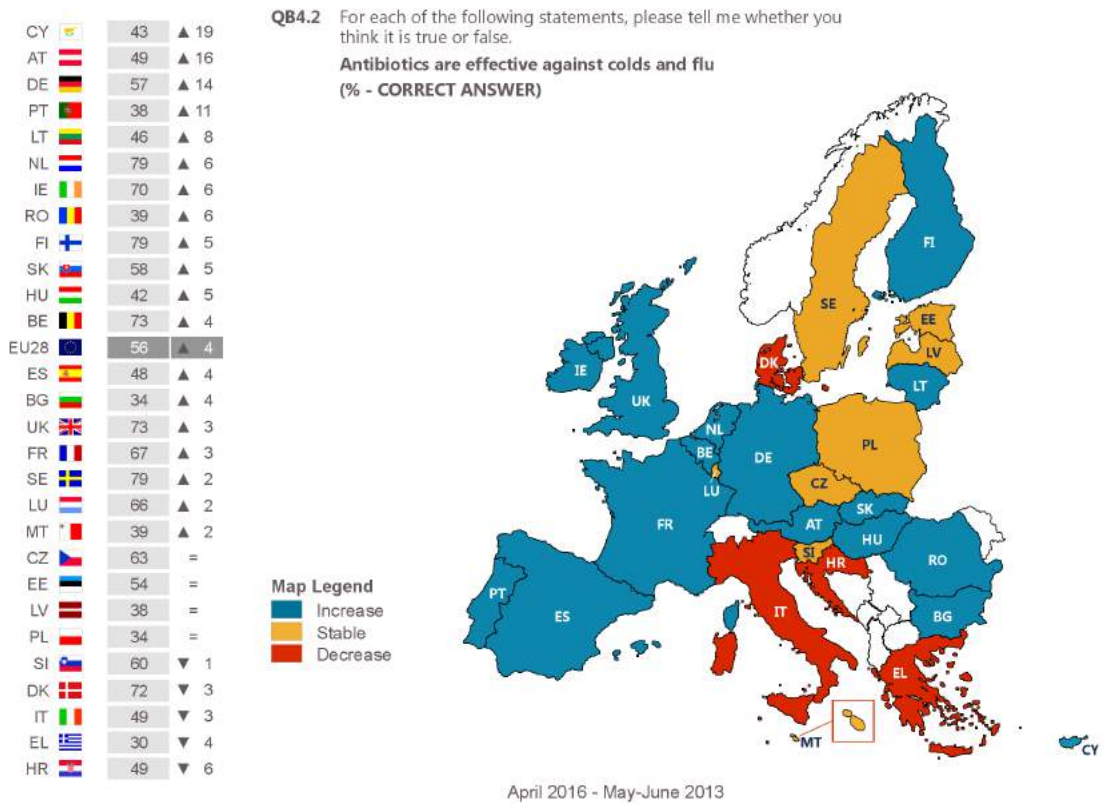
[15] QB4.2 For each of the following statements, please tell me whether you think it is true or false. Antibiotics are effective against colds and flu. ONE ANSWER ONLY. "True", "False", "Don't know".



Correct Answer=False
Total base (N=27,969)

There have been some large increases in the proportion of respondents giving the correct answer to this question since 2013. The largest increases are found in Cyprus (+19 percentage points), Austria (+16), Germany (+14) and Portugal (+11). Only four countries show a decrease of more than two percentage points: Croatia (-6), Greece (-4), Italy (-3) and Denmark (-3).

Trend since 2013: Proportion of respondents know that antibiotics are not effective against colds and flu



Correct Answer=False
Total base (N=27,969)

A **socio-demographic** analysis of the results reveals the following:

- Women (59%) are more likely than men (53%) to give the correct answer that antibiotics are not effective against colds and flu.
- Younger respondents are less likely than other respondents to give the correct answer. Less than half (45%) of respondents in the 15 to 24 age cohort gave the correct answer, compared with at least 56% in the other age bands.
- Again, education has a clear impact: less than half (47%) of those who finished education at the age of 15 or earlier gave the correct answer, compared with around two thirds (68%) of those who finished at 20 or later.
- Again, those who have taken antibiotics in the previous 12 months are less likely than those who haven't taken antibiotics to answer correctly (50% compared with 59%). Furthermore, around two thirds (68%) of those who have received information regarding the unnecessary use of antibiotics gave the correct answer, compared with half (50%) of those who have not received any information.

QB4.2 For each of the following statements, please tell me whether you think it is true or false.

Antibiotics are effective against colds and flu (% - EU)

	Incorrect answer = True	Correct Answer = False	Don't know
EU28	36	56	8
Gender			
Man	38	53	9
Woman	34	59	7
Age			
15-24	46	45	9
25-39	37	56	7
40-54	33	62	5
55 +	35	56	9
Education (End of)			
15-	41	47	12
16-19	38	55	7
20+	27	68	5
Still studying	45	47	8
Taken antibiotics in last 12 months			
Yes	43	50	7
No	33	59	8
Received information about antibiotics			
Yes	27	68	5
No	41	50	9

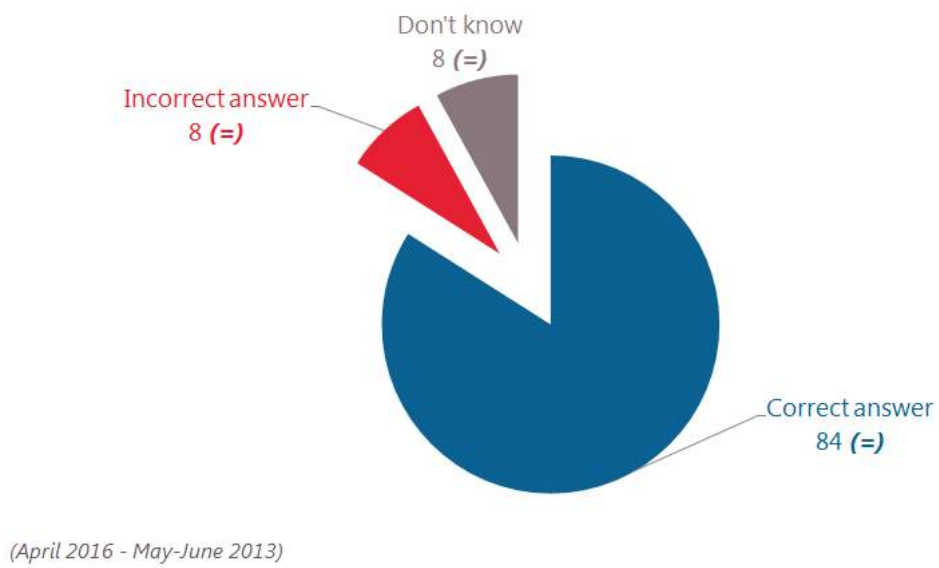
Total base (N=27,969)

3 Does unnecessary use of antibiotics make them become ineffective?

-Most Europeans are aware that unnecessary use of antibiotics makes them become ineffective-

Respondents were asked whether it was true or false that the unnecessary use of antibiotics makes them become ineffective.[16] A large majority (84%) of those polled gave the correct answer that the overuse of antibiotics reduces their effectiveness. Just under one in ten gave the wrong answer (8%). The distribution of answers is exactly the same as in 2013.

QB4.3 For each of the following statements, please tell me whether you think it is true or false.
Unnecessary use of antibiotics makes them become ineffective (% - EU)



(April 2016 - May-June 2013)

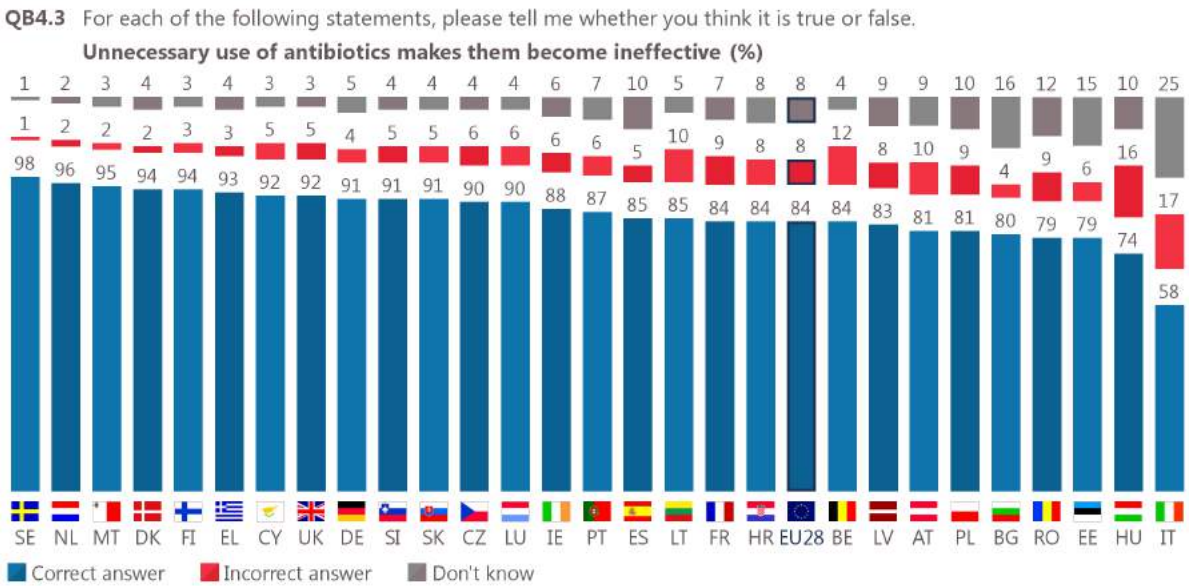
Correct Answer=True

Total base (N=27,969)

In every country except Italy and Hungary, more than three quarters of respondents know that unnecessary use of antibiotics makes them become ineffective. The proportion in Italy is much lower (58%), and a quarter (25%) of respondents in Italy cannot give an answer to this question, compared with 8% on average in the EU.

Almost all respondents in Sweden (98%), the Netherlands (96%) and Malta (95%) answered correctly, and at least nine in ten respondents gave correct answers in another 10 countries.

[16] QB4.3 For each of the following statements, please tell me whether you think it is true or false. Unnecessary use of antibiotics make them become ineffective. ONE ANSWER ONLY. "True", "False", "Don't know".



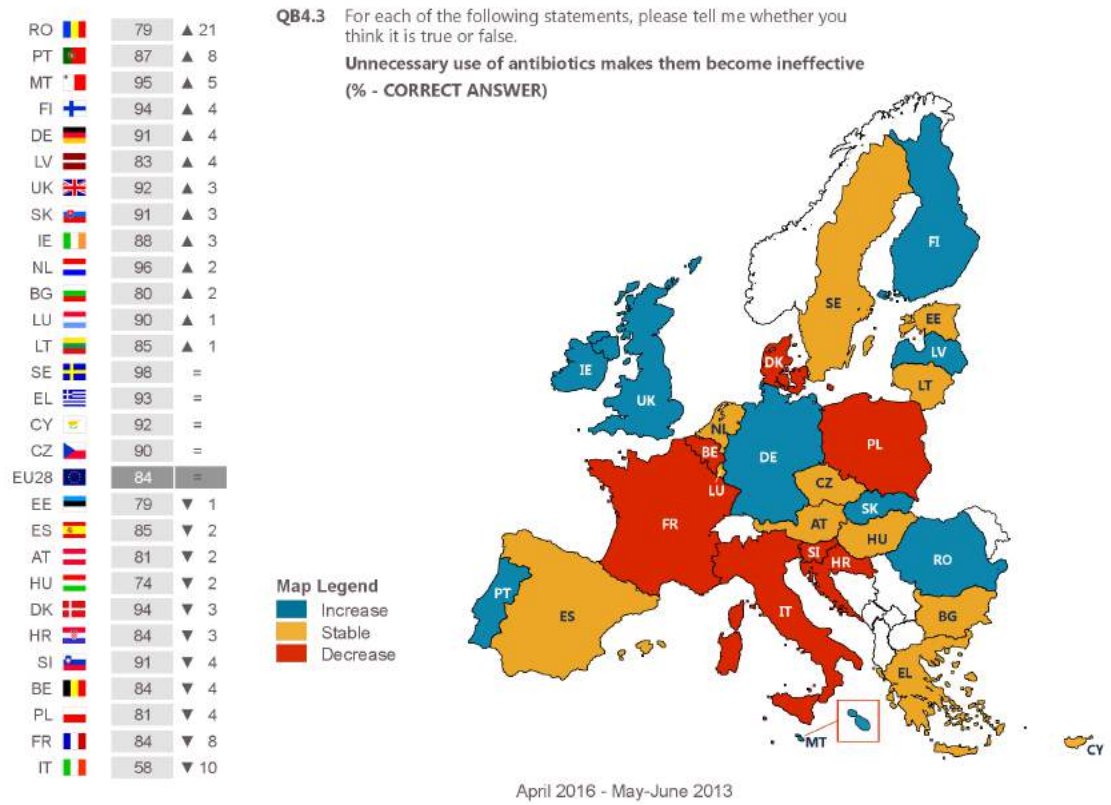
Correct Answer=True

Total base (N=27,969)

At the overall EU level, there have been no changes in the findings since 2013, and findings have remained stable in 12 countries. However, there has been a large increase in the proportion answering correctly in Romania (+21 percentage points). The next largest increases are in Portugal (+8) and Malta (+5).

In 2013, knowledge on this issue was lowest in Italy, and the proportion answering correctly in Italy has decreased further (-10 percentage points). The next largest decrease is found in France (-8).

Trend since 2013: Proportion of respondents who know that the unnecessary use of antibiotics makes them become ineffective



Correct Answer=True

Total base (N=27,969)

There is widespread agreement across **socio-demographic groups** that the unnecessary use of antibiotics renders them ineffective. Around nine in ten (89%) of those who continued their education up to or beyond the age of 20. Respondents aged 40-54 are most likely to answer correctly (87% compared with 81-84% in other age groups). Nevertheless, the level of education once again stands out as influential: just over three quarters (77%) of those who finished education at or before the age of 15 gave the correct answer.

There is no difference according to personal use of antibiotics in the previous 12 months. On top of the already high overall rate of agreement, information about antibiotics has a significant effect. Just over nine in ten (92%) of those who received information on antibiotics gave the correct answer to this question, compared with four fifths (80%) of those who did not

QB4.3 For each of the following statements, please tell me whether you think it is true or false.

Unnecessary use of antibiotics makes them become ineffective (% - EU)

	Correct answer = True	Incorrect answer = False	Don't know
EU28	84	8	8
Age			
15-24	81	9	10
25-39	84	8	8
40-54	87	7	6
55 +	82	8	10
Education (End of)			
15-	77	9	14
16-19	84	8	8
20+	89	7	4
Still studying	82	8	10
Taken antibiotics in last 12 months			
Yes	83	8	9
No	84	8	8
Received information about antibiotics			
Yes	92	4	4
No	80	9	11

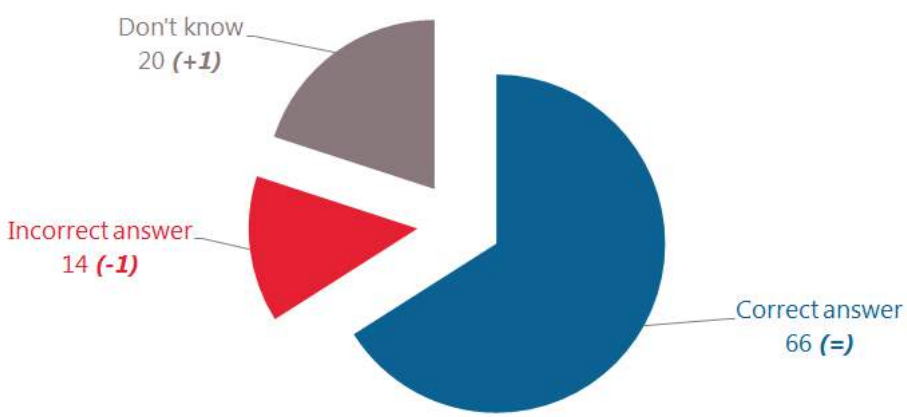
Total base (N=27,969)

4 Does taking antibiotics often result in side-effects such as diarrhea?

-Two thirds of Europeans know that frequent use of antibiotics can lead to side-effects-

Respondents were asked whether it is true or false that taking antibiotics often has side-effects such as diarrhea.[17] Two thirds (66%) of respondents gave the correct answer that antibiotics can produce side-effects. There is more uncertainty over this issue than the preceding ones: a fifth (20%) of respondents were unable to give an answer to this question. A slightly smaller proportion (14%) gave an incorrect answer. As in the previous question, findings have remained very stable since the 2013 survey.

QB4.4 For each of the following statements, please tell me whether you think it is true or false.
Taking antibiotics often has side-effects such as diarrhea (% - EU)



(April 2016 - May-June 2013)

Correct Answer=True

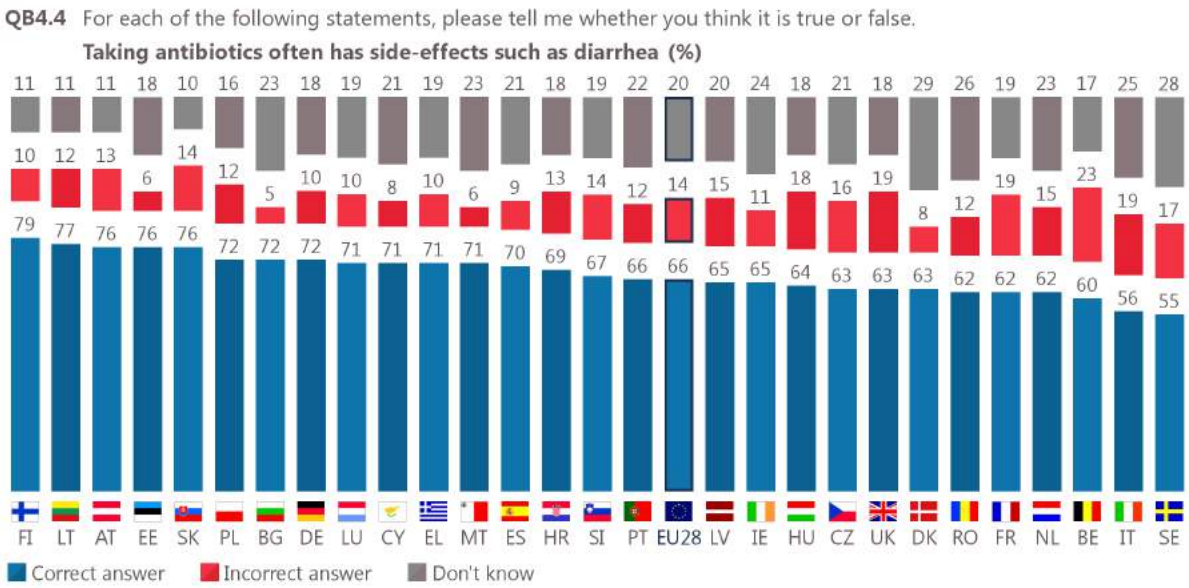
Total base (N=27,969)

In all Member States, more than half of respondents answered correctly. The highest proportions are found in Finland (79%), Lithuania (77%), Austria, Estonia and Slovakia (all 76%).

Respondents in Sweden (55%) and Italy (56%) express the lowest levels of knowledge. In the case of Italy, this is consistent with the previous question, but the low level of knowledge in Sweden is in contrast to the other knowledge questions, where Sweden is among the highest ranked countries.

There is also some variation in the proportions who were unable to give an answer. This is highest in Denmark (29%) and Sweden (28%), and lowest in Slovakia (10%), Finland, Lithuania and Austria (all 11%).

[17] QB4.4 For each of the following statements, please tell me whether you think it is true or false. Taking antibiotics often has side-effects such as diarrhea. ONE ANSWER ONLY. "True", "False", "Don't know".



Correct Answer=True

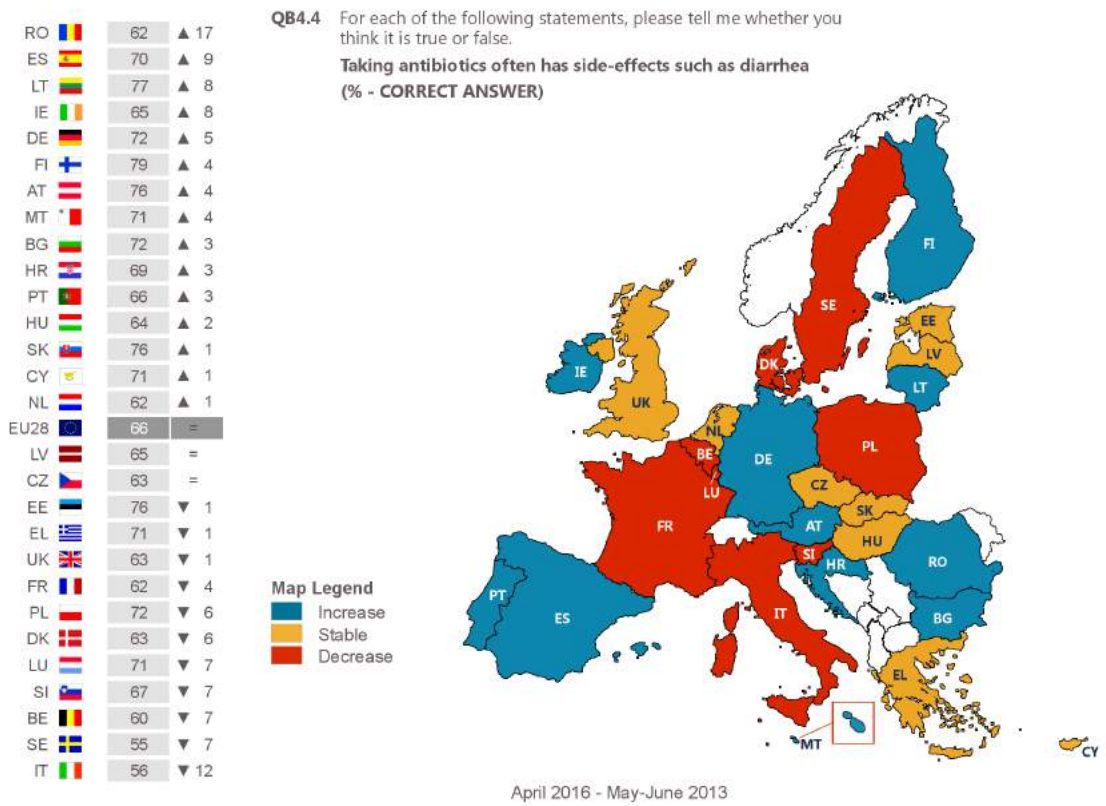
Total base (N=27,969)

In total, 11 Member States have seen an increase in levels of knowledge since 2013. Romania has again seen the biggest increase in correct answers, up 17 percentage points, followed by Spain (+9), Lithuania (+8) and Ireland (+8).

There have been decreases in knowledge levels in eight countries, with the largest decrease again found in Italy (-12 percentage points).

Knowledge has remained stable in nine countries.

Trend since 2013: Proportion of respondents who know that taking antibiotics often has side-effects such as diarrhea



Correct Answer=True

Total base (N=27,969)

Socio-demographic differences are less pronounced than for the previous questions, but the patterns are still consistent:

- Fewer men (62%) than women (69%) agree that antibiotics often have side-effects.
- Those aged 15 to 24 (55%) are notably less likely than those in other age groups (65-70%) to be aware of side-effects.
- Those who finished education at or before the age of 15 are less likely to give the correct answer, compared with those who continued their education up to or beyond the age of 20. However, the difference is smaller than for the other questions (62% compared with 69%).
- There is no difference according to personal use of antibiotics in the previous 12 months. As in previous questions, those who received information (72%) are more likely to give the correct answer than those who did not (63%).

QB4.4 For each of the following statements, please tell me whether you think it is true or false.

Taking antibiotics often has side-effects such as diarrhea (% - EU)

	Correct answer = True	Incorrect answer = False	Don't know
EU28	66	14	20
Gender			
Man	62	15	23
Woman	69	14	17
Age			
15-24	55	20	25
25-39	65	16	19
40-54	70	13	17
55 +	67	13	20
Education (End of)			
15-	62	14	24
16-19	67	15	18
20+	69	14	17
Still studying	57	18	25
Taken antibiotics in last 12 months			
Yes	66	17	17
No	66	13	21
Received information about antibiotics			
Yes	72	13	15
No	63	15	22

Total base (N=27,969)

5 Overall levels of knowledge on the use of antibiotics

-Overall knowledge about antibiotics has remained constant since 2013-

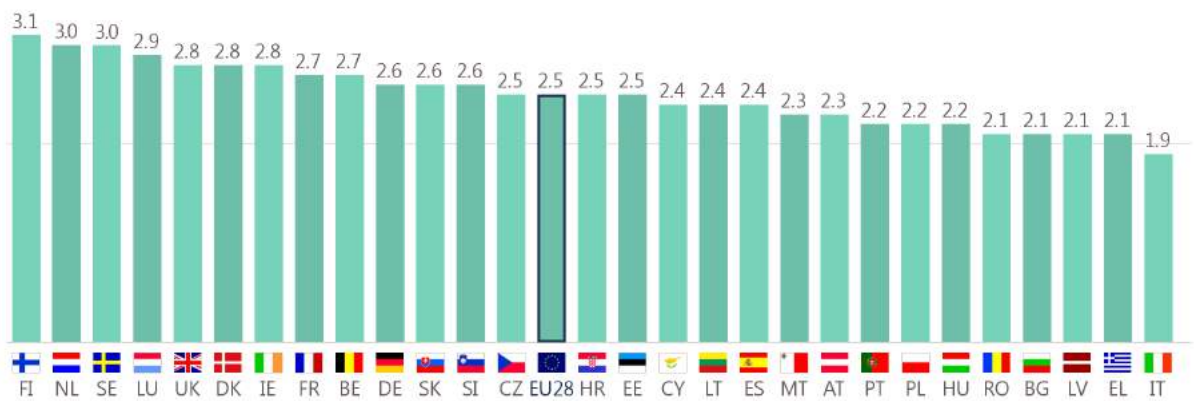
This section brings together the findings for each of the four individual questions testing knowledge about antibiotics.

On average, only around a quarter (24%) of Europeans answered all four questions correctly, while around half (51%) gave at least three correct answers, and 94% gave at least one correct answer. The European average of correct answers is 2.5 out of 4. These figures are very similar to those obtained in 2013.

The average number of correct answers varies between Member States in a manner that is broadly consistent with the pattern identified for each of the four individual questions. Finland has the highest average at 3.1, followed by the Netherlands, Sweden (both 3.0) and Luxembourg (2.9).

The lowest average is observed in Italy (1.9), with low figures also found in Romania, Bulgaria, Latvia and Greece (all 2.1).

QB4.6 For each of the following statements, please tell me whether you think it is true or false.
(AVERAGE NUMBER OF CORRECT ANSWERS)

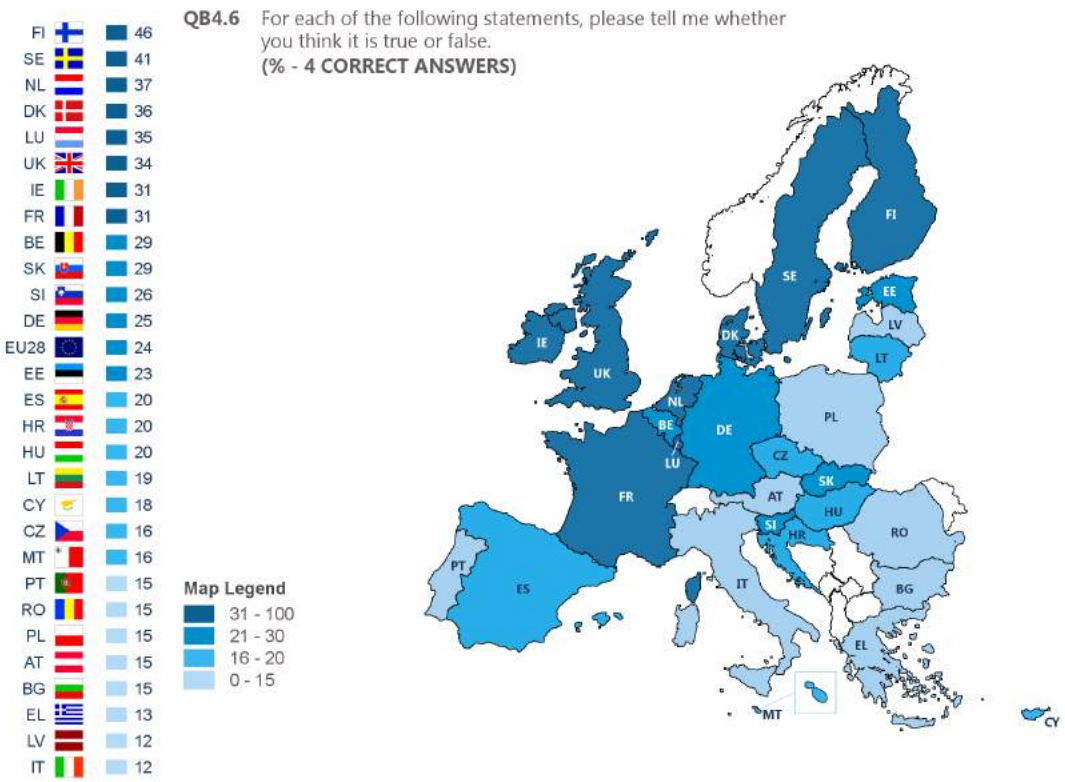


Total base (N=27,969)

In none of the countries does a majority of those polled answer all four questions correctly. However, there are significant differences between individual countries. Respondents in Finland (46%) are the most likely to answer all four questions correctly, followed by those in Sweden (41%), the Netherlands (37%), Denmark (36%), Luxembourg (35%) and the UK (34%).

At the other extreme, respondents in Italy (12%), Latvia (12%) and Greece (13%) are least likely to give correct answers to all of the questions.

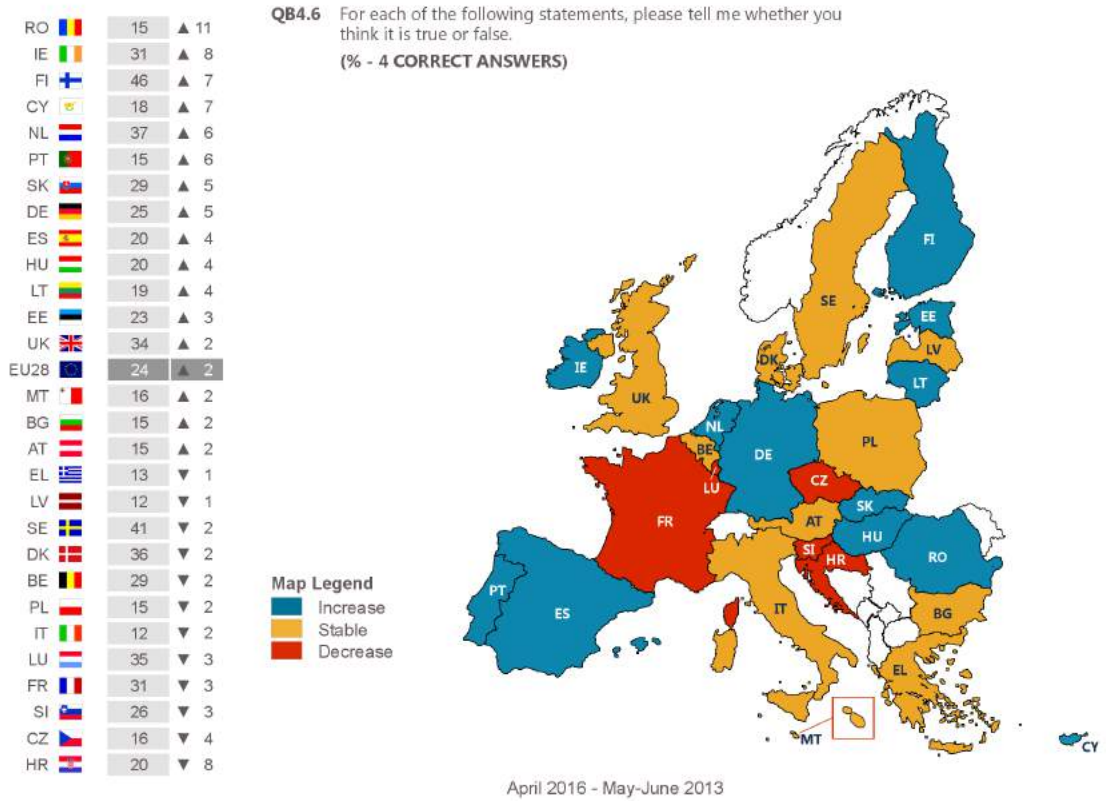
Proportion of respondents who gave four correct answers



Total base (N=27,969)

In 12 Member States, the proportion giving four correct answers has increased since 2013. The largest increase is found in Romania (+11 percentage points), followed by Ireland (+8), Finland and Cyprus (both +7). The largest decrease is found in Croatia (-8 percentage points).

Trend since 2013: Proportion of respondents who gave four correct answers



Total base (N=27,969)

There are clear **socio-demographic** differences in the proportions that give four correct answers. These variations are consistent with the patterns described above in relation to the four individual questions:

- Overall knowledge of antibiotics is greater among women: 27% gave four correct answers, compared with 21% of men.
- Those aged between 15 and 24 are less likely than older respondents to give four correct answers (15% compared with 23-29%).
- The higher the level of education, the more likely respondents are to give four correct answers. More than a third (35%) of those who finished their education at the age of 20 or more answered all questions correctly, in comparison with 15% of those who finished their education no later than the age of 15.
- There is also a relationship between economic status and levels of knowledge: more than a quarter of those who almost never have problems paying bills (27%) gave four correct answers, compared with 16% of those who have trouble paying bills most of the time.
- Respondents who have used antibiotics themselves in the previous 12 months are slightly less likely to answer all four questions correctly than those who haven't used antibiotics (21% compared with 25%).
- Those who say they have received information about antibiotics are significantly more likely to give four correct answers (34% compared with 19% of those who did not receive information).

QB4.6 For each of the following statements, please tell me whether you think it is true or false.
(% - EU)

	4 correct answers
EU28	24
Gender	
Man	21
Woman	27
Age	
15-24	15
25-39	25
40-54	29
55 +	23
Education (End of)	
15-	15
16-19	22
20+	35
Still studying	17
Difficulties paying bills	
Most of the time	16
From time to time	19
Almost never/ Never	27
Taken antibiotics in last 12 months	
Yes	21
No	25
Received information about antibiotics	
Yes	34
No	19

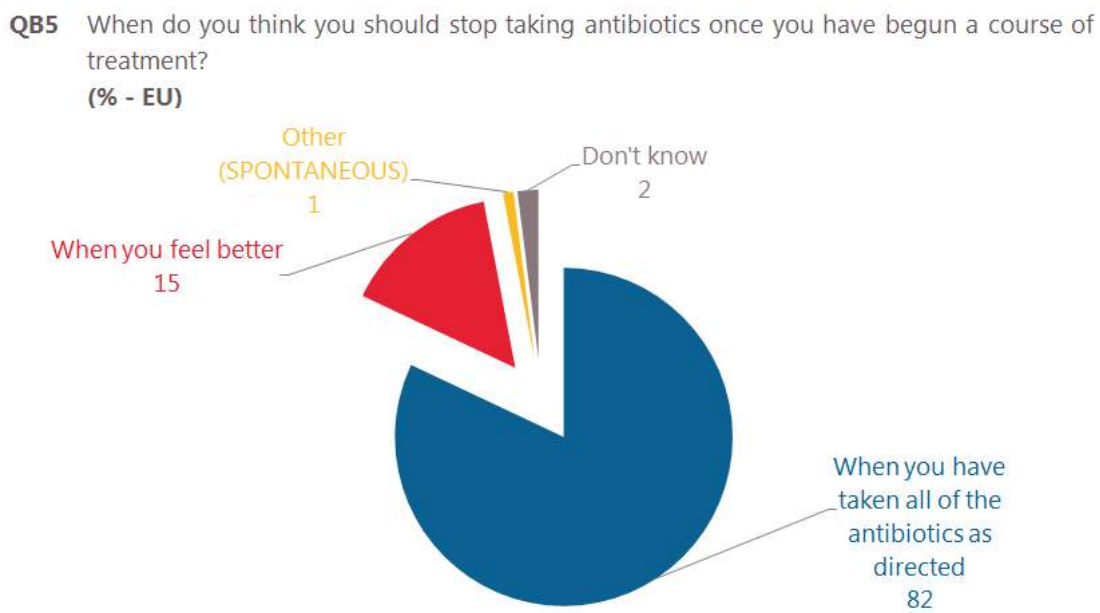
Total base (N=27,969)

6 When should taking antibiotics stop after having begun a course of treatment?

-Four in five recognise the need to complete the prescribed dose of antibiotics-

Respondents were asked when they think you should stop taking antibiotics once you have begun a course of treatment.[18] More than four fifths (82%) correctly answered that you should only stop when you have taken all of the antibiotics as directed, while 15% say you can stop when you feel better.

This is a new question that was not asked in previous surveys.

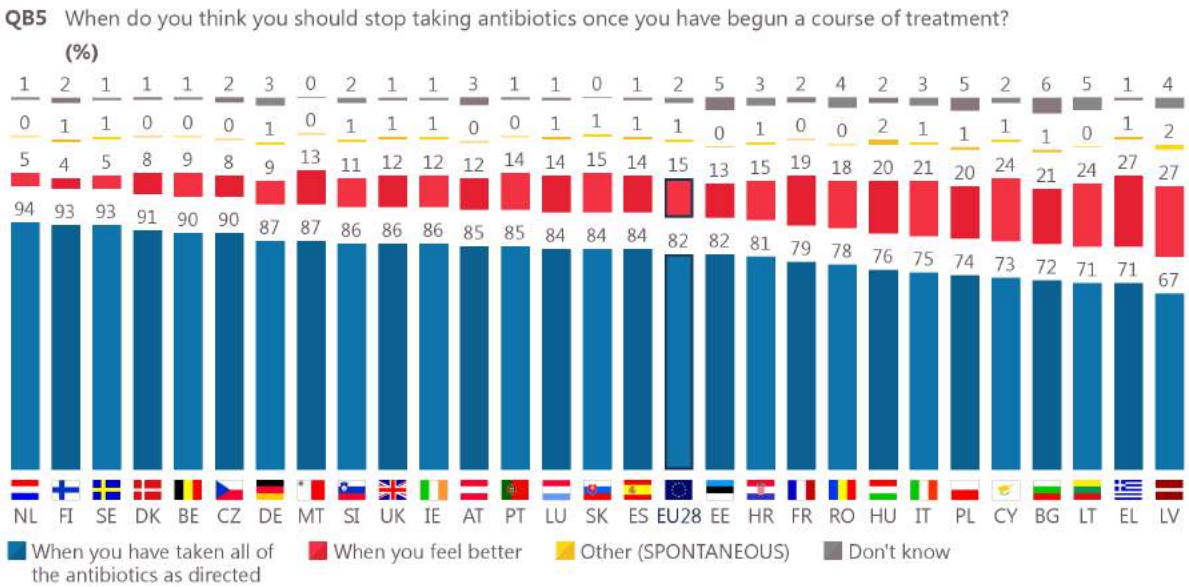


Total base (N=27,969)

In six countries, at least nine in ten respondents say that you should only stop taking antibiotics when you have taken all of the prescribed dose as directed. Respondents are most likely to say this in the Netherlands (94%), Finland and Sweden (both 93%).

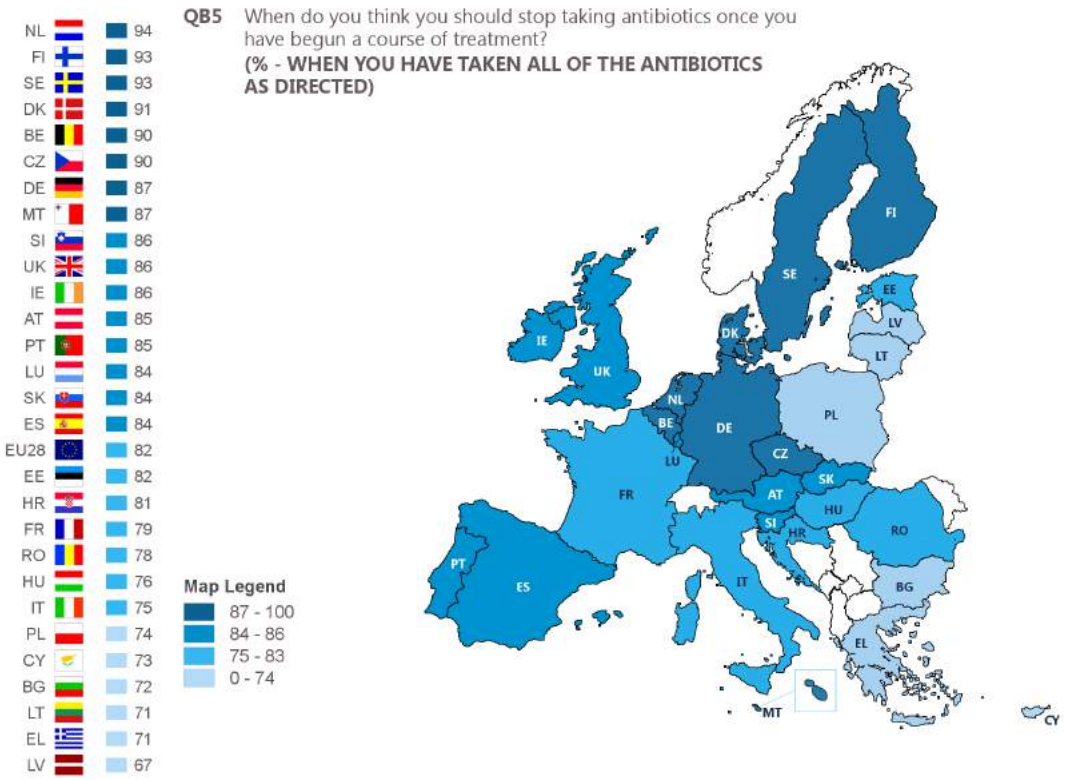
Respondents in Latvia are the least likely to say this (67%), followed by those in Lithuania (71%), Greece (71%), Bulgaria (72%), Cyprus (73%) and Poland (74%).

[18] QB5. When do you think you should stop taking antibiotics once you have begun treatment? ONE ANSWER ONLY. "When you feel better", "When you have taken all of the antibiotics as directed", "Other (SPONTANEOUS)", "Don't know".



Total base (N=27,969)

Proportion of respondents who think that you should stop taking antibiotics when all antibiotics have been taken as directed



Total base (N=27,969)

Socio-demographic variations are consistent with previous questions assessing knowledge about antibiotics:

- Women are more likely than men to say that you should only stop taking antibiotics when you have taken all of the antibiotics as directed (85% compared with 79%).
- Those aged between 15 and 24 are less likely than older respondents to say this (74% compared with 81-85%).
- The higher the level of education, the more likely respondents are to say that you should only stop when you have taken all of the antibiotics as directed. This applies to 87% of those who finished their education at the age of 20 or more, compared with 79% of those who finished their education no later than the age of 15.
- There is also a relationship between economic status and levels of knowledge: those who almost never have problems paying bills (85%) are more likely to say this, compared with those who have trouble paying bills most of the time (75%).
- There is very little difference according to whether respondents have used antibiotics themselves in the previous 12 months. Those who say they have received information about antibiotics are significantly more likely to say you should take all of the antibiotics as directed (88% compared with 80% of those who did not receive information).

QB5 When do you think you should stop taking antibiotics once you have begun a course of treatment?
(% - EU)

	When you feel better	When you have taken all of the antibiotics as directed	Don't know
EU28	15	82	2
Gender			
Man	17	79	3
Woman	12	85	2
Age			
15-24	23	74	2
25-39	16	81	2
40-54	12	85	2
55 +	13	83	3
Education (End of)			
15-	17	79	4
16-19	14	83	2
20+	11	87	2
Still studying	21	75	2
Difficulties paying bills			
Most of the time	21	75	3
From time to time	19	78	2
Almost never/ Never	12	85	2
Taken antibiotics in last 12 months			
Yes	15	84	0
No	15	81	3
Received information about antibiotics			
Yes	10	88	1
No	17	80	2

Total base (N=27,969)

III. INFORMATION ABOUT THE CORRECT USE OF ANTIBIOTICS

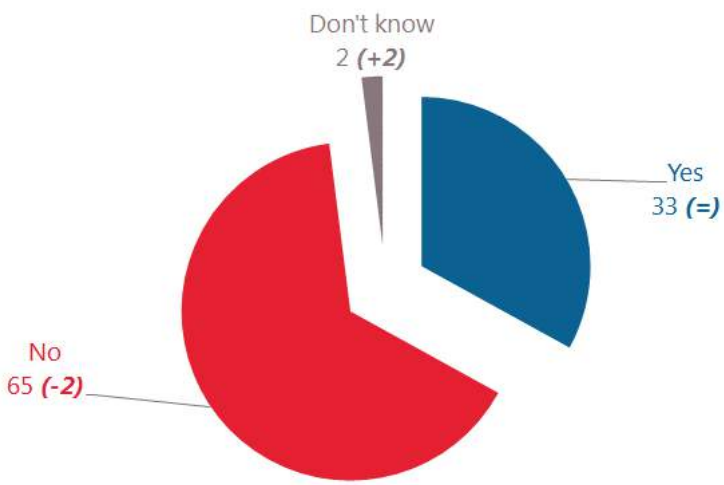
The third set of questions concerns getting information about the correct use of antibiotics. The answers to these questions enable us to analyse the reach of the information, the most effective means of communication, and the extent to which the information has an impact.

1 Taking information on board

- A third of Europeans receive information about right use of antibiotics -

Respondents were asked if they remembered receiving any information about the unnecessary use of antibiotics in the last 12 months.[19] Only a third (33%) of respondents say that they received such information. This is the same proportion as was recorded in 2013.

QB6 In the last 12 months, do you remember getting any information about not taking antibiotics unnecessarily, for example for a cold or the flu?
(% - EU)



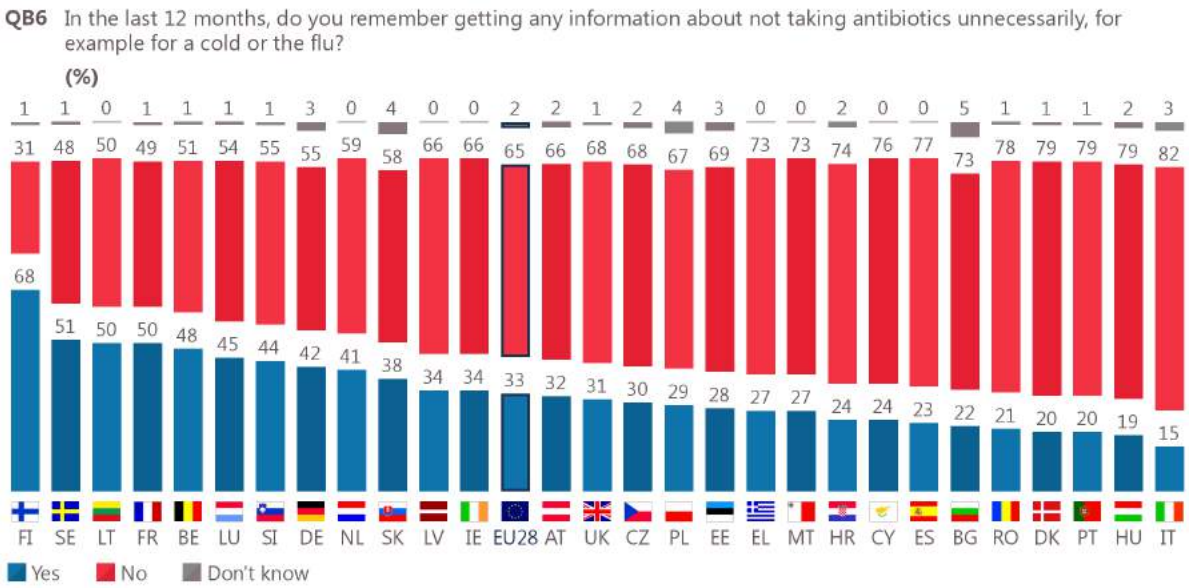
(April 2016 - May-June 2013)

Total base (N=27,969)

There are substantial country-level differences on this question. In Finland, around two thirds (68%) of respondents recall receiving information about the unnecessary use of antibiotics, and at least half of respondents recall getting information in Sweden (51%), Lithuania and France (both 50%).

However, in nine countries less than a quarter of respondents recall getting information about antibiotics. The lowest proportions are found in Italy (15%), Hungary (19%), Portugal and Denmark (both 20%).

[19] QB6 In the last 12 months, do you remember getting any information about not taking any antibiotics unnecessarily, for example, messages about not taking antibiotics in case of cold or flu? ONE ANSWER ONLY. "Yes", "No", "DK"



Total base (N=27,969)

There have been some large country-level changes since 2013. The proportion of respondents who say they have received information about the unnecessary use of antibiotics has increased substantially in Finland (+25 percentage points), as well as in the Netherlands (+19) and Lithuania (+18). In total, 13 countries show an increase of more than two percentage points.

By contrast, respondents in several countries are much less likely to recall information than in 2013: Denmark (-22 percentage points), Croatia (-17), France (-15), Luxembourg (-14) and Italy (-13).

QB6 In the last 12 months, do you remember getting any information about not taking antibiotics unnecessarily, for example for a cold or the flu? **(%)**

	Yes	Apr. 2016 - May-June 2013	No	Apr. 2016 - May-June 2013	Don't know
EU28	33	=	65	▼ 2	2
FI	68	▲ 25	31	▼ 26	1
NL	41	▲ 19	59	▼ 19	0
LT	50	▲ 18	50	▼ 18	0
LV	34	▲ 11	66	▼ 11	0
AT	32	▲ 10	66	▼ 12	2
DE	42	▲ 8	55	▼ 11	3
PT	20	▲ 8	79	▼ 9	1
SI	44	▲ 7	55	▼ 8	1
SK	38	▲ 6	58	▼ 10	4
PL	29	▲ 6	67	▼ 10	4
EE	28	▲ 6	69	▼ 9	3
CZ	30	▲ 4	68	▼ 6	2
ES	23	▲ 3	77	▼ 3	0
HU	19	▲ 2	79	▼ 4	2
SE	51	▲ 1	48	▼ 2	1
UK	31	=	68	▼ 1	1
EL	27	▼ 1	73	▲ 1	0
IE	34	▼ 2	66	▲ 2	0
BG	22	▼ 2	73	▼ 3	5
CY	24	▼ 3	76	▲ 3	0
BE	48	▼ 4	51	▲ 3	1
MT	27	▼ 4	73	▲ 4	0
RO	21	▼ 8	78	▲ 7	1
IT	15	▼ 13	82	▲ 10	3
LU	45	▼ 14	54	▲ 13	1
FR	50	▼ 15	49	▲ 14	1
HR	24	▼ 17	74	▲ 15	2
DK	20	▼ 22	79	▲ 21	1

Total base (N=27,969)

There are small **socio-demographic** differences by gender and age. Women (35%) are slightly more likely than men (31%) to have received information about antibiotics. Those in the youngest age group (15-24 year olds) are slightly less likely than older age groups to recall information (30% compared with 33-34%).

The main difference is by level of education. Only a quarter (24%) of those who finished their education at or before the age of 15 say they received this type of information, compared with over two fifths (44%) of those who continued their education up to or beyond the age of 20.

Respondents who have taken antibiotics themselves in the previous 12 months are more likely than other respondents to say they remember getting information (39% compared with 30%).

Finally, as discussed in the previous section, there is a link between recall of information and higher objective knowledge about antibiotics. Just under half (46%) of those who answered all four questions about antibiotics correctly say they recall information, falling to 12% among those who did not answer any of the questions correctly.

QB6 In the last 12 months, do you remember getting any information about not taking antibiotics unnecessarily, for example for a cold or the flu? (% - EU)

	Yes	No	Don't know
EU28	33	65	2
Gender			
Man	31	67	2
Woman	35	64	1
Age			
15-24	30	68	2
25-39	33	66	1
40-54	34	65	1
55 +	33	65	2
Education (End of)			
15-	24	75	1
16-19	31	67	2
20+	44	55	1
Still studying	32	66	2
Taken antibiotics in last 12 months			
Yes	39	60	1
No	30	68	2
Knowledge about antibiotics			
4 correct answers	46	53	1
3 correct answers	40	59	1
2 correct answers	26	72	2
1 correct answer	21	77	2
0 correct answers	12	82	6

Total base (N=27,969)

2 Means of conveying information

- Europeans receive information about antibiotics either from a doctor or the media -

Those respondents who said they received information in the last 12 months about not taking antibiotics unnecessarily were asked to identify the source of this information.[20]

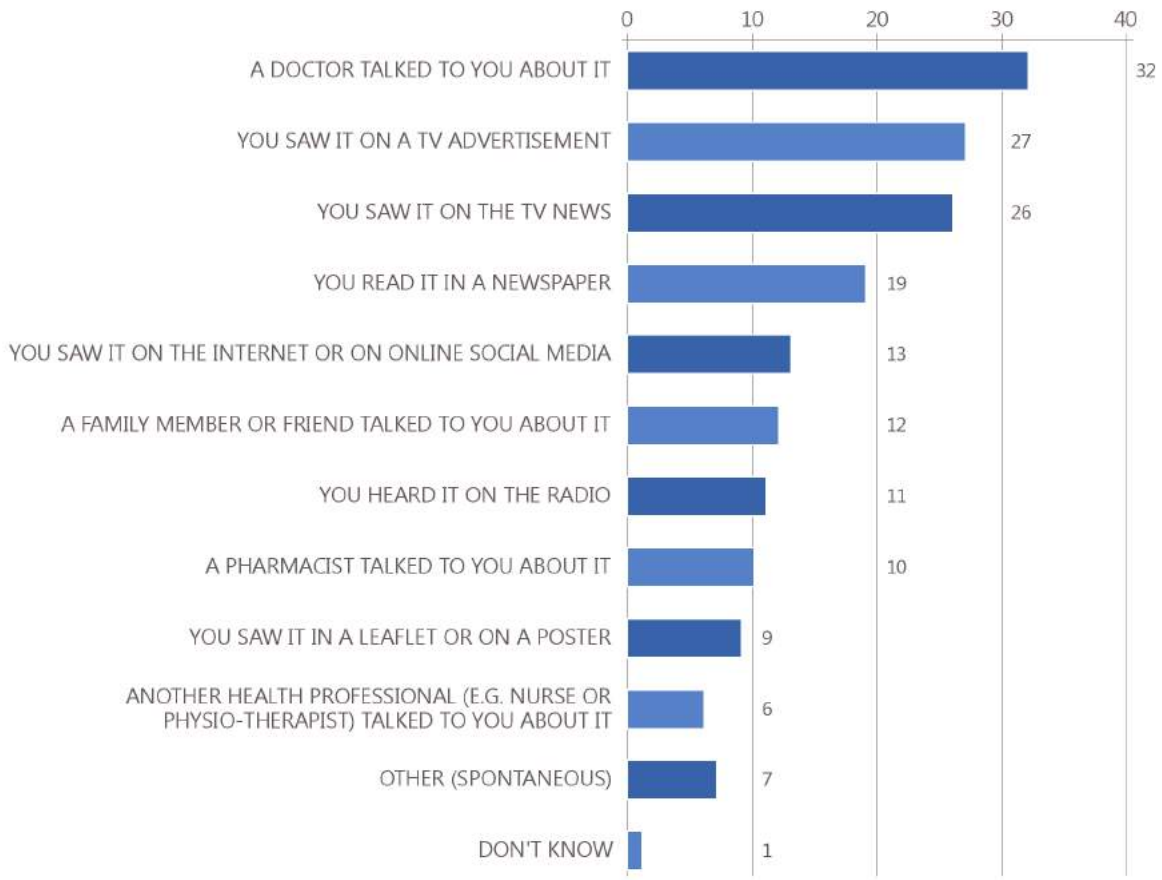
Respondents are most likely to say that they received the information from a doctor (32%). This is by far the most common of professional sources; one in ten say that they got the information from a pharmacist (10%), while 6% say it was from another health professional.

Otherwise, respondents are likely to have got their information from the media, most commonly from a television advertisement (27%) or the television news (26%). Around one in five (19%) got the information from a newspaper, while 13% obtained information from the Internet or online social media, and 11% from the radio.

The other sources of information are friends or family members (12%) and leaflets or posters (9%).

[20] QB7. How did you first get this information about not taking any antibiotics unnecessarily? ONE ANSWER ONLY. "A doctor talked to you about it", "A pharmacist talked to you about it", "Another health professional (e.g. nurse or physio-therapist) talked to you about it", "A family member or friend talked to you about it", "You saw it on a TV advertisement", "You saw it on the Internet or on online social media", "You saw it in a leaflet or on a poster", "You read it in a newspaper", "You saw it on the TV news", "You heard it on the radio", "Other", "Don't know".
The results for the answers "A doctor talked to you about it", "A pharmacist talked to you about it" and "Another health professional (e.g. nurse, physical therapist) talked to you about it" are regrouped into the answer "Professional or health care facility".
.

QB7 How did you first get this information about not taking any antibiotics unnecessarily? (MULTIPLE ANSWERS POSSIBLE) **(% - EU)**



Base: Respondents who have received information about not taking antibiotics unnecessarily (N=9,222)

There is substantial country-level variation with respect to sources of advice. More than half of respondents in Italy (62%), Hungary (59%) and Croatia (52%) say that they got their information from a doctor, but this applies to less than a quarter of respondents in the Netherlands (16%), Malta (23%) and Austria (23%). The proportion that got information from a pharmacist is also high in Hungary (24%) and Italy (22%), while respondents in Portugal and Sweden (both 16%) are most likely to have got information from another health professional.

There are substantial differences between Member States with respect to media and communication campaigns. Respondents in France (65%) are much more likely than those in other countries to say that they got information from a television advert, while only a small minority say this in Finland (5%), Denmark (7%), Sweden (8%) and Portugal (9%). The proportion that say they got information from television news is highest in Portugal (56%), Romania (47%) and Slovakia (40%).

Respondents are most likely to say they got information from newspapers in Austria (48%), Sweden (43%), Germany and Finland (both 39%), while information from the radio is most common in the Netherlands (31%), Sweden (25%) and Belgium (24%).

Getting information from family or friends is most common among respondents in Croatia (29%), Bulgaria (28%) and Slovakia (26%). Respondents in Belgium (19%) and Luxembourg (18%) are most likely to say that they got information from a leaflet or poster.

QB7 How did you first get this information about not taking any antibiotics unnecessarily? (MULTIPLE ANSWERS POSSIBLE)

(%)

	A doctor talked to you about it	You saw it on a TV advertisement	You saw it on the TV news	You read it in a newspaper	You saw it on the Internet or on online social media	A family member or friend talked to you about it	You heard it on the radio	A pharmacist talked to you about it	You saw it in a leaflet or on a poster	Another health professional (e.g. nurse or physio-therapist) talked to you about it	Other (SPONTANEOUS)	Don't know	Professional or health care facility
EU28	32	27	26	19	13	12	11	10	9	6	7	1	40
BE	34	**43**	21	21	7	6	24	10	**19**	*4*	5	0	39
BG	**49**	12	36	6	8	28	*3*	16	4	13	3	1	56
CZ	**42**	12	32	22	18	21	15	19	9	*6*	4	1	55
DK	**44**	7	31	21	13	16	9	*6*	9	7	10	2	48
DE	25	11	32	**39**	18	11	9	10	8	*6*	8	2	34
EE	**35**	17	19	19	**26**	23	13	11	*7*	8	11	1	43
IE	**31**	26	14	16	*10*	11	20	15	14	*10*	4	0	45
EL	34	**36**	29	8	18	12	4	11	10	*2*	6	0	40
ES	**48**	22	14	6	4	9	*3*	6	*3*	6	9	1	56
FR	25	**65**	19	8	5	9	15	6	7	*2*	4	0	27
HR	**52**	22	26	14	17	**29**	*5*	17	11	9	4	1	60
IT	**62**	35	16	7	17	14	*5*	22	10	8	2	0	68
CY	**31**	11	29	7	14	12	9	*6*	13	10	15	0	39
LV	**32**	26	25	12	17	13	12	7	6	*3*	8	1	36
LT	34	24	**36**	10	19	19	13	14	11	*5*	3	1	43
LU	**48**	26	22	20	12	11	16	9	18	*4*	8	0	52
HU	**59**	18	23	*4*	16	13	5	**24**	5	7	4	1	72
MT	23	**34**	19	10	14	*8*	10	12	16	*8*	6	0	33
NL	16	19	30	30	19	13	**31**	6	7	*4*	12	0	22
AT	23	12	35	**48**	21	18	16	15	11	*6*	6	1	34
PL	**34**	20	21	10	19	17	7	9	10	*6*	8	2	46
PT	35	9	**56**	7	6	15	*2*	13	7	**16**	2	1	48
RO	41	23	**47**	*5*	10	16	15	17	7	13	1	0	56
SI	**43**	19	36	24	18	18	9	17	10	*7*	6	1	46
SK	38	13	**40**	17	16	26	10	9	8	*6*	2	1	45
FI	38	*5*	28	**39**	15	16	8	8	10	15	11	1	48
SE	26	8	38	**43**	19	15	25	5	*4*	**16**	14	1	37
UK	**30**	18	20	12	8	*5*	*5*	8	17	7	8	1	38

Highest percentage per country | *Lowest percentage per country*

Highest percentage per item | Lowest percentage per item

Base: Respondents who have received information about not taking antibiotics unnecessarily (N=9,222)

Socio-demographic variations are as follows:

- Younger respondents (aged 15-24) are more likely than older respondents to have got information from family or friends (22% compared with 8-13% in older age groups). By contrast, older respondents are more likely than younger respondents to have used media sources, specifically television news (31% among those aged 55 or over, compared with 19% of those aged 15-39) and newspapers (26% falling to 8% of 15-24 year olds). The exception is the Internet or online social media, which older respondents are less likely to mention as an information source (7% of those aged 55 or over compared with 15-19% in younger age groups). Respondents aged 25-39 are most likely to have got information from a doctor (37% compared with 30-32% in other age groups).
- Respondents who left education at or before the age of 15 are more likely to have obtained information from a doctor, compared with those educated up to or beyond the age of 20 (38% compared with 30%). However, those with a low level of education are slightly less likely to have got information from other sources, most notably the Internet or online social media (5% compared with 14%).
- Those who have most difficulty paying bills are more likely to have received advice from a doctor (39%, compared with 31% of those who least often have difficulty paying bills). They are less likely to have got information from a newspaper (10% compared with 22%).
- A doctor is by far the most common source of information among respondents that have taken antibiotics themselves in the previous 12 months (42%). Among those that have not taken antibiotics recently, a doctor is one of the three main sources (26%) along with television news (28%) and television adverts (27%).

QB7 How did you first get this information about not taking any antibiotics unnecessarily? MULTIPLE ANSWERS POSSIBLE (% - EU)

	A doctor talked to you about it	You saw it on a TV advertisement	You saw it on the TV news	You read it in a newspaper	You saw it on the Internet or on online social media	A family member or friend talked to you about it	You heard it on the radio	You saw it in a leaflet or on a poster	Another health professional (e.g. nurse or physio-therapist) talked to you about it	Other (SPONTANEOUS)	Don't know	Professional or health care facility
EU28	32	27	26	19	13	12	11	9	6	7	1	40
Age												
15-24	30	24	19	8	19	22	6	13	8	11	2	39
25-39	37	28	19	11	16	13	10	10	8	5	1	47
40-54	30	26	26	20	15	12	13	10	6	8	1	38
55 +	32	28	31	26	7	8	12	7	5	6	1	38
Education (End of)												
15-	38	25	28	22	5	9	9	7	5	5	1	43
16-19	33	32	28	17	12	9	11	10	7	5	1	41
20+	30	25	23	22	14	13	14	9	5	8	1	38
Still studying	32	22	20	9	17	21	6	13	7	13	2	40
Difficulties paying bills												
Most of the time	39	30	30	10	14	12	9	8	4	6	0	47
From time to time	36	33	21	10	15	14	10	9	8	6	1	46
Almost never/ Never	31	25	26	22	12	11	12	9	6	7	1	37
Taken antibiotics in last 12 months												
Yes	42	27	22	14	11	12	9	10	6	5	0	50
No	26	27	28	23	14	12	13	9	6	8	1	34

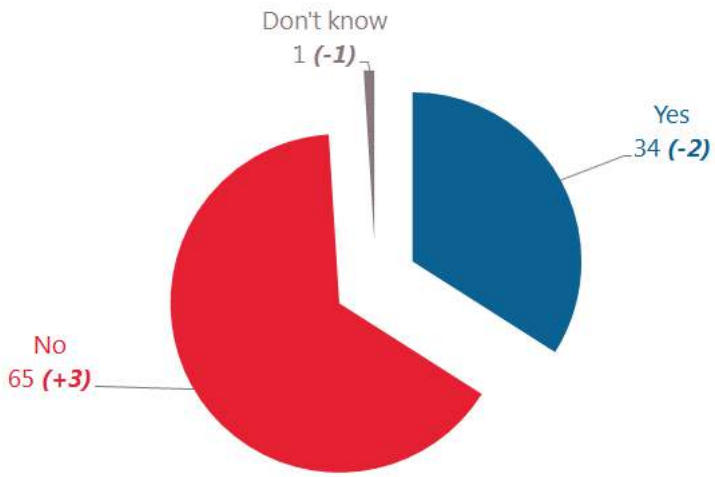
Base: Respondents who have received information about not taking antibiotics unnecessarily (N=9,222)

3 Impact of the information on perception and behaviour

-A third of Europeans changed their views after receiving information-

Those respondents who said they received information about antibiotics were asked whether they had changed their mind about antibiotics as a result of that information.[21] Around a third (34%) of those who received information say that their views were changed by the information they received. This proportion is slightly lower than the figure obtained in the 2013 survey (36%).

QB8 Did the information that you received change your views on using antibiotics?
(% - EU)



(April 2016 - May-June 2013)

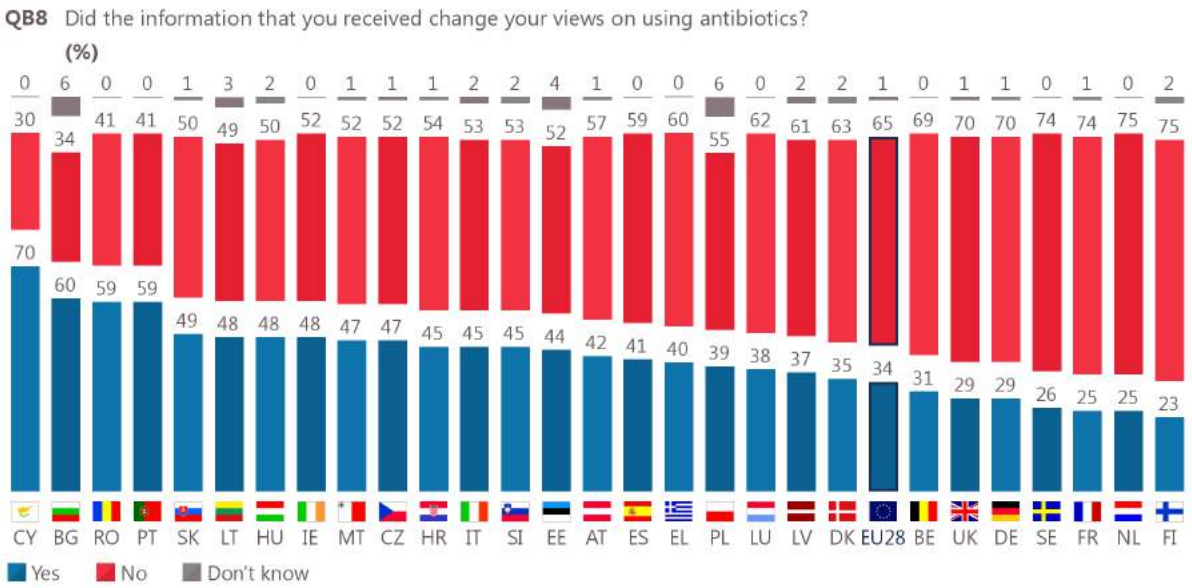
Base: Respondents who have received information about not taking antibiotics unnecessarily (N=9,222)

Once again the findings show substantial country-level differences. In four countries, more than half of respondents say that the information they received changed their views: Cyprus (70%), Bulgaria (60%), Romania and Portugal (both 59%).

By contrast, less than a third of respondents say they have changed their views in Finland (23%), the Netherlands (25%), France (25%), Sweden (26%), Germany (29%), the UK (29%) and Belgium (31%).

In general, the countries with the lowest levels of knowledge about antibiotics are also those where respondents are most likely to say that their views have been changed by the information they have received. Equally, in countries where knowledge levels are highest, respondents are less likely to say that their views have changed.

[21] QB8. Did the information that you received change your views on antibiotics? ONE ANSWER ONLY. "Yes", "No", "Don't know".



Base: Respondents who have received information about not taking antibiotics unnecessarily (N=9,222)

Across the EU as a whole, there has been a small decrease since 2013 (-2 percentage points) in the proportion that say the information they received changed their views on using antibiotics. However, there have been some large changes in individual countries.

There have been increases in nine countries. The largest increases are found in Portugal (+21 percentage points), Bulgaria (+13) and Cyprus (+10).

12 countries show a decrease in the proportion saying the information has changed their views, most notably Slovakia (-19 percentage points) and Poland (-13).

QB8 Did the information that you received change your views on using antibiotics?

(%)

	Yes	Apr. 2016 - May-June 2013	No	Apr. 2016 - May-June 2013	Don't know
EU28	34	▼ 2	65	▲ 3	1
PT	59	▲ 21	41	▼ 20	0
BG	60	▲ 13	34	▼ 16	6
CY	70	▲ 10	30	▼ 10	0
ES	41	▲ 8	59	▼ 7	0
DK	35	▲ 8	63	▼ 8	2
AT	42	▲ 7	57	▼ 4	1
LU	38	▲ 6	62	▼ 5	0
RO	59	▲ 4	41	▲ 16	0
CZ	47	▲ 4	52	▼ 4	1
HU	48	▲ 2	50	▼ 4	2
FI	23	▲ 2	75	▼ 2	2
DE	29	=	70	=	1
NL	25	=	75	=	0
IE	48	▼ 1	52	▲ 5	0
UK	29	▼ 1	70	=	1
FR	25	▼ 2	74	▲ 2	1
LT	48	▼ 3	49	▲ 5	3
EL	40	▼ 4	60	▲ 5	0
SI	45	▼ 5	53	▲ 6	2
MT	47	▼ 6	52	▲ 8	1
LV	37	▼ 6	61	▲ 6	2
IT	45	▼ 7	53	▲ 8	2
BE	31	▼ 7	69	▲ 8	0
HR	45	▼ 8	54	▲ 8	1
EE	44	▼ 8	52	▲ 5	4
SE	26	▼ 8	74	▲ 9	0
PL	39	▼ 13	55	▲ 10	6
SK	49	▼ 19	50	▲ 18	1

Base: Respondents who have received information about not taking antibiotics unnecessarily (N=9,222)

The analysis of **socio-demographic** differences supports the general observation that those with lower levels of objective knowledge are more likely to have their views changed by the information they receive:

- Younger respondents are more likely than older respondents to change their views (41% of 15-24 year olds, falling to 31% of those aged 55 or over).

.

- Those who ended education at the age of 15 or earlier (37%) or between the age of 16 and 19 (36%) are more likely to change their views than those who ended education at the age of 20 or later (29%).
- Those who have trouble paying their bills at least from time to time (39%) are more likely to change their views than those who almost never have trouble paying bills (32%).

QB8 Did the information that you received change your views on using antibiotics?
(% - EU)

	Yes	No	Don't know
EU28	34	65	1
Age			
15-24	41	59	0
25-39	35	65	0
40-54	34	65	1
55 +	31	67	2
Education (End of)			
15-	37	62	1
16-19	36	63	1
20+	29	70	1
Still studying	38	61	1
Difficulties paying bills			
Most of the time	39	61	0
From time to time	39	60	1
Almost never/ Never	32	67	1

Base: Respondents who have received information about not taking antibiotics unnecessarily (N=9,222)

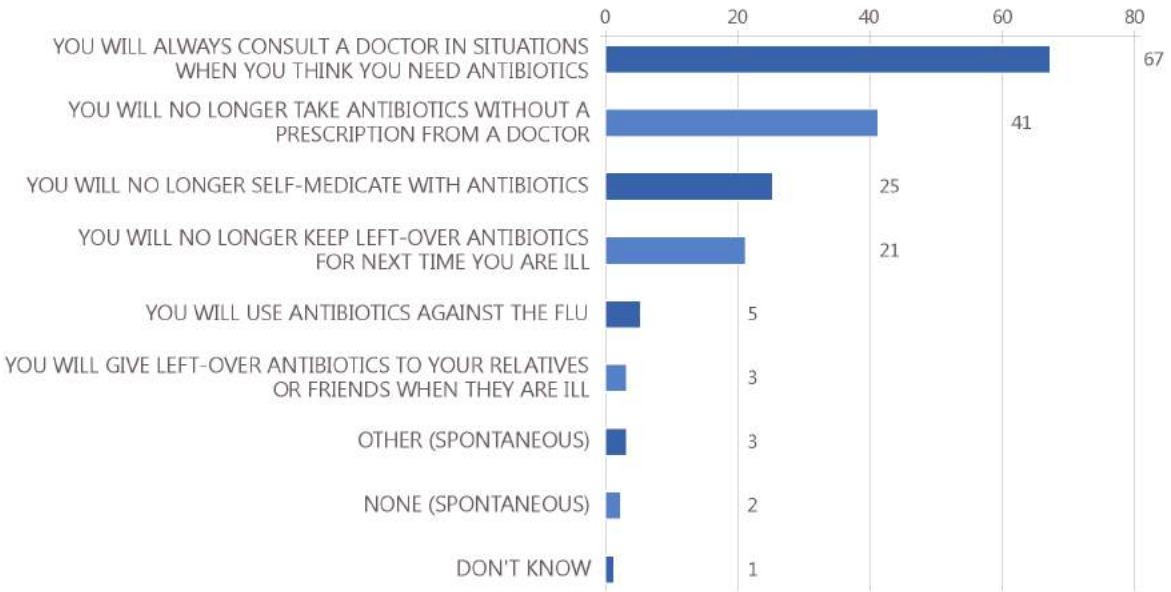
Having established whose views were changed by the information received, we now turn to the question of *how* those views were changed. It should be noted that this involves drawing on a small subset of the overall survey sample. As a result, it is more difficult to draw conclusions about further subsets at the level of countries or socio-demographic categories, as they may be based on sample sizes which are too small to generate statistically significant results.

Those respondents who said they had changed their views on antibiotics as a result of the information they had received were asked to indicate how their behaviour would change as a result. The interviewer read out several options, from which respondents could choose as many as were relevant.[22]

Two thirds (67%) of respondents whose views were changed by information on antibiotics say that as a result they will always consult a doctor about the need to take antibiotics. Two in five (41%) say they will no longer take antibiotics without a prescription from a doctor, and one in four (25%) say they will no longer self-medicate, while slightly fewer (21%) say they will no longer use left-over antibiotics.

The question also included some less appropriate courses of action. Very few respondents say that, as a result of the information, they will use antibiotics against the flu (5%) or that they will give left-over antibiotics to relatives or friends when they are ill (3%).

QB9 On the basis of the information you received, how do you now plan to use antibiotics? (MULTIPLE ANSWERS POSSIBLE)
(% - EU)



Base: Respondents who have changed their views based on this information (N=3,121)

Given the small sample sizes, some caution should be used when interpreting the findings for individual countries, and percentage findings should be viewed as 'indicative' only. The sample sizes for each country range from 63 (Malta) to 236 (Lithuania).

[22] QB9 On the basis of the information you received, how do you now plan to use antibiotics? MULTIPLE ANSWERS POSSIBLE.
"You will always consult a doctor in situations when you think you need an antibiotic", "You will no longer self-medicate with antibiotics", "You will no longer take antibiotics without a prescription from a doctor", "You will no longer keep left over antibiotics for next time you are ill", "You will use antibiotics against the flu", "You will give left-over antibiotics to your relatives or friends when they are ill", "Other (SPONTANEOUS)", "None (SPONTANEOUS)", "Don't know".

In almost all countries, more than half of respondents say they will consult a doctor to determine whether they need an antibiotic; the one exception is Luxembourg (48%). The largest proportions are found in Portugal (79%), Finland (77%) and Sweden (75%).

The proportion that says they will no longer self-medicate with antibiotics is highest in Italy (39%), Romania (38%) and Latvia (37%), while respondents in Cyprus (61%) and Romania (58%) are most likely to say they will no longer take antibiotics without a doctor's prescription.

Respondents in the Czech Republic (32%), Germany (31%) and Denmark (29%) are most likely to say that they will no longer keep left-over antibiotics for next time they are ill.

QB9 On the basis of the information you received, how do you now plan to use antibiotics? (MULTIPLE ANSWERS POSSIBLE)

(%)

	You will always consult a doctor in situations when	You will no longer take antibiotics without a	You will no longer self-medicate with antibiotics	You will no longer keep left over antibiotics for next	You will use antibiotics against the flu	You will give left-over antibiotics to your relatives or	Other (SPONTANEOUS)	None (SPONTANEOUS)	Don't know
EU28	67	41	25	21	5	3	3	2	1
BE	62	50	23	19	4	2	1	4	0
BG	69	39	33	15	3	0	1	2	0
CZ	73	43	31	32	6	3	3	1	1
DK	72	51	31	29	4	3	7	0	0
DE	73	43	26	31	7	3	2	4	0
EE	61	42	21	21	7	0	4	3	1
IE	63	34	18	12	13	8	0	4	0
EL	64	55	12	17	3	0	0	0	0
ES	71	31	18	11	3	1	3	2	0
FR	73	54	30	26	3	1	2	1	3
HR	62	34	23	16	5	4	1	3	1
IT	60	32	39	15	10	6	4	0	2
CY	69	61	33	27	6	2	1	3	0
LV	58	34	37	14	13	5	8	5	2
LT	55	33	13	9	6	2	6	4	1
LU	48	49	19	23	5	1	8	7	0
HU	54	33	11	13	9	10	8	1	3
MT	70	41	12	15	4	3	5	1	0
NL	71	43	29	21	2	0	3	4	0
AT	52	41	33	23	10	4	9	3	0
PL	53	27	17	16	3	10	3	2	4
PT	79	17	11	7	5	7	2	1	0
RO	63	58	38	19	3	3	1	0	0
SI	54	43	18	25	4	2	8	4	0
SK	65	34	26	18	2	1	3	1	0
FI	77	38	12	20	13	0	3	2	1
SE	75	52	21	22	2	1	3	3	0
UK	67	40	18	18	4	5	3	1	1

Base: Respondents who have changed their views based on this information (N=3,121)

There are few statistically significant **socio-demographic** findings on this question. Young respondents (aged 15-24) are more likely than older respondents to say that they will no longer self-medicate with antibiotics (30% compared with 23-24% in older age groups). More highly educated respondents are more likely to say they will always consult a doctor when they think they need antibiotics (70% of those who ended education at the age of 20 or above, compared with 62% of those who finished education at or before the age of 15).

QB9 On the basis of the information you received, how do you now plan to use antibiotics?
MULTIPLE ANSWERS POSSIBLE
(% - EU)

	You will always consult a doctor in situations when you think you need antibiotics	You will no longer take antibiotics without a prescription from a doctor	You will no longer self-medicate with antibiotics	You will no longer keep left over antibiotics for next time you are ill	You will use antibiotics against the flu	You will give left-over antibiotics to your relatives or friends when they are ill	Other (SPONTANEOUS)	None (SPONTANEOUS)	Don't know
EU28	67	41	25	21	5	3	3	2	1
Age									
15-24	64	42	30	16	6	2	2	1	1
25-39	68	41	24	19	5	5	3	1	1
40-54	68	43	24	22	5	4	2	2	0
55 +	67	40	23	23	5	3	4	3	2
Education (End of)									
15-	62	36	27	22	7	0	4	2	3
16-19	68	43	23	23	6	6	2	2	1
20+	70	41	24	18	3	2	4	2	1
Still studying	61	43	31	17	6	1	1	1	1

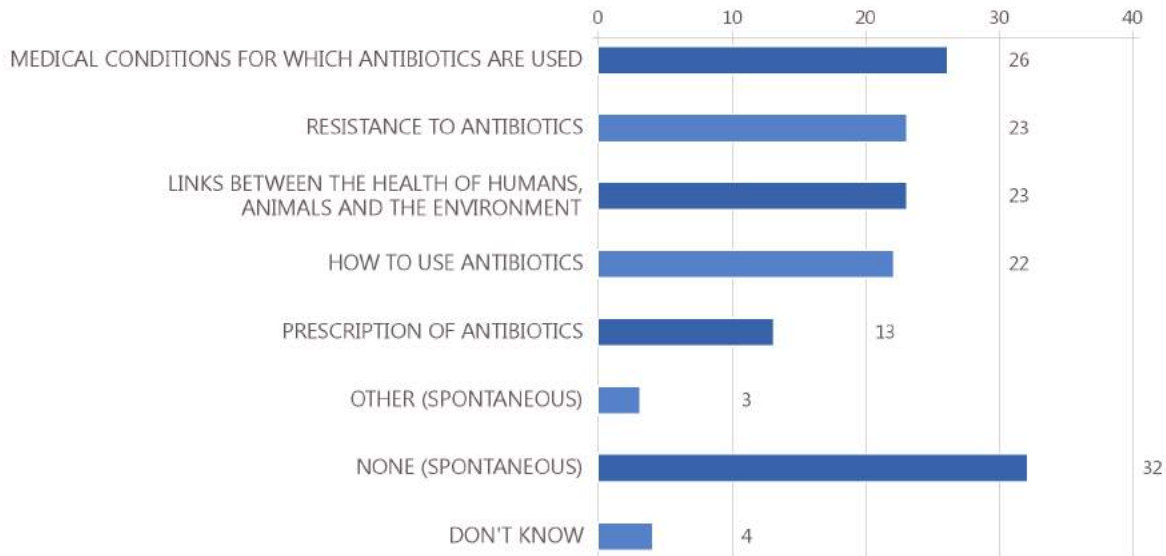
Base: Respondents who have changed their views based on this information (N=3,121)

4 Desired information about antibiotics

All respondents were asked about the topics that they would like to receive more information on. They were presented with a list of five options, and were able to choose as many as they liked[23].

Around a quarter of respondents say they would like more information on the medical conditions for which antibiotics are used (26%), while slightly smaller proportions say they would like information on resistance to antibiotics (23%), links between the health of humans, animals and the environment (23%) and how to use antibiotics (22%). Respondents are less likely to say that they would like to receive information about the prescription of antibiotics (13%). However, almost a third of respondents say that they would not like to receive any information on any topic (32%).

QB10 On which topics, if any, would you like to receive more information? (MULTIPLE ANSWERS POSSIBLE)
(% - EU)



Total base (N=27,969)

[23] QB10 On which topics, if any, would you like to receive more information? MULTIPLE ANSWERS POSSIBLE.
"Resistance to antibiotics", "How to use antibiotics", "Medical conditions for which antibiotics are used", "Prescription of antibiotics", "Links between health of humans, animals and the environment" "Other (SPONTANEOUS)", "None (SPONTANEOUS)", "Don't know".

Respondents in Greece are most likely to say that they would like information on the medical conditions for which antibiotics are used (41%), followed by those in Romania (39%). The lowest proportions are found in the UK (15%) and Finland (17%).

The highest proportion that would like information on resistance to antibiotics is found in Sweden (40%), followed by Romania (35%) and Denmark (34%). Respondents in Latvia (10%), Estonia (13%) and Hungary (14%) are least likely to want this type of information.

Respondents in Sweden (45%) and Denmark (43%) are much more likely than those in other countries to want information on the links between the health of humans, animals and the environment. The lowest proportions are found in the UK (14%), Estonia and Portugal (both 16%).

Information on how to use antibiotics is most frequently requested by respondents in Greece (44%) and Cyprus (40%), while the lowest proportions are found in Finland (7%), the UK (8%) and the Netherlands (9%).

Respondents in Romania (29%) are much more likely than those in other countries to want information on the prescription of antibiotics. The lowest proportions are found in Denmark, Latvia and the UK (all 6%).

QB10 On which topics, if any, would you like to receive more information? (MULTIPLE ANSWERS POSSIBLE)

(%)

	Medical conditions for which antibiotics are used	Resistance to antibiotics	Links between the health of humans, animals and the environment	How to use antibiotics	Prescription of antibiotics	Other (SPONTANEOUS)	None (SPONTANEOUS)	Don't know
EU28	26	23	23	22	13	3	32	4
BE	25	24	**26**	20	*14*	0	29	1
BG	**32**	20	20	27	*19*	1	25	10
CZ	**37**	24	24	21	*7*	3	23	5
DK	28	34	**43**	13	*6*	5	24	2
DE	25	23	**28**	26	*12*	2	39	2
EE	**26**	13	16	10	*7*	2	42	12
IE	24	**25**	21	19	*14*	3	31	5
EL	41	33	25	**44**	*20*	3	17	0
ES	19	16	19	**25**	*10*	4	42	4
FR	24	21	**27**	16	*11*	4	27	5
HR	**31**	26	23	25	*15*	3	18	6
IT	31	26	*18*	**33**	20	3	20	6
CY	36	28	35	**40**	*16*	4	16	0
LV	**36**	10	17	13	*6*	3	34	3
LT	**27**	20	17	20	*9*	4	35	5
LU	27	**30**	28	18	*12*	5	20	2
HU	**27**	14	17	17	*12*	3	34	3
MT	31	22	26	**34**	*13*	4	18	7
NL	19	24	**33**	9	*8*	4	39	2
AT	27	29	**31**	27	*16*	4	27	2
PL	**29**	26	17	23	*14*	2	23	11
PT	**34**	21	16	19	*14*	1	27	5
RO	**39**	35	*28*	36	29	4	15	2
SI	**25**	22	21	16	*15*	8	33	2
SK	**30**	25	20	21	*13*	5	23	5
FI	17	17	**30**	*7*	8	2	40	2
SE	30	40	**45**	21	*15*	3	20	1
UK	**15**	**15**	14	8	*6*	1	55	2

Highest percentage per country *Lowest percentage per country*

Highest percentage per item | Lowest percentage per item

Total base (N=27,969)

Findings are generally consistent across different **socio-demographic** groups. Respondents with a higher level of education are more likely to want information on the links between the health of humans, animals and the environment: 28% among those who finished their education at the age of 20 or above, compared with 15% of those who ended education at or below the age of 15. They are less likely to want information on how to use antibiotics (18% compared with 25%).

QB10 On which topics, if any, would you like to receive more information? MULTIPLE ANSWERS POSSIBLE (% - EU)

	Medical conditions for which antibiotics are used	Resistance to antibiotics	Links between the health of humans, animals and the environment	How to use antibiotics	Prescription of antibiotics	Other (SPONTANEOUS)	None (SPONTANEOUS)	Don't know
EU28	26	23	23	22	13	3	32	4
Education (End of)								
15-	24	19	15	25	14	3	39	4
16-19	27	23	23	23	13	2	31	4
20+	24	24	28	18	12	3	32	3
Still studying	29	23	28	24	13	2	25	3
Knowledge about antibiotics								
4 correct answers	21	23	28	16	9	2	37	2
3 correct answers	26	23	26	21	12	3	34	3
2 correct answers	30	25	22	26	15	3	27	4
1 correct answer	28	19	18	26	14	2	32	5
0 correct answers	22	16	11	21	15	4	34	12

Total base (N=27,969)

5 The most trustworthy sources of information

-The vast majority of respondents see doctors as a trustworthy source of information on antibiotics-

Respondents were asked to give their opinion on which sources of information about antibiotics are the most trustworthy. The interviewer showed the respondent a card with a number of options, from which the respondent could select a maximum of three.[24]

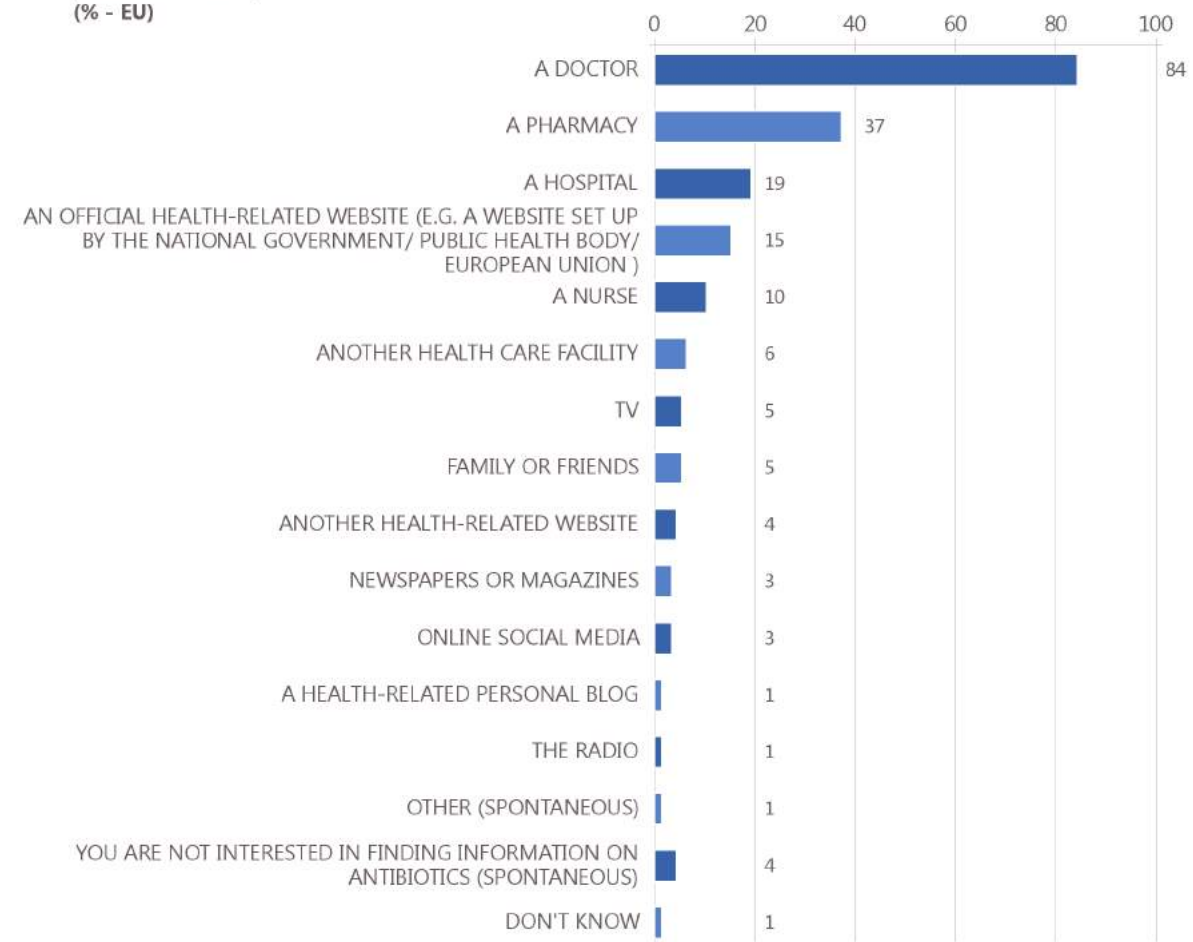
Respondents see medical professionals or health care facilities as the most trustworthy sources of information. More than four in five respondents (84%) identify doctors as an important source of information, while 37% would use a pharmacy to get trustworthy information, 19% would get information from a hospital, and 15% would visit an official health-related website. Some respondents would like to get information from a nurse (10%) or another health care facility (6%).

Respondents are less likely to opt for non-health-related sources, such as television (5%), family and friends (5%) or other health related websites (4%).

The response options have been modified from the 2013 survey, so it is not possible to provide direct comparisons with the previous findings. However, it is clear that respondents continue to value medical professionals or health care facilities ahead of other sources.

[24] QB11 Which of the following sources of information would you use in order to get trustworthy information on antibiotics? MAXIMUM 3 ANSWERS. "A doctor", "A nurse", "A pharmacy", "A hospital", "Another health care facility", "Family or friends", "An official health related website (e.g. a website from the national government/public health body/European Union)", "A health related personal blog", "Another health related website", "Online social media", "TV", "Newspapers or magazines", "The radio" "Other (SPONTANEOUS)", "You are not interested in finding information on antibiotics (SPONTANEOUS)", "Don't know".

QB11 Which of the following sources of information would you use in order to get trustworthy information on antibiotics? (MAX. 3 ANSWERS)
(% - EU)



Total base (N=27,969)

The table below shows the country-level findings for the top five answers. In all countries, a large majority of respondents see doctors as a source of trustworthy information on antibiotics. The highest proportions are found in Spain (92%), Malta (92%), Greece (91%), Cyprus (91%) and Romania (90%). Respondents in Sweden (75%) are the least likely to choose doctors as a preferred source of information.

There is more variation in the case of attitudes to pharmacies as a source of reliable information. More than half of respondents in the Netherlands (66%), Ireland (57%) and Finland (55%) said that pharmacies are trustworthy sources, while less than a quarter hold this view in Spain (23%) and Italy (22%).

As for hospitals being a source of trustworthy information, proportions are highest among respondents in Malta (34%), Greece (31%) and the Netherlands (31%). The lowest figure is found in Germany (8%).

Respondents in Sweden (48%) are the most likely to say they would use an official health-related website, while respondents in Denmark (40%), the Netherlands (36%) and Finland (30%) are also much more likely than those in other countries to choose this option. The lowest proportions are found in Croatia (6%), Portugal and Romania (both 7%).

Lastly, there is also some variation between countries where nurses are concerned. In Sweden, around a quarter (26%) of respondents see nurses as a source of trustworthy information, as do 23% of respondents in Ireland and 20% in Croatia and Finland. However, this opinion is shared by a mere 3% of those polled in Greece and in Italy, and by 4% of respondents in Lithuania and in Germany.

QB11 Which of the following sources of information would you use in order to get trustworthy information on antibiotics? (MAX. 3 ANSWERS)
(%)

	A doctor	A pharmacy	A hospital	An official health-related website (e.g. a website set up by the national government/ public health body/ European Union)	A nurse
EU28	84	37	19	15	10
BE	**87**	47	22	15	*10*
BG	**79**	29	15	11	*8*
CZ	**82**	44	24	14	*13*
DK	**86**	45	29	40	*15*
DE	**83**	43	8	17	*4*
EE	**87**	37	*11*	15	19
IE	**81**	57	17	*11*	23
EL	**91**	38	31	12	*3*
ES	**92**	23	16	*9*	11
FR	**86**	42	22	13	*11*
HR	**84**	32	16	*6*	20
IT	**77**	22	19	15	*3*
CY	**91**	27	19	16	*7*
LV	**84**	32	18	9	*7*
LT	**81**	39	16	12	*4*
LU	**89**	38	25	16	*9*
HU	**84**	40	15	12	*9*
MT	**92**	35	**34**	9	*8*
NL	**83**	**66**	31	36	*9*
AT	**83**	45	25	16	*10*
PL	**78**	27	20	10	*8*
PT	**89**	37	16	*7*	16
RO	**90**	35	26	*7*	15
SI	**84**	43	*12*	13	16
SK	**83**	39	13	*12*	13
FI	**81**	55	*18*	30	20
SE	**75**	43	*18*	**48**	**26**
UK	**85**	42	24	*17*	18

Highest percentage per country *Lowest percentage per country*

Highest percentage per item | Lowest percentage per item

Top 5 Answers
Total base (N=27,969)

Findings are generally consistent across **socio-demographic** groups, although there are some differences that relate to attitudes towards the Internet as a source of information on antibiotics.

- Respondents aged 55 years or older (9%) are half as likely as other age groups (18-22%) to see an official health-related website as a potential source of trustworthy information.
- Almost a quarter (23%) of those who finished education at the age of 20 or later say they would visit an official health-related website, compared with 5% of those who finished education at the age of 15 or earlier.
- As might be expected, respondents who use the Internet every day are more likely to say they would use an official health-related website than respondents who never use the Internet (21% compared with 2%). Consequently, the proportions favouring this information source vary by socio-demographic groups that have distinct patterns of regular Internet use; specifically:
- Those with greater objective knowledge about antibiotics are also more likely to trust this information source (20% of those who answered all four questions about antibiotics correctly, falling to 7% of those who got no correct answers).

QB11 Which of the following sources of information would you use in order to get trustworthy information on antibiotics? MAX. 3 ANSWERS (% - EU)

	An official health-related website (e.g. a website set up by the national government/ public health body/ European Union)
EU28	15
Age	
15-24	22
25-39	20
40-54	18
55 +	9
Education (End of)	
15-	5
16-19	13
20+	23
Still studying	25
Use of the Internet	
Every day	21
Often/ Sometimes	9
Never	2
Knowledge about antibiotics	
4 correct answers	20
3 correct answers	18
2 correct answers	12
1 correct answer	12
0 correct answers	7

Total base (N=27,969)

IV. POLICY RESPONSE

This section focuses on the policy response, asking respondents at what level they think resistance to antibiotics should be tackled.

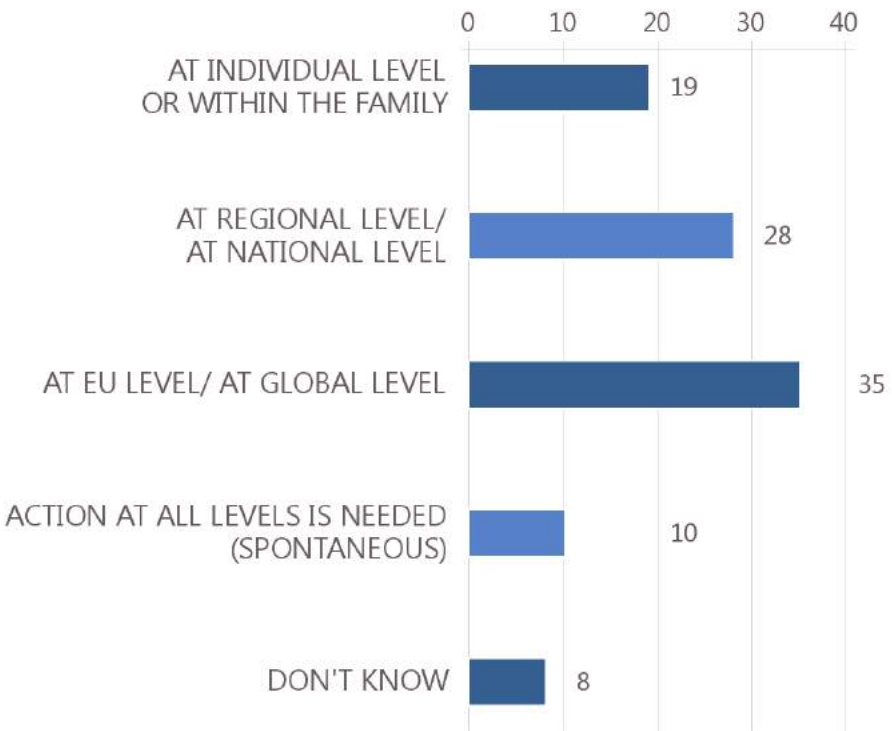
1 Most effective level to tackle antimicrobial resistance

-Europeans support action at all levels to tackle antibiotic resistance-

Respondents were asked at what level they think it is most effective to tackle the resistance to antibiotics.[25]

Europeans are aware that action is needed at all levels, with 35% in favour of action at global and EU level. 28% think that action should be taken at national/regional level, whereas 19% consider it should be tackled at the invididual level or within the family.

QB12 At what level do you believe it is most effective to tackle the resistance to antibiotics?
(% - EU)



Total base (N=27,969)

[25] QB12 At what level do you believe it is most effective to tackle antimicrobial resistance? ONE ANSWER ONLY. "At individual, family level", "At regional level", "At national level", "At EU level", "At global level", "Action at all levels is needed (SPONTANEOUS)", "Don't know".

In 18 countries, the most popular option for tackling resistance to antibiotics is action at the EU/ global level. Respondents in Sweden (64%) are by far the most likely to say this, followed by those in Denmark (56%), the Netherlands (54%) and Luxembourg (49%). However, a preference for EU or global action is much lower in Latvia (16%), Poland, Estonia (both 19%) and Hungary (20%).

There is less variation by country in the proportion favouring action at the national or regional level. The highest proportions are found in Poland (39%), Italy, Hungary (both 38%) and Ireland (37%), while the lowest proportions are found in Slovenia (13%) and Cyprus (14%).

Around half of respondents in Slovenia (52%) say that it is most effective to tackle antibiotic resistance at the individual level or within the family. This is much higher than in any other country, with the next highest proportions seen in Latvia (33%), Romania (32%) and France (31%). Respondents in Italy (8%), Denmark and Sweden (both 10%) are the least likely to favour this option.

In total, 10% of Europeans say spontaneously that action at all levels is needed. This is highest among respondents in Bulgaria (20%), Germany (19%) and Estonia (18%).

The proportion of ‘don’t know’ answers also varies by country, ranging from 18% in Estonia to 1% in Sweden.

QB12 At what level do you believe it is most effective to tackle the resistance to antibiotics? (%)

	At individual level or within the family	At regional level/ At national level	At EU level/ At global level	Action at all levels is needed (SPONTANEOUS)	Don't know
EU28	19	28	35	10	8
BE	*21*	27	41	9	2
BG	*14*	30	22	20	14
CZ	*13*	31	45	5	6
DK	*10*	25	56	6	3
DE	*15*	20	40	19	6
EE	*19*	26	*19*	18	18
IE	29	37	*27*	2	5
EL	*16*	35	37	7	5
ES	*18*	24	40	6	12
FR	31	*25*	33	2	9
HR	*24*	34	25	13	4
IT	*8*	38	32	13	9
CY	23	*14*	46	8	9
LV	33	33	*16*	6	12
LT	*22*	29	37	6	6
LU	20	*17*	49	6	8
HU	22	38	*20*	11	9
MT	*23*	30	36	5	6
NL	*15*	27	54	2	2
AT	*13*	28	47	7	5
PL	*18*	39	19	11	13
PT	*15*	31	32	15	7
RO	32	31	*24*	7	6
SI	52	*13*	23	8	4
SK	*16*	32	36	10	6
FI	*25*	30	37	4	4
SE	*10*	21	64	4	1
UK	*24*	26	33	9	8

Highest percentage per country — *Lowest percentage per country*

Highest percentage per item — Lowest percentage per item

Total base (N=27,969)

Findings are generally very consistent across different **socio-demographic** groups but a few partterns do emerge. For example, younger respondents are slightly more in favour of action being taken at the national or regional level than their older counterparts (32% of those aged 15-24 compared with 27% of those aged 40 or over). On the other hand, respondents aged 40-54 are significantly more likely to favour action at the EU or global level (39% vs. 31-35% across other age groups).

In terms of education, generally the longer one stays in full-time education, the more likely they are to think that action against antimicrobial resistance is most effective at the EU or global level (40% of those who left at the age of 20 or over compared with 30% who left before the age of 16).

In a similar vein, those who displayed higher levels of knowledge about antibiotics are also more likely to think that action would be most effective at the EU or global level. For example, respondents who gave four correct answers about antibiotics (43%) are significantly more likely to hold this view than those who have no correct answers (23%). To a slightly lesser extent, this pattern is also observed for action being taken at the national or global level.

Respondents who received information about antibiotics in the last 12 months are also more likely to think that action is most effective at the EU or global level (39% compared with 33% of those who have not).

QB12 At what level do you believe it is most effective to tackle the resistance to antibiotics? (% - EU)

	At individual level or within the family	At national level/ At regional level	At EU level/ At global level	Action at all levels is needed (SPONTANEOUS)	Don't know
EU28	19	28	35	10	8
Age					
15-24	20	32	31	9	8
25-39	18	30	35	10	7
40-54	19	27	39	10	5
55 +	19	27	33	10	11
Education (End of)					
15-	19	29	30	10	12
16-19	19	29	33	11	8
20+	19	26	41	9	5
Still studying	18	31	33	10	8
Knowledge about antibiotics					
4 correct answers	20	25	43	9	3
3 correct answers	21	27	36	10	6
2 correct answers	18	31	32	10	9
1 correct answer	19	31	28	9	13
0 correct answers	13	27	23	15	22
Received information about antibiotics					
Yes	21	27	39	9	4
No	18	29	33	10	10

Total base (N=27,969)

V. USE OF ANTIBIOTICS IN AGRICULTURE AND THE ENVIRONMENT (ONE HEALTH)

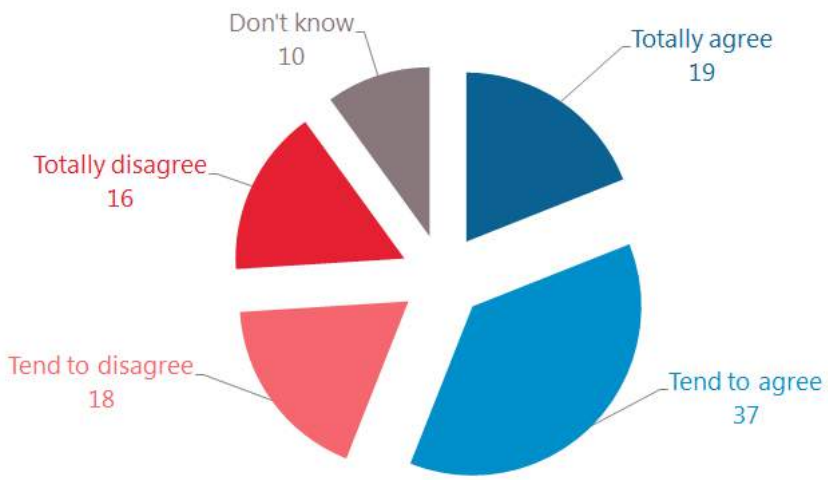
The final section of the report examines knowledge of and attitudes towards the use of antibiotics in agriculture and the environment. Respondents were asked whether they agree that sick animals should have the right to be treated with antibiotics, and were also asked whether they know about the EU ban on the use of antibiotics to stimulate growth in farm animals.

1 The treatment of sick animals with antibiotics

-More than half of Europeans agree that sick animals have the right to be treated with antibiotics-

Respondents were asked whether they agree that sick animals have the right to be treated with antibiotics if this is the most appropriate treatment.[26] More than half of Europeans (56%) agree, including around a fifth (19%) who totally agree. Around a third (34%) disagree, including 16% who totally disagree, while 10% do not give an opinion.

QB13 To what extent do you agree or disagree that sick farm animals should be treated with antibiotics if this is the most appropriate treatment?
(% - EU)

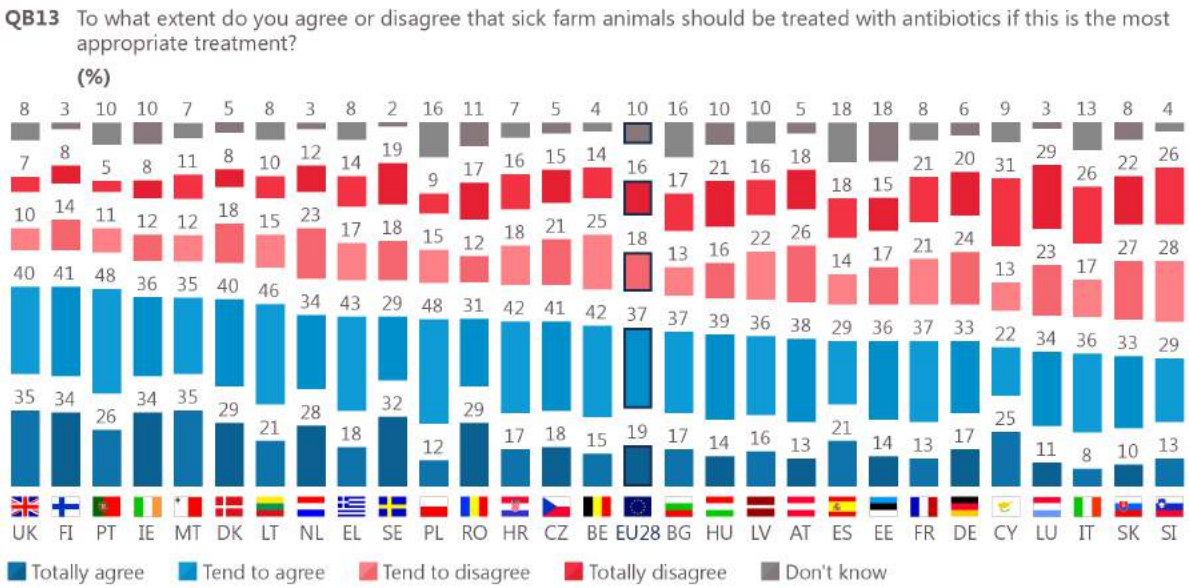


Total base (N=27,969)

Respondents in the UK and Finland (both 75%) are the most likely to agree that sick animals have the right to be treated with antibiotics if this is the most appropriate treatment, followed by respondents in Portugal (74%), Ireland and Malta (both 70%). The proportions that 'totally agree' are highest in the UK (35%), Malta (35%), Finland (34%) and Ireland (34%).

By contrast, more than half of respondents disagree with the statement in Slovenia (54%) and Luxembourg (52%).

[26] QB13 To what extent do you agree or disagree that sick farm animals should be treated with antibiotics if this is the most appropriate treatment? ONE ANSWER ONLY. "Totally agree", "Tend to agree", "Tend to disagree", "Totally disagree", "Don't know".



Total base (N=27,969)

Looking at differences between **socio-demographic groups**, older respondents are less likely than younger respondents to agree that sick animals have the right to be treated with antibiotics if this is the most appropriate treatment: 53% of those aged 55 or over agree, compared with 58-60% in younger age groups.

Those with higher levels of education are more likely to agree with the statement. Among those who finished education at the age of 20 or above, three in five (60%) agree, compared with half (50%) of those who ended education at or before the age of 15.

Respondents who taken antibiotics themselves in the last year are slightly more likely to agree than those who haven't taken antibiotics (59% compared with 55%). Those with a higher objective knowledge about antibiotics are more likely to give an answer, and are slightly more likely to agree with the statement (59% among those who answered all four statements about antibiotics correctly, falling to 45% of those who answered none correctly).

QB13 To what extent do you agree or disagree that sick farm animals should be treated with antibiotics if this is the most appropriate treatment?
(% - EU)

	Totally agree	Tend to agree	Tend to disagree	Totally disagree	Don't know	Total 'Agree'	Total 'Disagree'
EU28	19	37	18	16	10	56	34
Age							
15-24	21	39	18	13	9	60	31
25-39	20	38	17	16	9	58	33
40-54	19	39	18	16	8	58	34
55 +	18	35	17	18	12	53	35
Education (End of)							
15-	18	32	16	20	14	50	36
16-19	18	37	18	17	10	55	35
20+	21	39	18	15	7	60	33
Still studying	21	39	18	13	9	60	31
Taken antibiotics in last 12 months							
Yes	21	38	16	16	9	59	32
No	18	37	18	17	10	55	35
Knowledge about antibiotics							
4 correct answers	23	36	19	17	5	59	36
3 correct answers	20	37	18	17	8	57	35
2 correct answers	17	39	18	16	10	56	34
1 correct answer	16	37	17	15	15	53	32
0 correct answers	13	32	13	17	25	45	30

Total base (N=27,969)

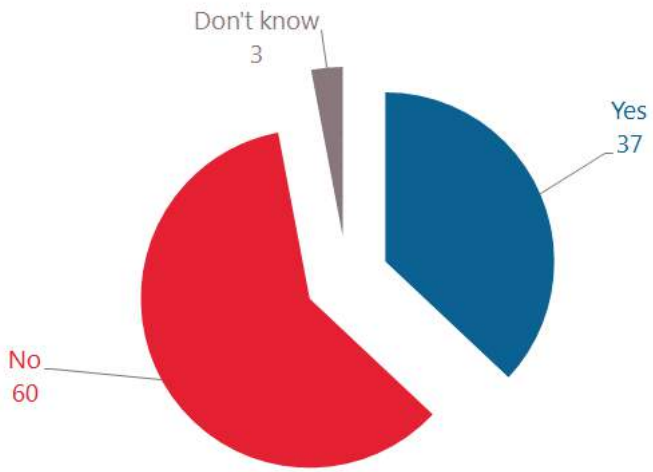
2 Ban on the use of antibiotics within the EU to stimulate growth in farm animals

-Just over a third are aware of the EU ban on the use of antibiotics on farm animals-

Respondents were asked whether they were aware that the use of antibiotics to stimulate growth in farm animals is banned in the EU.[27]

Just over a third of Europeans (37%) say that they were aware of the EU ban, while the majority either say that they were not aware (60%) or did not know (3%).

QB14 Do you know that using antibiotics to stimulate growth in farm animals is banned within the EU?
(% - EU)

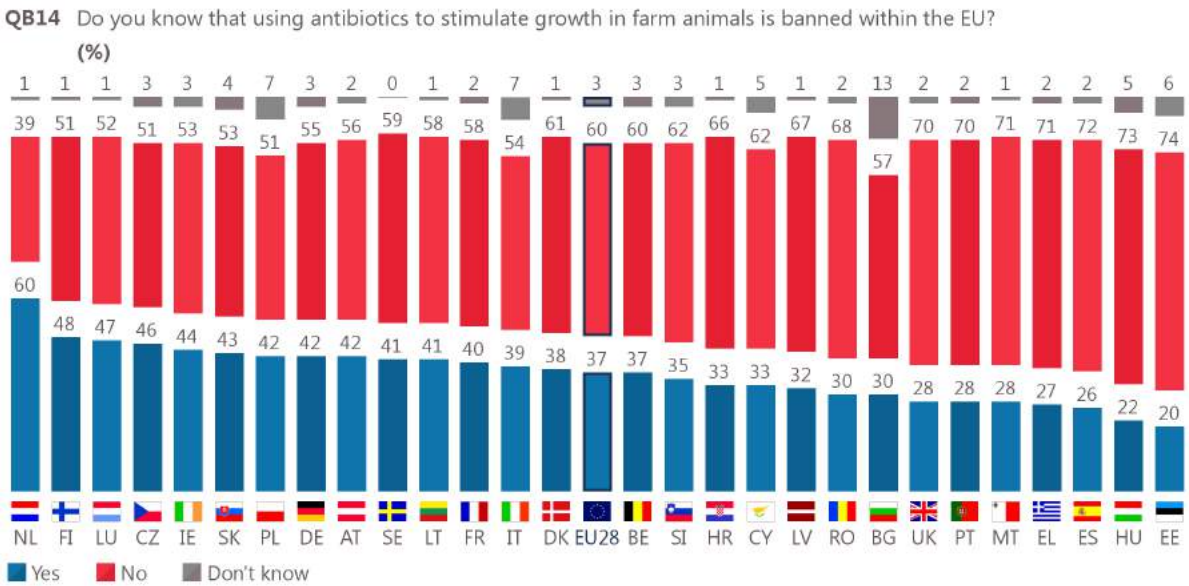


Total base (N=27,969)

The Netherlands is the only country where a majority of respondents (60%) say they were aware of the ban on the use of antibiotics within the EU to stimulate growth in farm animals. The next highest proportions are found in Finland (48%), Luxembourg (47%) and the Czech Republic (46%).

Respondents in Estonia are the least likely to be aware of the ban (20%), with relatively low proportions also seen in Hungary (22%), Spain (26%), Greece (27%), the UK, Portugal and Malta (all 28%).

[27] QB14 Do you know that within the EU using antibiotics to stimulate growth in farm animals is banned? ONE ANSWER ONLY. "Yes", "No", "Don't know".



Total base (N=27,969)

There are few statistically significant **socio-demographic** findings on this question. Awareness is slightly higher among men than women (39% compared with 35%), and is slightly higher in the older age groups (38% of those aged 55 or over, compared with 33% of 15-24 year olds and 35% of those aged 25-39). Awareness of the EU ban on the use of antibiotics to stimulate growth in farm animals is higher among those who left education at a later stage. Among those who finished education at the age of 20 or above, 44% say they were aware of the ban, compared with 30% of those who ended education at or before the age of 15.

Awareness increases along with objective knowledge about antibiotics: ranging from 46% among those who answered all four questions about antibiotics correctly, to 20% of those who answered none correctly. Respondents who have received information about the misuse of antibiotics are more likely to be aware of the ban than those who have not received information (47% compared with 32%).

QB14 Do you know that using antibiotics to stimulate growth in farm animals is banned within the EU?
(% - EU)

	Yes	No	Don't know
EU28	37	60	3
Gender			
Man	39	57	4
Woman	35	62	3
Age			
15-24	33	63	4
25-39	35	62	3
40-54	39	58	3
55 +	38	58	4
Education (End of)			
15-	30	66	4
16-19	36	60	4
20+	44	54	2
Still studying	37	60	3
Knowledge about antibiotics			
4 correct answers	46	52	2
3 correct answers	40	58	2
2 correct answers	35	61	4
1 correct answer	28	67	5
0 correct answers	20	69	11
Received information about antibiotics			
Yes	47	51	2
No	32	64	4

Total base (N=27,969)

CONCLUSION

In the survey, a third (34%) of Europeans say that they took antibiotics in the previous 12 months. The **use of antibiotics** has remained at a similar level to that seen in the 2013 survey, after a marked decline between 2009 and 2013 (from 40% to 35%). Use of antibiotics varies considerably by country and between different socio-demographic groups.

The overwhelming majority of respondents obtain antibiotics from their health care provider, but there remains a persistent minority (5% of those taking antibiotics) who use antibiotics without prescription, contrary to the EU recommendation that all antibiotics in the Member States be dispensed on prescription only.

Overall **knowledge of antibiotics** remains rather low: around a quarter (24%) of Europeans are able to give the correct answer to four questions on this topic, similar to the 2013 survey. In particular, less than half (43%) of Europeans know that antibiotics are ineffective against viruses, and only just over half (56%) know that they are ineffective against colds and flu. Indeed, flu remains one of the most commonly cited reasons for taking antibiotics, with one in six users of antibiotics doing so (16%).

There is a link between knowledge and use of antibiotics: those with greater knowledge are less likely to use them. This can be seen in the variations by country and by socio-demographic groups. Knowledge is generally lower among those with low levels of education and worse economic circumstances, and these groups are more likely to use antibiotics.

Only a third (33%) of respondents recall **receiving information** about not taking antibiotics unnecessarily in the last 12 months, the same proportion as in 2013. Once again, there are large variations by country and by socio-demographic groups, reflecting the same patterns as seen above for use and knowledge.

Those who have been exposed to information of any kind are generally more likely to have better knowledge about antibiotics than those who have not been. However, only a third (34%) of those Europeans who have received information say that the information they received – from whichever source – has led them to reconsider their use of antibiotics.

Overall, the challenge remains the ability to provide effective information to Europeans who currently have low knowledge and awareness – and who are also more likely to use antibiotics and to use them incorrectly. The lack of change since the 2013 survey suggests that renewed effort will be needed to change public awareness and behaviour.

Europeans are aware that action to tackle antimicrobial resistance is needed at all levels, with 35% in favour of action at global and EU level, 28% at national or regional level, whereas 19% consider it should be tackled at the invididual level or within the family.

TECHNICAL SPECIFICATIONS

Between the 9th and the 18th of April 2016, TNS opinion & social, a consortium created between TNS political & social, TNS UK and TNS opinion, carried out the wave 85.1 of the EUROBAROMETER survey, on request of the EUROPEAN COMMISSION, Directorate-General for Communication, "Strategy, Corporate Communication Actions and Eurobarometer" Unit.

The wave 85.1 includes the SPECIAL EUROBAROMETER 445 and covers the population of the respective nationalities of the European Union Member States, resident in each of the 28 Member States and aged 15 years and over.

	COUNTRIES	INSTITUTES	N° INTERVIEWS	DATES FIELDWORK		POPULATION 15+	PROPORTION EU28
BE	Belgium	TNS Dimarso	1,007	09/04/16	18/04/16	9,263,570	2.18%
BG	Bulgaria	TNS BBSS	1,040	09/04/16	18/04/16	6,294,563	1.48%
CZ	Czech Rep.	TNS Aisa	1,047	09/04/16	18/04/16	8,955,829	2.11%
DK	Denmark	TNS Gallup DK	1,010	09/04/16	18/04/16	4,625,032	1.09%
DE	Germany	TNS Infratest	1,563	09/04/16	18/04/16	71,283,580	16.79%
EE	Estonia	TNS Emor	1,004	09/04/16	18/04/16	1,113,355	0.26%
IE	Ireland	Behaviour & Attitudes	1,016	09/04/16	18/04/16	3,586,829	0.84%
EL	Greece	TNS ICAP	1,008	09/04/16	18/04/16	8,791,499	2.07%
ES	Spain	TNS Spain	1,053	09/04/16	18/04/16	39,506,853	9.31%
FR	France	TNS Sofres	1,045	09/04/16	18/04/16	51,668,700	12.17%
HR	Croatia	HENDAL	1,057	09/04/16	18/04/16	3,625,601	0.85%
IT	Italy	TNS Italia	1,033	09/04/16	18/04/16	51,336,889	12.09%
CY	Rep. Of Cyprus	CYMAR	500	09/04/16	17/04/16	724,084	0.17%
LV	Latvia	TNS Latvia	1,032	09/04/16	18/04/16	1,731,509	0.41%
LT	Lithuania	TNS LT	998	09/04/16	18/04/16	2,535,329	0.60%
LU	Luxembourg	TNS ILReS	501	09/04/16	17/04/16	445,806	0.11%
HU	Hungary	TNS Hoffmann	1,058	09/04/16	18/04/16	8,477,933	2.00%
MT	Malta	MISCO	501	09/04/16	18/04/16	360,045	0.08%
NL	Netherlands	TNS NIPO	1,041	09/04/16	18/04/16	13,901,653	3.27%
AT	Austria	ipr Umfrageforschung	1,011	09/04/16	18/04/16	7,232,497	1.70%
PL	Poland	TNS Polska	1,015	09/04/16	18/04/16	32,736,685	7.71%
PT	Portugal	TNS Portugal	1,010	09/04/16	18/04/16	8,512,269	2.01%
RO	Romania	TNS CSOP	1,014	09/04/16	18/04/16	16,880,465	3.98%
SI	Slovenia	Mediana	994	09/04/16	18/04/16	1,760,726	0.41%
SK	Slovakia	TNS Slovakia	1,038	09/04/16	18/04/16	4,580,260	1.08%
FI	Finland	TNS Gallup Oy	1,008	09/04/16	18/04/16	4,511,446	1.06%
SE	Sweden	TNS Sifo	1,035	09/04/16	18/04/16	7,944,034	1.87%
UK	United Kingdom	TNS UK	1,330	09/04/16	18/04/16	52,104,731	12.27%
		TOTAL EU28	27,969	17/10/15	26/10/15	424,491,772	100%*

* It should be noted that the total percentage shown in this table may exceed 100% due to rounding

The basic sample design applied in all states is a multi-stage, random (probability) one. In each country, a number of sampling points was drawn with probability proportional to population size (for a total coverage of the country) and to population density.

In order to do so, the sampling points were drawn systematically from each of the "administrative regional units", after stratification by individual unit and type of area. They thus represent the whole territory of the countries surveyed according to the EUROSTAT NUTS II[1] (or equivalent) and according to the distribution of the resident population of the respective nationalities in terms of metropolitan, urban and rural areas.

In each of the selected sampling points, a starting address was drawn, at random. Further addresses (every Nth address) were selected by standard "random route" procedures, from the initial address. In each household, the respondent was drawn, at random (following the "closest birthday rule"). All interviews were conducted face-to-face in people's homes and in the appropriate national language. As far as the data capture is concerned, CAPI (*Computer Assisted Personal Interview)* was used in those countries where this technique was available.

For each country a comparison between the sample and the universe was carried out. The Universe description was derived from Eurostat population data or from national statistics offices. For all countries surveyed, a national weighting procedure, using marginal and intercellular weighting, was carried out based on this Universe description. In all countries, gender, age, region and size of locality were introduced in the iteration procedure. For international weighting (i.e. EU averages), TNS opinion & social applies the official population figures as provided by EUROSTAT or national statistic offices. The total population figures for input in this post-weighting procedure are listed here.

Readers are reminded that survey results are estimations, the accuracy of which, everything being equal, rests upon the sample size and upon the observed percentage. With samples of about 1,000 interviews, the real percentages vary within the following confidence limits:

Statistical Margins due to the sampling process

(at the 95% level of confidence)

various sample sizes are in rows — *various observed results are in columns*

	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	
	95%	90%	85%	80%	75%	70%	65%	60%	55%	50%	
N=50	6,0	8,3	9,9	11,1	12,0	12,7	13,2	13,6	13,8	13,9	N=50
N=500	1,9	2,6	3,1	3,5	3,8	4,0	4,2	4,3	4,4	4,4	N=500
N=1000	**1,4**	**1,9**	**2,2**	**2,5**	**2,7**	**2,8**	**3,0**	**3,0**	**3,1**	**3,1**	**N=1000**
N=1500	1,1	1,5	1,8	2,0	2,2	2,3	2,4	2,5	2,5	2,5	N=1500
N=2000	1,0	1,3	1,6	1,8	1,9	2,0	2,1	2,1	2,2	2,2	N=2000
N=3000	0,8	1,1	1,3	1,4	1,5	1,6	1,7	1,8	1,8	1,8	N=3000
N=4000	0,7	0,9	1,1	1,2	1,3	1,4	1,5	1,5	1,5	1,5	N=4000
N=5000	0,6	0,8	1,0	1,1	1,2	1,3	1,3	1,4	1,4	1,4	N=5000
N=6000	0,6	0,8	0,9	1,0	1,1	1,2	1,2	1,2	1,3	1,3	N=6000
N=7000	0,5	0,7	0,8	0,9	1,0	1,1	1,1	1,1	1,2	1,2	N=7000
N=7500	0,5	0,7	0,8	0,9	1,0	1,0	1,1	1,1	1,1	1,1	N=7500
N=8000	0,5	0,7	0,8	0,9	0,9	1,0	1,0	1,1	1,1	1,1	N=8000
N=9000	0,5	0,6	0,7	0,8	0,9	0,9	1,0	1,0	1,0	1,0	N=9000
N=10000	0,4	0,6	0,7	0,8	0,8	0,9	0,9	1,0	1,0	1,0	N=10000
N=11000	0,4	0,6	0,7	0,7	0,8	0,9	0,9	0,9	0,9	0,9	N=11000
N=12000	0,4	0,5	0,6	0,7	0,8	0,8	0,9	0,9	0,9	0,9	N=12000
N=13000	0,4	0,5	0,6	0,7	0,7	0,8	0,8	0,8	0,9	0,9	N=13000
N=14000	0,4	0,5	0,6	0,7	0,7	0,8	0,8	0,8	0,8	0,8	N=14000
N=15000	0,3	0,5	0,6	0,6	0,7	0,7	0,8	0,8	0,8	0,8	N=15000
	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	
	95%	90%	85%	80%	75%	70%	65%	60%	55%	50%	

[1] Figures updated in August 2015

QUESTIONNAIRE

ASK ALL

QB1 **Have you taken any antibiotics orally such as tablets, powder or syrup in the last 12 months?**

(ONE ANSWER ONLY)

Yes	1
No	2
DK	3

EB79.4 QE1a TREND MODIFIED

ASK QB2 AND QB3 IF "YES", CODE 1 IN QB1 – OTHERS GO TO QB4

QB2 **How did you obtain the last course of antibiotics that you used?**

(SHOW SCREEN – READ OUT – ROTATE - ONE ANSWER ONLY)

From a medical prescription	1
Administered by a medical practitioner	2
You had some left over from a previous course	3
Without prescription from a pharmacy	4
Without prescription from elsewhere	5
Don't remember (SPONTANEOUS)	6
DK	7

EB79.4 QE1b

QB3 **What was the reason for last taking the antibiotics that you used?**

(SHOW SCREEN – READ OUT – ROTATE - MULTIPLE ANSWERS POSSIBLE)

Pneumonia (an infection causing an inflammation of one or both lungs)	1,
Bronchitis (inflammation and swelling of the bronchi, the airways that carry airflow	2,
Rhinopharyngitis (inflammation of the mucous membrane of the nose and pharynx)	3,
Flu	4,
Cold	5,
Sore throat	6,
Cough	7,
Fever	8,
Headache	9,
Diarrhea	10,
Urinary tract infection	11,
Skin or wound infection	12,
Other (SPONTANEOUS)	13,
DK	14,

EB79.4 QE1c

ASK ALL

QB4 **For each of the following statements, please tell me whether you think it is true or false.**

(SHOW SCREEN – READ OUT – ONE ANSWER PER LINE)

		True	False	DK
1	Antibiotics kill viruses	1	2	3
2	Antibiotics are effective against colds and flu	1	2	3
3	Unnecessary use of antibiotics makes them become	1	2	3
4	Taking antibiotics often has side-effects such as diarrhea	1	2	3

EB79.4 QE2a

QB5 **When do you think you should stop taking antibiotics once you have begun a course of treatment?**

(READ OUT – ONE ANSWER ONLY)

When you feel better	1
When you have taken all of the antibiotics as directed	2
Other (SPONTANEOUS)	3
DK	4

NEW

QB6 **In the last 12 months, do you remember getting any information about not taking antibiotics unnecessarily, for example for a cold or the flu?**

(ONE ANSWER ONLY)

Yes	1
No	2
DK	3

EB79.4 QE3a TREND MODIFIED

ASK QB7 TO QB9 IF "YES", CODE 1 IN QB6 – OTHERS GO TO QB10

QB7 **How did you first get this information about not taking any antibiotics unnecessarily?**

(SHOW SCREEN – READ OUT – MULTIPLE ANSWERS POSSIBLE)

A doctor talked to you about it	1,
A pharmacist talked to you about it	2,
Another health professional (e.g. nurse or physio-therapist) talked to you about it	3,
A family member or friend talked to you about it	4,
You saw it on a TV advertisement	5,
You saw it on the Internet or on online social media	6,
You saw it in a leaflet or on a poster	7,
You read it in a newspaper	8,
You saw it on the TV news	9,
You heard it on the radio	10,
Other (SPONTANEOUS)	11,
DK	12,

EB79.4 QE3b TREND MODIFIED

QB8 **Did the information that you received change your views on using antibiotics?**

(ONE ANSWER ONLY)

Yes	1
No	2
DK	3

EB79.4 QE3c TREND MODIFIED

ASK QB9 IF "YES", CODE 1 IN QB8 – OTHERS GO TO QB10

QB9 **On the basis of the information you received, how do you now plan to use antibiotics?**

(SHOW SCREEN – READ OUT – ROTATE - MULTIPLE ANSWERS POSSIBLE)

You will always consult a doctor in situations when you think you need antibiotics (M)	1,
You will no longer self-medicate with antibiotics	2,
You will no longer take antibiotics without a prescription from a doctor	3,
You will no longer keep left over antibiotics for next time you are ill	4,
You will use antibiotics against the flu	5,
You will give left-over antibiotics to your relatives or friends when they are ill (N)	6,
Other (SPONTANEOUS)	7,
None (SPONTANEOUS)	8,
DK	9,

EB79.4 QE3d TREND MODIFIED

ASK ALL

INT.: (READ OUT) Antimicrobial Resistance (AMR) is the ability of microorganisms to resist antimicrobial treatments, especially antibiotics.

QB10 **On which topics, if any, would you like to receive more information?**

(SHOW SCREEN – READ OUT – ROTATE - MULTIPLE ANSWERS POSSIBLE)

Resistance to antibiotics	1,
How to use antibiotics	2,
Medical conditions for which antibiotics are used	3,
Prescription of antibiotics	4,
Links between the health of humans, animals and the environment	5,
Other (SPONTANEOUS)	6,
None (SPONTANEOUS)	7,
DK	8,

NEW

QB11 **Which of the following sources of information would you use in order to get trustworthy information on antibiotics?**

(SHOW CARD – READ OUT - MAX. 3 ANSWERS)

A doctor	1,
A nurse	2,
A pharmacy	3,
A hospital	4,
Another health care facility	5,
Family or friends	6,
An official health-related website (e.g. a website set up by the national government/	7,
A health-related personal blog	8,
Another health-related website	9,
Online social media	10,
TV	11,
Newspapers or magazines	12,
The radio	13,
Other (SPONTANEOUS)	14,
You are not interested in finding information on antibiotics (SPONTANEOUS)	15,
DK	16,

EB79.4 QE4 TREND MODIFIED

QB12 **At what level do you believe it is most effective to tackle the resistance to antibiotics?**

(READ OUT – ONE ANSWER ONLY)

At individual level or within the family	1
At regional level	2
At national level	3
At EU level	4
At global level	5
Action at all levels is needed (SPONTANEOUS)	6
DK	7

NEW

INT.: (READ OUT) Now, let's talk about the use and effects of antibiotics in farm animals, i.e. animals used for consumption (meat, dairy products, etc.).

QB13 **To what extent do you agree or disagree that sick farm animals should be treated with**

(SHOW SCREEN - READ OUT - ONE ANSWER ONLY)

Totally agree	1
Tend to agree	2
Tend to disagree	3
Totally disagree	4
DK	5

NEW

QB14 **Do you know that using antibiotics to stimulate growth in farm animals is banned within the EU?**

(ONE ANSWER ONLY)

Yes	1
No	2
DK	3

NEW

QB1 Have you taken any antibiotics orally such as tablets, powder or syrup in the last 12 months? **(%)**

	Yes		No		Don't know
	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1
EU28	34	*-1*	65	*0*	1
BE	32	*-6*	68	*6*	0
BG	39	*2*	61	*-2*	0
CZ	33	*0*	67	*0*	0
DK	23	*-8*	76	*7*	1
DE	23	*-4*	76	*3*	1
EE	32	*-3*	67	*2*	1
IE	44	*1*	56	*-1*	0
EL	38	*2*	62	*-2*	0
ES	47	*9*	53	*-9*	0
FR	39	*-5*	60	*4*	1
HR	36	*4*	64	*-4*	0
IT	43	*7*	57	*-7*	0
CY	41	*-6*	59	*6*	0
LV	31	*-8*	69	*8*	0
LT	35	*-4*	65	*4*	0
LU	41	*-2*	59	*2*	0
HU	34	*5*	65	*-6*	1
MT	48	*0*	52	*0*	0
NL	20	*-8*	80	*8*	0
AT	32	*-1*	67	*0*	1
PL	28	*2*	70	*-4*	2
PT	33	*-5*	67	*5*	0
RO	38	*-9*	61	*8*	1
SI	25	*-3*	75	*3*	0
SK	35	*-6*	65	*6*	0
FI	31	*-5*	69	*5*	0
SE	18	*-6*	82	*6*	0
UK	35	*-6*	64	*5*	1

QB2 How did you obtain the last course of antibiotics that you used?
(%)

(ASK IF QB1=1)

	From a medical prescription		Administered by a medical practitioner		You had some left over from a previous course		Without prescription from a pharmacy	
	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1	*Diff. EB85.1-EB79.4*
EU28	73	*-14*	20	*12*	2	*0*	4	*1*
BE	84	*1*	11	*2*	1	*-2*	3	*1*
BG	30	*-49*	57	*46*	4	*4*	8	*1*
CZ	70	*-21*	26	*19*	2	*2*	0	*-1*
DK	62	*-15*	32	*15*	1	*0*	1	*-1*
DE	84	*-5*	11	*2*	2	*1*	2	*2*
EE	60	*-19*	31	*18*	3	*1*	5	*2*
IE	59	*-22*	36	*26*	1	*-1*	4	*-2*
EL	49	*-24*	30	*20*	2	*1*	18	*3*
ES	81	*-3*	13	*5*	3	*-1*	3	*0*
FR	85	*-11*	11	*10*	2	*1*	1	*0*
HR	79	*-11*	9	*5*	3	*2*	6	*2*
IT	66	*-22*	28	*21*	4	*1*	2	*0*
CY	63	*-21*	23	*17*	1	*1*	13	*3*
LV	79	*-6*	8	*1*	3	*-1*	9	*6*
LT	26	*-17*	66	*15*	2	*-1*	3	*1*
LU	85	*-9*	11	*8*	2	*-1*	1	*1*
HU	88	*-3*	3	*2*	3	*1*	5	*0*
MT	55	*-22*	42	*21*	1	*0*	1	*0*
NL	66	*-16*	29	*14*	3	*2*	1	*0*
AT	86	*4*	8	*-3*	3	*-2*	2	*1*
PL	75	*-21*	16	*14*	5	*4*	3	*2*
PT	74	*-14*	18	*12*	1	*-1*	6	*4*
RO	59	*-16*	25	*20*	2	*0*	13	*-4*
SI	87	*-5*	10	*5*	2	*1*	1	*-1*
SK	91	*-4*	6	*5*	1	*-1*	2	*0*
FI	81	*-12*	15	*8*	0	*0*	2	*2*
SE	42	*-24*	56	*24*	1	*0*	1	*0*
UK	66	*-21*	28	*19*	0	*-1*	5	*3*

QB2 How did you obtain the last course of antibiotics that you used? **(%)**

(ASK IF QB1=1)

	Without prescription from elsewhere		Don't remember (SPONTANEOUS)		Don't know	Total 'From a medical practitioner '		Total 'Not from a medical practitioner '	
	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1	*Diff. EB85.1-EB79.4*
EU28	1	*1*	0	*0*	0	93	*-2*	7	*2*
BE	1	*0*	0	*-1*	0	95	*3*	5	*-1*
BG	0	*0*	1	*-2*	0	87	*-3*	12	*5*
CZ	1	*0*	1	*1*	0	96	*-2*	3	*1*
DK	4	*1*	0	*0*	0	94	*0*	6	*0*
DE	1	*1*	0	*-1*	0	95	*-3*	5	*4*
EE	1	*-1*	0	*0*	0	91	*-1*	9	*2*
IE	0	*-1*	0	*0*	0	95	*4*	5	*-4*
EL	0	*0*	1	*0*	0	79	*-4*	20	*4*
ES	0	*-1*	0	*0*	0	94	*2*	6	*-2*
FR	1	*1*	0	*-1*	0	96	*-1*	4	*2*
HR	1	*0*	1	*1*	1	88	*-6*	10	*4*
IT	0	*0*	0	*0*	0	94	*-1*	6	*1*
CY	0	*0*	0	*0*	0	86	*-4*	14	*4*
LV	1	*1*	0	*-1*	0	87	*-5*	13	*6*
LT	3	*2*	0	*0*	0	92	*-2*	8	*2*
LU	0	*0*	1	*1*	0	96	*-1*	3	*0*
HU	1	*0*	0	*0*	0	91	*-1*	9	*1*
MT	0	*0*	1	*1*	0	97	*-1*	2	*0*
NL	1	*0*	0	*0*	0	95	*-2*	5	*2*
AT	1	*0*	0	*0*	0	94	*1*	6	*-1*
PL	1	*1*	0	*0*	0	91	*-7*	9	*7*
PT	1	*0*	0	*-1*	0	92	*-2*	8	*3*
RO	1	*0*	0	*0*	0	84	*4*	16	*-4*
SI	0	*0*	0	*0*	0	97	*0*	3	*0*
SK	0	*0*	0	*0*	0	97	*1*	3	*-1*
FI	2	*2*	0	*0*	0	96	*-4*	4	*4*
SE	0	*0*	0	*0*	0	98	*0*	2	*0*
UK	1	*0*	0	*0*	0	94	*-2*	6	*2*

QB3 What was the reason for last taking the antibiotics that you used? (MULTIPLE ANSWERS POSSIBLE) **(%)**

(ASK IF QB1=1)

	Pneumonia (an infection causing an inflammation of one or both lungs)		Bronchitis (inflammation and swelling of the bronchi, the airways that carry airflow from the trachea into the lungs)		Rhinopharyngitis (inflammation of the mucous membrane of the nose and pharynx)	
	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1	*Diff. EB85.1-EB79.4*
EU28	6	*1*	18	*0*	7	*0*
BE	5	*0*	21	*-3*	13	*-2*
BG	11	*5*	25	*4*	6	*3*
CZ	7	*0*	20	*-14*	10	*-6*
DK	25	*1*	3	*-3*	9	*-11*
DE	7	*2*	19	*-2*	5	*1*
EE	8	*0*	11	*-2*	8	*3*
IE	2	*-4*	16	*0*	4	*0*
EL	6	*2*	12	*4*	7	*0*
ES	3	*0*	12	*4*	5	*-1*
FR	3	*0*	19	*0*	8	*-1*
HR	5	*0*	12	*-3*	7	*-2*
IT	4	*2*	27	*-3*	10	*-2*
CY	5	*2*	8	*0*	7	*5*
LV	5	*0*	11	*-1*	4	*-1*
LT	6	*0*	22	*0*	4	*2*
LU	7	*2*	20	*3*	5	*-2*
HU	12	*4*	12	*-2*	6	*3*
MT	2	*-2*	11	*2*	6	*3*
NL	9	*-4*	6	*-3*	10	*-6*
AT	10	*5*	23	*-11*	8	*2*
PL	9	*1*	24	*2*	5	*-3*
PT	7	*2*	7	*-2*	5	*-2*
RO	8	*0*	16	*4*	7	*2*
SI	9	*3*	13	*2*	8	*2*
SK	5	*-1*	26	*-6*	8	*3*
FI	5	*0*	16	*-4*	17	*-1*
SE	11	*3*	5	*1*	12	*2*
UK	5	*1*	12	*0*	1	*-1*

QB3 What was the reason for last taking the antibiotics that you used? (MULTIPLE ANSWERS POSSIBLE) **(%)**

(ASK IF QB1=1)

	Flu		Cold		Sore throat		Cough	
	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1	*Diff. EB85.1-EB79.4*
EU28	16	*-2*	11	*-2*	14	*3*	9	*2*
BE	11	*-6*	7	*-2*	7	*-3*	5	*-2*
BG	31	*-3*	24	*1*	23	*6*	27	*9*
CZ	8	*-8*	10	*5*	20	*8*	12	*6*
DK	3	*-5*	2	*-1*	13	*4*	5	*3*
DE	18	*1*	15	*-2*	10	*3*	9	*4*
EE	8	*-6*	13	*-3*	13	*4*	12	*3*
IE	22	*2*	5	*-7*	16	*0*	10	*5*
EL	28	*6*	26	*3*	11	*-3*	16	*3*
ES	17	*-3*	15	*-2*	16	*3*	4	*0*
FR	18	*2*	6	*-4*	11	*0*	8	*3*
HR	13	*2*	14	*-1*	27	*-3*	9	*1*
IT	20	*3*	6	*2*	21	*5*	16	*4*
CY	23	*-8*	16	*-8*	8	*-1*	5	*-2*
LV	14	*-4*	23	*-3*	15	*4*	8	*1*
LT	16	*-5*	17	*-2*	12	*-1*	9	*3*
LU	13	*-11*	11	*3*	7	*1*	6	*1*
HU	20	*-4*	16	*-3*	25	*-2*	15	*-1*
MT	18	*-12*	11	*0*	22	*-8*	11	*0*
NL	4	*-2*	2	*-2*	1	*-5*	5	*0*
AT	18	*-11*	8	*-16*	11	*0*	9	*-5*
PL	21	*-1*	19	*1*	16	*7*	8	*3*
PT	22	*0*	8	*-3*	9	*-6*	3	*-2*
RO	15	*-11*	22	*-13*	5	*-1*	8	*-1*
SI	8	*-2*	9	*2*	14	*-9*	9	*1*
SK	14	*-6*	2	*-3*	20	*-5*	12	*-9*
FI	10	*3*	1	*-3*	5	*-2*	5	*2*
SE	1	*-5*	1	*-2*	9	*0*	4	*1*
UK	6	*-7*	6	*-1*	11	*3*	6	*0*

QB3 What was the reason for last taking the antibiotics that you used? (MULTIPLE ANSWERS POSSIBLE) **(%)**

(ASK IF QB1=1)

	Fever		Headache		Diarrhea		Urinary tract infection		Skin or wound infection	
	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1	*Diff. EB85.1-EB79.4*
EU28	11	*4*	5	*0*	1	*0*	10	*1*	6	*-1*
BE	6	*2*	4	*0*	2	*-1*	7	*-1*	12	*4*
BG	28	*12*	8	*2*	1	*1*	5	*0*	2	*0*
CZ	9	*-1*	4	*0*	1	*0*	17	*3*	6	*2*
DK	6	*5*	1	*-4*	0	*-1*	11	*-4*	13	*4*
DE	10	*3*	3	*1*	1	*0*	13	*5*	7	*-2*
EE	6	*0*	6	*0*	1	*1*	7	*-1*	4	*-2*
IE	8	*5*	5	*2*	1	*0*	7	*-1*	8	*4*
EL	21	*9*	9	*2*	3	*2*	5	*1*	3	*-1*
ES	10	*3*	6	*1*	1	*0*	6	*-2*	3	*-3*
FR	5	*-2*	5	*-3*	2	*0*	8	*-1*	6	*-1*
HR	2	*1*	6	*2*	3	*3*	17	*7*	6	*1*
IT	25	*14*	4	*3*	2	*0*	13	*5*	2	*-1*
CY	5	*-2*	3	*-2*	3	*-1*	7	*3*	5	*-12*
LV	3	*-1*	5	*1*	1	*0*	3	*0*	5	*0*
LT	13	*5*	7	*4*	2	*2*	4	*1*	4	*0*
LU	6	*-1*	3	*-3*	5	*1*	10	*0*	7	*-2*
HU	17	*1*	9	*3*	4	*1*	9	*5*	4	*2*
MT	11	*0*	7	*4*	1	*1*	5	*0*	7	*1*
NL	1	*0*	3	*1*	1	*0*	17	*0*	13	*-2*
AT	16	*-3*	5	*-1*	1	*-2*	16	*4*	9	*2*
PL	14	*7*	7	*2*	1	*0*	6	*2*	3	*1*
PT	3	*-3*	2	*-1*	2	*2*	11	*5*	9	*1*
RO	9	*0*	7	*-4*	1	*0*	6	*-1*	5	*2*
SI	11	*3*	6	*2*	0	*-1*	10	*0*	8	*-2*
SK	16	*-7*	6	*-6*	1	*0*	9	*2*	4	*2*
FI	4	*1*	2	*1*	1	*0*	9	*2*	13	*-4*
SE	2	*0*	0	*-3*	2	*1*	14	*-1*	20	*6*
UK	2	*-1*	3	*0*	0	*0*	12	*0*	10	*-1*

QB3 What was the reason for last taking the antibiotics that you used? (MULTIPLE ANSWERS POSSIBLE) **(%)**

(ASK IF QB1=1)

	Other (SPONTANEOUS)		Don't know	Ilness only		Symptom only		Ilness and symptom	
	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1	*Diff. EB85.1-EB79.4*
EU28	23	*2*	1	34	*-8*	28	*2*	14	*4*
BE	21	*6*	0	43	*-5*	29	*6*	7	*-7*
BG	9	*0*	0	41	*-11*	15	*-1*	36	*13*
CZ	15	*7*	1	32	*-19*	38	*15*	14	*-2*
DK	28	*10*	0	33	*-9*	33	*1*	7	*0*
DE	24	*4*	1	36	*-10*	26	*3*	13	*6*
EE	37	*10*	0	26	*-12*	27	*4*	10	*1*
IE	22	*5*	0	34	*-9*	32	*6*	12	*4*
EL	20	*1*	0	40	*-4*	16	*-6*	24	*10*
ES	35	*10*	0	34	*-7*	20	*-7*	12	*5*
FR	28	*3*	1	37	*-3*	25	*0*	9	*0*
HR	16	*-1*	2	24	*-6*	42	*3*	17	*3*
IT	10	*-2*	0	29	*-17*	33	*2*	27	*15*
CY	28	*5*	0	41	*-1*	20	*-4*	11	*-2*
LV	28	*11*	0	42	*-8*	21	*1*	10	*0*
LT	21	*0*	1	44	*-7*	22	*5*	12	*1*
LU	26	*2*	0	39	*0*	26	*1*	9	*0*
HU	14	*5*	1	31	*-11*	31	*-1*	23	*7*
MT	27	*7*	0	27	*-1*	32	*0*	14	*-5*
NL	39	*17*	0	23	*-11*	33	*0*	5	*-4*
AT	16	*7*	0	36	*-9*	28	*10*	20	*-9*
PL	13	*-3*	0	49	*-10*	19	*3*	18	*10*
PT	30	*8*	1	38	*0*	25	*-3*	6	*-2*
RO	30	*10*	0	43	*-5*	13	*-1*	15	*-3*
SI	26	*-3*	1	27	*5*	34	*-4*	11	*0*
SK	16	*7*	0	35	*-6*	32	*3*	17	*-3*
FI	22	*1*	0	41	*-4*	32	*2*	5	*1*
SE	29	*-6*	0	24	*1*	44	*6*	3	*-1*
UK	30	*0*	2	25	*-4*	40	*6*	2	*-3*

QB4.1 For each of the following statements, please tell me whether you think it is true or false.
Antibiotics kill viruses (%)

	Incorrect answer		Correct answer		Don't know
	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1
EU28	46	*-3*	43	*3*	11
BE	39	*-5*	54	*2*	7
BG	59	*-5*	26	*5*	15
CZ	60	*2*	30	*-6*	10
DK	36	*-2*	56	*-1*	8
DE	45	*-3*	44	*8*	11
EE	46	*-8*	37	*1*	17
IE	36	*-4*	57	*6*	7
EL	75	*5*	20	*-5*	5
ES	48	*-9*	37	*8*	15
FR	29	*0*	59	*0*	12
HR	46	*2*	44	*-4*	10
IT	60	*2*	28	*-5*	12
CY	53	*-14*	33	*12*	14
LV	60	*2*	26	*-1*	14
LT	57	*-1*	34	*7*	9
LU	25	*-6*	63	*5*	12
HU	50	*-2*	42	*4*	8
MT	64	*-3*	27	*4*	9
NL	31	*-7*	62	*6*	7
AT	63	*1*	28	*-1*	9
PL	52	*-2*	34	*2*	14
PT	61	*-8*	30	*11*	9
RO	58	*-12*	29	*14*	13
SI	47	*2*	43	*-2*	10
SK	52	*-12*	39	*8*	9
FI	31	*-8*	61	*6*	8
SE	22	*-1*	72	*-2*	6
UK	38	*-3*	56	*4*	6

QB4.2 For each of the following statements, please tell me whether you think it is true or false.
Antibiotics are effective against colds and flu (%)

	Incorrect answer		Correct answer		Don't know
	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1
EU28	36	*-5*	56	*4*	8
BE	23	*-6*	73	*4*	4
BG	53	*-4*	34	*4*	13
CZ	30	*-3*	63	*0*	7
DK	18	*-2*	72	*-3*	10
DE	37	*-12*	57	*14*	6
EE	30	*-7*	54	*0*	16
IE	26	*-5*	70	*6*	4
EL	66	*4*	30	*-4*	4
ES	45	*-1*	48	*4*	7
FR	26	*-2*	67	*3*	7
HR	43	*3*	49	*-6*	8
IT	38	*-2*	49	*-3*	13
CY	49	*-21*	43	*19*	8
LV	49	*1*	38	*0*	13
LT	46	*-4*	46	*8*	8
LU	26	*-4*	66	*2*	8
HU	50	*-6*	42	*5*	8
MT	52	*-2*	39	*2*	9
NL	17	*-7*	79	*6*	4
AT	43	*-18*	49	*16*	8
PL	53	*-4*	34	*0*	13
PT	52	*-9*	38	*11*	10
RO	51	*-4*	39	*6*	10
SI	33	*2*	60	*-1*	7
SK	37	*-6*	58	*5*	5
FI	14	*-8*	79	*5*	7
SE	18	*-3*	79	*2*	3
UK	23	*-3*	73	*3*	4

QB4.3 For each of the following statements, please tell me whether you think it is true or false.
Unnecessary use of antibiotics makes them become ineffective (%)

	Correct answer		Incorrect answer		Don't know
	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1
EU28	84	*0*	8	*0*	8
BE	84	*-4*	12	*2*	4
BG	80	*2*	4	*-1*	16
CZ	90	*0*	6	*1*	4
DK	94	*-3*	2	*1*	4
DE	91	*4*	4	*0*	5
EE	79	*-1*	6	*-3*	15
IE	88	*3*	6	*-4*	6
EL	93	*0*	3	*-1*	4
ES	85	*-2*	5	*0*	10
FR	84	*-8*	9	*5*	7
HR	84	*-3*	8	*0*	8
IT	58	*-10*	17	*-1*	25
CY	92	*0*	5	*2*	3
LV	83	*4*	8	*0*	9
LT	85	*1*	10	*4*	5
LU	90	*1*	6	*-3*	4
HU	74	*-2*	16	*2*	10
MT	95	*5*	2	*-2*	3
NL	96	*2*	2	*-1*	2
AT	81	*-2*	10	*2*	9
PL	81	*-4*	9	*1*	10
PT	87	*8*	6	*-1*	7
RO	79	*21*	9	*-6*	12
SI	91	*-4*	5	*3*	4
SK	91	*3*	5	*-4*	4
FI	94	*4*	3	*-3*	3
SE	98	*0*	1	*-1*	1
UK	92	*3*	5	*-2*	3

QB4.4 For each of the following statements, please tell me whether you think it is true or false.
Taking antibiotics often has side-effects such as diarrhea (%)

	Correct answer		Incorrect answer		Don't know
	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1
EU28	66	*0*	14	*-1*	20
BE	60	*-7*	23	*-4*	17
BG	72	*3*	5	*0*	23
CZ	63	*0*	16	*-8*	21
DK	63	*-6*	8	*-5*	29
DE	72	*5*	10	*0*	18
EE	76	*-1*	6	*-3*	18
IE	65	*8*	11	*-8*	24
EL	71	*-1*	10	*-2*	19
ES	70	*9*	9	*-6*	21
FR	62	*-4*	19	*2*	19
HR	69	*3*	13	*-7*	18
IT	56	*-12*	19	*3*	25
CY	71	*1*	8	*3*	21
LV	65	*0*	15	*2*	20
LT	77	*8*	12	*1*	11
LU	71	*-7*	10	*-1*	19
HU	64	*2*	18	*-1*	18
MT	71	*4*	6	*-6*	23
NL	62	*1*	15	*-6*	23
AT	76	*4*	13	*0*	11
PL	72	*-6*	12	*3*	16
PT	66	*3*	12	*1*	22
RO	62	*17*	12	*-5*	26
SI	67	*-7*	14	*0*	19
SK	76	*1*	14	*-2*	10
FI	79	*4*	10	*-9*	11
SE	55	*-7*	17	*-6*	28
UK	63	*-1*	19	*0*	18

QB4.5 For each of the following statements, please tell me whether you think it is true or false. **(%)**

	Average of correct answers	Average of incorrect answers	Don't know
EU28	62	26	12
BE	67	25	8
BG	53	30	17
CZ	62	28	10
DK	71	16	13
DE	66	24	10
EE	61	22	17
IE	70	20	10
EL	53	39	8
ES	60	27	13
FR	68	21	11
HR	62	27	11
IT	48	33	19
CY	60	29	11
LV	53	33	14
LT	61	31	8
LU	72	17	11
HU	55	34	11
MT	58	31	11
NL	75	16	9
AT	59	32	9
PL	55	32	13
PT	55	33	12
RO	52	33	15
SI	66	24	10
SK	66	27	7
FI	79	14	7
SE	76	14	10
UK	71	21	8

QB4.6 For each of the following statements, please tell me whether you think it is true or false.
(%)

	At least one correct answer		0 correct answer		1 correct answer		2 correct answers		3 correct answers	
	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1	*Diff. EB85.1-EB79.4*
EU28	94	*0*	6	*0*	13	*-2*	31	*-1*	27	*2*
BE	95	*-2*	5	*2*	11	*0*	24	*0*	31	*0*
BG	89	*3*	11	*-3*	16	*0*	39	*-2*	19	*3*
CZ	97	*1*	3	*-1*	13	*2*	35	*1*	33	*2*
DK	98	*-1*	2	*1*	11	*3*	22	*3*	28	*-5*
DE	97	*4*	3	*-4*	11	*-7*	30	*-1*	30	*5*
EE	92	*-1*	8	*1*	12	*2*	29	*-3*	29	*-2*
IE	96	*0*	4	*0*	8	*-5*	23	*-5*	35	*4*
EL	95	*-1*	5	*1*	19	*2*	45	*0*	18	*-2*
ES	93	*0*	7	*0*	14	*-5*	30	*-6*	28	*6*
FR	96	*-1*	4	*1*	12	*1*	23	*1*	30	*0*
HR	94	*-1*	6	*1*	10	*-2*	37	*4*	27	*5*
IT	83	*-9*	17	*9*	16	*-1*	38	*2*	17	*-8*
CY	96	*1*	4	*-1*	13	*-6*	41	*-9*	24	*9*
LV	92	*3*	8	*-3*	19	*0*	37	*3*	24	*0*
LT	95	*3*	5	*-3*	15	*-1*	34	*-5*	28	*7*
LU	97	*-2*	3	*2*	9	*-2*	18	*-6*	34	*8*
HU	90	*-1*	10	*1*	17	*-5*	35	*3*	19	*-1*
MT	97	*2*	3	*-2*	17	*-4*	41	*0*	23	*4*
NL	99	*0*	1	*0*	8	*-1*	20	*-6*	34	*1*
AT	93	*0*	7	*0*	12	*-3*	37	*-8*	29	*8*
PL	91	*-3*	9	*3*	12	*0*	43	*-2*	21	*1*
PT	93	*6*	7	*-6*	16	*-5*	41	*0*	21	*5*
RO	90	*12*	10	*-12*	20	*-6*	35	*2*	19	*5*
SI	96	*-2*	4	*2*	11	*1*	31	*3*	28	*-3*
SK	96	*1*	4	*-1*	10	*-4*	32	*-3*	25	*2*
FI	98	*3*	2	*-3*	6	*0*	15	*-4*	31	*0*
SE	99	*0*	1	*0*	8	*2*	19	*1*	32	*1*
UK	97	*1*	3	*-1*	9	*-2*	24	*0*	30	*0*

QB4.6 For each of the following statements, please tell me whether you think it is true or false. **(%)**

	4 correct answers		At least one wrong answer		At least one answer DK		Average	
	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1	*Diff. EB85.1-EB79.4*
EU28	24	*2*	64	*-3*	31	*2*	250	*10*
BE	29	*-2*	59	*-5*	24	*15*	270	*-10*
BG	15	*2*	71	*-3*	40	*0*	210	*10*
CZ	16	*-4*	72	*2*	30	*12*	250	*0*
DK	36	*-2*	47	*-4*	37	*16*	280	*-20*
DE	25	*5*	63	*-5*	30	*-7*	260	*30*
EE	23	*3*	60	*-9*	38	*15*	250	*0*
IE	31	*8*	53	*-10*	30	*-1*	280	*20*
EL	13	*-1*	82	*0*	25	*4*	210	*-10*
ES	20	*4*	66	*-5*	33	*-2*	240	*20*
FR	31	*-3*	54	*3*	30	*2*	270	*-10*
HR	20	*-8*	68	*6*	26	*5*	250	*-10*
IT	12	*-2*	75	*-2*	39	*11*	190	*-30*
CY	18	*7*	70	*-11*	33	*2*	240	*30*
LV	12	*-1*	78	*5*	34	*-2*	210	*0*
LT	19	*4*	72	*0*	23	*-9*	240	*20*
LU	35	*-3*	49	*-3*	31	*7*	290	*0*
HU	20	*4*	70	*-2*	27	*-3*	220	*10*
MT	16	*2*	76	*-2*	32	*3*	230	*10*
NL	37	*6*	48	*-9*	30	*6*	300	*20*
AT	15	*2*	76	*-5*	23	*-3*	230	*10*
PL	15	*-2*	71	*-2*	32	*8*	220	*-10*
PT	15	*6*	76	*-4*	31	*-6*	220	*30*
RO	15	*11*	73	*-12*	37	*-13*	210	*60*
SI	26	*-3*	61	*0*	26	*3*	260	*-10*
SK	29	*5*	64	*-8*	17	*3*	260	*10*
FI	46	*7*	43	*-11*	20	*7*	310	*20*
SE	41	*-2*	42	*-6*	31	*14*	300	*-10*
UK	34	*2*	55	*-2*	23	*1*	280	*10*

QB5 When do you think you should stop taking antibiotics once you have begun a course of treatment?

(%)

	When you feel better	When you have taken all of the antibiotics as directed	Other (SPONTANEOUS)	Don't know
EU28	15	82	1	2
BE	9	90	0	1
BG	21	72	1	6
CZ	8	90	0	2
DK	8	91	0	1
DE	9	87	1	3
EE	13	82	0	5
IE	12	86	1	1
EL	27	71	1	1
ES	14	84	1	1
FR	19	79	0	2
HR	15	81	1	3
IT	21	75	1	3
CY	24	73	1	2
LV	27	67	2	4
LT	24	71	0	5
LU	14	84	1	1
HU	20	76	2	2
MT	13	87	0	0
NL	5	94	0	1
AT	12	85	0	3
PL	20	74	1	5
PT	14	85	0	1
RO	18	78	0	4
SI	11	86	1	2
SK	15	84	1	0
FI	4	93	1	2
SE	5	93	1	1
UK	12	86	1	1

QB6 In the last 12 months, do you remember getting any information about not taking antibiotics unnecessarily, for example for a cold or the flu?

(%)

	Yes		No		Don't know
	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1
EU28	33	*0*	65	*-2*	2
BE	48	*-4*	51	*3*	1
BG	22	*-2*	73	*-3*	5
CZ	30	*4*	68	*-6*	2
DK	20	*-22*	79	*21*	1
DE	42	*8*	55	*-11*	3
EE	28	*6*	69	*-9*	3
IE	34	*-2*	66	*2*	0
EL	27	*-1*	73	*1*	0
ES	23	*3*	77	*-3*	0
FR	50	*-15*	49	*14*	1
HR	24	*-17*	74	*15*	2
IT	15	*-13*	82	*10*	3
CY	24	*-3*	76	*3*	0
LV	34	*11*	66	*-11*	0
LT	50	*18*	50	*-18*	0
LU	45	*-14*	54	*13*	1
HU	19	*2*	79	*-4*	2
MT	27	*-4*	73	*4*	0
NL	41	*19*	59	*-19*	0
AT	32	*10*	66	*-12*	2
PL	29	*6*	67	*-10*	4
PT	20	*8*	79	*-9*	1
RO	21	*-8*	78	*7*	1
SI	44	*7*	55	*-8*	1
SK	38	*6*	58	*-10*	4
FI	68	*25*	31	*-26*	1
SE	51	*1*	48	*-2*	1
UK	31	*0*	68	*-1*	1

QB7 How did you first get this information about not taking any antibiotics unnecessarily? (MULTIPLE ANSWERS POSSIBLE)

(%)

(ASK IF QB6=1)

	A doctor talked to you about it	A pharmacist talked to you about it	Another health professional (e.g. nurse or physio-therapist) talked to you about it	A family member or friend talked to you about it	You saw it on a TV advertisement	You saw it on the Internet or on online social media	You saw it in a leaflet or on a poster
EU28	32	10	6	12	27	13	9
BE	34	10	4	6	43	7	19
BG	49	16	13	28	12	8	4
CZ	42	19	6	21	12	18	9
DK	44	6	7	16	7	13	9
DE	25	10	6	11	11	18	8
EE	35	11	8	23	17	26	7
IE	31	15	10	11	26	10	14
EL	34	11	2	12	36	18	10
ES	48	6	6	9	22	4	3
FR	25	6	2	9	65	5	7
HR	52	17	9	29	22	17	11
IT	62	22	8	14	35	17	10
CY	31	6	10	12	11	14	13
LV	32	7	3	13	26	17	6
LT	34	14	5	19	24	19	11
LU	48	9	4	11	26	12	18
HU	59	24	7	13	18	16	5
MT	23	12	8	8	34	14	16
NL	16	6	4	13	19	19	7
AT	23	15	6	18	12	21	11
PL	34	9	6	17	20	19	10
PT	35	13	16	15	9	6	7
RO	41	17	13	16	23	10	7
SI	43	17	7	18	19	18	10
SK	38	9	6	26	13	16	8
FI	38	8	15	16	5	15	10
SE	26	5	16	15	8	19	4
UK	30	8	7	5	18	8	17

QB7 How did you first get this information about not taking any antibiotics unnecessarily? (MULTIPLE ANSWERS POSSIBLE)

(%)

(ASK IF QB6=1)

	You read it in a newspaper	You saw it on the TV news	You heard it on the radio	Other (SPONTANEOUS)	Don't know	Professional or health care facility
EU28	19	26	11	7	1	40
BE	21	21	24	5	0	39
BG	6	36	3	3	1	56
CZ	22	32	15	4	1	55
DK	21	31	9	10	2	48
DE	39	32	9	8	2	34
EE	19	19	13	11	1	43
IE	16	14	20	4	0	45
EL	8	29	4	6	0	40
ES	6	14	3	9	1	56
FR	8	19	15	4	0	27
HR	14	26	5	4	1	60
IT	7	16	5	2	0	68
CY	7	29	9	15	0	39
LV	12	25	12	8	1	36
LT	10	36	13	3	1	43
LU	20	22	16	8	0	52
HU	4	23	5	4	1	72
MT	10	19	10	6	0	33
NL	30	30	31	12	0	22
AT	48	35	16	6	1	34
PL	10	21	7	8	2	46
PT	7	56	2	2	1	48
RO	5	47	15	1	0	56
SI	24	36	9	6	1	46
SK	17	40	10	2	1	45
FI	39	28	8	11	1	48
SE	43	38	25	14	1	37
UK	12	20	5	8	1	38

QB8 Did the information that you received change your views on using antibiotics? **(%)**

(ASK IF QB6=1)

	Yes		No		Don't know
	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1	*Diff. EB85.1-EB79.4*	EB85.1
EU28	34	*-2*	65	*3*	1
BE	31	*-7*	69	*8*	0
BG	60	*13*	34	*-16*	6
CZ	47	*4*	52	*-4*	1
DK	35	*8*	63	*-8*	2
DE	29	*0*	70	*0*	1
EE	44	*-8*	52	*5*	4
IE	48	*-1*	52	*5*	0
EL	40	*-4*	60	*5*	0
ES	41	*8*	59	*-7*	0
FR	25	*-2*	74	*2*	1
HR	45	*-8*	54	*8*	1
IT	45	*-7*	53	*8*	2
CY	70	*10*	30	*-10*	0
LV	37	*-6*	61	*6*	2
LT	48	*-3*	49	*5*	3
LU	38	*6*	62	*-5*	0
HU	48	*2*	50	*-4*	2
MT	47	*-6*	52	*8*	1
NL	25	*0*	75	*0*	0
AT	42	*7*	57	*-4*	1
PL	39	*-13*	55	*10*	6
PT	59	*21*	41	*-20*	0
RO	59	*4*	41	*16*	0
SI	45	*-5*	53	*6*	2
SK	49	*-19*	50	*18*	1
FI	23	*2*	75	*-2*	2
SE	26	*-8*	74	*9*	0
UK	29	*-1*	70	*0*	1

QB9 On the basis of the information you received, how do you now plan to use antibiotics? (MULTIPLE ANSWERS POSSIBLE)

(%)

(ASK IF QB6=1)

	You will always consult a doctor in situations when you think you need antibiotics	You will no longer self-medicate with antibiotics	You will no longer take antibiotics without a prescription from a doctor	You will no longer keep left over antibiotics for next time you are ill
EU28	67	25	41	21
BE	62	23	50	19
BG	69	33	39	15
CZ	73	31	43	32
DK	72	31	51	29
DE	73	26	43	31
EE	61	21	42	21
IE	63	18	34	12
EL	64	12	55	17
ES	71	18	31	11
FR	73	30	54	26
HR	62	23	34	16
IT	60	39	32	15
CY	69	33	61	27
LV	58	37	34	14
LT	55	13	33	9
LU	48	19	49	23
HU	54	11	33	13
MT	70	12	41	15
NL	71	29	43	21
AT	52	33	41	23
PL	53	17	27	16
PT	79	11	17	7
RO	63	38	58	19
SI	54	18	43	25
SK	65	26	34	18
FI	77	12	38	20
SE	75	21	52	22
UK	67	18	40	18

QB9 On the basis of the information you received, how do you now plan to use antibiotics? (MULTIPLE ANSWERS POSSIBLE)

(%)

(ASK IF QB6=1)

	You will use antibiotics against the flu	You will give left-over antibiotics to your relatives or friends when they are ill	Other (SPONTANEOUS)	None (SPONTANEOUS)	Don't know
EU28	5	3	3	2	1
BE	4	2	1	4	0
BG	3	0	1	2	0
CZ	6	3	3	1	1
DK	4	3	7	0	0
DE	7	3	2	4	0
EE	7	0	4	3	1
IE	13	8	0	4	0
EL	3	0	0	0	0
ES	3	1	3	2	0
FR	3	1	2	1	3
HR	5	4	1	3	1
IT	10	6	4	0	2
CY	6	2	1	3	0
LV	13	5	8	5	2
LT	6	2	6	4	1
LU	5	1	8	7	0
HU	9	10	8	1	3
MT	4	3	5	1	0
NL	2	0	3	4	0
AT	10	4	9	3	0
PL	3	10	3	2	4
PT	5	7	2	1	0
RO	3	3	1	0	0
SI	4	2	8	4	0
SK	2	1	3	1	0
FI	13	0	3	2	1
SE	2	1	3	3	0
UK	4	5	3	1	1

QB10 On which topics, if any, would you like to receive more information? (MULTIPLE ANSWERS POSSIBLE)

(%)

	Resistance to antibiotics	How to use antibiotics	Medical conditions for which antibiotics are used	Prescription of antibiotics	Links between the health of humans, animals and the environment	Other (SPONTANEOUS)	None (SPONTANEOUS)	Don't know
EU28	23	22	26	13	23	3	32	4
BE	24	20	25	14	26	0	29	1
BG	20	27	32	19	20	1	25	10
CZ	24	21	37	7	24	3	23	5
DK	34	13	28	6	43	5	24	2
DE	23	26	25	12	28	2	39	2
EE	13	10	26	7	16	2	42	12
IE	25	19	24	14	21	3	31	5
EL	33	44	41	20	25	3	17	0
ES	16	25	19	10	19	4	42	4
FR	21	16	24	11	27	4	27	5
HR	26	25	31	15	23	3	18	6
IT	26	33	31	20	18	3	20	6
CY	28	40	36	16	35	4	16	0
LV	10	13	36	6	17	3	34	3
LT	20	20	27	9	17	4	35	5
LU	30	18	27	12	28	5	20	2
HU	14	17	27	12	17	3	34	3
MT	22	34	31	13	26	4	18	7
NL	24	9	19	8	33	4	39	2
AT	29	27	27	16	31	4	27	2
PL	26	23	29	14	17	2	23	11
PT	21	19	34	14	16	1	27	5
RO	35	36	39	29	28	4	15	2
SI	22	16	25	15	21	8	33	2
SK	25	21	30	13	20	5	23	5
FI	17	7	17	8	30	2	40	2
SE	40	21	30	15	45	3	20	1
UK	15	8	15	6	14	1	55	2

QB11 Which of the following sources of information would you use in order to get trustworthy information on antibiotics?
(MAX. 3 ANSWERS)

	A doctor	A nurse	A pharmacy	A hospital	Another health care facility	Family or friends	An official health-related website (e.g. a website set up by the national government/ public health body/ European Union)	A health-related personal blog
EU28	84	10	37	19	6	5	15	1
BE	87	10	47	22	3	2	15	1
BG	79	8	29	15	4	10	11	2
CZ	82	13	44	24	5	6	14	2
DK	86	15	45	29	2	7	40	1
DE	83	4	43	8	4	6	17	1
EE	87	19	37	11	3	6	15	2
IE	81	23	57	17	5	6	11	2
EL	91	3	38	31	8	5	12	1
ES	92	11	23	16	16	1	9	1
FR	86	11	42	22	4	3	13	2
HR	84	20	32	16	4	5	6	1
IT	77	3	22	19	11	3	15	3
CY	91	7	27	19	5	4	16	3
LV	84	7	32	18	5	6	9	2
LT	81	4	39	16	8	8	12	2
LU	89	9	38	25	4	6	16	1
HU	84	9	40	15	4	9	12	2
MT	92	8	35	34	11	2	9	1
NL	83	9	66	31	4	4	36	1
AT	83	10	45	25	8	8	16	2
PL	78	8	27	20	6	7	10	2
PT	89	16	37	16	8	2	7	2
RO	90	15	35	26	5	4	7	2
SI	84	16	43	12	4	7	13	2
SK	83	13	39	13	2	9	12	2
FI	81	20	55	18	6	4	30	0
SE	75	26	43	18	9	4	48	0
UK	85	18	42	24	2	4	17	0

QB11 Which of the following sources of information would you use in order to get trustworthy information on antibiotics?
(MAX. 3 ANSWERS)

	Another health-related website	Online social media	TV	Newspapers or magazines	The radio	Other (SPONTANEOUS)	You are not interested in finding information on antibiotics (SPONTANEOUS)	Don't know
EU28	4	3	5	3	1	1	4	1
BE	3	2	4	3	1	0	4	1
BG	6	3	13	3	1	0	12	0
CZ	7	3	9	3	2	1	4	0
DK	8	4	2	2	0	4	1	0
DE	5	6	3	5	1	2	5	1
EE	6	4	4	3	1	1	3	1
IE	3	3	2	2	1	1	1	1
EL	4	3	3	1	0	2	4	0
ES	4	0	2	1	1	1	1	0
FR	4	1	5	6	2	1	3	1
HR	2	4	7	2	0	0	7	1
IT	3	3	6	4	0	0	7	1
CY	7	4	5	0	0	1	1	1
LV	4	4	4	6	1	1	3	0
LT	8	3	8	3	1	2	5	0
LU	4	3	2	3	1	2	1	1
HU	3	3	7	3	1	1	6	0
MT	6	2	3	1	1	0	1	0
NL	7	3	2	5	0	2	1	0
AT	6	4	5	4	0	2	5	0
PL	7	3	9	3	1	1	6	2
PT	4	2	8	3	0	0	5	0
RO	2	1	5	1	1	1	2	0
SI	4	3	2	2	0	4	4	1
SK	6	4	12	4	2	1	4	1
FI	6	4	3	5	1	2	2	0
SE	7	4	6	9	3	3	1	0
UK	3	1	2	1	1	1	0	1

QB12 At what level do you believe it is most effective to tackle the resistance to antibiotics? **(%)**

	At individual level or within the family	At regional level	At national level	At EU level	At global level	Action at all levels is needed (SPONTANEOUS)	Don't know
EU28	19	7	21	10	25	10	8
BE	21	5	22	15	26	9	2
BG	14	4	26	11	11	20	14
CZ	13	7	24	11	34	5	6
DK	10	5	20	14	42	6	3
DE	15	7	13	12	28	19	6
EE	19	4	22	6	13	18	18
IE	29	11	26	8	19	2	5
EL	16	4	31	13	24	7	5
ES	18	5	19	10	30	6	12
FR	31	4	21	7	26	2	9
HR	24	12	22	9	16	13	4
IT	8	10	28	11	21	13	9
CY	23	3	11	8	38	8	9
LV	33	10	23	5	11	6	12
LT	22	9	20	15	22	6	6
LU	20	1	16	17	32	6	8
HU	22	8	30	8	12	11	9
MT	23	3	27	11	25	5	6
NL	15	7	20	15	39	2	2
AT	13	12	16	16	31	7	5
PL	18	12	27	8	11	11	13
PT	15	5	26	10	22	15	7
RO	32	7	24	8	16	7	6
SI	52	2	11	10	13	8	4
SK	16	8	24	15	21	10	6
FI	25	6	24	5	32	4	4
SE	10	7	14	13	51	4	1
UK	24	6	20	4	29	9	8

QB13 To what extent do you agree or disagree that sick farm animals should be treated with antibiotics if this is the most appropriate treatment?

(%)

	Totally agree	Tend to agree	Tend to disagree	Totally disagree	Don't know	Total 'Agree'	Total 'Disagree'
EU28	19	37	18	16	10	56	34
BE	15	42	25	14	4	57	39
BG	17	37	13	17	16	54	30
CZ	18	41	21	15	5	59	36
DK	29	40	18	8	5	69	26
DE	17	33	24	20	6	50	44
EE	14	36	17	15	18	50	32
IE	34	36	12	8	10	70	20
EL	18	43	17	14	8	61	31
ES	21	29	14	18	18	50	32
FR	13	37	21	21	8	50	42
HR	17	42	18	16	7	59	34
IT	8	36	17	26	13	44	43
CY	25	22	13	31	9	47	44
LV	16	36	22	16	10	52	38
LT	21	46	15	10	8	67	25
LU	11	34	23	29	3	45	52
HU	14	39	16	21	10	53	37
MT	35	35	12	11	7	70	23
NL	28	34	23	12	3	62	35
AT	13	38	26	18	5	51	44
PL	12	48	15	9	16	60	24
PT	26	48	11	5	10	74	16
RO	29	31	12	17	11	60	29
SI	13	29	28	26	4	42	54
SK	10	33	27	22	8	43	49
FI	34	41	14	8	3	75	22
SE	32	29	18	19	2	61	37
UK	35	40	10	7	8	75	17

QB14 Do you know that using antibiotics to stimulate growth in farm animals is banned within the EU?

(%)

	Yes	No	Don't know
EU28	37	60	3
BE	37	60	3
BG	30	57	13
CZ	46	51	3
DK	38	61	1
DE	42	55	3
EE	20	74	6
IE	44	53	3
EL	27	71	2
ES	26	72	2
FR	40	58	2
HR	33	66	1
IT	39	54	7
CY	33	62	5
LV	32	67	1
LT	41	58	1
LU	47	52	1
HU	22	73	5
MT	28	71	1
NL	60	39	1
AT	42	56	2
PL	42	51	7
PT	28	70	2
RO	30	68	2
SI	35	62	3
SK	43	53	4
FI	48	51	1
SE	41	59	0
UK	28	70	2