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Survey Antimicrobial Resistance 2024

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

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1. Key results

For the fifth time, following 2016, 2018, 2020, and 2022, DemoSCOPE conducted a representative survey on behalf of the Federal Office of Public Health (FOPH) to assess the Swiss population's knowledge, attitudes, and use of antibiotics. This year, 3,485 complete interviews were conducted, compared to 1,000 interviews in each of the previous years.

Unlike the previous telephone surveys, this year's survey was conducted for the first time using a so-called mixed-mode design, utilizing addresses from the sampling register of the Federal Statistical Office. Mixed-mode means that target individuals had the option to participate either online (CAWI) or via telephone (CATI), as in previous years. The telephone interviews could be conducted either inbound (the target person calls the CATI lab with the request to answer the questions immediately) or outbound (the CATI lab contacts the target person by phone). In principle, the results remain comparable; however, it should be noted that the proportion of "don't know/no answer" responses has significantly increased depending on the question. This is due to the fact that interviewers in the CATI process are trained to elicit substantive responses and tend to probe further. Additionally, it appears that not all respondents fully understood the knowledge questions Q4 and Q17. In CATI, there is more support and explanation available compared to CAWI.

This chapter summarizes the key results of the survey, also referring to significant changes compared to previous surveys. The detailed report provides a more in-depth analysis of the overall results, as well as statistically significant differences between various subgroups.

Antibiotic use

- A good fifth (22%) of the Swiss population has taken antibiotics in the past 12 months, e.g. in the form of tablets, powder or syrup. This is again slightly higher than in 2022, when the proportion was 19%. While the proportion in German-speaking Switzerland has remained almost the same (20% in 2024, 19% in 2022) and is declining slightly in Ticino (29% in 2024, 32% in 2022), the increase in French-speaking Switzerland is very noticeable (2024 28%, 2022 17%). However, when comparing the 2024 data with data from 2016, it is evident that all language regions show a similar decline of 2-4%.
- Individuals who had taken antibiotics in the past 12 months received their last course of antibiotics either directly from a doctor in a practice or hospital (47% in 2024 vs. 68% in 2022) or based on a medical prescription filled at a pharmacy (47% in 2024 vs. 26% in 2022). Consequently, a shift in favour of obtaining antibiotics from pharmacies can be observed. It should be noted, however, that the 2022 figure, at 68%, was higher than in previous years, likely due to the circumstances of Covid. Other procurement channels, such as 'without a prescription from the pharmacy' and 'leftover medication from the last treatment,' play a clearly subordinate role, each accounting for 3%.
- The main reasons for taking antibiotics are urinary tract infections/bladder infections (19%), surgical procedures (13%), and sore throats, tonsillitis, or scarlet fever (12%). Depending on the population group and demographic characteristics, such as age group or language region, different frequencies are observed across individual characteristics.

- 58% of people taking antibiotics had a laboratory test (e.g. a blood/urine test or throat swab) before they started antibiotic therapy.

Knowledge of antibiotics

- To show the Swiss population's current knowledge of antibiotics, an assessment is requested of the accuracy of five statements. On average, 2.78 statements were answered correctly. On average, women rated statistically significantly more statements correctly than men (2.93 vs. 2.62). Tertiary educated people also achieved higher values (3.12).
- The statement "Antibiotics kill viruses" was correctly answered by 55%, while the statement "Antibiotics are effective against colds and flu" was correctly answered by 73%. The highest proportion of correct judgements was given to the correct statement that the unnecessary use of antibiotics reduces their effectiveness (81%). The statement "Taking antibiotics often has side-effects such as diarrhoea" was correctly answered by 59%. The statement "Humans can become resistant to antibiotics," which was asked for the first time this year, was incorrectly answered by a clear majority of respondents, with 80% providing the wrong answer. Overall, the number of correct answers has decreased compared to previous years. The change in methodology likely plays a role here; in telephone interviews, respondents occasionally ask follow-up questions, and their responses tend to be less spontaneous. In online surveys, however, respondents are on their own and must provide answers without external assistance.

Attitudes towards and information about the use of antibiotics

- At 70%, the majority of people believe that antibiotics should be stopped only once all the prescribed doses have been taken as instructed. This is a marked increase compared to 2022, when this figure was 44%. The other response options are correspondingly lower.
- Slightly more than half of the respondents return leftover and no longer needed antibiotics to the pharmacy for disposal (55%), while another 19% return them to the doctor's office. 13% reported never having had any leftover antibiotics, and a further 10% keep them and use them for their next infection.
- The proportion of people who had received information on the unnecessary use of antibiotics in the past 12 months is almost the same as in 2022 and amounts to 34% (2022: 35%, 2020: 40%, 2018: 51%). It is striking that the proportion in Ticino has risen significantly and is the highest (46%), has also risen from 21% in 2022 to 28% in French-speaking Switzerland and has only fallen slightly in German-speaking Switzerland (from 39% to 36%). Perception took place via various channels. The most common sources were newspapers/trade journals (33%), followed by articles on the internet/social media (20%) and a conversation with a doctor (20%).
- 28% of people who had seen information on the unnecessary use of antibiotics stated that this had changed their view on antibiotic use. This is significantly higher than in 2022, when the figure was 17%. This figure has risen sharply in Ticino and French-speaking Switzerland in particular, from 7% in 2022 to 30% in 2024 in Ticino and from 14% to 30% in French-speaking Switzerland. This indicates a significantly higher awareness of the issue compared to two years ago in these two language regions. The target individuals

who indicated that their view on antibiotic use had changed due to the information they received were asked about their current approach. A majority 56% responded that they now always consult a doctor when they need antibiotics. Another 32% stated that they try to take as few antibiotics as possible or none at all. Just under a third (27%) continue to proceed as they did before.

- The proportion of people with custody of children who accept the doctor's decision if, contrary to their own expectations, no antibiotic is prescribed for the sick child is 61% in the current survey. Only 3% insist on antibiotics being given. In addition, there are numerous other ways of proceeding (obtaining further reasons, obtaining a second opinion, etc.).

Desired information and reliable sources

- The most frequently mentioned topics on which more information is desired in connection with antibiotics are alternatives to antibiotics (28%), antibiotic resistance (22%) and diseases for which antibiotics are used (19%). In addition, 20% stated that they were not interested in further information.
- Those people who did not explicitly express their lack of interest in further information on antibiotics primarily want information directly from doctors (81%) and pharmacists (44%). Official websites with relevant information (e.g. from the government, the health authority, the EU, WHO) also have some significance (36%).

Level at which the problem of resistance should be tackled

- In this se of questions, respondents were first asked to what extent they would agree if the doctor were to prescribe only the exact number of tablets actually needed. This was followed by another question asking whether they would be willing to pay for any additional costs that might arise from such partial dispensing. The first question was overwhelmingly answered with "yes", with 82% being completely in agreement and 10% somewhat in agreement. The situation is different for the second question: more than half of the respondents were not willing to pay for this, while just over a third would be willing to do so.

Antibiotic treatment in livestock

- 58% are of the opinion that farm animals should be given antibiotics to treat disease in cases where they are the most appropriate treatment.
- Due to the moral and ethical nature of the issue, for those people who are clearly or rather against the treatment of farm animals with antibiotics, the question of whether they would accept that the animals would remain ill, suffer or have to be killed if they were not treated with antibiotics remains controversial. Currently, 23% are in favour of not using antibiotics in these cases, which is significantly less than before. This figure has fallen significantly over the years. In addition, 23% cannot answer this question spontaneously.

- In the survey, four statements regarding the use of antibiotics in animals were added to the knowledge questions. The statement "The use of antibiotics as growth promoters in farm animals is prohibited in Switzerland" was correctly answered by nearly half (48%). The statement "In Switzerland, the use of antibiotics in animals is in sharp decline" was correctly answered by only about a third (27%), with over half (55%) responding with "don't know". The statement "Livestock owners can only obtain antibiotics for their animals from a vet" was correctly answered by 55%. The statement "The risk of becoming infected with resistant bacteria when eating meat is high" was correctly answered by one-third of respondents. The proportion of people who correctly answered the statement "Animals can become resistant to antibiotics" is 20%.

2. Methodology

The following section briefly outlines the background of the survey, followed by an explanation of the methodological approach, including the chosen method and sample. Subsequently, some statistics regarding participation will be presented.

2.1 Backgrounds

As part of its health policy priorities "Health 2020", the Federal Council has launched a national strategy against antibiotic resistance. As part of the implementation of this "Strategy on Antibiotic Resistance (StAR)", it is important to periodically survey the level of knowledge, practices and attitudes towards antibiotic use in the population. This serves both the decision-making process for aspects of implementation and the identification and assessment of any changes over time and in international comparison.

To determine the initial situation, DemoSCOPE conducted an initial survey in 2016 on behalf of the Federal Office of Public Health FOPH, which was repeated at the same time in 2018, 2020 and 2022. The current survey in 2024 is another one, which was conducted at a slightly earlier date but with a largely identical questionnaire. It builds on the Eurobarometer survey on antibiotic resistance in the EU and includes additional information and questions relevant to Switzerland.

The 2024 survey, like previous surveys, was offered in the three national languages: German, French, and Italian. This is also the usual procedure for surveys conducted by the Federal Statistical Office, apart from the mandatory national census, which is also offered in English and Romansh. English could be considered for the next survey, as 6.8% of respondents opted for this language in last year's census (compared to 59% for German, 27.5% for French, 6.8% for English, and 0.005% for Romansh). In contrast, Romansh was hardly used.

The option for a so-called proxy interview, where another person answers on behalf of the respondent, was not available in this survey, though this is generally not a common practice.

2.2 Explanation of the method: Mixed-mode design

In contrast to previous surveys, a methodological shift was made in 2024, moving from a purely telephone-based single-mode survey to a so-called mixed-mode survey.

This change was made for several reasons. For many years, telephone surveys were the most representative, as almost every household had a landline number and therefore virtually the entire population had the chance to be included in a randomly drawn sample. This has changed considerably in recent years. On the one hand, the number of households with landlines has fallen sharply and, on the other, the willingness to take part in telephone surveys has declined significantly.

Considering this development, mixed-mode designs are now considered the gold standard for representative population surveys. In addition, federal offices such as the Federal Office of Public Health (FOPH) have the general ability to obtain addresses from the federal population

register. This register contains all addresses of the permanent resident population from municipal registers and is updated four times a year, allowing for a high-quality sampling process. This represents a very privileged position in comparison to other European countries.

The advantages of mixed-mode designs clearly lie in a higher utilisation rate due to the better coverage and accessibility of the population or target population. In principle, the target persons have different method preferences: Some are more willing to answer questions on the telephone and others prefer to complete questionnaires on their own. Almost the entire resident population (aged 15 and over) now has a strong online affinity or has online access. Even among the older population aged 70 and over, well over 50% now use the internet very regularly. As a result, an online survey can reach nearly the entire population in Switzerland, and in general, the willingness to complete an online questionnaire is significantly higher among most target groups than to provide information over the phone. This is due to the greater flexibility in terms of time (the questionnaire can be completed at any time and at a time of the respondent's choosing) and the avoidance of social interaction.

Although most of the population today has Internet access, there is still a small proportion of the population who cannot or do not want to participate online, whether for reasons of age or due to physical limitations, e.g. visual impairment, severe arthritis, Parkinson's disease, etc., which make participation via computer/smartphone difficult or impossible. By offering two participation channels, the response rate and thus also the representativeness of the survey can be increased.

The Eurobarometer and surveys in Europe still rely heavily on face-to-face interviews. This is partly due to the fact that in most countries it is not possible to obtain addresses from official bodies, which means that it is difficult to draw a representative sample, and it is not possible to send a letter with login data to the target persons without an address.

In Switzerland, face-to-face interviews can only be conducted with great effort and usually with low response rates, as the majority of the population perceives it as rather inappropriate when strangers knock on their door to conduct an interview. Compared to mixed-mode surveys with CAWI/CATI, the response rate is therefore very low, significantly reducing the quality of the data.

SRPH sample

Switzerland is in the privileged position of having an almost perfect basis for selection with the sampling frame for surveys of persons and households (SRPH) from the Federal Statistical Office (FSO), as SRPH samples are based on the Swiss population register. Every person residing in Switzerland is recorded in this register with their personal postal address, and if available, a landline phone number, along with other characteristics (e.g., age and gender). A key advantage of using SRPH addresses is therefore the high quality of the sample, as the data from the population registers of the municipalities and cantons are updated on a quarterly basis. In addition, the sampling is randomised, which prevents individuals from being interviewed too frequently and possibly showing signs of survey fatigue. Random sampling means that every member of the resident population aged 15 and over can be surveyed and has the

same probability of being selected. SRPH is therefore the gold standard for a sample of the highest quality. It should be noted, however, that the SRPH register only contains private households. Individuals in social-medical institutions and care homes, in detention facilities, or in asylum centres are therefore not included.

In a mixed-mode survey based on SRPH addresses, the following procedure is applied:

1. The Federal Statistical Office (FSO) provides a sample in accordance with the sampling plan (with corresponding address oversampling so that the net number of interviews can be achieved).

2. All target persons in the sample receive an announcement letter in envelopes from the Swiss Confederation. It contains at least the following information:

   - Objective and purpose of the study
   - Official sender and reference to the federal office conducting the survey
   - Link and personalised login information to the online questionnaire including login via QR code for user-friendly participation via smartphone
   - Participation deadline
   - Information on hotline and telephone participation option

3. After a period of 2 weeks, a reminder letter (Reminder-1) is sent to those addresses from which No answer has yet been received, stating a further deadline with the information that telephone contact can now also be made.

4. After a further period of 2 weeks, a second, final reminder letter is sent, in which a further deadline is specified.

5. Telephone interviews can be conducted during the entire field period at the request of the target person (inbound).

In contrast to the previous surveys with a sample size of n= 1,000, the initial plan was to conduct 1,500 interviews. Due to a request from the cantonal health department of Ticino during the preparation period to conduct a population-representative survey of Ticino, the sample for Ticino was increased with the aim of achieving 2,325 interviews. Ultimately, 3,485 interviews were obtained. The results were weighted to be representative of the population in terms of age, gender, and language region, with Ticino being "down weighted" according to its proportion of the Swiss population. This adjustment ensures that the results reflect the population distribution accurately.

For future surveys, it would probably make sense to ask all cantons whether they would like to increase the sample at their own expense, which could then be considered when ordering the sample from the FSO. This enquiry can also be made by DemoSCOPE.

2.3 Response rate

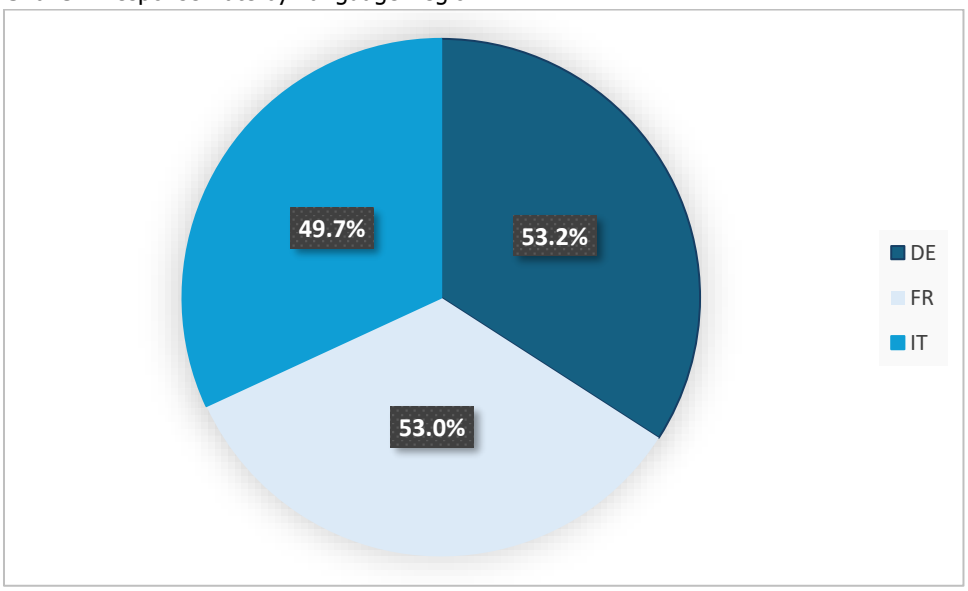
The announcement letters were sent on 3 June 2024 via standard B-post, and the first interviews were conducted after receipt of the letters on 6 June. Reminder letters were sent at intervals of approximately two weeks. The end of the fieldwork was on 2 August 2024. A total of 3,485 individuals from all regions of Switzerland were surveyed.

Thanks to the change in methodology and likely also due to the perceived importance of the topic, a gross response rate of 52.8% was achieved, which represents an excellent result. If you exclude the number of invalid addresses (returned letters due to undeliverable letters, invalid telephone numbers, deaths, individuals not (or no longer) living in the specified location, people moving abroad or so-called collective households), the result is 6,599 valid addresses.

Consequently, the net utilisation corresponds to 52.8%.

The utilisation per language region is shown below and is calculated as follows.

Chart 1 Response Rate by Language Region



The Federal Statistical Office (FSO) provided a total of 6735 addresses, of which 2893 were in German-speaking Switzerland, 1067 in French-speaking Switzerland and 2775 in Ticino. The gross response rate was 53.2% in German-speaking Switzerland and 53.0% in French-speaking Switzerland, and slightly lower in Ticino at 49.7%.

A total of 3030 CAWI interviews and 455 CATI interviews were conducted, which corresponds to 13.1% CATI interviews and 86.9% CAWI interviews.

The distribution across the age groups was as follows:

Table 1 Distribution by Age Groups and Method

Age Group	CATI	CAWI	Total Interviews
15-24	7	341	348
25-44	13	926	939
45-64	103	1,171	1,274
65++	332	592	924
Total	**455**	**3,030**	**3,485**

The method preferences are clear. For the two youngest age groups, online participation is clearly the preferred method, and this trend continues among the 45–64-year-olds; only in the 65+ age group is there a higher proportion of CATI interviews.

The latter shows, however, that it is still important to offer telephone participation in population-representative surveys in order not to exclude anyone from the survey. The oldest segment of the population is less digitally inclined.

Participation was possible both via a personalised login via a website and via a personalised QR code. The latter is playing an increasingly important role, as most respondents now take part in surveys using a smartphone.

The distribution by age groups in the respective language regions is as follows, without weighting:

Table 2 Distribution by Age Groups and Language Region

Age Group	German-speaking Switzerland	French-speaking Switzerland	Italian-speaking Switzerland	Total
15-24	152	55	141	348
25-44	430	159	350	939
45-64	543	221	510	1,274
65++	414	131	379	924
Total	1,539	566	1,380	**3,485**

The distribution by educational groups in the respective language regions is as follows, expressed as percentages and without weighting:

Table 3 Distribution by Educational Level and Language Region

Educational Level	German-speaking Switzerland	French-speaking Switzerland	Italian-speaking Switzerland
Compulsory	9.4%	12.9%	13.1%
Secondary	44.6%	41.5%	48.9%
Tertiary	46%	45.6%	38%
Total	100%	100%	100%

The median of the average response time was just under 10 minutes, while the mean was nearly 28 minutes. The latter is due to some CAWI participants who started the questionnaire, paused, and then resumed several hours or days later. This phenomenon occurs in online interviews and can only be addressed by an automatic log-out after a defined period of inactivity. Therefore, the median can clearly be considered the more meaningful measure. Ten minutes represents a highly reasonable interview duration and ensures good response quality.

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

Demo SCOPE AG
Dr. phil. Eva Passarge, Head of Social Research

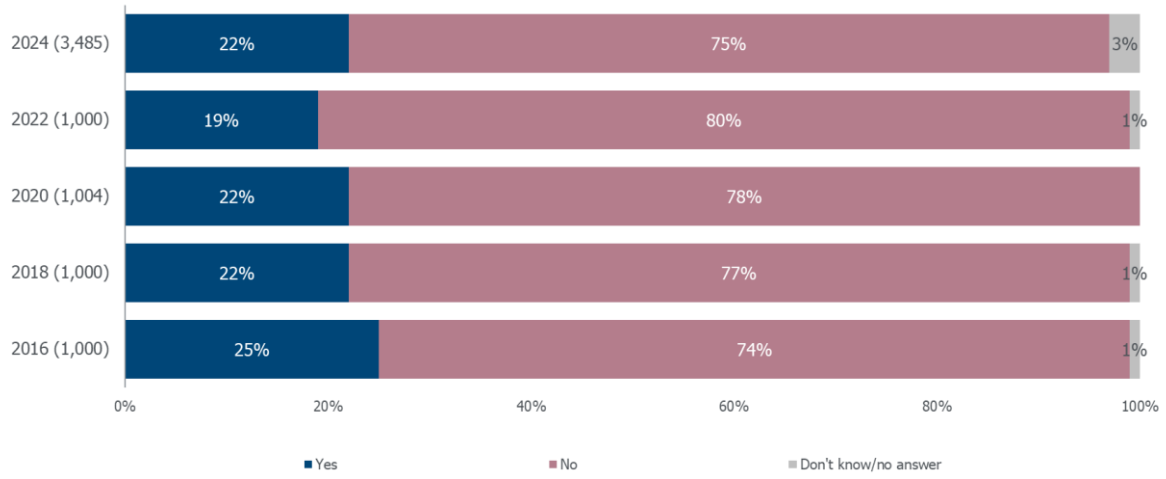
3. Detailed report

In the following chapter, the respective questions and results are also discussed in more detail. It should be noted that the results are weighted by age, gender, and language region, as in previous surveys. This is particularly the case for Ticino, where 1,428 interviews were conducted and subsequently weighted down to 150 to account for Ticino's actual proportion of the total Swiss population.

3.1 Antibiotic intake

The proportion of people who have taken antibiotics in the form of tablets, powder, syrup, etc. in the past twelve months has risen slightly compared to previous years and currently stands at 22 per cent (see Chart 2). In comparison over the years, this figure is thus relatively stable; it was only three percentage points lower in 2022.

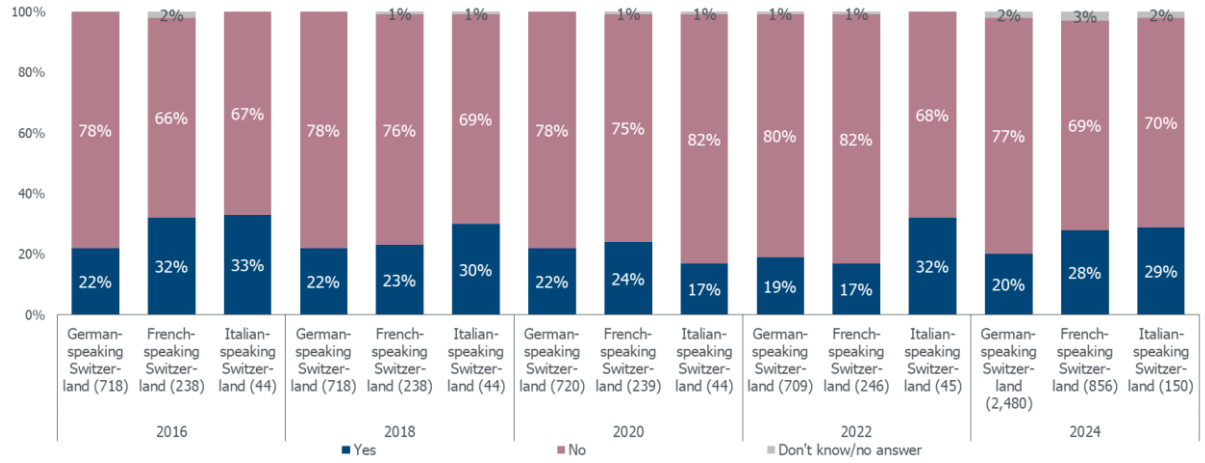
Chart 2 Have you taken any antibiotics orally such as tablets, powder or syrup in the last 12 months?



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

When examining the current situation and its development over time across the language regions, it becomes clear that there has been a significant increase in French-speaking Switzerland compared to 2022. In Ticino, the figure has fallen again slightly but is relatively high compared to the other language regions (see Chart 3).

Chart 3 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

Compared to the previous survey, there are hardly any major differences in this question in terms of age and settlement type. The youngest and oldest age groups exhibit slightly higher antibiotic use. There is no difference between urban and rural settlement areas, with only agglomerations showing slightly lower usage. (see Table 4)

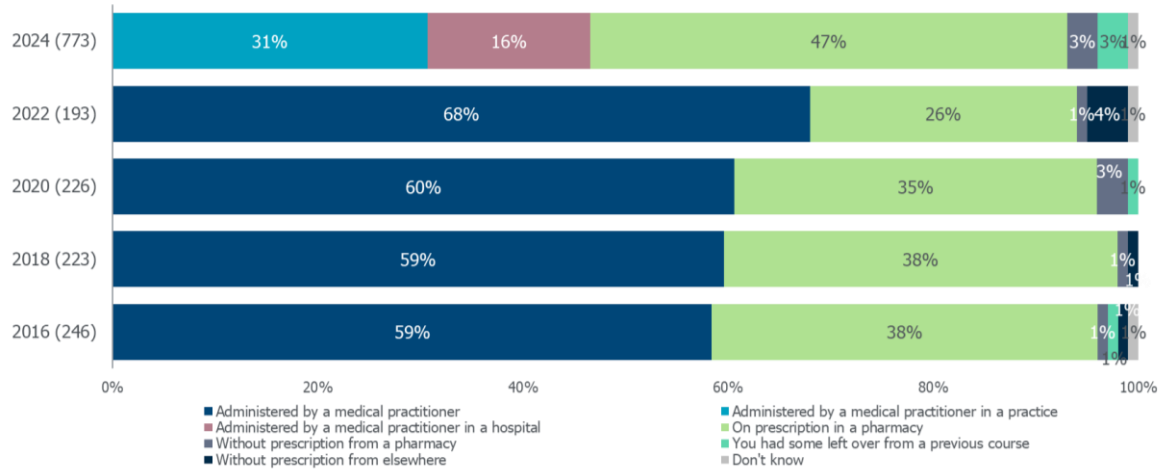
Table 4 Have you taken any antibiotics orally such as tablets, powder or syrup in the last 12 months?

	Age					Settlement type		
	15–24 years	25–39 years	40–54 years	55–64 years	65+ years	Urban	Inter-mediate	Rural
Total (wt.)	418	849	862	569	787	2186	728	571
Yes	25%	22%	20%	20%	25%	23%	20%	23%
No	71%	73%	78%	78%	74%	74%	78%	74%
Don't know	2%	4%	3%	2%	1%	3%	2%	2%
No answer	1%	1%	-%	*%	*%	*%	-%	*%

Base: 3,485 respondents / Question type: single question

The main source of antibiotic treatment for people who have taken antibiotics - e.g. in the form of tablets, powder or syrup - in the past 12 months was previously direct dispensing by doctors, whether in the practice or in hospital. In 2024, for the first time, respondents were asked separately whether the dispensing occurred in a hospital or a clinic, with the combined total being 47%. This figure is significantly lower than in previous surveys, but this difference may be partially attributed to the separate questioning. (see Chart 4) More frequently, at 47%, antibiotics were obtained from a pharmacy with a doctor's prescription, compared to just 26% in 2022. Other sources of antibiotics, such as obtaining them without a prescription from a pharmacy, from another source, or using leftover medication from a previous antibiotic course, are rare.

Chart 4 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

At the level of the various segments, only a few statistically significant differences between the characteristics are observed. The comparatively high proportion of direct dispensing by doctors in German-speaking Switzerland is related to self-dispensing in this part of the country (see Table 5), whereas in French-speaking Switzerland and Ticino, three quarters of respondents obtain their antibiotics from pharmacies on a doctor's prescription.

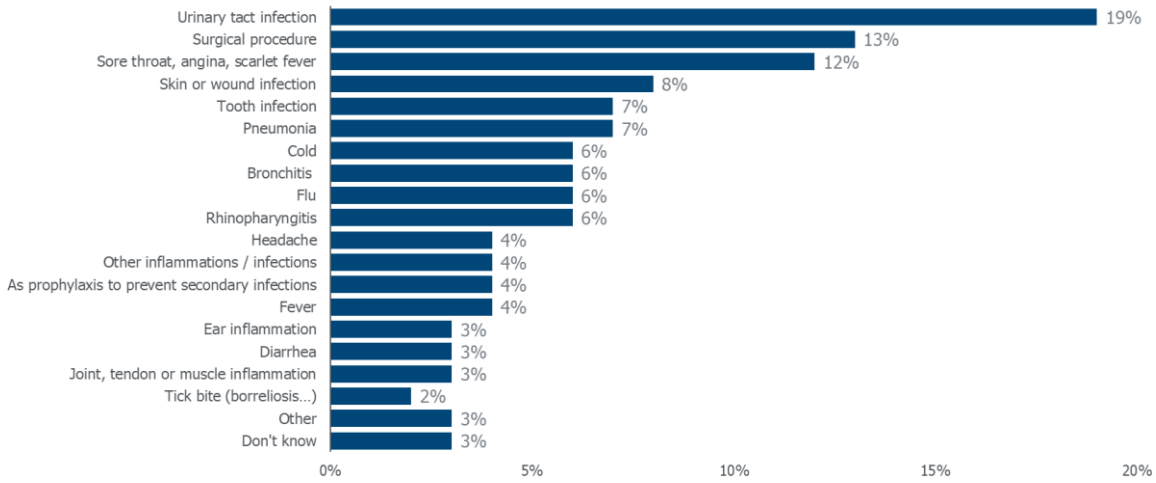
Table 5 How did you obtain the last course of antibiotics that you used?

	Region		
	German	French	English
Total (wt.)	494	236	43
Dispensing directly by a doctor in the practice	40%	14%	15%
Dispensing directly by a doctor in the hospital	21%	6%	12%
On prescription in a pharmacy	32%	73%	69%
Without prescription from elsewhere	-%	-%	-%
Without prescription from a pharmacy	3%	3%	3%
You had some left over from a previous course	3%	3%	3%
Don't know	1%	*%	2%
No answer	*%	*%	1%

Base: 773 respondents / Filter: have taken antibiotics in the last 12 months / Question type: single question

The reasons for taking antibiotics remain highly varied, although there has been a slight percentage shift compared to the last survey (see Chart 5). The three main reasons for taking antibiotics in 2024 were urinary tract infections (19%), surgical procedure (13%) and sore throat, angina, scarlet fever (12%). In addition, there are a variety of other reasons.

Chart 5 What was the reason for last taking the antibiotics that you used?

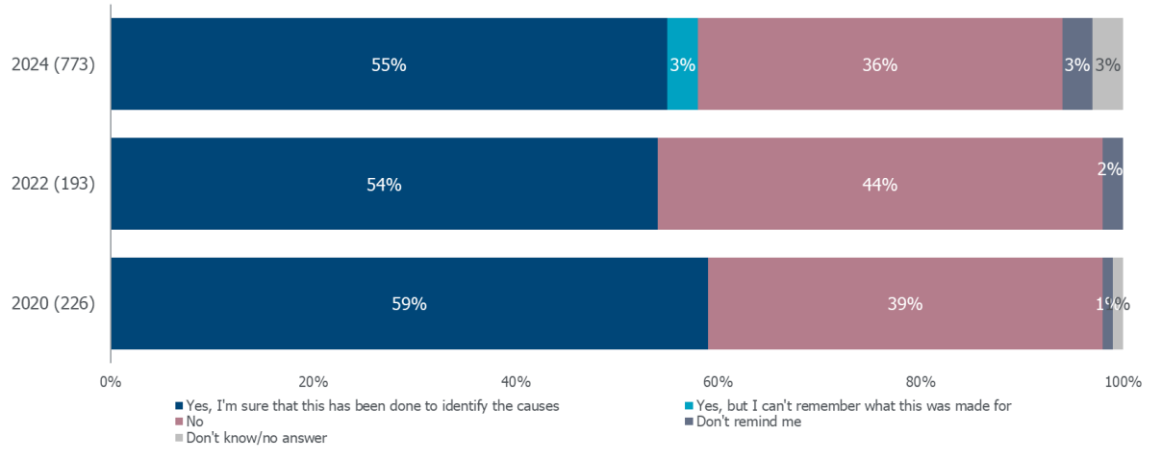


Base: 773 respondents / Filter: have taken antibiotics in the last 12 months / Question type: multi-question

Depending on the reason for use, there are various different characteristics between specific subgroups. This is likely to be related to various factors such as the frequency or probability of occurrence of the respective illness or other medical reasons. For example, the use of antibiotics due to urinary tract infections or surgical interventions is statistically significantly more common in older age groups, especially among people in the 55 to 64 and 65 and older age cohorts. The use of antibiotics due to a urinary tract infection is - as a further example - comparatively more common in women (27%) than in men (8%). In contrast, the two youngest age groups are significantly more likely to take antibiotics for sore throats, angina and scarlet fever, while this is almost irrelevant in the two oldest age groups.

As in 2022, respondents who had taken antibiotics were asked whether a laboratory test had been carried out before or at the start of taking antibiotics to find out what had caused the illness. A majority of 55% stated that this had been done, which is almost the same as 54% in 2022. (see Chart 6). In 2024, the additional response option "Yes, but I can't remember what for" was added. Only 3% chose this answer option, which indicates that those affected were well informed about the purpose of a corresponding test.

Chart 6 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 most frequently performed before or during the start of antibiotic use in Ticino (64%) (see Table 6), followed by German-speaking Switzerland (58%). Western Switzerland falls slightly behind at 47%. This is most frequently carried out in the age category 25 to 39 years (64%), and least frequently among 15-24 years olds (34%).

Table 6 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.)	494	236	43	106	190	171	113	194
Yes, I'm sure that this has been done to identify the causes	58%	47%	64%	34%	64%	57%	60%	54%
Yes, but I can't remember what for	2%	3%	2%	4%	3%	2%	1%	3%
No	33%	44%	26%	52%	28%	36%	30%	38%
Don't remind me	2%	3%	5%	4%	*%	2%	3%	4%

Base: 773 respondents / Filter: have taken antibiotics in the last 12 months / Question type: single question

3.2 Knowledge about antibiotics

The Swiss Strategy on Antibiotic Resistance (StAR) also aims to close knowledge gaps and to promote and improve the level of knowledge of those who prescribe or use antibiotics. Against this background, as in the previous three surveys, the knowledge of the Swiss population regarding various topics related to antibiotics was assessed. Respondents were asked to indicate whether five statements were true or false. As in previous surveys, the majority of respondents answered most of the statements correctly, with the exception of the newly introduced statement, "Humans can become resistant to antibiotics," which 80% incorrectly answered as true.

A closer examination of the statements reveals the following results:

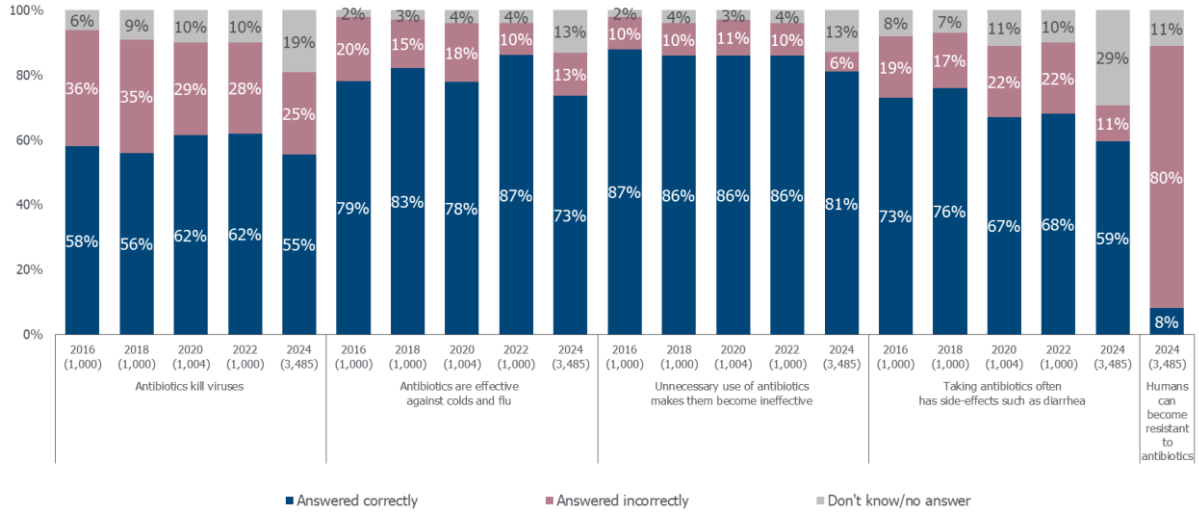
The correct statement, "The unnecessary use of antibiotics reduces their effectiveness," was answered correctly by 81% of respondents.

The incorrect statement, "Antibiotics are an effective remedy against flu and colds," was correctly answered by 73% of respondents. For the correct statement, "Taking antibiotics is often associated with side effects, such as diarrhoea," 59% of respondents provided the correct answer, though nearly a third responded with "don't know/no answer." The incorrect statement, "Antibiotics destroy viruses," was correctly answered by 55%, while 25% answered incorrectly, and 19% responded with "don't know/no answer." The overall values in 2024 were slightly lower (see Chart 7). This is likely at least partially due to the methodological shift and the large proportion of online interviews. Although the CAWI and CATI figures show little difference in the number of correct answers, the proportion of people who did not provide any correct answers at all was higher in CAWI.

Notably, there is a high proportion of "don't know/no answer" responses to the (incorrect) statement that antibiotics destroy viruses, with nearly one-fifth of respondents choosing this option. This pattern is also evident in the statement that taking antibiotics is often associated with side effects, where one-third of respondents selected "don't know/no answer." This proportion is particularly pronounced in the youngest age group, where it reaches 41%.

The statement "Humans can become resistant to antibiotics" clearly stands out. This is likely due to the somewhat misleading phrasing, where respondents may associate the idea that antibiotic resistance is increasing and poses a problem for humans, but fail to differentiate that it is the bacteria, not the humans themselves, that become resistant.

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

Table 7 Number of correct answers per method

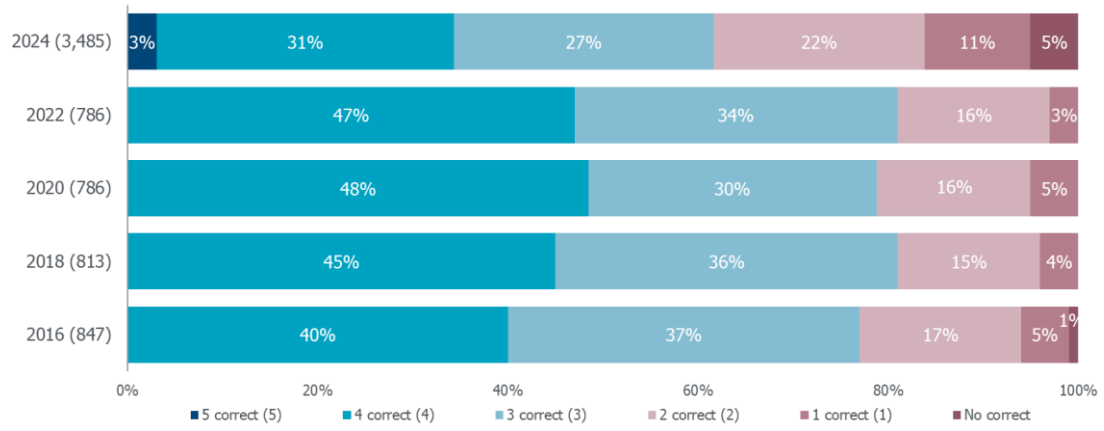
Number of correct answers	CAWI	CATI
5 correct answers	4%	2%
4 correct answers	31%	31%
3 correct answers	27%	33%
< 3 correct answers	33%	32%
0 correct answers	6%	3%
Total	**100%**	**100%**

Base: 3,485 respondents

A more precise analysis and a comparison between different segments is possible by indexing the number of correct judgements and the average proportion of correct answers that can be calculated as a result. This is based on the proportion of respondents who assessed the content of all five statements and therefore did not provide any non-responses "don't know / no answer".

The average proportion of correctly assessed statements (basis: all five statements) is 2.78 at the overall level. This average value is the lowest compared to the previous measurements (see Chart 8).

Chart 8 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 (2.93 correct answers) are statistically significantly more likely to assess the five statements correctly than men (2.62) (see Table 5). The same applies to people with tertiary education (3.12) 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 (3.12). (see Table 8)

Table 8 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.)	1,722	1,763	347	1,438	14'90	1,200	1,798
5 correct (5)	4%	3%	2%	2%	6%	5%	2%
4 correct (4)	25%	37%	18%	29%	39%	39%	28%
3 correct (3)	27%	28%	24%	28%	29%	29%	28%
2 correct (2)	25%	18%	27%	24%	17%	18%	23%
1 correct (1)	13%	9%	21%	13%	6%	6%	13%
None correct	7%	4%	9%	5%	3%	2%	6%
Mean value	**2.62**	**2.93**	**2.25**	**2.67**	**3.12**	**3.12**	**2.65**

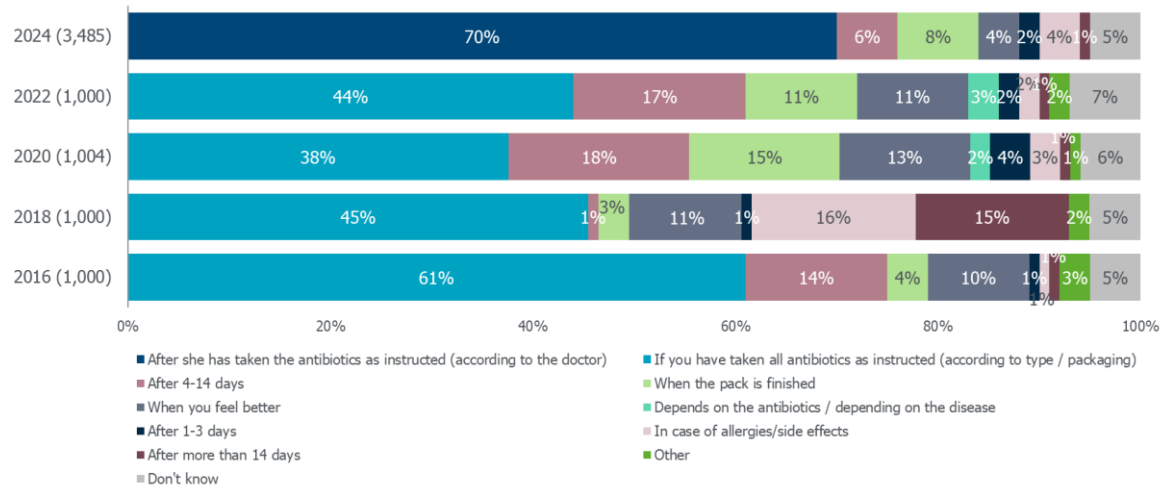
Base: 3,485 respondents / Indexing of the five knowledge questions / Question type: single question per statement

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 the previous surveys, antibiotics are most frequently stopped when they have been taken as instructed (according to type or packaging), although this proportion has risen very sharply compared to the previous surveys (from 44% to 70%, see Chart 9). Correspondingly, all other response options have decreased significantly.

Chart 9 When do you think you should stop taking antibiotics once you have begun a course of treatment? (cumulative mentions)



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

Table 9 When do you think you should stop taking antibiotics once you have begun a course of treatment? (cumulative mentions)

	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.)	348	659	872	682	924	347	1,438	1,490	773	2,616
When you have taken all of the antibiotics as directed	65%	71%	72%	71%	66%	58%	66%	79%	66%	71%
After 4-14 days	4%	4%	4%	6%	11%	6%	7%	5%	10%	5%
When the pack is finished	4%	6%	9%	8%	10%	12%	9%	6%	12%	71%
When you feel better	19%	16%	9%	5%	5%	9%	5%	2%	7%	4%
Depends on the antibiotics / depending on the disease	*%	-%	*%	*%	*%	-%	*%	*%	*%	*%
After 1-3 days	4%	2%	2%	1%	1%	4%	3%	1%	4%	1%
In case of allergies/side effects	3%	3%	3%	5%	3%	3%	4%	3%	*%	4%
After more than 14 days	1%	1%	1%	1%	1%	1%	1%	1%	2%	1%
Other	-%	-%	*%	-%	-%	*%	-%	-%	1%	2%
Don’t know	3%	5%	4%	3%	4%	7%	4%	2%	1%	5%
No answer	2%	2%	2%	1%	1%	1%	1%	*%	*%	1%

Base: 3,485 respondents / Question type: single question

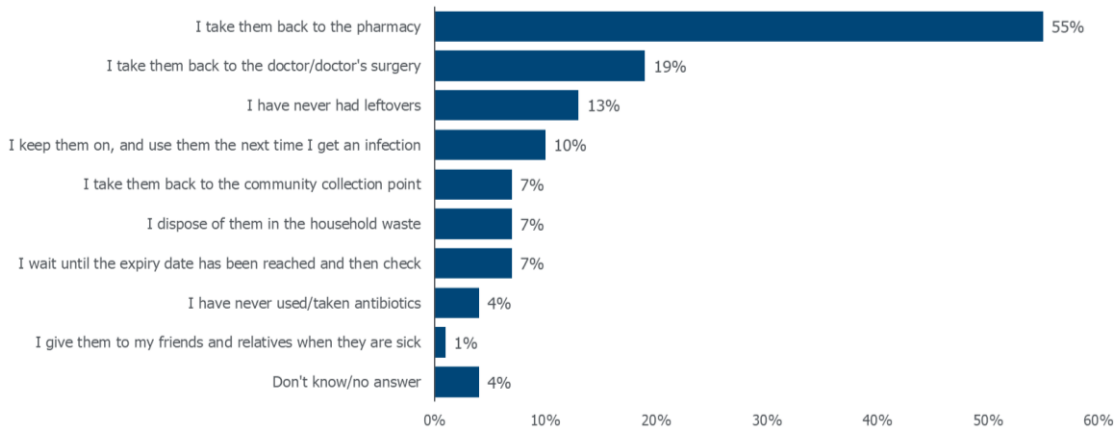
Depending on sociodemographic characteristics, different patterns can be observed in the responses regarding the discontinuation of antibiotics. (see Table 9). For example, the discontinuation of antibiotics as prescribed by a doctor or indicated on the packaging was mentioned statistically significantly more often by individuals with tertiary education (79%) as well as those aged 25 to 64. Discontinuation of antibiotics as soon as one feels better was reported significantly more often by the two youngest age groups compared to the older age groups. In contrast, stopping when the package is finished was clearly more frequently mentioned by older individuals (65+ years: 15%) and by individuals with lower levels of education (12%).

Overall, the level of information among respondents regarding the correct use of antibiotics appears to have increased significantly, but it could potentially be further optimized in a more target group-specific manner.

The question regarding the handling of unused antibiotic packages was posed in the current survey as a closed-ended question, while in 2022, when it was first introduced, it was asked as an open-ended question. Overall, it becomes clear that there are various approaches to this matter (see Chart 10). By far the most common approach, chosen by 55%, is to return unused antibiotic packages to the pharmacy, while another 19% return them to the doctor's office. 13% report never having had any leftover antibiotics, and 10% keep them for future use in case of another infection.

Chart 10 *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? 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: 3,485 respondents / Question type: multi-question

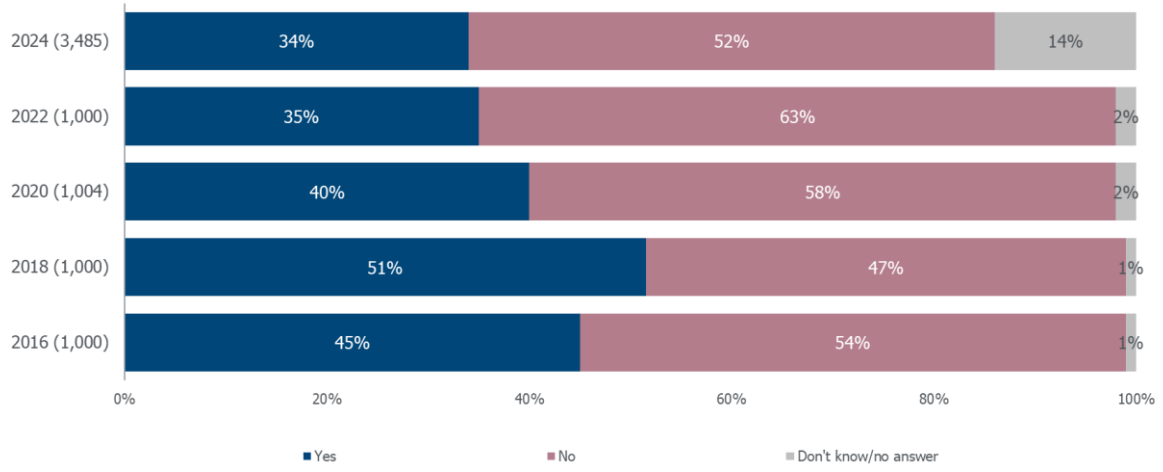
3.4 Information about the use of antibiotics

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

As shown in Chart 11, the proportion of people who stated that they had read or heard information in the past 12 months advising against the unnecessary use of antibiotics (e.g. for explanations and flu-like infections) is relatively stable. While the proportion was still 51% in 2018, it has fallen continuously in subsequent years.

In the current survey, the proportion of respondents who answered "don't know / no answer" is relatively high at 14%. This answer category is rarely selected in telephone-only surveys by well-trained interviewers, as they can motivate respondents to give a substantive answer. The latter is not possible with CAWI.

Chart 11 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

This effect is illustrated in the following table:

Table 10 Distribution of answers according to method

Answers	CAWI	CATI	Total
Yes	1,050	149	1,199
No	1,576	222	1,798
Don't know	379	17	396
No answer	92	0	92
Total	**3,097**	**388**	**3,485**

Base: 3,485 respondents

While the proportion of respondents who answered "don't know" is relatively low in CATI interviews (4.3% of CATI interviews), it is significantly higher in CAWI interviews, at 12.2%. (see Table 10)

The sub-groups that were more likely to read or hear such information were generally middle-aged and older people (aged 55 and older), people with a higher level of education and those who stated they had taken antibiotics in the past 12 months (see Table 11).

Table 11 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.)	418	849	862	569	787	347	1438	1490	773	2616
Yes	30%	31%	29%	39%	44%	32%	34%	38%	39%	34%
No	53%	55%	55%	48%	47%	53%	53%	51%	48%	53%
Don't know	12%	13%	14%	10%	8%	13%	11%	10%	11%	11%

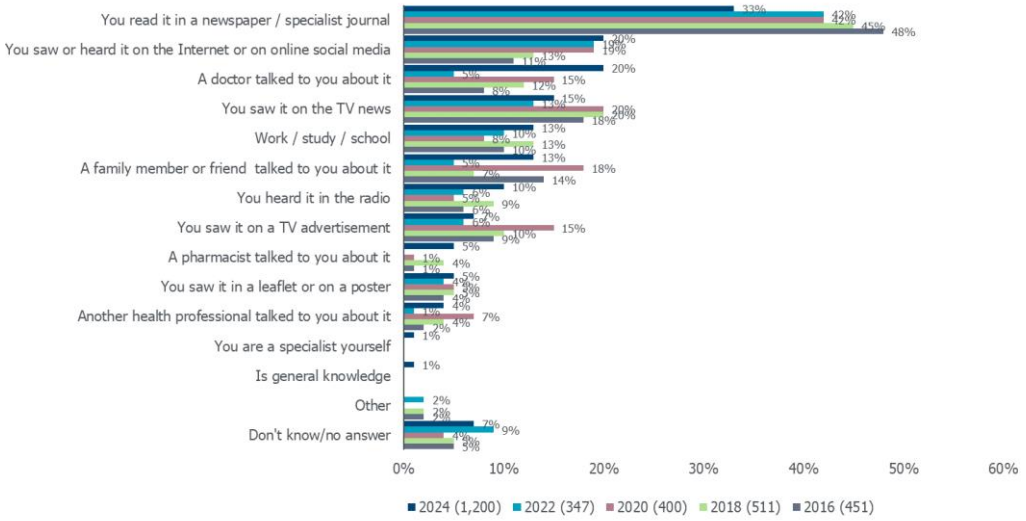
Base: 3,485 respondents / Question type: single question

Regarding the perception of information on the appropriate use of antibiotics, there are also other comprehensible clusters in other segments. For example, people who work in the care sector have a comparatively higher perception of information at 43%. There is also a direct, possibly circular connection between the perception of information and the level of knowledge. For example, 50% of the people who correctly assessed all five knowledge statements (see 3.2) also remember having perceived corresponding information on the appropriate use of antibiotics in the past 12 months; with four correct answers, this was also 44%.

In addition, information was received through very different channels with equally different frequency (see Chart 12). The main channel is and remains reading in newspapers or specialist journals (33%), followed by information on the Internet or in online social networks (20%) and conversations with a doctor (20%).

The frequency characteristics vary between the different measurement years. In a comparison with 2022, it is striking that the exchange of information and discussions about the unnecessary use of antibiotics in direct contact with relevant stakeholders have increased again. This applies both to conversations with doctors (plus 15%) or other healthcare professionals (plus 3%), but also to discussions with family members or friends (plus 8%). The increase with doctors suggests that doctors may also be communicating more proactively in this area or that respondents are asking more questions about this.

Chart 12 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 more in-depth analysis of the perception and communication channels across age cohorts and educational levels reveals different distributions and corresponding preferences (see Table 12). Older age groups are more likely to obtain information via newspapers and specialist journals, while the youngest age groups obtain information via work/ study/ school and family or friends. For younger age groups, information from the internet or social networks is also important, with the latter being particularly relevant for individuals with a high level of education. However, the most important source of information for those with tertiary education is clearly newspapers or professional journals.

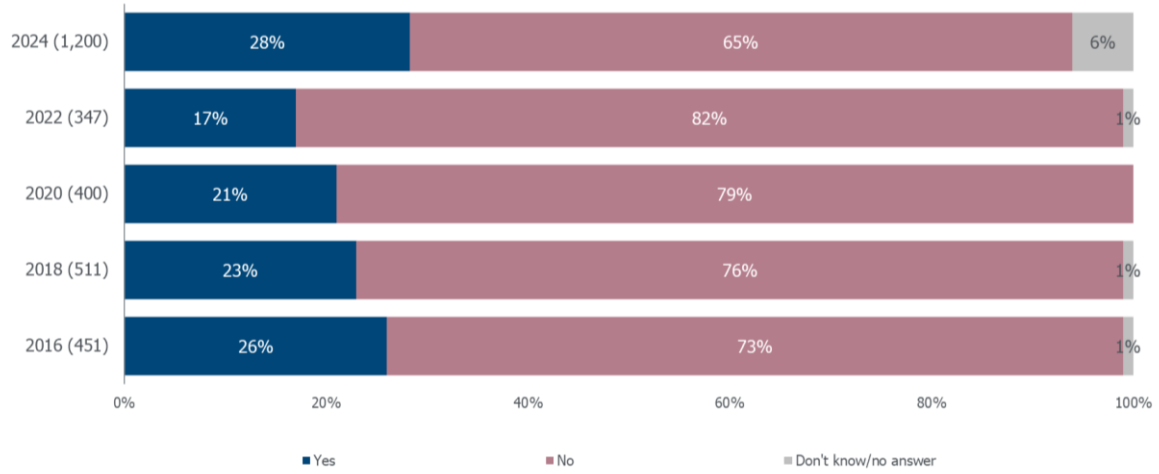
Table 12 How did you first get this information about not taking any antibiotics unnecessarily

	Age					Education		
	15—24 years	25—39 years	40—54 years	55—64 years	65+ years	Oblig-atory	Sec-ond.	Ter-tiary
Total (wt.)	125	259	247	224	344	111	485	567
You read it in a newspaper / specialist journal	10%	22%	32%	39%	47%	13%	33%	38%
You saw or heard it on the Internet or on online social media	26%	31%	21%	18%	10%	14%	16%	25%
You saw it on the TV news	7%	12%	15%	19%	19%	15%	17%	14%
Work / study / school	32%	21%	9%	13%	4%	21%	9%	15%
You saw it on a TV advertisement	8%	10%	8%	7%	5%	3%	10%	6%
You heard it in the radio	*%	4%	8%	17%	14%	2%	10%	11%
A doctor talked to you about it	10%	13%	27%	21%	22%	26%	17%	21%
A family member or friend talked to you about it	25%	18%	15%	6%	6%	17%	9%	14%
You saw it in a leaflet or on a poster	2%	3%	8%	6%	5%	1%	4%	7%
Another health professional talked to you about it	2%	4%	7%	2%	4%	5%	3%	5%
A pharmacist talked to you about it	5%	5%	6%	6%	4%	5%	6%	4%
Other	-%	*%	-%	1%	1%	-%	*%	*%
Don't know	10%	4%	7%	4%	5%	6%	7%	4%
No answer	3%	2%	1%	-%	*%	-%	1%	*%

Base: 1,360 respondents ; weighted to 1,200 / Filter: have received information / Question type: multi-question

For 28% of those who received information on the appropriate use of antibiotics and how to avoid taking them unnecessarily, this resulted in a change in their subjective view of antibiotic use. Fortunately, the proportion with a change has increased significantly compared to the previous surveys.

Chart 13 Did the information that you received change your views on using antibiotics?



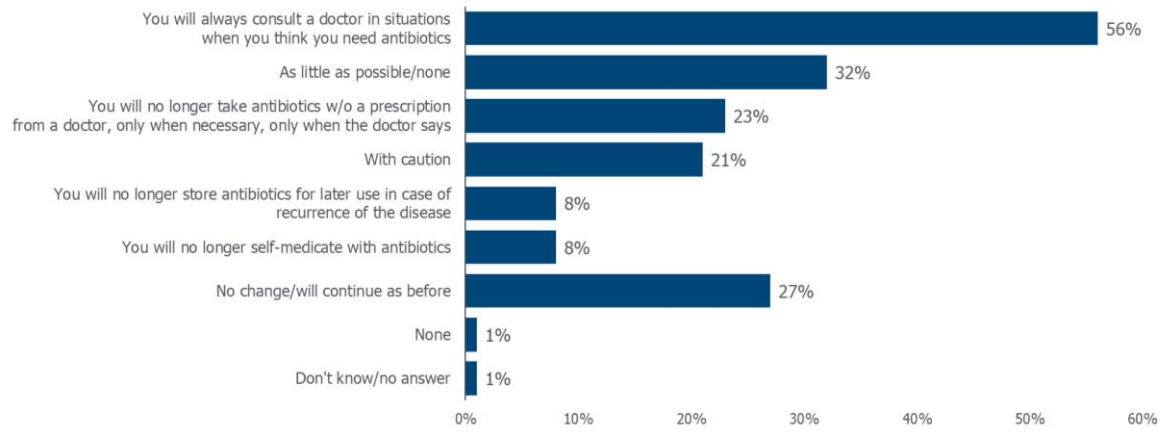
Base: number of respondents in brackets / Filter: have received information / Question type: single question

The information received led to changes most often in the youngest age group, while it had less impact on all other age groups, particularly among the two middle-aged groups. It is

possible that these groups have had knowledge of this specific topic for a longer time, and the (repeated) exposure to such information does not result in any further change in their personal views on the subject, or the individuals themselves no longer perceive it as impactful. Similarly, individuals with a high level of education have mostly indicated that this did not lead to any changes in their perspective.

For example, 27% 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 course of action remains, at 56%, seeking a doctor when antibiotics are suspected to be needed (see Chart 14), an increase compared to 2022, when this figure was 42%. However, the proportion of people who report trying to take as few or no antibiotics as possible has also risen by 10 percentage points to 32%.

Chart 14 On the basis of the information you received, how do you now plan to use antibiotics?



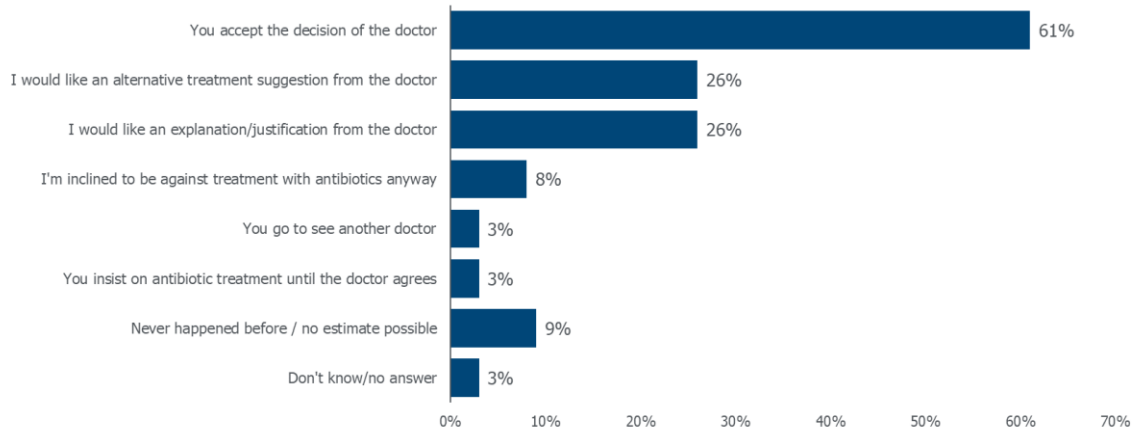
Base: 1,200 respondents / Filter: have received information / Question type: multi-question

Overall, the importance of the doctor as a competent authority in the critical assessment of antibiotic use seems to have increased.

The significance and important role of medical expertise is also evident in another area. Respondents who have or had children in their household and hold custody for them (48% of respondents) were asked how they have behaved, or would behave, if the doctor did not, or would not, prescribe antibiotics for their sick child, contrary to their expectations.

A total of 61 per cent accept the medical profession's decision not to prescribe antibiotics and only 3 per cent would insist until the doctor agrees (see Chart 15), which is almost the same as in 2022. However, almost a third of respondents now state that they expect an alternative treatment proposal (26% vs. 3% in 2022) and/or an additional justification and explanation from the doctor (26% vs. 8% in 2022). This indicates an increasing proportion of respondents who also question critically at this point.

Chart 15 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?

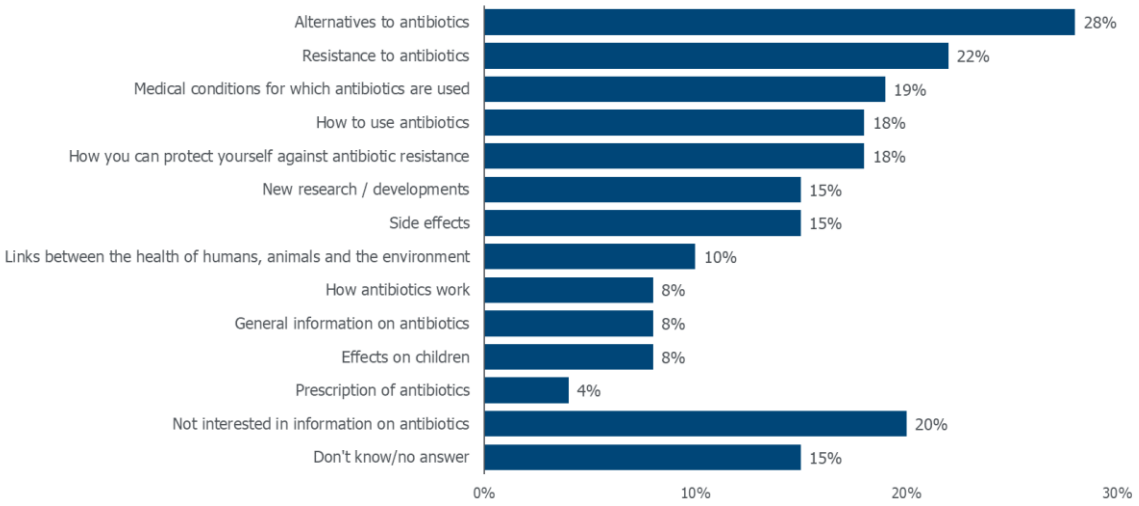


Base: 1,656 respondents / Filter: has legal custody of a child / Question type: multi-question

3.5 Desired information and information sources

The most frequently expressed information needs by respondents are related to alternatives to antibiotics (28%), antibiotic resistance (22%), diseases for which antibiotics are used (19%), and the correct use of antibiotics (18%). (see Chart 16) Overall, the percentages for these topics are significantly higher than in 2022. The proportion of respondents who have no interest in specific topics related to antibiotics has significantly decreased (20% vs. 36% in 2022), as has the proportion of those who are unable or unwilling to provide an answer on this matter (15% vs. 20% in 2022). Overall, about one-third of respondents do not have a specific need for further information.

Chart 16 On which topics, if any, would you like to receive more information?



Base: 3,485 respondents / Question type: multi-question

Table 13 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 13 On which topics, if any, would you like to receive more information?

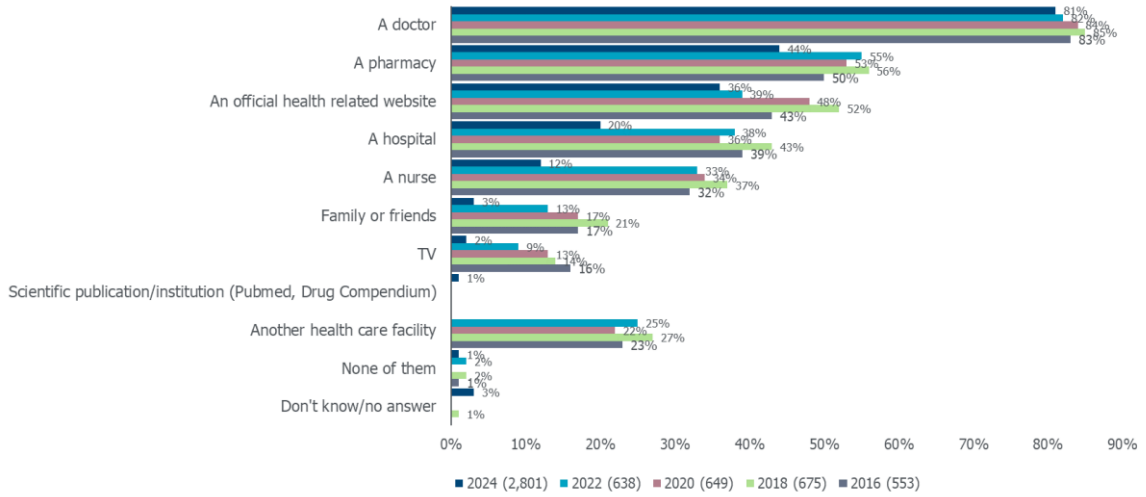
	Age					Knowledge (Index from Q04)					
	15–24 years	25–39 years	40–54 years	55–64 years	65+ years	5 correct	4 correct	3 correct	2 correct	1 correct	0 correct
Total (wt.)	418	849	862	569	787	118	1083	953	755	384	192
Alternatives to antibiotics	26%	29%	32%	32%	26%	40%	35%	28%	25%	16%	12%
Resistance to antibiotics	26%	29%	22%	19%	26%	28%	24%	26%	21%	12%	10%
Medical conditions for which antibiotics are used	25%	21%	18%	20%	25%	20%	17%	21%	23%	16%	17%
How to use antibiotics	18%	21%	19%	19%	18%	22%	16%	18%	21%	20%	13%
How you can protect yourself against antibiotic resistance	17%	20%	20%	18%	17%	19%	24%	20%	13%	10%	8%
New research/developments	13%	17%	17%	16%	12%	39%	22%	15%	9%	5%	7%
Side effects	13%	17%	17%	16%	12%	20%	13%	14%	18%	14%	12%
Links between the health of humans, animals and the environment	11%	12%	10%	10%	5%	16%	14%	11%	5%	4%	4%
How antibiotics work	12%	8%	9%	7%	6%	8%	7%	8%	10%	10%	8%
General information on antibiotics	8%	9%	9%	7%	8%	9%	8%	8%	8%	10%	9%
Effects on children	10%	10%	12%	4%	3%	5%	8%	9%	8%	6%	6%
Prescription of antibiotics	3%	6%	3%	3%	3%	3%	3%	4%	3%	6%	3%
Well-informed	-%	*%	-%	*%	1%	*%	*%	*%	*%	-%	-%
Antibiotics in foodstuffs, in farm animals	-%	*%	*%	*%	*%	-%	*%	*%	-%	-%	-%
Other	-%	-%	-%	*%	1%	-%	*%	*%	-%	-%	-%
Not interested in information on antibiotics	12%	18%	18%	18%	29%	8%	18%	20%	22%	20%	25%
Don’t know	7%	4%	4%	3%	8%	2%	3%	4%	5%	7%	17%
No answer	13%	10%	11%	9%	8%	10%	9%	7%	10%	13%	23%

Base: 3,485 respondents / Question type: multi-question

It is striking that the respondents with no or only one correct answer are also the least interested in information and also responded most frequently with don't know or no answer. An analysis of the age groups shows that there are few age group-specific differences except for the fact that 65+ year olds are the least interested in information. This is surprising in view of the fact that older and especially older people tend to be at-risk groups and are therefore more likely to be affected. For this age group, increased awareness through doctors, especially general practitioners, might be particularly useful.

The preferred information sources and channels of those people who did not explicitly state that they are not interested in information on antibiotics remain stable in terms of order, but the percentage shares have decreased significantly in some cases (see Chart 17).

Chart 17 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 (81% 2024, 82% in 2022) and pharmacists (44% 2024, 55% in 2022). This likely reflects the relevance of direct interaction and personal support in this exchange of information and knowledge. Surprisingly, the proportion of those who would ask a hospital (20% 2024, 38% 2022) has fallen significantly, as has the proportion of those who would ask a nurse (12% 2024, 33% 2022).

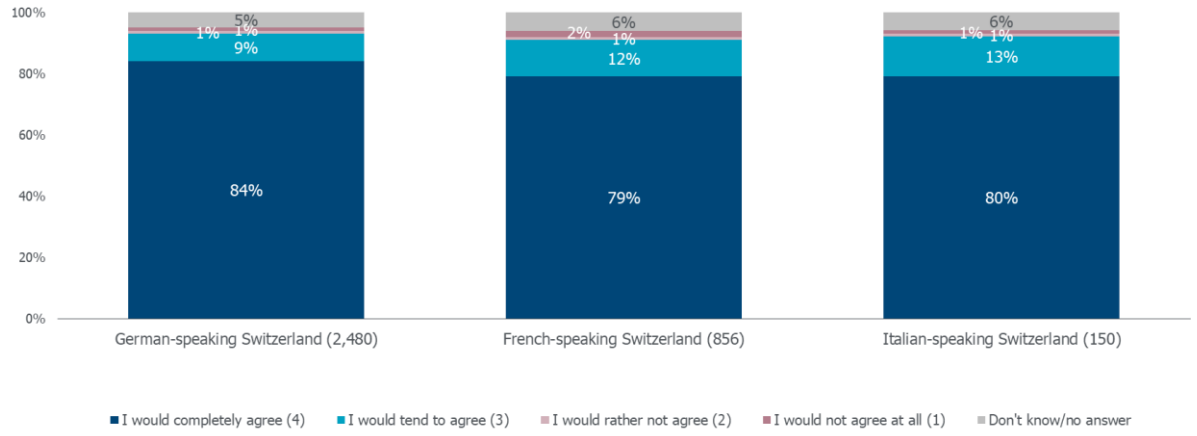
An official health-related website, such as that of a national or state health authority, the European Union or the World Health Organization (WHO), would also be consulted comparatively more frequently at 36% (2024 survey). This is also likely to be directly linked to them being seen as competent. Less often cited as preferred sources of information are family and friends (3% 2024, 13% in 2022) and TV clips (2%, 9% in 2022).

3.6 Level at which problem of resistance should be tackled

Ensuring the long-term effectiveness of antibiotics is the aim of the swiss "Strategy on Antibiotic Resistance". Due to the problematic resistance resulting from the frequent and incorrect use of antibiotics, precise adherence to antibiotic treatment is necessary.

A new question in this year's survey on this topic was whether the target persons would agree to only receive the number of tablets that were needed and, in a further question, whether the respondents would be willing to pay more due to the potential additional effort involved.

Chart 18 If antibiotics are used frequently and incorrectly, bacteria can become resistant to these drugs. It is therefore important that you take exactly as many antibiotics as prescribed by your doctor. To what extent would you agree that your doctor should only give you the number of tablets you actually need?

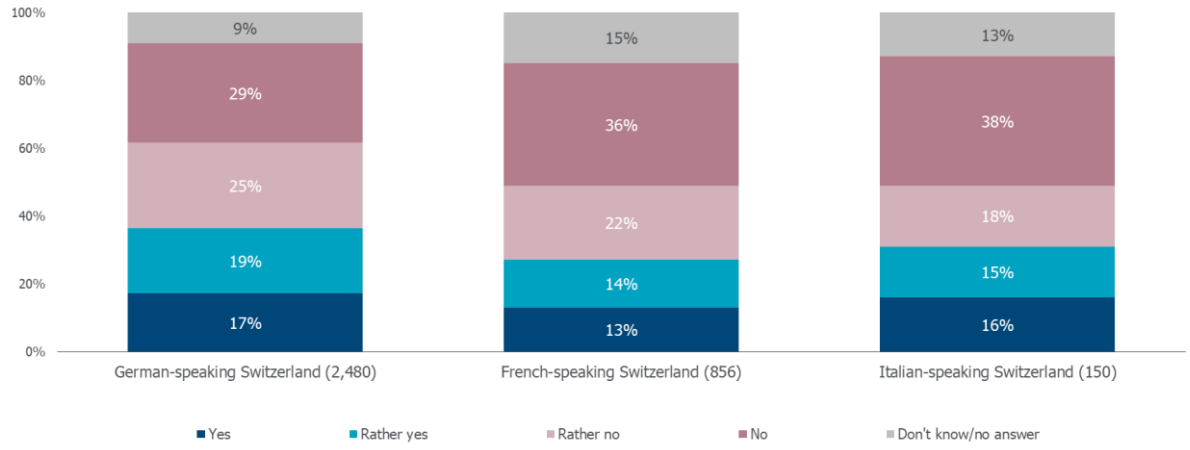


Base: number of respondents in brackets / Question type: single question

It is evident that the vast majority of respondents would be completely or somewhat in agreement with this.

A different picture clearly emerges in the follow-up question regarding the willingness to pay more for this. On average, at most one-third of respondents would be somewhat or definitely willing to do so, most notably in German-speaking Switzerland, whereas well over half of respondents would be somewhat or definitely unwilling to do so.

Chart 19 Partial dispensing of antibiotic packs in this way could cause expense on the part of doctors or pharmacies. Would you be prepared to pay for this in principle?



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

Agreement is highest among respondents with a high level of education. The willingness to pay more for this is lowest among the two youngest age groups (9% among 15–24-year-olds, 8% among 25-39 year olds). Among those aged 65 and older, it is the highest, at nearly one quarter (24%).

Individuals with a lower level of education are the least willing, as are those who answered 0-1 of the knowledge questions correctly.

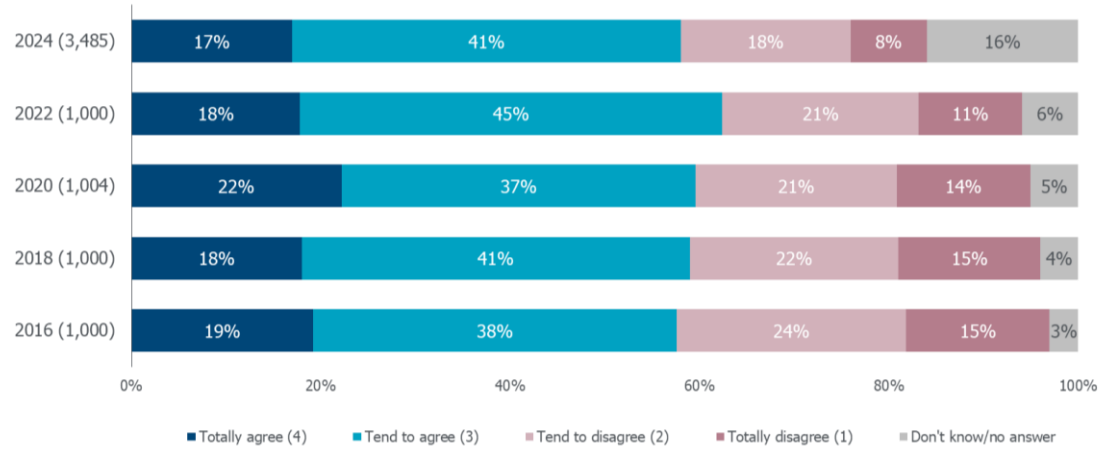
Here, the level of information and knowledge about antibiotic resistance seems to contribute to a better understanding and thus also to a greater willingness to pay more for it.

3.7 Antibiotic treatment in livestock

The last part of the questionnaire covered the use of antibiotics in livestock, as this area can also contribute to antibiotic resistance.

Against this background, after being provided with an introduction and contextual information, respondents were asked to what extent they agreed that livestock should be treated with antibiotics in the event of illness, if this is the most appropriate treatment method. 58% of people agreed with this approach, of which 17% agreed completely and a further 41% agreed somewhat (see Chart 19). 16% responded with don't know, which is the highest figure to date over the years and is probably due to the change in method. This figure is highest in Ticino at 19%, where approval has also fallen significantly compared to 2022.

Chart 20 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?

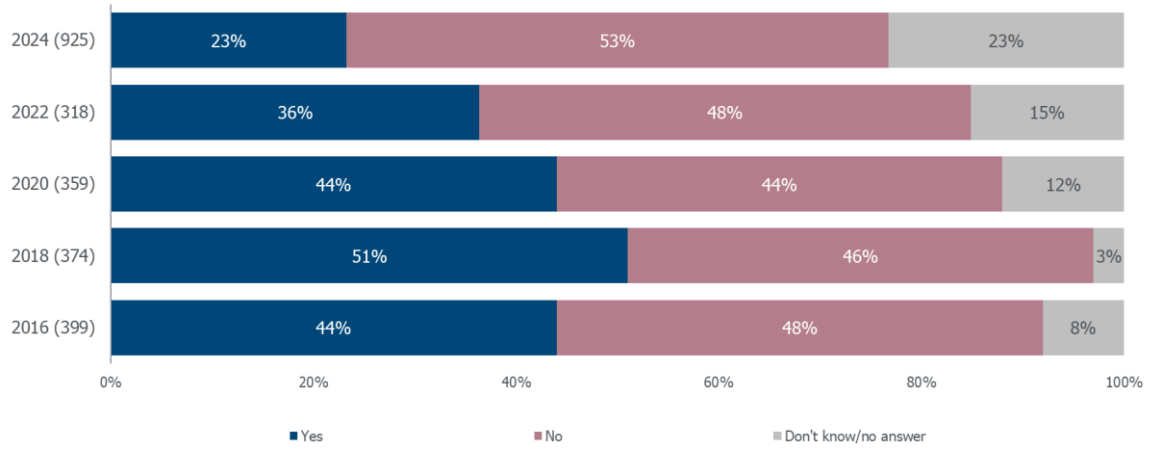


Base: number of respondents in brackets / Question type: single question

The group of people who are clearly or rather in favour of not treating farm animals with antibiotics, even if this were the most suitable treatment method, were asked in a follow-up question whether they would also accept that animals would remain ill, suffer or have to be euthanized if antibiotics were the only effective treatment method for an infection, but their use would be dispensed with.

The proportion of people who would accept this has steadily decreased over the years and only amounts to 23% in this year's survey. At the same time, the proportion of people who were unable or unwilling to answer this question has risen (23% in 2024; 15% in 2022). This highlights the moral and ethical complexity of this issue.

Chart 21 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 (30%) than women (16%). The proportion of people with a tertiary education who answered "no" is also comparatively higher (51%). Respondents from rural areas are also more likely to accept this (32%). There are few differences between the various age groups, as shown in Table 14 below.

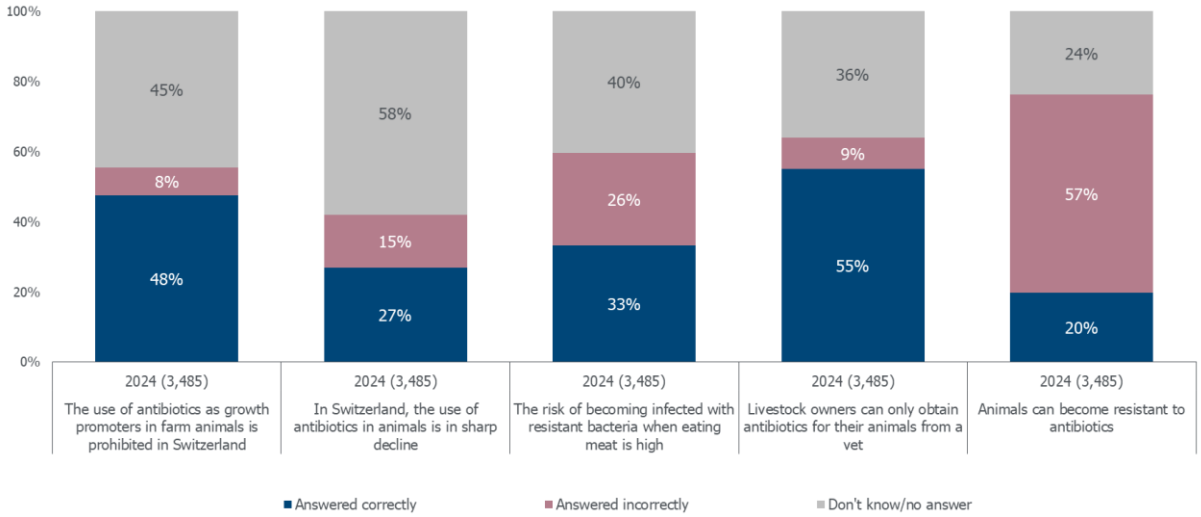
Table 14 Sometimes antibiotics are the only effective treatment method for an infection. Would you accept that animals would have to remain ill, suffer or be put down?

	Age					Gender		Education		
	15—24 years	25—39 years	40—54 years	55—64 years	65+ years	Male	Female	Obliga-tory	Second-ary	Tertiary
Total (wt.)	82	206	246	151	241	480	445	91	382	415
Yes	27%	24%	22%	25%	22%	30%	16%	23%	21%	26%
No	48%	56%	50%	50%	57%	49%	57%	54%	56%	51%
Don't know	20%	17%	18%	17%	15%	16%	19%	19%	18%	17%
No answer	5%	3%	9%	8%	6%	4%	9%	4%	5%	6%

Base: 925 respondents / Filter: No agreement ("rather not" or "not at all") regarding antibiotic treatment in livestock / Question type: single question

Subsequently, there were four statements related to the topic of antibiotics in (farm) animals that had to be rated as true or false. Apart from the statement that the use of antibiotics as growth promoters in livestock is banned in Switzerland, which was similarly asked in 2022, the other three statements were included for the first time.

Chart 22 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

The results are as follows:

The correct statement, "The use of antibiotics as growth promoters in farm animals is prohibited in Switzerland," was correctly answered by nearly half of the respondents (48%). However, 44% responded with "don't know/no answer." For the correct statement, "In Switzerland, the use of antibiotics in animals is in sharp decline," 27% answered correctly, while 58% responded with "don't know/no answer." The incorrect statement, "The risk of becoming infected with resistant bacteria when eating meat is high," was correctly answered by one-third of respondents (33%), with 40% responding "don't know/no answer." For the correct statement, "Livestock owners can only obtain antibiotics for their animals from a vet," 55% answered correctly, while 36% responded with "don't know/no answer." The final incorrect statement, "Animals can become resistant to antibiotics," was correctly answered by only 20% of respondents, with 57% answering incorrectly and 24% responding with "don't know/no answer." In summary, it can be concluded that respondents are significantly less informed on this topic compared to the knowledge questions about humans, and the proportion of those who answered "don't know/no answer" is sometimes very high.

There are also few differences in the number of correctly answered statements regarding age groups or educational levels.

3.8 Conclusions

As part of the implementation of the "Swiss Antibiotic Resistance Strategy (StAR)", periodic surveys are conducted to assess the knowledge, practices, and attitudes of the Swiss population regarding various aspects of antibiotics and antibiotic resistance. The biennial surveys conducted from 2016 to 2024 indicate that longitudinal comparisons reveal only slight changes in some areas but show an increasing awareness and sensitivity in certain topics. This is evident, for example, in the decrease in the proportion of people who are not interested in information about antibiotics. Furthermore, the role of doctors as competent points of contact has increased, as has a more critical perspective on the use of antibiotics, both of which reflect a growing sensitivity to the issue.

One of the key challenges in achieving effective communication tailored to different audiences, and thus reaching all segments of the population, lies in the widely varying levels of knowledge and awareness. These variations are linked to both educational background and personal experience, as well as different preferences for information channels. While "traditional" media are more important for older target groups, younger audiences place greater importance on social media, information from family and friends, and sources related to work or study. Healthcare professionals, such as doctors, undoubtedly play a key role in the diffusion of information and knowledge across target groups, as they are perceived as authoritative experts. This could be particularly important for the oldest target group, who are generally less interested in information about antibiotics, as well as for individuals with lower educational levels, who are less likely to seek out information independently (e.g., through professional journals or the internet).

Although knowledge about antibiotics has remained stable over the years, the proportion of incorrect answers as well as "don't know" responses should not be overlooked. This is particularly evident in the area of "antibiotics and livestock," where there appear to be significant knowledge gaps. However, there is also room for improvement in the general statements about antibiotics.

Although knowledge of antibiotics has remained relatively stable over the years, the proportion of incorrect answers and "don't know" responses is not insignificant. This applies in particular to the topic of "antibiotics and livestock", where there appear to be significant knowledge gaps. However, there is also room for improvement in the general statements.

Addressing the issue of "antibiotic resistance" requires a multifaceted and careful approach, justifying a strategic approach with prudent management on multiple levels. Targeted and audience-specific communication, continual emphasis on key interrelationships, and a broad information policy that engages various stakeholders and considers different temporal dimensions are central to this effort.

The population surveys conducted in this context provide an important foundation for assessing the status quo, identifying potential adjustments to key questions, and determining further steps for implementation.