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Survey Antimicrobial Resistance 2022

Final report on behalf of the Federal Office of Public Health FOPH

30 November 2022

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1. Key results

Following its previous surveys in 2016, 2018 and 2020, DemoSCOPE has, on behalf of the Federal Office of Public Health (FOPH), conducted its fourth representative telephone survey of the Swiss population in order to establish what they know about antibiotics, their attitudes towards them and their use of antibiotics. A total of 1,000 people from all regions of Switzerland were interviewed between 22 August and 1 September 2022. This section summarises the key results to emerge from the survey. Reference is also made to significant changes compared to previous surveys. The detailed report examines the overall results and the statistically significant differences between the various sub-groups in greater detail.

Antibiotic use

- Just under a fifth (19%) of the Swiss population has taken antibiotics in the past 12 months, e.g. in the form of tablets, powder or syrup. This is the lowest proportion since measurements began. It marks a decline compared to 2020, when the share was still 22% overall, especially in German-speaking Switzerland (down 3%) and French-speaking Switzerland (down 7%).
- Of those who had taken antibiotics in the past 12 months, 68% received the last antibiotic treatment directly from their doctor and 26% on prescription from a pharmacy. Other supply channels clearly play a minor role. There were no significant changes in the longitudinal comparison.
- The main reasons for taking antibiotics are surgical procedures (17%), other inflammations and infections as a collective category (16%) and urinary tract infections/bladder infections (13%). At the segment level, there are different clusters between individual characteristics.
- 54% of people taking antibiotics had a laboratory test (e.g. a blood/urine test or throat swab) before they started taking antibiotics to find out what caused the disease. In 2020, this proportion was still 59%.

Knowledge of antibiotics

- In order to show the Swiss population's current knowledge of antibiotics, an assessment is requested of the accuracy of four statements. On average, 3.24 statements were answered correctly, which is the highest value over time. On average, women assessed more statements correctly than did men, at a statistically significantly level (3.34 vs. 3.13). Higher scores were also recorded by people with tertiary education (3.49).
- The highest proportion of correct assessments was attributed to the false statement that antibiotics are an effective remedy against flu and colds (87%). Compared to 2020, considerably more people assessed this statement correctly (up 9%). The proportion of people who know that taking antibiotics unnecessarily reduces their effectiveness has remained the same (86%). The lowest proportion of correct assessments was given to the false statement that antibiotics destroy viruses (62%).

Attitudes towards and information about the use of antibiotics

- The proportion of people who believe that antibiotics should be stopped once all antibiotics have been taken as directed is the highest, at 44%. 17% say they do after 4 to 14 days, and 11% as soon as they feel better. There are also various other reasons for stopping the use of antibiotics.
- Two-thirds of those surveyed take left-over antibiotics that are no longer needed back to the pharmacy for disposal (66%), a further 15% back to the doctor's surgery (15%). 11% dispose of them in household waste, a further 9% keep them and use them the next time they are infected.
- The proportion of people who can remember having heard or read information about taking antibiotics unnecessarily in the past 12 months has fallen further to 35% (2020: 40%, 2018: 51%). They obtained this information from a variety of sources, most frequently from newspapers/specialist magazines (42%), followed by articles on the Internet/social media (19%) and television (13%). Direct interactions with medical professionals and in private settings (family/friends) play only a minor role.
- Overall, only 17% of people who had read or heard information about taking antibiotics unnecessarily said it had changed their view on the use of antibiotics. This proportion has been declining steadily since 2016. When taking antibiotics, the majority of patients consult a specialist doctor (42%). A further 22% reported taking as few antibiotics as possible or none.
- The proportion of people with custody of children and who accept the doctor's decision if, contrary to their expectations, no antibiotic is prescribed for the sick child is currently 58%. Only 3% insist on an antibiotic being dispensed. There are also numerous other ways to proceed (obtaining further reasons, obtaining a second opinion, etc.).

Desired information and reliable sources

- The most frequently mentioned topics on which more information is requested in connection with antibiotics are side effects, antibiotic resistance and general information on antibiotics (each 9%). In addition, 36% said they were not interested in further information. Another 20% were unable or unwilling to answer this question spontaneously.
- Those people who did not explicitly express their lack of interest in further information on antibiotics primarily want information directly from doctors (82%) and pharmacists (55%). Official websites with relevant information (e.g. from the government, the health authority, the EU, WHO) also have some significance (39%).

Level at which the problem of resistance should be tackled

- The results show minor changes compared to previous data in terms of the level at which antibiotic resistance can be most effectively tackled. 15% said that this should be done primarily at the individual level, 10% at the regional/national level and a further 13% at the European/global level.
- However, more than half of those surveyed (53%) spontaneously stated that antibiotic resistance must be tackled at all levels (individual, regional/national, European/global). This was also the case in previous surveys to a similar extent.

Antibiotic treatment in livestock

- Around 6 out of 10 people (63%) thought that farm animals should be given antibiotics to treat disease in cases where they are the most appropriate treatment.
- Because of the moral and ethical nature of the matter, the question of whether they would accept that the animals would have to remain ill, suffer or be killed if they were not treated with antibiotics remains controversial for those who clearly or tend to disagree with the treatment of farm animals with antibiotics. 36% are currently in favour of not using antibiotics in these cases, which is fewer than before. Furthermore, 15% are unable to answer this question spontaneously.
- As was the case previously, only 4 out of 10 people (38%) knew that using antibiotics as growth promoters is banned both in Switzerland and the European Union. The proportion is higher in rural areas at 46%.

2. Methodology

The Federal Council has launched a national strategy against antibiotic resistance as one of its Health 2020 health policy priorities. The implementation of this Swiss Antimicrobial Resistance Strategy (StAR) makes it important to periodically survey the population's level of knowledge, practices and attitudes towards the use of antibiotics. This is helpful for both making decisions on aspects of implementation and highlighting and assessing any changes over time and in an international comparison.

DemoSCOPE carried out its first survey on behalf of the Federal Office of Public Health FOPH in 2016 to determine the situation at the time and this exercise was repeated in 2018 and 2020 over the same time period. The current survey in 2022 is a further step in this process and was conducted over the same time period and with a largely identical questionnaire. Its configuration builds on the Eurobarometer survey on antimicrobial resistance in the EU (Special Eurobarometer 478, 2018)[1] and includes additional information and questions relevant to Switzerland.

Like the Eurobarometer survey, the sample size of 1,000 interviews was retained; implementation was carried out by telephone, making it different from the Eurobarometer study, where the survey was conducted face-to-face. The current survey was conducted between 22 August and 1 September 2022. A total of 1,000 interviews were conducted from the DemoSCOPE telephone laboratories in Adligenswil and Fribourg. The questionnaire was largely unchanged from the previous surveys, only one new question on the disposal of packs of antibiotics was added to the questionnaire and additional answer options were added to some questions due to the response behaviour during the last survey in 2020.

The possible responses to many of the questions were not read out by the interviewers, who therefore were required to undergo thorough training to ensure that they were able to carry out the highly demanding task of classifying responses correctly. Half-open questions which could not be assigned to any of the defined possible answers were recorded as open in a residual category. When the data was evaluated and processed, these answers were subjected to a detailed review and subsequently assigned to one of the answer categories wherever possible. In a few cases where there were sufficient open answers to merit it, new answer codes were opened.

As in previous surveys, the general population was defined as the language-assimilated Swiss resident population aged 15 and above. The survey was conducted in German, French and Italian. The address base was all the landline numbers registered to private households provided by AZ Direct, from which a random sample was drawn. To ensure the representativeness of the sampling, a combined age/gender ratio was specified for the households contacted for each language region in accordance with their effective distribution in the population. Because it is not possible to reach all people in the population on registered landline numbers, 80% (n = 800) of the interviews were conducted on the basis of landline numbers. The remaining 20% (n = 200) of the interviews were conducted using random digit dialling (RDD). These people were therefore called on randomly generated mobile phone numbers supplied by

[1] Special Eurobarometer 478 – Report on Antimicrobial Resistance (fieldwork September 2018; publication November 2018). The Eurobarometer survey was not carried out in the EU in 2020 and 2022.

Aschpurwis & Behrens GmbH. This 'dual-frame' approach requires the data collected for the evaluation to be weighted in a particular manner. To achieve this, two potential selection frames have to be merged into one selection probability. The variables required to calculate this selection probability are the selection frame, the selected sample size, the number of landline or mobile phone numbers on which a person can be reached and, in the case of landline numbers, the number of persons in the household who can be reached on that number. In addition to the standard weightings, the data collected was therefore weighted over the course of the evaluation in line with the effective population distribution.

A total of 28,055 addresses/telephone numbers were used for the fieldwork. Although the respondents were contacted up to ten times on different days of the week (including Saturdays) and at different times of day, it was not possible to reach 17,337 of them (answering machine, no reply, engaged). This was particularly the case with the randomly generated and imported mobile phone numbers, many of which will not have been in use. In 3,227 cases, the interviewer and the person interviewed agreed to a call back, but this call was not made because the interview quota had already been reached. In 920 cases, an interview was not conducted because the corresponding quota cell with specifications regarding age and gender had already been attained. In another 1,452 cases, the number or the interviewee was not in the target group (e.g. not a private household). In 366 cases, the interviewee did not speak any national language, while in another 453 cases the person contacted was unable to provide information due to illness or age. A total of 3,300 refusals resulted, which is the highest number to date compared to previous population surveys on antibiotic resistance (2016: n = 1,808 refusals, 2018: n = 2,966 refusals, 2020: n = 1,468).

The average response time was 12 minutes, which gives a reasonable length of interview and ensures a good quality of information. The 1,000 interviews were completed before the agreed deadline (no later than 7 September 2022). The quota requirements with their combined age/gender ratio per region ensured that the sample structure corresponded as closely as possible to the actual structure of the population. The results were subsequently weighted moderately in line with the actual distribution of the population. The measurement accuracy of the sample is a maximum of +/- 3.1 percent with 95 percent certainty. With 1,000 respondents and, for example, a result of 50 percent, the effective value is therefore between 46.9 and 53.1 percent with a probability of 95 percent. Smaller deviations are more likely, larger ones less so.

We guarantee that the survey was conducted in accordance with SWISS INSIGHTS standards.

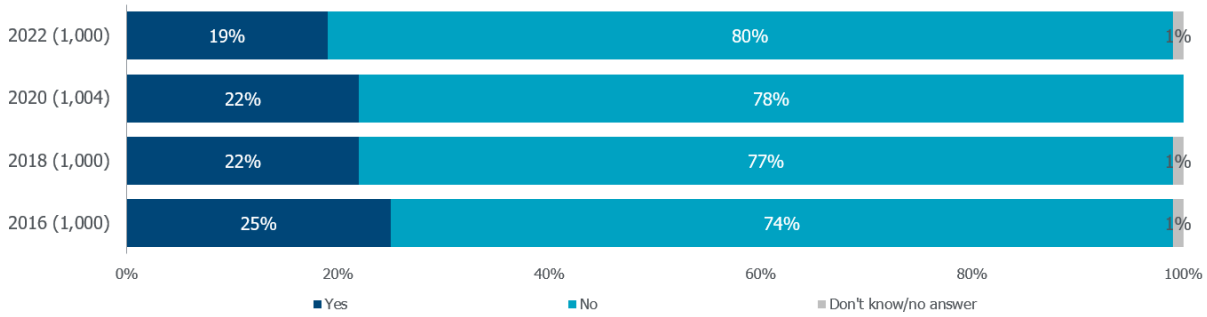
Demo SCOPE AG
Dominik Fröhli, Head of Social Research

3. Detailed report

3.1 Antibiotic intake

The proportion of people who have taken antibiotics in the form of tablets, powder, syrup, etc. in the past 12 months has decreased compared to previous years and currently stands at 19% (see Chart 1). This means the proportion of people using antibiotics has decreased by 6% compared to 2016.

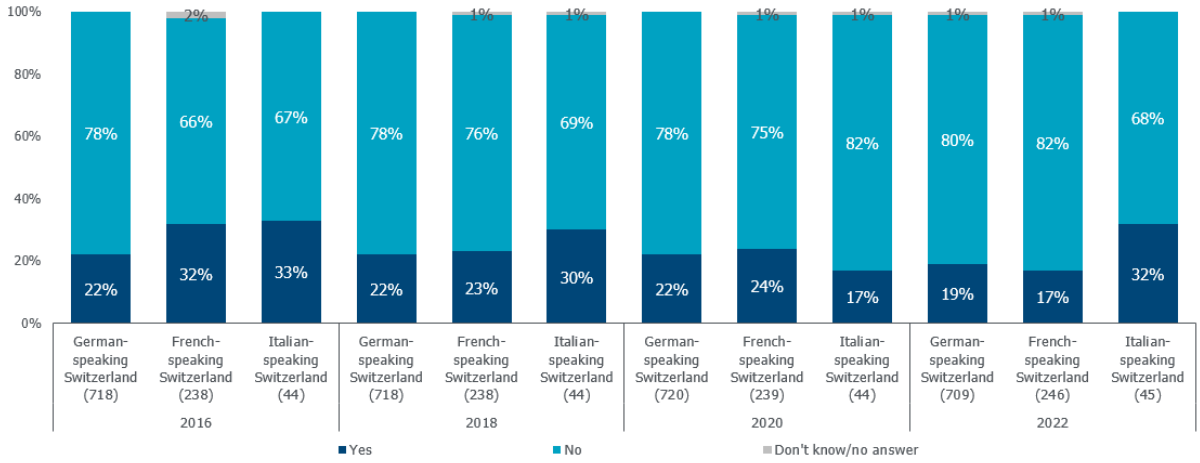
Chart 1 Have you taken any antibiotics orally such as tablets, powder or syrup in the last 12 months?



Base: number of respondents in brackets / Question type: single question

Looking at the current situation and the development over time between the language regions, the decline compared to the 2020 survey is to be found in German-speaking Switzerland (down 3%) and particularly in French-speaking Switzerland (down 7%). In both language regions, the proportion is lower than ever before in this data series. Compared to the situation two years ago, however, the proportion in Ticino has almost doubled, although the informative value is limited due to the comparatively small sub-sample (see Chart 2).

Chart 2 Have you taken any antibiotics orally such as tablets, powder or syrup in the last 12 months?



Base: number of respondents in brackets / Question type: single question

In other segments, too, there are sometimes major differences in terms of antibiotic use. Looking at the proportions between different age cohorts (see Table 1), [2] it is striking that the proportion of people using antibiotics decreases with increasing age, but this linearity is broken by the age group of 55 to 64-year-olds, where the proportion is 26%. The proportion of people residing in urban areas is 21%, higher than in intermediate agglomerations (18%) and rural areas (14%).

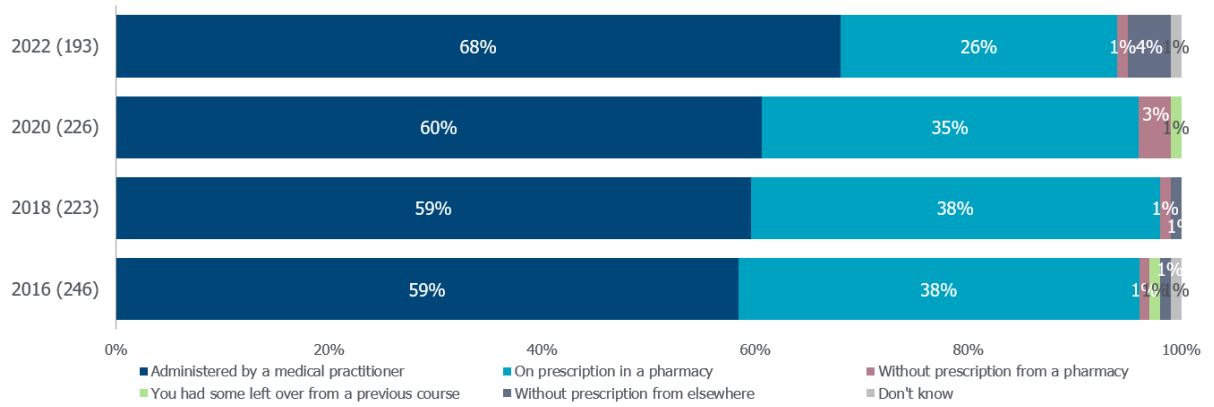
Table 1 Have you taken any antibiotics orally such as tablets, powder or syrup in the last 12 months?

	Age					Settlement type		
	15—24 years	25—39 years	40—54 years	55—64 years	65+ years	Urban	Inter-mediate	Rural
Total (wt.)	123	246	252	159	220	630	212	158
Yes	21%	18%	18%	**26%**	16%	**21%**	18%	14%
No	79%	82%	82%	74%	**83%**	78%	82%	**86%**
Don't know	-%	-%	*%	-%	1%	*%	-%	*%

Base: 1,000 respondents / Question type: single question

Up to now, the main source of antibiotic treatment for people who have taken antibiotics in the past 12 months – e.g. in the form of tablets, powder or syrup – has been direct dispensing by doctors (including in hospitals). According to the latest survey, this proportion has increased further to 68% (see Chart 3). Comparatively less often, the pharmacy receives a doctor's prescription; other options such as dispensing without a prescription from a pharmacy or from another source or taking left-over medication from the last course of antibiotics are rare. At 4%, the proportion of people who have obtained antibiotics from other sources without a prescription is higher than ever in previous data.

Chart 3 How did you obtain the last course of antibiotics that you used?



Base: number of respondents in brackets / Filter: have taken antibiotics in the last 12 months / Question type: single question

2 Statistically significant differences between sub-groups are highlighted in bold in the tables of this report. In addition, the annex to this report lists various further sub-groups for most questions in a tabular form.

At the level of the various segments, there are only a few statistically significant differences between the characteristics. The comparatively high proportion of direct dispensing by doctors in German-speaking Switzerland is related to in-practice dispensing in this part of the country (see Table 2).

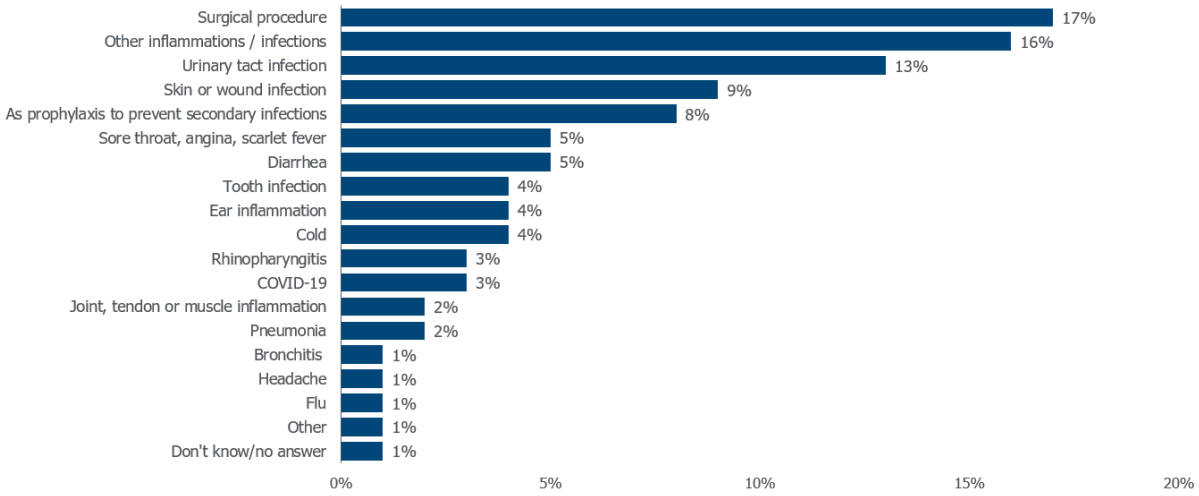
Table 2 How did you obtain the last course of antibiotics that you used?

	Region		
	German	French	English
Total (wt.)	137	42	14
Administered by a medical practitioner	**81%**	36%	33%
On prescription in a pharmacy	13%	**54%**	65%
Without prescription from elsewhere	5%	3%	-%
Without prescription from a pharmacy	-%	6%	-%
You had some left over from a previous course	-%	1%	-%
Don't know	1%	-%	2%

Base: 193 respondents / Filter: have taken antibiotics in the last 12 months / Question type: single question

Although the proportion of people who have taken antibiotics is decreasing, the reasons for taking them remain very varied (see Chart 4). As in 2020, the three main reasons for taking antibiotics are surgical procedures (17%), other inflammations and infections (= collective category, 16%) and urinary tract infections/bladder infections (13%). There are also a number of other reasons. For example, 8% take them for prophylactic reasons to prevent secondary infections or, in 4% of cases, due to a cold.

Chart 4 What was the reason for last taking the antibiotics that you used?

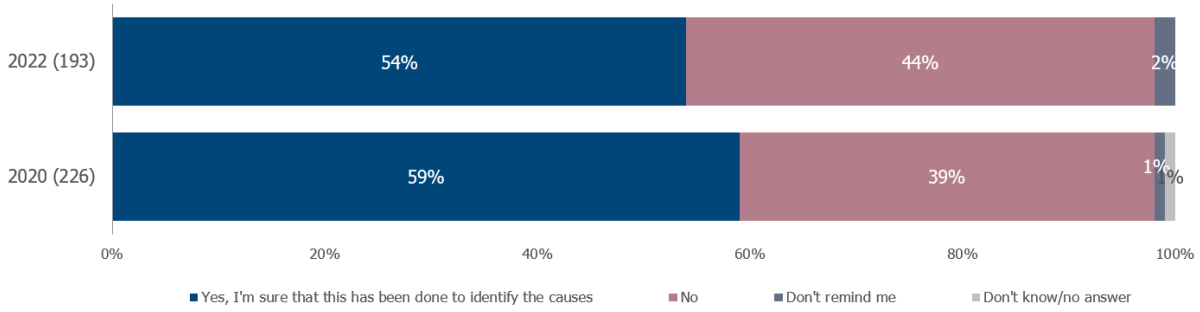


Base: 193 respondents / Filter: have taken antibiotics in the last 12 months / Question type: multi-question

Depending on the reason for taking them, there are various different characteristics between specific sub-groups. This is likely to be related to a range of factors, such as the frequency or probability of occurrence of the illness in question or other medical reasons. For example, taking antibiotics due to surgical procedures is statistically significantly more frequent among older age groups, especially among people in the 55 to 64 age cohort (43%). As a further example, the use of antibiotics due to a urinary tract infection is comparatively more common in women (19%) than in men (5%).

As in the 2020 survey, respondents who took antibiotics were asked whether they had taken a laboratory test (e.g. a blood or urine test or a throat swab) before or at the same time as they started taking them. Such tests serve to identify the cause of the disease. A majority of 54%, i.e. 5% fewer than in 2020, indicated that this had been done (see Chart 5).

Chart 5 Before or at the same time as you started taking antibiotics, did you have a laboratory test, such as a blood or urine test or a throat swab, to find out what was causing your illness?



Base: number of respondents in brackets / Filter: have taken antibiotics in the last 12 months / Question type: single question

A laboratory test was performed before or when starting to take antibiotics statistically significantly more often in German-speaking Switzerland (57%) and for those in the age categories 25 to 39 (73%) and 65+ (71%) (see Table 3).

Table 3 Before or at the same time as you started taking antibiotics, did you have a laboratory test, such as a blood or urine test or a throat swab, to find out what was causing your illness?

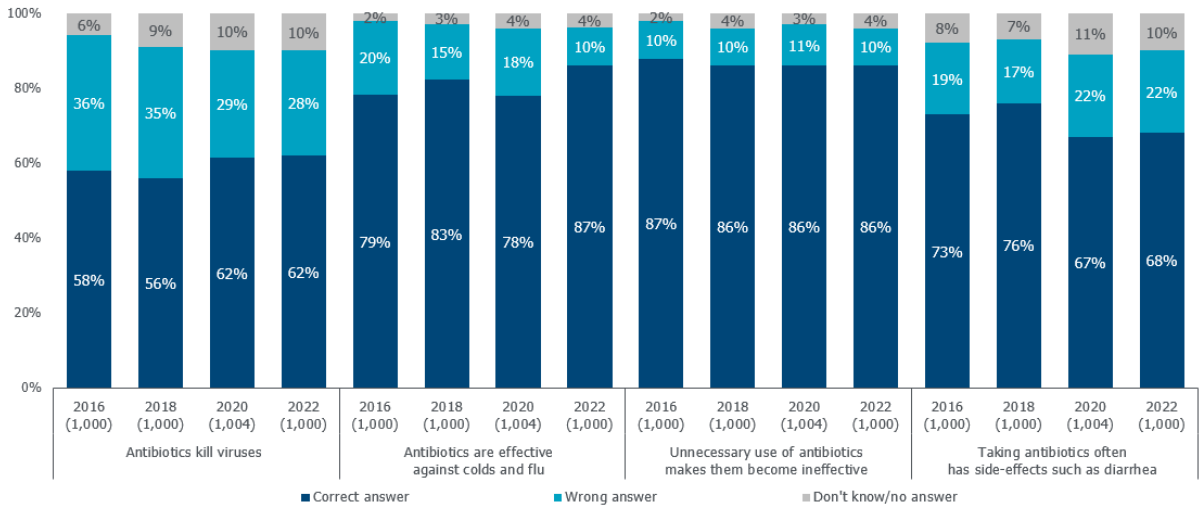
	Region			**Age**				
	German	French	Italian	15—24 years	25—39 years	40—54 years	55—64 years	65+ years
Total (wt.)	137	42	14	25	45	45	42	36
Yes, I'm sure that this has been done to identify the causes	**57%**	36%	75%	46%	**73%**	40%	38%	**71%**
Yes, but I can't remember what for	-%	-%	2%	-%	-%	-%	-%	1%
No	42%	59%	22%	54%	24%	**60%**	**62%**	23%
Don't remind me	1%	5%	-%	-%	3%	-%	-%	5%

Base: 193 respondents / Filter: have taken antibiotics in the last 12 months / Question type: single question

3.2 Knowledge about antibiotics

The Swiss Antimicrobial Resistance Strategy (StAR) aims to close knowledge gaps and promote and improve the level of knowledge among those who prescribe or use antibiotics. As in the three previous surveys, the Swiss population's knowledge of various topics related to antibiotics was investigated. This is done based on the evaluation of four statements. As in previous surveys, a majority of respondents assessed the statements correctly, with a stable overall picture (see Chart 6). What is particularly striking is the increase in the proportion of correct assessments of the (false) statement that antibiotics are an effective remedy against the colds and flu. 87% of those surveyed correctly rate these statements as false. As in the past, the lowest proportion of correct assessments relates to the statement that antibiotics kill viruses. Here, 62% of those surveyed correctly replied that the statement was false.

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



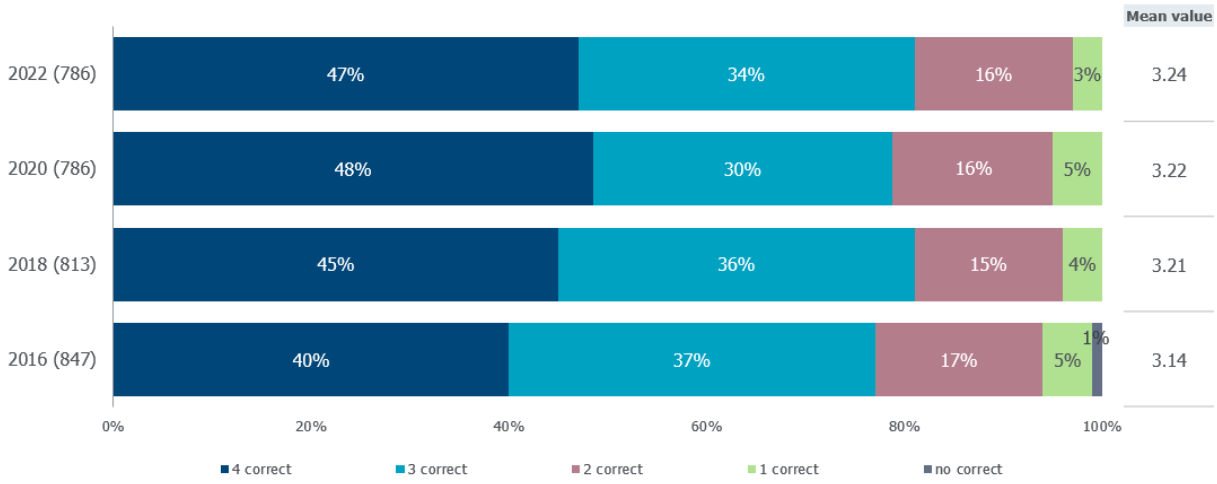
Base: number of respondents in brackets / Question type: single question per statement

In addition to the different proportion of correct assessments for each statement, there are also differences in the proportion of missing responses (Don't know/no answer). This makes it possible to identify topics that are generally more difficult to assess.

A more accurate analysis and comparison between different segments is possible by indexing the number of correct assessments and calculating the average proportion of correct responses. This is based on the proportion of respondents who evaluated the content of all four statements and thus did not report any missing responses (Don't know/no answer).

The average proportion of statements assessed correctly (based on all four statements) is 3.24 overall. This average is the highest compared to previous data (see Chart 7).

Chart 7 For each of the following statements, please tell me whether you think it is true or false.



Base: number of respondents in brackets / Filter: Has rated all four statements / Question type: single question per statement

In general, women (3.34 correct answers) are statistically significantly more likely to assess the four statements correctly than men (3.13) (see Table 4). The same applies to people with tertiary education (3.49) and people who have read or heard information in the past 12 months advising against taking antibiotics unnecessarily, such as for colds and flu-like infections (3.42).

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

	Gender		**Education**			**Awareness**	
	Male	Female	Obligatory	Secondary	Tertiary	Yes	No
Total (wt.)	372	414	36	372	361	297	468
4 correct (4)	41%	**52%**	31%	37%	**60%**	**55%**	42%
3 correct (3)	36%	31%	26%	**39%**	29%	35%	33%
2 correct (2)	17%	15%	**29%**	**19%**	10%	9%	**20%**
1 correct (1)	**5%**	2%	13%	**5%**	1%	2%	**5%**
None correct	*%	*%	-%	*%	*%	*%	*%
Mean value	3.13	**3.34**	2.76	3.09	**3.49**	**3.42**	3.13

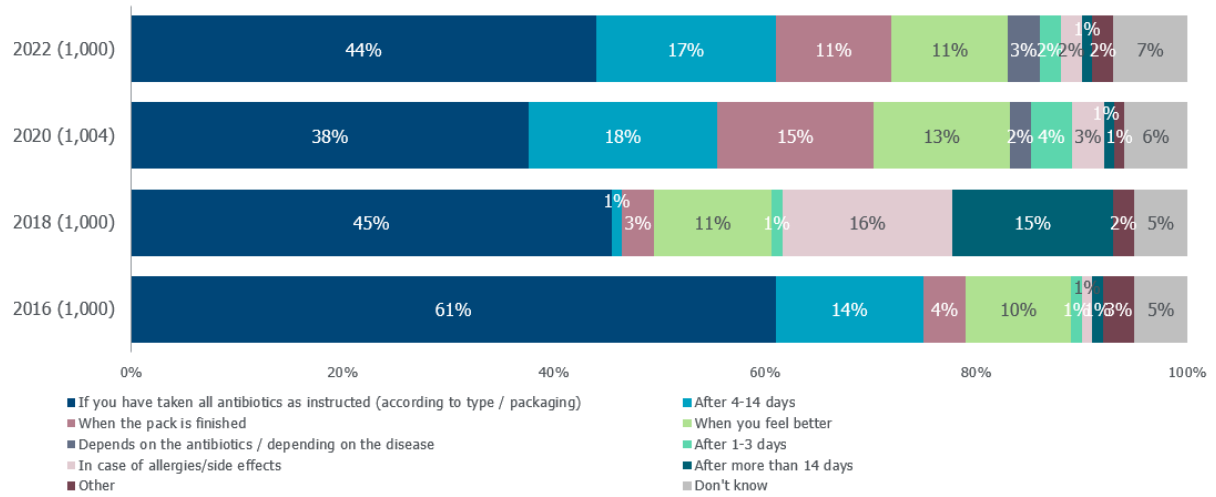
Base: 786 respondents / Filter: Has rated all four statements / Question type: single question per statement

3.3 Attitudes towards the use of antibiotics

This chapter presents results and findings on two topics which reflect attitudes towards the use of antibiotics. First, respondents assess when they believe taking antibiotics should stop after the start of treatment. Second, the question of what is or would be done with packs of antibiotics once they are no longer needed is of interest.

As in previous surveys, antibiotics are most often stopped when they have been taken as directed (44%, see Chart 8). Other comparatively more common reasons are stopping the dose after 4 to 14 days (17%), when the pack is used up, and when the respondent feels better (each 11%).

Chart 8 When do you think you should stop taking antibiotics once you have begun a course of treatment?



Base: number of respondents in brackets / Question type: single question

Table 5 When do you think you should stop taking antibiotics once you have begun a course of treatment?

	Age					Education			Antibiotic intake	
	15—24 years	25—39 years	40—54 years	55—64 years	65+ years	Obligatory	Secondary	Tertiary	Yes	No
Total (wt.)	123	246	252	159	220	58	489	427	193	804
When you have taken all of the antibiotics as directed	33%	**47%**	**50%**	**46%**	39%	17%	**39%**	**55%**	47%	44%
After 4-14 days	**24%**	16%	15%	13%	19%	**28%**	17%	14%	17%	17%
When the pack is finished	2%	**9%**	**9%**	**19%**	**15%**	8%	13%	9%	14%	10%
When you feel better	**19%**	**16%**	9%	5%	5%	**21%**	**12%**	6%	5%	**12%**
Depends on the antibiotics / depending on the disease	7%	3%	3%	1%	3%	1%	3%	3%	**6%**	3%
After 1-3 days	4%	3%	2%	1%	2%	2%	2%	2%	1%	2%
In case of allergies/side effects	3%	1%	1%	4%	2%	1%	3%	1%	1%	2%
After more than 14 days	1%	*%	1%	1%	1%	1%	*%	1%	*%	1%
Other	4%	1%	1%	-%	3%	7%	1%	2%	1%	2%
Don't know	4%	3%	**8%**	**9%**	**8%**	14%	**9%**	3%	6%	7%
No answer	-%	-%	-%	*%	3%	-%	*%	1%	-%	1%

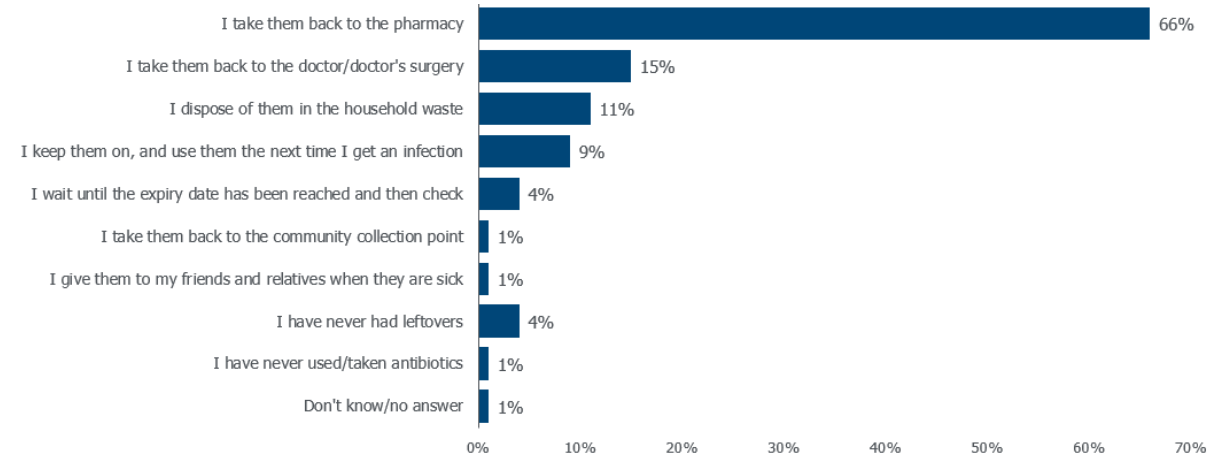
Base: 1,000 respondents / Question type: single question

An excerpt from relevant segments also shows that there are different characteristics with regard to the various reasons for stopping (see Table 5). For example, people with tertiary education (55%) mentioned stopping antibiotics as directed statistically significantly more frequently. Stopping after 4 to 14 days (24%) or when the person feels better (19%) was often mentioned by younger people. By contrast, stopping the dose as soon as the pack is used up was clearly mentioned more often by older people (55—64: 19%, 65+: 15%).

For the first time, the question of what to do with packs of antibiotics that are no longer needed was dealt with in depth in the current survey and asked in the form of an open question. Basically, it is apparent that there is a wide range of approaches in this regard (see Chart 9). However, it is striking that the most frequently cited answers are to return packs of antibiotics that are no longer needed to the pharmacy (66%), and to the doctor's surgery (15%). Almost one in ten people indicated that they would dispose of packs of antibiotic they no longer needed in their household waste or keep them until further notice and use them the next time they had an infection.

Chart 9 *If antibiotics have been taken in the past 12 months:* What do you do with antibiotic packs where you no longer need them?

If no antibiotics have been taken in the past 12 months or "don't know" or "no answer": What would you do with antibiotic packs where you no longer need them?



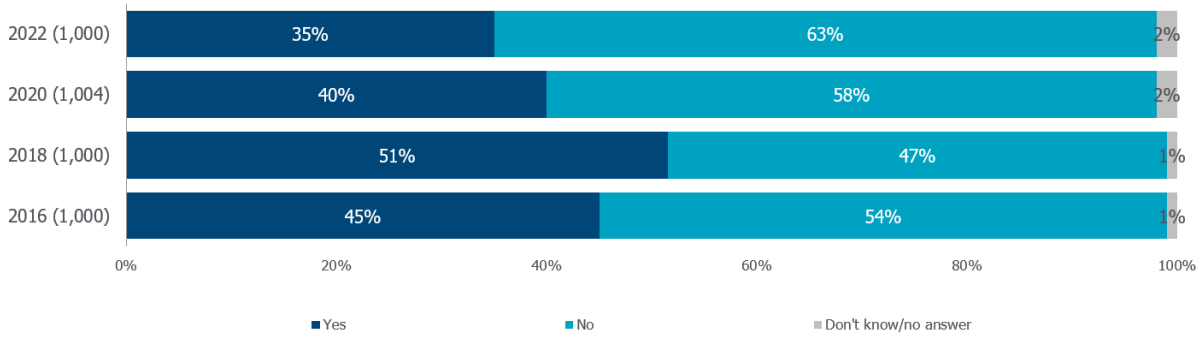
Base: 1,000 respondents / Question type: multi-question

3.4 Information about the use of antibiotics

Informing the general public about using antibiotics properly and avoiding taking them unnecessarily has an important role to play in ensuring the efficacy of antibiotics.

As Chart 10 shows, the proportion of people who indicated that they have read or heard information advising against taking antibiotics unnecessarily (e.g. for colds and flu-like infections) in the past 12 months has continued to decline. In 2018 a total of 51% stated that they had heard or read such information, but the proportion fell to 40% in 2020 and to 35% in 2022.[3]

Chart 10 In the last 12 months, do you remember getting any information about not taking antibiotics un-necessarily, for example for a cold or the flu?



Base: number of respondents in brackets / Question type: single question

The sub-groups that were more likely to read or hear such information were generally middle-aged and older people (aged 40 and over), people with a higher level of education and those who stated they had taken antibiotics in the past 12 months (see Table 6).

Table 6 In the last 12 months, do you remember getting any information about not taking antibiotics un-necessarily, for example for a cold or the flu?

	Age					**Education**			**Antibiotic intake**	
	15—24 years	25—39 years	40—54 years	55—64 years	65+ years	Obligatory	Secondary	Tertiary	Yes	No
Total (wt.)	123	246	252	159	220	58	489	427	193	804
Yes	26%	28%	**36%**	**48%**	**37%**	26%	34%	38%	**48%**	32%
No	**74%**	**70%**	**62%**	52%	58%	**74%**	64%	59%	50%	**66%**
Don't know	1%	3%	2%	-%	**5%**	-%	2%	3%	2%	2%

Base: 1,000 respondents / Question type: single question

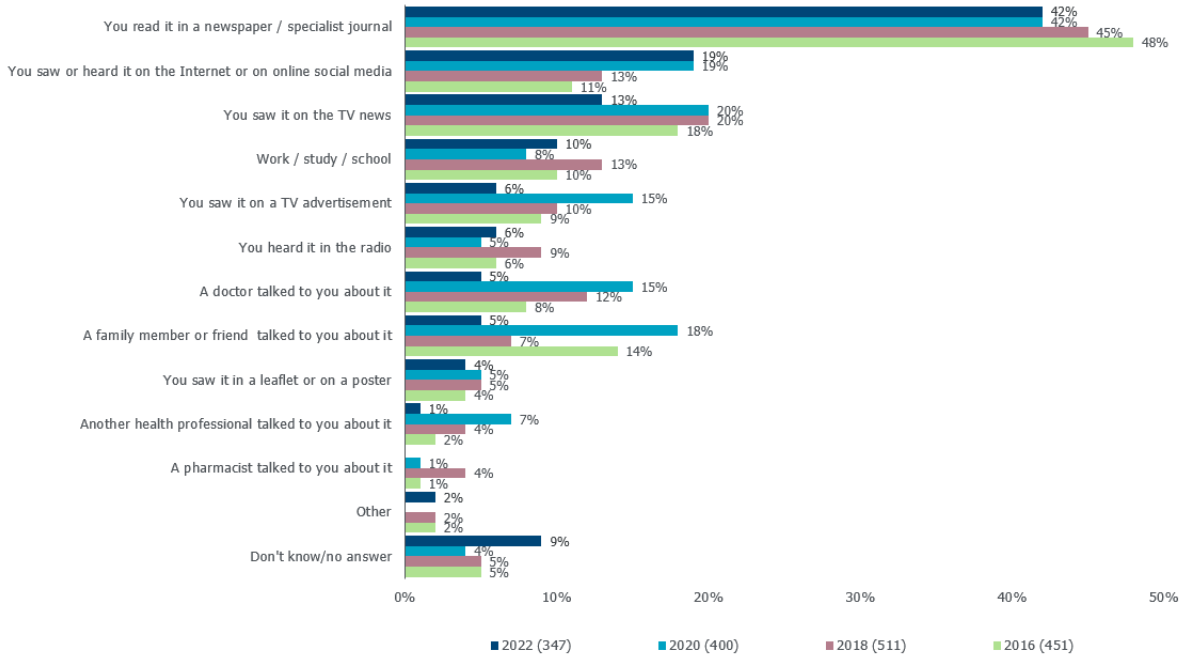
[3] This is likely to be directly related to the absence of a StAR campaign in 2020 and 2021. In addition, other topics have dominated public and private discourse over the past 12 months and hence also the focus of communications and campaigns (e.g. the COVID-19 pandemic, the energy crisis, etc.).

In terms of hearing or reading information on the proper use of antibiotics, there are also further clear clusters in other segments. For example, 45% of people working in nursing professions have a comparatively higher level of awareness of information. There is also a direct, possibly circular, correlation between hearing or reading information and the level of knowledge. For example, 44% of people who correctly assessed all four knowledge statements (see 3.2) also remember having heard or read about proper use of antibiotics in the past 12 months.

In addition, information was received through very different channels with equally different frequency (see Chart 11). The main channel is and will continue to be reading newspapers or specialist journals (42%), followed by information on the Internet or online social media (19%) and information on TV news (13%).

The frequency characteristics vary between the different survey years. In a more recent comparison (vs. 2020), it is noticeable that information is exchanged and discussions about taking antibiotics unnecessarily held in direct contact with the relevant players less frequently. This applies not only to discussions with doctors (down 10%) or other health professionals (down 6%), but also to discussions with family members or friends (down 13%). In addition to the actual decline in the proportion of people who heard or read information, this also reflects a decline in the general relevance of the topic in interactions.

Chart 11 How did you first get this information about not taking any antibiotics unnecessarily?



Base: number of respondents in brackets / Filter: have received information / Question type: multi-question

A closer look at the information and discussion channels by age cohort and educational level reveals different distributions and associated preferences (see Table 7). For older age groups, information more often comes from newspapers and specialist journals and on television. The Internet and social media, on the other hand, were more frequently cited as a source of information by middle-aged and highly educated people.

Table 7 How did you first get this information about not taking any antibiotics unnecessarily

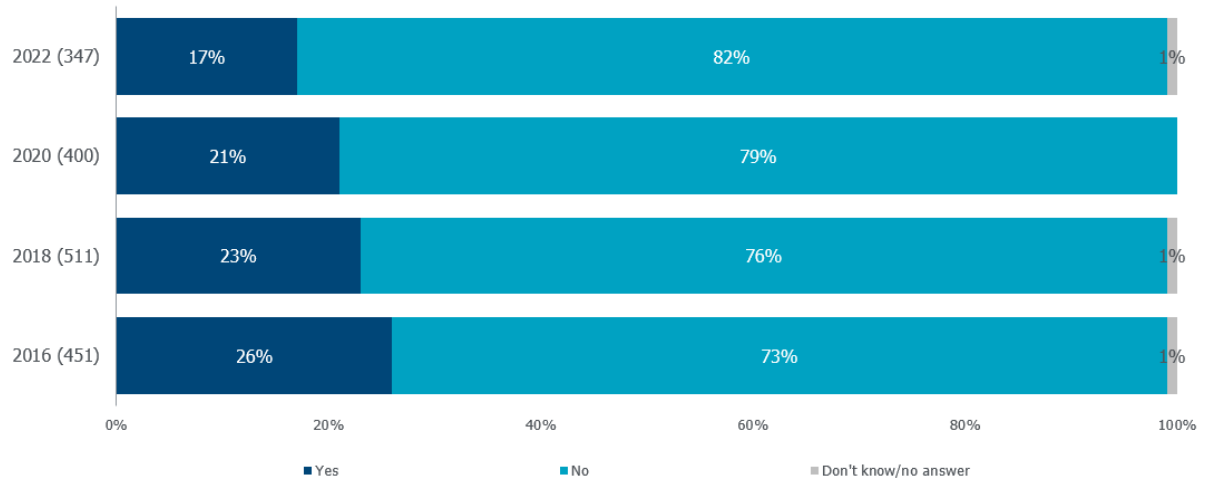
	Age					Education		
	15—24 years	25—39 years	40—54 years	55—64 years	65+ years	Obligatory	Second.	Tertiary
Total (wt.)	32	68	91	76	81	15	165	161
You read it in a newspaper / specialist journal	23%	31%	34%	**49%**	**58%**	28%	40%	45%
You saw or heard it on the Internet or on online social media	13%	**25%**	**27%**	11%	15%	6%	16%	**25%**
You saw it on the TV news	11%	8%	11%	8%	**24%**	15%	**19%**	7%
Work / study / school	39%	6%	**10%**	1%	**11%**	22%	7%	13%
You saw it on a TV advertisement	-%	7%	9%	7%	6%	8%	8%	5%
You heard it in the radio	2%	8%	7%	5%	5%	9%	7%	4%
A doctor talked to you about it	9%	3%	9%	2%	5%	14%	6%	3%
A family member or friend talked to you about it	6%	4%	6%	8%	1%	6%	5%	4%
You saw it in a leaflet or on a poster	-%	10%	5%	4%	1%	-%	3%	7%
Another health professional talked to you about it	-%	1%	2%	2%	-%	-%	1%	1%
A pharmacist talked to you about it	2%	-%	-%	1%	-%	-%	-%	1%
Other	2%	5%	2%	1%	*%	-%	4%	*%
Don't know	7%	9%	7%	15%	8%	15%	10%	9%

Base: 347 respondents / Filter: have received information / Question type: multi-question

For 17% of those who had heard or read information on using antibiotics properly and avoiding taking them unnecessarily, this resulted in a change in their subjective view of antibiotic use. As in previous surveys, the proportion that changed has continued to decline and is therefore even lower than before (see Chart 12).

Based on the available data, it is not possible to answer the question of whether this is primarily due to firmly established views on the use of antibiotics and hence a lack of change, or to an insufficiently clear message in the content of the information conveyed.

Chart 12 Did the information that you received change your views on using antibiotics?

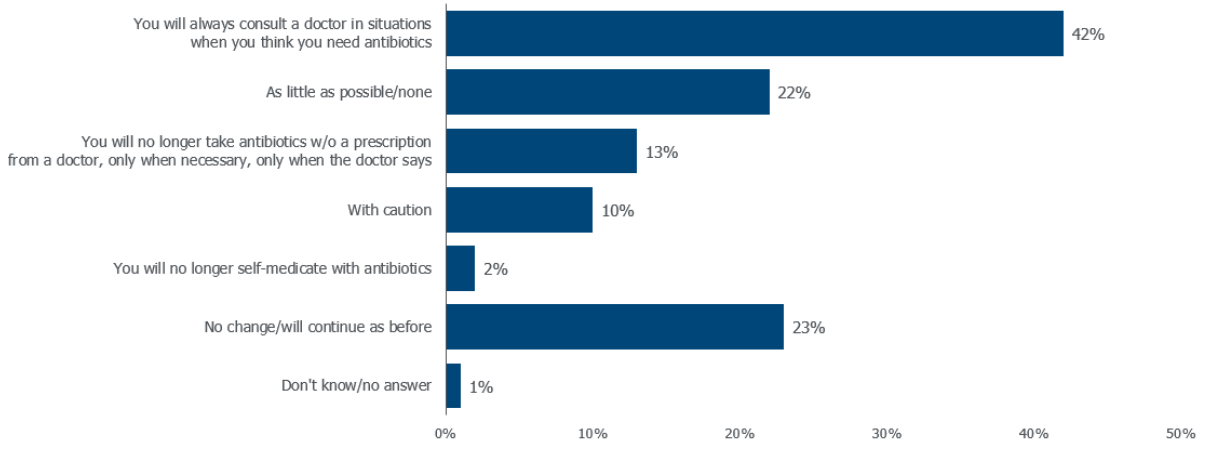


Base: number of respondents in brackets / Filter: have received information / Question type: single question

The fact that, with a few exceptions, there are no clear and statistically significant differences in the frequency distribution across relevant sub-groups (e.g. age groups or education) may be due to a large proportion of people having had knowledge of this specific topic for some time and hearing or reading it such information again but this not leading to any further change in their personal view on it.

For example, 23% of people who have heard or read information in the past 12 months indicate that they will proceed in the same way as before when taking antibiotics and that this has not caused any change. However, the most frequently mentioned approach (42%) is and remains to see a doctor if it is suspected that antibiotics are needed (see Chart 13). This was also the most frequently mentioned approach in the past. It is not possible to answer the extent to which information heard or read affects the various approaches.

Chart 13 On the basis of the information you received, how do you now plan to use antibiotics?

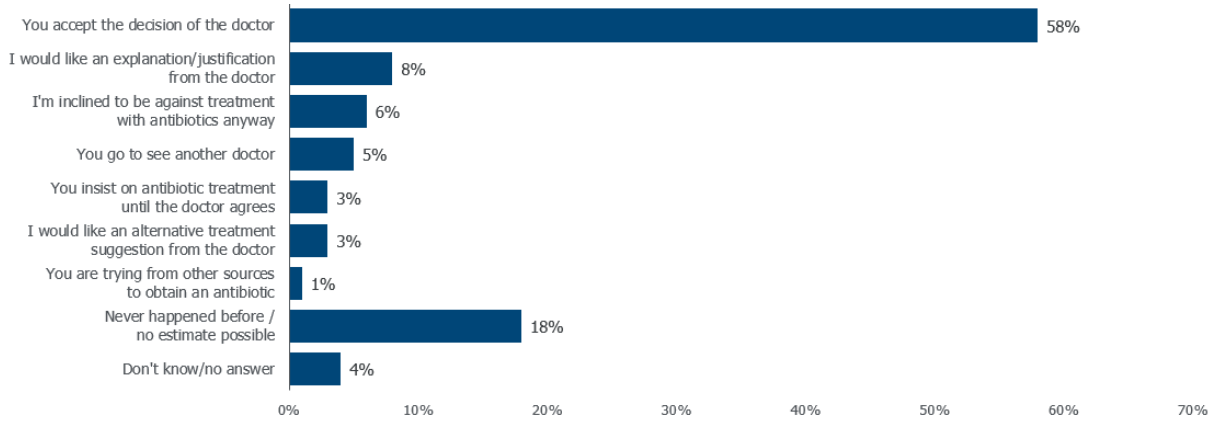


Base: 347 respondents / Filter: have received information / Question type: multi-question

The value and important role of medical expertise and complying with it is also evident in another specific topic. For example, interviewees who had or had had legal custody of children (61% of respondents) were asked what their reaction would be or would have been if the doctor did not prescribe any antibiotics for their ill child, contrary to their expectations

A total of 58% accept the medical profession's decision not to prescribe antibiotics, and only 3% would insist on doing so until the doctor consents (see Chart 14). Similarly, only minorities want an additional justification and explanation from the doctor (8%), an additional assessment from another doctor (5%) or an alternative treatment suggestion (3%).

Chart 14 If you have or had legal custody of a child, how would you / did you react if, contrary to your expectation, the doctor did not prescribe antibiotics to your ill child?



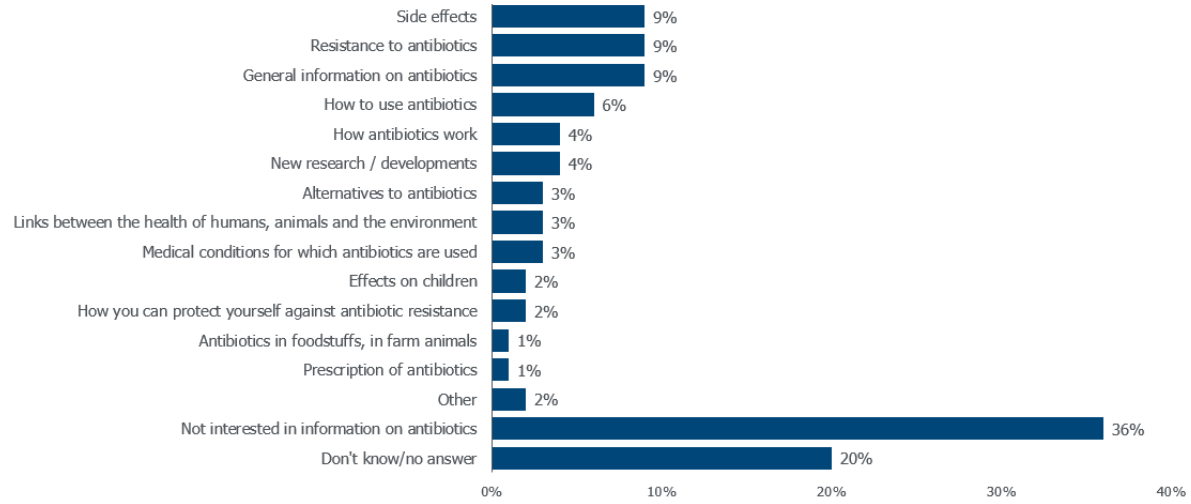
Base: 613 respondents / Filter: has legal custody of a child / Question type: multi-question

3.5 Desired information and information sources

The respondents were able to indicate their favoured topics and preferred sources of information, provided that general requests for information were expressed. The list of topics mentioned is as usual diverse and covers a wide range of general and specific information needs.

As can be seen from Chart 15, the most frequently expressed information needs focus on topics such as side effects, resistance to antibiotics and general information on antibiotics (each 9%), also how to use antibiotics (6%). There is also a need for more specific information on how antibiotics work and current research and developments (each 4%), alternatives to antibiotics or the general link between the health of humans, animals and the environment (each 3%). In addition, as in previous years, it is noticeable that many people are not interested in specific topics related to antibiotics (36%) or are unable or unwilling to provide any information in this regard (20%). As a result, more than half had no specific interest in further information.

Chart 15 On which topics, if any, would you like to receive more information?



Base: 1,000 respondents / Question type: multi-question

Table 8 below shows frequency distributions for desired topics and information requirements by age cohort and knowledge category based on the indexed assessment of statements on antibiotics.

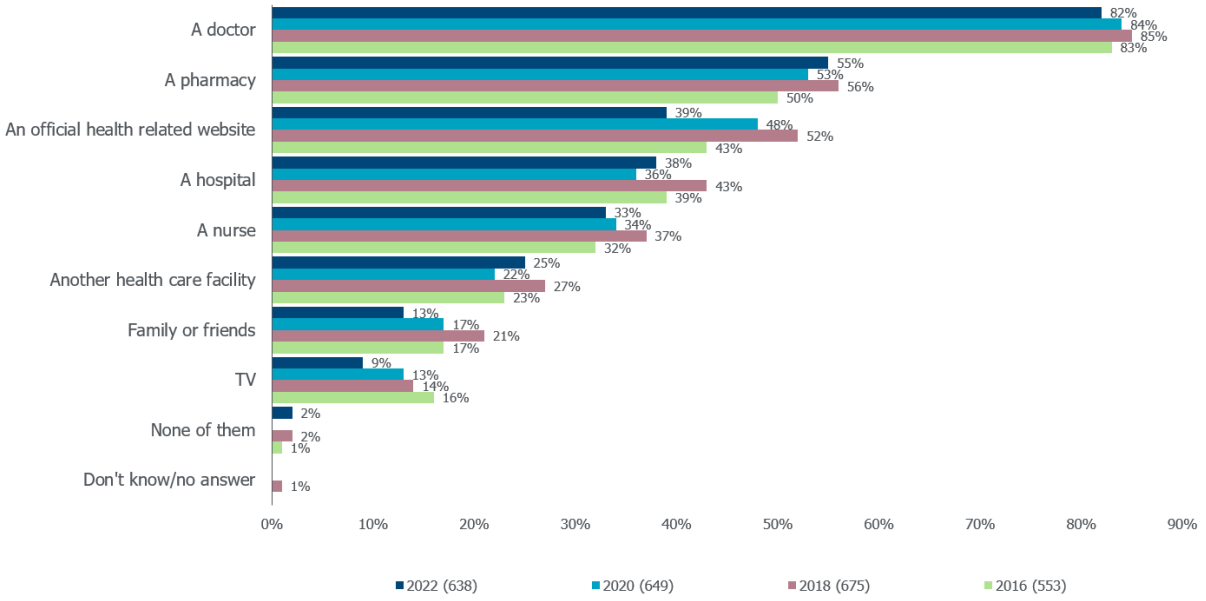
Table 8 On which topics, if any, would you like to receive more information?

	Age					**Knowledge (Index from Q04)**		
	15—24 years	25—39 years	40—54 years	55—64 years	65+ years	4 correct	3 correct	<3 correct
Total (wt.)	123	246	252	159	220	369	265	151
Side effects	**14%**	**11%**	5%	8%	9%	8%	**13%**	8%
Resistance to antibiotics	9%	5%	**13%**	**13%**	6%	**13%**	12%	7%
General information on antibiotics	**17%**	**12%**	6%	5%	6%	9%	5%	**17%**
How to use antibiotics	**10%**	3%	6%	7%	7%	7%	4%	9%
How antibiotics work	**8%**	1%	**6%**	3%	**5%**	4%	**7%**	2%
New research/developments	3%	5%	3%	6%	3%	**6%**	**6%**	*%
Alternatives to antibiotics	3%	4%	**5%**	1%	3%	5%	4%	3%
Links between the health of humans, animals and the environment	8%	1%	**5%**	1%	2%	3%	4%	2%
Medical conditions for which antibiotics are used	4%	3%	1%	3%	4%	2%	4%	2%
Effects on children	4%	4%	3%	-%	-%	4%	2%	2%
How you can protect yourself against antibiotic resistance	1%	2%	3%	1%	*%	**3%**	1%	1%
Antibiotics in foodstuffs, in farm animals	4%	*%	*%	*%	1%	1%	1%	*%
Prescription of antibiotics	*%	-%	1%	1%	1%	*%	*%	*%
Other	2%	2%	**5%**	1%	1%	2%	2%	4%
Not interested in information on antibiotics	33%	33%	40%	**44%**	32%	33%	38%	29%
Don't know	4%	**18%**	**13%**	**13%**	**18%**	11%	9%	**23%**
No answer	2%	3%	4%	6%	**13%**	**8%**	4%	2%

Base: 1,000 respondents / Question type: multi-question

The preferred sources and channels of information for those people who have not explicitly stated that they are not interested in information on antibiotics remain largely stable in terms of order and also over time (see Chart 16).

Chart 16 Which of the following sources of information would you use in order to get trustworthy information on antibiotics?



Base: number of respondents in brackets / Filter: would like to receive more information about antibiotics / Question type: multi-question

Players regarded as expert and reliable providers of information about antibiotics are the most frequently mentioned here. Specifically, these are doctors (82% in 2022) and pharmacists (55% in 2022). This likely reflects the relevance of direct interaction and personal support in this exchange of information and knowledge.

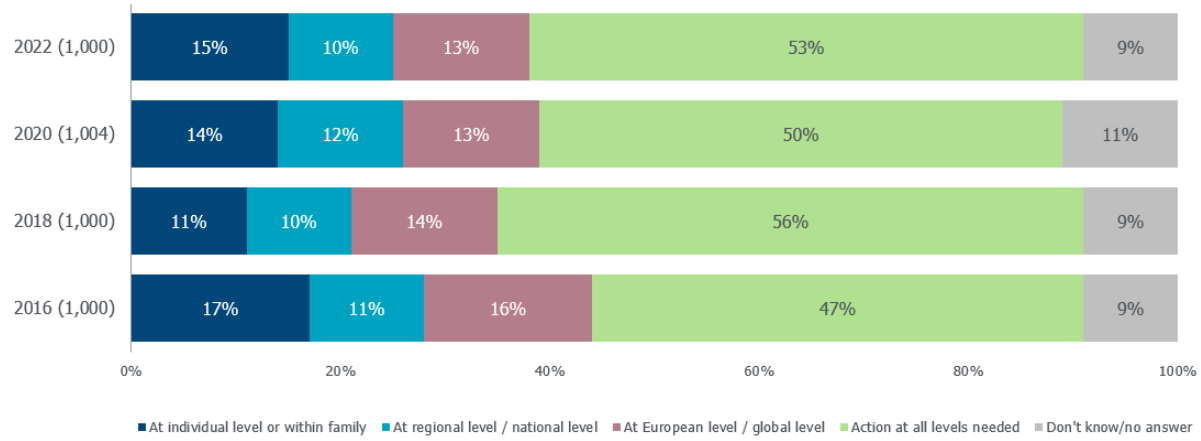
An official health-related website, such as that of a national or state health authority, the European Union or the World Health Organization (WHO), would also be consulted comparatively more frequently at 39% (2022 survey). This is also likely to be directly linked to them being seen as competent. Less often cited as preferred sources of information are family and friends (13% in 2022) and TV clips (9% in 2022).

3.6 Level at which problem of resistance should be tackled

The aim of the Swiss Antimicrobial Resistance Strategy (StAR) is to ensure the long-term efficacy of antibiotics. Due to the problem of resistance arising from the frequent use of antibiotics, i.e. micro-organisms becoming immune to the bactericidal effect of antibiotics, this problem can be dealt with on a variety of possible levels. These are the individual, regional/national and European/global levels.

Respondents were openly asked at which level the topic and the development of antibiotic resistance could be most effectively tackled from their subjective point of view. In turn, the responses show that a majority of respondents consider it necessary to tackle antibiotic resistance at all levels (see Chart 17).

Chart 17 Frequent use of antibiotics can result in resistances, that means microorganisms becoming immune to the killing effect of these medicines. This is called antibiotic resistance. At what level do you believe it is most effective to tackle the resistance to antibiotics?



Base: number of respondents in brackets / Question type: single question

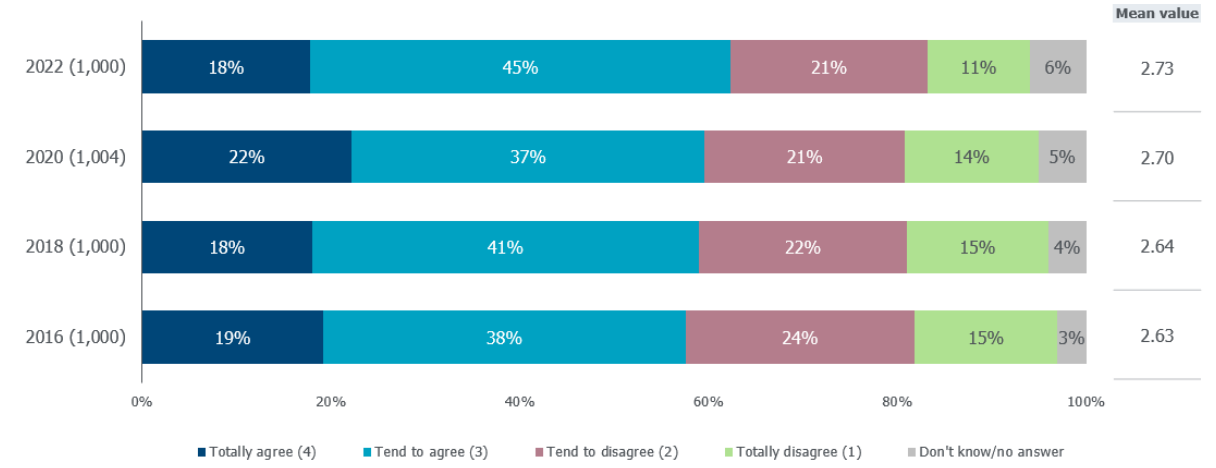
Compared to the last survey in 2020, the proportions of people who think it should be tackled primarily at the individual level (15%), at the regional/national level (10%) and at the European/global level (13%) have also remained very similar.

3.7 Antibiotic treatment in livestock

Individual topics raised by respondents in connection with antibiotics for which they would like more information (see section 3.5) refer to the relationship between antibiotics and livestock. The interplay between humans, animals and the environment in the context of antibiotics and antibiotics in foodstuffs and livestock was raised. This shows that there is an awareness of the multilayered and complex nature of the issue and that antibiotics are not only used to treat sick people. It is generally known that antibiotics are also used in agriculture and, in particular, to treat livestock, and that this can contribute to an increased general resistance to antibiotics.[4]

Following an introduction and background information, respondents were asked to what extent they agreed that ill farm animals should be treated with antibiotics where this was the most appropriate treatment. 63% of people agreed with this approach, 18% of them totally and another 45% tended to (see Chart 18).

Chart 18 Antibiotics are also used in livestock in the agricultural sector and this can contribute to an increased level of general antibiotic resistance. To what extent do you agree or disagree that agricultural livestock should be treated with antibiotics to treat disease if this is the most appropriate treatment method?



Base: number of respondents in brackets / Question type: single question

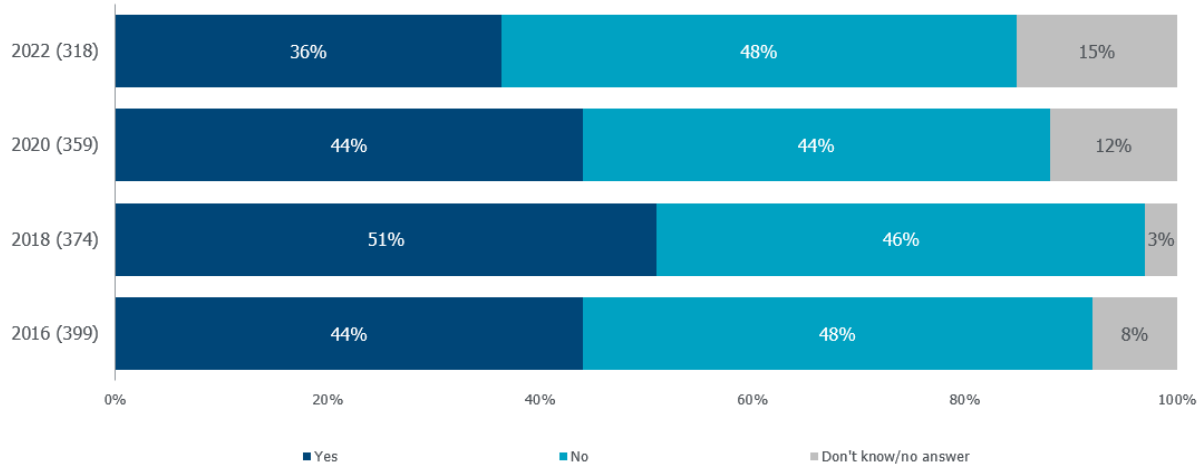
Compared to previous waves of surveys, the average agreement in the current survey is the highest (mean value 2.73 on a scale from 1 = totally disagree to 4 = totally agree).

Those who are clearly or tend to be in favour of not treating farm animals with antibiotics, even if this would be the most appropriate treatment method, were asked in a follow-up question whether they were prepared to accept that animals would have to remain ill, suffer or be put down if antibiotics were the only effective treatment method for an infection but were not used.

[4] According to the 2021 report by the Swiss Federal Food Safety and Veterinary Office (FSVO) on the sale of antibiotics and antibiotic resistance in veterinary medicine in Switzerland (ARCH-Vet), the total volume of antibiotics sold for the treatment of animals in Switzerland decreased by around two per cent in 2021 compared to the previous year.
Accessed at https://www.blv.admin.ch/blv/de/home/tiere/tierarzneimittel/antibiotika/vertrieb.html (last accessed: 17 October 2022).

The proportion of people who agreed to this was around half (51%) in 2018, but has been declining steadily since then, to 44% in 2020 and 36% in the current survey (see Chart 19). At the same time, the proportion of people who were unable or unwilling to answer this question has increased (15% don't know/no response). This shows the moral and ethical dimension of the question.

Chart 19 Sometimes antibiotics are the only effective treatment method for an infection. Would you accept that animals would have to remain ill, suffer or be put down?



Base: number of respondents in brackets / Filter: No agreement ("rather not" or "not at all") regarding antibiotic treatment in livestock / Question type: single question

Men accept that without antibiotic treatment animals remain ill, suffer or have to be put down statistically significantly more often (42%) than women (30%). The proportion of people with a tertiary education who answered "no" is also comparatively higher (58%). Finally, there are also differences between the age groups, as shown in Table 9 below.

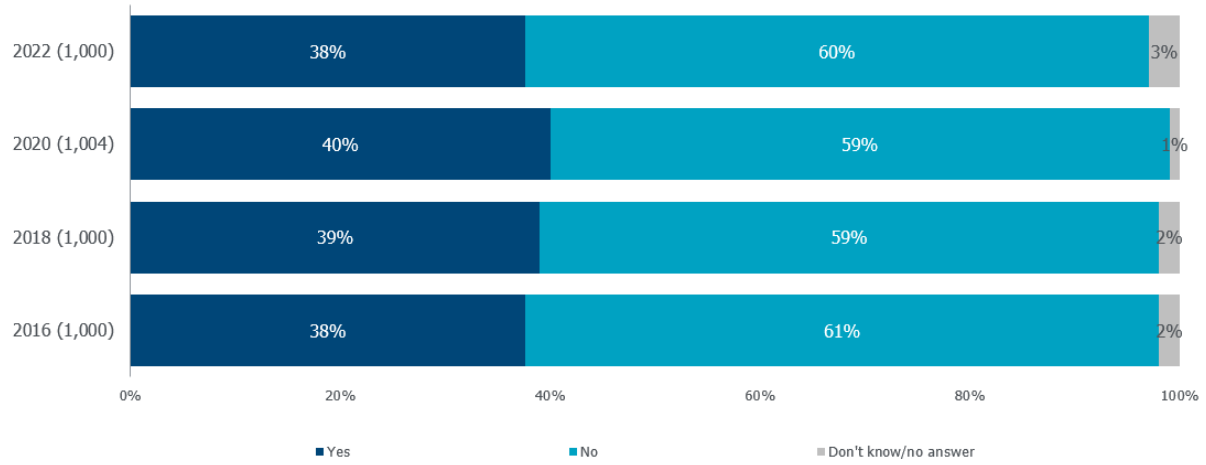
Table 9 Sometimes antibiotics are the only effective treatment method for an infection. Would you accept that animals would have to remain ill, suffer or be put down?

	Age					**Gender**		**Education**		
	15—24 years	25—39 years	40—54 years	55—64 years	65+ years	Male	Female	Obligatory	Secondary	Tertiary
Total (wt.)	40	67	80	51	80	154	164	17	151	134
Yes	**46%**	20%	**38%**	**44%**	**38%**	**42%**	30%	51%	**42%**	27%
No	50%	**66%**	**51%**	42%	34%	47%	49%	38%	42%	**58%**
Don't know	2%	14%	10%	13%	16%	8%	15%	8%	**16%**	8%
No answer	2%	-%	1%	1%	11%	2%	5%	3%	1%	6%

Base: 318 respondents / Filter: No agreement ("rather not" or "not at all") regarding antibiotic treatment in livestock / Question type: single question

In addition to the treatment of diseased livestock, antibiotics can also be used in farm animals to promote growth. This practice is prohibited in Switzerland and the European Union. Finally, respondents were asked whether they were aware of this prohibition or not. Figure 20 shows that around 40% have been aware of this since 2016 and there have been no significant changes since then.

Chart 20 Do you know that using antibiotics to stimulate growth in farm animals is banned in Switzerland as well as within the EU?



Base: number of respondents in brackets / Question type: single question

The proportion of people who know about it is more pronounced in Ticino, among people of increasing age and among people living in rural areas, as can be seen from Table 10.

Table 10 Do you know that using antibiotics to stimulate growth in farm animals is banned in Switzerland as well as within the EU?

	Region			**Age**					**Settlement type**		
	German	French	Italian	15—24 years	25—39 years	40—54 years	55—64 years	65+ years	Urban	Inter-mediate	Rural
Total (wt.)	709	246	45	123	246	252	159	220	630	212	158
Yes	35%	42%	**57%**	24%	33%	**41%**	**49%**	**40%**	36%	39%	**46%**
No	**63%**	**53%**	37%	**76%**	**65%**	**58%**	45%	**57%**	**62%**	59%	49%
Don't know	2%	5%	7%	-%	2%	1%	6%	4%	2%	2%	5%

Base: 1,000 respondents / Question type: single question

3.8 Conclusions

The state of knowledge, practices and attitudes of the Swiss population towards various aspects of antibiotics and antibiotic resistance are periodically surveyed for the purposes of implementing the Swiss Antimicrobial Resistance Strategy (StAR). Surveys carried out every two years between 2016 and 2022 show that developments and changes in the longitudinal comparison are sometimes only apparent to a small extent, that there is a sharpening focus and growing awareness of certain topics, but that overall, the societal context and other dominant topics and developments also need to be taken into account.

The diversity and complexity of the topic can be seen in very different subjective experiences and attitudes about antibiotics, and also in terms of the level of knowledge and intrinsic interest in further information. The use of antibiotics, the deliberate avoidance of them, the varying media presence and awareness of the topic as well as moral and ethical issues indicate the broad range and relevant aspects involved.

Addressing the issue of antibiotic resistance requires complex and careful treatment of the topic and justifies a strategic approach with careful handling on multiple levels. With this in mind, recipient-oriented and target group-specific communication, a constant discussion of interrelationships and a broad information policy aimed at different actors and time dimensions are key.

The population surveys carried out provide an important basis for reviewing the status quo, potentially realigning key questions and determining further implementation steps. Important debates among specialists, discussions in the private domain and the involvement of relevant actors at local, regional, national and international level benefit from a long-term strategy that takes account of the wide range of topics and opinions.

4. Appendix

4.1 Tables of results (extract)

Note: Statistically significant differences between the sub-groups are highlighted in bold.

Q1 Antibiotic intake in the last 12 months according to region, age, gender, education, occupation, home situation, income, knowledge (index from Q04) and awareness

	Region			**Age**				
	German	French	Italian	15—24 years	25—39 years	40—54 years	55—64 years	65+ years
Total (wt.)	709	246	45	123	246	252	159	220
Yes	19%	17%	**32%**	21%	18%	18%	**26%**	16%
No	80%	82%	68%	79%	82%	82%	74%	**83%**
Don't know	*%	*%	-%	-%	-%	*%	-%	1%

	Gender		**Education**		
	Male	Female	Obligatory	Secondary	Tertiary
Total (wt.)	494	506	58	489	427
Yes	16%	**23%**	22%	19%	19%
No	**84%**	77%	78%	81%	81%
Don't know	1%	-%	-%	*%	*%

	Occupation				**Home situation**			
	Trades	Nursing profession	Office work / service sector	Other	Single	Couple without children	With children (couple + single parent)	Other
Total (wt.)	102	68	250	202	182	312	389	110
Yes	12%	**28%**	13%	**24%**	13%	**22%**	**21%**	19%
No	**88%**	72%	**87%**	75%	**87%**	78%	79%	81%
Don't know	-%	-%	-%	*%	*%	1%	*%	-%

	Household income					**Knowledge Index from Q04)**			**Awareness**	
	<4'000	4'000 - 6'000	6'000 - 8'000	8'000 - 10'000	>10'000	4 correct	3 correct	<3 correct	Yes	No
Total (wt.)	99	162	229	130	200	369	265	151	347	629
Yes	16%	**30%**	21%	17%	16%	23%	20%	18%	**27%**	15%
No	**84%**	70%	78%	**83%**	**84%**	77%	80%	82%	73%	**84%**
Don't know	*%	*%	1%	-%	-%	*%	*%	*%	*%	*%

Q2 Prescription of last antibiotic treatment according to age, gender and knowledge

	Age					Gender		Knowledge (Index from Q04)		
	15—24 years	25—39 years	40—54 years	55—64 years	65+ years	Male	Female	4 correct	3 correct	<3 correct
Total (wt.)	25	45	45	42	36	78	116	83	53	27
Administered by a medical practitioner	56%	71%	72%	61%	75%	63%	71%	72%	65%	57%
On prescription in a pharmacy	30%	29%	28%	21%	22%	32%	22%	24%	21%	41%
Without prescription from elsewhere	4%	-%	*%	17%	-%	4%	4%	1%	13%	-%
Without prescription from a pharmacy	10%	-%	-%	-%	-%	-%	2%	3%	-%	-%
You had some left over from a previous course	-%	-%	-%	1%	-%	-%	*%	-%	-%	2%
Don't know	-%	-%	-%	-%	4%	1%	*%	-%	-%	-%

Q3 Reasons for last antibiotic intake according to age, gender and knowledge (index from Q4)

	Age					Gender		Knowledge (Index from Q04)		
	15—24 years	25—39 years	40—54 years	55—64 years	65+ years	Male	Female	4 correct	3 correct	<3 correct
Total (wt.)	25	45	45	42	36	78	116	83	53	27
Surgical procedure	9%	10%	3%	**43%**	**16%**	13%	19%	19%	12%	13%
Other inflammations / infections	14%	**24%**	**17%**	**21%**	2%	11%	20%	14%	9%	25%
Urinary tact infection	18%	2%	**16%**	4%	32%	5%	**19%**	13%	11%	16%
Skin or wound infection	12%	10%	7%	9%	9%	11%	8%	13%	12%	1%
As prophylaxis to prevent secondary infections	12%	8%	8%	3%	11%	7%	9%	7%	12%	6%
Sore throat, angina, scarlet fever	12%	12%	3%	-%	3%	10%	3%	10%	2%	4%
Diarrhea	-%	14%	2%	1%	5%	10%	2%	2%	14%	-%
Tooth infection	2%	1%	5%	4%	10%	4%	5%	2%	7%	1%
Ear inflammation	6%	-%	15%	-%	-%	10%	1%	6%	3%	6%
Cold	4%	8%	3%	3%	-%	4%	3%	-%	12%	3%
Rhinopharyngitis	1%	9%	3%	1%	-%	1%	5%	6%	*%	1%
COVID-19	-%	-%	11%	-%	2%	2%	4%	1%	2%	3%
Joint, tendon or muscle inflammation	3%	-%	2%	5%	1%	4%	1%	2%	1%	6%
Pneumonia	-%	3%	2%	2%	2%	3%	1%	1%	2%	7%
Bronchitis	-%	-%	1%	2%	3%	1%	1%	1%	2%	-%
Headache	4%	1%	-%	-%	-%	2%	-%	-%	2%	2%
Flu	-%	-%	2%	1%	-%	1%	-%	-%	*%	3%
Other	3%	-%	1%	2%	1%	3%	-%	1%	-%	3%
Don't know	-%	-%	-%	*%	1%	-%	*%	*%	-%	-%
No answer	-%	-%	-%	-%	2%	-%	1%	1%	-%	-%

Q4 Statements on antibiotics according to age, gender, education, income, antibiotic in-take and awareness

Statement «Antibiotics kill viruses»

	Age					Gender		Education		
	15—24 years	25—39 years	40—54 years	55—64 years	65+ years	Male	Female	Obliga-tory	Second-ary	Tertiary
Total (wt.)	123	246	252	159	220	494	506	58	489	427
True	32%	**33%**	24%	28%	25%	**34%**	22%	**36%**	**35%**	18%
False	65%	62%	**66%**	60%	57%	53%	**70%**	59%	52%	**74%**
Don't know	2%	5%	**10%**	**13%**	**18%**	**12%**	8%	5%	**12%**	7%
No answer	-%	-%	1%	-%	1%	1%	*%	*%	1%	*%

	Household income					Antibiotic intake		Awareness	
	<4'000	4'000 - 6'000	6'000 - 8'000	8'000 - 10'000	>10'000	Yes	No	Yes	No
Total (wt.)	99	162	229	130	200	193	804	347	629
True	26%	**40%**	23%	29%	23%	23%	**29%**	23%	**32%**
False	54%	50%	**63%**	**68%**	**67%**	68%	60%	**71%**	56%
Don't know	**18%**	**10%**	**14%**	4%	**9%**	10%	10%	7%	**12%**
No answer	2%	*%	*%	-%	*%	-%	1%	*%	1%

Statement «Antibiotics are effective against colds and flu»

	Age					Gender		Education		
	15—24 years	25—39 years	40—54 years	55—64 years	65+ years	Male	Female	Obliga-tory	Second-ary	Tertiary
Total (wt.)	123	246	252	159	220	494	506	58	489	427
True	**25%**	8%	6%	6%	11%	**12%**	7%	**33%**	**11%**	5%
False	68%	**90%**	**93%**	**93%**	**82%**	82%	**91%**	64%	**83%**	**94%**
Don't know	8%	2%	1%	1%	**7%**	**5%**	2%	4%	**6%**	1%

	Household income					Antibiotic intake		Awareness	
	<4'000	4'000 - 6'000	6'000 - 8'000	8'000 - 10'000	>10'000	Yes	No	Yes	No
Total (wt.)	99	162	229	130	200	193	804	347	629
True	6%	**13%**	**10%**	**12%**	4%	8%	10%	8%	11%
False	84%	84%	89%	83%	**95%**	90%	86%	88%	85%
Don't know	10%	3%	2%	4%	*%	2%	4%	3%	4%

Statement «Unnecessary use of antibiotics makes them become ineffective»

	Age					Gender		Education		
	15—24 years	25—39 years	40—54 years	55—64 years	65+ years	Male	Female	Obliga-tory	Second-ary	Tertiary
Total (wt.)	123	246	252	159	220	494	506	58	489	427
True	**88%**	**94%**	83%	**88%**	76%	87%	84%	80%	84%	**89%**
False	10%	5%	**14%**	**11%**	**12%**	9%	11%	9%	11%	9%
Don't know	2%	1%	3%	1%	**11%**	3%	4%	11%	**4%**	2%
No answer	-%	-%	-%	*%	1%	*%	*%	-%	*%	*%

	Household income					Antibiotic intake		Awareness	
	<4'000	4'000 - 6'000	6'000 - 8'000	8'000 - 10'000	>10'000	Yes	No	Yes	No
Total (wt.)	99	162	229	130	200	193	804	347	629
True	68%	**85%**	**88%**	**91%**	**91%**	85%	86%	88%	85%
False	16%	12%	11%	8%	8%	12%	10%	7%	**12%**
Don't know	16%	3%	1%	1%	1%	2%	4%	5%	3%
No answer	-%	*%	-%	*%	-%	-%	*%	-%	*%

Statement «Taking antibiotics often has side-effects such as diarrhoea»

	Age					Gender		Education		
	15—24 years	25—39 years	40—54 years	55—64 years	65+ years	Male	Female	Obliga-tory	Second-ary	Tertiary
Total (wt.)	123	246	252	159	220	494	506	58	489	427
True	**73%**	68%	66%	71%	62%	64%	**71%**	52%	**66%**	**73%**
False	22%	22%	20%	20%	23%	23%	20%	23%	21%	20%
Don't know	5%	9%	**12%**	9%	**14%**	**12%**	8%	**25%**	**12%**	7%
No answer	-%	*%	1%	-%	1%	1%	*%	-%	1%	1%

	Household income					Antibiotic intake		Awareness	
	<4'000	4'000 - 6'000	6'000 - 8'000	8'000 - 10'000	>10'000	Yes	No	Yes	No
Total (wt.)	99	162	229	130	200	193	804	347	629
True	57%	68%	60%	67%	**72%**	**73%**	66%	**76%**	63%
False	16%	**26%**	**28%**	20%	21%	21%	22%	17%	**23%**
Don't know	**25%**	6%	**12%**	**13%**	5%	6%	**12%**	7%	**13%**
No answer	2%	-%	*%	-%	1%	-%	1%	-%	1%

Q5 End of antibiotic intake according to age, gender, education, income, antibiotic intake and awareness

	Age					Gender		Education		
	15—24 years	25—39 years	40—54 years	55—64 years	65+ years	Male	Female	Obligatory	Secondary	Tertiary
Total (wt.)	123	246	252	159	220	494	506	58	489	427
When you have taken all of the antibiotics as directed	33%	**47%**	**50%**	**46%**	39%	41%	47%	17%	**39%**	**55%**
After 4-14 days	**24%**	16%	15%	13%	19%	17%	17%	**28%**	17%	14%
When the pack is finished	2%	**9%**	**9%**	**19%**	**15%**	10%	13%	8%	13%	9%
When you feel better	**19%**	**16%**	9%	5%	5%	**14%**	8%	**21%**	**12%**	6%
Depends on the antibiotics / depending on the disease	7%	3%	3%	1%	3%	2%	4%	1%	3%	3%
After 1-3 days	4%	3%	2%	1%	2%	2%	2%	2%	2%	2%
In case of allergies/side effects	3%	1%	1%	4%	2%	2%	1%	1%	3%	1%
After more than 14 days	1%	*%	1%	1%	1%	1%	1%	1%	*%	1%
Other	4%	1%	1%	-%	3%	2%	1%	7%	1%	2%
Don't know	4%	3%	**8%**	**9%**	**8%**	**9%**	4%	14%	**9%**	3%
No answer	-%	-%	-%	*%	3%	*%	1%	-%	*%	1%

	Household income					Antibiotic intake		Awareness	
	<4'000	4'000 - 6'000	6'000 - 8'000	8'000 - 10'000	>10'000	Yes	No	Yes	No
Total (wt.)	99	162	229	130	200	193	804	347	629
When you have taken all of the antibiotics as directed	37%	41%	43%	49%	**54%**	47%	44%	47%	42%
After 4-14 days	11%	18%	15%	17%	15%	17%	17%	14%	19%
When the pack is finished	**15%**	9%	12%	9%	6%	14%	10%	**15%**	9%
When you feel better	9%	13%	**14%**	11%	8%	5%	**12%**	9%	12%
Depends on the antibiotics / depending on the disease	2%	1%	**5%**	3%	4%	**6%**	3%	4%	3%
After 1-3 days	4%	4%	3%	1%	1%	1%	2%	2%	2%
In case of allergies/side effects	1%	2%	*%	4%	3%	1%	2%	2%	2%
After more than 14 days	*%	1%	*%	1%	2%	*%	1%	1%	1%
Other	-%	3%	1%	1%	2%	1%	2%	1%	1%
Don't know	**22%**	**8%**	6%	3%	4%	6%	7%	5%	8%
No answer	-%	-%	-%	*%	-%	-%	1%	-%	1%

Q5.1 Disposal of antibiotic packs according to age, gender, education, income, antibiotic in-take and awareness

	Age					Gender		Education		
	15—24 years	25—39 years	40—54 years	55—64 years	65+ years	Male	Female	Obligatory	Secondary	Tertiary
Total (wt.)	123	246	252	159	220	494	506	58	489	427
I take them back to the pharmacy	41%	**58%**	**69%**	**77%**	**79%**	61%	**71%**	43%	**62%**	**74%**
I take them back to the doctor/doctor's surgery	11%	**17%**	10%	10%	**25%**	15%	15%	12%	**18%**	12%
I dispose of them in the household waste	**15%**	**17%**	**16%**	4%	3%	**17%**	6%	16%	11%	11%
I keep them on, and use them the next time I get an infection	**23%**	**12%**	6%	4%	4%	9%	9%	**20%**	7%	9%
I wait until the expiry date has been reached and then check	11%	**4%**	3%	1%	3%	5%	3%	5%	3%	5%
I take them back to the community collection point	1%	2%	*%	3%	1%	2%	1%	3%	2%	1%
I give them to my friends and relatives when they are sick	2%	2%	-%	*%	-%	1%	*%	-%	1%	-%
I flush them down the toilet/WC	-%	1%	-%	-%	-%	*%	-%	4%	-%	-%
Other	-%	-%	-%	-%	*%	*%	-%	-%	-%	*%
I have never had leftovers	4%	5%	2%	**8%**	4%	3%	5%	-%	5%	3%
I have never used/taken antibiotics	-%	2%	*%	-%	*%	2%	*%	11%	*%	*%
Don’t know	4%	-%	1%	1%	1%	1%	2%	4%	1%	1%
No answer	-%	-%	-%	*%	-%	-%	*%	-%	*%	-%

	Household income					Antibiotic intake		Awareness	
	<4'000	4'000 - 6'000	6'000 - 8'000	8'000 - 10'000	>10'000	Yes	No	Yes	No
Total (wt.)	99	162	229	130	200	193	804	347	629
I take them back to the pharmacy	69%	70%	66%	59%	64%	57%	**68%**	**75%**	61%
I take them back to the doctor/doctor's surgery	**20%**	16%	15%	10%	14%	7%	**17%**	**19%**	13%
I dispose of them in the household waste	4%	7%	**13%**	**17%**	**12%**	9%	12%	6%	**14%**
I keep them on, and use them the next time I get an infection	6%	7%	7%	10%	12%	**15%**	8%	5%	**10%**
I wait until the expiry date has been reached and then check	1%	1%	**4%**	6%	**4%**	2%	4%	4%	4%
I take them back to the community collection point	1%	2%	*%	2%	2%	1%	1%	1%	1%
I give them to my friends and relatives when they are sick	*%	-%	-%	-%	3%	-%	1%	1%	*%
I flush them down the toilet/WC	-%	1%	-%	-%	-%	-%	*%	-%	*%
Other	-%	1%	-%	-%	-%	-%	*%	*%	-%
I have never had leftovers	3%	5%	5%	4%	3%	**11%**	2%	4%	4%
I have never used/taken antibiotics	7%	-%	*%	-%	-%	*%	1%	-%	1%
Don't know	2%	2%	*%	1%	-%	1%	1%	*%	2%
No answer	-%	-%	-%	*%	-%	-%	*%	-%	*%

Q7 Reaction when doctor does not prescribe antibiotics for the child, according to age, gender, education, antibiotic intake and knowledge

	Age					Gender	
	15—24 years	25—39 years	40—54 years	55—64 years	65+ years	Male	Female
Total (wt.)	4	131	211	112	155	287	325
You accept the decision of the doctor	75%	50%	61%	57%	**62%**	59%	58%
I would like an explanation/justification from the doctor	-%	10%	**11%**	5%	5%	7%	9%
I'm inclined to be against treatment with antibiotics anyway	17%	5%	7%	7%	5%	5%	7%
You go to see another doctor	-%	**6%**	**9%**	1%	2%	7%	4%
You insist on antibiotic treatment until the doctor agrees	-%	5%	2%	1%	5%	2%	**5%**
I would like an alternative treatment suggestion from the doctor	-%	5%	2%	1%	4%	4%	2%
You are trying from other sources to obtain an antibiotic	-%	-%	-%	-%	3%	-%	1%
You are trying to get an antibiotic at the pharmacy	-%	-%	*%	-%	*%	1%	-%
Other	-%	-%	-%	1%	-%	*%	-%
"Never happened before / no estimate possible"	-%	19%	16%	23%	18%	17%	19%
Don't know	8%	3%	2%	5%	4%	4%	3%
No answer	-%	-%	*%	2%	*%	1%	*%

	Education			Antibiotic intake		Knowledge (Index from Q04)		
	Obligatory	Secondary	Tertiary	Yes	No	4 correct	3 correct	<3 correct
Total (wt.)	14	271	313	129	481	250	167	79
You accept the decision of the doctor	41%	61%	56%	63%	57%	59%	61%	61%
I would like an explanation/justification from the doctor	3%	6%	10%	6%	9%	**10%**	9%	3%
I'm inclined to be against treatment with antibiotics anyway	6%	6%	7%	5%	7%	7%	3%	7%
You go to see another doctor	28%	6%	4%	5%	5%	6%	6%	2%
You insist on antibiotic treatment until the doctor agrees	3%	4%	3%	5%	3%	3%	3%	7%
I would like an alternative treatment suggestion from the doctor	7%	2%	3%	5%	2%	5%	2%	*%
You are trying from other sources to obtain an antibiotic	-%	-%	2%	-%	1%	-%	-%	6%
You are trying to get an antibiotic at the pharmacy	-%	*%	*%	-%	*%	*%	1%	-%
Other	-%	-%	*%	-%	*%	-%	-%	-%
"Never happened before / no estimate possible"	15%	15%	**22%**	16%	19%	17%	19%	16%
Don't know	-%	5%	2%	2%	4%	3%	1%	3%
No answer	-%	*%	1%	1%	*%	-%	1%	1%

Q8 Recollection of information about antibiotics according to age, education, income and antibiotic intake

	Age					Education		
	15—24 years	25—39 years	40—54 years	55—64 years	65+ years	Obligatory	Secondary	Tertiary
Total (wt.)	123	246	252	159	220	58	489	427
Yes	26%	28%	**36%**	**48%**	**37%**	26%	34%	38%
No	**74%**	**70%**	**62%**	52%	58%	**74%**	64%	59%
Don't know	1%	3%	2%	-%	**5%**	-%	2%	3%

	Household income					Antibiotic intake	
	<4'000	4'000-6'000	6'000-8'000	8'000-10'000	>10'000	Yes	No
Total (wt.)	99	162	229	130	200	193	804
Yes	36%	36%	29%	35%	**40%**	**48%**	32%
No	62%	61%	67%	61%	59%	50%	**66%**
Don't know	2%	3%	3%	4%	1%	2%	2%

Q9 Sources of information on antibiotics according to age, education and income

	Age					Education		
	15—24 years	25—39 years	40—54 years	55—64 years	65+ years	Oblig-atory	Sec-ond-ary	Ter-tiary
Total (wt.)	32	68	91	76	81	15	165	161
You read it in a newspaper / specialist journal	23%	31%	34%	**49%**	**58%**	28%	40%	45%
You saw or heard it on the Internet or on online social media	13%	**25%**	**27%**	11%	15%	6%	16%	**25%**
You saw it on the TV news	11%	8%	11%	8%	**24%**	15%	**19%**	7%
Work / study / school	39%	6%	**10%**	1%	**11%**	22%	7%	13%
You saw it on a TV advertisement	-%	7%	9%	7%	6%	8%	8%	5%
You heard it in the radio	2%	8%	7%	5%	5%	9%	7%	4%
A doctor talked to you about it	9%	3%	9%	2%	5%	14%	6%	3%
A family member or friend talked to you about it	6%	4%	6%	8%	1%	6%	5%	4%
You saw it in a leaflet or on a poster	-%	10%	5%	4%	1%	-%	3%	7%
Another health professional talked to you about it	-%	1%	2%	2%	-%	-%	1%	1%
A pharmacist talked to you about it	2%	-%	-%	1%	-%	-%	-%	1%
Other	2%	5%	2%	1%	*%	-%	4%	*%
Don't know	7%	9%	7%	15%	8%	15%	10%	9%

	Household income				
	<4'000	4'000–6'000	6'000–8'000	8'000–10'000	>10'000
Total (wt.)	36	58	68	46	80
You read it in a newspaper / specialist journal	23%	37%	**45%**	39%	**43%**
You saw or heard it on the Internet or on online social media	3%	**17%**	**14%**	**32%**	**25%**
You saw it on the TV news	**31%**	17%	9%	9%	12%
Work / study / school	12%	7%	9%	14%	4%
You saw it on a TV advertisement	9%	9%	**13%**	6%	3%
You heard it in the radio	2%	9%	5%	5%	7%
A doctor talked to you about it	5%	7%	7%	3%	4%
A family member or friend talked to you about it	13%	2%	1%	12%	6%
You saw it in a leaflet or on a poster	9%	4%	7%	-%	3%
Another health professional talked to you about it	1%	-%	1%	4%	2%
A pharmacist talked to you about it	-%	-%	-%	2%	-%
Other	1%	2%	4%	5%	*%
Don't know	10%	**21%**	3%	6%	6%

Q10 Change in view after receiving information according to age and education

	Age					Education		
	15—24 years	25—39 years	40—54 years	55—64 years	65+ years	Obligatory	Secondary	Tertiary
Total (wt.)	32	68	91	76	81	15	165	161
Yes	22%	15%	16%	15%	21%	10%	19%	15%
No	78%	84%	83%	84%	78%	90%	80%	83%
Don't know	-%	*%	1%	1%	1%	-%	*%	1%

Q11 Current approach according to education and knowledge (index from Q4)

	Education			Knowledge (Index from Q04)		
	Obliga-tory	Second-ary	Tertiary	4 cor-rect	3 cor-rect	<3 cor-rect
Total (wt.)	15	165	161	162	102	32
You will always consult a doctor in situations when you think you need antibiotics	40%	42%	42%	41%	40%	38%
No change/will continue as before	22%	23%	24%	27%	23%	20%
As little as possible/none	38%	22%	21%	22%	24%	21%
You will no longer take antibiotics w/o a prescription from a doctor, only when necessary, only when the doctor says	-%	13%	14%	10%	16%	6%
With caution	3%	10%	12%	14%	9%	10%
You will no longer self-medicate with antibiotics	-%	2%	4%	3%	*%	3%
You'll be taking antibiotics for influenza	7%	-%	-%	1%	-%	-%
You will not keep antibiotics for later use in case of recurrence of disease	-%	-%	-%	-%	-%	1%
Other	-%	*%	-%	*%	-%	-%
None	-%	-%	-%	-%	*%	-%
Don't know	-%	-%	1%	1%	*%	1%
No answer	-%	-%	1%	-%	1%	-%

Q12 Topics on which respondents would like to receive more information according to age, education, knowledge and Internet use

	Age					Education		
	15—24 years	25—39 years	40—54 years	55—64 years	65+ years	Obligatory	Secondary	Tertiary
Total (wt.)	123	246	252	159	220	58	489	427
Side effects	**14%**	**11%**	5%	8%	9%	12%	9%	9%
Resistance to antibiotics	9%	5%	**13%**	**13%**	6%	*%	**6%**	**14%**
General information on antibiotics	**17%**	**12%**	6%	5%	6%	16%	9%	8%
How to use antibiotics	**10%**	3%	6%	7%	7%	13%	5%	7%
How antibiotics work	**8%**	1%	**6%**	3%	**5%**	3%	5%	4%
New research / developments	3%	5%	3%	6%	3%	7%	2%	**6%**
Alternatives to antibiotics	3%	4%	**5%**	1%	3%	2%	3%	3%
Links between the health of humans, animals and the environment	8%	1%	**5%**	1%	2%	5%	3%	4%
Medical conditions for which antibiotics are used	4%	3%	1%	3%	4%	4%	3%	3%
Effects on children	4%	4%	3%	-%	-%	1%	2%	3%
How you can protect yourself against antibiotic resistance	1%	2%	3%	1%	*%	-%	1%	2%
Antibiotics in foodstuffs, in farm animals	4%	*%	*%	*%	1%	-%	2%	1%
Prescription of antibiotics	*%	-%	1%	1%	1%	1%	*%	1%
Other	2%	2%	**5%**	1%	1%	2%	3%	2%
Not interested in information on antibiotics	33%	33%	40%	**44%**	32%	33%	**40%**	33%
Don't know	4%	**18%**	**13%**	**13%**	**18%**	15%	15%	11%
No answer	2%	3%	4%	6%	**13%**	1%	5%	7%

	Knowledge (Index from Q04)			Internet use		
	4 correct	3 correct	<3 correct	Yes, (almost) daily	Yes, less frequently	No
Total (wt.)	369	265	151	847	107	43
Side effects	8%	**13%**	8%	8%	14%	13%
Resistance to antibiotics	**13%**	12%	7%	**10%**	2%	2%
General information on antibiotics	9%	5%	**17%**	8%	**21%**	2%
How to use antibiotics	7%	4%	9%	5%	**16%**	6%
How antibiotics work	4%	**7%**	2%	5%	2%	5%
New research / developments	**6%**	**6%**	*%	5%	1%	1%
Alternatives to antibiotics	5%	4%	3%	3%	2%	6%
Links between the health of humans, animals and the environment	3%	4%	2%	4%	*%	3%
Medical conditions for which antibiotics are used	2%	4%	2%	3%	5%	2%
Effects on children	4%	2%	2%	3%	-%	1%
How you can protect yourself against antibiotic resistance	**3%**	1%	1%	2%	1%	-%
Antibiotics in foodstuffs, in farm animals	1%	1%	*%	1%	1%	-%
Prescription of antibiotics	*%	*%	*%	1%	-%	1%
Other	2%	2%	4%	2%	1%	5%
Not interested in information on antibiotics	33%	38%	29%	37%	28%	39%
Don't know	11%	9%	**23%**	13%	17%	25%
No answer	**8%**	4%	2%	6%	3%	2%

Q13 Sources of information for topics on which respondents would like to receive more information according to age, education, knowledge and awareness

	Age					Education		
	15—24 years	25—39 years	40—54 years	55—64 years	65+ years	Obligatory	Secondary	Tertiary
Total (wt.)	82	164	152	90	150	39	291	285
A doctor	**86%**	**84%**	82%	74%	80%	65%	**88%**	77%
A pharmacy	**68%**	**59%**	**61%**	47%	43%	65%	52%	57%
An official health related website	**66%**	**40%**	**50%**	**32%**	13%	27%	38%	**43%**
A hospital	**56%**	38%	40%	35%	29%	45%	**41%**	31%
A nurse	**49%**	31%	35%	23%	32%	34%	31%	32%
Another health care facility	**34%**	24%	**28%**	23%	17%	27%	24%	24%
Family or friends	**21%**	9%	12%	16%	11%	17%	14%	11%
TV	**11%**	2%	**12%**	8%	**11%**	10%	8%	8%
None of them	-%	-%	1%	5%	5%	-%	*%	**4%**
Don't know	-%	-%	-%	-%	*%	-%	-%	*%

	Knowledge (Index from Q04)			Awareness	
	4 correct	3 correct	<3 correct	Yes	No
Total (wt.)	248	165	107	222	398
A doctor	81%	78%	**92%**	84%	80%
A pharmacy	55%	50%	62%	54%	56%
An official health related website	**47%**	35%	33%	41%	37%
A hospital	36%	36%	46%	35%	40%
A nurse	29%	30%	**52%**	31%	33%
Another health care facility	22%	21%	**36%**	20%	**27%**
Family or friends	9%	15%	**24%**	13%	13%
TV	10%	8%	7%	**11%**	6%
None of them	1%	4%	1%	*%	3%
Don't know	-%	*%	-%	-%	*%

Q14 Level at which problem of resistance should be tackled according to age, education, antibiotic intake and knowledge

	Age					Education		
	15—24 years	25—39 years	40—54 years	55—64 years	65+ years	Obligatory	Secondary	Tertiary
Total (wt.)	123	246	252	159	220	58	489	427
At individual level or within family	**21%**	14%	12%	**21%**	13%	**28%**	**17%**	12%
At regional level / national level	**29%**	**10%**	7%	8%	4%	12%	10%	10%
At European level / global level	9%	10%	**19%**	10%	13%	17%	14%	10%
Action at all levels needed	37%	**60%**	**54%**	**52%**	**55%**	32%	**47%**	**65%**
Don't know	4%	4%	8%	8%	**15%**	11%	**11%**	4%
No answer	-%	2%	*%	1%	*%	-%	1%	*%

	Antibiotic intake		Knowledge (Index from Q04)		
	Yes	No	4 correct	3 correct	<3 correct
Total (wt.)	193	804	369	265	151
At individual level or within family	18%	14%	12%	**19%**	16%
At regional level / national level	10%	10%	10%	12%	9%
At European level / global level	15%	13%	14%	10%	**17%**
Action at all levels needed	51%	54%	**59%**	51%	48%
Don't know	6%	9%	4%	**8%**	9%
No answer	*%	1%	*%	-%	1%

Q16 Taking into account the suffering and death of animals according to age, gender, education, knowledge and awareness

	Age					Gender		Education		
	15—24 years	25—39 years	40—54 years	55—64 years	65+ years	Male	Female	Obligatory	Secondary	Tertiary
Total (wt.)	40	67	80	51	80	154	164	17	151	134
Yes	**46%**	20%	**38%**	**44%**	**38%**	**42%**	30%	51%	**42%**	27%
No	50%	**66%**	**51%**	42%	34%	47%	49%	38%	42%	**58%**
Don’t know	2%	14%	10%	13%	16%	8%	15%	8%	**16%**	8%
No answer	2%	-%	1%	1%	11%	2%	5%	3%	1%	6%

	Knowledge (Index from Q04)			Awareness	
	4 correct	3 correct	<3 correct	Yes	No
Total (wt.)	88	97	43	99	214
Yes	24%	35%	**56%**	33%	38%
No	**61%**	54%	42%	56%	45%
Don’t know	**13%**	4%	-%	10%	13%
No answer	3%	7%	2%	2%	4%

4.2 Rest-Listing (in addition to given answers)

Q3 Reasons for last antibiotic intake

FILTER: IF Q1 = YES
PROG: MULTI
INT: DO NOT READ - MULTIPLE ANSWERS POSSIBLE

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

Answer
ADS
Paziente cronico
Weil es der Arzt verschrieben hat.

Q5 End of antibiotic intake

FILTER: ALL
PROG: SINGLE
INT: IF NECESSARY, EXPLAIN THE QUESTION = «WHAT IS IMPORTANT?»

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

Answer
Au moment où ça devient moins efficace
Lieber lang und zu viel nehmen
Möglichst bald
Möglichst bald
Möglichst rasch und wenn die Symptome abklingen
Nicht zu lange
So früh wie möglich
So rasch wie möglich. Kein Fieber, keine Infektionszeichen im Blut. Stichwort Labor, dann beenden
So schnell als möglich
So schnell wie möglich aufhören, so viel wie nötig, so wenig wie möglich
War bis jetzt nicht der Fall. Beim Tod eines Angehörigen habe ich alle Medikamente beim Hausarzt zurückgeben.
Wenn keine Entzündungswerte mehr nachweisbar
Wenn Labortests ok sind

Q5.1: Disposal of antibiotic packages
FILTER: ALL
PROG: MULIT
INT: DO NOT READ

(PROG: IF Q01 = 1): What do you do with antibiotic packs where you no longer need them?
(PROG: IF Q01 = 2/98/99): What would you do with antibiotic packs where you no longer need them?

Answer
Ins Feuer damit

Q7 Reaction when doctor does not prescribe antibiotics to the child
FILTER: IF Q6 = YES
PROG: MULTI
INT: DO NOT READ - MULTIPLE ANSWERS POSSIBLE

If you have or had legal custody of a child, how would you / did you react if, contrary to your expectation, the doctor did not prescribe antibiotics to your ill child?

Answer
Ça dépend de la gravité de l'état de l'enfant

Q9 Sources of information on antibiotics
FILTER: IF Q8 = YES
PROG: MULTI
INT: DO NOT READ - MULTIPLE ANSWERS POSSIBLE

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

Answer
Allgemeinwissen
Es ging hauptsächlich um Antibiotikaeinsatz bei Tieren (Kühe)
Je connais cette information depuis longtemps
Par hasard
Per Post
Schon als Kind
War schon vor Jahren ein Thema, dass zu schnell Antibiotika genommen, gegeben wird (Tiere)
Weil jemand Antibiotika bekommen hat, habe ich es mitgehört

Q11 Current approach

FILTER: IF Q8 = YES
PROG: MULTI
INT: DO NOT READ - MULTIPLE ANSWERS POSSIBLE

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

Answer
Nach Vorschrift der Verpackung

Q12 Topics on which respondents would like to receive more information

FILTER: ALL
PROG: MULTI (EXCEPT 97/98/99)
INT: DO NOT READ - MULTIPLE ANSWERS POSSIBLE

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

Answer
Allgemeine Medikamentenentsorgung
Aufklärungsarbeit
Beilagenzettel (Information) ist wichtig, dass man gut durchliest
Cercherei in internet
Comment et si drainer le corps après la prise des antibiotiques, dont j'ai entendu parler
Darmaufbau
Die Ärzte müssen dahingehend geschult werden
Gegen Müdigkeit im Alter
Gültigkeitsdauer der Medikamente /Antibiotika
Hausarzt fragen
Informationen zum Darm und Verdauung
Ist sich nicht sicher
Mehr Info (Schule, usw.)
Mehr Informationen über Rückstände in anderen Stoffen
Piu controlli per capire quale e quello giusto che farebbe effetto
Schwächung des Immunsystems
Spitalhygiene
Thema Schwangerschaft
Über Familie oder Freund
Wasserkrankheiten, mehrere Infos erhalten
Wieso man zu wenig hat

4.3 Questionnaire

Q1 Antibiotic intake in the last 12 months
FILTER: ALL
PROG: SINGLE

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

1 Yes
2 No

98 Don't know
99 No answer

Q2 Prescription of last antibiotic treatment
FILTER: IF Q1 = YES
PROG: SINGLE
INT: READ OUT – ONE ANSWER ONLY

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

1 From a medical prescription
2 Administered by a medical practitioner
3 You had some left over from a previous course
4 Without prescription from a pharmacy
5 Without prescription from elsewhere

98 Don't know
99 No answer

Q3 Reasons for last antibiotic intake

FILTER: IF Q1 = YES
PROG: MULTI
INT: DO NOT READ - MULTIPLE ANSWERS POSSIBLE

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

1 Pneumonia
2 Bronchitis
3 Rhinopharyngitis
4 Flu
5 Cold
6 Sore throat, angina, scarlet fever
7 Fever
8 Headache
9 Diarrhoea
10 Urinary tract infection
11 Skin or wound infection
12 Tooth infection
13 Surgical procedure
14 Joint, tendon or muscle inflammation
15 Ear inflammation
16 As prophylaxis to prevent secondary infections
17 Other inflammations/infections
18 COVID-19

96 Other

98 Don’t know
99 No answer

Q4.1 Diagnosis by testing before taking antibiotics

FILTER: IF Q1 = YES
PROG: SINGLE
INT: IF "YES", PLEASE SPECIFY (CODE 1 OR 2)

Before or at the same time as you started taking antibiotics, did you have a laboratory test, such as a blood or urine test or a throat swab, to find out what was causing your illness?

1 Yes, I'm sure that this has been done to identify the causes
2 Yes, but I cannot remember what for
3 No

97 Don't remind me

98 Don’t know
99 No answer

Q4 Statements on antibiotics

FILTER: ALL
PROG: RANDOM

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

a) Antibiotics kill viruses (INT: FALSE)
b) Antibiotics are effective against colds and flu (INT: FALSE)
c) Unnecessary use of antibiotics makes them become ineffective (INT: TRUE)
d) Taking antibiotics often has side-effects such as diarrhoea (INT: TRUE)

1 True
2 False

98 Don't know
99 No answer

Q5 End of antibiotic intake

FILTER: ALL
PROG: SINGLE

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

1 When you feel better
2 If you have taken all antibiotics as instructed (according to type / packaging)
3 After 1-3 days
4 After 4-14 days
5 After more than 14 days
6 In case of allergies/side effects
7 When the pack is finished
8 Depends on the antibiotics / depending on the disease
9 Do not take antibiotics

96 Other

98 Don't know
99 No answer

Q5.1: Disposal of antibiotic packages
FILTER: ALL
PROG: MULTI
INT: DO NOT READ

(PROG: If Q01 = 1): What do you do with antibiotic packs where you no longer need them?
(PROG: If Q01 = 2/98/99): What would you do with antibiotic packs where you no longer need them?

1 I keep them on, and use them the next time I get an infection
2 I give them to my friends and relatives when they are sick
3 I dispose of them in the household waste
4 I flush them down the toilet/WC
5 I flush them down the drain (lavabo / sink)
6 I take them back to the pharmacy
7 I take them back to the doctor/doctor's surgery
8 I take them back to the community collection point
9 I wait until the expiry date has been reached and then check

10 I have never had leftovers
11 I have never used/taken antibiotics

96 Other

98 Don't know
99 No answer

Q6 Custody of children
FILTER: ALL
PROG: SINGLE

Interposed question: Do you have children in your household, or did you have children you had to care for?

1 Yes
2 No

99 No Answer

Q7 Reaction when doctor does not prescribe antibiotics to the child

FILTER: IF Q6 = YES
PROG: MULTI
INT: DO NOT READ - MULTIPLE ANSWERS POSSIBLE

If you have or had legal custody of a child, how would you / did you react if, contrary to your expectation, the doctor did not prescribe antibiotics to your ill child?

1 You insist on antibiotic treatment until the doctor agrees
2 You go to see another doctor
3 They try to get antibiotic in a pharmacy
4 You try to obtain an antibiotic from other sources
5 You give the remaining antibiotics from a previous course to the child
6 You accept the decision of the doctor
7 I would like an explanation/justification from the doctor
8 I would like an alternative treatment suggestion from the doctor
9 I'm inclined to be against treatment with antibiotics anyway
10 Never happened before / no estimate possible

96 Other

98 Don’t know
99 No answer

Q8 Remembering information

FILTER: ALL
PROG: SINGLE

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

1 Yes
2 No

98 Don’t know
99 No answer

Q9 Sources of information on antibiotics

FILTER: IF Q8 = YES
PROG: MULTI
INT: DO NOT READ - MULTIPLE ANSWERS POSSIBLE

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

1 A doctor talked to you about it
2 You saw it on a TV advertisement
3 You saw it on the TV news
4 You read it in a newspaper/specialist journal
5 You saw it on the Internet or on online social media
6 A family member or friend talked to you about it"
7 You heard it in the radio
8 A pharmacist talked to you about it
9 You saw it in a leaflet or on a poster
10 Another health professional talked to you about it
11 Work / study / school

96 Other

98 Don't know
99 No answer

Q10 Change in view after receiving information

FILTER: IF Q8 = YES
PROG: SINGLE

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

1 Yes
2 No

98 Don't know
99 No answer

Q11 Current approach

FILTER: IF Q8 = YES
PROG: MULTI
INT: DO NOT READ - MULTIPLE ANSWERS POSSIBLE

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

1 You will always consult a doctor in situations when you think you need antibiotics
2 You will no longer self-medicate with antibiotics
3 You will no longer take antibiotics without a prescription from a doctor, only when necessary, only when the doctor says so
4 You will no longer keep left over antibiotics for next time you are ill
5 You will use antibiotics against the flu
6 You will give left-over antibiotics to your relatives or friends when they are ill
7 No change/will continue as before
8 As little as possible/none
9 With caution

96 Other

97 No change/will continue as before

98 Don't know
99 No answer

Q12 Topics on which respondents would like to receive more information

FILTER: ALL
PROG: MULTI (EXCEPT 97/98/99)
INT: DO NOT READ - MULTIPLE ANSWERS POSSIBLE

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

1 Medical conditions for which antibiotics are used
2 Resistance to antibiotics
3 How you can protect yourself against antibiotic resistance
4 Links between the health of humans, animals and the environment
5 How to use antibiotics
6 Prescription of antibiotics
7 Side effects
8 General information on antibiotics
9 How antibiotics work
10 Alternatives to antibiotics
11 New research / developments
12 Effects on children
13 Antibiotics in foodstuffs, in farm animals

96 Other
97 Not interested in information on antibiotics

98 Don't know
99 No answer

Q13 Sources of information for topics on which respondents would like to receive more information

FILTER: ALL, EXCEPT "NOT INTERESTED" IN Q12 (CODE 97)
PROG: RANDOM, MULTI
INT: READ OUT

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

1 A doctor
2 A pharmacy
3 A hospital
4 An official health related website
5 A nurse
6 Another health care facility
7 TV
8 Family or friends

97 None

98 Don't know
99 No answer

Q14 Level at which problem of resistance should be tackled

FILTER: ALL
PROG: SINGLE

Frequent use of antibiotics can result in resistances, that means microorganisms becoming immune to the killing effect of these medicines. This is called antibiotic resistance. At what level do you believe it is most effective to tackle the resistance to antibiotics?

1 At individual level or within family
2 At regional level / national level
3 At European level / global level
4 Action at all levels needed

98 Don't know
99 No answer

Q15 Antibiotic treatment in livestock
FILTER: ALL
PROG: SINGLE

Antibiotics are also used in livestock in the agricultural sector and this can contribute to an increased level of general antibiotic resistance. To what extent do you agree or disagree that agricultural livestock should be treated with antibiotics to treat disease if this is the most appropriate treatment method?

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

98 Don't know
99 No answer

Q16 Taking into account the suffering and death of animals
FILTER: IF Q15 = TEND TO DISAGREE/TOTALLY DISAGREE
PROG: SINGLE

Sometimes antibiotics are the only effective treatment method for an infection. Would you accept that animals would have to remain ill, suffer or be put down?

1 Yes
2 No

98 Don't know
99 No answer

Q17 Knowledge: antibiotics as a growth stimulant
FILTER: ALL
PROG: SINGLE

Do you know that using antibiotics to stimulate growth in farm animals is banned in Switzerland as well as within the EU? 374603

1 Yes
2 No

98 Don't know
99 No answer