



Special Eurobarometer 478

Report

Antimicrobial Resistance

Fieldwork

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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 478 – Wave EB90.1 – Kantar Public Brussels

Special Eurobarometer 478

Report

Antimicrobial Resistance

September 2018

Survey and report by Kantar Public Brussels on behalf of Kantar Belgium at the request of the European Commission, Directorate-General for Health and Food Safety

Survey co-ordinated by the European Commission, Directorate-General for Communication (DG COMM "Media Monitoring, Media Analysis and Eurobarometer" Unit and Directorate General for Health and Food Safety unit for Crisis management and preparedness in health – SANTE C3)

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<http://ec.europa.eu/commfrontoffice/publicopinion/index.cfm>

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INTRODUCTION

Antimicrobial resistance (AMR) is the ability of micro-organisms (such as bacteria and some parasites) to become increasingly resistant to an antimicrobial to which they were previously susceptible. Although AMR is a naturally occurring process, it has increasingly become a problem and threat to public health in Europe and other parts of the world. AMR has a direct impact on human and animal health and results in substantial economic burden because of higher treatment costs and reduced productivity caused by sickness. It is estimated that AMR is responsible for over 25,000 deaths annually within the EU and costs more than EU 1.5 billion euros each year in terms of healthcare costs and productivity losses.

Tackling AMR is a priority for the European Commission. The Commission set out the activities it is taking to address antimicrobial resistance in the European One Health action plan against antimicrobial resistance adopted in June 2017¹, which follows the previous action plan adopted in 2011². The action plan includes over 70 actions involving 9 policy areas including human and animal health, agriculture, environment and research. It is built on three pillars:

- Making the EU a best practice region
- Boosting research, development and innovation
- Shaping the global agenda

In June 2017 the Commission adopted the first deliverable: EU guidelines on the prudent use of antimicrobials in human medicine³. These guidelines aim to reduce inappropriate use and promote prudent use of antimicrobials in people, targeting those who are responsible for or play a role in antimicrobial use (e.g. doctors, nurses, pharmacists and hospital administrators). Similar guidelines exist for the prudent use of antimicrobials in veterinary medicine⁴. In addition, the forthcoming EU Regulations on veterinary medicinal products and medicated feed, scheduled to be adopted by the end of 2018 for an application in three years' time, lay down a wide range of concrete measures to fight AMR following the "One Health" approach.

The knowledge, attitudes and behaviour of the public are of vital importance in establishing and ensuring the prudent use of antimicrobials. With this in mind, the European Commission has undertaken a series of surveys among the general public to monitor their levels of usage and knowledge about antibiotics. The first survey, undertaken for the Directorate-General for Health and Consumers, was conducted in 2009⁵. Two further surveys were then carried out in 2013⁶ and 2016⁷. The current survey thus represents the fourth in the series and tracks progress on public use of and knowledge about antibiotics. More specifically, the survey covers:

- the use of antibiotics among the general public: whether they have taken antibiotics in the last year; how they were obtained; the reason for taking them; and whether a test was carried out to establish the cause of the illness before the antibiotics were taken
- the levels of public knowledge about the nature and effectiveness of antibiotics and the risks associated with their unnecessary use

¹ [COM\(2017\)339](#)

² [COM\(2011\)748](#) <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0748:FIN:EN:PDF>

³ [EU Guidelines for the prudent use of antimicrobials in human health](#)

[C/2017/4326: OJ C 212.17.2017. p. 1–12](#)

http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2017.212.01.0001.01.ENG&toc=OJ:C:2017:212:TOC

⁴ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52015XC0911%2801%29>

⁵ http://ec.europa.eu/public_opinion/archives/ebs/ebs_338_en.pdf

⁶ http://ec.europa.eu/health/antimicrobial_resistance/docs/ebs407_en.pdf

⁷ http://ec.europa.eu/public_opinion/archives/ebs_445_en.pdf

- whether the general public have received information on unnecessary antibiotic use and the impact this information has had on behaviour; and their interest in finding out more about antibiotics, along with perceptions of the most trustworthy sources for getting the information
- views on the most appropriate policy response to AMR
- attitudes towards the use of antibiotics on sick animals; and awareness of the ban on using antibiotics to stimulate growth in farm animals

This survey was carried out by the Kantar Public Brussels network in the 28 EU Member States between the 8th and 26th September 2018. Some 27,474 respondents from different social and demographic groups were interviewed face-to-face at home in their mother tongue on behalf of the European Commission, Directorate-General for Health and Food Safety. The methodology used is that of Eurobarometer surveys as carried out by the Directorate-General for Communication “Media Monitoring, Media Analysis and Eurobarometer” Unit). A technical note on the manner in which interviews were conducted is appended as an annex to this report. Also included are the interview methods and confidence intervals⁸.

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

Belgium	BE	Lithuania	LT
Bulgaria	BG	Luxembourg	LU
Czech Republic	CZ	Hungary	HU
Denmark	DK	Malta	MT
Germany	DE	The Netherlands	NL
Estonia	EE	Austria	AT
Ireland	IE	Poland	PL
Greece	EL	Portugal	PT
Spain	ES	Romania	RO
France	FR	Slovenia	SI
Croatia	HR	Slovakia	SK
Italy	IT	Finland	FI
Republic of Cyprus	CY *	Sweden	SE
Latvia	LV	United Kingdom	UK
European Union – weighted average for the 28 Member States			EU28

* 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.

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.

⁸ The results tables are included in the annex. It should be noted that the total of the percentages in the tables of this report may exceed 100% when the respondent has the possibility of giving several answers to the question.

KEY FINDINGS

One in three Europeans have taken antibiotics in the last year

- Around a third (32%) of respondents say that they have taken antibiotics in oral form at any time in the last 12 months. There has been a small drop (-2 percentage points) in this figure compared to that reported in the last survey in 2016 (34%).
- Usage varies by country: it is highest in Italy (47%) and lowest in Sweden (20%) and the Netherlands (21%).
- Since 2016, the proportion of respondents who say they have taken antibiotics in the last year has decreased in 20 Member States, increased in only five, and remained stable in three.
 - The largest decreases are in Romania (-10 percentage points), Luxembourg and Greece (both -7 pp), Malta (-6 pp) and Spain, Bulgaria, the Czech Republic and Finland (-5 pp in each)
 - The largest increase is in Denmark (+5 percentage points)
- People who say they have taken antibiotics are more likely to have left education at an early age (15 or under) and have difficulties paying household bills. They are also more likely to say they received information about the unnecessary use of antibiotics and that this information has changed their views on antibiotic use. Other groups somewhat more likely to have taken antibiotics include women; people aged 15-24 and 65 or over; and those who are not working.
- While the vast majority (93%) of respondents obtained their last course of antibiotics from a healthcare professional, either via a medical prescription (72%) or directly from a medical practitioner (21%) around 7% of antibiotics were taken without a prescription – the same proportion as in 2016.
- Respondents are most likely to cite bronchitis (16%), a sore throat (14%), flu (12%), a urinary tract infection (12%) and a fever (11%) as reasons for taking antibiotics. The proportion of antibiotics taken for cold or flu was 20% in 2018 – down from 27% in 2016.
- Just over two fifths of respondents (41%) say they had a test to find out the cause of their illness, before or at the same time as starting the antibiotics
- Two thirds of respondents (67%) would like further information on antibiotics.

There has been a small improvement in Europeans' knowledge of antibiotics since 2016

- Only a quarter (25%) of respondents gave the correct answer to all of the four knowledge questions asked about antibiotics, and the overall European average number of correct answers is 2.6 out of 4 – a small increase (+0.1) on the figure reported in 2016. The highest average number of correct answers is reported in Finland and Sweden (both 3.1) and the lowest average in Latvia and Romania (both 2.1). Since 2016, 19 Member States show an improvement in the average number of correct answers, with the most notable shifts in Italy (+0.4) and Poland (+0.3). Only two countries show a small decline: Ireland and Croatia (both -0.1).
- Most respondents (85%) are aware that unnecessary use of antibiotics makes them become ineffective, and a similar proportion (84%) know that you should only stop taking antibiotics after taking all of the prescribed dose as directed.

- Around two thirds of respondents know that taking antibiotics often leads to side effects, such as diarrhea (68%) and that antibiotics are not effective against colds (66%).
- However, less than half (43%) of respondents know that antibiotics are ineffective against viruses.

A third of Europeans remember getting information in the last year about not taking antibiotics unnecessarily

- A third (33%) of respondents recall receiving information in the last 12 months about not taking antibiotics unnecessarily, the same proportion as in 2016.
 - This proportion ranges from a high of 59% in Finland (the only Member State where the majority remember getting information) to a low of 14% in Romania.
- Respondents are most likely to say that they received the information from a doctor (41%), on the television news or other programmes (28%) or from a television advertisement (24%).
- Around three in ten respondents who received information about the misuse of antibiotics say that the information changed their views on antibiotics (29%), somewhat lower than the proportion reported in the 2016 survey (34%).
- Most (65%) of the respondents whose views were changed by the information on antibiotics say that, as a result, they will always consult a doctor when they think they need to take antibiotics.
- The topics on which respondents are most likely to say they would like more information about antibiotics are the medical conditions for which they are used (26%), resistance to antibiotics (25%), the links between the health of humans, animals and the environment (24%), and how to use antibiotics (24%).
- Respondents are much more likely to say they would go to a doctor (86%) rather than any other source in order to get trustworthy information on antibiotics.

Europeans are divided in their opinions about the most effective level to take action to tackle antimicrobial resistance

- Just over a quarter (27%) think that action at a global level is the most effective way to tackle resistance to antibiotics, around one in five in favour of action at a national level (19%), or individual or family level (19%), one in eleven (9%) thinking action at EU level is best, and a somewhat smaller proportion (7%) saying action should be taken at a regional level. One in nine respondents (11%) spontaneously say action at all levels is needed.

A minority of Europeans know that the use of antibiotics to stimulate growth in farm animals is banned in the EU, while a majority think that sick animals should be treated with antibiotics if appropriate

- Around two fifths of respondents (38%) are aware that the use of antibiotics to stimulate growth in farm animals is banned in the EU.
- More than half of respondents (56%) agree that sick animals should be treated with antibiotics if this is the most appropriate treatment, while just over a third (35%) disagree.

I. USE OF ANTIBIOTICS

1 Antibiotics use during the last year

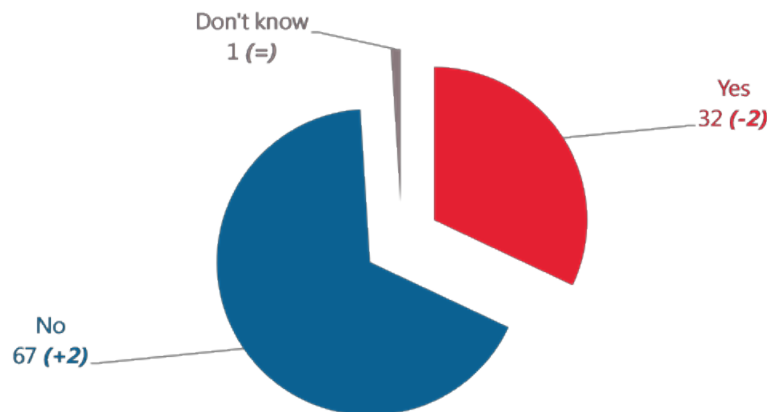
The first chapter looks at respondents' use of antibiotics, asking whether they have used them in the last year, how they obtained them, and the reason for which they took them.

At the start of the interview, respondents were asked whether they had taken antibiotics in oral form at any time in the last 12 months⁹.

Around a third of Europeans have taken antibiotics in the last year

Around one in three respondents (32%) say that they have taken antibiotics orally (such as tablets, powder or syrup) during the last year. There has been a small drop (-2 percentage points) in this figure compared to that reported in the 2016 survey (34%), and the proportion of respondents who have taken antibiotics now stands at its lowest level since 2009 (- 8 points from 40%).

QC1 Have you taken any antibiotics orally such as tablets, powder or syrup in the last 12 months?
(% - EU)



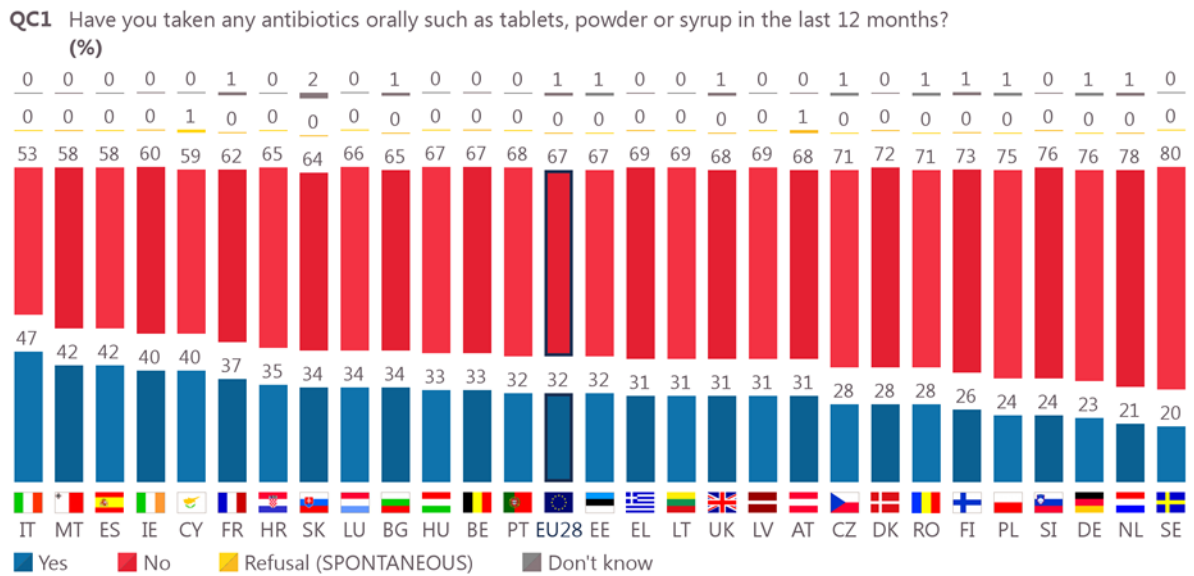
(September 2018 - April 2016)

Base: all respondents (N= 26,085 – sensitive question¹⁰)

⁹ Q1 Have you taken any antibiotics orally such as tablets, powder or syrup in the last 12 months? (ONE ANSWER ONLY): Yes; No; Don't know

¹⁰ Several questions in this survey are classified as sensitive in nature under General Data Protection Regulation guidelines [Regulation (EU) 2016/679]. Respondents were asked their consent to be asked these questions. For the survey, these primarily comprise questions relating to health and medical treatment or conditions. Although the first question QC1 was not filtered – i.e. in theory it could be asked of all respondents – as some respondents declined to give their consent, the base size is lower than the total sample size.

There is widespread variation at a national level.

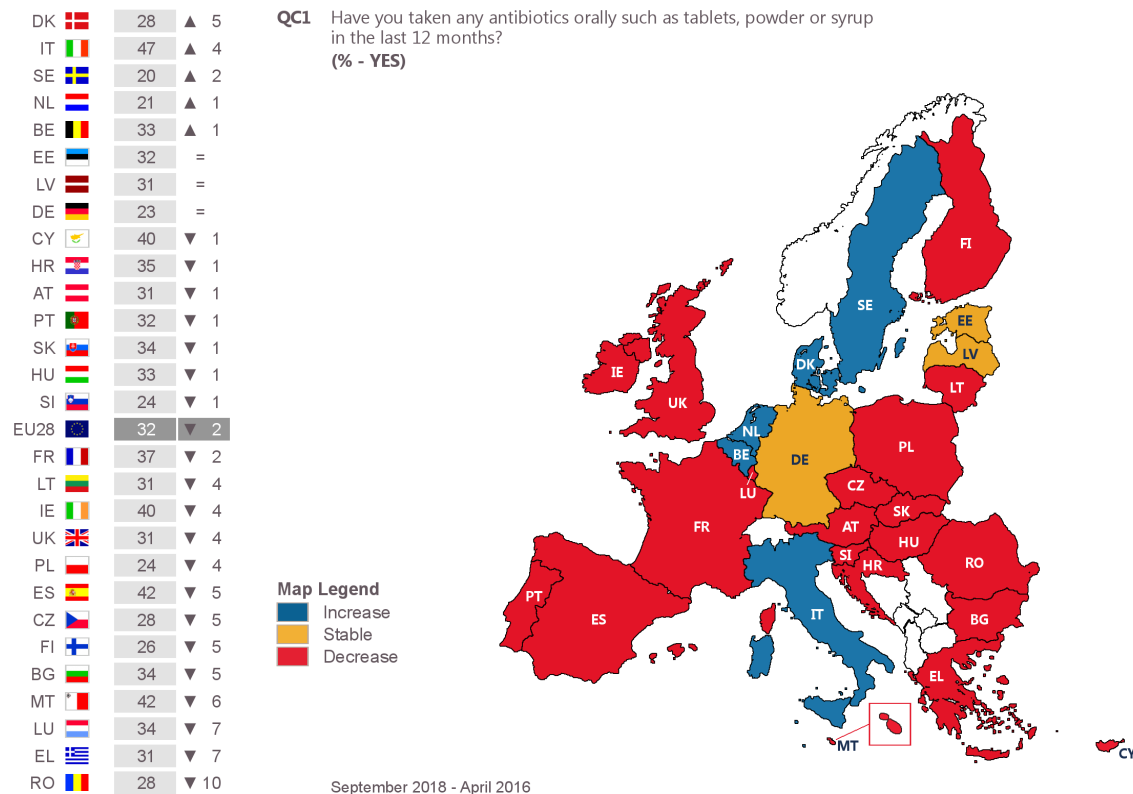


Base: all respondents (N= 26,085 – sensitive question)

Across all Member States, fewer than half of the respondents say that they have taken antibiotics. However, while nearly half of those polled in Italy (47%) say that they have taken antibiotics, less than a quarter of those polled in Poland and Slovenia (both 24%), Germany (23%), the Netherlands (21%) and Sweden (20%) say that they have done so.

Comparing the results at a national level with those from the 2016 survey, the proportion of respondents who say they have taken antibiotics in the last year has decreased in 20 Member States, increased in five Member States, and remained stable in three.

The map below shows the difference by Member State since the 2016 survey – those shown in blue have seen an increase in the proportion who have taken antibiotics. Those shown in yellow have not seen a change while those in red have seen a decrease.



Base: all respondents (N= 26,085 – sensitive question)

The largest decreases are observed in Romania (-10 percentage points), Luxembourg and Greece (both -7 pp), Malta (-6 pp), and Spain, Bulgaria, the Czech Republic and Finland (-5 pp in each).

The greatest increase is observed in Denmark (+5 percentage points).

Socio-demographic and key variable analysis

There are some notable differences between socio-demographic and key variable groups, most marked in relation to when people finished their full-time education, people's personal financial situation, if they obtained any information about the unnecessary use of antibiotics in the last year, and whether this information changed their views on antibiotic use. Respondents who have taken antibiotics in the last year are more likely to be:

- People who **finished their full-time education** aged 15 or under (38%), compared with those who completed their education aged 16-19 (32%) and aged 20 or over (29%)
- People who have **difficulties paying their household bills** 'most of the time' (41%) or 'from time to time' (38%), when compared with those who say they 'almost never' have difficulties (30%)
- Those who say they **have received information** about the misuse of antibiotics (39%), compared with those who say they have not received such information (29%)






- People who say they got information about the unnecessary use of antibiotics and **it changed their views** (46%), compared with those who say the information did not change their views (37%)

Other groups who are somewhat more likely to have taken antibiotics in the last year include:

- **Women** (34%), compared with men (30%)
- People **aged 15-24**¹¹ (35%) and aged 65 or over (34%-36% across the two upper age bands), when compared with those aged 25-64 (30%-32%)
- Those who are not working - specifically the **unemployed** (36%), students (35%) and the retired (34%), particularly when compared with the self-employed (29%) and managers (30%)

¹¹ Age is reported in the following bands: 15-24,25-34,35-44,45-54,55-64,65-74 and 75 and over.

QC1 Have you taken any antibiotics orally such as tablets, powder or syrup in the last 12 months?
(% - EU)

	Yes	No	Don't know
EU28	32	67	1
 Gender			
Man	30	69	1
Woman	34	65	1
 Age			
15-24	35	65	0
25-39	32	67	1
40-54	30	69	1
55 +	33	66	1
 Education (End of)			
15-	38	62	0
16-19	32	67	1
20+	29	70	1
Still studying	35	65	0
 Socio-professional category			
Self-employed	29	71	0
Managers	30	69	1
Other white collars	31	68	1
Manual workers	31	68	1
House persons	32	68	0
Unemployed	36	64	0
Retired	34	65	1
Students	35	65	0
 Difficulties paying bills			
Most of the time	41	58	1
From time to time	38	62	0
Almost never/ Never	30	70	0
Knowledge about antibiotics			
4 correct answers	31	68	1
3 correct answers	31	68	1
2 correct answers	35	64	1
1 correct answers	32	66	1
0 correct answers	28	70	2
Received information about antibiotics			
Yes	39	61	0
No	29	70	1
Information changed views			
Yes	46	54	0
No	37	63	0

Base: all respondents (N= 26,085 – sensitive question)

2 Ways of obtaining antibiotics

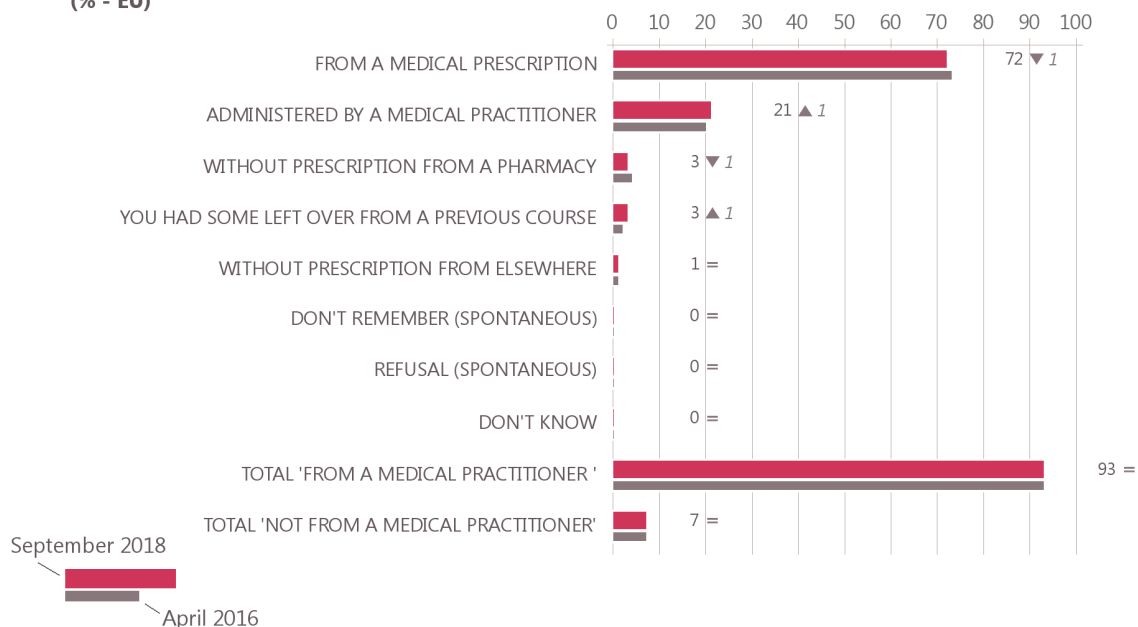
It is important to identify how Europeans obtain antibiotics because tackling AMR involves improving prescribing practices (limiting antimicrobial medicines so that they are only available on a prescription basis and only prescribed when needed) and stopping self-medication.

Respondents who said that they had used antibiotics in the last twelve months (32% of EU citizens) were asked how they obtained the last course of antibiotics that they had used¹².

Almost all Europeans obtained their last course of antibiotics through a healthcare professional – either via a medical prescription or directly from a medical practitioner

The vast majority of respondents (93%) say that they obtained their last course of antibiotics from a healthcare professional. This figure is obtained from combining the proportion who said that they obtained their antibiotics from a medical prescription (72%) and those who said they received the antibiotics directly from a medical practitioner (21%). There is a small minority of respondents who say they obtained antibiotics without a prescription from a pharmacy (3%) or used those left over from a previous course (3%). In addition, 1% say they obtained antibiotics without a prescription from elsewhere.

QC2 How did you obtain the last course of antibiotics that you used?
(% - EU)



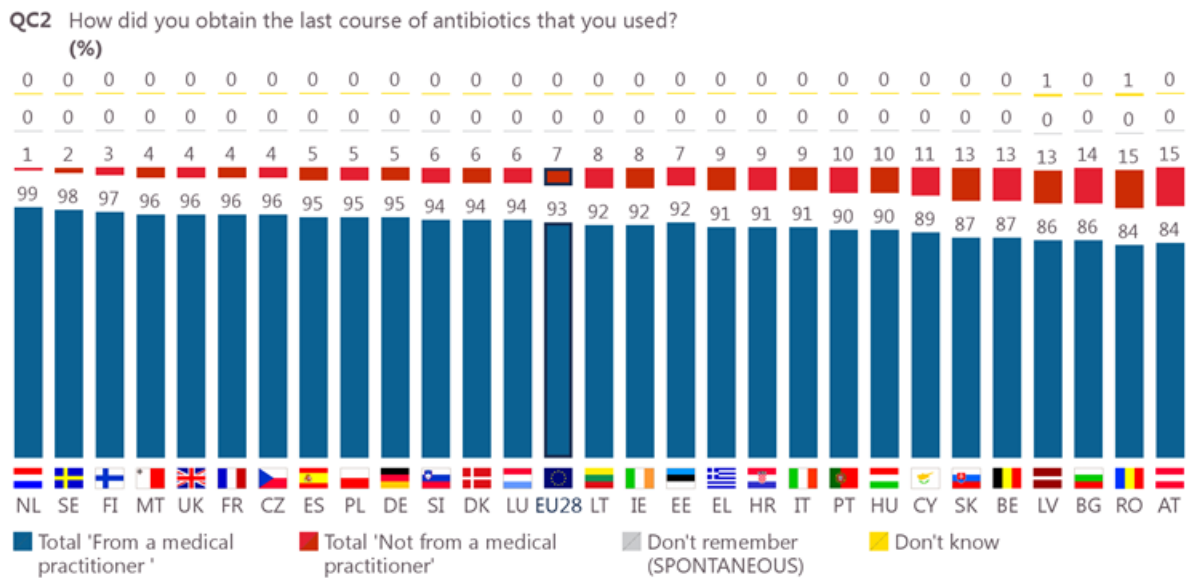
Base: Respondents who have taken antibiotics in the last 12 months (N= 8,416)

¹² Q2 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 a 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 combined into a category "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 combined into a category "Total not from a medical practitioner"

The results are very similar to those seen in 2016. As in 2016, a total of 7% of respondents did not obtain the antibiotics they used from a medical practitioner. This proportion has not changed since the previous survey.

Looking at the national picture, more than eight in ten respondents in each Member State say they obtained their antibiotics from a medical practitioner. The lowest levels are found in Cyprus (89%), Slovakia and Belgium (both 87%), Latvia and Bulgaria (both 86%) and Romania and Austria (both 84%). In all other countries, at least nine in ten of those polled say they obtained antibiotics in this way, with the highest proportion found in the Netherlands (99%).



Base: Respondents who have taken antibiotics in the last 12 months (N= 8,416)

Comparing the national results with those reported in 2016, Greece shows a particularly marked increase in the proportion of respondents saying they obtained antibiotics from a medical practitioner (+12 percentage points).

QC2 How did you obtain the last course of antibiotics that you used? (%)

	Total 'From a medical practitioner'	Sept. 2018 - Apr. 2016	Total 'Not from a medical practitioner'	Sept. 2018 - Apr. 2016	Don't remember (SPONTANEOUS)	Sept. 2018 - Apr. 2016	Refusal (SPONTANEOUS)*	Sept. 2018 - Apr. 2016	Don't know
EU28	93	=	7	=	0	=	0	NA	0
EL	91	▲12	9	▼11	0	▼1	0	NA	0
NL	99	▲4	1	▼4	0	=	0	NA	0
PL	95	▲4	5	▼4	0	=	0	NA	0
HR	91	▲3	9	▼1	0	▼1	0	NA	0
CY	89	▲3	11	▼3	0	=	0	NA	0
UK	96	▲2	4	▼2	0	=	0	NA	0
FI	97	▲1	3	▼1	0	=	0	NA	0
ES	95	▲1	5	▼1	0	=	0	NA	0
EE	92	▲1	7	▼2	0	=	1	NA	0
SE	98	=	2	=	0	=	0	NA	0
CZ	96	=	4	▲1	0	▼1	0	NA	0
FR	96	=	4	=	0	=	0	NA	0
DE	95	=	5	=	0	=	0	NA	0
DK	94	=	6	=	0	=	0	NA	0
LT	92	=	8	=	0	=	0	NA	0
RO	84	=	15	▼1	0	=	0	NA	1
MT	96	▼1	4	▲2	0	▼1	0	NA	0
HU	90	▼1	10	▲1	0	=	0	NA	0
BG	86	▼1	14	▲2	0	▼1	0	NA	0
LV	86	▼1	13	=	0	=	0	NA	1
LU	94	▼2	6	▲3	0	▼1	0	NA	0
PT	90	▼2	10	▲2	0	=	0	NA	0
SI	94	▼3	6	▲3	0	=	0	NA	0
IE	92	▼3	8	▲3	0	=	0	NA	0
IT	91	▼3	9	▲3	0	=	0	NA	0
BE	87	▼8	13	▲8	0	=	0	NA	0
SK	87	▼10	13	▲10	0	=	0	NA	0
AT	84	▼10	15	▲9	0	=	1	NA	0

Base: Respondents who have taken antibiotics in the last 12 months (N= 8,416)



Socio-demographic and key variable analysis

Any differences between socio-demographic and key variable groups on this measure are small. Those groups who are somewhat more likely to say they obtained their last course of antibiotics from a medical practitioner are:

- Older people - particularly those **aged 75 or over** (98%), when compared with 25-54 year olds (90%-93% across the two age bands)

- People who say they 'almost never' have **difficulties paying their household bills** (95%), particularly when compared with those who say they have difficulties paying their household bills 'most of the time' (87%)
- Those with better **knowledge of antibiotics**: those who answered all four questions correctly (95%); at least three out of the four questions correctly (94%); at least two of the four questions correctly (92%), compared with those who answered one or less questions correctly (89%-90%)

QC2 How did you obtain the last course of antibiotics that you used?
(% - EU)

	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
EU28	72	21	3	3	1	0	0
 Age							
15-24	75	19	2	3	1	0	0
25-39	71	19	4	5	1	0	0
40-54	70	22	4	3	1	0	0
55 +	73	22	2	3	0	0	0
 Difficulties paying bills							
Most of the time	65	22	5	7	1	0	0
From time to time	68	23	5	4	0	0	0
Almost never/ Never	75	20	2	3	0	0	0
Knowledge about antibiotics							
4 correct answers	73	22	2	3	0	0	0
3 correct answers	74	20	3	3	0	0	0
2 correct answers	70	22	2	5	1	0	0
1 correct answers	71	19	5	4	1	0	0
0 correct answers	69	20	5	5	1	0	0

Base: Respondents who have taken antibiotics in the last 12 months (N= 8,416)

3 Reasons for taking antibiotics

In order to minimise the growth of AMR, it is essential to prevent the unnecessary use of the drugs. Antibiotics only work on bacterial infections (e.g. pneumonia, urinary tract infections) and are ineffective at treating viral infections (e.g. colds, flu, and most types of sore throat, bronchitis, sinus and ear infections).

Respondents who said they had taken antibiotics in the last year were asked their reason for taking them¹³. The interviewer presented respondents with a card on which a variety of illnesses and symptoms were printed, and the respondents were able to choose from this card as many or few reasons as they wished.

Data has been combined to create three sub-groups: antibiotics used to treat illness only; antibiotics used to treat symptoms only; and antibiotics used to treat a combination of illness and symptoms¹⁴.

Europeans are most likely to cite bronchitis, a sore throat, flu, a urinary tract infection and a fever as reasons for taking antibiotics

One in seven respondents (14%) say that they took antibiotics for reasons that were not specified on the list of options presented to them.

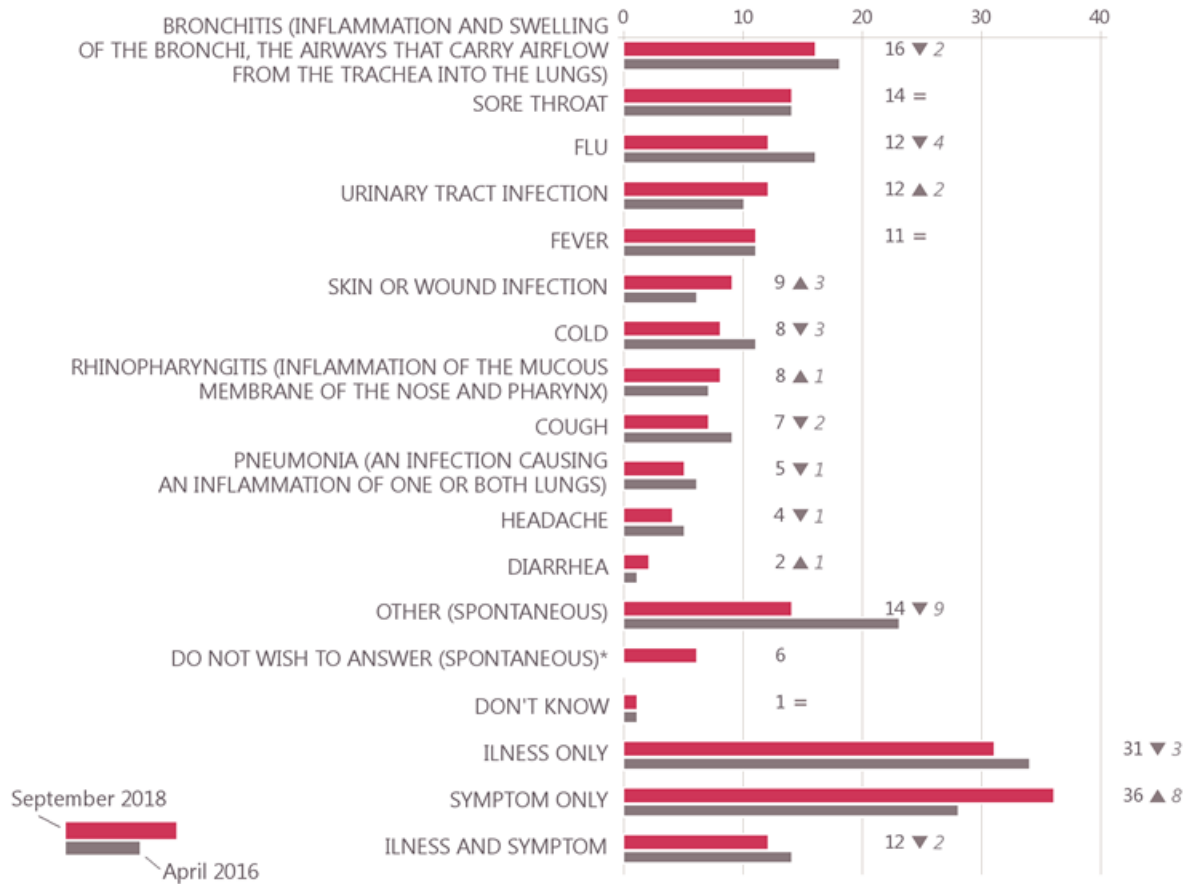
Among the illnesses and symptoms shown to them, respondents are most likely to cite bronchitis (16%), a sore throat (14%), flu (12%), a urinary tract infection (UTI) (12%) and a fever (11%) as reasons for taking their last course of antibiotics.

At a sub-group level, just under a third of respondents took the antibiotics for illness only (31%), with a somewhat larger proportion taking them for symptoms only (36%), and around one in eight taking them to treat both illness and symptoms (12%).

¹³ Q3 What was the reason for last taking the antibiotics that you used? (SHOW SCREEN – READ OUT – 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); Do not wish to answer (SPONTANEOUS); Don't know

¹⁴ **Illness only** has been created combining respondents who only cited Pneumonia, Bronchitis, Rhinopharyngitis, Flu or Cold in their answers. **Symptoms only** has been created by combining respondents who only cited Sore throat, Cough, Fever, Headache, Diarrhea, Urinary tract infection or Skin or wound infection. **Illness and symptom** has been created by combining respondents who cite at least one illness and at least one symptom.

QC3 What was the reason for last taking the antibiotics that you used? (MULTIPLE ANSWERS POSSIBLE)
(% - EU)



Base: Respondents who have taken antibiotics in the last 12 months (N= 8,416)

The notable changes since 2016 are an increase in the proportion of respondents who say they took antibiotics for symptoms only (+8 percentage points) and a decrease in the proportion using antibiotics to treat illness only (-3 percentage points).

Among the illnesses and symptoms shown to respondents, there have been small increases since 2016 in the proportion using antibiotics to treat a skin or wound infection (+3 percentage points) and a UTI (+2 pp), and decreases in the proportion using antibiotics to treat flu (-4 pp), a cold (-3 pp), bronchitis (-2 pp) and a cough (-2 pp).

In total, one in five respondents (20%) say that the reason for last taking antibiotics was either cold or flu – this is a significant decrease since 2016 when the proportion was 27%.

There has been a notable drop in the proportion saying that they took antibiotics for reasons that were not specified on the list of options presented to them (-9 percentage points).

There are differences in the reasons given for taking antibiotics across the Member States.

QC3 What was the reason for last taking the antibiotics that you used?
(MULTIPLE ANSWERS POSSIBLE)
(%)

		Bronchitis (...)	Sore throat	Flu	Urinary tract infection	Fever	Skin or wound infection	Cold	Rhinopharyngitis (...)	Cough	Pneumonia (...)	Headache	Diarrhea	Other (SPONTANEOUS)	Do not wish to answer (SPONTANEOUS)	Don't know	Illness only	Symptom only	Illness and symptom
EU28		16	14	12	12	11	9	8	8	7	5	4	2	14	6	1	31	36	12
BE		15	15	19	16	12	17	14	12	12	8	11	6	8	0	2	30	37	22
BG		24	22	21	10	23	2	13	5	21	7	9	1	5	1	0	41	30	22
CZ		27	17	11	21	10	11	4	7	5	5	2	1	7	1	1	36	40	15
DK		5	9	8	12	5	13	2	15	3	15	1	2	21	2	1	37	35	4
DE		11	7	14	11	9	11	14	2	8	4	2	2	1	27	3	29	32	9
EE		11	9	7	6	3	2	12	7	8	6	6	1	33	4	0	32	23	8
IE		16	15	14	9	8	7	10	4	7	4	2	2	13	2	0	38	40	6
EL		12	12	16	10	23	7	17	13	10	7	3	1	15	2	0	32	25	26
ES		8	19	10	10	10	8	10	7	3	3	3	1	24	2	1	27	40	8
FR		18	8	12	14	5	9	3	10	3	3	5	3	21	3	2	33	32	9
HR		12	24	8	23	4	8	11	3	8	5	7	4	8	5	0	25	50	11
IT		26	22	14	14	20	6	2	10	9	3	2	3	5	3	1	32	41	19
CY		11	9	9	9	4	6	14	4	6	11	4	3	25	2	0	38	28	8
LV		12	17	9	6	4	4	25	6	8	3	5	0	26	2	1	37	24	12
LT		17	13	17	6	12	4	12	2	9	9	4	2	20	0	1	39	26	13
LU		11	8	12	9	6	12	5	8	4	5	5	3	28	3	3	28	31	8
HU		13	34	18	11	27	4	12	6	18	8	7	7	9	1	0	20	41	29
MT		7	22	14	8	13	10	10	2	12	4	6	2	19	1	1	26	47	6
NL		8	2	3	19	4	14	1	14	3	15	3	3	23	6	1	28	37	5
AT		22	10	15	17	8	12	10	9	6	11	3	4	10	5	0	40	29	16
PL		22	17	11	8	12	4	16	9	9	6	6	3	12	3	0	44	27	13
PT		8	11	12	10	7	10	8	9	4	5	4	0	27	0	1	30	35	6
RO		13	8	11	10	9	5	24	5	10	7	11	2	13	6	3	33	27	18
SI		9	17	7	10	11	15	9	4	7	9	4	2	20	0	1	29	41	8
SK		24	24	19	11	24	4	8	6	18	4	13	1	10	5	0	31	29	25
FI		12	4	8	11	3	21	1	16	2	7	0	1	20	2	2	37	36	4
SE		2	4	4	15	6	27	3	12	2	10	1	0	29	0	2	22	43	4
UK		10	14	8	8	4	16	6	4	7	6	4	0	18	10	3	23	39	7

Highest percentage per country

Highest percentage per item

Lowest percentage per country

Lowest percentage per item

Base: Respondents who have taken antibiotics in the last 12 months (N= 8,416)

- Treating bronchitis is the most common reason given by respondents in seven Member States¹⁵, and one of the most common reasons given in a further two countries¹⁶. It is most widely cited

¹⁵ Bulgaria, the Czech Republic, Ireland, France, Italy, Austria and Poland

¹⁶ In Lithuania bronchitis and flu receive equal mentions (both 17%); and in Slovakia bronchitis, a sore throat and a fever receive equal mentions (all 24%)

by respondents in the Czech Republic (27%), Italy (26%), and Bulgaria and Slovakia (both 24%) and least widely cited in Sweden (2%) and Denmark (5%).

- Using antibiotics to *treat a sore throat* is the most common reason given in five Member States¹⁷. It is most likely to be mentioned by respondents in Hungary (34%), Croatia (24%) and least likely to be a reason given in the Netherlands (2%), and Finland and Sweden (both 4%).
- *Treating flu* is the most common reason given by respondents in Belgium (19%) and Portugal (12%), and one of the most common reasons cited in a further three countries¹⁸. It receives the highest mentions in Bulgaria (21%), followed by Belgium and Slovakia (both 19%). It is least likely to be given as the reason for taking antibiotics in the Netherlands (3%) and Sweden (4%).
- *Treating a UTI* is the most common reason given by respondents in the Netherlands (19%). Relatively large proportions of respondents used antibiotics to treat a UTI in Croatia (23%), the Czech Republic (21%), Austria (17%) and Belgium (16%).
- *Treating a fever* is the most common reason given in Greece (23%) and, as already noted one of the common reasons cited by respondents in Slovakia (along with bronchitis and a sore throat– all 24%). It receives the highest mentions in Hungary (27%), with a notably high proportion also reported in Bulgaria (23%) and Italy (20%). It is least likely to be given as a reason by respondents in Estonia and Finland (both 3%), followed by Croatia, Cyprus, Latvia, the Netherlands and the UK (4% in each).
- *Treating a skin or wound infection* is the most common reason given by respondents in Sweden (27%), Finland (21%) and the UK (16%) and, as already noted one of the most common reasons given by respondents in Luxembourg (along with flu).
- Using the antibiotics to *treat a cold* is the most common reason given in four Member States¹⁹ and, as already noted one of the most common reasons given by respondents in Germany (along with flu). It is most widely mentioned by respondents in Latvia (25%), Romania (24%), Greece (17%) and Poland (16%). Respondents in the Netherlands and Finland (both 1%) are the least likely to say this, followed by those in Denmark and Italy (both 2%).
- Respondents in Denmark are most likely to say they used the antibiotics to *treat rhinopharyngitis* or to *treat pneumonia* (both 15%).

¹⁷ Spain, Croatia, Hungary, Malta and Slovenia

¹⁸ In Germany flu and a cold receive equal mentions; in Luxembourg flu and a skin or wound infection receive equal mentions; and as already noted flu along with bronchitis receive equal mentions in Lithuania

¹⁹ Estonia, Cyprus, Latvia and Romania

Focusing on the sub-group level analysis (antibiotics used to treat illness only, symptoms only and both illness and symptoms), there have been some large changes at individual country level.

QC3 What was the reason for last taking the antibiotics that you used?
(MULTIPLE ANSWERS POSSIBLE)
(%)

		Illness only	Sept. 2018 - Apr. 2016	Symptom only	Sept. 2018 - Apr. 2016	Illness and symptom	Sept. 2018 - Apr. 2016	Other (SPONTANEOUS)	Sept. 2018 - Apr. 2016	Do not wish to answer (SPONTANEOUS)*	Sept. 2018 - Apr. 2016	Don't know
EU28		31	▼ 3	36	▲ 8	12	▼ 2	14	▼ 9	6	NA	1
BE		30	▼13	37	▲ 8	22	▲15	8	▼13	0	NA	2
BG		41	=	30	▲15	22	▼14	5	▼ 4	1	NA	0
CZ		36	▲ 4	40	▲ 2	15	▲ 1	7	▼ 8	1	NA	1
DK		37	▲ 4	35	▲ 2	4	▼ 3	21	▼ 7	2	NA	1
DE		29	▼ 7	32	▲ 6	9	▼ 4	1	▼23	27	NA	3
EE		32	▲ 6	23	▼ 4	8	▼ 2	33	▼ 4	4	NA	0
IE		38	▲ 4	40	▲ 8	6	▼ 6	13	▼ 9	2	NA	0
EL		32	▼ 8	25	▲ 9	26	▲ 2	15	▼ 5	2	NA	0
ES		27	▼ 7	40	▲20	8	▼ 4	24	▼11	2	NA	1
FR		33	▼ 4	32	▲ 7	9	=	21	▼ 7	3	NA	2
HR		25	▲ 1	50	▲ 8	11	▼ 6	8	▼ 8	5	NA	0
IT		32	▲ 3	41	▲ 8	19	▼ 8	5	▼ 5	3	NA	1
CY		38	▼ 3	28	▲ 8	8	▼ 3	25	▼ 3	2	NA	0
LV		37	▼ 5	24	▲ 3	12	▲ 2	26	▼ 2	2	NA	1
LT		39	▼ 5	26	▲ 4	13	▲ 1	20	▼ 1	0	NA	1
LU		28	▼11	31	▲ 5	8	▼ 1	28	▲ 2	3	NA	3
HU		20	▼11	41	▲10	29	▲ 6	9	▼ 5	1	NA	0
MT		26	▼ 1	47	▲15	6	▼ 8	19	▼ 8	1	NA	1
NL		28	▲ 5	37	▲ 4	5	=	23	▼16	6	NA	1
AT		40	▲ 4	29	▲ 1	16	▼ 4	10	▼ 6	5	NA	0
PL		44	▼ 5	27	▲ 8	13	▼ 5	12	▼ 1	3	NA	0
PT		30	▼ 8	35	▲10	6	=	27	▼ 3	0	NA	1
RO		33	▼10	27	▲14	18	▲ 3	13	▼17	6	NA	3
SI		29	▲ 2	41	▲ 7	8	▼ 3	20	▼ 6	0	NA	1
SK		31	▼ 4	29	▼ 3	25	▲ 8	10	▼ 6	5	NA	0
FI		37	▼ 4	36	▲ 4	4	▼ 1	20	▼ 2	2	NA	2
SE		22	▼ 2	43	▼ 1	4	▲ 1	29	=	0	NA	2
UK		23	▼ 2	39	▼ 1	7	▲ 5	18	▼12	10	NA	3

Base: Respondents who have taken antibiotics in the last 12 months (N= 8,416)

There are 18 Member States where the proportion of respondents saying they took antibiotics for illness only has dropped with the most notable changes in Belgium (-13 percentage points), Luxembourg and Hungary (both -11 pp), Romania (-10 pp), Greece and Portugal (both -8 pp) and Germany and Spain (both -7 pp). Among the nine countries showing an increase in the proportion taking antibiotics to treat illness only, the most notable shifts are in Estonia (+6 percentage points) and the Netherlands (+5 pp).

There are only four Member States²⁰ that show a drop in the proportion of respondents taking antibiotics for symptoms only, with the largest decrease in Estonia (-4 percentage points). Among the 24 countries where the proportion citing symptoms only has increased, the largest increases are in Spain (+20 percentage points), Bulgaria and Malta (both +15 pp), Romania (+14 pp), Hungary and Portugal (both +10 pp), Greece (+9 pp), Belgium, Ireland, Croatia, Italy, Cyprus and Poland (+8 pp in each), France and Slovenia (both +7 pp) and Germany (+6 pp).

There are 15 Member States showing a drop in the proportion of respondents using antibiotics to treat illness and symptoms, with the most notable decreases seen in Bulgaria (-14 percentage points), Italy and Malta (both -8 pp), and Ireland and Croatia (both -6 pp). Among the ten countries where the proportion citing illness and symptoms has increased, the largest increases are reported in Belgium (+15 percentage points), Slovakia (+8 pp), Hungary (+6 pp) and the UK (+5 pp).

Socio-demographic and key variable analysis

The most notable differences between socio-demographic and key variable groups in terms of illnesses and symptoms that the antibiotics are being used for are:


- Older people, especially those **aged 55 or over**, are more likely to use them for bronchitis (20%), particularly when compared with 15-39 year olds (11%-12% across the two age bands)
- Older people **aged 40 or over** are more likely to use them for pneumonia (6%-7% across the two age bands), compared with 15-39 year olds (2%-3% across the two age bands)
- Younger people, especially those **aged 15-24**, are more likely to take antibiotics for a sore throat (22%), particularly when compared with those aged 55 or over (9%).
- **15-24 year olds** also more likely to take them to treat a headache (10%), compared with those aged 25 or over (2%-4% across the three age bands); to use them to treat a fever (16%), particularly when compared with those aged 40 or over (9%-10% across the two age bands); and to use them for flu (15%), particularly when compared with those aged 55 or over (11%)
- Younger people are also more likely to have taken antibiotics to treat *symptoms only*, particularly those **aged 15-24** (46%), compared with those aged 55 or over (32%)

In addition those with a good **knowledge of antibiotics** are much less likely than those with poor knowledge to say they have taken the antibiotics for:

- Flu – four correct answers (8%) and three correct answers (10%), compared with two or less correct answers (16%-18%)
- Cold - four correct answers (4%) and three correct answers (6%), compared with two or less correct answers (12%-15%)
- Headache – four correct answers (2%) and three correct answers (3%), compared with two or less correct answers (6% in each group)
- Cough – four correct answers (4%), compared with three or less correct answers (7%-11%)
- Fever – four correct answers (7%), three correct answers (11%) and two correct answers (11%), compared with one or none correct answers (17% in each group)

²⁰ Estonia, Slovakia, Sweden and the UK

QC3 What was the reason for last taking the antibiotics that you used? (MULTIPLE ANSWERS POSSIBLE)
(% - EU)

	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)	Do not wish to answer (SPONTANEOUS)	Don't know
EU28	5	16	8	12	8	14	7	11	4	2	12	9	14	5	1
 Age															
15-24	2	11	9	15	10	22	8	16	10	3	9	10	10	3	2
25-39	3	12	9	13	10	18	8	11	4	2	10	8	13	5	1
40-54	6	15	9	12	8	16	6	10	4	2	12	9	14	5	1
55 +	7	20	6	11	7	9	7	9	2	2	14	10	15	5	2
Knowledge about antibiotics															
4 correct answers	6	14	8	8	4	12	4	7	2	2	14	10	17	7	2
3 correct answers	5	17	8	10	6	13	7	11	3	2	11	10	15	5	1
2 correct answers	5	15	7	16	12	17	9	11	6	2	12	9	11	3	2
1 correct answers	4	17	6	17	14	16	10	17	6	3	9	7	12	3	1
0 correct answers	5	15	6	18	15	11	11	17	6	3	15	6	12	3	2

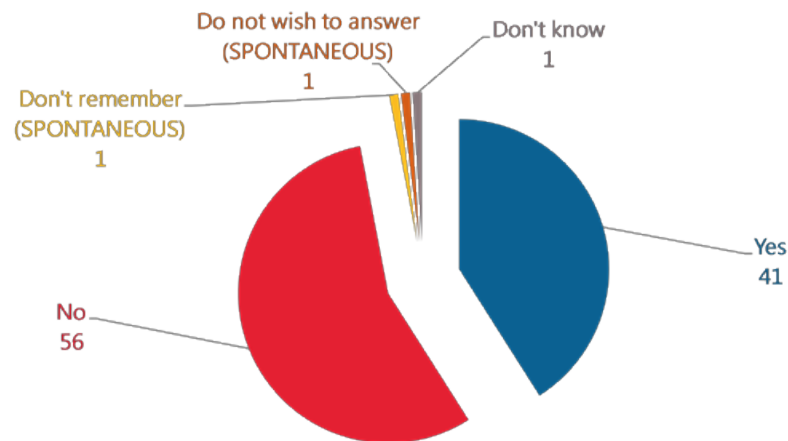
Base: Respondents who have taken antibiotics in the last 12 months (N= 8,416)

4 Diagnostic tests

Respondents who had taken a course of antibiotics in the last 12 months were asked whether they had a test, for example a blood or urine test, or throat swab, to find out the cause of the illness before or at the same time that they started taking the antibiotics²¹.

Just over two fifths of respondents (41%) say they had a test to find out the cause of their illness, before or at the same time as starting the antibiotics.

QC4 Did you have a test, for example a blood or urine test, or throat swab, to find out what was causing your illness, before or at the same time as you started antibiotics ?
(% - EU)

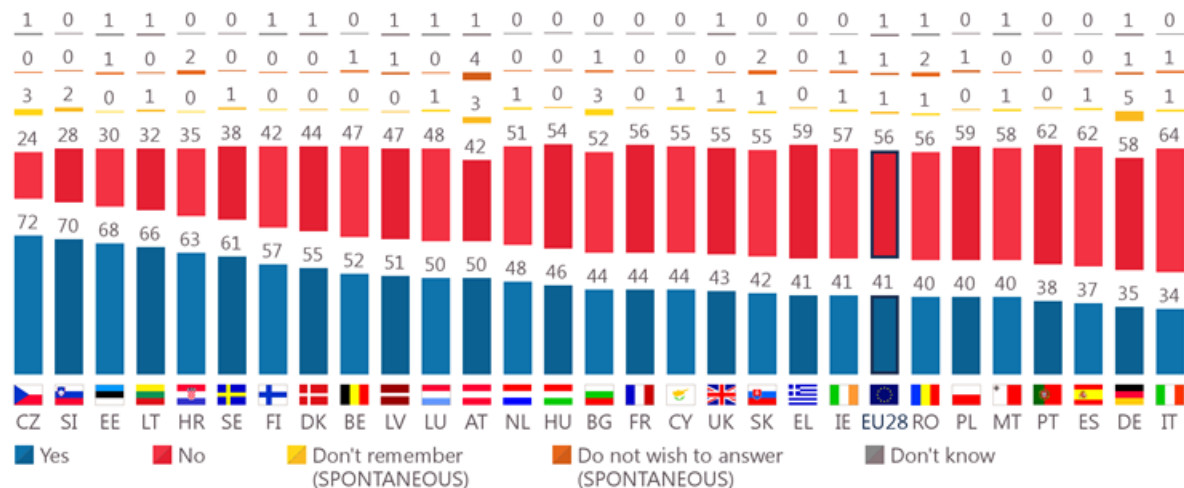


Base: Respondents who have taken antibiotics in the last 12 months (N= 8,416)

²¹ Q4 Did you have a test, for example a blood or urine test, or throat swab, to find out what was causing your illness, before or at the same time that you started taking antibiotics? (ONE ANSWER ONLY): Yes, No; Don't remember (SPONTANEOUS); Do not wish to answer (SPONTANEOUS); Don't know

At a national level there is widespread variation. There are ten Member States where the majority of respondents say that they had a test, with particularly high proportions reported in the Czech Republic (72%), Slovenia (70%), Estonia (68%) and Lithuania (66%). Countries where respondents are least likely to have had a test include Spain (37%), Germany (35%) and Italy (34%).

QC4 Did you have a test, for example a blood or urine test, or throat swab, to find out what was causing your illness, before or at the same time as you started antibiotics ?
(%)



Base: Respondents who have taken antibiotics in the last 12 months (N= 8,416)

Socio-demographic and key variable analyses




There are some notable differences between socio-demographic and key variable groups, particularly in relation to people's age, occupation and if they obtained any information about the unnecessary use of antibiotics in the last year. Respondents who were tested to find out the cause of their illness before or at the same time as starting the antibiotics are more likely to be:

- People **aged 55 or over** (48%), especially those aged 75 or over (53%), particularly when compared with those aged 15-24 (32%)
- Linked to the above, those who are **retired** (51%), particularly when compared with students (33%)
- Those who say they **have received information** about the misuse of antibiotics (48%), compared with those who say they have not received such information (37%)

Those groups who are somewhat more likely to say they were tested to find out the cause of their illness before or at the same time as starting the antibiotics include:

- People who say they 'almost never' have **difficulties paying their household bills** (43%), particularly when compared with those who say they have difficulties paying their household bills 'most of the time' (36%)
- People who say they got information about the unnecessary use of antibiotics and **it changed their views** (52%), compared with those who say the information did not change their views (47%)

QC4 Did you have a test, for example a blood or urine test, or throat swab, to find out what was causing your illness, before or at the same time as you started antibiotics ?

	Yes	No	Don't remember (SPONTANEOUS)	Do not wish to answer (SPONTANEOUS)	Don't know
EU28	41	56	1	1	1
 Age					
15-24	32	67	1	0	0
25-39	39	59	1	1	0
40-54	39	59	1	0	1
55 +	48	50	1	1	0
 Socio-professional category					
Self-employed	40	59	0	1	0
Managers	38	59	1	0	2
Other white collars	37	61	1	1	0
Manual workers	38	60	2	0	0
House persons	38	60	0	2	0
Unemployed	40	58	1	1	0
Retired	51	46	1	1	1
Students	33	66	1	0	0
 Difficulties paying bills					
Most of the time	36	61	0	3	0
From time to time	39	59	1	1	0
Almost never/ Never	43	55	1	0	1
Received information about antibiotics					
Yes	48	51	1	0	0
No	37	61	1	1	0
Information changed views					
Yes	52	47	1	0	0
No	47	52	1	0	0

Base: Respondents who have taken antibiotics in the last 12 months (N= 8,416)

II. KNOWLEDGE OF ANTIBIOTICS

This chapter looks at Europeans' awareness and understanding of antibiotics – what they can and cannot do, whether unnecessary use leads to ineffectiveness, whether they have side effects and when a course of antibiotics should be stopped.

Respondents were read a series of statements about antibiotics, and asked to say if each was 'true' or 'false':

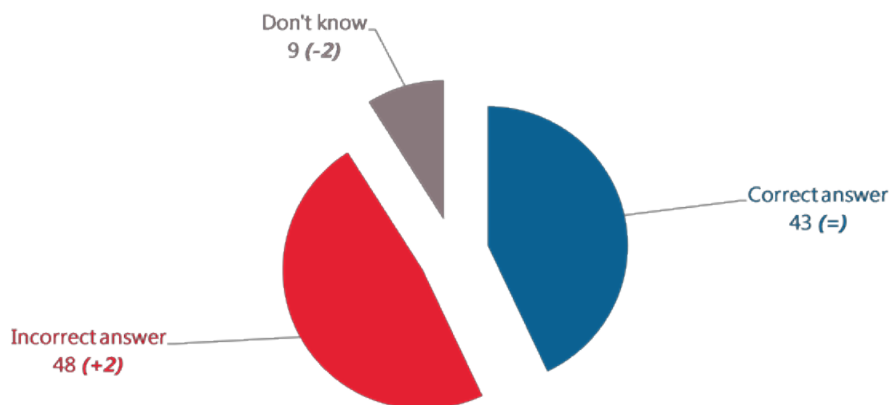
- Antibiotics kill viruses (FALSE)
- Antibiotics are effective against colds (FALSE)
- Unnecessary use of antibiotics makes them become ineffective (TRUE)
- Taking antibiotics often has side-effects, such as diarrhea (TRUE)²²

1 Do antibiotics kill viruses?

Less than half of Europeans think that antibiotics are ineffective against viruses

Across the EU just over two-fifths of respondents (43%) correctly say that it is false that antibiotics kill viruses, while a slightly larger proportion (48%) incorrectly think that it is true that antibiotics kill viruses. One in eleven respondents (9%) were unable to express an opinion.

QC5.1 For each of the following statements, please tell me whether you think it is true or false.
Antibiotics kill viruses (% - EU)



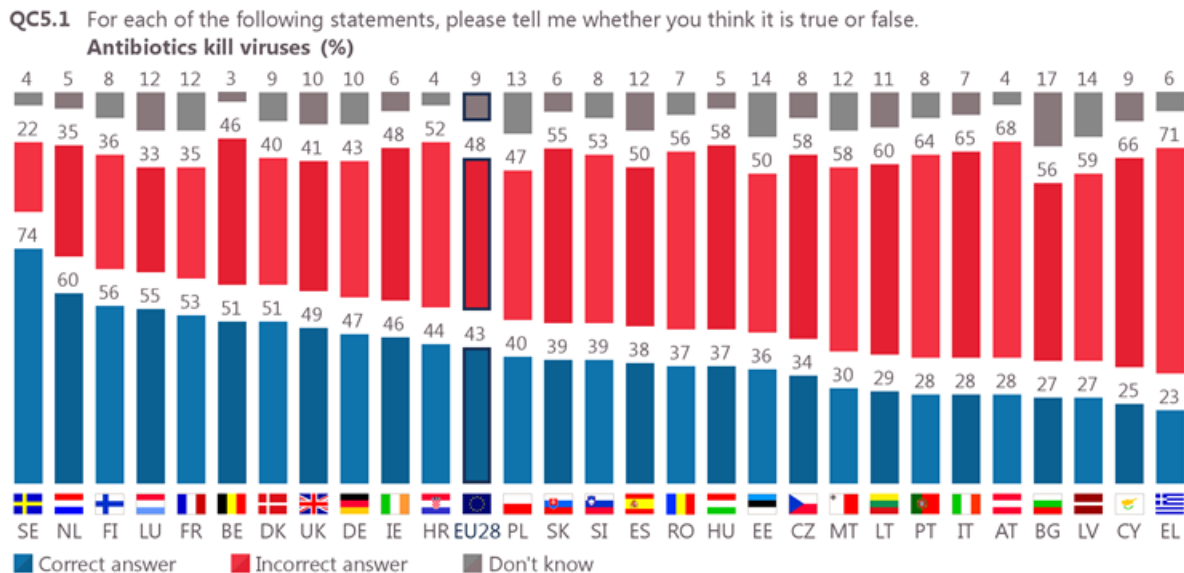
(September 2018 - April 2016)

Base: all respondents (N= 27,474)

²² Q5 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): Antibiotics kill viruses; Antibiotics are effective against colds; Unnecessary use of antibiotics makes them become ineffective; Taking antibiotics often has side effects such as diarrhea ANSWER LIST: True; False; Don't know

Since 2016 there has been no change in the proportion correctly saying that it is false that antibiotics kill viruses. There has been a small increase in the proportion incorrectly thinking that it is true (+2 percentage points), with a corresponding decrease in the proportion unable to express an opinion (-2 pp).

There is widespread variation at a national level.



Base: all respondents (N= 27,474)

There are seven countries where the majority of respondents know that antibiotics do not kill viruses, ranging from a notable high in Sweden (74%) to between 51%-60% in the other six Member States.

There are nine countries where less than a third (33%) of respondents know that antibiotics do not kill viruses, with the lowest proportions reported in Bulgaria and Latvia (both 27%), Cyprus (25%) and Greece (23%).

Comparing the national results with those from the 2016 survey, there are ten countries where the proportion of respondents correctly saying that it is false that antibiotics kill viruses has increased since 2016, with the most marked increases in Romania (+8 percentage points) and Poland (+6 pp).

There are 14 countries where knowledge has worsened, with the greatest declines in Ireland (-11 percentage points), Luxembourg and Cyprus (both -8 pp), the UK (-7 pp), France (-6 pp), and Finland, Denmark, Hungary and Lithuania (-5 pp in each).

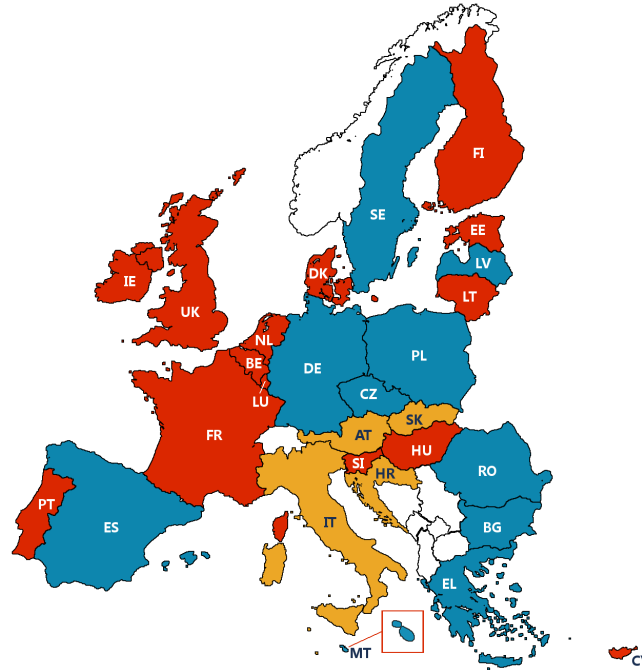
The map below shows the difference by Member State since the 2016 survey – those shown in blue have seen an increase in the proportion who give a correct answer. Those shown in yellow have not seen a change while those in red have seen a decrease.

RO		37	▲ 8
PL		40	▲ 6
CZ		34	▲ 4
EL		23	▲ 3
MT		30	▲ 3
DE		47	▲ 3
SE		74	▲ 2
BG		27	▲ 1
ES		38	▲ 1
LV		27	▲ 1
SK		39	=
EU28		43	=
IT		28	=
AT		28	=
HR		44	=
EE		36	▼ 1
NL		60	▼ 2
PT		28	▼ 2
BE		51	▼ 3
SI		39	▼ 4
LT		29	▼ 5
DK		51	▼ 5
FI		56	▼ 5
HU		37	▼ 5
FR		53	▼ 6
UK		49	▼ 7
LU		55	▼ 8
CY		25	▼ 8
IE		46	▼ 11

QC5.1 For each of the following statements, please tell me whether you think it is true or false.

Antibiotics kill viruses (% - CORRECT ANSWER)

Map Legend
 Increase
 Stable
 Decrease



Base: all respondents (N= 27,474)




Socio-demographic and key variable analysis

There are some notably large differences between some of the socio-demographic and key variable groups, with those much more likely to know that antibiotics do not kill viruses being:

- People who **finished their full-time education** aged 20 or more (53%), compared with those who finished aged 16-19 (39%) and those who finished aged 15 or under (30%)
- **Managers** (57%), particularly when compared with housepersons (33%) and the unemployed (36%)
- People who say they 'almost never' have **difficulties paying their household bills** (46%), compared with those who say they have difficulties 'from time to time' (36%) and those who struggle with household bills 'most of the time' (33%)
- People who say they **have received information** regarding the unnecessary use of antibiotics (53%), compared with those who have not received any information (38%)
- People who received information regarding the unnecessary use of antibiotics and say **the information has not changed their views** (56%), compared with those who say it has (46%)

QC5.1 For each of the following statements, please tell me whether you think it is true or false.

Antibiotics kill viruses (% - EU)

	Correct answer	Incorrect answer	Don't know
EU28	43	48	9
 Education (End of)			
15-	30	56	14
16-19	39	51	10
20+	53	40	7
Still studying	44	48	8
 Socio-professional category			
Self-employed	44	49	7
Managers	57	37	6
Other white collars	45	48	7
Manual workers	40	51	9
House persons	33	57	10
Unemployed	36	52	12
Retired	40	47	13
Students	44	48	8
 Difficulties paying bills			
Most of the time	33	57	10
From time to time	36	56	8
Almost never/ Never	46	45	9
Received information about antibiotics			
Yes	53	40	7
No	38	52	10
Information changed views			
Yes	46	50	4
No	56	36	8

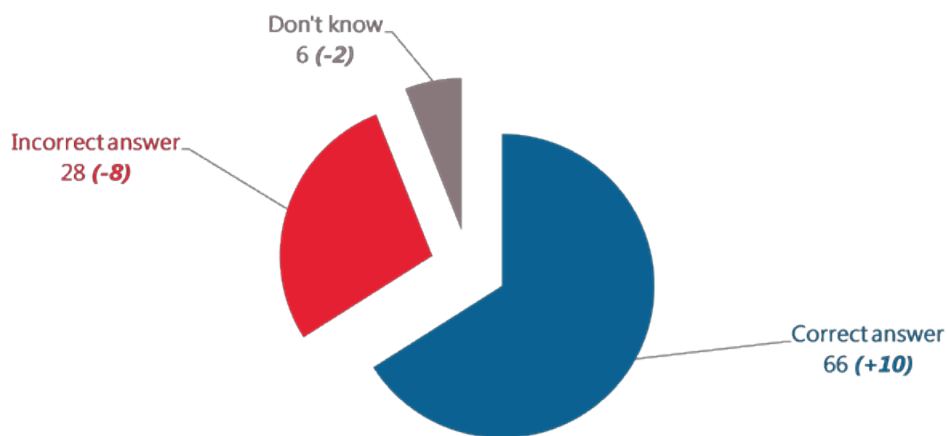
Base: all respondents (N= 27,474)

2 Are antibiotics effective against colds?

The majority of Europeans are aware that antibiotics are ineffective at treating colds

Two thirds (66%) of respondents across the EU correctly say that it is false that antibiotics are effective at treating colds. Around a quarter (28%) gave the incorrect answer (thinking that it is true that antibiotics are effective against colds), with a small minority (6%) unable to express an opinion.

QC5.2 For each of the following statements, please tell me whether you think it is true or false.
Antibiotics are effective against colds (% - EU)



(September 2018 - April 2016)

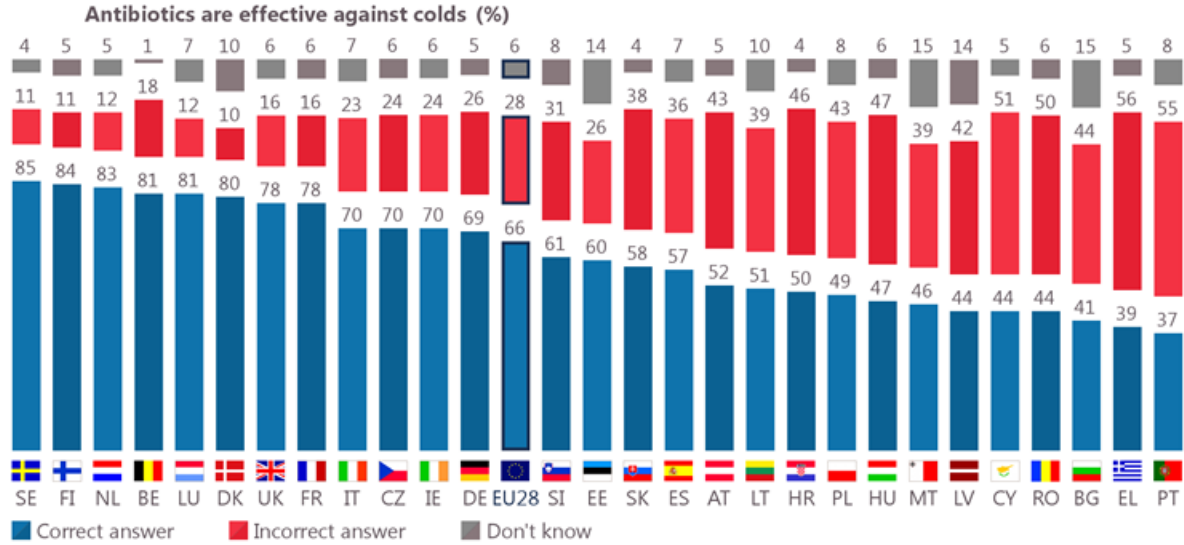
Base: all respondents (N= 27,474)

The wording of this statement has changed slightly since 2016 (previously both colds and flu were included in the statement). Bearing this in mind, there has been a large increase in the proportion knowing that antibiotics are not effective against colds (+10 percentage points) and a somewhat smaller decrease in the proportion giving the incorrect answer (-8 percentage points).

As seen in relation to opinions about the effectiveness of antibiotics on viruses, there is widespread national variation about their effectiveness on colds.

There are six countries where at least eight in ten respondents know that antibiotics do not kill colds: Sweden (85%), Finland (84%), the Netherlands (83%), Belgium and Luxembourg (both 81%), and Denmark (80%). The majority of respondents in a further 12 Member States correctly say that it is false that antibiotics are effective at treating colds. Countries where respondents are least likely to give the correct answer are Bulgaria (41%), Greece (39%) and Portugal (37%).

QC5.2 For each of the following statements, please tell me whether you think it is true or false.



Base: all respondents (N= 27,474)

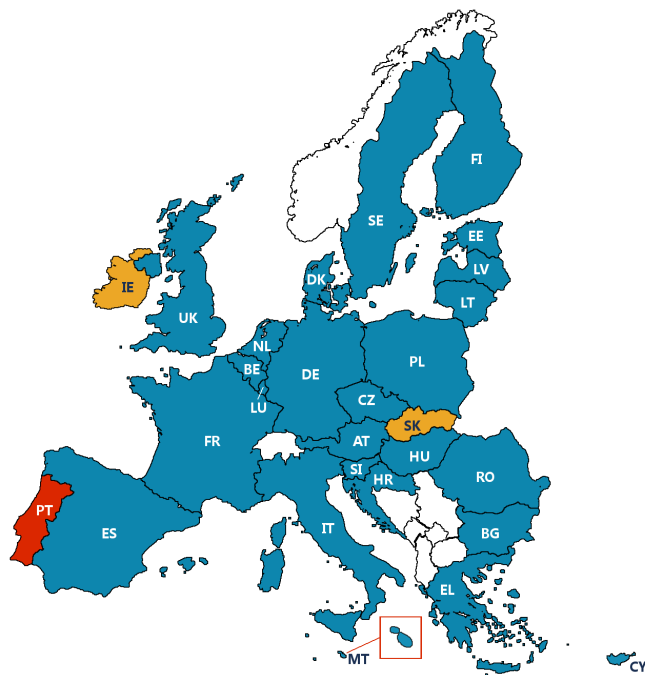
Comparing the national picture with that seen in 2016, again noting the change in the statement wording with the removal of flu, there are some notable differences.

The map below shows the difference by Member State since the 2016 survey – those shown in blue have seen an increase in the proportion who give a correct answer. Those shown in yellow have not seen a change while those in red have seen a decrease.

IT	70	▲ 21
LU	81	▲ 15
PL	49	▲ 15
DE	69	▲ 12
FR	78	▲ 11
EU28	66	▲ 10
ES	57	▲ 9
EL	39	▲ 9
DK	80	▲ 8
BE	81	▲ 8
CZ	70	▲ 7
MT	46	▲ 7
BG	41	▲ 7
SE	85	▲ 6
EE	60	▲ 6
LV	44	▲ 6
LT	51	▲ 5
UK	78	▲ 5
RO	44	▲ 5
HU	47	▲ 5
FI	84	▲ 5
NL	83	▲ 4
AT	52	▲ 3
CY	44	▲ 1
SI	61	▲ 1
HR	50	▲ 1
IE	70	=
SK	58	=
PT	37	▼ 1

QC5.2 For each of the following statements, please tell me whether you think it is true or false.
Antibiotics are effective against colds (% - CORRECT ANSWER)

Map Legend
■ Increase
■ Stable
■ Decrease



Base: all respondents (N= 27,474)

In almost all Member States (25) the proportion of respondents knowing that antibiotics are not effective against colds has increased. The largest increases are reported in Italy (+21 percentage points), Luxembourg and Poland (both +15 pp), Germany (+12 pp), France (+11 pp), and Spain and Greece (both +9 pp). In the remaining 18 countries where the proportion giving the correct answer has increased, thirteen show an increase of 5 percentage points or more. Portugal is the only country showing a drop in the proportion of respondents correctly saying that it is false that antibiotics are effective at treating colds, and the decrease is very small (-1 percentage point).

Socio-demographic and key variable analysis

Again, there are some notably large differences between some of the socio-demographic and key variable groups, with those groups particularly likely to know that antibiotics are not effective at treating colds being:






- People **aged 25 or over**, especially those aged 40-54 (72%), compared with those aged 15-24 (55%)
- People who **finished their full-time education** aged 20 or more (74%) and those who finished aged 16-19 (65%), compared with those who finished aged 15 or under (56%)
- **Managers** (78%), particularly when compared with housepersons (61%), students (61%), the unemployed (62%), manual workers (63%) and the retired (64%)
- People who say they 'almost never' have **difficulties paying their household bills** (69%), compared with those who say they have difficulties 'from time to time' (60%) and those who struggle with household bills 'most of the time' (55%)
- People who say they **have received information** regarding the unnecessary use of antibiotics (76%), compared with those who have not received any information (61%)

Other groups who are somewhat more likely to know that it is false that antibiotics kill colds are:

- **Women** (69%), compared with men (63%)
- People who received information regarding the unnecessary use of antibiotics and say **the information has not changed their views** (78%), compared with those who say it has (72%)

QC5.2 For each of the following statements, please tell me whether you think it is true or false.

Antibiotics are effective against colds (% - EU)

	Correct answer	Incorrect answer	Don't know
EU28	66	28	6
 Gender			
Man	63	30	7
Woman	69	25	6
 Age			
15-24	55	36	9
25-39	66	29	5
40-54	72	24	4
55 +	65	28	7
 Education (End of)			
15-	56	35	9
16-19	65	29	6
20+	74	21	5
Still studying	61	32	7
 Socio-professional category			
Self-employed	70	25	5
Managers	78	18	4
Other white collars	70	25	5
Manual workers	63	32	5
House persons	61	32	7
Unemployed	62	30	8
Retired	64	28	8
Students	61	32	7
 Difficulties paying bills			
Most of the time	55	38	7
From time to time	60	33	7
Almost never/ Never	69	25	6
Received information about antibiotics			
Yes	76	20	4
No	61	32	7
Information changed views			
Yes	72	24	4
No	78	18	4

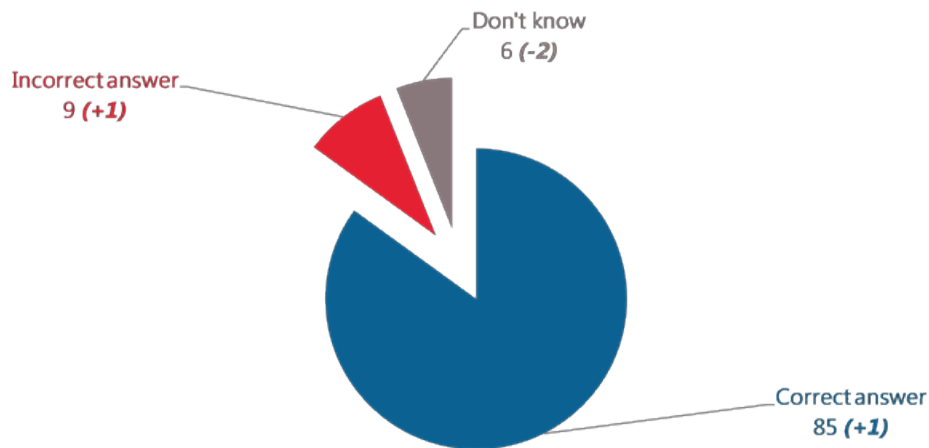
Base: all respondents (N= 27,474)

3 Does unnecessary use of antibiotics make them become ineffective?

Most Europeans are aware that using antibiotics unnecessarily makes them become ineffective

More than four in five respondents (85%) correctly say that it is true that unnecessary use of antibiotics makes them become ineffective. 9% incorrectly say that this statement is false.

QC5.3 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)



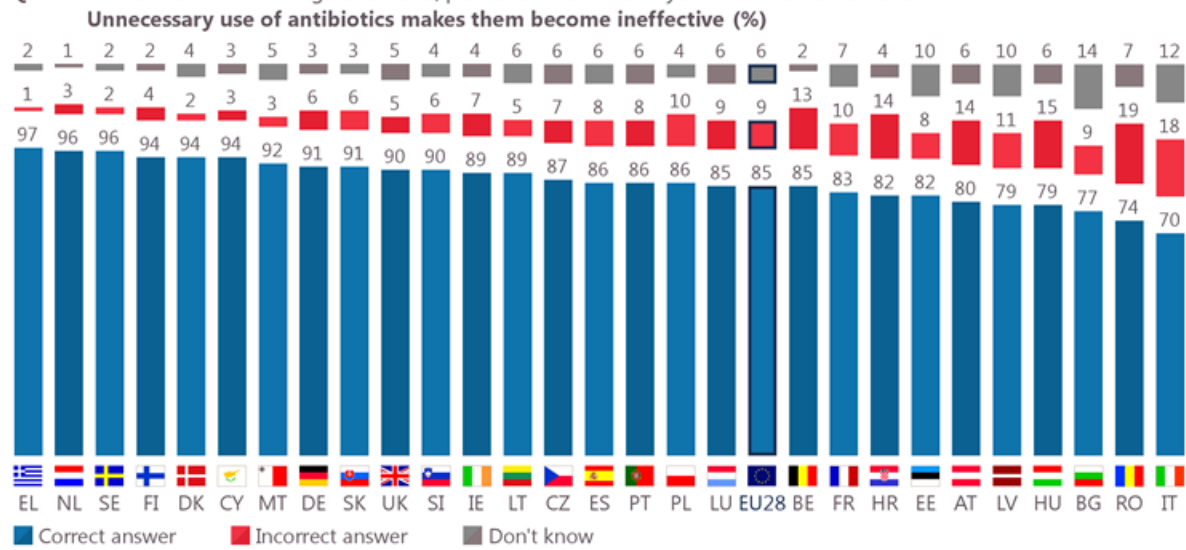
(September 2018 - April 2016)

Base: all respondents (N= 27,474)

The results are very similar to those reported in 2016. There has been a very small increase in the proportion of respondents who correctly think that using antibiotics unnecessarily leads to their ineffectiveness (+1 percentage point), a similar increase in the proportion incorrectly saying that this is false (+1 percentage point) and a small drop in the proportion unable to express an opinion (-2 pp).

There are differences across the Member States, but variation is less widespread than that seen in relation to knowledge about the effectiveness of antibiotics on viruses, and on colds.

QC5.3 For each of the following statements, please tell me whether you think it is true or false.



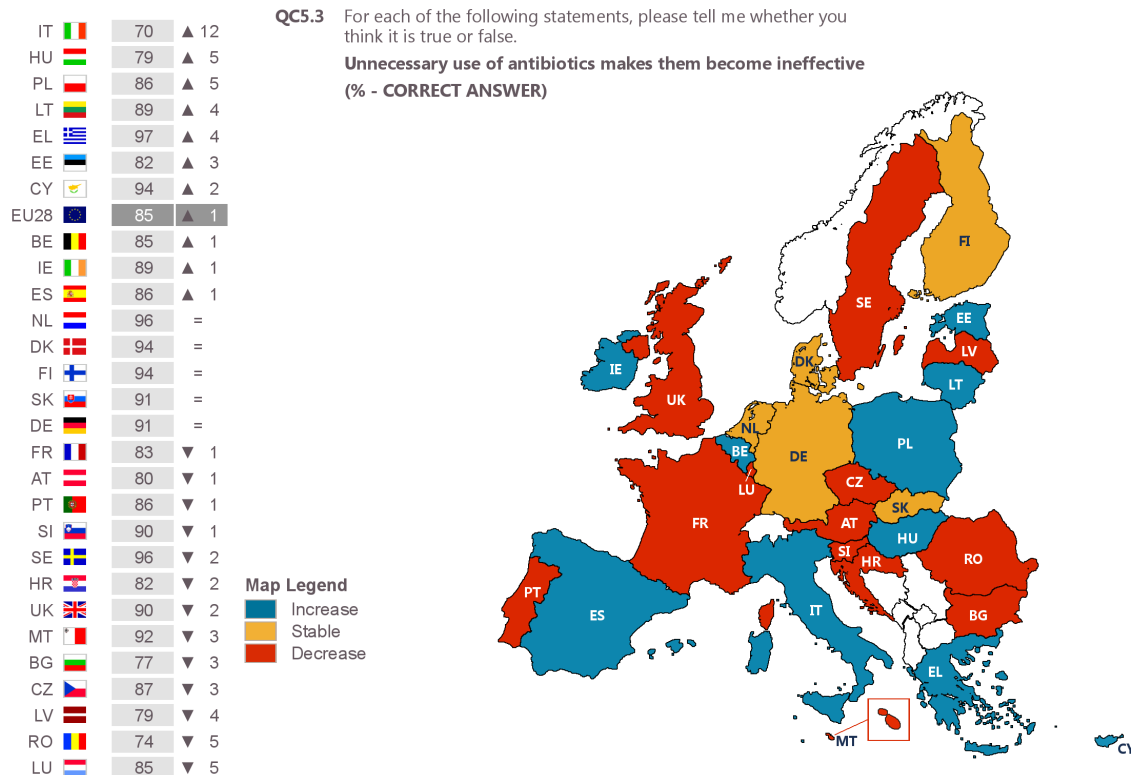
Base: all respondents (N= 27,474)

Across all Member States at least seven in ten respondents correctly identify that unnecessary antibiotic use leads to their ineffectiveness. Indeed, almost all respondents in Greece (97%), and Sweden and the Netherlands (both 96%) are correct, and at least nine in ten respondents in a further eight Member States²³ know this to be the case. Respondents in Romania (74%) and Italy (70%) are least likely to give the correct answer.

Any changes to the national picture since 2016 are for the most part small.

The map below shows the difference by Member State since the 2016 survey – those shown in blue have seen an increase in the proportion who give a correct answer. Those shown in yellow have not seen a change while those in red have seen a decrease.

²³ Finland, Denmark, Cyprus, Malta, Germany, Slovakia, the UK and Slovenia



Base: all respondents (N= 27,474)

Among the ten countries showing an improvement in knowledge - where the proportion of respondents correctly saying that it is true that unnecessary antibiotic use leads to their ineffectiveness has increased - the most notable difference is in Italy (+12 percentage points), followed by Poland and Hungary (both +5 pp). Similarly, among the 13 Member States where knowledge has worsened the greatest declines are in Luxembourg and Romania (both -5 percentage points).

Socio-demographic and key variable analysis





Any differences between socio-demographic and key variable groups on this measure are generally smaller than those seen in relation to knowledge about the effectiveness of antibiotics on viruses and colds. The groups that are somewhat more likely to know that unnecessary antibiotic use leads to ineffectiveness are:

- People **aged 40-54 years old** (89%), particularly when compared with 15-24 year olds and those aged 55 or over (83% in each band)
- People who **finished their full-time education** aged 20 or more (89%), particularly when compared with those who finished aged 15 or under (78%)
- **Managers** (90%), particularly when compared with the unemployed (81%), housepersons (82%) and the retired (83%)
- People who say they 'almost never' have **difficulties paying their household bills** (88%), compared with those who say they have difficulties 'from time to time' or 'most of the time' (both 80%)

- People who say they **have received information** regarding the unnecessary use of antibiotics (91%), compared with those who have not received any information (82%)

QC5.3 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	Incorrect answer	Don't know
EU28	85	9	6
 Age			
15-24	83	10	7
25-39	85	10	5
40-54	89	8	3
55 +	83	9	8
 Education (End of)			
15-	78	11	11
16-19	85	10	5
20+	89	8	3
Still studying	86	8	6
 Socio-professional category			
Self-employed	85	10	5
Managers	90	7	3
Other white collars	87	10	3
Manual workers	85	10	5
House persons	82	9	9
Unemployed	81	11	8
Retired	83	9	8
Students	86	8	6
 Difficulties paying bills			
Most of the time	80	11	9
From time to time	80	13	7
Almost never/ Never	88	7	5
Received information about antibiotics			
Yes	91	6	3
No	82	11	7

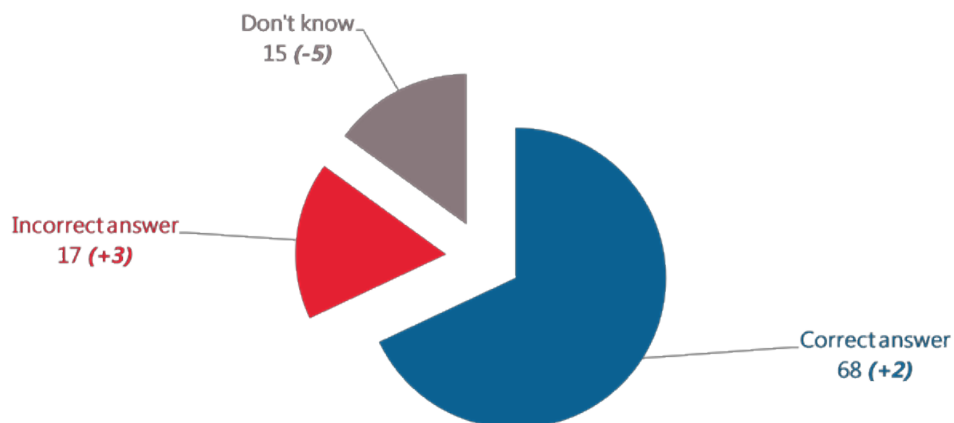
Base: all respondents (N= 27,474)

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

Around two thirds of Europeans know that taking antibiotics often leads to side effects, such as diarrhea

Just over two thirds of respondents (68%) correctly say that it is true that taking antibiotics often leads to side effects, such as diarrhea. One in six (17%) incorrectly say that it is false that antibiotics often leads to side effects. There is more uncertainty among respondents on whether this is true or false, with one in seven (15%) unable to give an answer (compared with 6%-9% on the previous three statements).

QC5.4 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)

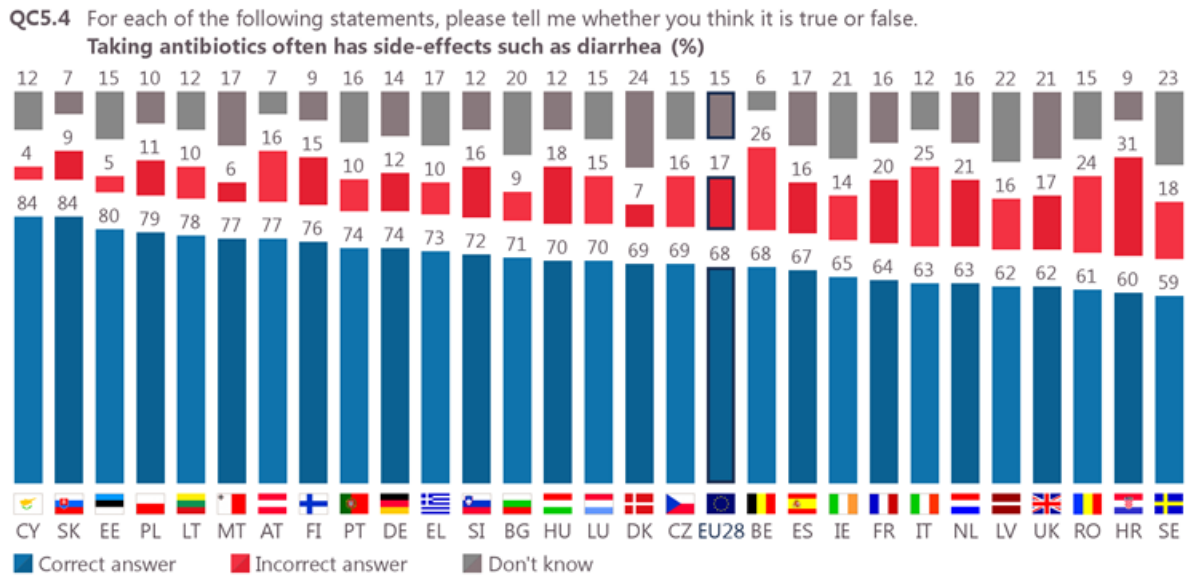


(September 2018 - April 2016)

Base: all respondents (N= 27,474)

Findings are broadly similar to those reported in 2016. There have been small increases in the proportion of respondents who correctly think that taking antibiotics often leads to side effects (+2 percentage points), and incorrectly say that this is false (+3 pp), with a corresponding drop in the proportion unable to express an opinion (-5 percentage points).

As seen in relation to opinions about the unnecessary use of antibiotics making them ineffective, there is less marked national variation on this measure.







Base: all respondents (N= 27,474)

Across all Member States, the majority of respondents answer correctly. The highest proportions are found in Cyprus and Slovakia (both 84%), followed by Estonia (80%), Poland (79%), Lithuania (78%), Malta and Austria (both 77%), and Finland (76%). Countries where respondents are least likely to say that taking antibiotics often leads to side-effects include Croatia (60%) and Sweden (59%).

- People who **finished their full-time education** aged 20 or more (70%), particularly when compared with those who finished aged 15 or under (65%)
- **Managers** (71%), other white collar workers (70%) and the retired (70%), particularly when compared with the unemployed (62%) and the self-employed (63%)
- People who say they **have received information** regarding the unnecessary use of antibiotics (74%), compared with those who have not received any information (66%)
- People who received information regarding the unnecessary use of antibiotics and say **the information has changed their views** (78%), compared with those who say it has not (72%)

QC5.4 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	Incorrect answer	Don't know
EU28	68	17	15
 Gender			
Man	64	18	18
Woman	72	15	13
 Age			
15-24	63	21	16
25-39	66	19	15
40-54	69	17	14
55 +	70	14	16
 Education (End of)			
15-	65	18	17
16-19	68	17	15
20+	70	16	14
Still studying	65	18	17
 Socio-professional category			
Self-employed	63	20	17
Managers	71	17	12
Other white collars	70	17	13
Manual workers	68	18	14
House persons	69	19	12
Unemployed	62	20	18
Retired	70	14	16
Students	65	18	17
Received information about antibiotics			
Yes	74	14	12
No	66	18	16
Information changed views			
Yes	78	13	9
No	72	15	13

Base: all respondents (N= 27,474)

5 Overall levels of knowledge on the use of antibiotics

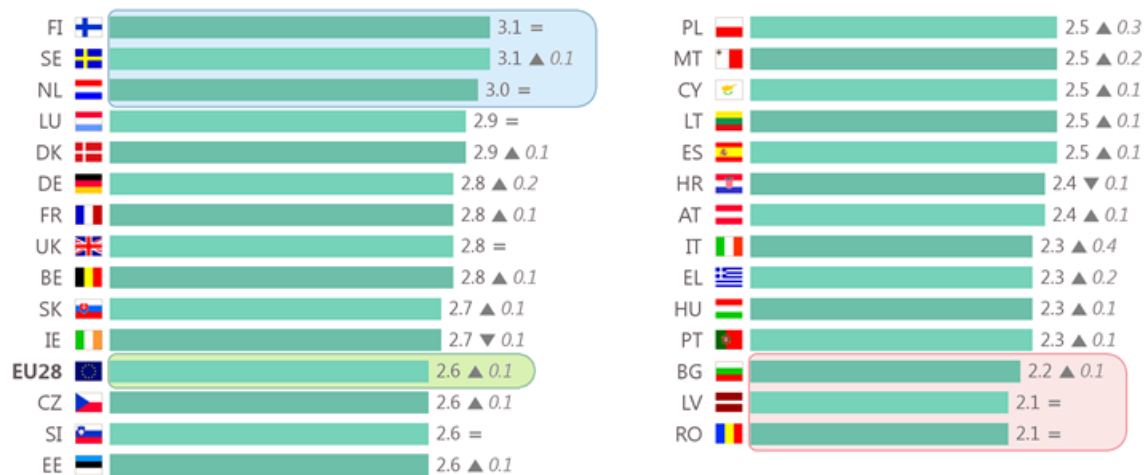
This section brings together the findings for each of the four individual statements used to test knowledge about antibiotics.

Across the EU, on average, a quarter of respondents (25%) answered all four questions correctly, while a little more than half (56%) gave at least three correct answers, and almost all respondents (96%) gave at least one correct answer.

The overall average number of correct answers is 2.6 out of 4.

The results are broadly similar to those reported in 2016. There has been a very small increase in the proportion answering all four questions correctly (+1 percentage point), with a somewhat larger increase in the proportion giving at least three correct answers (+5 pp) and a small increase in the proportion who gave at least one correct answer (+2 pp).

QC5R For each of the following statements, please tell me whether you think it is true or false.
(AVERAGE NUMBER OF CORRECT ANSWERS)



September 2018 - April 2016

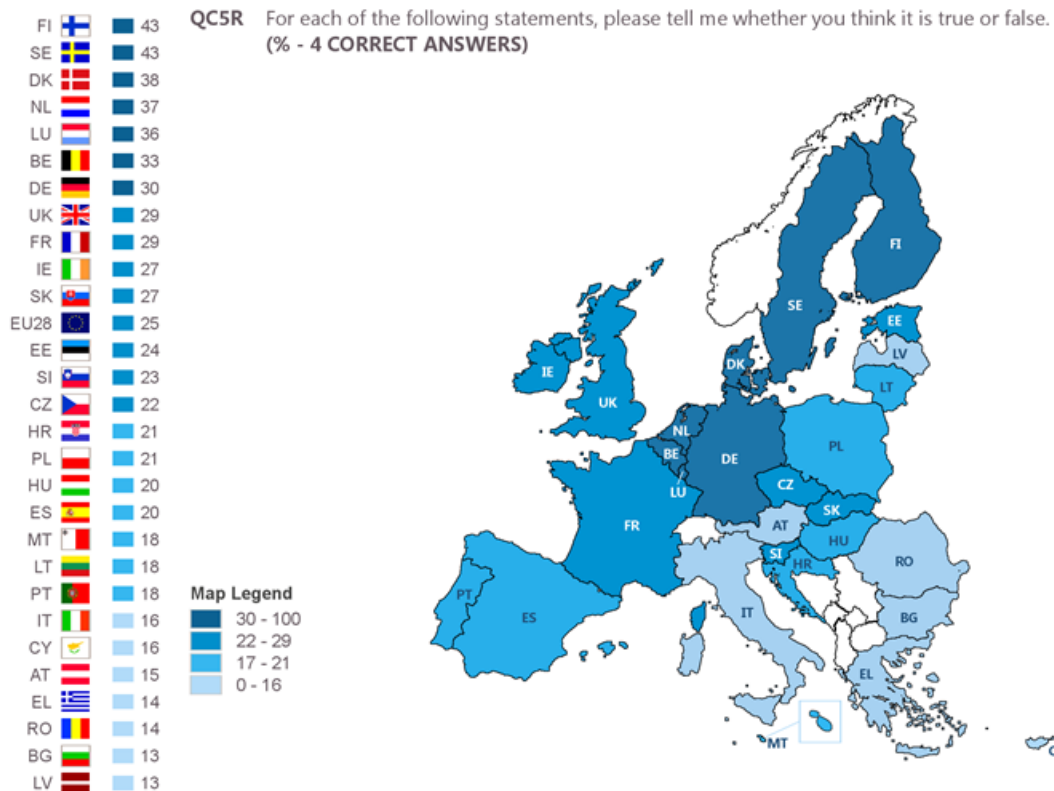
Base: all respondents (N= 27,474)

The highest average number of correct answers is observed in Finland and Sweden (both 3.1), followed by the Netherlands (3.0), and Luxembourg and Denmark (both 2.9).

The lowest average is recorded in Latvia and Romania (both 2.1), followed by Bulgaria (2.2).

There are 19 Member States that show an improvement since 2016 in the average number of correct answers respondents gave, with the most notable shifts reported in Italy (+0.4) and Poland (+0.3). There are only two countries showing a small decline in the average number of correct answers respondents gave: Ireland and Croatia (both -0.1).

The map below shows the national picture focussing on respondents able to answer all four questions correctly. The darker the shade of blue, the higher the proportion of respondents giving a correct answer to all four questions



Base: all respondents (N= 27,474)

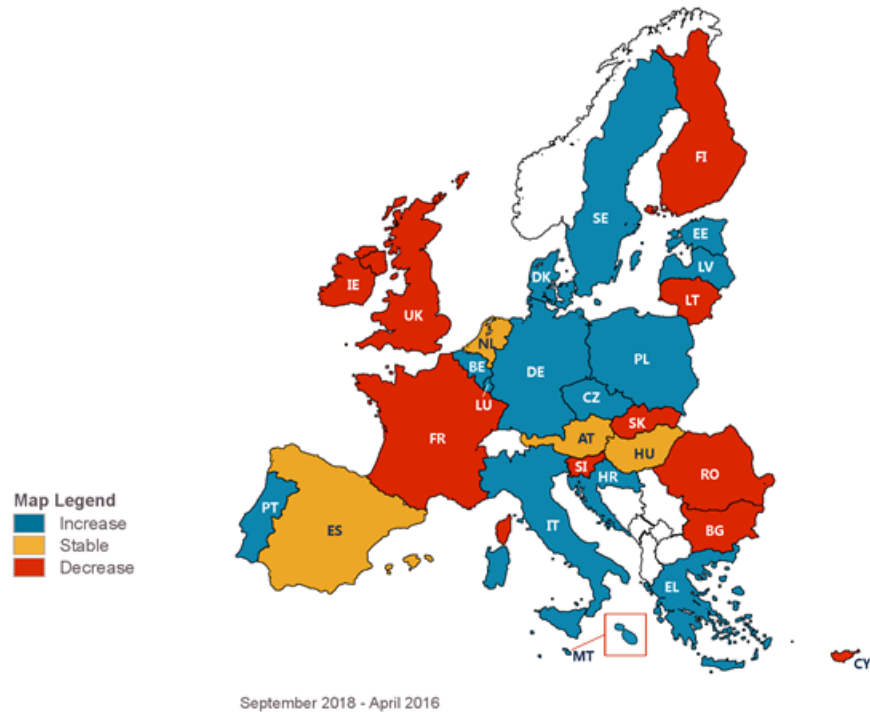
There are no Member States where the majority of respondents answer all four questions correctly. The countries where at least a third of respondents are able to do so include Finland and Sweden (both 43%), Denmark (38%), the Netherlands (37%), Luxembourg (36%) and Belgium (33%). In contrast, only one in eight respondents answer all four questions correctly in Bulgaria and Latvia (both 13%), and only one in seven answer all four in Greece and Romania (both 14%), and Austria (15%).

Comparing these results with those from 2016, there are 14 Member States where the proportion of respondents giving four correct answers has increased, with the most notable shifts reported in the Czech Republic and Poland (both +6 percentage points) and Germany (+5 pp). Among the ten Member States showing a drop in the proportion giving four correct answers the largest decrease is in the UK (-5 percentage points).

The map below shows the difference by Member State since the 2016 survey – those shown in blue have seen an increase in the proportion who give a correct answer to all statements. Those shown in yellow have not seen a change while those in red have seen a decrease.

CZ	22	▲ 6
PL	21	▲ 6
DE	30	▲ 5
BE	33	▲ 4
IT	16	▲ 4
PT	18	▲ 3
SE	43	▲ 2
DK	38	▲ 2
MT	18	▲ 2
LU	36	▲ 1
EU28	25	▲ 1
EE	24	▲ 1
HR	21	▲ 1
EL	14	▲ 1
LV	13	▲ 1
NL	37	=
HU	20	=
ES	20	=
AT	15	=
LT	18	▼ 1
RO	14	▼ 1
FR	29	▼ 2
SK	27	▼ 2
CY	16	▼ 2
BG	13	▼ 2
FI	43	▼ 3
SI	23	▼ 3
IE	27	▼ 4
UK	29	▼ 5

QC5R For each of the following statements, please tell me whether you think it is true or false.
(% - 4 CORRECT ANSWERS)








Base: all respondents (N= 27,474)

Socio-demographic and key variable analysis

There are some notable differences between socio-demographic and key variable groups. Those who are particularly more likely to give four correct answers include:

- **Women** (28%), compared with men (21%)
- People **aged 25 or over**, especially those aged 40-54 (28%), compared with 15-24 year olds (19%)
- People who **finished their full-time education** aged 20 or more (33%), compared with those who finished aged 16-19 (22%) and aged 15 or under (15%)
- **Managers** (36%), particularly when compared with the unemployed (18%), housepersons (20%), students (22%) and manual workers (22%)
- People who say they 'almost never' have **difficulties paying their household bills** (28%), compared with those who struggle 'from time to time' (19%) and those saying they have difficulties 'most of the time' (16%)
- Those who say they **have received information** regarding the unnecessary use of antibiotics (34%), compared with those who have not received any information (20%)

QC5R For each of the following statements, please tell me whether you think it is true or false.
(% - EU)

	At least one correct answer	0 correct answer	1 correct answer	2 correct answers	3 correct answers	4 correct answers	At least one wrong answer	At least one answer DK	Average
EU28	96	4	11	28	32	25	64	24	2.6
 Gender									
Man	95	5	13	30	31	21	67	27	2.5
Woman	97	3	10	27	32	28	61	22	2.7
 Age									
15-24	95	5	16	31	29	19	70	27	2.4
25-39	96	4	11	29	32	24	66	23	2.6
40-54	98	2	9	26	34	28	62	21	2.8
55 +	95	5	12	28	30	25	62	27	2.6
 Education (End of)									
15-	93	7	16	35	28	15	73	31	2.3
16-19	96	4	12	30	32	22	67	24	2.6
20+	98	2	8	23	34	33	55	21	2.9
Still studying	95	5	11	29	33	22	67	25	2.6
 Socio-professional category									
Self-employed	97	3	12	29	32	24	66	24	2.6
Managers	98	2	6	21	34	36	54	19	3.0
Other white collars	97	3	10	27	33	27	63	20	2.7
Manual workers	96	4	12	32	31	22	68	24	2.6
House persons	95	5	15	29	30	20	70	24	2.5
Unemployed	94	6	14	31	31	18	67	29	2.4
Retired	95	5	12	28	30	24	62	29	2.6
Students	95	5	11	29	33	22	67	25	2.6
 Difficulties paying bills									
Most of the time	94	6	13	36	29	16	74	26	2.3
From time to time	95	5	14	34	29	19	72	23	2.4
Almost never/ Never	97	3	10	26	33	28	60	24	2.7
Received information about antibiotics									
Yes	99	1	7	22	36	34	55	20	2.9
No	95	5	14	32	30	20	69	26	2.5

Base: all respondents (N= 27,474)

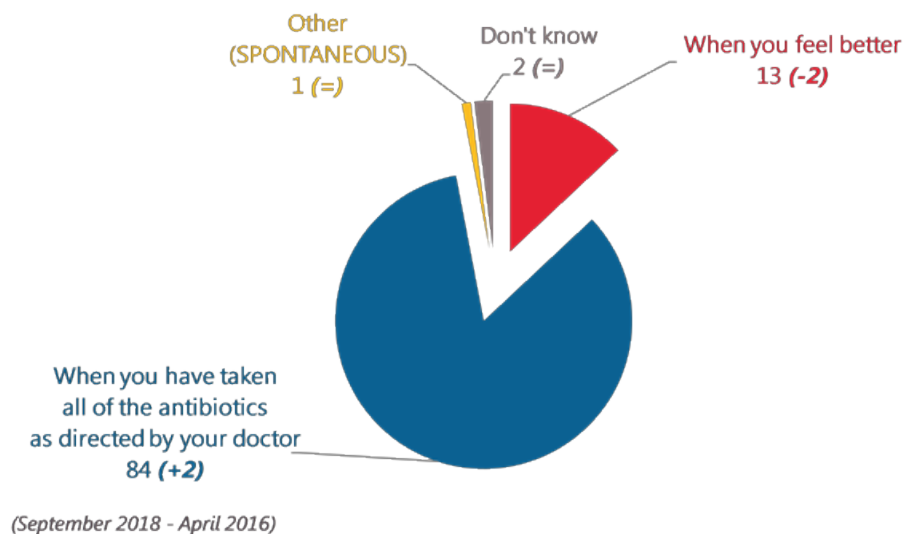
6 When should taking antibiotics stop after having begun a course of treatment?

The final section of this chapter examines Europeans' views on when they think antibiotics should be stopped once a course of treatment has begun²⁴.

Most Europeans recognise the need to complete the full course of antibiotic treatment

More than four in five respondents (84%) correctly say that antibiotic treatment should only be stopped when all of the antibiotics have been taken as directed. Nevertheless, around one in eight respondents (13%) incorrectly think that they should stop taking antibiotics when they feel better.

QC6 When do you think you should stop taking antibiotics once you have begun a course of treatment?
(% - EU)

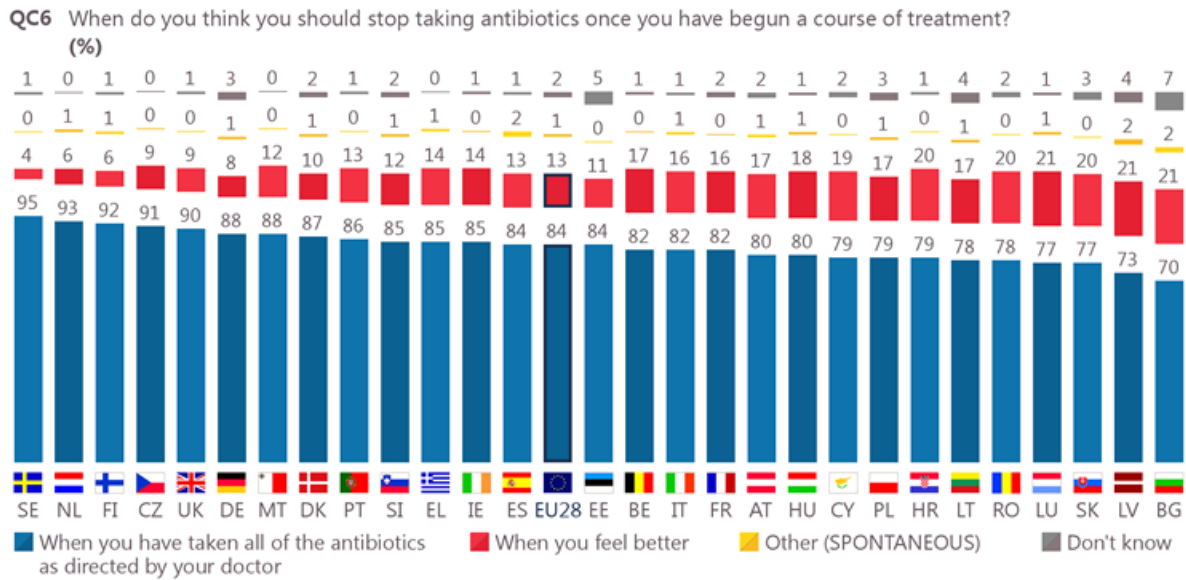


Base: all respondents (N= 27,474)

The results are broadly similar to the findings reported in 2016. There has been a small increase in the proportion of respondents correctly saying that treatment should only stop when all the antibiotics have been taken (+2 percentage points) and a corresponding drop in the proportion who incorrectly say that the antibiotics should be stopped when they feel better (-2 percentage points).

²⁴ Q6 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; When you have taken all the antibiotics as directed by your doctor; Other (SPONTANEOUS); Don't know

There is variation nationally. Again, it is not as marked as that seen on some of the earlier measures already reported.



Base: all respondents (N= 27,474)

Across all countries the majority of respondents say that antibiotic treatment should only be stopped once the course is complete. There are five Member States where at least nine in ten respondents believe this to be the case, with the highest proportions seen in Sweden (95%), and the Netherlands (93%).

There are only two countries where less than three quarters of respondents think treatment should only be stopped when all the antibiotics have been taken: Latvia (73%) and Bulgaria (70%).

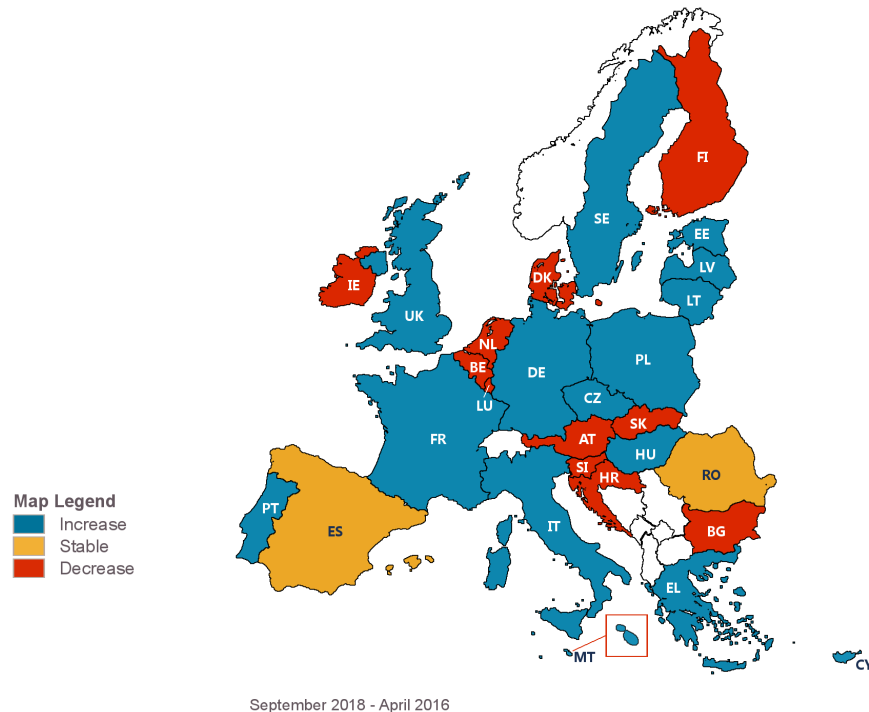
Countries with the highest proportion of respondents who incorrectly say that a course of antibiotics should be stopped as soon as they feel better include Luxembourg, Latvia and Bulgaria (21% in each), followed by Croatia, Romania and Slovakia (20% in each).

Comparing these results with those from 2016, there are 15 Member States where the proportion of respondents giving the correct answer (saying treatment should only be stopped once the antibiotic course has been finished) has increased. The most notable shifts are found in Greece (+14 percentage points), Italy and Lithuania (both +7 pp), Cyprus and Latvia (both +6pp) and Poland (+5pp). Among the 11 Member States showing a drop in the proportion giving the correct answer the largest changes are in Belgium (-8 percentage points), Luxembourg and Slovakia (both -7 pp), and Austria (-5pp).

The map below shows the difference by Member State since the 2016 survey – those shown in blue have seen an increase in the proportion who answer correctly that one should stop when one has taken all of the antibiotics prescribed by the doctor. Those shown in yellow have not seen a change while those in red have seen a decrease.

EL		85	▲ 14
IT		82	▲ 7
LT		78	▲ 7
CY		79	▲ 6
LV		73	▲ 6
PL		79	▲ 5
UK		90	▲ 4
HU		80	▲ 4
FR		82	▲ 3
SE		95	▲ 2
EU28		84	▲ 2
EE		84	▲ 2
CZ		91	▲ 1
DE		88	▲ 1
MT		88	▲ 1
PT		86	▲ 1
ES		84	=
RO		78	=
NL		93	▼ 1
FI		92	▼ 1
IE		85	▼ 1
SI		85	▼ 1
HR		79	▼ 2
BG		70	▼ 2
DK		87	▼ 4
AT		80	▼ 5
LU		77	▼ 7
SK		77	▼ 7
BE		82	▼ 8

QC6 When do you think you should stop taking antibiotics once you have begun a course of treatment?
(% - WHEN YOU HAVE TAKEN ALL OF THE ANTIBIOTICS AS DIRECTED BY YOUR DOCTOR)



Base: all respondents (N= 27,474)

Socio-demographic and key variable analysis

Again, any differences between socio-demographic and key variable groups broadly reflect the findings on measures already discussed, although differences are generally not particularly marked on this measure. The exception, where differences are more marked, relates to knowledge about antibiotics, with the groups much more likely to know that treatment should only be stopped when all the antibiotics have been taken being:






- People who gave **four correct answers** (92%) and three correct answers (87%), compared with two correct answers (81%), one correct answer (77%) and no correct answers (57%)

Other socio-demographic and key variable groups who are somewhat more likely to say antibiotics should only be stopped once the course is finished include:

- Women** (87%), compared with men (81%)
- People **aged 40 or over** (86% in both age bands), particularly when compared with 15-24 year olds (78%)
- People who **finished their full-time education** beyond the age of 15, especially those who finished aged 20 or more (88%), compared with those who finished aged 15 or under (82%)
- Managers** (90%), particularly when compared with people who are self-employed (81%), the unemployed (81%), students (82%) and manual workers (82%)
- People who say they 'almost never' have **difficulties paying their household bills** (87%), compared to those who struggle 'from time to time' (80%) and those saying they have difficulties 'most of the time' (75%)

- Those who say they **have received information** regarding the unnecessary use of antibiotics (88%), compared with those who have not received any information (83%)
- People who say **the information they got did not change their views** (90%), compared with those who say it did (82%)

QC6 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 by your doctor	Other (SPONTANEOUS)	Don't know
EU28	13	84	1	2
 Gender				
Man	16	81	1	2
Woman	11	87	1	1
 Age				
15-24	19	78	1	2
25-39	15	83	1	1
40-54	12	86	0	2
55 +	11	86	1	2
 Education (End of)				
15-	14	82	1	3
16-19	14	84	0	2
20+	10	88	1	1
Still studying	16	82	0	2
 Socio-professional category				
Self-employed	17	81	1	1
Managers	8	90	0	2
Other white collars	14	84	1	1
Manual workers	15	82	1	2
House persons	15	84	0	1
Unemployed	16	81	0	3
Retired	11	86	1	2
Students	16	82	0	2
 Difficulties paying bills				
Most of the time	22	75	1	2
From time to time	17	80	1	2
Almost never/ Never	11	87	0	2
Knowledge about antibiotics				
4 correct answers	6	92	1	1
3 correct answers	11	87	1	1
2 correct answers	17	81	0	2
1 correct answers	18	77	1	4
0 correct answers	29	57	1	13
Received information about antibiotics				
Yes	10	88	1	1
No	14	83	1	2
Information changed views				
Yes	17	82	1	0
No	8	90	1	1

Base: all respondents (N= 27,474)

III. INFORMATION ABOUT THE CORRECT USE OF ANTIBIOTICS

The third chapter focuses on information about antibiotics – do Europeans remember getting any information in the last year about their unnecessary use and, if so, what was the source of information and has it affected their views on antibiotic use. The chapter ends with an assessment of what topics in relation to antibiotics Europeans would like to receive more information on, and which sources of information they deem the most trustworthy.

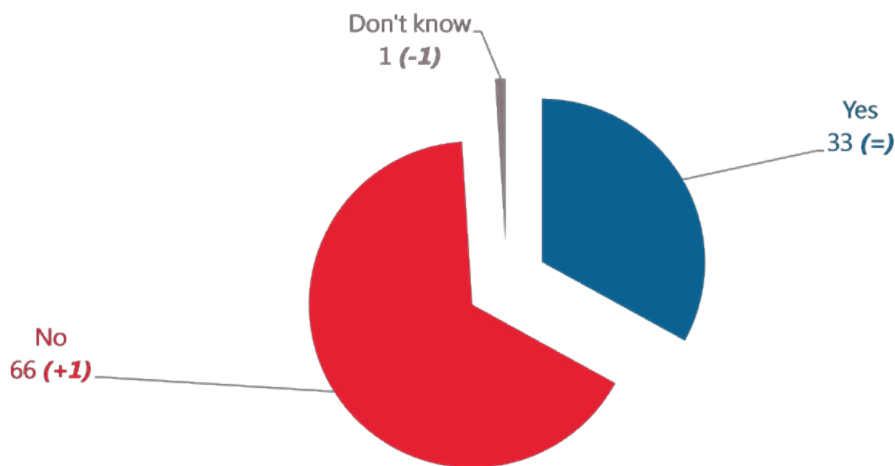
1 Taking information on board

Respondents were asked if they remembered getting any information about not taking antibiotics unnecessarily in the last year²⁵.

A third of Europeans remember getting information about not taking antibiotics unnecessarily

The majority of respondents (66%) do not remember getting any information about not taking antibiotics unnecessarily, for example for a cold. A third (33%) of respondents say that they do remember receiving such information.

QC7 In the last 12 months, do you remember getting any information about not taking antibiotics unnecessarily, for example for a cold?
(% - EU)



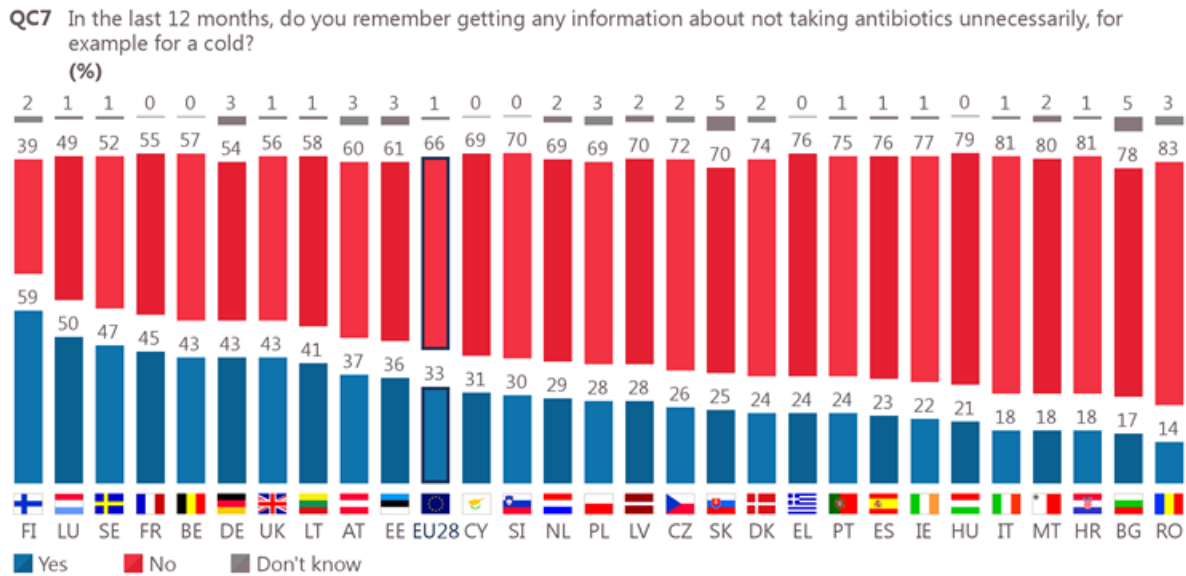
(September 2018 - April 2016)

Base: all respondents (N= 27,474)

The results are very similar to those recorded in 2016.

²⁵ Q7 In the last 12 months, do you remember getting any information about not taking antibiotics unnecessarily, for example for a cold?
(ONE ANSWER ONLY): Yes; No; Don't know

By Member State, there is considerable variation in the proportion who say they received information.



Base: all respondents (N= 27,474)

Finland is the only Member State where the majority of respondents (59%) remember getting information about the unnecessary use of antibiotics in the past year. Other countries with a notably high proportion of respondents getting such information (compared with the EU average of 33%) include: Luxembourg (50%); Sweden (47%); France (45%); Belgium, Germany and the UK (43% in each); and Lithuania (41%).






























In contrast, less than one in five respondents remember getting such information in Italy, Malta and Croatia (18% in each), Bulgaria (16%) and Romania (14%).

There have been some large shifts at national level since 2016.

Countries with the most notable increases in the proportion of respondents who say that they got information about the unnecessary use of antibiotics include: the UK (+12 percentage points), Estonia (+8 pp), Cyprus (+7pp), and Luxembourg and Austria (both +5pp).

There are 17 Member States showing a decline in the proportion of respondents saying they got information about the unnecessary use of antibiotics. Countries where respondents are much less likely to recall getting such information than they were in 2016 include: Slovenia (-14 percentage points); Slovakia (-13 pp); the Netherlands and Ireland (both -12 pp); Finland, Lithuania and Malta (-9 pp in each); Romania (-7 pp); Latvia and Croatia (-6 pp in each); and France, Belgium and Bulgaria (-5 pp in each).

QC7 In the last 12 months, do you remember getting any information about not taking antibiotics unnecessarily, for example for a cold?
(%)

	Yes	Sept. 2018 - Apr. 2016	No	Sept. 2018 - Apr. 2016	Don't know
EU28 	33	=	66	▲ 1	1
UK 	43	▲ 12	56	▼ 12	1
EE 	36	▲ 8	61	▼ 8	3
CY 	31	▲ 7	69	▼ 7	0
LU 	50	▲ 5	49	▼ 5	1
AT 	37	▲ 5	60	▼ 6	3
DK 	24	▲ 4	74	▼ 5	2
PT 	24	▲ 4	75	▼ 4	1
IT 	18	▲ 3	81	▼ 1	1
HU 	21	▲ 2	79	=	0
DE 	43	▲ 1	54	▼ 1	3
ES 	23	=	76	▼ 1	1
PL 	28	▼ 1	69	▲ 2	3
EL 	24	▼ 3	76	▲ 3	0
SE 	47	▼ 4	52	▲ 4	1
CZ 	26	▼ 4	72	▲ 4	2
FR 	45	▼ 5	55	▲ 6	0
BE 	43	▼ 5	57	▲ 6	0
BG 	17	▼ 5	78	▲ 5	5
LV 	28	▼ 6	70	▲ 4	2
HR 	18	▼ 6	81	▲ 7	1
RO 	14	▼ 7	83	▲ 5	3
FI 	59	▼ 9	39	▲ 8	2
LT 	41	▼ 9	58	▲ 8	1
MT 	18	▼ 9	80	▲ 7	2
NL 	29	▼ 12	69	▲ 10	2
IE 	22	▼ 12	77	▲ 11	1
SK 	25	▼ 13	70	▲ 12	5
SI 	30	▼ 14	70	▲ 15	0

Base: all respondents (N= 27,474)



Socio-demographic and key variable analysis

There are fewer differences between socio-demographic groups than for some other measures already outlined but, where there are differences, these are quite marked. Those groups who are much more likely to say they got information are:

- People who **finished their full-time education** aged 20 or over (40%), particularly when compared with those who finished aged 15 or under (23%)
- **Managers** (43%), particularly when compared with housepersons (27%) and those who are unemployed (28%)
- People with a good **knowledge of antibiotics**: four correct answers (46%) and three correct answers (37%), compared with two or less correct answers (12%-25%)
- People who **have taken antibiotics in the last year** (40%), compared with those who have not (29%)

QC7 In the last 12 months, do you remember getting any information about not taking antibiotics unnecessarily, for example for a cold?

(% - EU)

	Yes	No	Don't know
EU28	33	66	1
 Education (End of)			
15-	23	76	1
16-19	31	68	1
20+	40	58	2
Still studying	32	67	1
 Socio-professional category			
Self-employed	34	65	1
Managers	43	54	3
Other white collars	31	67	2
Manual workers	31	67	2
House persons	27	72	1
Unemployed	28	71	1
Retired	33	66	1
Students	32	67	1
Taken antibiotics in last 12 months			
Yes	40	59	1
No	29	69	2
Knowledge about antibiotics			
4 correct answers	46	53	1
3 correct answers	37	62	1
2 correct answers	25	73	2
1 correct answers	19	79	2
0 correct answers	12	82	6

Base: all respondents (N= 27,474)

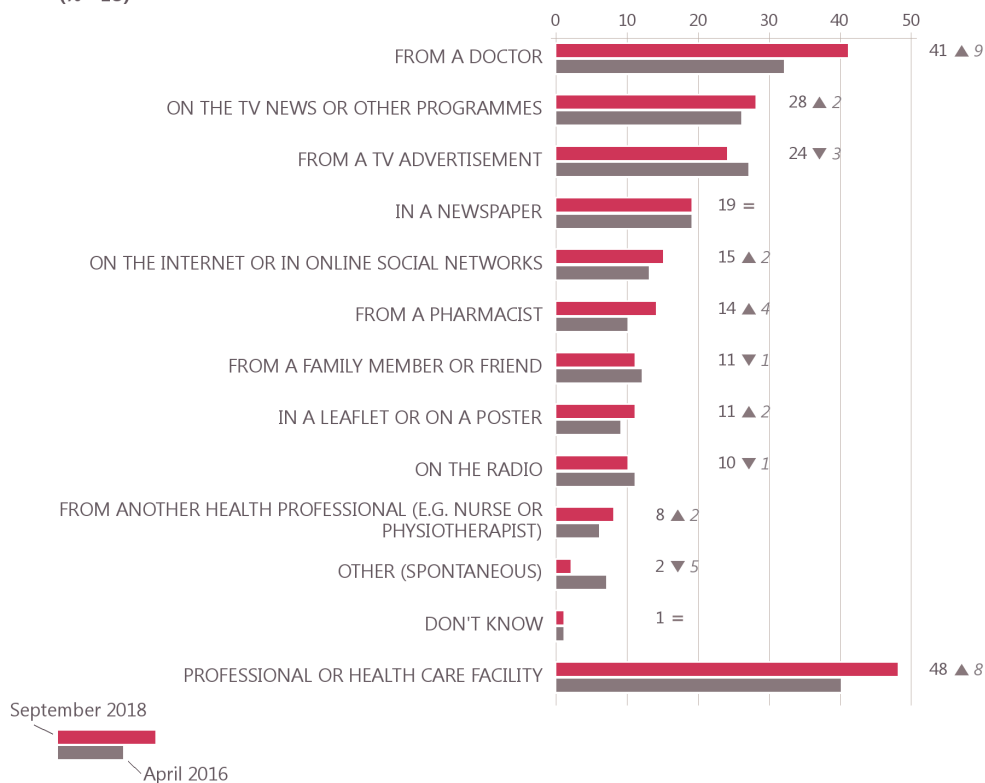
2 Means of conveying information

Respondents who said that they had received information in the last 12 months about not taking antibiotics unnecessarily were asked how they got this information²⁶, choosing their answer from a list of different ways presented to them.

Europeans are most likely to have obtained the information from a doctor, followed by television news or other programmes or a television advertisement

Around two fifths of respondents (41%) say they got information about not taking antibiotics unnecessarily from a doctor, with more than a quarter (28%) getting the information on the television news or other programmes and just under a quarter (24%) getting information from a TV advertisement. Around one in five respondents (19%) obtained the information from a newspaper. No more than one in seven respondents mention other ways of obtaining the information.

Q8 Where did you get this information about not taking antibiotics unnecessarily? (MULTIPLE ANSWERS POSSIBLE)
(% - EU)



Base: Respondents who received information about not taking antibiotics unnecessarily (N= 8,983)

In terms of getting the information from professional sources, in addition to mentions of a doctor (41%), one in seven respondents mention getting the information from a pharmacist (14%) and a

²⁶ Q8 Where did you get this information about not taking antibiotics unnecessarily? (SHOW SCREEN – READ OUT – MULTIPLE ANSWERS POSSIBLE): From a doctor; From a pharmacist; From another health professional (e.g. nurse or physio-therapist); From a family member or friend; From a TV advertisement; On the internet or in online social networks; In a leaflet or on a poster; In a newspaper; On the TV news or other programmes; On the radio; Other (SPONTANEOUS); Don't know

smaller proportion mention another health professional (e.g. nurse or physiotherapist) (8%). Combining these responses, just under half of respondents (48%) got their information from a professional or healthcare facility.

Looking at the national picture there is, again, widespread variation in relation to the different ways the information was obtained.

- *A doctor* is the most common way respondents got the information about not taking antibiotics unnecessarily in 22 Member States, the second most common way in three (France, Austria and Portugal) and the third most common way the information was obtained in two (Germany and Sweden). It is most widely cited by respondents in Hungary (69%), the Czech Republic and Croatia (both 68%) and Italy (66%) and mentioned by the majority of respondents in a further six countries. It is least widely cited in the Netherlands (20%) - the only country where a doctor is not one of the three most common ways respondents got the information.
- *The television news or other programmes* is the most common means in three countries (the Netherlands, Portugal and Sweden), the second most common way in eight²⁷ and the third most common method in seven countries²⁸. It is most widely cited by respondents in Portugal (60%), followed by Sweden (44%), and least widely mentioned in Croatia and Romania (both 8%).
- *A TV advertisement* is the most common method in France (52%), the second most common means in five countries²⁹ and the third most common way in another five³⁰. In addition to France, notably high mentions are also reported in Belgium (40%). This method is least widely cited in Finland (4%), followed by Germany and Sweden (both 8%) and Estonia and Slovakia (9% in each).
- *A newspaper* is the most common way respondents got the material in Austria (42%) and Germany (40%), the second most common way in Finland (38%) and Sweden (35%) and the third most common means in Luxembourg (33%) and the Netherlands (25%). It receives the fewest mentions in Romania (3%), followed by Italy, Malta and Portugal (4% in each).
- In terms of the other ways respondents got hold of information:
 - *Seeing it on the internet or on online social networks* is the second most common way respondents got the information in Latvia (28%), the Netherlands (26%), Estonia and Malta (both 25%) and the third most common means in Denmark and Croatia. It also receives notably high mentions among respondents in Finland (28%), Germany (23%) and Slovakia and Sweden (both 22%).
 - *A pharmacist* is the second most common way respondents say they obtained the information in Romania (28%), Ireland (25%), the Czech Republic and Croatia³¹ (both 22%), and Italy (21%) and the third most common means in Hungary (22%), Malta (21%) and Cyprus and Slovenia (20%)³². Mentions of a pharmacist are also notably high in Slovakia (23%).
 - *A family member or friend* is the second most common way of getting the information in Slovenia (26%) and Croatia (22%) and the third most common means in Slovakia (24%), Bulgaria (22%), the Czech Republic and Lithuania (21% in each), along with Estonia (18%). Mentions are also notably high in Finland and Sweden (22% in each).
 - Mentions of *a leaflet or poster* are notably high in Luxembourg (27%), and Belgium and Malta (both 17%).

²⁷ Bulgaria, Denmark, Germany, Spain, Cyprus, Lithuania, Poland and Slovakia

²⁸ Belgium, Greece, France, Latvia, Austria, Finland and the UK

²⁹ Belgium, Greece, Luxembourg, Hungary and the UK

³⁰ Ireland, Spain, Italy, Poland and Romania

³¹ In Croatia a pharmacist and a family member or friend receive equal mentions

³² Along with Portugal (12%)

- Mentions of *the radio* are notably high in Luxembourg (24%), France (20%), Belgium (18%), Sweden (17%) and Ireland (16%).
- Mentions of *another health professional* are notably high in Denmark and Sweden (both 16%), Finland (14%) and Malta (13%).

QC8 Where did you get this information about not taking antibiotics unnecessarily?
(MULTIPLE ANSWERS POSSIBLE)
(%)

		From a doctor	On the TV news or other programmes	From a TV advertisement	In a newspaper	On the Internet or in online social networks	From a pharmacist	From a family member or friend	In a leaflet or on a poster	On the radio	From another health professional (e.g. nurse or physiotherapist)	Other (SPONTANEOUS)	Don't know
EU28		41	28	24	19	15	14	11	11	10	8	2	1
BE		48	23	40	16	12	22	11	17	18	6	1	0
BG		54	29	21	7	10	20	22	8	2	11	2	1
CZ		68	20	15	7	11	22	21	6	8	11	3	1
DK		50	33	9	15	19	17	16	11	9	16	6	2
DE		33	37	8	40	23	14	12	12	11	9	3	1
EE		57	17	9	15	25	16	18	9	7	10	9	1
IE		44	15	19	10	8	25	8	9	16	8	2	0
EL		49	29	33	5	17	17	17	8	2	3	1	0
ES		46	30	15	5	14	9	12	4	3	12	2	0
FR		34	24	52	7	7	10	7	8	20	4	1	1
HR		68	8	10	5	13	22	22	6	2	11	0	1
IT		66	12	18	4	6	21	11	7	4	7	2	0
CY		59	26	12	5	17	20	14	15	6	11	3	0
LV		31	21	18	17	28	10	16	4	6	4	6	1
LT		50	35	12	10	17	17	21	5	9	6	6	1
LU		45	23	36	33	14	12	16	27	24	11	1	1
HU		69	18	32	5	14	22	17	8	8	12	1	0
MT		48	20	15	4	25	21	9	17	12	13	2	0
NL		20	36	12	25	26	16	8	10	15	3	8	1
AT		39	33	14	42	10	17	18	11	5	9	2	0
PL		48	27	20	9	18	15	15	11	3	6	0	1
PT		30	60	10	4	5	12	9	6	1	2	2	1
RO		53	8	19	3	9	28	15	3	4	7	2	2
SI		53	18	12	12	17	20	26	14	3	12	3	0
SK		57	32	9	12	22	23	24	14	3	12	2	0
FI		40	37	4	38	28	12	22	10	10	14	3	1
SE		28	44	8	35	22	9	22	10	17	16	9	1
UK		38	26	35	19	13	12	5	16	9	8	1	1

1st MOST FREQUENTLY MENTIONED ITEM

2nd MOST FREQUENTLY MENTIONED ITEM

3rd MOST FREQUENTLY MENTIONED ITEM

Base: Respondents who received information about not taking antibiotics unnecessarily (N= 8,983)

Socio-demographic and key variable analysis

There are differences between socio-demographic and key variable groups in terms of the way people obtained information about the unnecessary use of antibiotics. The most notable are summarised below:

In terms of **age**:

- 15-24 year olds are more likely than those aged 25 and over to have obtained the information from a family member or friend (21% compared with 7%-14% in the older age bands), or from the internet or online social networks (27% compared with 9%-19% in the older age bands)
- People age 25 or over are more likely than 15-24 year olds to have got the information from a television advertisement (25%-26% across the three older age bands, compared with 18%)
- People aged 40 or over are more likely than 15-39 year olds to have obtained information from television news or other programmes (29%-33% across the two upper age bands, compared with 19%-23% in the two lower age bands), or from the radio (12%-13%, compared with 5%-8%)
- People aged 55 or over are more likely than those aged 54 or under to have obtained the information from a newspaper (26%, compared with 10%-17% in the three younger age bands)

In terms of when people **finished their full-time education**:

- People who finished their full-time education aged 20 or over are more likely than those who finished aged 19 or under to have obtained the information from the internet or in online social networks (18%, compared with 5%-11%), or from the radio (14%, compared with 7%-9%). They are **less** likely to have obtained the information from a doctor (38%, compared with 43%-44%).

In terms of people's personal **financial situation**:

- People who say they struggle to pay household bills 'from time to time' are more likely than those who struggle 'most of the time' or 'almost never' to have obtained the information from a doctor (49%, compared with 39%-40%), or from a pharmacist (19%, compared with 13%-14%). People who say they struggle 'from time to time' or 'most of the time' are more likely than those who 'almost never' have difficulty paying bills to have obtained the information from a television advertisement (27% in each band, compared with 24%) and **less** likely than those who 'almost never' have difficulty paying bills to have obtained the information from the internet or in online social networks (6%-11%, compared with 17%), or from a newspaper (5%-12%, compared with 22%)

In terms of **antibiotic use in the last 12 months**:




- People who have taken antibiotics are more likely than those who have not to say they got their information from a doctor (51%, compared with 34%)
- People who have **not** taken antibiotics are more likely than those who have to say they obtained the information from a newspaper (24%, compared with 12%); from the internet or in online social networks (19%, compared with 10%); on the television news or other programmes (33%, compared with 20%); and from the radio (12%, compared with 8%)

Finally, in terms of whether the **information changed people's views** on using antibiotics:

- People who said that the information changed their views are more likely than those who say it did not to have obtained information from a doctor (51%, compared with 37%) and from a pharmacist (18%, compared with 12%). They are **less** likely to say they obtained information

from a television advertisement (19%, compared with 27%), a newspaper (13%, compared with 21%) and from the radio (6%, compared with 12%).

QC8 Where did you get this information about not taking antibiotics unnecessarily?
(MULTIPLE ANSWERS POSSIBLE)
(% - EU)

	From a doctor	From a pharmacist	From another health professional (e.g. nurse or physio-therapist)	From a family member or friend	From a TV advertisement	On the Internet or in online social networks	In a leaflet or on a poster	In a newspaper	On the TV news or other programmes	On the radio	Other (SPONTANEOUS)	Don't know	Professional or health care facility
EU28	41	14	8	11	24	15	11	19	28	10	2	1	48
 Age													
15-24	42	15	10	21	18	27	9	10	19	5	4	1	52
25-39	44	15	10	14	25	19	14	13	23	8	2	1	50
40-54	40	15	8	11	25	14	10	17	29	12	2	1	48
55 +	39	13	6	7	26	9	9	26	33	13	2	1	45
 Education (End of)													
15-	43	13	5	7	23	5	8	21	32	7	3	0	49
16-19	44	16	8	10	25	11	10	18	27	9	1	1	50
20+	38	13	8	12	27	18	12	22	30	14	2	1	45
Still studying	40	11	8	22	15	30	9	12	19	4	5	1	48
 Difficulties paying bills													
Most of the time	40	14	8	12	27	6	10	5	26	11	1	0	50
From time to time	49	19	10	13	27	11	9	12	22	6	2	1	58
Almost never/ Never	39	13	8	11	24	17	11	22	30	11	2	1	46
Taken antibiotics in last 12 months													
Yes	51	15	8	10	23	10	9	12	20	8	2	1	60
No	34	13	8	12	25	19	11	24	33	12	3	1	40
Information changed views													
Yes	51	18	9	12	19	14	9	13	25	6	2	0	61
No	37	12	7	11	27	15	11	21	29	12	2	1	43

Base: Respondents who received information about not taking antibiotics unnecessarily (N= 8,983)

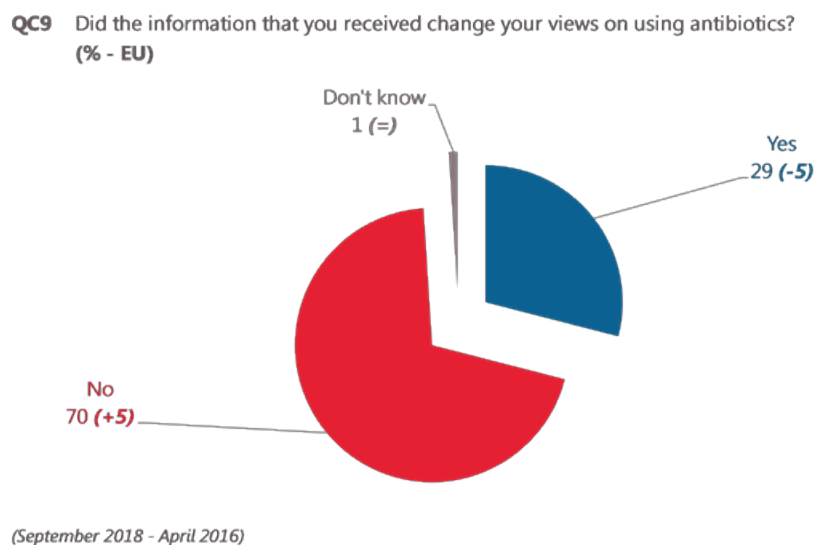
3 Impact of the information on perception and behaviour

European respondents who said that they had received information in the last 12 months about not taking antibiotics unnecessarily (33%) were then asked whether the information changed their views on using antibiotics.

Seven in ten Europeans say the information that they obtained about the unnecessary use of antibiotics did not change their views about using them

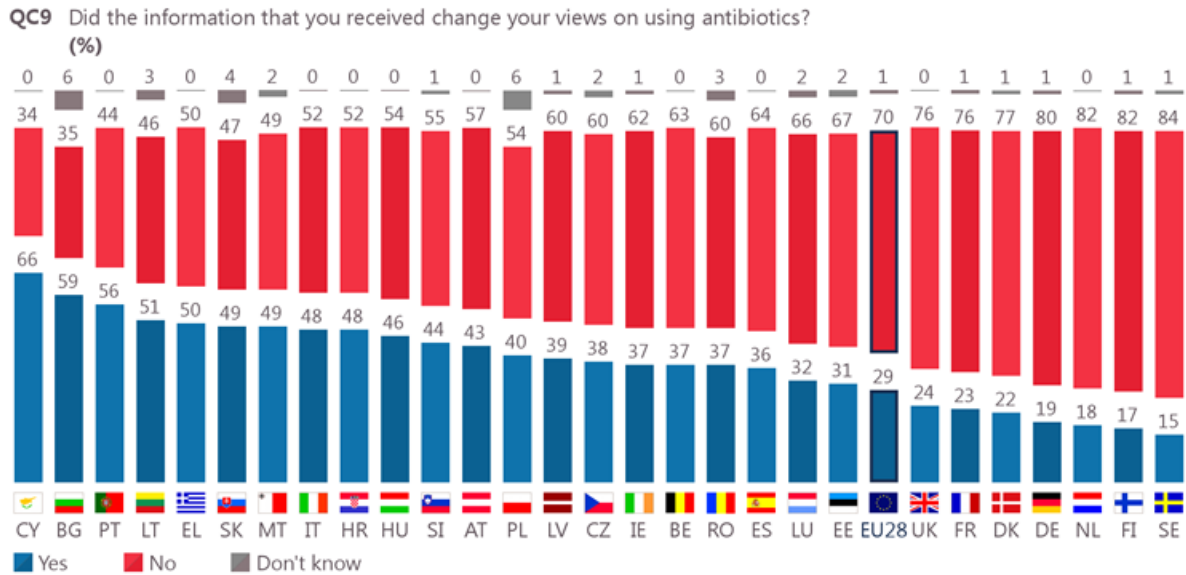
Around three in ten respondents who said they had received information about not taking antibiotics unnecessarily say that the information changed their views on using antibiotics (29%). For most respondents (70%), the information did not affect their opinions on usage.

Comparing the findings with those reported in 2016, there has been a drop in the proportion of respondents saying that the information changed their views on using antibiotics (-5 percentage points).



Base: Respondents who received information about not taking antibiotics unnecessarily (N= 8,983)

Looking at the national picture there is, once again, widespread variation in terms of whether information affected views on antibiotic use.



Base: Respondents who received information about not taking antibiotics unnecessarily (N= 8,983)

There are four Member States where the majority of respondents say that the information obtained changed their views on using antibiotics: Cyprus (66%); Bulgaria (59%), Portugal (56%); and Lithuania (51%).

In contrast, there are seven Member States where less than a quarter of respondents say that the information changed their views on antibiotic usage: the UK (24%); France (23%); Denmark (22%); Germany (19%); the Netherlands (18%); Finland (17%); and Sweden (15%).

In general, countries with the highest levels of knowledge about antibiotics (obtained from Q4) are the countries where respondents are least likely to say information that they obtained changed their views³³. Conversely, those countries with lower levels of knowledge are the countries where respondents are more likely to say that the information they got changed their views on usage.

There have been some notable changes at individual country level since 2016.

³³ Finland, Sweden, the Netherlands, France, Germany, the UK, and Denmark

QC9 Did the information that you received change your views on using antibiotics?
(%)

		Yes	Sept. 2018 - Apr. 2016	No	Sept. 2018 - Apr. 2016	Don't know
EU28		29	▼ 5	70	▲ 5	1
EL		50	▲ 10	50	▼ 10	0
BE		37	▲ 6	63	▼ 6	0
LT		51	▲ 3	46	▼ 3	3
HR		48	▲ 3	52	▼ 2	0
IT		48	▲ 3	52	▼ 1	0
MT		49	▲ 2	49	▼ 3	2
LV		39	▲ 2	60	▼ 1	1
AT		43	▲ 1	57	=	0
PL		40	▲ 1	54	▼ 1	6
SK		49	=	47	▼ 3	4
BG		59	▼ 1	35	▲ 1	6
SI		44	▼ 1	55	▲ 2	1
HU		46	▼ 2	54	▲ 4	0
FR		23	▼ 2	76	▲ 2	1
PT		56	▼ 3	44	▲ 3	0
CY		66	▼ 4	34	▲ 4	0
ES		36	▼ 5	64	▲ 5	0
UK		24	▼ 5	76	▲ 6	0
LU		32	▼ 6	66	▲ 4	2
FI		17	▼ 6	82	▲ 7	1
NL		18	▼ 7	82	▲ 7	0
CZ		38	▼ 9	60	▲ 8	2
DE		19	▼ 10	80	▲ 10	1
IE		37	▼ 11	62	▲ 10	1
SE		15	▼ 11	84	▲ 10	1
EE		31	▼ 13	67	▲ 15	2
DK		22	▼ 13	77	▲ 14	1
RO		37	▼ 22	60	▲ 19	3

Base: Respondents who received information about not taking antibiotics unnecessarily (N= 8,983)

Eighteen Member States show a drop in the proportion of respondents saying that the information that they got changed their views, with the most notable declines in Romania (-22 percentage points), Estonia and Denmark (both -13 pp), Ireland and Sweden (both -11 pp), Germany (-10 pp), and the Czech Republic (-9 pp). A further five Member States show a drop of 5-7 percentage points (Spain, the UK, Luxembourg, Finland and the Netherlands).





Among the nine Member States showing an increase in the proportion of respondents saying the information has changed their views on antibiotic use, changes are generally very small, with the only notable increases in Greece (+10 percentage points) and Belgium (+6 pp).

Socio-demographic and key variable analysis

There are quite marked differences between some of the socio-demographic and key variable groups. Those more likely to say that the information has changed their opinions include:

- People **aged 15-24** (36%), compared with those aged 25 or over (27%-30% in the three upper age bands)
- People who **finished their full-time education** at the age of 19 or before (31%-32% in the two bands), compared with those who finished aged 20 or more (23%)
- People who are **unemployed** (41%), particularly when compared with managers (25%), the self-employed (26%) and the retired (26%)
- People who say they have **difficulties paying their household bills** either 'most of the time' or 'from time to time' (39%-40%), compared with those who 'almost never' have difficulties (26%)
- People who **have taken antibiotics in the last year** (33%), compared with those who have not (26%)

QC9 Did the information that you received change your views on using antibiotics?
(% - EU)

	Yes	No	Don't know
EU28	29	70	1
 Age			
15-24	36	62	2
25-39	28	71	1
40-54	30	69	1
55 +	27	72	1
 Education (End of)			
15-	31	68	1
16-19	32	66	2
20+	23	76	1
Still studying	33	66	1
 Socio-professional category			
Self-employed	26	72	2
Managers	25	74	1
Other white collars	35	64	1
Manual workers	29	69	2
House persons	27	72	1
Unemployed	41	58	1
Retired	26	73	1
Students	33	66	1
 Difficulties paying bills			
Most of the time	39	58	3
From time to time	40	60	0
Almost never/ Never	26	73	1
Taken antibiotics in last 12 months			
Yes	33	66	1
No	26	73	1

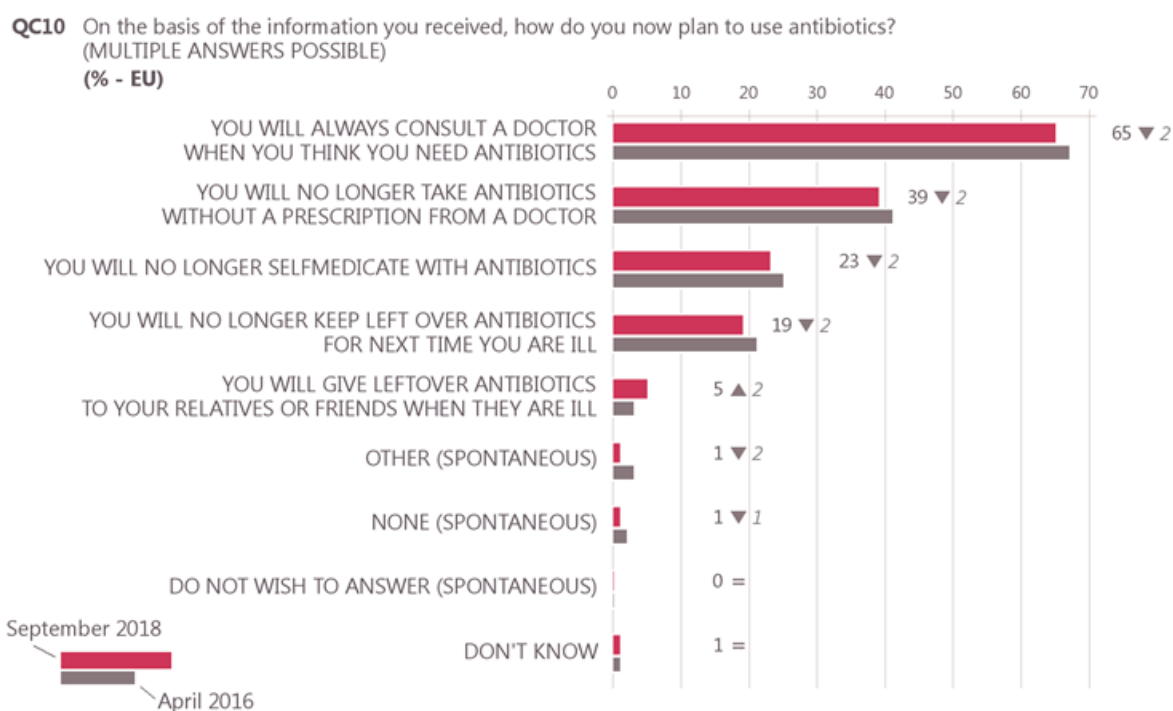
Base: Respondents who received information about not taking antibiotics unnecessarily (N= 8,983)

Having looked at whether information about unnecessary antibiotic use changes Europeans' views on using them, this next section focuses on how views have been changed.

Respondents who said that their views on antibiotic use were changed by the information that they obtained were then asked how they now plan to use antibiotics, choosing one or several answers from a list presented to them³⁴.

Around two thirds (65%) of respondents say that they now plan to always consult a doctor in situations where they think antibiotics are needed and two fifths (39%) say they will no longer take antibiotics without a doctor's prescription. Around one in four respondents (23%) say they will no longer self-medicate, and one in five (19%) say they will no longer keep left-over antibiotics for use next time they are ill.

A very small minority (5%) mention the inappropriate behaviour change – saying they will give left-over antibiotics to relatives or friends when they are ill.



Base: Respondents who received information about not taking antibiotics unnecessarily (N= 8,983)

These results are broadly in line with the findings in 2016. There are small drops in the proportion of respondents who say: they will always consult a doctor (-2 percentage points); will no longer take antibiotics without a prescription (-2 pp); will no longer self-medicate (-2 pp); and will no longer keep left-over antibiotics for future use (-2 pp). There has been a small increase in the proportion of respondents saying that they will give left-over antibiotics to relatives or friends when they are ill (+2 percentage points).

³⁴ Q10 On the basis of the information you received, how do you now plan to use antibiotics? (SHOW SCREEN – READ OUT – MULTIPLE ANSWERS POSSIBLE): You will always consult a doctor 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; You will give left-over antibiotics to your relatives or friends when they are ill; Other (SPONTANEOUS); None (SPONTANEOUS); Do not wish to answer (SPONTANEOUS); Don't know

Caution is advised on detailed country level analysis of the findings because the overall base size is relatively small (9% of all respondents). Findings should therefore be viewed as 'indicative' only.

In all but one country, the majority of respondents say they now plan to consult a doctor if they think they need antibiotics, with the highest proportions found in Portugal (83%), Malta (80%), Germany and Sweden (both 77%), and Greece and Hungary (both 76%). The exception, where less than half of respondents mention that they plan to do this, is Romania (46%).






























There are five countries where the majority of respondents say they will no longer take antibiotics without a prescription: Sweden (63%); Greece (62%); France and Cyprus (both 55%); and Malta (54%).

Countries with the highest proportion of respondents saying they will no longer self-medicate include France, Malta and Romania (36% in each), and Denmark and Latvia (both 30%).

Countries with the highest proportion of respondents saying they will now no longer keep left-over antibiotics for use next time they are ill include Austria (34%), Malta and Slovenia (both 33%), France (31%), Belgium (29%), the Czech Republic and Greece (both 28%), and Germany (26%).

Finally, countries with a notably high proportion of respondents saying they will give left-over antibiotics to relatives or friends when they are ill include Belgium (16%), Austria and Poland (both 13%) and Malta (10%).

QC10 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 when you think you need antibiotics		You will no longer take antibiotics without a prescription from a doctor		You will no longer selfmedicate with antibiotics		You will no longer keep left over antibiotics for next time you are ill		You will give leftover antibiotics to your relatives or friends when they are ill	
		Sept. 2018 - Apr. 2016		Sept. 2018 - Apr. 2016		Sept. 2018 - Apr. 2016		Sept. 2018 - Apr. 2016		Sept. 2018 - Apr. 2016	
EU28		65	▼ 2	39	▼ 2	23	▼ 2	19	▼ 2	5	▲ 2
BE		64	▲ 2	41	▼ 9	26	▲ 3	29	▲ 10	16	▲ 14
BG		53	▼ 16	29	▼ 10	25	▼ 8	16	▲ 1	1	▲ 1
CZ		68	▼ 5	37	▼ 6	27	▼ 4	28	▼ 4	2	▼ 1
DK		72	=	37	▼ 14	30	▼ 1	20	▼ 9	0	▼ 3
DE		77	▲ 4	29	▼ 14	22	▼ 4	26	▼ 5	2	▼ 1
EE		57	▼ 4	45	▲ 3	17	▼ 4	13	▼ 8	1	▲ 1
IE		62	▼ 1	35	▲ 1	10	▼ 8	24	▲ 12	4	▼ 4
EL		76	▲ 12	62	▲ 7	28	▲ 16	28	▲ 11	2	▲ 2
ES		64	▼ 7	34	▲ 3	27	▲ 9	18	▲ 7	5	▲ 4
FR		58	▼ 15	55	▲ 1	36	▲ 6	31	▲ 5	4	▲ 3
HR		72	▲ 10	24	▼ 10	23	=	25	▲ 9	4	=
IT		58	▼ 2	41	▲ 9	17	▼ 22	11	▼ 4	4	▼ 2
CY		67	▼ 2	55	▼ 6	27	▼ 6	25	▼ 2	3	▲ 1
LV		58	=	37	▲ 3	30	▼ 7	13	▼ 1	6	▲ 1
LT		63	▲ 8	42	▲ 9	18	▲ 5	6	▼ 3	4	▲ 2
LU		60	▲ 12	48	▼ 1	21	▲ 2	22	▼ 1	1	=
HU		76	▲ 22	30	▼ 3	9	▼ 2	12	▼ 1	7	▼ 3
MT		80	▲ 10	54	▲ 13	36	▲ 24	33	▲ 18	10	▲ 7
NL		73	▲ 2	46	▲ 3	24	▼ 5	20	▼ 1	0	=
AT		63	▲ 11	41	=	26	▼ 7	34	▲ 11	13	▲ 9
PL		52	▼ 1	25	▼ 2	19	▲ 2	7	▼ 9	13	▲ 3
PT		83	▲ 4	21	▲ 4	5	▼ 6	6	▼ 1	2	▼ 5
RO		46	▼ 17	46	▼ 12	36	▼ 2	10	▼ 9	9	▲ 6
SI		53	▼ 1	44	▲ 1	27	▲ 9	33	▲ 8	4	▲ 2
SK		58	▼ 7	36	▲ 2	25	▼ 1	14	▼ 4	6	▲ 5
FI		65	▼ 12	39	▲ 1	9	▼ 3	24	▲ 4	0	=
SE		77	▲ 2	63	▲ 11	19	▼ 2	15	▼ 7	4	▲ 3
UK		70	▲ 3	41	▲ 1	19	▲ 1	12	▼ 6	4	▼ 1

Base: Respondents who received information about not taking antibiotics unnecessarily (N= 8,983)³⁵

³⁵ This question is asked only of those who received information and when looking at differences by Member State, the base sizes are small and should be treated with caution.

Again, taking note of the small base sizes, the largest increases and decreases between these findings and those in 2016 for each of the ways in which respondents say they plan to use antibiotics, are as follows:




- *They will always consult a doctor when they think they need antibiotics*
 - Increases: Hungary (+22 percentage points), Greece and Luxembourg (both +12 pp), Austria (+11 pp) and Croatia and Malta (both +10 pp).
 - Decreases: Romania (-17 percentage points), Bulgaria (-16 pps), France (-15 pp) and Finland (-12 pp).
- *They will no longer take antibiotics without a prescription from a doctor*
 - Increases: Malta (+13 percentage points) and Sweden (+11 pp).
 - Decreases: Denmark and Germany (both -14 percentage points), Romania (-12 pp), and Bulgaria and Croatia (both -10 pp).
- *They will no longer self-medicate with antibiotics*
 - Increases: Malta (+24 percentage points) and Greece (+16 pp).
 - Decreases: Italy (-22 percentage points).
- *They will no longer keep left-over antibiotics for use next time they are ill*
 - Increases: Malta (+18 percentage points), Ireland (+12 pp), Greece and Austria (both +11) and Belgium (+10 pp).
- *They will no longer give left-over antibiotics to their relatives or friends when they are ill*
 - Increases: Belgium (+14 percentage points).

Socio-demographic and key variable analysis

There are fewer differences between socio-demographic groups than for the measures already outlined.

- People **aged 15-24** are more likely than those aged 25 and over to say they will always consult a doctor if they think antibiotics are needed (71%, compared with 62%-65% across the three older age bands). People aged 55 or more are more likely than those aged 15-54 to say they will no longer self-medicate (27%, compared with 18%-24% across the three younger bands), and that they will no longer keep left-over antibiotics for use next time they are ill (23%, compared with 15%-18%)
- People who **finished their full-time education** aged 15 or under are **less** likely than those who finished aged 16 or over to say they will no longer keep left-over antibiotics for use next time they are ill (13%, compared with 19%-21% across the two bands) and that they will give left-over antibiotics to their relatives or friends when they are ill (2%, compared to 5% in each band)
- **Housepersons**, are much more likely than people with other occupations to say they will no longer take antibiotics without a doctor's prescription (55%, compared with 30%-43%). Housepersons, and to a somewhat lesser extent the unemployed, are **less** likely than other occupation groups to say they will always consult a doctor if they think antibiotics are needed (58%-61%, compared with 63%-68%). People who are unemployed or retired are more likely than other groups to say they will no longer self-medicate (28%-29%, compared with 15%-25%). The self-employed are more likely than other groups to say they will no longer keep left-over antibiotics for use next time they are ill (27%, compared with 12%-22%).

QC10 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 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	You will give left-over antibiotics to your relatives or friends when they are ill	Other (SPONTANEOUS)	None (SPONTANEOUS)	Don't know
EU28	65	23	39	19	5	1	1	1
 Age								
15-24	71	20	36	18	8	1	1	2
25-39	65	24	38	18	4	1	2	1
40-54	62	18	39	15	4	2	1	1
55 +	65	27	41	23	6	2	1	1
 Education (End of)								
15-	64	22	38	13	2	0	0	2
16-19	66	21	39	19	5	1	1	1
20+	64	25	39	21	5	3	2	0
Still studying	68	24	37	18	9	1	2	4
 Socio-professional category								
Self-employed	67	15	30	27	5	4	3	0
Managers	63	20	43	18	4	3	1	0
Other white collars	65	15	31	12	4	1	2	0
Manual workers	63	24	42	18	4	1	0	1
House persons	58	25	55	21	0	1	0	0
Unemployed	61	29	34	18	2	1	2	1
Retired	67	28	41	22	7	1	1	2
Students	68	24	37	18	9	1	2	4

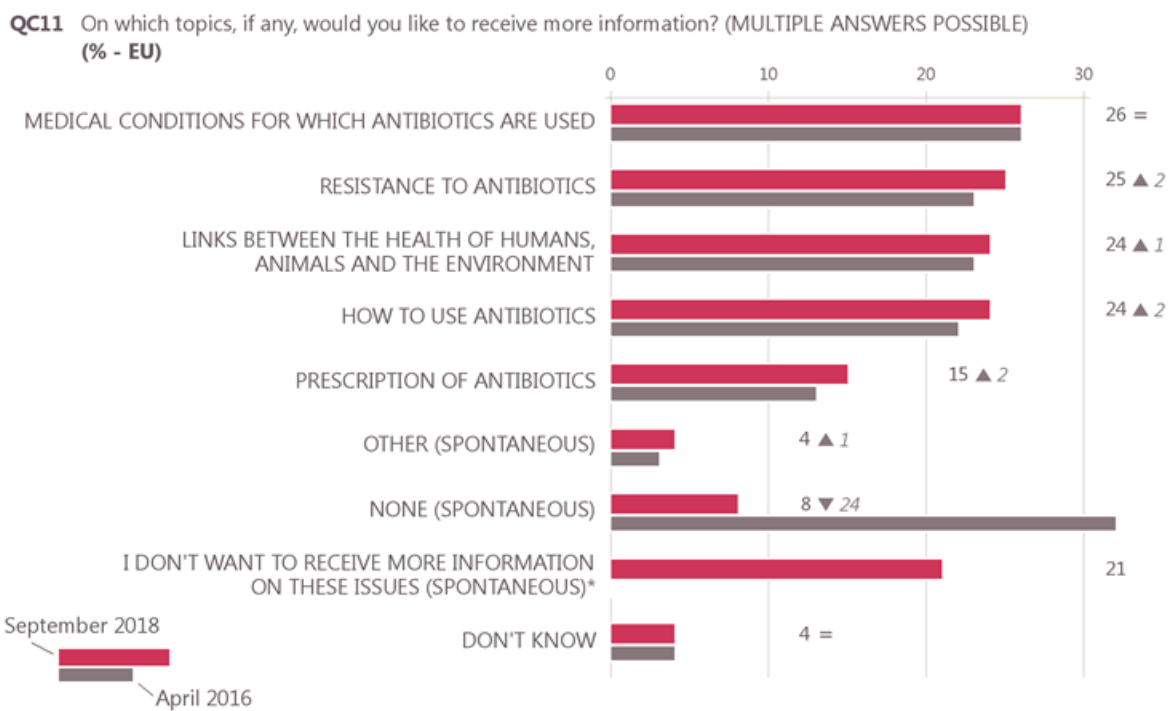
Base: Respondents who received information about not taking antibiotics unnecessarily (N= 8,983)

4 Desired information about antibiotics

The interviewer introduced AMR to all respondents by saying “Antimicrobial resistance is the ability of micro-organisms to resist antimicrobial treatments, especially antibiotics”. Respondents were then asked if they would like to receive more information on five specific areas, with the ability to choose as many or as few as they liked³⁶.

Two thirds of respondents (67%) would like further information on antibiotics.

Around a quarter (26%) of respondents say they would like more information on medical conditions for which antibiotics are used, and similar proportions say they would like information on resistance to antibiotics (25%), links between the health of humans, animals and the environment (24%) and how to use antibiotics (24%). Respondents are less likely to want more information on the prescription of antibiotics (15%). One in five (21%) spontaneously say that they do not wish to receive more information on any of these subjects³⁷.



Base: All respondents (N= 27,474)

The results are broadly in line with those reported in 2016. There are small increases in the proportion of respondents who say they would like more information on: resistance to antibiotics (+2 percentage points); how to use antibiotics (+2 pp); the prescription of antibiotics (+2 pp); and links between the health of humans, animals and the environment (+1 pp).

³⁶ Q11 On which topics, if any, would you like to receive more information? (SHOW SCREEN – READ OUT – 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); I don't want to receive more information on these issues (SPONTANEOUS); Don't know

³⁷ This was a new response item added to the questionnaire in 2018 and so there is no comparison data from 2016.

Looking at the national picture, variation is somewhat less marked than in relation to other measures already discussed.

QC11 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)	I don't want to receive more information on these issues (SPONTANEOUS)	Don't know
EU28	26	25	24	24	15	4	8	21	4
BE	28	26	29	21	18	8	1	12	1
BG	34	21	23	29	21	1	1	28	5
CZ	38	29	30	21	8	7	3	13	6
DK	24	37	38	15	9	5	3	26	3
DE	21	23	23	28	13	1	19	22	3
EE	31	16	20	16	10	4	8	26	7
IE	24	23	20	20	16	5	5	27	6
EL	48	46	34	47	25	1	2	16	1
ES	24	22	23	29	14	7	7	19	7
FR	26	23	30	17	12	3	6	19	3
HR	36	36	24	27	18	1	1	14	3
IT	30	29	21	33	24	2	5	16	4
CY	40	38	36	52	30	3	2	9	1
LV	38	13	16	20	9	4	7	18	3
LT	31	23	17	22	10	5	4	30	2
LU	31	32	33	16	14	6	6	14	3
HU	33	20	21	26	12	1	10	22	2
MT	34	27	29	37	22	5	7	27	4
NL	20	31	39	8	9	7	11	16	1
AT	31	32	35	32	22	3	7	16	1
PL	31	28	18	27	13	5	6	16	7
PT	27	19	16	18	11	2	7	29	10
RO	38	28	31	33	28	4	5	12	2
SI	25	22	20	13	12	4	7	32	1
SK	30	27	22	27	19	2	4	19	6
FI	21	17	33	9	13	4	5	24	2
SE	29	41	44	20	11	3	5	15	2
UK	18	17	16	10	9	8	10	38	3
1st MOST FREQUENTLY MENTIONED ITEM									
2nd MOST FREQUENTLY MENTIONED ITEM									
3rd MOST FREQUENTLY MENTIONED ITEM									

Base: All respondents (N= 27,474)

That said, there are large variations between Member States in the proportion of respondents who say (spontaneously) that they do not wish to receive any further information on any of the topics presented. The largest proportion saying that they do not want further information is found in the UK (38%), followed by Slovenia (32%) and Lithuania (30%), compared with the EU average of 21%; the smallest proportions are found in Cyprus (9%), followed by Belgium and Romania (both 12%).

There are 14 Member States³⁸ where respondents are most likely to say they would like to receive information on medical conditions for which antibiotics are used. In addition, this, along with information on resistance to antibiotics, receives the most mentions in Croatia. There are seven Member States³⁹ where information on medical conditions is the second most frequently mentioned topic respondents would like more information on, and in the remaining six countries⁴⁰ this topic is the third most widely cited. The highest mentions are in Greece (48%), followed by Cyprus (40%) and the Czech Republic, Latvia and Romania (38% in each). Countries where respondents are least likely to say they want information on medical conditions for which antibiotics are used include Germany and Finland (both 21%) and the Netherlands (20%). The proportion is lower still in the UK (18%), but it is nonetheless the topic that respondents in the UK are most likely to mention wanting information on.

There are eight Member States⁴¹ where respondents are most likely to say they would like more information on the links between the health of humans, animals and the environment, three countries⁴² where this topic is the second most frequently mentioned and 11 countries⁴³ where this is the third most frequently mentioned topic. The highest proportions are seen in Sweden (44%), the Netherlands (39%) and Denmark (38%), and the lowest in Latvia, Portugal and the UK (16% in each), and Lithuania (17%).

There are five Member States⁴⁴ where respondents are most likely to mention they would like more information on how to use antibiotics; seven countries⁴⁵ where this topic receives the second highest mentions and this, along with information on resistance to antibiotics, receives equal second highest mentions in Slovakia; and five countries⁴⁶ where it is the third most frequently mentioned. The highest proportions are reported in Cyprus (52%) Greece (47%) and Malta (37%) and the lowest in the Netherlands (8%), Finland (9%) and the UK (10%).

Resistance to antibiotics is one of the most widely cited topics respondents say they want information on in Croatia (36%, along with medical conditions 36%). It is the second most widely mentioned topic in 13 Member States⁴⁷ and the third most widely cited in eight countries⁴⁸. This topic receives the highest mentions in Greece (46%), Sweden (41%), Cyprus (38%) and Denmark (37%) and the lowest in Latvia (13%), Estonia (16%), and Finland and the UK (both 17%).

There are no Member States where respondents are most likely to mention wanting more information on the prescription of antibiotics. This topic receives the most mentions in Cyprus (30%), Romania (28%) and Greece (25%) and the least in the Czech Republic (8%), and Denmark, Latvia, the Netherlands and the UK (9% in each).

³⁸ Bulgaria, the Czech Republic, Estonia, Ireland, Greece, Latvia, Lithuania, Hungary, Poland, Portugal, Romania, Slovenia, Slovakia and the UK

³⁹ Belgium, Spain, France, Italy, Cyprus, Malta and Finland

⁴⁰ Denmark, Germany, Luxembourg, the Netherlands, Austria and Sweden

⁴¹ Belgium, Denmark, France, Luxembourg, the Netherlands, Austria, Finland and Sweden

⁴² The Czech Republic, Germany and Estonia

⁴³ Bulgaria, Ireland, Spain, Croatia, Latvia, Hungary, Malta, Romania, Slovenia, Slovakia and the UK

⁴⁴ Germany, Spain, Italy, Cyprus and Malta

⁴⁵ Bulgaria, Greece, Croatia, Latvia, Hungary, Austria and Romania

⁴⁶ Estonia, Ireland, Lithuania, Poland and Portugal

⁴⁷ Denmark, Germany, Ireland, Lithuania, Luxembourg, the Netherlands, Austria, Poland, Portugal, Slovenia, Slovakia, Sweden and the UK




⁴⁸ Belgium, the Czech Republic, Estonia, Greece, France, Italy, Cyprus and Finland

Socio-demographic and key variable analysis

The most notable differences between socio-demographic and key variable groups are:

- **Younger people** under 40, especially 15-24 year olds, are more likely than older people, especially those aged 55 or over, to want information on the links between the health of humans, animals and the environment (29%, compared with 21%)
- People who **finished their full-time education** aged 20 or over are more likely than those who finished at an earlier age to want more information on the links between the health of humans, animals and the environment (29%, compared with 17%-22%) and on resistance to antibiotics (27%, compared with 19%-24%)
 - People who finished their full-time education aged 15 or under are more likely than those who finished aged 16 or over to want information on how to use antibiotics (27%, compared with 22%-24%)
- People who say they **have difficulties paying their household bills** either 'most of the time' or 'from time to time' are more likely than those who 'almost never' have difficulties to want information on: the medical conditions for which antibiotics are used (30%-31%, compared with 25%); and how to use antibiotics (28% in each band, compared with 22%)
- There is no consistent pattern in relation to **knowledge about antibiotics**. That said:
 - People with a better knowledge of antibiotics - at least 2 correct answers - are more likely than those giving only one or none correct answers to want information on: resistance to antibiotics (25%-27%, compared with 12%-19%); and the medical conditions for which antibiotics are used (26%-29%, compared with 24%)
 - People who answer all 4 questions correctly are more likely than those answering three or less correctly to want more information on the links between the health of humans, animals and the environment (all 4 correct: 31%, compared with 1-3 correct answers: 18%-25% and none correct 12%)
- People who say they have **received information** regarding the unnecessary use of antibiotics are more likely to say they want more information on the links between the health of humans, animals and the environment (29%, compared with 22%) and resistance to antibiotics (28%, compared with 24%) compared to those who did not receive information.
- People who say **the information they got changed their views** are more likely than those who say their views were not changed to want more information on how to use antibiotics (32%, compared with 19%), the medical conditions for which antibiotics are used (37%, compared with 22%), resistance to antibiotics (32%, compared with 27%) and the prescription of antibiotics (19%, compared with 12%)

QC11 On which topics, if any, would you like to receive more information? (MULTIPLE ANSWERS POSSIBLE)
(% - EU)

	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)	I don't want to receive more information on these issues (SPONTANEOUS)	Don't know
EU28	25	24	26	15	24	4	8	21	4
 Age									
15-24	26	23	28	16	29	4	7	19	3
25-39	27	24	28	16	26	4	8	18	4
40-54	25	24	26	13	24	4	9	21	3
55 +	24	24	26	15	21	4	9	24	4
 Education (End of)									
15-	19	27	25	16	17	3	9	26	5
16-19	24	24	28	15	22	3	9	22	4
20+	27	22	25	13	29	5	8	19	3
Still studying	30	24	28	17	32	4	5	18	4
 Difficulties paying bills									
Most of the time	26	28	31	16	23	3	7	20	4
From time to time	27	28	30	20	24	4	6	17	4
Almost never/ Never	24	22	25	13	25	4	9	22	4
Knowledge about antibiotics									
4 correct answers	27	19	26	14	31	3	9	22	3
3 correct answers	26	24	27	14	25	4	8	20	3
2 correct answers	25	28	29	17	22	4	7	20	4
1 correct answers	19	25	24	16	18	4	9	22	5
0 correct answers	12	18	19	10	12	6	10	31	12
Received information about antibiotics									
Yes	28	23	27	14	29	3	8	18	2
No	24	24	27	16	22	4	8	22	4
Information changed views									
Yes	32	32	37	19	29	2	4	10	3
No	27	19	22	12	29	4	10	22	2

Base: All respondents (N= 27,474)

5 Trustworthy sources of information

The final section of this chapter examines where Europeans would go in order to get trustworthy information on antibiotics.

All respondents were shown a list of different ways in which information could be obtained and asked which sources they would use in order to get trustworthy information on antibiotics⁴⁹. They were able to choose up to three different methods. There has been a very slight modification of the question compared to that used in 2016⁵⁰.

Europeans are much more likely to say they would go to a doctor to get trustworthy information on antibiotics rather than any other source of information

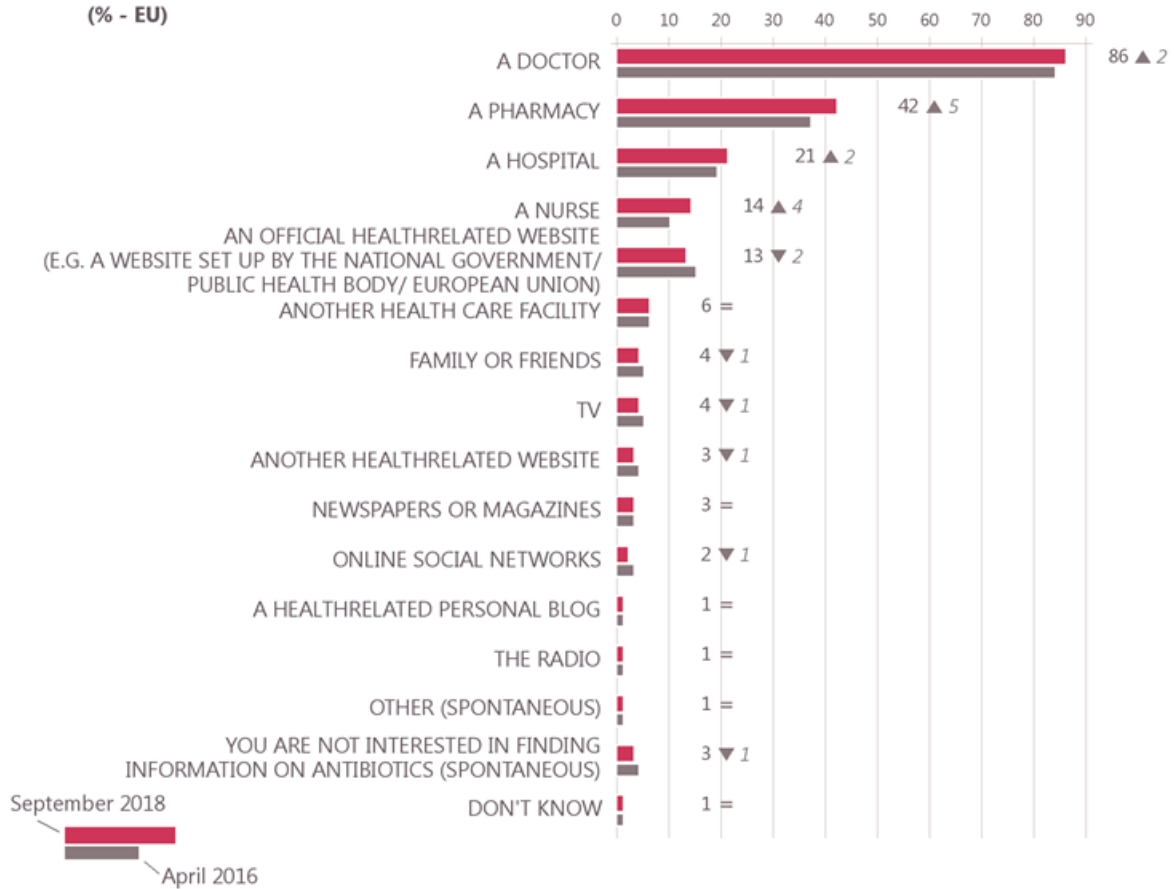
Respondents are most likely to view medical professionals or healthcare facilities as the most trustworthy sources of information on antibiotics. More than four in five respondents mention doctors (86%), while just over two fifths mention a pharmacy (42%) and around one in five mention a hospital (21%). One in seven respondents mention a nurse (14%) and one in eight an official health-related website (13%). Few respondents mention another healthcare facility (6%), another health-related website (3%) or a health-related personal blog (1%) as a source they would use to get trustworthy information on antibiotics.

Only a small proportion of respondents mention non-health-related sources as somewhere they would go to get information on antibiotics, such as television (4%), or family and friends (4%). Other methods that could be used to obtain trustworthy information are mentioned by no more than 3% of respondents.

⁴⁹ Q12 Which of the following sources of information would you use in order to get trustworthy information on antibiotics? (SHOW SCREEN – READ OUT – MAX. 3 ANSWERS): A doctor; A nurse; A pharmacy; A hospital; Another healthcare 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; Another health-related website; Online social networks; TV; Newspapers or magazines; The radio; Other (SPONTANEOUS); You are not interested in finding information on antibiotics (SPONTANEOUS); Don't know

⁵⁰ An additional code has been added to the interviewer answer list, allowing spontaneous mentions of 'Not interested in finding information about antibiotics' to be recorded

QC12 Which of the following sources of information would you use in order to get trustworthy information on antibiotics?
(MAX. 3 ANSWERS)
(% - EU)



Base: All respondents (N= 27,474)

Comparing the results with the 2016 findings, the most notable differences are an increase in the proportion of respondents mentioning a pharmacy (+5 percentage points), a nurse (+4 pp), a doctor (+2 pp) and a hospital (+2 pp) as the most trustworthy sources of information on antibiotics. There has been a small drop in the proportion mentioning an official health-related website (-2 percentage points).

Looking at the national picture, at least seven in ten respondents across all Member States say that they would go to a doctor for trustworthy information on antibiotics and it receives the most mentions in all countries.

QC12 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	A nurse	An official healthrelated website (...)	Another health care facility	Family or friends	TV	Another healthrelated website	Newspapers or magazines	Online social networks	A healthrelated personal blog	The radio	Other (SPONTANEOUS)	Don't know
EU28		86	42	21	14	13	6	4	4	3	3	2	1	1	1	1
BE		88	46	20	16	11	3	4	3	3	2	2	1	1	0	0
BG		80	28	16	9	12	4	8	11	3	2	3	4	1	0	1
CZ		86	46	26	15	12	6	5	5	5	2	2	2	1	1	1
DK		88	43	28	19	35	3	3	2	7	1	3	1	0	1	1
DE		88	45	8	5	12	5	6	2	3	4	4	0	0	1	1
EE		86	36	12	22	14	3	6	3	5	3	4	1	1	2	0
IE		84	52	22	24	11	6	4	1	4	1	4	2	0	0	0
EL		94	35	45	3	17	10	5	6	5	2	2	1	0	0	0
ES		91	30	23	16	6	9	2	1	2	1	1	1	0	1	0
FR		88	46	24	14	13	4	3	4	3	4	0	1	2	1	1
HR		88	42	17	14	6	6	6	5	2	1	1	2	0	0	1
IT		84	29	21	7	9	12	4	3	2	2	1	1	0	0	0
CY		91	32	29	3	12	11	3	5	3	0	4	2	0	0	0
LV		84	28	23	10	11	5	7	2	3	4	2	2	1	1	1
LT		89	36	16	4	12	5	8	6	6	2	2	3	1	1	1
LU		88	41	19	11	19	5	5	2	5	4	0	2	0	2	1
HU		84	44	16	17	13	6	4	7	4	2	3	2	2	0	0
MT		90	36	22	8	10	5	2	2	6	1	3	1	1	1	0
NL		86	68	29	12	39	5	4	1	7	3	3	1	1	1	0
AT		83	50	27	11	11	8	9	3	7	4	5	3	1	1	0
PL		81	25	13	13	13	4	4	7	6	2	2	2	0	1	1
PT		86	47	23	19	6	8	2	7	4	1	1	2	0	0	0
RO		75	31	19	17	4	5	7	5	2	0	1	2	0	0	0
SI		83	47	14	15	10	2	10	2	3	2	2	1	1	2	0
SK		81	45	17	19	8	2	7	9	8	5	3	2	1	1	1
FI		79	59	17	20	34	5	5	3	4	5	3	1	1	1	1
SE		72	48	18	30	49	7	5	4	5	7	3	0	2	2	0
UK		90	58	34	30	15	4	3	1	3	1	1	1	0	1	1
		1st MOST FREQUENTLY MENTIONED ITEM														
		2nd MOST FREQUENTLY MENTIONED ITEM														
		3rd MOST FREQUENTLY MENTIONED ITEM														

Base: All respondents (N= 27,474)

The highest proportions are found in Greece (94%), Spain and Cyprus (both 91%), and Malta and the UK (both 90%). Sweden has the lowest proportion of respondents (72%) choosing a doctor as a trustworthy source of information.

There is more widespread national variation in relation to pharmacies being picked by respondents as a source of trustworthy information. They receive the second highest mentions in almost all Member States (26) and the third highest in Greece and Sweden. The majority of respondents in the Netherlands (68%), Finland (59%), the UK (58%) and Ireland (52%) mention pharmacies as a trustworthy source that they would use, while only one in four respondents hold this view in Poland (25%).

Using a hospital in order to get trustworthy information receives the second highest mentions in Greece (45%), and the third highest mentions in a further 17 Member States. Along with Greece, the UK also has a notably high proportion of respondents (34%) picking a hospital as a source of trustworthy information. It is least likely to be mentioned by respondents in Germany (8%), followed by Estonia (12%).

Using a nurse to get trustworthy information receives the third highest mentions in six Member States⁵¹. There are two countries where respondents are notably more likely than those living elsewhere in the EU to say they would use a nurse: Sweden and the UK (both 30%). In contrast, respondents in Greece and Cyprus (both 3%), Lithuania (4%) and Germany (5%) are least likely to say they would use this source.

Using an official health-related website is the second most widely mentioned source that respondents say they would use to get trustworthy information in Sweden (49%) and the third most widely cited in a further six Member States⁵². In addition to Sweden, countries where respondents are much more likely than those living elsewhere to say they would use an official health-related website include: the Netherlands (39%); Denmark (35%); and Finland (34%). Respondents in Romania (4%), and Spain, Croatia and Portugal (6% in each) are least likely to say they would use this source.

Socio-demographic and key variable analyses

Generally there are few notable differences across the socio-demographic and key variable groups. However, there are some notable differences in relation to perceptions of an official health-related website being a trustworthy source of information on antibiotics.





- People **age 55 or over** are much less likely than those aged 15-54 to mention an official health-related website as a trustworthy source (8%, compared with 15%-19% across the three age bands)
- One in five people (20%) who **finished their full-time education** aged 20 or over mention they would visit such a site, compared with just 4% of those who finished aged 15 or under
- **Managers** (23%) and students (24%) are much more likely than people in other occupations, particularly housepersons (6%) and retired people (6%), to mention they would use an official health-related website
- Not surprisingly, **those who use the internet** every day are much more likely than those who never use the internet to mention using an official health-related website (17%, compared with 1% of those who never use the internet)
- Those with a good **knowledge of antibiotics**, who answered four questions correctly (20%) are more likely than those who answered three correctly (14%), one or two (9%-10%) or none correctly (3%) to say they would use such a site as a trustworthy source of information

⁵¹ Estonia, Ireland, Hungary, Poland, Slovenia and Slovakia

⁵² Denmark, Germany, Luxembourg, the Netherlands, Poland and Finland

- People who say they **have received information** regarding the unnecessary use of antibiotics (19%), compared with those who did not (11%)
- People who say **the information they got did not change their views** (21%), compared with those who say their views were changed (14%)

QC12 Which of the following sources of information would you use in order to get trustworthy information on antibiotics?
(MAX. 3 ANSWERS)
(% - EU)

	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	Another health-related website	Online social networks	TV	Newspapers or magazines	The radio	Other (SPONTANEOUS)	You are not interested in finding information on antibiotics (SPONTANEOUS)	Don't know
EU28	86	14	42	21	6	4	13	1	3	2	4	3	1	1	3	1
 Age																
15-24	85	16	41	25	5	8	19	2	5	3	3	1	0	1	3	0
25-39	86	16	43	22	7	5	17	1	5	2	3	2	1	1	2	1
40-54	86	13	42	20	6	3	15	1	3	2	3	3	1	1	3	0
55 +	87	13	41	20	6	4	8	1	2	1	4	3	1	1	3	1
 Education (End of)																
15-	89	13	38	21	6	4	4	1	1	0	4	2	0	1	4	1
16-19	87	14	43	21	5	4	9	1	3	2	4	2	1	1	3	1
20+	85	15	43	20	7	4	20	1	5	2	3	3	1	1	2	1
Still studying	85	15	40	26	7	8	24	2	6	3	3	1	0	1	3	0
 Socio-professional category																
Self-employed	82	11	38	21	9	3	17	2	4	3	4	3	1	1	4	0
Managers	86	16	44	19	6	3	23	1	4	3	2	3	1	1	2	1
Other white collars	87	14	45	21	7	4	17	1	5	2	3	3	0	0	2	0
Manual workers	86	17	45	22	6	5	12	1	4	2	3	2	0	1	2	1
House persons	86	12	37	19	5	4	6	1	2	1	2	2	0	0	4	1
Unemployed	84	14	37	21	5	6	9	2	4	3	4	2	1	1	5	1
Retired	88	13	40	20	5	4	6	1	2	1	5	3	1	1	3	1
Students	85	15	40	26	7	8	24	2	6	3	3	1	0	1	3	0
 Use of the Internet																
Everyday	86	15	43	21	7	4	17	1	4	2	3	3	1	1	2	1
Often/ Sometimes	87	13	46	21	6	4	6	0	2	1	4	3	1	0	3	0
Never	88	12	35	19	4	4	1	1	0	0	5	3	1	0	5	1
Knowledge about antibiotics																
4 correct answers	85	14	45	20	6	4	20	1	4	2	3	3	0	1	3	0
3 correct answers	89	15	45	22	6	4	14	1	3	2	4	3	1	1	2	0
2 correct answers	88	14	38	22	6	5	10	1	3	2	4	2	0	0	3	0
1 correct answers	84	11	36	20	7	5	9	1	3	2	3	1	0	0	4	1
0 correct answers	74	14	31	15	5	7	3	1	3	3	4	2	2	1	10	3
Received information about antibiotics																
Yes	87	16	45	21	6	4	19	1	4	2	4	4	1	1	1	0
No	86	13	40	21	6	5	11	1	3	2	3	2	0	1	4	0
Information changed views																
Yes	89	16	43	21	7	3	14	1	4	2	5	4	1	0	1	0
No	86	17	46	21	5	4	21	1	4	2	3	4	1	1	1	0

Base: All respondents (N= 27,474)

IV. POLICY RESPONSE

This chapter focuses on Europeans' views on where they believe policy response will be most effective at tackling AMR – at an individual, regional, national, EU or global level?

1 Most effective level to tackle antimicrobial resistance

Respondents were asked at what level they believe it is most effective to tackle the resistance to antibiotics⁵³.

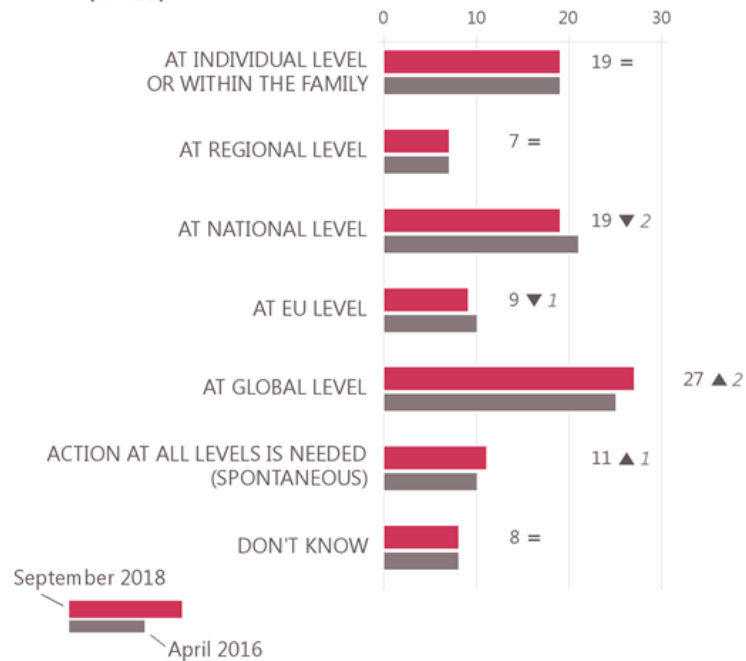
Just over a quarter of Europeans think that action at a global level is the most effective way to tackle resistance to antibiotics, while around one in five believe action at a national level or individual or family level is best

Just over a quarter of respondents (27%) think that action at a global level is the most effective way of tackling resistance to antibiotics. One in five respondents (19%) believe resistance to antibiotics would be tackled most effectively at a national level, and the same proportion that it would be tackled most effectively at the individual or family level. One in eleven respondents (9%) think action at an EU level is best, with a somewhat smaller proportion (7%) thinking action at a regional level is the most effective way of tackling resistance to antibiotics.

⁵³ Q13 At what level do you believe it is most effective to tackle the resistance of antibiotics? (READ OUT – ONE ANSWER ONLY): 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

Around one in ten respondents (11%) spontaneously say that action at all levels is needed.

QC13 At what level do you believe it is most effective to tackle the resistance to antibiotics?
(% - EU)



Base: All respondents (N= 27,474)

These results are broadly in line with those reported in 2016. There has been a small increase in the proportion of respondents thinking that action at a global level is the most effective way of tackling AMR (+2 percentage points) and a small drop in the proportion thinking the most effective way of tackling AMR is at a national level (-2 percentage points).

Focusing on the national picture, there is widespread variation.

QC13 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	19	9	27	11	8
BE		20	10	25	14	26	2	3
BG		13	5	22	9	11	24	16
CZ		22	5	19	10	31	3	10
DK		9	5	14	14	43	10	5
DE		14	7	11	10	28	20	10
EE		23	6	20	5	17	9	20
IE		28	9	28	10	16	5	4
EL		21	4	29	15	20	6	5
ES		14	4	15	10	40	8	9
FR		30	3	18	8	29	4	8
HR		26	9	19	9	21	12	4
IT		13	12	23	6	21	18	7
CY		24	2	16	15	20	11	12
LV		31	11	21	5	14	5	13
LT		20	7	21	14	21	6	11
LU		17	2	12	13	42	7	7
HU		29	9	25	4	11	9	13
MT		17	5	26	6	24	11	11
NL		15	6	17	18	42	1	1
AT		11	11	18	14	26	14	6
PL		18	14	26	8	10	12	12
PT		9	6	30	7	20	19	9
RO		24	11	25	7	14	11	8
SI		41	3	13	8	17	13	5
SK		13	11	25	10	17	16	8
FI		25	5	17	7	37	4	5
SE		9	3	17	12	51	6	2
UK		22	4	21	3	32	9	9

Highest percentage per country

Lowest percentage per country

Highest percentage per item

Lowest percentage per item

Base: All respondents (N= 27,474)

There are seven Member States⁵⁴ where respondents are most likely to think that action at an individual level or within the family is the most effective way of tackling resistance to antibiotics and it receives equal highest mentions in Ireland (along with action at national level). Two fifths of

⁵⁴ Estonia, France, Croatia, Cyprus, Latvia, Hungary and Slovenia

respondents in Slovenia (41%) think this is the most effective way – a much higher proportion than in any other Member State. Respondents in Denmark, Portugal and Sweden (9% in each) are least likely to think this is the most effective way to tackle resistance to antibiotics.

There are no Member States where respondents are most likely to think that action at a regional level is the best way to tackle resistance to antibiotics and there is less widespread variation in the proportion favouring action at this level. The highest proportions are seen in Poland (14%) and Italy (12%) and the lowest in Cyprus and Luxembourg (both 2%).

In seven Member States⁵⁵ respondents are most likely to think that action at a national level is the best way of tackling resistance to antibiotics, and it receives equal highest mentions (as already noted) in Ireland, along with action at an individual level or within the family, and also in Lithuania (along with action at a global level). The highest proportions are seen in Portugal (30%), Greece (29%) and Ireland (28%) and the lowest in Germany (11%) and Luxembourg (12%).

There are no Member States where respondents are most likely to think that action at an EU level is the most effective way to tackle resistance to antibiotics. The highest proportions are seen in the Netherlands (18%) and Greece and Cyprus (both 15%) and the lowest in the UK (3%) and Hungary (4%).

There are 11 Member States⁵⁶ where respondents are most likely to say that action at a global level is the best way of tackling resistance to antibiotics, and, as already noted, it receives equal highest mentions in Lithuania (along with action at a national level). Countries with the highest proportion of respondents thinking this is the most effective way include Sweden (51%), Denmark (43%), Luxembourg and the Netherlands (both 42%), Spain (40%) and Finland (37%). In contrast, less than one in five respondents think this is the most effective way in Poland (10%), Bulgaria and Hungary (both 11%), Latvia and Romania (both 14%), Ireland (16%) and Estonia, Slovenia and Slovakia (17% in each).

Bulgaria is the only country where respondents are most likely to spontaneously say that action at all levels is needed (24%), with notably high proportions also seen in Germany (20%), Portugal (19%) and Italy (18%) and the lowest proportion reported in the Netherlands (1%).

This measure also shows more widespread national variation in the proportion of respondents unable to express a view, compared to those seen on other measures, ranging from 20% in Estonia to 1% in the Netherlands.

⁵⁵ Greece, Italy, Malta, Poland, Portugal, Romania and Slovakia




⁵⁶ Belgium, the Czech Republic, Denmark, Germany, Spain, Luxembourg, the Netherlands, Austria, Finland, Sweden and the UK

Socio-demographic and key variable analyses

The findings are largely consistent across the different socio-demographic and key variable groups. However, some notable patterns emerge in relation to the extent to which respondents think that action at a global level is the most effective way to tackle resistance to antibiotics, with those more likely to say this being:

- People who **finished their full-time education** aged 20 or over (31%), compared with those who finished at an earlier age (24%-25%)
- **Managers** (34%), particularly when compared with housepersons (20%) and the retired (24%)
- People who say they 'almost never' have **difficulties paying their household bills** (28%), compared with those who have difficulties 'most of the time' or 'from time to time' (22%-24%)
- People with a good **knowledge of antibiotics**: four correct answers (33%) and three correct answers (29%), compared with one or two correct answers (22% in each case) and no correct answers (14%)
- People who say they **have received information** regarding the unnecessary use of antibiotics (33%), compared with those who did not (24%)

QC13 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 regional level	At national level	At EU level	At global level	Action at all levels is needed (SPONTANEOUS)	Don't know
EU28	19	7	19	9	27	11	8
 Education (End of)							
15-	17	6	20	7	24	12	14
16-19	18	8	21	8	25	11	9
20+	20	6	18	10	31	10	5
Still studying	17	9	17	10	26	13	8
 Socio-professional category							
Self-employed	19	8	18	9	28	12	6
Managers	16	6	17	11	34	11	5
Other white collars	19	9	20	9	29	9	5
Manual workers	19	7	21	8	26	11	8
House persons	18	8	18	7	20	15	14
Unemployed	19	6	18	8	26	11	12
Retired	20	6	20	8	24	11	11
Students	17	9	17	10	26	13	8
 Difficulties paying bills							
Most of the time	20	10	17	9	22	11	11
From time to time	18	8	22	8	24	12	8
Almost never/ Never	19	7	19	9	28	10	8
Knowledge about antibiotics							
4 correct answers	19	5	17	10	33	11	5
3 correct answers	20	6	18	9	29	11	7
2 correct answers	18	8	22	9	22	12	9
1 correct answers	18	9	20	7	22	11	13
0 correct answers	16	8	17	4	14	14	27
Received information about antibiotics							
Yes	20	6	17	9	33	10	5
No	18	8	20	9	24	11	10

Base: All respondents (N= 27,474)

V. USE OF ANTIBIOTICS IN AGRICULTURE AND THE ENVIRONMENT

The final chapter of the report examines Europeans' attitudes towards the use of antibiotics on sick animals, and their awareness of the ban on using antibiotics to stimulate growth in farm animals.

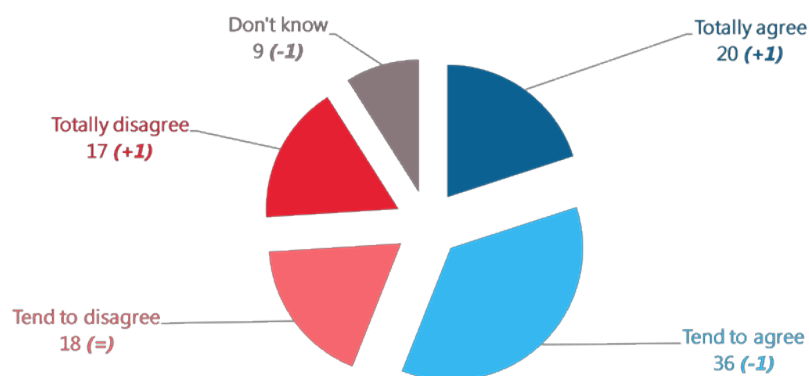
1 The treatment of sick animals with antibiotics

Giving antibiotics to sick animals will kill many bacteria, but resistant bacteria can survive and multiply, thereby contaminating the food chain. The interviewer explained to the respondent that they wanted to talk about the use and effects of antibiotics in farm animals (i.e. animals used for consumption – meat, dairy products etc.). Respondents were then asked whether they agreed or disagreed with the use of antibiotics on sick animals if this is the most appropriate treatment⁵⁷.

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

More than half of respondents (56%) agree that sick animals have the right to be treated with antibiotics if this is the more appropriate treatment, with one in five (20%) saying they 'totally agree'. Around a third of respondents (35%) disagree that sick animals have the right to be treated, with around one in six (17%) saying they 'totally disagree'. One in eleven respondents (9%) are unable to express an opinion on whether sick animals have this right.

QC14 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)



(September 2018 - April 2016)

Base: All respondents (N= 27,474)

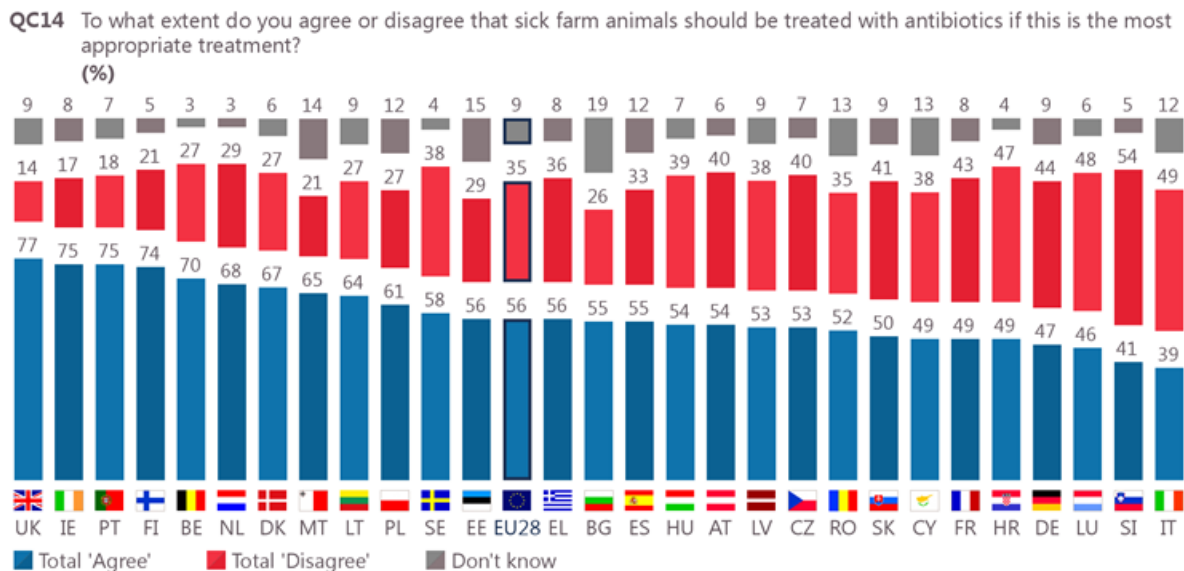
These results are broadly in line with the 2016 findings. There has been a very small increase in the proportion of respondents who 'totally agree' that sick animals have the right to be treated with antibiotics (+1 percentage point) and similar increase in the proportion who say that they 'totally disagree' that sick animals have this right (+1 percentage point). There are very small drops in the

⁵⁷ Q14 Now, let's talk about the use and effects of antibiotics in farm animals (i.e. animals used for consumption (meat, dairy products etc.).

To what extent do you agree or disagree that sick farm animals should be treated with antibiotics if this is the most appropriate treatment? (READ OUT – ONE ANSWER ONLY): Totally agree; Tend to agree; Tend to disagree; Totally disagree; Don't know

proportion who say they 'tend to agree' that sick animals have the right to be treated with antibiotics (-1 percentage point) and the proportion unable to express an opinion (-1 point).

Focusing on the results at a national level, there is widespread variation.



Base: All respondents (N= 27,474)

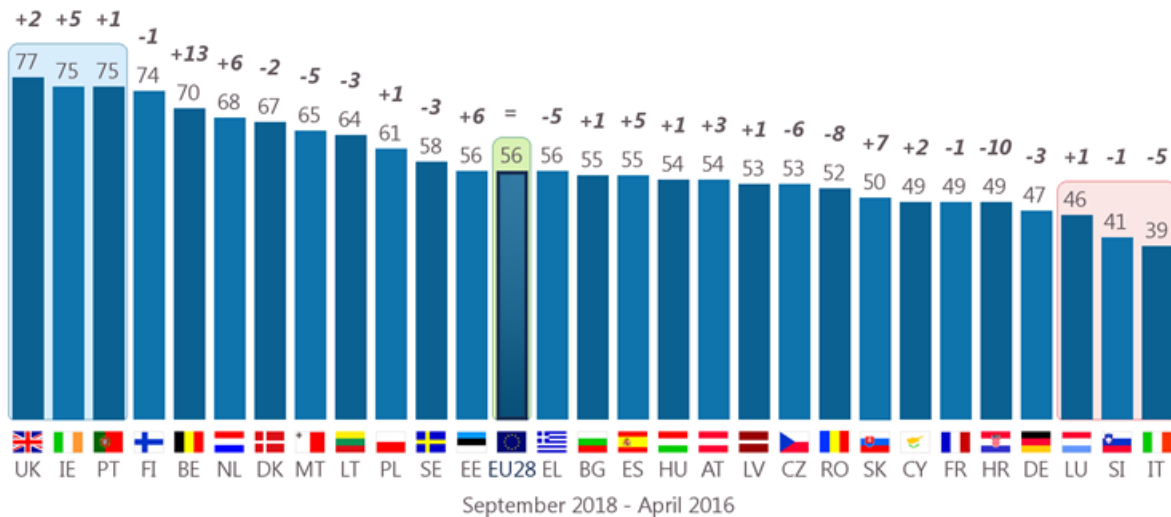
In the majority of Member States (21) at least half of respondents agree that sick animals have the right to be treated with antibiotics. The highest proportions holding this opinion are seen in the UK (77%), Ireland and Portugal (both 75%), Finland (74%) and Belgium (70%). The UK, Ireland and Denmark are the only countries where at least a third of respondents 'totally agree' that sick animals have the right to be treated with antibiotics (36%, 34% and 33% respectively).

Among the seven remaining States (where less than half of respondents agree that sick animals have the right to be treated with antibiotics) there is only one country, Slovenia, where a small majority of respondents disagree that sick animals have this right (54%). There are five countries where more than one in four respondents 'totally disagree' that sick animals have the right to be treated with antibiotics: Slovenia (30%), Croatia and Italy (both 28%), and Cyprus and Luxembourg (both 26%).

There are two countries where a notably high proportion of respondents are unable to express an opinion on whether sick animals have the right to antibiotic treatment: Bulgaria (19%) and Estonia (15%).

Comparing the results at a national level with those from the 2016 survey, the proportion of respondents who agree that sick farm animals should be treated with antibiotics if this is the most suitable treatment has increased in 15 Member States and declined in thirteen.

QC14 To what extent do you agree or disagree that sick farm animals should be treated with antibiotics if this is the most appropriate treatment?
(% - TOTAL 'AGREE')



Base: All respondents (N= 27,474)

The largest increases are observed in Belgium (+13 percentage points), Slovakia (+7 pp), the Netherlands and Estonia (both +6 pp), and Ireland and Spain (both +5 pp). The greatest drop in the proportion of respondents agreeing that sick farm animals have this right is in Croatia (-10 percentage points), followed by Romania (-8 pp), the Czech republic (-6 pp), and Malta, Greece and Italy (-5 pp in each).

Socio-demographic and key variable analyses



There are fewer differences between socio-demographic and key variable groups on this measure than on many of the other measures (already reported). The most notable difference relates to knowledge about antibiotics:

- People with some **knowledge of antibiotics** are more likely than those who have no knowledge to say they agree that sick animals should be treated with antibiotics: four correct answers (56%), three correct answers (55%), two correct answers (58%), one correct answer (54%), compared with no correct answers (45%)

Groups that are somewhat more likely to agree that sick animals should receive antibiotic treatment include:

- People **under 40 years** of age (59%-60% across the two age bands), particularly when compared with those aged 55 or over (52%)
- People who **finished their full-time education** beyond the age of 15 – particularly those who finished aged 20 or over (59%), compared with those who finished at the age of 15 or under (50%)
- People who say **they have received information** regarding the unnecessary use of antibiotics (60%), compared with those who did not (53%)

QC14 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	20	36	18	17	9	56	35
 Age							
15-24	22	38	15	16	9	60	31
25-39	21	38	18	15	8	59	33
40-54	21	35	18	17	9	56	35
55 +	17	35	19	19	10	52	38
 Education (End of)							
15-	17	33	17	20	13	50	37
16-19	19	36	18	18	9	55	36
20+	22	37	18	16	7	59	34
Still studying	21	36	17	16	10	57	33
Knowledge about antibiotics							
4 correct answers	20	36	20	18	6	56	38
3 correct answers	20	35	19	19	7	55	38
2 correct answers	19	39	17	16	9	58	33
1 correct answers	18	36	17	14	15	54	31
0 correct answers	16	29	14	15	26	45	29
Received information about antibiotics							
Yes	23	37	17	16	7	60	33
No	18	35	18	18	11	53	36

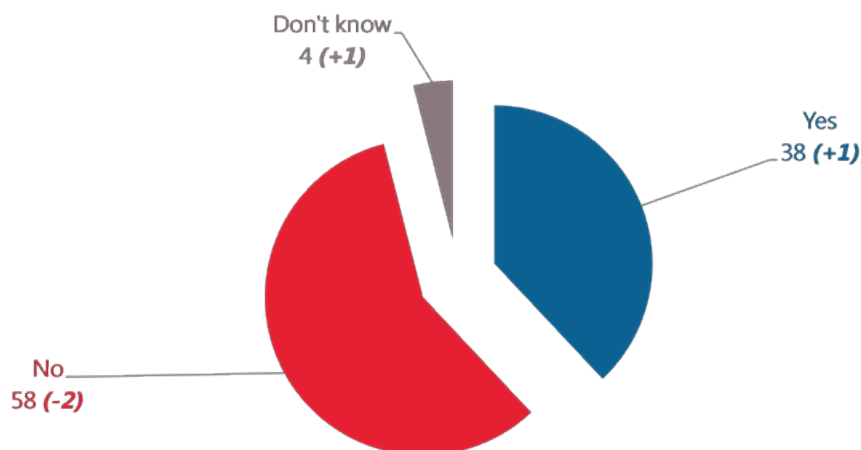
Base: All respondents (N= 27,474)

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

Around two in five Europeans are aware of the EU ban on the use of antibiotics to stimulate growth in farm animals

Around two fifths of respondents (38%) say they know that using antibiotics to stimulate growth in farm animals is banned within the EU⁵⁸. Just under three in five respondents (58%) do not know that such a ban exists.

QC15 Did you know that using antibiotics to stimulate growth in farm animals is banned within the EU?
(% - EU)



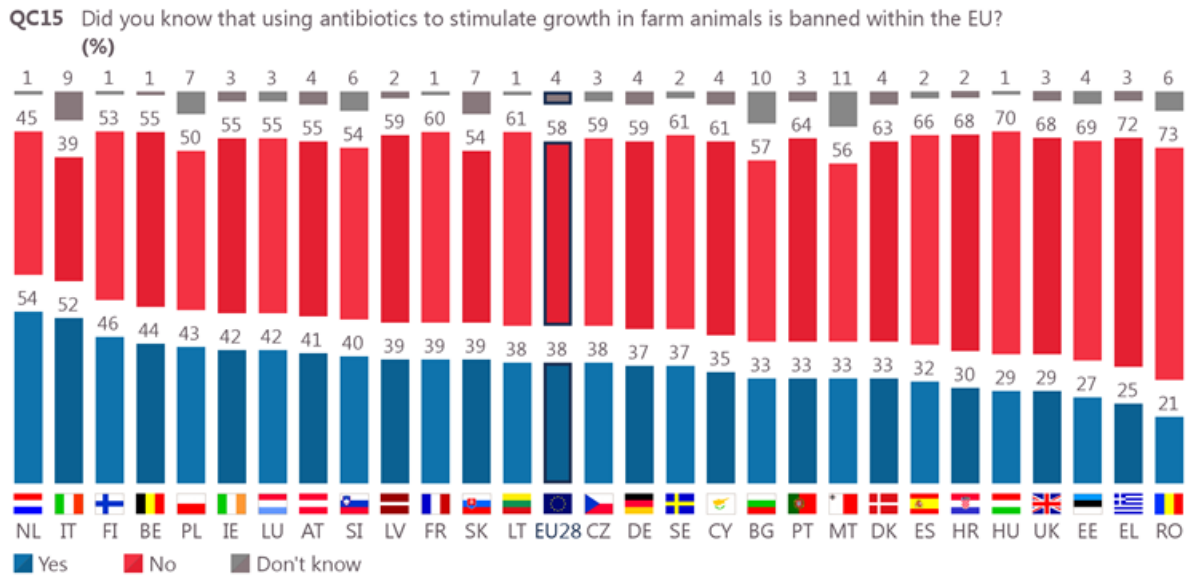
(September 2018 - April 2016)

Base: All respondents (N= 27,474)

The findings are broadly in line with those reported in 2016. There has been a very small increase in the proportion saying that they know that the use of antibiotics to stimulate growth in farm animals is banned in the EU (+1 percentage point).

⁵⁸ Q15 Did you know that using antibiotics to stimulate growth in farm animals is banned within the EU? (ONE ANSWER ONLY): Yes; No; Don't know

There are some differences by Member State as illustrated below.
































Base: All respondents (N= 27,474)

There are only two Member States where the majority of respondents say they know that there is an EU ban on the use of antibiotics to stimulate growth in farm animals: the Netherlands (54%) and Italy (52%). The next highest proportions are found in Finland (46%), Belgium (44%) and Poland (43%). Countries where respondents are least likely to know about the ban include Hungary and the UK (both 29%), Estonia (27%), Greece (25%) and Romania (21%).

Comparing the results at a national level with those from the 2016 survey, the proportion of respondents who say they know this ban exists has increased in 13 Member States and decreased in 15.

QC15 Did you know that using antibiotics to stimulate growth in farm animals is banned within the EU?

(%)

		Yes	Sept. 2018 - Apr. 2016	No	Sept. 2018 - Apr. 2016	Don't know
EU28		38	▲ 1	58	▼ 2	4
IT		52	▲ 13	39	▼ 15	9
BE		44	▲ 7	55	▼ 5	1
LV		39	▲ 7	59	▼ 8	2
HU		29	▲ 7	70	▼ 3	1
EE		27	▲ 7	69	▼ 5	4
ES		32	▲ 6	66	▼ 6	2
SI		40	▲ 5	54	▼ 8	6
MT		33	▲ 5	56	▼ 15	11
PT		33	▲ 5	64	▼ 6	3
BG		33	▲ 3	57	=	10
CY		35	▲ 2	61	▼ 1	4
PL		43	▲ 1	50	▼ 1	7
UK		29	▲ 1	68	▼ 2	3
AT		41	▼ 1	55	▼ 1	4
FR		39	▼ 1	60	▲ 2	1
FI		46	▼ 2	53	▲ 2	1
IE		42	▼ 2	55	▲ 2	3
EL		25	▼ 2	72	▲ 1	3
LT		38	▼ 3	61	▲ 3	1
HR		30	▼ 3	68	▲ 2	2
SK		39	▼ 4	54	▲ 1	7
SE		37	▼ 4	61	▲ 2	2
LU		42	▼ 5	55	▲ 3	3
DE		37	▼ 5	59	▲ 4	4
DK		33	▼ 5	63	▲ 2	4
NL		54	▼ 6	45	▲ 6	1
CZ		38	▼ 8	59	▲ 8	3
RO		21	▼ 9	73	▲ 5	6

Base: All respondents (N= 27,474)

The largest increases are observed in Italy (+13 percentage points), Belgium, Latvia, Hungary and Estonia (+7 pp in each), Spain (+6 pp), and Slovenia, Malta and Portugal (+5 pp in each). The biggest decline is seen in Romania (-9 percentage points), followed by the Czech Republic (-8 pp), the Netherlands (-6 pp) and Luxembourg, Germany and Denmark (-5 pp in each).

Socio-demographic and key variable analysis





The most notable differences between socio-demographic and key variable groups are in relation to knowledge about antibiotics, receipt of information, occupation, age and terminal education age. Those more likely to know that the use of antibiotics to stimulate growth in farm animals is banned in the EU are:

- People with any **knowledge about antibiotics**, particularly those who give three or four correct answers (41%-44%), compared to those unable to provide any correct answers (21%)
- Those who say they **have received information** regarding the unnecessary use of antibiotics (47%), compared with those who have not (33%)
- **People aged 25** or over (37%-41% across the three age bands), compared with those aged 15-24 (31%)
- People who **finished their full-time education** beyond the age of 15 – particularly those who finished aged 20 and over (44%), compared with those who finished at the age of 15 or under (30%)
- **Managers** (47%) and the self-employed (44%), particularly when compared with the unemployed (29%), students (33%), housepersons (33%), and manual workers (34%)

The group somewhat more likely to know that such use of antibiotics is banned in the EU is:

- People who say they 'almost never' **have difficulties paying their household bills** (39%), compared with those who say they struggle 'most of the time' (34%)

QC15 Did you know that using antibiotics to stimulate growth in farm animals is banned within the EU?
(% - EU)

	Yes	No	Don't know
EU28	38	58	4
 Age			
15-24	31	65	4
25-39	37	59	4
40-54	41	56	3
55 +	38	57	5
 Education (End of)			
15-	30	64	6
16-19	36	60	4
20+	44	53	3
Still studying	33	64	3
 Socio-professional category			
Self-employed	44	52	4
Managers	47	51	2
Other white collars	41	55	4
Manual workers	34	62	4
House persons	33	60	7
Unemployed	29	67	4
Retired	38	58	4
Students	33	64	3
 Difficulties paying bills			
Most of the time	34	61	5
From time to time	37	58	5
Almost never/ Never	39	58	3
Knowledge about antibiotics			
4 correct answers	44	54	2
3 correct answers	41	56	3
2 correct answers	34	62	4
1 correct answers	28	65	7
0 correct answers	21	63	16
Received information about antibiotics			
Yes	47	51	2
No	33	62	5

Base: All respondents (N= 27,474)

CONCLUSIONS

Reducing the overuse and misuse of antibiotics is vital to slow down and reduce antimicrobial resistance which has increasingly become a threat to public health to Europe and other parts of the world. The behaviour, knowledge and attitudes of the public play a key role in establishing and ensuring the prudent use of antimicrobials.

There has been a small drop since 2016 in the proportion of Europeans taking antibiotics in the previous 12 months and it is now at its lowest level since 2009. (40% in 2009 compared with 32% in 2018).

The level of usage in human medicine varies widely by country, ranging from just under half of citizens in Italy to around one in five in Sweden. While in most countries the proportion of citizens using antibiotics has remained stable or shown a small decline, there are a small number of Member States where usage has actually increased. There are certain groups of people more likely to say they have taken antibiotics in the last year, in particular people who struggle to pay their household bills and those who finished their full-time education at an early age (aged 15 or under). Women are also somewhat more likely than men to have taken them, as are the very young (15-24 year olds) and older people (aged 65 or over), and those who are not working. Of those who have taken antibiotics, only 41% say that a test was taken to find out what was causing the illness at the time.

While the vast majority (93%) of respondents obtained their last course of antibiotics from a healthcare professional, either via a medical prescription (72%) or directly from a medical practitioner (21%) around 7% of antibiotics were taken without a prescription – the same proportion as in 2016.

Respondents are most likely to cite bronchitis (16%), a sore throat (14%), flu (12%), a urinary tract infection (12%) and a fever (11%) as reasons for taking antibiotics. The proportion of antibiotics taken for cold or flu was 20% in 2018 – down from 27% in 2016.

Just over two fifths of respondents (41%) say they had a test to find out the cause of their illness, before or at the same time as starting the antibiotics

Overall, there remains significant scope to improve Europeans' knowledge about antibiotics, reflecting the findings of the surveys in 2009, 2013 and 2016. Only around one in four Europeans are able to give the correct answer to the four questions used to provide a measure of knowledge. Again, there are marked variations at a national level, ranging from just under half of citizens in Finland able to do so, to only one in eight in Italy and Latvia. While it is encouraging that knowledge appears to have improved in a few countries (although improvements tend to be small), there are ten Member States where knowledge has actually worsened since 2016. The population sub-groups who are more likely to have gaps in knowledge about antibiotics are generally groups who are also more likely to be taking them – people struggling with household bills, those who left full-time education at a young age (aged 15 or under), the very young (15-24 year olds) and older people (aged 65 or over) and those who are not working.

While most Europeans (85%) know that unnecessary use of antibiotics makes them become ineffective, and a similar proportion know that antibiotics should only be stopped after taking all of the prescribed dose, less than half know that antibiotics are ineffective against viruses and only just over half know they are ineffective against colds. Yet sore throats and flu are the second and third most widely cited reasons for taking antibiotics, and around one in nine citizens mention using them to treat a cold. However, there has been some improvement here – 20% say they taken antibiotics to treat flu or a cold compared with 27% in 2016.

Two thirds (67%) say they would like further information on antibiotics. When asked about the topics Europeans would like more information on, one in four mention the medical conditions for which antibiotics are used, with a slightly smaller proportion who want information on resistance to antibiotics, links between the health of humans, animals and the environment and how to use antibiotics.

The majority of Europeans do not remember getting any information in the last year about not taking antibiotics unnecessarily – only one in three say that they did. Again, there is widespread variation across Member States, with just over two thirds of citizens in Finland getting such information, compared with only one in seven in Italy. Those who have been exposed to such information are notably more likely to have better knowledge about antibiotics, although only a minority say that the information led them to change their views on antibiotics.

While the findings show that media (e.g. television, press, leaflet or poster) can and does convey information on antibiotics, any campaigns that use such channels need to be particularly effective at targeting those with poor knowledge. Europeans perceive doctors and pharmacists to be the most trustworthy sources of such information and, as such, they are the most likely to be able to educate citizens who are less well-informed about antibiotics and more likely to be using them. This reinforces the importance of the EU guidelines that task those who are responsible for or play a role in antimicrobial use with the promotion of prudent use of antibiotics. There is also an opportunity for healthcare systems to increase diagnostic testing before prescribing antibiotics – there are 16 Member States where less than half of their citizens who took antibiotics had a test to diagnose their symptoms and illness. The antibiotic course may not have been needed.

In terms of policy response on tackling antimicrobial resistance, Europeans are divided in their opinions but are most likely to think that action at a global level is most effective, followed by action at a national level or individual or family level.

Overall, the challenge remains to reduce the overuse of antibiotics and reduce incorrect usage. Improving public awareness of the role of antibiotics and of antimicrobial resistance is important in achieving these objectives.

TECHNICAL SPECIFICATIONS

Between the 8th and the 26th September 2018, Kantar Public carried out the wave 90.1 of the EUROBAROMETER survey, on request of the EUROPEAN COMMISSION, Directorate-General for Communication, "Media Monitoring, Media Analysis and Eurobarometer" Unit.

The wave 90.1 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		POPULATION 15+	PROPORTION EU28
					FIELDWORK		
BE	Belgium	Kantar Belgium (Kantar TNS)	1.018	11/09/2018	26/09/2018	9.693.779	2,25%
BG	Bulgaria	Kantar TNS BBSS	1.040	11/09/2018	23/09/2018	6.537.535	1,52%
CZ	Czech Rep.	Kantar CZ	1.012	08/09/2018	21/09/2018	9.238.431	2,14%
DK	Denmark	Kantar Gallup	1.015	08/09/2018	21/09/2018	4.838.729	1,12%
DE	Germany	Kantar Deutschland	1.507	10/09/2018	23/09/2018	70.160.634	16,26%
EE	Estonia	Kantar Emor	1.017	11/09/2018	24/09/2018	1.160.064	0,27%
IE	Ireland	Behaviour & Attitudes	1.001	10/09/2018	23/09/2018	3.592.162	0,83%
EL	Greece	Taylor Nelson Sofres Market Research	1.015	11/09/2018	23/09/2018	9.937.810	2,30%
ES	Spain	TNS Investigación de Mercados y Opinión	1.009	11/09/2018	23/09/2018	39.445.245	9,14%
FR	France	Kantar Public France	1.027	11/09/2018	21/09/2018	54.097.255	12,54%
HR	Croatia	Hendal	1.050	10/09/2018	23/09/2018	3.796.476	0,88%
IT	Italy	Kantar Italia	1.029	10/09/2018	21/09/2018	52.334.536	12,13%
CY	Rep. Of Cyprus	CYMAR Market Research	503	10/09/2018	21/09/2018	741.308	0,17%
LV	Latvia	Kantar TNS Latvia	1.001	12/09/2018	25/09/2018	1.707.082	0,40%
LT	Lithuania	TNS LT	1.007	11/09/2018	23/09/2018	2.513.384	0,58%
LU	Luxembourg	ILReS	506	10/09/2018	21/09/2018	457.127	0,11%
HU	Hungary	Kantar Hoffmann	1.018	13/09/2018	23/09/2018	8.781.161	2,04%
MT	Malta	MISCO International	509	08/09/2018	21/09/2018	364.171	0,08%
NL	Netherlands	TNS NIPO	1.044	08/09/2018	21/09/2018	13.979.215	3,24%
AT	Austria	Info Research Austria Institut für Markt- und Meinungsforschung	1.007	10/09/2018	23/09/2018	7.554.711	1,75%
PL	Poland	Kantar Polska	1.034	10/09/2018	21/09/2018	33.444.171	7,75%
PT	Portugal	Marktest – Marketing, Organização e Formação	1.016	11/09/2018	24/09/2018	8.480.126	1,97%
RO	Romania	Centrul Pentru Studierea Opinieii si Pietei (CSOP)	1.007	12/09/2018	23/09/2018	16.852.701	3,91%
SI	Slovenia	Mediana DOO	1.018	11/09/2018	23/09/2018	1.760.032	0,41%
SK	Slovakia	Kantar Slovakia	1.042	11/09/2018	23/09/2018	4.586.024	1,06%
FI	Finland	Kantar TNS Oy	1.011	08/09/2018	23/09/2018	4.747.810	1,10%
SE	Sweden	Kantar Sifo	1.011	10/09/2018	23/09/2018	7.998.763	1,85%
UK	United Kingdom	Kantar UK Limited	1.000	10/09/2018	24/09/2018	52.651.777	12,20%
	TOTAL EU28		27.474	08/09/2018	26/09/2018	431.452.219	100%*

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 (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), Kantar Public 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)

<i>various sample sizes are in rows</i>												<i>various observed results are in columns</i>	
		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%		

QUESTIONNAIRE

Q1 Have you taken any antibiotics orally such as tablets, powder or syrup in the last 12 months?

(ONE ANSWER ONLY)

- | | |
|-----------------------|----|
| Yes | 1, |
| No | 2, |
| Refusal (SPONTANEOUS) | 3, |
| DK | 4 |

ASK Q2 AND Q3 IF “YES”, CODE 1 IN Q1 – OTHERS GO TO Q5

Q2 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, |
| Refusal (SPONTANEOUS) | 7, |
| DK | 8 |

Q3 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 from the trachea into the lungs) | 2, |
| Rhino pharyngitis (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, |
| Do not wish to answer (SPONTANEOUS) | 14, |
| Refusal (SPONTANEOUS) | 15, |
| DK | 16 |

Q4 Did you have a test, for example a blood or urine test, or throat swab, to find out what was causing your illness, before or at the same time as you started antibiotics ?

(ONE ANSWER ONLY)

- | | |
|------------------------------|----|
| Yes | 1, |
| No | 2, |
| Don't remember (SPONTANEOUS) | 3, |

Do not wish to answer (SPONTANEOUS)	4,
Refusal (SPONTANEOUS)	5,
DK	6

ASK ALL**Q5 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 (M)	1	2	3
3	Unnecessary use of antibiotics makes them become ineffective	1	2	3
4	Taking antibiotics often has side-effects such as diarrhea	1	2	3

Q6 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 by your doctor (M)	2,
Other (SPONTANEOUS)	3,
DK	4

Q7 In the last 12 months, do you remember getting any information about not taking antibiotics unnecessarily, for example for a cold? (M)*(ONE ANSWER ONLY)*

Yes	1
No	2
DK	3

ASK Q8 AND Q9 IF “YES”, CODE 1 IN Q7 – OTHERS GO TO Q11**Q8 Where did you get this information about not taking antibiotics unnecessarily?***(SHOW SCREEN – READ OUT – MULTIPLE ANSWERS POSSIBLE)*

From a doctor	1,
From a pharmacist	2,
From another health professional (e.g. nurse or physio-therapist)	3,
From a family member or friend	4,
From a TV advertisement	5,
On the Internet or in online social networks	6,
In a leaflet or on a poster	7,
In a newspaper	8,
On the TV news or other programmes	9,
On the radio	10,
Other (SPONTANEOUS)	11,
DK	12

Q9 Did the information that you received change your views on using antibiotics?*(ONE ANSWER ONLY)*

Yes	1,
-----	----

No	2,
DK	3

ASK Q10 IF “YES”, CODE 1 IN Q9 – OTHERS GO TO Q11**Q10 On the basis of the information you received, how do you now plan to use antibiotics? (M)***(SHOW SCREEN – READ OUT – ROTATE - MULTIPLE ANSWERS POSSIBLE)*

You will always consult a doctor when you think you need antibiotics	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 give left-over antibiotics to your relatives or friends when they are ill	5,
Other (SPONTANEOUS)	6,
None (SPONTANEOUS)	7,
Do not wish to answer (SPONTANEOUS)	8,
DK	9

ASK ALL**READ OUT: Antimicrobial Resistance is the ability of micro-organisms to resist antimicrobial treatments, especially antibiotics.****Q11 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,
I don't want to receive more information on these issues (SPONTANEOUS)	8,
DK	9

Q12 Which of the following sources of information would you use in order to get trustworthy information on antibiotics?*(SHOW SCREEN – 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/ public health body/ European Union)	7,
A health-related personal blog	8,
Another health-related website	9,
Online social networks	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

Q13 At what level do you believe it is most effective to tackle 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

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.).

Q14 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	1
Tend to agree	2
Tend to disagree	3
Totally disagree	4
DK	5

Q15 Did 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






























QC1 Have you taken any antibiotics orally such as tablets, powder or syrup in the last 12 months?
(%)

		Yes		No		Refusal (SPONTANEOUS)		Don't know
		EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1
EU28		32	-2	67	2	0	0	1
BE		33	1	67	-1	0	0	0
BG		34	-5	65	4	0	0	1
CZ		28	-5	71	4	0	0	1
DK		28	5	72	-4	0	0	0
DE		23	0	76	0	0	0	1
EE		32	0	67	0	0	0	1
IE		40	-4	60	4	0	0	0
EL		31	-7	69	7	0	0	0
ES		42	-5	58	5	0	0	0
FR		37	-2	62	2	0	0	1
HR		35	-1	65	1	0	0	0
IT		47	4	53	-4	0	0	0
CY		40	-1	59	0	1	1	0
LV		31	0	69	0	0	0	0
LT		31	-4	69	4	0	0	0
LU		34	-7	66	7	0	0	0
HU		33	-1	67	2	0	0	0
MT		42	-6	58	6	0	0	0
NL		21	1	78	-2	0	0	1
AT		31	-1	68	1	1	1	0
PL		24	-4	75	5	0	0	1
PT		32	-1	68	1	0	0	0
RO		28	-10	71	10	0	0	1
SI		24	-1	76	1	0	0	0
SK		34	-1	64	-1	0	0	2
FI		26	-5	73	4	0	0	1
SE		20	2	80	-2	0	0	0
UK		31	-4	68	4	0	0	1

September 2018

Tables



























QC2 How did you obtain the last course of antibiotics that you used?
(%)
(IF 'YES', CODE 1 IN QC1)

		From a medical prescription		Administered by a medical practitioner		Without prescription from a pharmacy		You had some left over from a previous course		Without prescription from elsewhere		Don't remember (SPONTANEOUS)		Refusal (SPONTANEOUS)		Don't know	Total 'From a medical practitioner'		Total 'Not from a medical practitioner'	
		EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1		EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1
EU28		72	-1	21	1	3	-1	3	1	1	0	0	0	0	0	0	93	0	7	0
BE		74	-10	13	2	6	3	6	5	1	0	0	0	0	0	0	87	-8	13	8
BG		27	-3	59	2	8	0	6	2	0	0	0	-1	0	0	0	86	-1	14	2
CZ		73	3	23	-3	1	1	1	-1	2	1	0	-1	0	0	0	96	0	4	1
DK		62	0	32	0	4	3	0	-1	2	-2	0	0	0	0	0	94	0	6	0
DE		85	1	10	-1	4	2	0	-2	1	0	0	0	0	0	0	95	0	5	0
EE		60	0	32	1	4	-1	2	-1	1	0	0	0	1	1	0	92	1	7	-2
IE		55	-4	37	1	5	1	1	0	2	2	0	0	0	0	0	92	-3	8	3
EL		52	3	39	9	6	-12	2	0	1	1	0	-1	0	0	0	91	12	9	-11
ES		81	0	14	1	3	0	2	-1	0	0	0	0	0	0	0	95	1	5	-1
FR		84	-1	12	1	2	1	2	0	0	-1	0	0	0	0	0	96	0	4	0
HR		82	3	9	0	4	-2	4	1	1	0	0	-1	0	0	0	91	3	9	-1
IT		63	-3	28	0	3	1	6	2	0	0	0	0	0	0	0	91	-3	9	3
CY		57	-6	32	9	9	-4	1	0	1	1	0	0	0	0	0	89	3	11	-3
LV		79	0	7	-1	6	-3	6	3	1	0	0	0	0	0	1	86	-1	13	0
LT		27	1	65	-1	1	-2	4	2	3	0	0	0	0	0	0	92	0	8	0
LU		81	-4	13	2	2	1	3	1	1	1	0	-1	0	0	0	94	-2	6	3
HU		88	0	2	-1	5	0	4	1	1	0	0	0	0	0	0	90	-1	10	1
MT		65	10	31	-11	3	2	1	0	0	0	0	-1	0	0	0	96	-1	4	2
NL		66	0	33	4	0	-1	0	-3	1	0	0	0	0	0	0	99	4	1	-4
AT		75	-11	9	1	6	4	8	5	1	0	0	0	1	1	0	84	-10	15	9
PL		76	1	19	3	3	0	2	-3	0	-1	0	0	0	0	0	95	4	5	-4
PT		71	-3	19	1	4	-2	6	5	0	-1	0	0	0	0	0	90	-2	10	2
RO		53	-6	31	6	8	-5	5	3	2	1	0	0	0	0	1	84	0	15	-1
SI		82	-5	12	2	2	1	4	2	0	0	0	0	0	0	0	94	-3	6	3
SK		79	-12	8	2	10	8	3	2	0	0	0	0	0	0	0	87	-10	13	10
FI		82	1	15	0	1	-1	2	2	0	-2	0	0	0	0	0	97	1	3	-1
SE		55	13	43	-13	2	1	0	-1	0	0	0	0	0	0	0	98	0	2	0
UK		66	0	30	2	3	-2	1	1	0	-1	0	0	0	0	0	96	2	4	-2

QC3 What was the reason for last taking the antibiotics that you used? (MULTIPLE ANSWERS POSSIBLE)

(%)



























(IF 'YES', CODE 1 IN QC1)

		Bronchitis (inflammation and swelling of the bronchi, the airways that carry airflow from the trachea into the lungs)		Sore throat		Flu		Urinary tract infection		Fever		Skin or wound infection	
		EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1
EU28		16	-2	14	0	12	-4	12	2	11	0	9	3
BE		15	-6	15	8	19	8	16	9	12	6	17	5
BG		24	-1	22	-1	21	-10	10	5	23	-5	2	0
CZ		27	7	17	-3	11	3	21	4	10	1	11	5
DK		5	2	9	-4	8	5	12	1	5	-1	13	0
DE		11	-8	7	-3	14	-4	11	-2	9	-1	11	4
EE		11	0	9	-4	7	-1	6	-1	3	-3	2	-2
IE		16	0	15	-1	14	-8	9	2	8	0	7	-1
EL		12	0	12	1	16	-12	10	5	23	2	7	4
ES		8	-4	19	3	10	-7	10	4	10	0	8	5
FR		18	-1	8	-3	12	-6	14	6	5	0	9	3
HR		12	0	24	-3	8	-5	23	6	4	2	8	2
IT		26	-1	22	1	14	-6	14	1	20	-5	6	4
CY		11	3	9	1	9	-14	9	2	4	-1	6	1
LV		12	1	17	2	9	-5	6	3	4	1	4	-1
LT		17	-5	13	1	17	1	6	2	12	-1	4	0
LU		11	-9	8	1	12	-1	9	-1	6	0	12	5
HU		13	1	34	9	18	-2	11	2	27	10	4	0
MT		7	-4	22	0	14	-4	8	3	13	2	10	3
NL		8	2	2	1	3	-1	19	2	4	3	14	1
AT		22	-1	10	-1	15	-3	17	1	8	-8	12	3
PL		22	-2	17	1	11	-10	8	2	12	-2	4	1
PT		8	1	11	2	12	-10	10	-1	7	4	10	1
RO		13	-3	8	3	11	-4	10	4	9	0	5	0
SI		9	-4	17	3	7	-1	10	0	11	0	15	7
SK		24	-2	24	4	19	5	11	2	24	8	4	0
FI		12	-4	4	-1	8	-2	11	2	3	-1	21	8
SE		2	-3	4	-5	4	3	15	1	6	4	27	7
UK		10	-2	14	3	8	2	8	-4	4	2	16	6






























QC3 What was the reason for last taking the antibiotics that you used? (MULTIPLE ANSWERS POSSIBLE)

(%)

(IF 'YES', CODE 1 IN QC1)

		Cold		Rhinopharyngitis (inflammation of the mucous membrane of the nose and pharynx)		Cough		Pneumonia (an infection causing an inflammation of one or both lungs)		Headache		Diarrhea	
		EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1
EU28		8	-3	8	1	7	-2	5	-1	4	-1	2	1
BE		14	7	12	-1	12	7	8	3	11	7	6	4
BG		13	-11	5	-1	21	-6	7	-4	9	1	1	0
CZ		4	-6	7	-3	5	-7	5	-2	2	-2	1	0
DK		2	0	15	6	3	-2	15	-10	1	0	2	2
DE		14	-1	2	-3	8	-1	4	-3	2	-1	2	1
EE		12	-1	7	-1	8	-4	6	-2	6	0	1	0
IE		10	5	4	0	7	-3	4	2	2	-3	2	1
EL		17	-9	13	6	10	-6	7	1	3	-6	1	-2
ES		10	-5	7	2	3	-1	3	0	3	-3	1	0
FR		3	-3	10	2	3	-5	3	0	5	0	3	1
HR		11	-3	3	-4	8	-1	5	0	7	1	4	1
IT		2	-4	10	0	9	-7	3	-1	2	-2	3	1
CY		14	-2	4	-3	6	1	11	6	4	1	3	0
LV		25	2	6	2	8	0	3	-2	5	0	0	-1
LT		12	-5	2	-2	9	0	9	3	4	-3	2	0
LU		5	-6	8	3	4	-2	5	-2	5	2	3	-2
HU		12	-4	6	0	18	3	8	-4	7	-2	7	3
MT		10	-1	2	-4	12	1	4	2	6	-1	2	1
NL		1	-1	14	4	3	-2	15	6	3	0	3	2
AT		10	2	9	1	6	-3	11	1	3	-2	4	3
PL		16	-3	9	4	9	1	6	-3	6	-1	3	2
PT		8	0	9	4	4	1	5	-2	4	2	0	-2
RO		24	2	5	-2	10	2	7	-1	11	4	2	1
SI		9	0	4	-4	7	-2	9	0	4	-2	2	2
SK		8	6	6	-2	18	6	4	-1	13	7	1	0
FI		1	0	16	-1	2	-3	7	2	0	-2	1	0
SE		3	2	12	0	2	-2	10	-1	1	1	0	-2
UK		6	0	4	3	7	1	6	1	4	1	0	0






























QC3 What was the reason for last taking the antibiotics that you used? (MULTIPLE ANSWERS POSSIBLE)
(%)
(IF 'YES', CODE 1 IN QC1)

		Other (SPONTANEOUS)		Do not wish to answer (SPONTANEOUS)		Don't know	Cold / Flu		Illness only		Symptom only		Illness and symptom	
		EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1		EB90.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1
EU28		14	-9	6	6	1	19	-5	31	-3	36	8	12	-2
BE		8	-13	0	0	2	26	9	30	-13	37	8	22	15
BG		5	-4	1	1	0	31	-14	41	0	30	15	22	-14
CZ		7	-8	1	1	1	15	-1	36	4	40	2	15	1
DK		21	-7	2	2	1	9	4	37	4	35	2	4	-3
DE		1	-23	27	27	3	25	-3	29	-7	32	6	9	-4
EE		33	-4	4	4	0	18	0	32	6	23	-4	8	-2
IE		13	-9	2	2	0	22	-3	38	4	40	8	6	-6
EL		15	-5	2	2	0	31	-16	32	-8	25	9	26	2
ES		24	-11	2	2	1	19	-10	27	-7	40	20	8	-4
FR		21	-7	3	3	2	15	-7	33	-4	32	7	9	0
HR		8	-8	5	5	0	19	-3	25	1	50	8	11	-6
IT		5	-5	3	3	1	16	-7	32	3	41	8	19	-8
CY		25	-3	2	2	0	23	-13	38	-3	28	8	8	-3
LV		26	-2	2	2	1	31	-4	37	-5	24	3	12	2
LT		20	-1	0	0	1	27	-3	39	-5	26	4	13	1
LU		28	2	3	3	3	17	-2	28	-11	31	5	8	-1
HU		9	-5	1	1	0	28	-4	20	-11	41	10	29	6
MT		19	-8	1	1	1	22	-4	26	-1	47	15	6	-8
NL		23	-16	6	6	1	4	-2	28	5	37	4	5	0
AT		10	-6	5	5	0	24	2	40	4	29	1	16	-4
PL		12	-1	3	3	0	26	-10	44	-5	27	8	13	-5
PT		27	-3	0	0	1	18	-11	30	-8	35	10	6	0
RO		13	-17	6	6	3	32	-1	33	-10	27	14	18	3
SI		20	-6	0	0	1	15	0	29	2	41	7	8	-3
SK		10	-6	5	5	0	25	10	31	-4	29	-3	25	8
FI		20	-2	2	2	2	9	-2	37	-4	36	4	4	-1
SE		29	0	0	0	2	6	5	22	-2	43	-1	4	1
UK		18	-12	10	10	3	14	3	23	-2	39	-1	7	5

QC4 Did you have a test, for example a blood or urine test, or throat swab, to find out what was causing your illness, before or at the same time as you started antibiotics ?






























(%)

(IF 'YES', CODE 1 IN QC1)

		Yes	No	Don't remember (SPONTANEOUS)	Do not wish to answer (SPONTANEOUS)	Don't know
EU28		41	56	1	1	1
BE		52	47	0	1	0
BG		44	52	3	1	0
CZ		72	24	3	0	1
DK		55	44	0	0	1
DE		35	58	5	1	1
EE		68	30	0	1	1
IE		41	57	1	1	0
EL		41	59	0	0	0
ES		37	62	1	0	0
FR		44	56	0	0	0
HR		63	35	0	2	0
IT		34	64	1	1	0
CY		44	55	1	0	0
LV		51	47	0	1	1
LT		66	32	1	0	1
LU		50	48	1	0	1
HU		46	54	0	0	0
MT		40	58	1	0	1
NL		48	51	1	0	0
AT		50	42	3	4	1
PL		40	59	0	1	0
PT		38	62	0	0	0
RO		40	56	1	2	1
SI		70	28	2	0	0
SK		42	55	1	2	0
FI		57	42	0	0	1
SE		61	38	1	0	0
UK		43	55	1	0	1






























QC5.1 For each of the following statements, please tell me whether you think it is true or false.

Antibiotics kill viruses (%)

		Correct answer (False)		Incorrect answer (True)		Don't know
		EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	
EU28		43	0	48	2	9
BE		51	-3	46	7	3
BG		27	1	56	-3	17
CZ		34	4	58	-2	8
DK		51	-5	40	4	9
DE		47	3	43	-2	10
EE		36	-1	50	4	14
IE		46	-11	48	12	6
EL		23	3	71	-4	6
ES		38	1	50	2	12
FR		53	-6	35	6	12
HR		44	0	52	6	4
IT		28	0	65	5	7
CY		25	-8	66	13	9
LV		27	1	59	-1	14
LT		29	-5	60	3	11
LU		55	-8	33	8	12
HU		37	-5	58	8	5
MT		30	3	58	-6	12
NL		60	-2	35	4	5
AT		28	0	68	5	4
PL		40	6	47	-5	13
PT		28	-2	64	3	8
RO		37	8	56	-2	7
SI		39	-4	53	6	8
SK		39	0	55	3	6
FI		56	-5	36	5	8
SE		74	2	22	0	4
UK		49	-7	41	3	10






























QC5.2 For each of the following statements, please tell me whether you think it is true or false.

Antibiotics are effective against colds (%)

		Correct answer (False)		Incorrect answer (True)		Don't know
		EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	
EU28		66	10	28	-8	6
BE		81	8	18	-5	1
BG		41	7	44	-9	15
CZ		70	7	24	-6	6
DK		80	8	10	-8	10
DE		69	12	26	-11	5
EE		60	6	26	-4	14
IE		70	0	24	-2	6
EL		39	9	56	-10	5
ES		57	9	36	-9	7
FR		78	11	16	-10	6
HR		50	1	46	3	4
IT		70	21	23	-15	7
CY		44	1	51	2	5
LV		44	6	42	-7	14
LT		51	5	39	-7	10
LU		81	15	12	-14	7
HU		47	5	47	-3	6
MT		46	7	39	-13	15
NL		83	4	12	-5	5
AT		52	3	43	0	5
PL		49	15	43	-10	8
PT		37	-1	55	3	8
RO		44	5	50	-1	6
SI		61	1	31	-2	8
SK		58	0	38	1	4
FI		84	5	11	-3	5
SE		85	6	11	-7	4
UK		78	5	16	-7	6






























QC5.3 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 (True)		Incorrect answer (False)		Don't know
		EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1
EU28		85	1	9	1	6
BE		85	1	13	1	2
BG		77	-3	9	5	14
CZ		87	-3	7	1	6
DK		94	0	2	0	4
DE		91	0	6	2	3
EE		82	3	8	2	10
IE		89	1	7	1	4
EL		97	4	1	-2	2
ES		86	1	8	3	6
FR		83	-1	10	1	7
HR		82	-2	14	6	4
IT		70	12	18	1	12
CY		94	2	3	-2	3
LV		79	-4	11	3	10
LT		89	4	5	-5	6
LU		85	-5	9	3	6
HU		79	5	15	-1	6
MT		92	-3	3	1	5
NL		96	0	3	1	1
AT		80	-1	14	4	6
PL		86	5	10	1	4
PT		86	-1	8	2	6
RO		74	-5	19	10	7
SI		90	-1	6	1	4
SK		91	0	6	1	3
FI		94	0	4	1	2
SE		96	-2	2	1	2
UK		90	-2	5	0	5

QC5.4 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 (True)		Incorrect answer (False)		Don't know
		EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	
EU28		68	2	17	3	15
BE		68	8	26	3	6
BG		71	-1	9	4	20
CZ		69	6	16	0	15
DK		69	6	7	-1	24
DE		74	2	12	2	14
EE		80	4	5	-1	15
IE		65	0	14	3	21
EL		73	2	10	0	17
ES		67	-3	16	7	17
FR		64	2	20	1	16
HR		60	-9	31	18	9
IT		63	7	25	6	12
CY		84	13	4	-4	12
LV		62	-3	16	1	22
LT		78	1	10	-2	12
LU		70	-1	15	5	15
HU		70	6	18	0	12
MT		77	6	6	0	17
NL		63	1	21	6	16
AT		77	1	16	3	7
PL		79	7	11	-1	10
PT		74	8	10	-2	16
RO		61	-1	24	12	15
SI		72	5	16	2	12
SK		84	8	9	-5	7
FI		76	-3	15	5	9
SE		59	4	18	1	23
UK		62	-1	17	-2	21






























QC5R 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		4 correct answers		At least one wrong answer		At least one answer 'Don't know'		Average	
		EB90.1	Diff: EB90.1 - EB85.1	EB90.1	Diff: EB90.1 - EB85.1	EB90.1	Diff: EB90.1 - EB85.1	EB90.1	Diff: EB90.1 - EB85.1	EB90.1	Diff: EB90.1 - EB85.1	EB90.1	Diff: EB90.1 - EB85.1	EB90.1	Diff: EB90.1 - EB85.1	EB90.1	Diff: EB90.1 - EB85.1	EB90.1	Diff: EB90.1 - EB85.1
EU28		96	2	4	-2	11	-2	28	-3	32	5	25	1	64	0	24	-7	2.6	0.1
BE		97	2	3	-2	6	-5	27	3	31	0	33	4	62	3	9	-15	2.8	0.1
BG		89	0	11	0	11	-5	42	3	24	5	13	-2	70	-1	37	-3	2.2	0.1
CZ		96	-1	4	1	10	-3	31	-4	34	1	22	6	69	-3	22	-8	2.6	0.1
DK		97	-1	3	1	8	-3	19	-3	33	5	38	2	45	-2	31	-6	2.9	0.1
DE		98	1	2	-1	10	-1	22	-8	36	6	30	5	60	-3	22	-8	2.8	0.2
EE		94	2	6	-2	10	-2	27	-2	32	3	24	1	60	0	30	-8	2.6	0.1
IE		97	1	3	-1	11	3	26	3	32	-3	27	-4	61	8	26	-4	2.7	-0.1
EL		99	4	1	-4	17	-2	45	0	22	4	14	1	79	-3	22	-3	2.3	0.2
ES		96	3	4	-3	14	0	31	1	31	3	20	0	67	1	30	-3	2.5	0.1
FR		97	1	3	-1	10	-2	22	-1	36	6	29	-2	54	0	28	-2	2.8	0.1
HR		93	-1	7	1	12	2	38	1	22	-5	21	1	76	8	14	-12	2.4	-0.1
IT		94	11	6	-11	16	0	34	-4	28	11	16	4	77	2	22	-17	2.3	0.4
CY		97	1	3	-1	7	-6	48	7	26	2	16	-2	77	7	21	-12	2.5	0.1
LV		90	-2	10	2	20	1	31	-6	26	2	13	1	76	-2	35	1	2.1	0.0
LT		96	1	4	-1	11	-4	36	2	29	1	18	-1	71	-1	25	2	2.5	0.1
LU		96	-1	4	1	7	-2	18	0	35	1	36	1	48	-1	26	-5	2.9	0.0
HU		94	4	6	-4	15	-2	40	5	20	1	20	0	74	4	20	-7	2.3	0.1
MT		96	-1	4	1	9	-8	41	0	28	5	18	2	68	-8	32	0	2.5	0.2
NL		99	0	1	0	6	-2	20	0	35	1	37	0	52	4	22	-8	3.0	0.0
AT		94	1	6	-1	12	0	38	1	30	1	15	0	81	5	15	-8	2.4	0.1
PL		96	5	4	-5	10	-2	35	-8	30	9	21	6	68	-3	23	-9	2.5	0.3
PT		93	0	7	0	17	1	40	-1	19	-2	18	3	75	-1	23	-8	2.3	0.1
RO		93	3	7	-3	21	1	38	3	21	2	14	-1	79	6	21	-16	2.1	0.0
SI		97	1	3	-1	10	-1	31	0	32	4	23	-3	68	7	20	-6	2.6	0.0
SK		98	2	2	-2	5	-5	40	8	26	1	27	-2	66	2	14	-3	2.7	0.1
FI		98	0	2	0	4	-2	17	2	33	2	43	-3	48	5	16	-4	3.1	0.0
SE		99	0	1	0	5	-3	18	-1	34	2	43	2	41	-1	26	-5	3.1	0.1
UK		96	-1	4	1	8	-1	22	-2	37	7	29	-5	56	1	30	7	2.8	0.0






























QC6 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 by your doctor		Other (SPONTANEOUS)		Don't know
		EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	
EU28		13	-2	84	2	1	0	2
BE		17	8	82	-8	0	0	1
BG		21	0	70	-2	2	1	7
CZ		9	1	91	1	0	0	0
DK		10	2	87	-4	1	1	2
DE		8	-1	88	1	1	0	3
EE		11	-2	84	2	0	0	5
IE		14	2	85	-1	0	-1	1
EL		14	-13	85	14	1	0	0
ES		13	-1	84	0	2	1	1
FR		16	-3	82	3	0	0	2
HR		20	5	79	-2	0	-1	1
IT		16	-5	82	7	1	0	1
CY		19	-5	79	6	0	-1	2
LV		21	-6	73	6	2	0	4
LT		17	-7	78	7	1	1	4
LU		21	7	77	-7	1	0	1
HU		18	-2	80	4	1	-1	1
MT		12	-1	88	1	0	0	0
NL		6	1	93	-1	1	1	0
AT		17	5	80	-5	1	1	2
PL		17	-3	79	5	1	0	3
PT		13	-1	86	1	0	0	1
RO		20	2	78	0	0	0	2
SI		12	1	85	-1	1	0	2
SK		20	5	77	-7	0	-1	3
FI		6	2	92	-1	1	0	1
SE		4	-1	95	2	0	-1	1
UK		9	-3	90	4	0	-1	1



























QC7 In the last 12 months, do you remember getting any information about not taking antibiotics unnecessarily, for example for a cold?
(%)

		Yes		No		Don't know
		EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1
EU28		33	<i>0</i>	66	<i>1</i>	1
BE		43	<i>-5</i>	57	<i>6</i>	0
BG		17	<i>-5</i>	78	<i>5</i>	5
CZ		26	<i>-4</i>	72	<i>4</i>	2
DK		24	<i>4</i>	74	<i>-5</i>	2
DE		43	<i>1</i>	54	<i>-1</i>	3
EE		36	<i>8</i>	61	<i>-8</i>	3
IE		22	<i>-12</i>	77	<i>11</i>	1
EL		24	<i>-3</i>	76	<i>3</i>	0
ES		23	<i>0</i>	76	<i>-1</i>	1
FR		45	<i>-5</i>	55	<i>6</i>	0
HR		18	<i>-6</i>	81	<i>7</i>	1
IT		18	<i>3</i>	81	<i>-1</i>	1
CY		31	<i>7</i>	69	<i>-7</i>	0
LV		28	<i>-6</i>	70	<i>4</i>	2
LT		41	<i>-9</i>	58	<i>8</i>	1
LU		50	<i>5</i>	49	<i>-5</i>	1
HU		21	<i>2</i>	79	<i>0</i>	0
MT		18	<i>-9</i>	80	<i>7</i>	2
NL		29	<i>-12</i>	69	<i>10</i>	2
AT		37	<i>5</i>	60	<i>-6</i>	3
PL		28	<i>-1</i>	69	<i>2</i>	3
PT		24	<i>4</i>	75	<i>-4</i>	1
RO		14	<i>-7</i>	83	<i>5</i>	3
SI		30	<i>-14</i>	70	<i>15</i>	0
SK		25	<i>-13</i>	70	<i>12</i>	5
FI		59	<i>-9</i>	39	<i>8</i>	2
SE		47	<i>-4</i>	52	<i>4</i>	1
UK		43	<i>12</i>	56	<i>-12</i>	1

QC8 Where did you get this information about not taking antibiotics unnecessarily? (MULTIPLE ANSWERS POSSIBLE)
(%)
(IF 'YES', CODE 1 IN QC7)

		From a doctor		On the TV news or other programmes		From a TV advertisement		In a newspaper		On the Internet or in online social networks		From a pharmacist		From a family member or friend	
		EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1
EU28		41	9	28	2	24	-3	19	0	15	2	14	4	11	-1
BE		48	14	23	2	40	-3	16	-5	12	5	22	12	11	5
BG		54	5	29	-7	21	9	7	1	10	2	20	4	22	-6
CZ		68	26	20	-12	15	3	7	-15	11	-7	22	3	21	0
DK		50	6	33	2	9	2	15	-6	19	6	17	11	16	0
DE		33	8	37	5	8	-3	40	1	23	5	14	4	12	1
EE		57	22	17	-2	9	-8	15	-4	25	-1	16	5	18	-5
IE		44	13	15	1	19	-7	10	-6	8	-2	25	10	8	-3
EL		49	15	29	0	33	-3	5	-3	17	-1	17	6	17	5
ES		46	-2	30	16	15	-7	5	-1	14	10	9	3	12	3
FR		34	9	24	5	52	-13	7	-1	7	2	10	4	7	-2
HR		68	16	8	-18	10	-12	5	-9	13	-4	22	5	22	-7
IT		66	4	12	-4	18	-17	4	-3	6	-11	21	-1	11	-3
CY		59	28	26	-3	12	1	5	-2	17	3	20	14	14	2
LV		31	-1	21	-4	18	-8	17	5	28	11	10	3	16	3
LT		50	16	35	-1	12	-12	10	0	17	-2	17	3	21	2
LU		45	-3	23	1	36	10	33	13	14	2	12	3	16	5
HU		69	10	18	-5	32	14	5	1	14	-2	22	-2	17	4
MT		48	25	20	1	15	-19	4	-6	25	11	21	9	9	1
NL		20	4	36	6	12	-7	25	-5	26	7	16	10	8	-5
AT		39	16	33	-2	14	2	42	-6	10	-11	17	2	18	0
PL		48	14	27	6	20	0	9	-1	18	-1	15	6	15	-2
PT		30	-5	60	4	10	1	4	-3	5	-1	12	-1	9	-6
RO		53	12	8	-39	19	-4	3	-2	9	-1	28	11	15	-1
SI		53	10	18	-18	12	-7	12	-12	17	-1	20	3	26	8
SK		57	19	32	-8	9	-4	12	-5	22	6	23	14	24	-2
FI		40	2	37	9	4	-1	38	-1	28	13	12	4	22	6
SE		28	2	44	6	8	0	35	-8	22	3	9	4	22	7
UK		38	8	26	6	35	17	19	7	13	5	12	4	5	0





























QC8 Where did you get this information about not taking antibiotics unnecessarily? (MULTIPLE ANSWERS POSSIBLE)
(%)
(IF 'YES', CODE 1 IN QC7)

		In a leaflet or on a poster		On the radio		From another health professional (e.g. nurse or physiotherapist)		Other (SPONTANEOUS)		Don't know	Professional or health care facility	
		EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	EB90.1	Diff. EB90.1 - EB85.1
EU28		11	2	10	-1	8	2	2	-5	1	48	8
BE		17	-2	18	-6	6	2	1	-4	0	55	16
BG		8	4	2	-1	11	-2	2	-1	1	66	10
CZ		6	-3	8	-7	11	5	3	-1	1	76	21
DK		11	2	9	0	16	9	6	-4	2	58	10
DE		12	4	11	2	9	3	3	-5	1	39	5
EE		9	2	7	-6	10	2	9	-2	1	62	19
IE		9	-5	16	-4	8	-2	2	-2	0	58	13
EL		8	-2	2	-2	3	1	1	-5	0	56	16
ES		4	1	3	0	12	6	2	-7	0	56	0
FR		8	1	20	5	4	2	1	-3	1	38	11
HR		6	-5	2	-3	11	2	0	-4	1	82	22
IT		7	-3	4	-1	7	-1	2	0	0	75	7
CY		15	2	6	-3	11	1	3	-12	0	64	25
LV		4	-2	6	-6	4	1	6	-2	1	37	1
LT		5	-6	9	-4	6	1	6	3	1	56	13
LU		27	9	24	8	11	7	1	-7	1	51	-1
HU		8	3	8	3	12	5	1	-3	0	78	6
MT		17	1	12	2	13	5	2	-4	0	56	23
NL		10	3	15	-16	3	-1	8	-4	1	31	9
AT		11	0	5	-11	9	3	2	-4	0	50	16
PL		11	1	3	-4	6	0	0	-8	1	53	7
PT		6	-1	1	-1	2	-14	2	0	1	36	-12
RO		3	-4	4	-11	7	-6	2	1	2	69	13
SI		14	4	3	-6	12	5	3	-3	0	63	17
SK		14	6	3	-7	12	6	2	0	0	68	23
FI		10	0	10	2	14	-1	3	-8	1	47	-1
SE		10	6	17	-8	16	0	9	-5	1	40	3
UK		16	-1	9	4	8	1	1	-7	1	44	6

QC9 Did the information that you received change your views on using antibiotics?

(%)

(IF 'YES', CODE 1 IN QC7)

		Yes		No		Don't know
		EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1
EU28		29	-5	70	5	1
BE		37	6	63	-6	0
BG		59	-1	35	1	6
CZ		38	-9	60	8	2
DK		22	-13	77	14	1
DE		19	-10	80	10	1
EE		31	-13	67	15	2
IE		37	-11	62	10	1
EL		50	10	50	-10	0
ES		36	-5	64	5	0
FR		23	-2	76	2	1
HR		48	3	52	-2	0
IT		48	3	52	-1	0
CY		66	-4	34	4	0
LV		39	2	60	-1	1
LT		51	3	46	-3	3
LU		32	-6	66	4	2
HU		46	-2	54	4	0
MT		49	2	49	-3	2
NL		18	-7	82	7	0
AT		43	1	57	0	0
PL		40	1	54	-1	6
PT		56	-3	44	3	0
RO		37	-22	60	19	3
SI		44	-1	55	2	1
SK		49	0	47	-3	4
FI		17	-6	82	7	1
SE		15	-11	84	10	1
UK		24	-5	76	6	0

QC10 On the basis of the information you received, how do you now plan to use antibiotics?

(MULTIPLE ANSWERS POSSIBLE)

(%)






























(IF 'YES', CODE 1 IN QC9)

		You will always consult a doctor when you think you need antibiotics		You will no longer take antibiotics without a prescription from a doctor		You will no longer selfmedicate with antibiotics		You will no longer keep left over antibiotics for next time you are ill		You will give leftover antibiotics to your relatives or friends when they are ill		Other (SPONTANEOUS)		None (SPONTANEOUS)		Do not wish to answer (SPONTANEOUS)		Don't know
		EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	
EU28		65	-2	39	-2	23	-2	19	-2	5	2	1	-2	1	-1	0	0	1
BE		64	2	41	-9	26	3	29	10	16	14	2	1	0	-4	0	0	0
BG		53	-16	29	-10	25	-8	16	1	1	1	0	-1	4	2	3	3	1
CZ		68	-5	37	-6	27	-4	28	-4	2	-1	2	-1	2	1	0	0	0
DK		72	0	37	-14	30	-1	20	-9	0	-3	11	4	0	0	0	0	1
DE		77	4	29	-14	22	-4	26	-5	2	-1	0	-2	2	-2	1	1	0
EE		57	-4	45	3	17	-4	13	-8	1	1	3	-1	4	1	2	2	2
IE		62	-1	35	1	10	-8	24	12	4	-4	0	0	0	-4	0	0	3
EL		76	12	62	7	28	16	28	11	2	2	0	0	0	0	0	0	2
ES		64	-7	34	3	27	9	18	7	5	4	1	-2	2	0	0	0	1
FR		58	-15	55	1	36	6	31	5	4	3	2	0	2	1	0	0	1
HR		72	10	24	-10	23	0	25	9	4	0	0	-1	0	-3	1	1	0
IT		58	-2	41	9	17	-22	11	-4	4	-2	0	-4	0	0	0	0	1
CY		67	-2	55	-6	27	-6	25	-2	3	1	2	1	2	-1	0	0	0
LV		58	0	37	3	30	-7	13	-1	6	1	5	-3	4	-1	0	0	4
LT		63	8	42	9	18	5	6	-3	4	2	3	-3	3	-1	0	0	2
LU		60	12	48	-1	21	2	22	-1	1	0	2	-6	4	-3	0	0	2
HU		76	22	30	-3	9	-2	12	-1	7	-3	0	-8	0	-1	0	0	0
MT		80	10	54	13	36	24	33	18	10	7	1	-4	0	-1	1	1	3
NL		73	2	46	3	24	-5	20	-1	0	0	7	4	3	-1	0	0	0
AT		63	11	41	0	26	-7	34	11	13	9	5	-4	3	0	1	1	0
PL		52	-1	25	-2	19	2	7	-9	13	3	2	-1	1	-1	0	0	1
PT		83	4	21	4	5	-6	6	-1	2	-5	0	-2	0	-1	1	1	0
RO		46	-17	46	-12	36	-2	10	-9	9	6	0	-1	2	2	2	2	0
SI		53	-1	44	1	27	9	33	8	4	2	5	-3	3	-1	0	0	1
SK		58	-7	36	2	25	-1	14	-4	6	5	3	0	0	-1	1	1	0
FI		65	-12	39	1	9	-3	24	4	0	0	2	-1	1	-1	1	1	3
SE		77	2	63	11	19	-2	15	-7	4	3	0	-3	4	1	0	0	0
UK		70	3	41	1	19	1	12	-6	4	-1	2	-1	0	-1	0	0	3






























QC11 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)		Total 'Want more information'		None (SPONTANEOUS)		I don't want to receive more information on these issues (SPONTANEOUS)		Don't know
	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	
EU28	26	0	25	2	24	1	24	2	15	2	4	1	67	3	8	-24	21	21	4
BE	28	3	26	2	29	3	21	1	18	4	8	8	87	17	1	-28	12	12	1
BG	34	2	21	1	23	3	29	2	21	2	1	0	65	1	1	-24	28	28	5
CZ	38	1	29	5	30	6	21	0	8	1	7	4	78	6	3	-20	13	13	6
DK	24	-4	37	3	38	-5	15	2	9	3	5	0	69	-5	3	-21	26	26	3
DE	21	-4	23	0	23	-5	28	2	13	1	1	-1	56	-3	19	-20	22	22	3
EE	31	5	16	3	20	4	16	6	10	3	4	2	59	12	8	-34	26	26	7
IE	24	0	23	-2	20	-1	20	1	16	2	5	2	62	-2	5	-26	27	27	6
EL	48	7	46	13	34	9	47	3	25	5	1	-2	82	0	2	-15	16	16	1
ES	24	5	22	6	23	4	29	4	14	4	7	3	68	14	7	-35	19	19	7
FR	26	2	23	2	30	3	17	1	12	1	3	-1	71	2	6	-21	19	19	3
HR	36	5	36	10	24	1	27	2	18	3	1	-2	82	6	1	-17	14	14	3
IT	30	-1	29	3	21	3	33	0	24	4	2	-1	75	1	5	-15	16	16	4
CY	40	4	38	10	36	1	52	12	30	14	3	-1	88	4	2	-14	9	9	1
LV	38	2	13	3	16	-1	20	7	9	3	4	1	71	9	7	-27	18	18	3
LT	31	4	23	3	17	0	22	2	10	1	5	1	63	3	4	-31	30	30	2
LU	31	4	32	2	33	5	16	-2	14	2	6	1	77	-1	6	-14	14	14	3
HU	33	6	20	6	21	4	26	9	12	0	1	-2	66	2	10	-24	22	22	2
MT	34	3	27	5	29	3	37	3	22	9	5	1	63	-12	7	-11	27	27	4
NL	20	1	31	7	39	6	8	-1	9	1	7	3	71	11	11	-28	16	16	1
AT	31	4	32	3	35	4	32	5	22	6	3	-1	76	5	7	-20	16	16	1
PL	31	2	28	2	18	1	27	4	13	-1	5	3	72	6	6	-17	16	16	7
PT	27	-7	19	-2	16	0	18	-1	11	-3	2	1	54	-13	7	-20	29	29	10
RO	38	-1	28	-7	31	3	33	-3	28	-1	4	0	81	-2	5	-10	12	12	2
SI	25	0	22	0	20	-1	13	-3	12	-3	4	-4	60	-5	7	-26	32	32	1
SK	30	0	27	2	22	2	27	6	19	6	2	-3	71	-1	4	-19	19	19	6
FI	21	4	17	0	33	3	9	2	13	5	4	2	69	11	5	-35	24	24	2
SE	29	-1	41	1	44	-1	20	-1	11	-4	3	0	78	-1	5	-15	15	15	2
UK	18	3	17	2	16	2	10	2	9	3	8	7	49	6	10	-45	38	38	3






























QC12 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		A nurse		An official healthrelated website (e.g. a website set up by the national government/ public health body/ European Union)	Another health care facility		Family or friends		TV		
		EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1		EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	
EU28		86	2	42	5	21	2	14	4	13	-2	6	0	4	-1	4	-1
BE		88	1	46	-1	20	-2	16	6	11	-4	3	0	4	2	3	-1
BG		80	1	28	-1	16	1	9	1	12	1	4	0	8	-2	11	-2
CZ		86	4	46	2	26	2	15	2	12	-2	6	1	5	-1	5	-4
DK		88	2	43	-2	28	-1	19	4	35	-5	3	1	3	-4	2	0
DE		88	5	45	2	8	0	5	1	12	-5	5	1	6	0	2	-1
EE		86	-1	36	-1	12	1	22	3	14	-1	3	0	6	0	3	-1
IE		84	3	52	-5	22	5	24	1	11	0	6	1	4	-2	1	-1
EL		94	3	35	-3	45	14	3	0	17	5	10	2	5	0	6	3
ES		91	-1	30	7	23	7	16	5	6	-3	9	-7	2	1	1	-1
FR		88	2	46	4	24	2	14	3	13	0	4	0	3	0	4	-1
HR		88	4	42	10	17	1	14	-6	6	0	6	2	6	1	5	-2
IT		84	7	29	7	21	2	7	4	9	-6	12	1	4	1	3	-3
CY		91	0	32	5	29	10	3	-4	12	-4	11	6	3	-1	5	0
LV		84	0	28	-4	23	5	10	3	11	2	5	0	7	1	2	-2
LT		89	8	36	-3	16	0	4	0	12	0	5	-3	8	0	6	-2
LU		88	-1	41	3	19	-6	11	2	19	3	5	1	5	-1	2	0
HU		84	0	44	4	16	1	17	8	13	1	6	2	4	-5	7	0
MT		90	-2	36	1	22	-12	8	0	10	1	5	-6	2	0	2	-1
NL		86	3	68	2	29	-2	12	3	39	3	5	1	4	0	1	-1
AT		83	0	50	5	27	2	11	1	11	-5	8	0	9	1	3	-2
PL		81	3	25	-2	13	-7	13	5	13	3	4	-2	4	-3	7	-2
PT		86	-3	47	10	23	7	19	3	6	-1	8	0	2	0	7	-1
RO		75	-15	31	-4	19	-7	17	2	4	-3	5	0	7	3	5	0
SI		83	-1	47	4	14	2	15	-1	10	-3	2	-2	10	3	2	0
SK		81	-2	45	6	17	4	19	6	8	-4	2	0	7	-2	9	-3
FI		79	-2	59	4	17	-1	20	0	34	4	5	-1	5	1	3	0
SE		72	-3	48	5	18	0	30	4	49	1	7	-2	5	1	4	-2
UK		90	5	58	16	34	10	30	12	15	-2	4	2	3	-1	1	-1






























QC12 Which of the following sources of information would you use in order to get trustworthy information on antibiotics?
(MAX. 3 ANSWERS)
(%)

		Another healthrelated website		Newspapers or magazines		Online social networks		A healthrelated personal blog		The radio		Other (SPONTANEOUS)		You are not interested in finding information on antibiotics (SPONTANEOUS)		Don't know
		EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	
EU28		3	-1	3	0	2	-1	1	0	1	0	1	0	3	-1	1
BE		3	0	2	-1	2	0	1	0	1	0	0	0	3	-1	0
BG		3	-3	2	-1	3	0	4	2	1	0	0	0	8	-4	1
CZ		5	-2	2	-1	2	-1	2	0	1	-1	1	0	2	-2	1
DK		7	-1	1	-1	3	-1	1	0	0	0	1	-3	1	0	1
DE		3	-2	4	-1	4	-2	0	-1	0	-1	1	-1	2	-3	1
EE		5	-1	3	0	4	0	1	-1	1	0	2	1	3	0	0
IE		4	1	1	-1	4	1	2	0	0	-1	0	-1	2	1	0
EL		5	1	2	1	2	-1	1	0	0	0	0	-2	3	-1	0
ES		2	-2	1	0	1	1	1	0	0	-1	1	0	2	1	0
FR		3	-1	4	-2	0	-1	1	-1	2	0	1	0	3	0	1
HR		2	0	1	-1	1	-3	2	1	0	0	0	0	3	-4	1
IT		2	-1	2	-2	1	-2	1	-2	0	0	0	0	5	-2	0
CY		3	-4	0	0	4	0	2	-1	0	0	0	-1	3	2	0
LV		3	-1	4	-2	2	-2	2	0	1	0	1	0	3	0	1
LT		6	-2	2	-1	2	-1	3	1	1	0	1	-1	3	-2	1
LU		5	1	4	1	0	-3	2	1	0	-1	2	0	1	0	1
HU		4	1	2	-1	3	0	2	0	2	1	0	-1	4	-2	0
MT		6	0	1	0	3	1	1	0	1	0	1	1	2	1	0
NL		7	0	3	-2	3	0	1	0	1	1	1	-1	0	-1	0
AT		7	1	4	0	5	1	3	1	1	1	1	-1	3	-2	0
PL		6	-1	2	-1	2	-1	2	0	0	-1	1	0	5	-1	1
PT		4	0	1	-2	1	-1	2	0	0	0	0	0	3	-2	0
RO		2	0	0	-1	1	0	2	0	0	-1	0	-1	8	6	0
SI		3	-1	2	0	2	-1	1	-1	1	1	2	-2	3	-1	0
SK		8	2	5	1	3	-1	2	0	1	-1	1	0	3	-1	1
FI		4	-2	5	0	3	-1	1	1	1	0	1	-1	1	-1	1
SE		5	-2	7	-2	3	-1	0	0	2	-1	2	-1	1	0	0
UK		3	0	1	0	1	0	1	1	0	-1	1	0	0	0	1






























QC13 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
		EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	
EU28		19	0	7	0	19	-2	9	-1	27	2	11	1	8
BE		20	-1	10	5	25	3	14	-1	26	0	2	-7	3
BG		13	-1	5	1	22	-4	9	-2	11	0	24	4	16
CZ		22	9	5	-2	19	-5	10	-1	31	-3	3	-2	10
DK		9	-1	5	0	14	-6	14	0	43	1	10	4	5
DE		14	-1	7	0	11	-2	10	-2	28	0	20	1	10
EE		23	4	6	2	20	-2	5	-1	17	4	9	-9	20
IE		28	-1	9	-2	28	2	10	2	16	-3	5	3	4
EL		21	5	4	0	29	-2	15	2	20	-4	6	-1	5
ES		14	-4	4	-1	15	-4	10	0	40	10	8	2	9
FR		30	-1	3	-1	18	-3	8	1	29	3	4	2	8
HR		26	2	9	-3	19	-3	9	0	21	5	12	-1	4
IT		13	5	12	2	23	-5	6	-5	21	0	18	5	7
CY		24	1	2	-1	16	5	15	7	20	-18	11	3	12
LV		31	-2	11	1	21	-2	5	0	14	3	5	-1	13
LT		20	-2	7	-2	21	1	14	-1	21	-1	6	0	11
LU		17	-3	2	1	12	-4	13	-4	42	10	7	1	7
HU		29	7	9	1	25	-5	4	-4	11	-1	9	-2	13
MT		17	-6	5	2	26	-1	6	-5	24	-1	11	6	11
NL		15	0	6	-1	17	-3	18	3	42	3	1	-1	1
AT		11	-2	11	-1	18	2	14	-2	26	-5	14	7	6
PL		18	0	14	2	26	-1	8	0	10	-1	12	1	12
PT		9	-6	6	1	30	4	7	-3	20	-2	19	4	9
RO		24	-8	11	4	25	1	7	-1	14	-2	11	4	8
SI		41	-11	3	1	13	2	8	-2	17	4	13	5	5
SK		13	-3	11	3	25	1	10	-5	17	-4	16	6	8
FI		25	0	5	-1	17	-7	7	2	37	5	4	0	5
SE		9	-1	3	-4	17	3	12	-1	51	0	6	2	2
UK		22	-2	4	-2	21	1	3	-1	32	3	9	0	9

QC14 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'	
		EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1		EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1
EU28		20	1	36	-1	18	0	17	1	9	56	0	35	1
BE		19	4	51	9	16	-9	11	-3	3	70	13	27	-12
BG		20	3	35	-2	14	1	12	-5	19	55	1	26	-4
CZ		20	2	33	-8	19	-2	21	6	7	53	-6	40	4
DK		33	4	34	-6	17	-1	10	2	6	67	-2	27	1
DE		16	-1	31	-2	23	-1	21	1	9	47	-3	44	0
EE		20	6	36	0	15	-2	14	-1	15	56	6	29	-3
IE		34	0	41	5	11	-1	6	-2	8	75	5	17	-3
EL		13	-5	43	0	22	5	14	0	8	56	-5	36	5
ES		21	0	34	5	16	2	17	-1	12	55	5	33	1
FR		17	4	32	-5	19	-2	24	3	8	49	-1	43	1
HR		15	-2	34	-8	19	1	28	12	4	49	-10	47	13
IT		10	2	29	-7	21	4	28	2	12	39	-5	49	6
CY		19	-6	30	8	12	-1	26	-5	13	49	2	38	-6
LV		15	-1	38	2	21	-1	17	1	9	53	1	38	0
LT		20	-1	44	-2	17	2	10	0	9	64	-3	27	2
LU		13	2	33	-1	22	-1	26	-3	6	46	1	48	-4
HU		14	0	40	1	18	2	21	0	7	54	1	39	2
MT		24	-11	41	6	13	1	8	-3	14	65	-5	21	-2
NL		32	4	36	2	17	-6	12	0	3	68	6	29	-6
AT		15	2	39	1	25	-1	15	-3	6	54	3	40	-4
PL		14	2	47	-1	19	4	8	-1	12	61	1	27	3
PT		28	2	47	-1	10	-1	8	3	7	75	1	18	2
RO		17	-12	35	4	19	7	16	-1	13	52	-8	35	6
SI		15	2	26	-3	24	-4	30	4	5	41	-1	54	0
SK		12	2	38	5	23	-4	18	-4	9	50	7	41	-8
FI		29	-5	45	4	13	-1	8	0	5	74	-1	21	-1
SE		29	-3	29	0	18	0	20	1	4	58	-3	38	1
UK		36	1	41	1	8	-2	6	-1	9	77	2	14	-3

QC15 Did you know that using antibiotics to stimulate growth in farm animals is banned within the EU? (%)

		Yes		No		Don't know
		EB90.1	Diff. EB90.1 - EB85.1	EB90.1	Diff. EB90.1 - EB85.1	
EU28		38	1	58	-2	4
BE		44	7	55	-5	1
BG		33	3	57	0	10
CZ		38	-8	59	8	3
DK		33	-5	63	2	4
DE		37	-5	59	4	4
EE		27	7	69	-5	4
IE		42	-2	55	2	3
EL		25	-2	72	1	3
ES		32	6	66	-6	2
FR		39	-1	60	2	1
HR		30	-3	68	2	2
IT		52	13	39	-15	9
CY		35	2	61	-1	4
LV		39	7	59	-8	2
LT		38	-3	61	3	1
LU		42	-5	55	3	3
HU		29	7	70	-3	1
MT		33	5	56	-15	11
NL		54	-6	45	6	1
AT		41	-1	55	-1	4
PL		43	1	50	-1	7
PT		33	5	64	-6	3
RO		21	-9	73	5	6
SI		40	5	54	-8	6
SK		39	-4	54	1	7
FI		46	-2	53	2	1
SE		37	-4	61	2	2
UK		29	1	68	-2	3