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DemoSCOPE

Survey Antimicrobial Resistance 2020

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

30 September 2020

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1. Key results

Following its previous surveys in 2016 and 2018, DemoSCOPE has, on behalf of the Federal Office of Public Health (FOPH), conducted its third 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 1,004 people from all regions of Switzerland were interviewed between 24 August and 5 September 2020. This section summarises the key findings to emerge from the survey and discusses significant changes compared to the two previous surveys in 2016 and 2018. The detailed report examines the overall results and the statistically significant differences between the various subgroups in greater detail.

Antibiotic use

- Around a fifth (22%) of the Swiss population has taken antibiotics in the form of tablets, powder, syrup, etc. in the past 12 months. There are no significant regional differences in this respect in 2020, although a comparison with the 2016 and 2018 surveys shows a marked decrease in Ticino from 33% in 2016 to 17% in 2020.
- The vast majority (95%) of antibiotics are dispensed directly by a doctor or by a pharmacy on presentation of a doctor's prescription. They are very rarely obtained from other sources.
- The reasons for taking antibiotics are extremely varied. The majority are taken for preventive purposes due to surgical procedures (17%) or to treat a variety of inflammations and infections (14%). Urinary tract infections (13%) are also a common reason for taking antibiotics. According to the respondents, antibiotics are also taken for illnesses on which they have no effect (8%, e.g. influenza).

Knowledge of antibiotics

- A total of 48% of respondents were able to answer all four statements on antibiotics correctly and a further 30% gave correct answers to three statements. On average, 3.22 statements were answered correctly. Significantly more correct answers were given in German-speaking Switzerland (3.31), by women (3.41) and by those in the middle and older age groups (3.33 to 3.38). The statement that "antibiotics kill viruses" received the lowest proportion of correct answers, with 62% knowing that this statement is incorrect. The highest proportion of correct responses were those stating that unnecessary use of antibiotics reduces their effectiveness, with 86% of those surveyed answering this correctly.

Attitudes towards and information about the use of antibiotics

- Only 38% of respondents who had taken antibiotics in the last 12 months completed their course of treatment as directed. They stopped taking them 4 to 14 days after starting treatment (18%), with the proportion growing as time went on, when the pack was finished (15%) or when the person felt better (13%). A relatively small proportion of people stopped treatment after 1 to 3 days (4%), due to allergies/side effects (3%) or depending on the illness and antibiotics used (2%).
- The proportion of people who can remember having heard or read information about taking antibiotics unnecessarily in the past 12 months has fallen to 40%. They obtained

this information from a variety of sources, most frequently from reading newspapers/specialist magazines (42%), followed by television news (20%), articles on the Internet and online networks (19%), private conversations (18%) and discussions with their doctor (15%).

- Around a fifth (21%) of those who had read or heard such information said that it had changed their views on the use of antibiotics. This proportion was significantly higher in German-speaking Switzerland (23%) than in French-speaking Switzerland (13%) and Ticino (9%). Compared with the previous surveys, this proportion had fallen moderately, from 26% (2016) to 23% (2018) and 21% (2020). In addition to consulting a doctor (32%) and having a prescription (25%), a considerable proportion of people who have read or heard such information would prefer to take as few antibiotics as possible or none at all (29%).
- The proportion of people who have custody of children and who accept a doctor's decision if that doctor, contrary to their expectations, does not prescribe an antibiotic for the sick child again increased slightly (63%).

Desired information and reliable sources

- Around a third of people (35%) stated that they were not interested in receiving further information about antibiotics, while a further 19% were unable to give a spontaneous reply. There has therefore been no significant change in the proportion of people not interested in receiving further information since 2018.
- Those who were interested expressed a broad range of topics on which they would like to receive further information, with no clear favourites. Their preferred main sources of information were doctors (84%), pharmacists (53%) and official health websites (48%). They also mentioned other information platforms and channels in the healthcare system, while considering media channels to play a markedly minor role in this regard.

Level at which the problem of resistance should be tackled

- Half of the respondents (50%) spontaneously agreed that the management of problematic antimicrobial resistance needed to be carried out at all levels (individual, regional, national, European, global). This had also been the case in previous surveys.

Antibiotic treatment in livestock

- Around 6 out of 10 people (59%) thought that farm animals should be given antibiotics to treat disease in cases where they are the most appropriate treatment. Support for this decreases with age.
- For those who totally disagree or tend to disagree that farm animals should be treated with antibiotics, there was disagreement as to whether to accept that the animals would have to remain ill, suffer or be put down because they could be treated with antibiotics. Some 44% are currently against using antibiotics in such cases. In addition, 12% were unable to spontaneously answer this question, presumably for ethical reasons.
- As was the case previously, only 4 out of 10 people (40%) knew that using antibiotics as growth promoters is banned both in Switzerland and the European Union.

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 useful both as a basis for making decisions on aspects of implementation and for assessing any changes over time and drawing international comparisons.

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 over the same time period. The current survey in 2020 is a further step in this process and was conducted over the same time period and with a largely identical questionnaire. Its current 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 survey has maintained a sample size of 1,000 interviews, although these were conducted by telephone, unlike the Eurobarometer study, which was carried out face-to-face. The current survey was conducted between 24 August and 5 September 2020. A total of 1,004 interviews were conducted from the DemoSCOPE telephone laboratories in Adligenswil and Fribourg. The questionnaire was largely unchanged from the previous surveys, with only the addition of a new question on diagnosis by laboratory testing before taking antibiotics and a slight amendment to the text of the question about how the person would react if the doctor did not prescribe an antibiotic for an ill child.

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. As it is not possible to potentially reach everyone in the general population via registered landline numbers, only about 80% (n = 804) of the interviews were carried out on the basis of landline numbers. The remaining 20% (n = 200) of the interviews were performed using Random Digit Dialling (RDD). These people were therefore called on randomly generated mobile phone numbers supplied by Aschpurwis & Behrens GmbH. This 'dual-frame' approach requires the data

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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 21,438 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 15,436 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 2,250 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 538 cases, an interview was not conducted because the corresponding quota cell with specifications regarding age and gender had already been attained. In another 385 cases, the number or the interviewee was not in the target group (e.g. not a private household). In 207 cases, the interviewee did not speak any national language, while in another 150 cases the person contacted was unable to provide information due to illness or age. This resulted in a total of 1,468 refusals, which is significantly less than in previous surveys (2016: 1,808 refusals, 2018: 2,966 refusals).

The median response time was 11 minutes, which is a reasonable amount of time for an interview and ensures a high quality of information. The 1,004 interviews were completed within the agreed time. 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 1,004 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

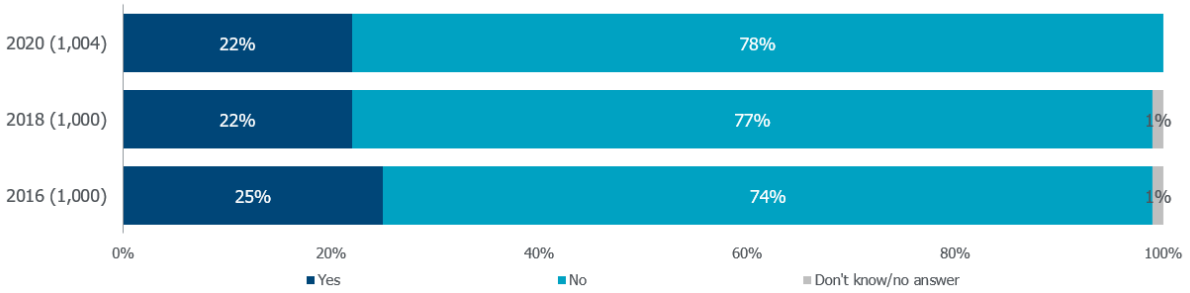
Dominik Fröhli, Head of Social Research

3. Detailed report

3.1 Antibiotic intake

In the past twelve months, over a fifth (22%) of the Swiss population has taken antibiotics in the form of tablets, powder, syrup, etc. Compared with the two previous surveys in 2016 and 2018, the intake of antibiotics has therefore remained broadly stable (see Chart 1).

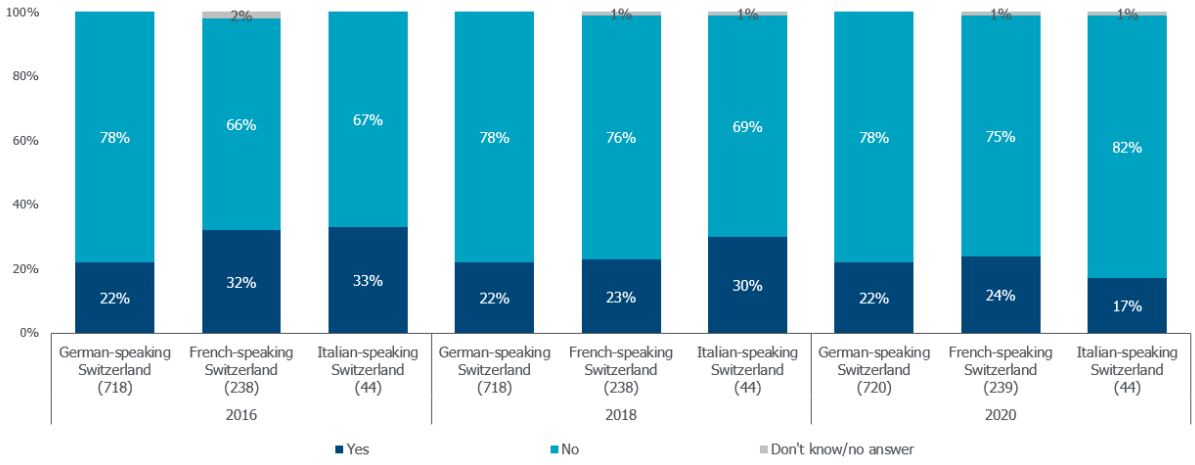
Chart 1 Have you taken any antibiotics orally such as tablets, powder or syrup in the last 12 months?



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

There are also no significant differences between the various language regions in 2020 (German-speaking Switzerland: 22%, French-speaking Switzerland: 24%, Ticino: 17%). The proportion in Ticino has, however, fallen significantly over time from 33% in 2016 to 17% in 2020 (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

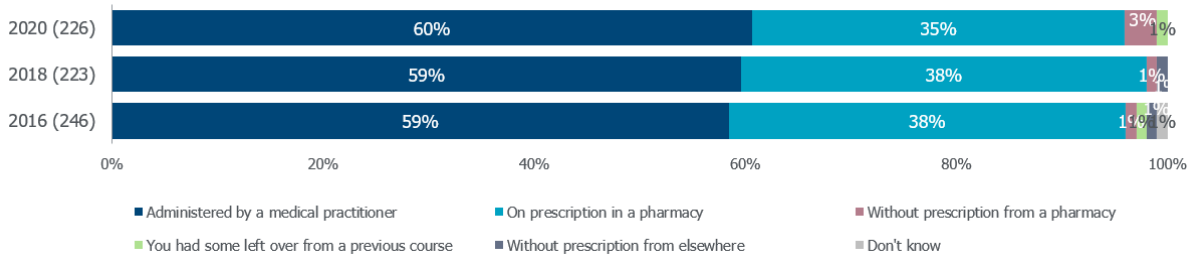
There are considerable differences with regard to other sub-groups. The proportion of people who have taken antibiotics in the past 12 months is particularly high among people aged 15 to 24 years (31%) and 55 to 64 years (30%), as well as among people who work in the caring professions (40%, see Table 1).[2]

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

	Age					Occupation			
	15 - 24 years	25 - 39 years	40 - 54 years	55 - 64 years	65+ years	Trades	Nursing profes-sion	Office work / service sector	Other
Total (wt.)	142	245	278	141	198	98	67	318	134
Yes	**31%**	20%	18%	**30%**	21%	22%	**40%**	17%	16%
No	68%	**80%**	**82%**	69%	**79%**	**78%**	59%	**83%**	**84%**
Don't know	1%	*%	-%	1%	-%	*%	1%	-%	-%

As in the previous surveys, it can be seen that the majority (95%) of those who took antibiotics received them directly from their doctor or on prescription from a pharmacy (see Chart 3). Other methods of obtaining antibiotics, such as medications obtained from a pharmacy without a prescription or other source and taking leftover medicines from the last course of treatment, are very much the exception.

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

It is, however, noticeable that age has an influence on the two primary sourcing channels. People aged 55-64 (68%) and 65+ (85%) are significantly more likely to obtain antibiotics directly from their doctors than people aged 54 or younger. The reverse is true for obtaining them on prescription from a pharmacy. This option is used much more often by younger people who have taken antibiotics in the past 12 months (41% to 46%, see Table 2).

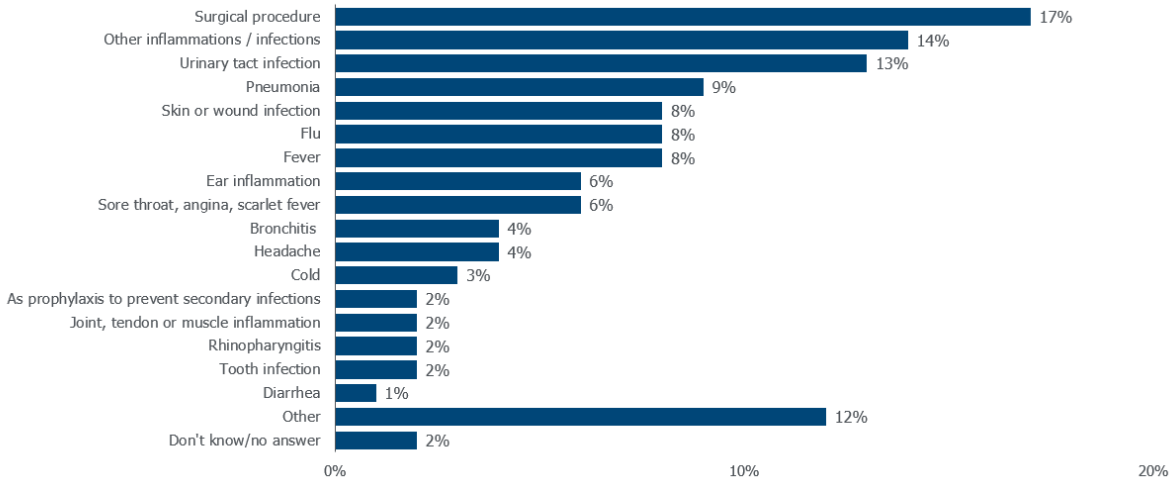
2 Statistically significant differences between the sub-groups are highlighted in bold in this report's tables. In addition, the annex to this report lists various further sub-groups for most questions in a tabular form.

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

	Age				
	15 - 24 years	25 - 39 years	40 - 54 years	55 - 64 years	65+ years
Total (wt.)	44	48	49	43	42
Administered by a medical practitioner	52%	45%	54%	**68%**	**85%**
On prescription in a pharmacy	**43%**	**46%**	**41%**	29%	15%
Without prescription from a pharmacy	2%	8%	2%	3%	-%
You had some left over from a previous course	2%	-%	2%	-%	-%
Without prescription from elsewhere	-%	2%	-%	-%	-%

There were many reasons for taking antibiotics (see Chart 4). Most commonly they were taken due to surgical procedures (17%), other inflammations and infections (= collective category, 14%) and urinary tract infections or cystitis (13%). In general terms, the range of reasons for taking antibiotics shows that antibiotics are employed for many different things. They are used for various types of inflammation as well as for influenza, fevers, colds and headaches. Depending on the disease, it is apparent that they are taken more often by specific sub-groups, which is likely to be directly related to the frequency of occurrence of the respective disease or inflammation in that sub-group. The intake of antibiotics in the event of surgical procedures, for example, is significantly more common in men (26%) than in women (7%). The latter, on the other hand, take antibiotics much more frequently because of urinary tract infections or cystitis (22% women vs. 3% men).

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

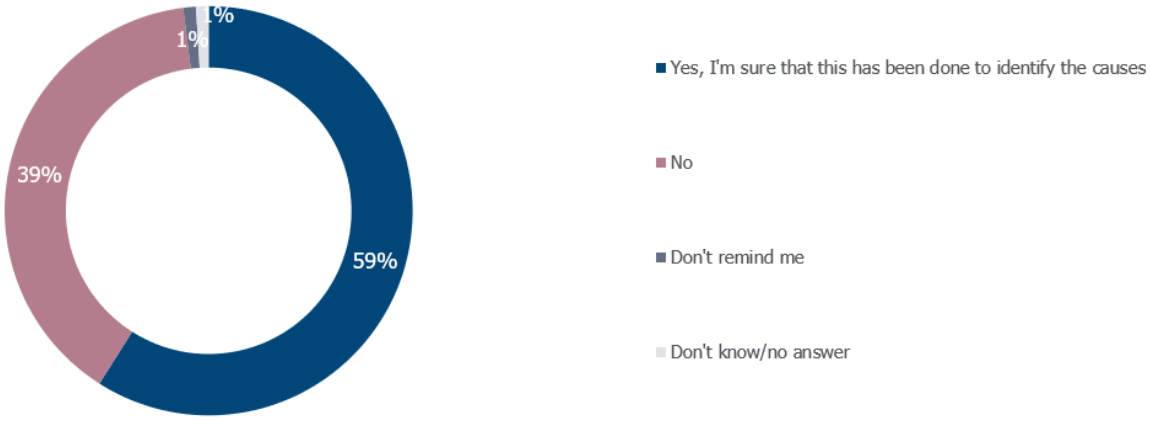


Base: 226 respondents / Filter: have taken antibiotics in the last 12 months / Question type: multi-question

Respondents who have taken antibiotics in the last 12 months were asked whether they had 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.

59% stated that this had been done to identify the cause of the disease, while 39% said that this had not 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: 226 respondents / Filter: have taken antibiotics in the last 12 months / Question type: single question

A laboratory test was performed significantly more often in German-speaking Switzerland (64%) and for those in the age categories 25 to 39 years (66%) and 65+ years (75%) (see Table 3).

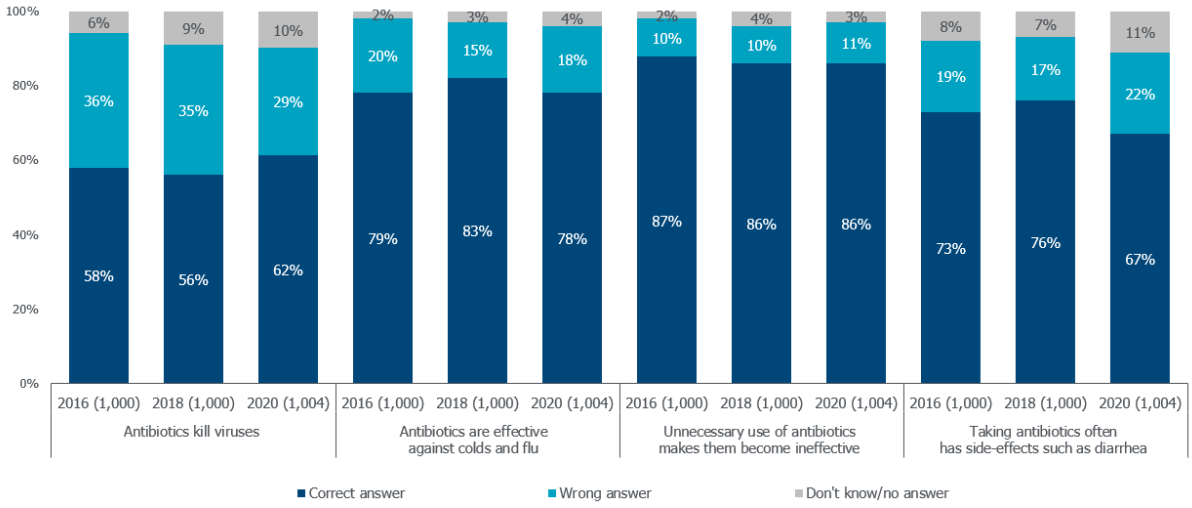
Table 3 Before or at the same time as you started taking antibiotics, did you have a laboratory test, such as a blood or urine test or a throat swab, to find out what was causing your illness?

	Region			**Age**				
	Ger-man	French	Italian	15 - 24 years	25 - 39 years	40 - 54 years	55 - 64 years	65+ years
Total (wt.)	161	57	7	44	48	49	43	42
Yes, I'm sure that this has been done to identify the causes	**64%**	44%	63%	54%	**66%**	44%	59%	**75%**
Yes, but I can't remember what for	1%	-%	-%	1%	-%	-%	1%	-%
No	34%	**53%**	32%	41%	34%	**56%**	36%	24%
Don't remind me	1%	3%	-%	2%	-%	-%	4%	-%
Don’t know	-%	-%	5%	2%	-%	-%	-%	1%

3.2 Knowledge about antibiotics

The current survey also asked what the respondents knew about antibiotics on the basis of four statements, which a majority of the respondents answered correctly. Compared to the previous surveys, the proportion of correct answers per statement remained generally stable, despite certain fluctuations. It is also apparent, however, that there are differences in the proportion of correct answers per statement (see Chart 6). The statement that the unnecessary intake of antibiotics reduces their effectiveness was considered correct by 86% of the respondents, the highest proportion of correct answers in percentage terms. The statement that antibiotics destroy viruses had the lowest percentage of correct answers, with 62% of people correctly considering this statement to be 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

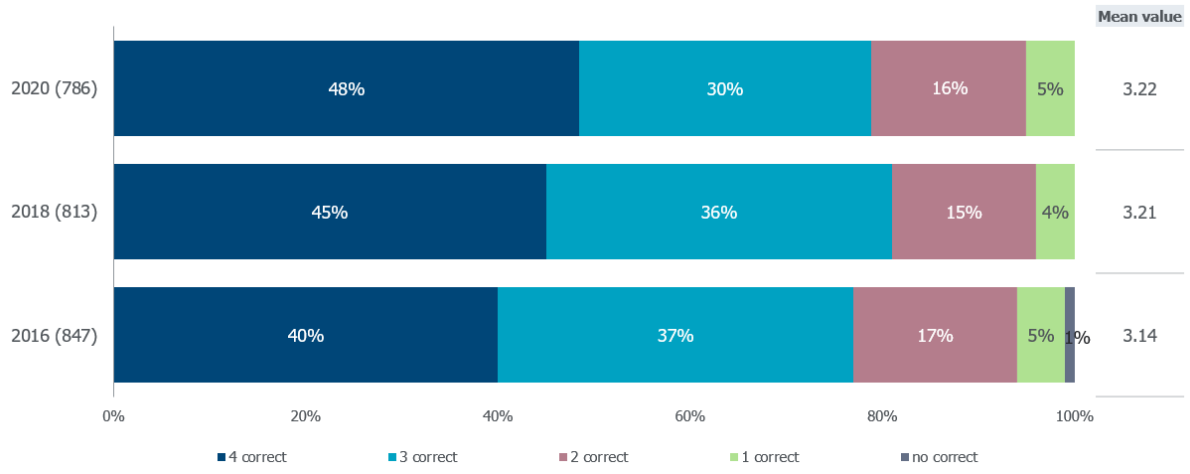
In general, people with a comparatively higher level of education (3.35 correct answers) and a higher household income (3.47) assessed the statements correctly significantly more often. This was also the case for those who remembered having read or heard information in the past 12 months that advised against taking antibiotics unnecessarily (e.g. for colds and flu-like infections, 3.44). Finally, there were also differences between the language regions, genders and age groups (see Table 4). Significantly more correct answers were given in German-speaking Switzerland (3.31 correct answers), by women (3.41) and by people aged 40+ (between 3.33 and 3.38).

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

	Region			Gender		Age				
	German	French	Italian	Male	Female	15 - 24 years	25 - 39 years	40 - 54 years	55 - 64 years	65+ years
Total (wt.)	579	175	32	381	405	123	205	223	111	125
4 correct (4)	**53%**	35%	44%	38%	**58%**	32%	39%	**54%**	**60%**	**58%**
3 correct (3)	29%	32%	33%	**34%**	26%	**34%**	**35%**	31%	22%	22%
2 correct (2)	13%	**23%**	19%	18%	14%	**24%**	17%	13%	12%	14%
1 correct (1)	4%	**10%**	2%	**10%**	2%	**8%**	**8%**	2%	6%	5%
None correct	*%	-%	2%	1%	*%	2%	-%	*%	-%	1%
Mean value	**3.31**	2.92	3.22	3.02	**3.41**	2.92	3.06	**3.38**	**3.37**	**3.33**

A comparison of the number of correct answers over time shows that the level of knowledge has increased throughout Switzerland (see Chart 7). In 2016, the average proportion of correct answers to the four statements was 3.14, in 2018 it was 3.21 and in 2020 it was 3.22.

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

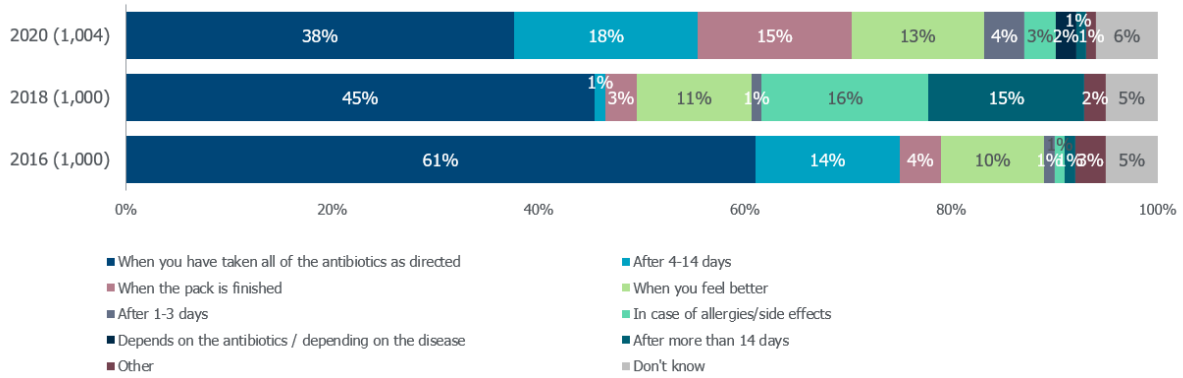


Base: number of respondents in brackets / Question type: single question per statement

3.3 Attitudes towards the use of antibiotics

Compared to the previous surveys, the changes in the distribution of responses to the question of when the respondent believed that the intake of antibiotics should be discontinued after the start of treatment were comparatively marked (see Chart 8). The proportion of people who complete their course of treatment with all antibiotics as directed has decreased (38%). In contrast, there has been a comparatively clear increase in the proportion of people who stop taking antibiotics after 4 to 14 days (18%) or as soon as the pack has been used up (15%). And: for the first time, 2% of respondents said that they stopped taking them depending on the antibiotics used or the disease.

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

As the table below shows (see Table 5), people in French-speaking Switzerland (55%) and those with a higher level of education (40%) in particular stop taking antibiotics as directed. In German-speaking Switzerland, by contrast, people are considerably more likely to stop taking antibiotics after 4 to 14 days (22%) or when the pack has been used up (20%).

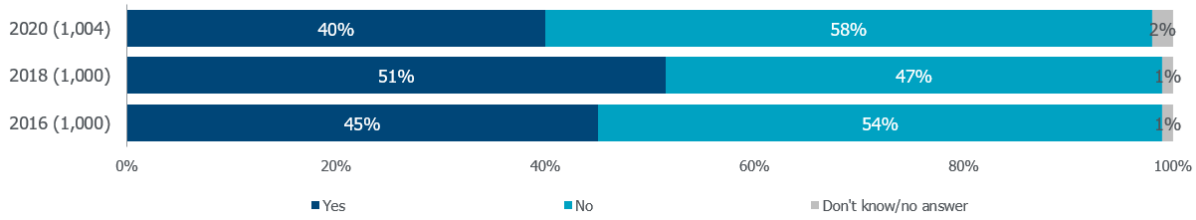
Table 5 When do you think you should stop taking antibiotics once you have begun a course of treatment?

	Region			**Education**			**Antibiotic intake**	
	German	French	Italian	Obligatory	Secondary	Tertiary	Yes	No
Total (wt.)	720	239	44	92	467	400	226	775
When you have taken all of the antibiotics as directed	32%	**55%**	44%	27%	**38%**	**40%**	31%	**40%**
After 4-14 days	**22%**	7%	12%	**27%**	16%	18%	19%	17%
When the pack is finished	**20%**	4%	5%	5%	**17%**	**17%**	**22%**	13%
When you feel better	12%	14%	15%	**19%**	**14%**	10%	12%	13%
After 1-3 days	4%	4%	-%	2%	4%	4%	5%	3%
In case of allergies/side effects	2%	2%	14%	5%	2%	3%	3%	3%
Depends on the antibiotics / depending on the disease	1%	2%	3%	-%	2%	2%	1%	2%
After more than 14 days	2%	1%	-%	-%	1%	1%	*%	1%
Other	1%	4%	-%	7%	*%	**2%**	3%	1%
Don't know	5%	8%	7%	6%	6%	4%	4%	6%
No answer	*%	-%	-%	1%	-%	-%	-%	*%

3.4 Information about the use of antibiotics

There is also a significant change from previous surveys as regards whether the respondent was able to recall having read or heard information in the past 12 months advising against the unnecessary intake of antibiotics, e.g. for colds and flu-like infections. The proportion who were able to decreased by 11% compared to the 2018 survey. Accordingly, only 40% of the respondents in the current survey were able to recall the relevant information (see Chart 9).[3]

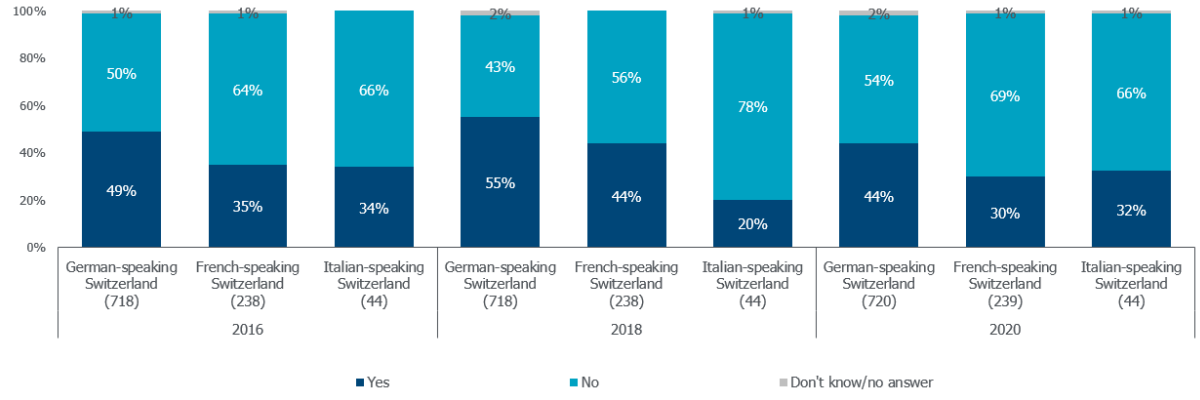
Chart 9 In the last 12 months, do you remember getting any information about not taking antibiotics unnecessarily, for example for a cold or the flu?



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

In French-speaking Switzerland (30%) and Ticino (32%) in particular, the proportion was low compared with that in German-speaking Switzerland (44%), although this had already been the case in the previous iterations of the survey (see Chart 10).

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



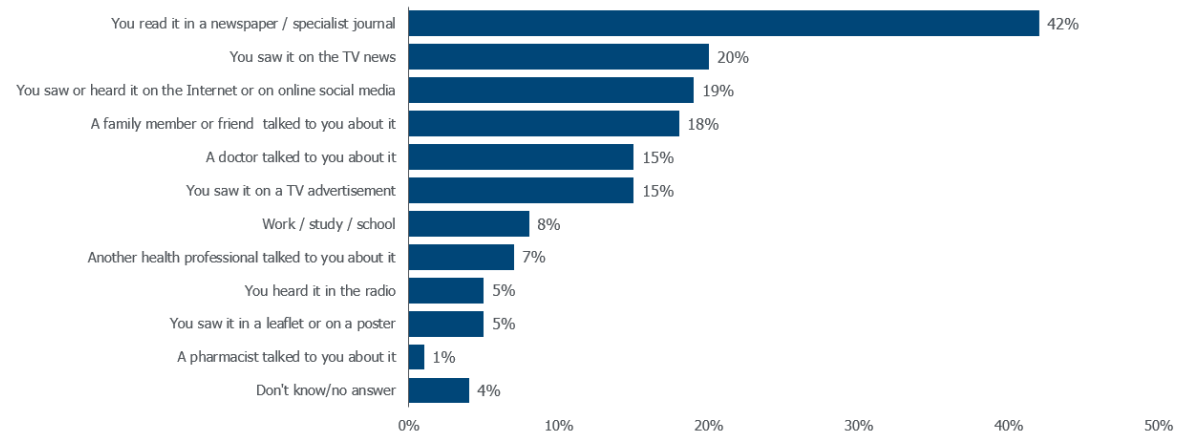
Base: number of respondents in brackets / Question type: single question

[3] This is probably a direct result of the COVID-19 pandemic and its domination of public and private discourse, resulting in other topics attracting less attention.

This information was also perceived significantly more often by people aged 40 and above (between 43% and 46%), those with a higher level of education (51%) and those with a higher income (53%). Not surprisingly, this was also the case for people working in the caring professions (51%) and those who, according to question 4, had more knowledge of antibiotics overall (55%).

This information advising against the unnecessary use of antibiotics came from a relatively wide range of channels and the frequency of such information has remained largely the same over the years. Articles in newspapers and specialist journals continue to be the most important sources of information (42%), but other media channels and sources such as television news (20%) and the Internet and online social networks (19%) were also frequently mentioned, as were conversations with family members or friends (18%) and with medical professionals (15%, see Chart 11).

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



Base: 400 respondents / Filter: have received information / Question type: multi-question

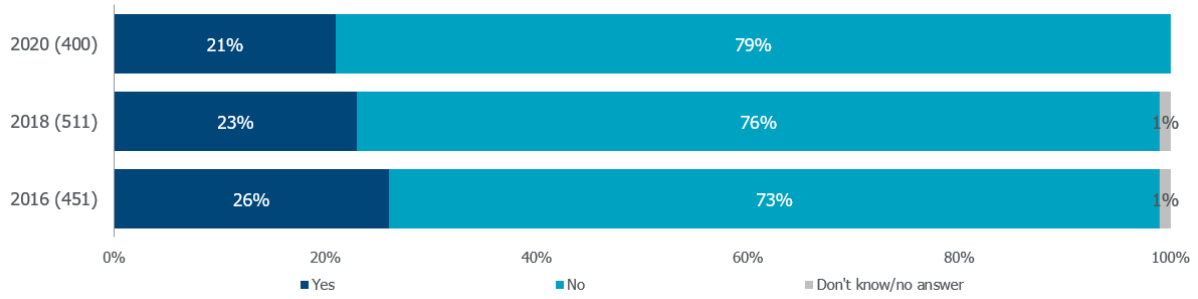
A comparison of the different age groups shows that people aged 40+ (45% to 62%) in particular obtained the relevant information from a newspaper or specialist journal. The other channels also had certain accumulations for individual age groups (see Table 6).

Table 6 How did you first get this information about not taking any antibiotics unnecessarily?

	Age				
	15 - 24 years	25 - 39 years	40 - 54 years	55 - 64 years	65+ years
Total (wt.)	37	87	125	65	85
You read it in a newspaper / specialist journal	13%	19%	**45%**	**57%**	**62%**
You saw it on the TV news	9%	**23%**	**21%**	5%	**31%**
You saw or heard it on the Internet or on online social media	17%	18%	**19%**	**32%**	9%
A family member or friend talked to you about it	17%	**28%**	**15%**	**28%**	4%
A doctor talked to you about it	**33%**	3%	**11%**	**25%**	**19%**
You saw it on a TV advertisement	10%	**18%**	15%	**20%**	8%
Work / study / school	29%	**9%**	4%	7%	2%
Another health professional talked to you about it	-%	2%	6%	27%	2%
You heard it in the radio	-%	3%	7%	12%	3%
You saw it in a leaflet or on a poster	5%	4%	9%	2%	3%
A pharmacist talked to you about it	-%	-%	1%	1%	3%
You read it in a newspaper / specialist journal	-%	-%	1%	-%	1%
Don't know	1%	2%	4%	4%	8%

In about a fifth of those who had perceived relevant information, this also led to changes in their personal opinions on the use of antibiotics (21%). This figure is thus lower than in previous surveys (see Chart 12).

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



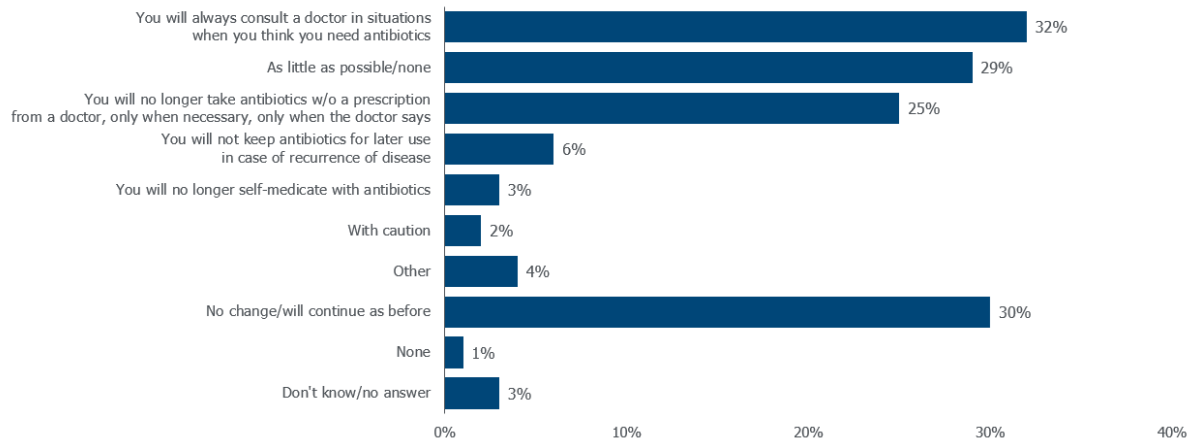
Base: 400 respondents / Filter: have received information / Question type: single question

There is no unambiguous trend or clear significant frequency distribution in the relevant sub-groups (e.g. age groups or educational level). This is probably due to the fact that the majority of people had been aware of this specific topic for a long time and the (renewed) perception of relevant information brought about no further change in their personal views on the topic.

To a degree, this was also reflected in the responses to the question of how they would act with regard to the use of antibiotics based on the information they had received. Some 30% of the people in the sub-group surveyed spontaneously responded that they would continue to act as they had previously and that therefore nothing had changed. As in previous surveys, three other approaches were dominant. In addition to clarifications (32%) and prescriptions

(25%) by medical professionals, there is a relatively widespread intention to take as few antibiotics as possible or none at all (29%).

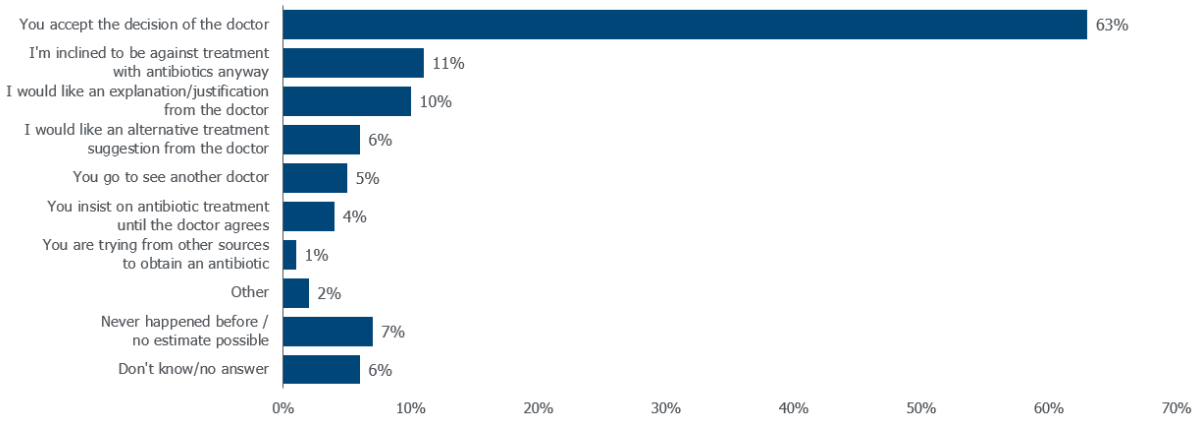
Chart 13 On the basis of the information you received, how do you now plan to use antibiotics?



Base: 400 respondents / Filter: have received information / Question type: multi-question

The importance of medical expertise and complying with its recommendations, along with the need to avoid antibiotics wherever possible, is also relevant to another specific behavioural issue. Those interviewees who had legal custody of children (65% of respondents) were asked how they would react if the doctor did not prescribe or had not prescribed any antibiotics for their ill child, contrary to their expectations.

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?



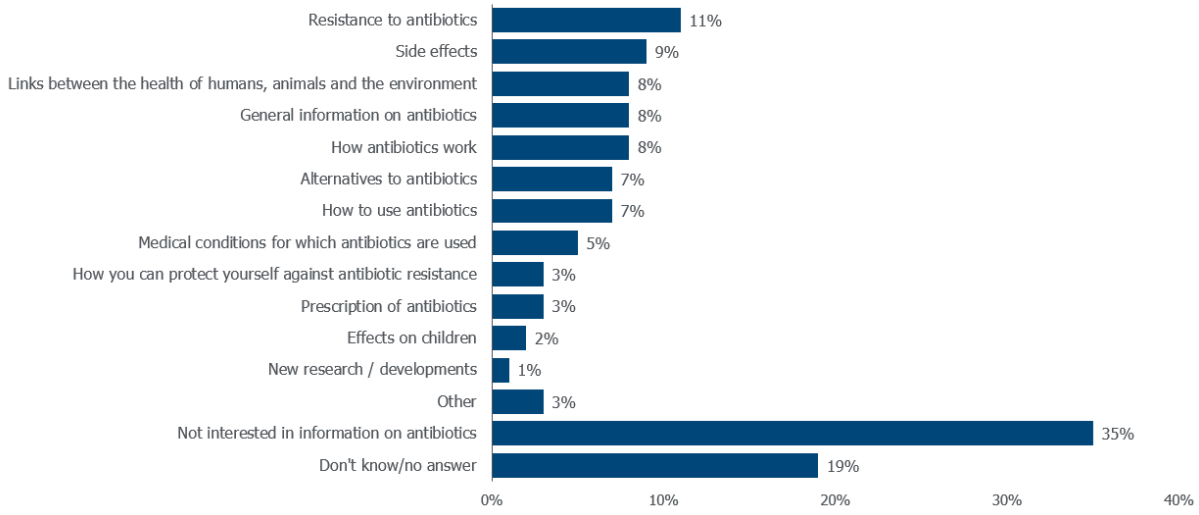
Base: 648 respondents / Filter: has legal custody of a child / Question type: multi-question

Accepting the doctor's decision is still the dominant behaviour pattern (63%, see Chart 14). There are no significant differences along relevant sub-groups.

3.5 Desired information and information sources

All respondents to the survey were openly asked which antibiotic-related topics they would like to receive more information on. As in previous surveys, the range of topics mentioned was relatively broad, although there were no clear favourites. This indicates that the overall information needs of those who wish to receive information are very wide-ranging. In addition to further information on antibiotic resistance (11%), the desired range of topics also includes information on side effects (9%), on the effects of antibiotics and the relationship between humans, animals and the environment (8%), and on possible alternatives or further information on the correct use of antibiotics (see Chart 15).

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



Base: 1,004 respondents / Question type: multi-question

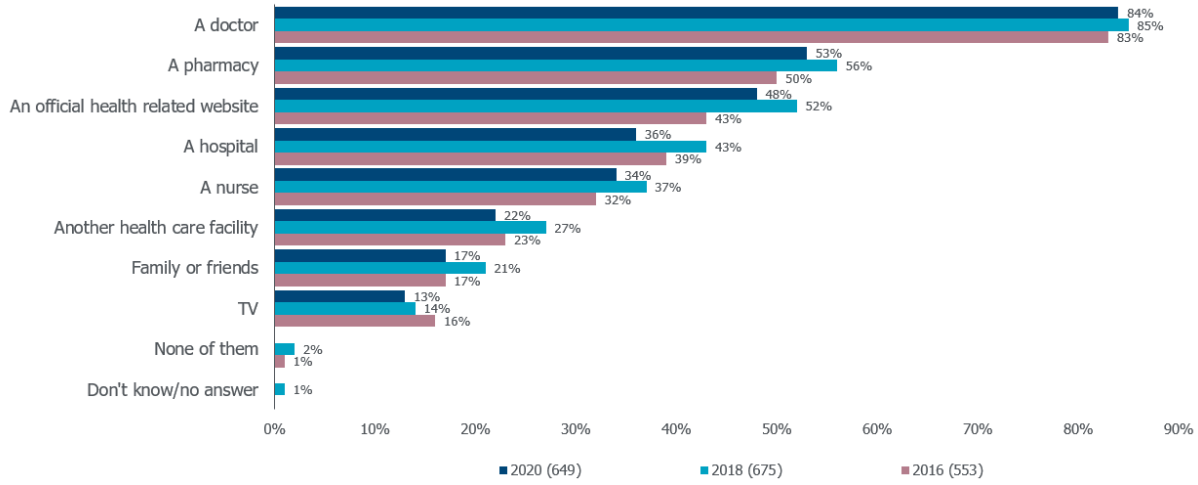
It should also be noted that 35% of those questioned stated that they were not interested in information about antibiotics and a further 19% did not know or were unable or unwilling to respond. As a result, more than half had no specific interest in further information. The table below (see Table 7) shows that there is an accumulation of uninterested persons in the 65+ age group (46%) and those without any in-depth knowledge of the topic (40%).

Table 7 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.)	142	245	278	141	198	380	235	170
Resistance to antibiotics	7%	**15%**	11%	**14%**	7%	**16%**	12%	6%
Side effects	**20%**	7%	**10%**	4%	5%	9%	12%	8%
Links between the health of humans, animals and the environment	**14%**	3%	**9%**	**10%**	6%	**13%**	9%	4%
General information on antibiotics	**16%**	**9%**	**8%**	5%	4%	**9%**	**13%**	4%
How antibiotics work	**18%**	7%	**9%**	4%	3%	8%	8%	11%
Alternatives to antibiotics	**7%**	**6%**	**5%**	**19%**	2%	8%	**9%**	4%
How to use antibiotics	**17%**	5%	4%	**13%**	4%	5%	**11%**	6%
Medical conditions for which antibiotics are used	**9%**	5%	**6%**	4%	2%	3%	**10%**	6%
How you can protect yourself against antibiotic resistance	6%	3%	4%	2%	1%	4%	4%	4%
Prescription of antibiotics	8%	2%	1%	8%	1%	2%	**8%**	3%
Effects on children	-%	5%	1%	-%	-%	2%	*%	3%
New research / developments	-%	*%	2%	4%	-%	3%	*%	-%
Other	2%	2%	4%	4%	5%	3%	3%	-%
Not interested in information on antibiotics	24%	**38%**	32%	34%	**46%**	30%	31%	**40%**
Don't know	15%	11%	16%	13%	16%	12%	13%	**19%**
No answer	6%	4%	**7%**	2%	4%	4%	**9%**	3%

As indicated above, (mass) media channels are important sources for the distribution and perception of relevant information. However, when asked which sources the respondents wanting further information on antibiotics would consult, these channels played only a marginal role. As the previous surveys have also shown, it is apparent that they clearly prefer to receive information from healthcare professionals or other contact points and information platforms (see Chart 16). The most frequently consulted people were doctors (84%), followed by pharmacists (53%).

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

The distribution within the age and education-specific sub-groups shows that there are significant differences between the age groups in particular with regard to their preferred source of information (see Table 8).

Table 8 Which of the following sources of information would you use in order to get trustworthy information on antibiotics?

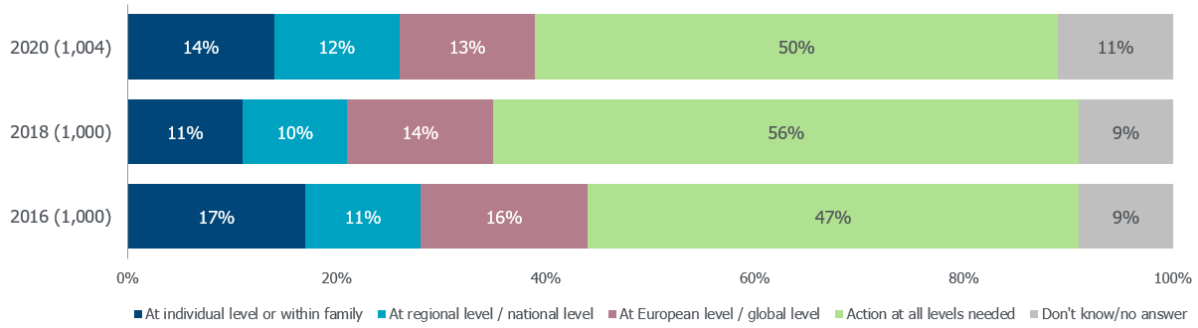
	Age					**Education**		
	15 - 24 years	25 - 39 years	40 - 54 years	55 - 64 years	65+ years	Obligatory	Secondary	Tertiary
Total (wt.)	107	152	189	94	107	69	306	243
A doctor	87%	79%	85%	79%	**89%**	75%	83%	85%
A pharmacy	**67%**	42%	**58%**	42%	54%	59%	55%	49%
An official health related website	**53%**	**56%**	**58%**	34%	31%	37%	42%	**61%**
A hospital	**42%**	22%	**44%**	30%	**45%**	40%	36%	37%
A nurse	**56%**	**28%**	**35%**	14%	**37%**	36%	36%	29%
Another health care facility	**32%**	14%	**24%**	**26%**	18%	18%	21%	25%
Family or friends	**28%**	13%	**18%**	8%	15%	20%	18%	12%
TV	11%	6%	**19%**	6%	**20%**	2%	**16%**	**10%**
None of them	-%	1%	-%	*%	1%	-%	*%	1%
Don’t know	-%	-%	*%	-%	-%	-%	*%	-%

3.6 Level at which problem of resistance should be tackled

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. The responses to this open-ended question showed that a majority of people thought that measures were needed at all levels (50%, see Chart 17), including when compared to previous years. It is striking that significantly more highly educated (59%) and better-informed people (61%) held this opinion.

By way of contrast, similarly large minorities were of the opinion that measures were primarily needed at individual or private level (14%), at regional/national level (12%) or at international level (Europe, worldwide, 13%).

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?



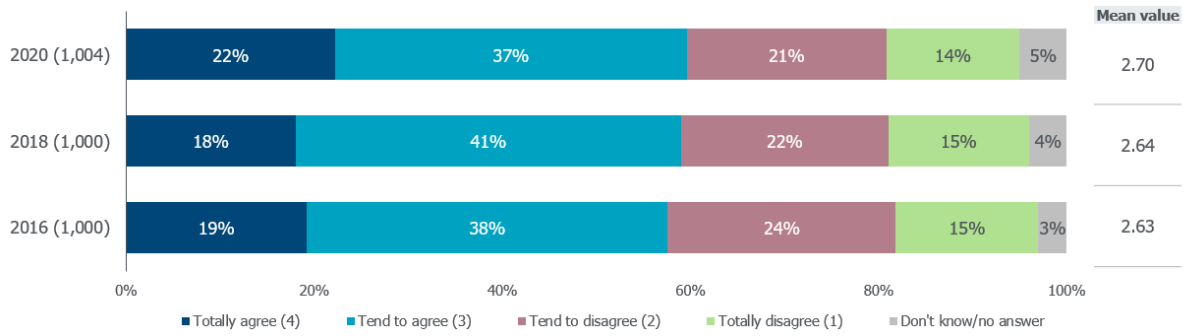
Base: number of respondents in brackets / Question type: single question

3.7 Antibiotic treatment in livestock

The interest in further information on the relationship between humans, animals and the environment in the context of antibiotics, which was spontaneously expressed multiple times, indicates a widespread awareness that antibiotics are not used only to treat ill people. For instance, it is a widely known fact that antibiotics are also employed in the agricultural sector and in particular in the treatment of livestock and that this can contribute to an increased general resistance to antibiotics.

With this in mind, respondents were asked to what extent they agreed that ill farm animals should be treated with antibiotics where this was the most appropriate treatment. Some 6 out of 10 people (59%), i.e. a similar number as in the previous surveys, totally agreed or tended to agree, while around a third (35%) were opposed (see Chart 18). Those under 40 were significantly more likely to agree, a tendency which fell with increasing age.

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?

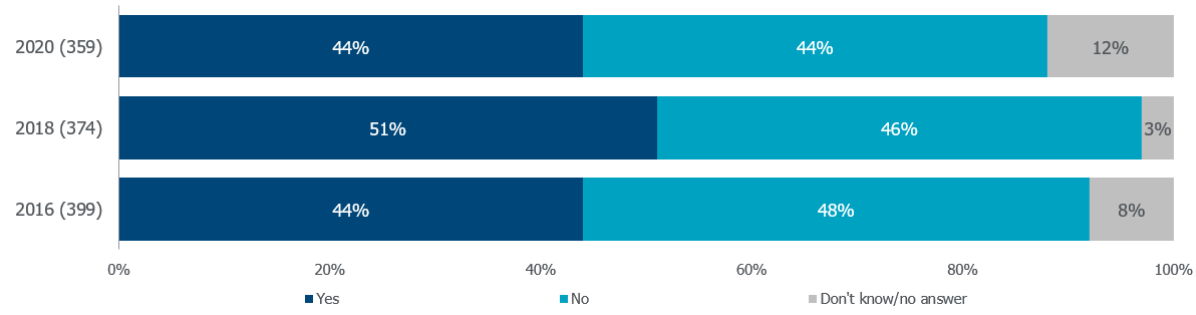


Base: number of respondents in brackets / Question type: single question

Among those who were more or less opposed to treating farm animals with antibiotics, the question of whether they were prepared to accept that animals would remain ill, suffer or have to be put down if they were not allowed to be treated with antibiotics, despite them being the only effective method of treating an infection, remained controversial.

The proportion of people who agreed has decreased compared to the 2018 survey and is now at the same level as in 2016 (44%). Compared to previous surveys, there was also a slight decrease in the proportion of people who answered "no" to this question (44%). This went hand-in-hand with a relatively sharp increase in the proportion of "don't know"/"no response" (12%) answers, which indicates that a considerable proportion of people were unable to answer this question directly, presumably in large part due to ethical concerns.

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 / Question type: single question

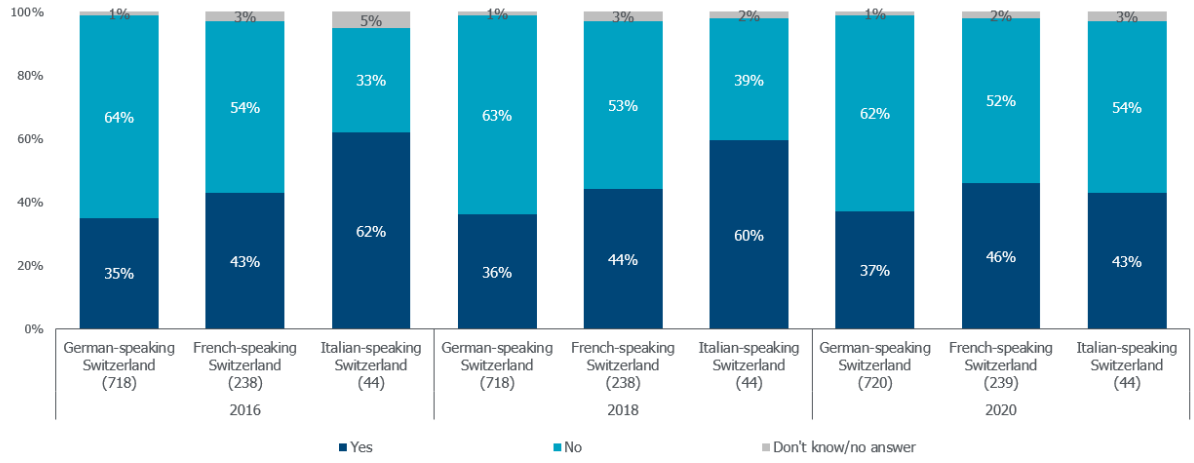
Those in the youngest age group (65%), men (52%) and those who knew more about the topic (43% and 59% respectively, compared to 24%, see Table 9) were significantly more likely to accept this. It is also noticeable that, in addition to people in the 40-54 age group (19%), the proportion of undecided respondents is clearly higher among those who know more about the topic (14%).

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**		**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.)	37	77	99	65	81	156	202	146	85	52
Yes	**65%**	34%	**50%**	34%	42%	**52%**	37%	**43%**	**59%**	24%
No	27%	**53%**	31%	**61%**	**47%**	38%	**49%**	43%	35%	**74%**
Don't know	5%	8%	**15%**	2%	7%	8%	9%	**11%**	3%	1%
No answer	3%	5%	4%	2%	4%	2%	5%	3%	2%	-%

In addition to treating ill livestock, antibiotics are also used to promote growth. This is prohibited in Switzerland and the European Union. Some 40% of the Swiss population, almost the same proportion as in 2016 and 2018, knew this. The proportion of people who were aware of this was more pronounced in Western Switzerland (46%) and Ticino (43%, see Chart 20), with this knowledge being significantly more common among men (44%), people aged 40 and above (between 43% and 47%), the more highly educated (47%) and those who live in a rural environment (47%).

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

3.8 Conclusions

The state of knowledge, practices and attitudes of the Swiss population towards antibiotics and antibiotic resistance are periodically surveyed for the purposes of implementing the Swiss Antibiotic Resistance Strategy (StAR). The surveys conducted so far in 2016, 2018 and 2020 show only marginal changes in certain attitudes and opinions, while others are subject to continuous change. Given the broad range of topics covered and the subjective differences in experiences and attitudes, the topics they cover should be approached with care at several levels. Based on own experiences, whether from the intake of antibiotics or the conscious renunciation of them, the media presence of the topic and the many health and ethical questions, this is a wide-ranging topic with many relevant aspects.

The broad range of applications and effects in conjunction with the associated problem of antibiotic resistance necessitates a multifaceted and meticulous approach. The various methods of disseminating knowledge and divergent attitudes require target group-specific communications, information and implementation measures. The relevant actors can be informed and involved in different ways and via different channels in line with their interests and the specific topic, in order to broaden knowledge about all aspects of that topic and to take into account the relevant realities and requirements.

In this respect, the population surveys performed to date provide an important basis for decision-making and determining further implementation measures. 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.)	720	239	44	142	245	278	141	198
Yes	22%	24%	17%	**31%**	20%	18%	**30%**	21%
No	78%	75%	82%	68%	**80%**	**82%**	69%	**79%**
Don't know	*%	1%	1%	1%	*%	-%	1%	-%

	Gender		**Education**		
	Male	Female	Obligatory	Secondary	Tertiary
Total (wt.)	492	512	92	467	400
Yes	22%	23%	**32%**	**26%**	15%
No	77%	77%	68%	74%	**85%**
Don't know	*%	*%	*%	*%	*%

	Occupation				**Home situation**			
	Trades	Nursing profession	Office work / service sector	Other	Single	Couple without children	With children (couple + single parent)	Other
Total (wt.)	98	67	318	134	185	281	412	122
Yes	22%	**40%**	17%	16%	**32%**	21%	17%	**28%**
No	**78%**	59%	**83%**	**84%**	67%	**79%**	**83%**	71%
Don't know	*%	1%	-%	-%	*%	*%	*%	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.)	116	171	170	150	231	380	235	170	400	585
Yes	**31%**	19%	24%	18%	17%	17%	24%	**27%**	22%	23%
No	68%	**81%**	76%	**82%**	**82%**	**82%**	76%	73%	77%	77%
Don't know	*%	*%	-%	-%	1%	*%	1%	*%	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.)	44	48	49	43	42	110	116	66	56	46
Administered by a medical practitioner	52%	45%	54%	**68%**	**85%**	66%	55%	**56%**	36%	**79%**
On prescription in a pharmacy	**43%**	**46%**	**41%**	29%	15%	31%	40%	**41%**	**64%**	13%
Without prescription from a pharmacy	2%	8%	2%	3%	-%	1%	5%	2%	-%	4%
You had some left over from a previous course	2%	-%	2%	-%	-%	2%	-%	1%	-%	3%
Without prescription from elsewhere	-%	2%	-%	-%	-%	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.)	44	48	49	43	42	110	116	66	56	46
Surgical procedure	**17%**	-%	**16%**	**37%**	**16%**	**26%**	7%	9%	6%	16%
Other inflammations / infections	5%	**22%**	**25%**	**13%**	2%	13%	14%	16%	7%	**22%**
Urinary tract infection	3%	**19%**	12%	12%	**18%**	3%	**22%**	**23%**	9%	6%
Pneumonia	6%	9%	5%	-%	26%	7%	11%	18%	7%	2%
Skin or wound infection	13%	9%	2%	5%	13%	10%	6%	4%	15%	8%
Flu	20%	16%	-%	1%	3%	6%	10%	-%	13%	14%
Fever	17%	-%	*%	18%	3%	9%	6%	-%	**26%**	5%
Ear inflammation	16%	6%	9%	-%	-%	5%	7%	4%	14%	-%
Sore throat, angina, scarlet fever	20%	8%	*%	-%	-%	1%	**10%**	2%	16%	7%
Bronchitis	2%	10%	3%	1%	2%	6%	2%	1%	3%	8%
Headache	16%	-%	2%	-%	-%	-%	7%	-%	13%	2%
Cold	4%	8%	1%	1%	-%	6%	*%	-%	2%	11%
As prophylaxis to prevent secondary infections	3%	2%	1%	1%	2%	2%	1%	2%	1%	1%
Joint, tendon or muscle inflammation	2%	*%	5%	-%	1%	3%	*%	3%	-%	-%
Rhinopharyngitis	*%	3%	4%	-%	-%	1%	2%	3%	3%	-%
Tooth infection	-%	-%	3%	4%	-%	2%	1%	4%	*%	1%
Diarrhoea	-%	-%	2%	-%	3%	1%	1%	3%	-%	-%
Other	**24%**	3%	12%	7%	**16%**	7%	**17%**	9%	17%	13%
Don't know	44	48	49	43	42	110	116	66	56	46

Q4 Statements on antibiotics according to age, gender, education, income, antibiotic intake 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	Obligatory	Secondary	Tertiary
Total (wt.)	142	245	278	141	198	492	512	92	467	400
True	**36%**	**39%**	23%	19%	27%	**34%**	24%	**41%**	**33%**	20%
False	60%	56%	**69%**	**67%**	57%	59%	65%	42%	**55%**	**73%**
Don't know	4%	5%	9%	**14%**	**13%**	7%	10%	**17%**	**10%**	6%
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.)	116	171	170	150	231	226	775	400	585
True	**43%**	**36%**	23%	27%	20%	25%	30%	19%	**35%**
False	42%	**56%**	**71%**	**65%**	**70%**	61%	62%	**75%**	53%
Don't know	10%	7%	6%	8%	10%	**14%**	7%	5%	**12%**
No answer	5%	-%	-%	-%	-%	-%	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	Obligatory	Secondary	Tertiary
Total (wt.)	142	245	278	141	198	492	512	92	467	400
True	**24%**	**16%**	10%	16%	**27%**	19%	16%	**35%**	**19%**	13%
False	74%	**82%**	**84%**	**83%**	67%	76%	81%	61%	**75%**	**86%**
Don't know	2%	2%	**5%**	1%	**6%**	4%	3%	4%	**5%**	1%
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.)	116	171	170	150	231	226	775	400	585
True	**32%**	**27%**	13%	13%	7%	19%	17%	11%	**23%**
False	63%	71%	**87%**	**86%**	**86%**	80%	78%	**87%**	73%
Don't know	5%	2%	-%	1%	**7%**	1%	**4%**	1%	**4%**
No answer	-%	1%	*%	-%	-%	*%	*%	1%	-%

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	Obligatory	Secondary	Tertiary
Total (wt.)	142	245	278	141	198	492	512	92	467	400
True	73%	**90%**	**89%**	**95%**	80%	86%	86%	74%	**87%**	**91%**
False	**25%**	**10%**	7%	4%	**12%**	11%	11%	**16%**	10%	8%
Don't know	2%	-%	**3%**	1%	6%	3%	2%	10%	2%	1%
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.)	116	171	170	150	231	226	775	400	585
True	78%	81%	**91%**	**88%**	**92%**	80%	**88%**	**93%**	81%
False	**17%**	**14%**	8%	11%	7%	14%	10%	5%	**15%**
Don't know	*%	6%	1%	1%	1%	**6%**	2%	1%	**4%**
No answer	5%	-%	-%	-%	-%	-%	1%	1%	-%

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	Obligatory	Secondary	Tertiary
Total (wt.)	142	245	278	141	198	492	512	92	467	400
True	69%	65%	70%	64%	65%	57%	**77%**	65%	65%	69%
False	24%	21%	22%	**28%**	16%	**30%**	13%	28%	20%	22%
Don't know	8%	**14%**	8%	7%	**19%**	13%	9%	7%	**14%**	9%
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.)	116	171	170	150	231	226	775	400	585
True	51%	60%	**77%**	**69%**	**72%**	55%	**71%**	**76%**	61%
False	**35%**	**23%**	13%	**24%**	20%	**35%**	18%	18%	**25%**
Don't know	13%	**17%**	9%	7%	8%	10%	12%	7%	**14%**
No answer	*%	*%	*%	-%	-%	-%	*%	-%	*%

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.)	142	245	278	141	198	492	512	92	467	400
When you have taken all of the antibiotics as directed	34%	38%	38%	36%	42%	33%	**43%**	27%	**38%**	**40%**
After 4-14 days	12%	**23%**	18%	20%	14%	14%	**21%**	**27%**	16%	18%
When the pack is finished	9%	8%	**22%**	**20%**	**15%**	15%	16%	5%	**17%**	**17%**
When you feel better	**26%**	**17%**	7%	6%	10%	**19%**	7%	**19%**	**14%**	10%
After 1-3 days	**6%**	*%	**4%**	**7%**	**4%**	4%	4%	2%	4%	4%
In case of allergies/side effects	2%	2%	2%	6%	2%	2%	3%	5%	2%	3%
Depends on the antibiotics / depending on the disease	1%	2%	3%	*%	1%	2%	1%	-%	2%	2%
After more than 14 days	1%	2%	1%	-%	2%	1%	1%	-%	1%	1%
Other	*%	2%	1%	-%	3%	1%	2%	7%	*%	**2%**
Don't know	8%	6%	3%	5%	7%	**8%**	3%	6%	6%	4%
No answer	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.)	116	171	170	150	231	226	775	400	585
When you have taken all of the antibiotics as directed	**45%**	29%	**45%**	30%	**40%**	31%	**40%**	39%	38%
After 4-14 days	18%	19%	18%	23%	18%	19%	17%	16%	19%
When the pack is finished	12%	13%	12%	18%	**20%**	**22%**	13%	**22%**	11%
When you feel better	7%	**19%**	**14%**	**14%**	7%	12%	13%	11%	14%
After 1-3 days	**7%**	**7%**	1%	3%	**5%**	5%	3%	4%	4%
In case of allergies/side effects	2%	3%	3%	2%	3%	3%	3%	3%	2%
Depends on the antibiotics / depending on the disease	*%	1%	1%	3%	4%	1%	2%	1%	1%
After more than 14 days	1%	-%	1%	4%	1%	*%	1%	2%	1%
Other	1%	*%	2%	*%	-%	3%	1%	*%	**2%**
Don't know	7%	**10%**	3%	3%	2%	4%	6%	3%	**7%**
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.)	11	140	235	117	145	285	363
You accept the decision of the doctor	91%	62%	60%	64%	65%	65%	62%
I'm inclined to be against treatment with antibiotics anyway	-%	10%	**13%**	**18%**	6%	13%	10%
I would like an explanation/justification from the doctor	-%	12%	8%	**15%**	6%	10%	9%
Never happened before / no estimate possible	-%	4%	6%	9%	10%	6%	8%
I would like an alternative treatment suggestion from the doctor	-%	**5%**	**5%**	**16%**	1%	5%	6%
You go to see another doctor	-%	6%	4%	5%	4%	4%	5%
You insist on antibiotic treatment until the doctor agrees	-%	4%	**5%**	**8%**	2%	**7%**	3%
You are trying from other sources to obtain an antibiotic	-%	2%	*%	1%	*%	1%	1%
You give the child antibiotics left over from a recent course	-%	-%	*%	-%	-%	-%	*%
Other	-%	1%	2%	5%	2%	1%	3%
Don't know	-%	4%	4%	4%	**10%**	6%	5%
No answer	9%	-%	2%	1%	2%	3%	*%

	Education			Antibiotic intake		Knowledge (Index from Q04)		
	Obligatory	Secondary	Tertiary	Yes	No	4 correct	3 correct	<3 correct
Total (wt.)	45	293	291	125	521	265	150	86
You accept the decision of the doctor	62%	62%	66%	59%	64%	62%	67%	71%
I'm inclined to be against treatment with antibiotics anyway	8%	12%	10%	12%	11%	**13%**	**17%**	5%
I would like an explanation/justification from the doctor	2%	12%	9%	**16%**	8%	10%	15%	8%
Never happened before / no estimate possible	4%	7%	8%	3%	**8%**	**9%**	3%	2%
I would like an alternative treatment suggestion from the doctor	4%	7%	6%	7%	6%	6%	7%	4%
You go to see another doctor	1%	4%	6%	2%	5%	6%	4%	3%
You insist on antibiotic treatment until the doctor agrees	7%	**7%**	2%	**12%**	3%	1%	**9%**	5%
You are trying from other sources to obtain an antibiotic	1%	*%	1%	*%	1%	1%	1%	1%
You give the child antibiotics left over from a recent course	-%	*%	-%	*%	*%	*%	-%	-%
Other	-%	1%	**4%**	1%	2%	4%	-%	1%
Don't know	16%	5%	3%	8%	5%	3%	7%	5%
No answer	2%	1%	2%	1%	1%	1%	3%	-%

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.)	142	245	278	141	198	92	467	400
Yes	26%	**36%**	**45%**	**46%**	**43%**	18%	**37%**	**51%**
No	**74%**	**62%**	52%	53%	56%	**81%**	61%	48%
Don't know	-%	2%	3%	1%	1%	1%	3%	1%

	Household income					Antibiotic intake	
	<4'000	4'000-6'000	6'000-8'000	8'000-10'000	>10'000	Yes	No
Total (wt.)	116	171	170	150	231	226	775
Yes	32%	28%	**41%**	**46%**	**53%**	39%	40%
No	**65%**	**69%**	**58%**	52%	44%	59%	58%
Don't know	3%	3%	1%	2%	3%	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	Obligatory	Secondary	Tertiary
Total (wt.)	37	87	125	65	85	17	171	205
You read it in a newspaper / specialist journal	13%	19%	**45%**	**57%**	**62%**	4%	45%	44%
You saw it on the TV news	9%	**23%**	**21%**	5%	**31%**	9%	25%	17%
You saw or heard it on the Internet or on online social media	17%	18%	**19%**	**32%**	9%	18%	17%	20%
A family member or friend talked to you about it	17%	**28%**	**15%**	**28%**	4%	39%	17%	17%
A doctor talked to you about it	**33%**	3%	**11%**	**25%**	**19%**	28%	**25%**	5%
You saw it on a TV advertisement	10%	**18%**	15%	**20%**	8%	5%	15%	14%
Work / study / school	29%	**9%**	4%	7%	2%	-%	7%	9%
Another health professional talked to you about it	-%	2%	6%	27%	2%	3%	6%	8%
You heard it in the radio	-%	3%	7%	12%	3%	-%	7%	5%
You saw it in a leaflet or on a poster	5%	4%	9%	2%	3%	6%	6%	4%
A pharmacist talked to you about it	-%	-%	1%	1%	3%	-%	1%	1%
You read it in a newspaper / specialist journal	-%	-%	1%	-%	1%	-%	*%	*%
Don't know	1%	2%	4%	4%	8%	6%	3%	5%

	Household income				
	<4'000	4'000-6'000	6'000-8'000	8'000-10'000	>10'000
Total (wt.)	37	49	70	69	123
You read it in a newspaper / specialist journal	45%	35%	35%	48%	45%
You saw it on the TV news	2%	**26%**	**23%**	**25%**	9%
You saw or heard it on the Internet or on online social media	**39%**	4%	10%	**15%**	**28%**
A family member or friend talked to you about it	**34%**	12%	**28%**	16%	15%
A doctor talked to you about it	33%	**19%**	7%	5%	13%
You saw it on a TV advertisement	**27%**	10%	7%	14%	**18%**
Work / study / school	2%	3%	11%	12%	7%
Another health professional talked to you about it	21%	-%	1%	1%	**14%**
You heard it in the radio	3%	18%	6%	6%	3%
You saw it in a leaflet or on a poster	-%	3%	11%	3%	4%
A pharmacist talked to you about it	-%	1%	-%	1%	-%
You read it in a newspaper / specialist journal	-%	-%	-%	1%	-%
Don't know	7%	5%	5%	3%	4%

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.)	37	87	125	65	85	17	171	205
Yes	16%	16%	**25%**	9%	**29%**	22%	**28%**	14%
No	84%	**84%**	74%	**90%**	70%	78%	72%	**86%**
Don't know	-%	-%	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.)	17	171	205	208	85	48
You will always consult a doctor in situations when you think you need antibiotics	24%	32%	32%	**35%**	35%	20%
No change/will continue as before	45%	24%	**33%**	30%	33%	36%
As little as possible/none	40%	24%	33%	29%	28%	26%
You will no longer take antibiotics w/o a prescription from a doctor, only when necessary, only when the doctor says	17%	29%	24%	25%	**38%**	25%
You will not keep antibiotics for later use in case of recurrence of disease	-%	5%	7%	7%	9%	1%
You will no longer self-medicate with antibiotics	-%	**5%**	1%	1%	11%	-%
With caution	-%	2%	3%	4%	2%	-%
You'll be taking antibiotics for influenza	-%	1%	-%	*%	-%	1%
Pass on left-over antibiotics to relatives and friends	-%	*%	*%	*%	-%	1%
Other	-%	5%	3%	2%	2%	7%
None	-%	1%	1%	1%	1%	-%
Don't know	-%	1%	-%	1%	-%	2%
No answer	-%	3%	1%	-%	1%	2%

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	Oblig-atory	Sec-ond-ary	Ter-tiary
Total (wt.)	142	245	278	141	198	92	467	400
Resistance to antibiotics	7%	**15%**	11%	**14%**	7%	7%	8%	**14%**
Side effects	**20%**	7%	**10%**	4%	5%	13%	8%	8%
Links between the health of humans, animals and the environment	**14%**	3%	**9%**	**10%**	6%	-%	**9%**	**8%**
General information on antibiotics	**16%**	**9%**	**8%**	5%	4%	4%	9%	7%
How antibiotics work	**18%**	7%	**9%**	4%	3%	11%	8%	6%
Alternatives to antibiotics	**7%**	**6%**	**5%**	**19%**	2%	7%	6%	7%
How to use antibiotics	**17%**	5%	4%	**13%**	4%	5%	7%	5%
Medical conditions for which antibiotics are used	**9%**	5%	**6%**	4%	2%	9%	3%	4%
How you can protect yourself against antibiotic resistance	6%	3%	4%	2%	1%	1%	1%	5%
Prescription of antibiotics	8%	2%	1%	8%	1%	3%	3%	2%
Effects on children	-%	5%	1%	-%	-%	-%	*%	4%
New research / developments	-%	*%	2%	4%	-%	-%	1%	2%
Other	2%	2%	4%	4%	5%	2%	4%	4%
Not interested in information on antibiotics	24%	**38%**	32%	34%	**46%**	25%	35%	39%
Don't know	15%	11%	16%	13%	16%	**28%**	**15%**	10%
No answer	6%	4%	**7%**	2%	4%	12%	3%	4%

	Knowledge (Index from Q04)			Internet use		
	4 correct	3 correct	<3 correct	Yes, (al-most) daily	Yes, less frequently	No
Total (wt.)	380	235	170	853	69	82
Resistance to antibiotics	**16%**	12%	6%	**12%**	**11%**	2%
Side effects	9%	12%	8%	**9%**	10%	4%
Links between the health of humans, animals and the environment	**13%**	9%	4%	**9%**	5%	-%
General information on antibiotics	**9%**	**13%**	4%	**9%**	7%	2%
How antibiotics work	8%	8%	11%	**9%**	5%	2%
Alternatives to antibiotics	8%	**9%**	4%	**8%**	6%	2%
How to use antibiotics	5%	**11%**	6%	**8%**	5%	3%
Medical conditions for which antibiotics are used	3%	**10%**	6%	5%	9%	-%
How you can protect yourself against antibiotic resistance	4%	4%	4%	4%	*%	-%
Prescription of antibiotics	2%	**8%**	3%	3%	2%	1%
Effects on children	2%	*%	3%	2%	-%	-%
New research / developments	3%	*%	-%	1%	-%	-%
Other	3%	3%	-%	4%	1%	1%
Not interested in information on antibiotics	30%	31%	**40%**	34%	30%	**53%**
Don't know	12%	13%	**19%**	13%	19%	**28%**
No answer	4%	**9%**	3%	5%	4%	5%

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	Obliga-tory	Sec-ondary	Ter-tiary
Total (wt.)	107	152	189	94	107	69	306	243
A doctor	87%	79%	85%	79%	**89%**	75%	83%	85%
A pharmacy	**67%**	42%	**58%**	42%	54%	59%	55%	49%
An official health related website	**53%**	**56%**	**58%**	34%	31%	37%	42%	**61%**
A hospital	**42%**	22%	**44%**	30%	**45%**	40%	36%	37%
A nurse	**56%**	**28%**	**35%**	14%	**37%**	36%	36%	29%
Another health care facility	**32%**	14%	**24%**	**26%**	18%	18%	21%	25%
Family or friends	**28%**	13%	**18%**	8%	15%	20%	18%	12%
TV	11%	6%	**19%**	6%	**20%**	2%	**16%**	**10%**
None of them	-%	1%	-%	*%	1%	-%	*%	1%
Don't know	-%	-%	*%	-%	-%	-%	*%	-%

	Knowledge (Index from Q04)			**Awareness**	
	4 correct	3 correct	<3 correct	Yes	No
Total (wt.)	265	162	102	293	341
A doctor	83%	82%	82%	82%	86%
A pharmacy	52%	**60%**	48%	48%	**57%**
An official health related website	50%	55%	46%	**57%**	40%
A hospital	33%	40%	37%	31%	**41%**
A nurse	33%	38%	33%	32%	35%
Another health care facility	21%	27%	21%	25%	20%
Family or friends	13%	17%	17%	14%	17%
TV	14%	**21%**	7%	**16%**	10%
None of them	1%	1%	-%	1%	*%
Don't know	-%	1%	-%	-%	-%

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.)	142	245	278	141	198	92	467	400
At individual level or within family	10%	**17%**	12%	16%	**17%**	**25%**	14%	11%
At regional level / national level	13%	10%	10%	10%	15%	9%	13%	12%
At European level / global level	**18%**	13%	**18%**	9%	7%	12%	15%	11%
Action at all levels needed	52%	51%	**54%**	48%	42%	39%	45%	**59%**
Don't know	6%	9%	6%	**14%**	**17%**	**15%**	**12%**	6%
No answer	-%	*%	-%	4%	2%	*%	1%	1%

	Antibiotic intake		Knowledge (Index from Q04)		
	Yes	No	4 correct	3 correct	<3 correct
Total (wt.)	226	775	380	235	170
At individual level or within family	12%	15%	9%	**16%**	**18%**
At regional level / national level	8%	**13%**	12%	11%	8%
At European level / global level	**19%**	11%	9%	**20%**	15%
Action at all levels needed	49%	50%	**61%**	46%	45%
Don't know	9%	10%	7%	6%	12%
No answer	2%	1%	1%	1%	2%

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.)	37	77	99	65	81	156	202	27	169	140
Yes	**65%**	34%	**50%**	34%	42%	**52%**	37%	31%	44%	44%
No	27%	**53%**	31%	**61%**	**47%**	38%	**49%**	62%	44%	43%
Don't know	5%	8%	**15%**	2%	7%	8%	9%	7%	9%	8%
No answer	3%	5%	4%	2%	4%	2%	5%	-%	4%	5%

	Knowledge (Index from Q04)			Awareness	
	4 correct	3 correct	<3 correct	Yes	No
Total (wt.)	146	85	52	144	207
Yes	**43%**	**59%**	24%	45%	43%
No	43%	35%	**74%**	42%	46%
Don't know	**11%**	3%	1%	10%	7%
No answer	3%	2%	-%	3%	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	Quantity
Allergie	
Blutzucker	
J'avais le Coronavirus	
Man hat es nicht genau herausgefunden	
Muget	
Pfeiffersches Drüsenfieber	
Psyche	
Rheuma	
Traitement de l'œil	2
Unfall	
Zeckenbiss	6

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?

Answer
Ich bin der Meinung, möglichst kein Antibiotika zu nehmen.
Il ne faut pas l'arrêter
Il ne faut pas les prendre trop longtemps
Lorsque l'antibiotique devient inefficace
Lorsque l'on devient dépendant ou lorsque le traitement devient inefficace.
Lorsqu'on devient résistant aux antibiotique
Nehme nichts
Quand c'est risqué pour la vie du malade
Wenn es nicht genützt hat

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 ce qu'il a
Es ist sehr abhängig von der Situation
Es wird von Ärzteseite leichtsinnig damit umgegangen
Habe es selber entschieden nach Absprache, da ich selber Arzt bin
Ich habe fast kein Antibiotikum bekommen
Il donne de l'argent colloïdale à ses enfants
Ist eher der andere Fall gewesen, dass die Antibiotika verschrieben worden sind, weil es nötig war (z.B. Blutvergiftung)
Ist es wirklich nötig
Je donne autre chose : comme des Panadones (si je pense que c'est juste un Rhume)
Nur Blut- und Abstrichentnahme
Una sopresa
Wollte zuwarten ob eine Besserung eintritt

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
In Zusammenhang mit Corona
Information médiatique

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
A toujours pris de façon optimale car formation dans le domaine médical
Evtl. andere Massnahmen, man sollte etwas abwarten
Gesund leben
Hat in einem Monat sein Medizinstudium beendet
Ich behandle nach Möglichkeit auf natürlicher Basis
Ich habe weniger Angst
Je ne me tiens pas à une seule information
La prise d'antibiotique n'est pas automatique
Nach Plan B oder C schauen, abwägen was es besser verträgt oder braucht
Nur für bakterielle Krankheit
Termino de la cartolina
War selber resistent, nur gezielt einsetzen
Zuerst Bluttest machen, dann sieht man ob es bakteriell oder viral ist
Zuerst versuchen mit Hausmitteln
Zusätzliche Infoquellen nutzen (z.B. Internet)

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
Abuso dell'antibiotico
Action sur notre système humanitaire
Antibiotici con il covid
Arzt entscheidet
Auch über das Corona-Virus
Bin gut informiert
Compagne contre l'abus des antibiotiques
Composizione della pastiglia allora un bugiardino più completo
Das weiss der Arzt wenn ich eine Info brauche
Fabrication
Le taux d'infections résistant dans les hôpitaux
Les montants des primes d'assurances, les lobbys etc.
Mehr über Infektionen
Mon médecin quand il me les prescrit , le je prends pas besoin de plus info
Neue Antibiotika
On est pas très médicaments et quand on les prend c'est sur avis du médecin
Produktion
Psoriasis
Sport
Sulle infezioni batteriche
Sur la situation actuelle (le Covid-19)
Sur le virus Covid-19
Tutte le informazioni sono utili
Verfügbarkeiten von Antibiotika, genügend vorhanden (Landesversorgung)
Vertraue dem Arzt
Vertrauen zu Arzt (zweckgemässer Einsatz)
Vire
Warum verträgt man nicht jedes Antibiotika z. B. sind viele Menschen allergisch auf Penicillin
Wenn ich etwas brauche, suche ich per Internet
Wie alt das Antibiotika ist
Wie gehts weiter wenn Antibiotika nicht mehr nützt
Wie sich das industriell auswirkt
Wie sieht der Plan aus in der Schweiz, dass man nicht zu viel und unnötig Antibiotika einnimmt?

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

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 When you have taken all of the antibiotics as directed
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

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

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?

1 Yes
2 No

98 Don't know
99 No answer