



APUA

ALLIANCE FOR THE PRUDENT USE OF ANTIBIOTICS

Improper Use of Antibiotics

U.S. Adult Population

Mid-2005 through Mid-2006

November 2006

Table of Contents



<u>Section</u>	<u>Page</u>
Objectives & Methodology	2
Summary of Findings	5
Improper Procurement of Antibiotics	10
General Use of Antibiotics	19
Concerns about Antibiotics	30
Health Care Practices	38
Respondent Demographics	42



Objectives & Methodology

This research was undertaken to determine how U.S. adults use antibiotics and, in particular, how the antibiotics are procured.



Specific objectives included:

- **Determine the proportion of U.S. adults who have used antibiotics in the past 12 months**
- **Determine the prevalence of improper means of procuring antibiotics**
 - Asking a health care provider for antibiotics
 - Obtaining antibiotics from a source other than a health care provider
 - Obtaining a prescription without an office visit
- **Identify practices in using antibiotics and other medications**
- **Identify segments of the population who are most likely to improperly procure or use antibiotics and other medications**
- **Explore perceptions of antibiotics**
 - Ability to correctly identify antibiotics
 - Ability to identify situations in which antibiotics can be effective
 - Awareness of antibiotic resistance
 - Concerns regarding antibiotics, as compared to concerns about other health issues

Objectives



919 U.S. adults were interviewed by telephone for this research.

- **The sample for the survey consisted of a representative cross-section of U.S. adults, plus an over-sampling of Hispanic and African American adults, who were under-represented in initial interviewing.**
- **People who were contacted were eligible to complete the survey if they had taken an antibiotic to treat an illness within the previous 12 months.**
 - For this reason, survey results can only be considered representative of U.S. adults who have recently taken antibiotics, and not all U.S. adults.
 - Some demographic information was obtained from those who were not eligible for the survey as input to the weighting of the survey results.
- **Interviewing was conducted between September 6 and November 9, 2006.**
 - Interviews averaged 17 minutes in length.
 - Respondents were told that the survey was sponsored by a non-profit public health organization, and APUA was named if the respondent asked.
- **A two-step process was used to appropriately weight the survey responses to reflect the U.S. population by gender, ethnicity, and age.**
 - Population statistics were taken from the U.S. Census Bureau's 2005 Population Estimates.
 - First, respondents who completed the screening questions (whether or not they completed the survey) were weighted to reflect the U.S. adult population.
 - The weighted screener responses were used to determine the distribution of adults who use antibiotics.
 - The survey respondents were weighted to reflect the distribution of adults who use antibiotics.
- **Differences that are noted between segments are statistically significant at the 95% confidence level.**
 - When response predictors are listed, the predictors are listed in order of greatest impact as determined through a decision tree analysis.



Summary of Findings

One-quarter of recent antibiotic users may have obtained antibiotics by a means that is considered improper.



- **27% of U.S. adults who have used antibiotics within the past year report that they have used an improper means to obtain an antibiotic.**
 - Requested an antibiotic from a health care provider: 14%
 - Obtained an antibiotic from a source other than a health care provider: 7%
 - Obtained a prescription over the phone without an office visit: 12%
- **Since many people are unable to correctly identify antibiotics, these percentages may be inaccurate, most likely somewhat overstated.**
 - Of the 74 people who requested an antibiotic from a health care provider and were able to name the medication, 6 listed a medication that was not an antibiotic.
 - Of the 35 respondents who obtained an antibiotic from someone else and were able to name the medication, 15 listed a medication that was not an antibiotic.
 - Only 33% of respondents were able to correctly identify five medications as either antibiotics or not antibiotics.
 - 10% identified either Tylenol or Robitussin as an antibiotic.
- **Demographic profiles differ for the three types of improper procurement.**
 - People requesting an antibiotic from a health care provider tend to be very highly educated and have a high income (\$over 100,000), or else be Medicaid recipients.
 - Those who obtained an antibiotic from a source other than a health care provider were more likely to have no health insurance and no established relationship with a health care provider, often lower income minorities living in urban areas.
 - People obtaining antibiotics over the phone are more likely to be middle income or higher (over \$50,000), or, if they had lower incomes, to live in a suburban or rural area.

Overall, 33% of adults have used antibiotics within the past year, and many of them have not used them as prescribed.



- **33% of the U.S. adult population reports using antibiotics within the past twelve months to treat an illness.**
 - Women are more likely than men to use antibiotics (37% vs. 28%), particularly women between the ages of 25 and 34 (44%).
 - Misperceptions as to what medications are antibiotics may have resulted in inaccuracies in these numbers.
- **8% of antibiotic users prefer to treat an early-stage cold with antibiotics as soon as possible.**
 - This preference is frequently motivated by a desire to recover more quickly or to prevent other problems.
 - An aversion to the risk of additional problems may explain why this preference is often found among people who are in poorer health, who do not have the means in their household to transport themselves to medical care, or who need more than half an hour to reach their health care provider.
 - Very low income and a lower level of education are also predictors of this preference.
- **A somewhat larger proportion (13%) of parents prefer to treat their child's early-stage cold with antibiotics as soon as possible.**
 - Similarly, it is more common for parents to ask the health care provider for an antibiotic for their child than for adults to ask for one for themselves (21% vs. 14%).
 - A preference for treating a child's colds with antibiotics is more common among parents who are under age 25, who are minorities, or who have children under age 4.
- **21 % of antibiotic users do not always complete an antibiotic prescription; 11% have at times not filled a prescription for antibiotics; and 44% skip one or more doses of a prescription.**
 - Young adults, under age 35, are the most likely to not complete or not fill a prescription for an antibiotic.

Summary of Findings

Misconceptions and concerns about antibiotics are both relatively common.



- **Recognition of medications as antibiotics is relatively poor, with only one-third of adults correctly identifying five medications as antibiotics or not antibiotics.**
- **45% of antibiotic users think that antibiotics can treat viruses, and many feel various non-bacterial illnesses should almost always be treated with antibiotics.**
- **Antibiotic users are more concerned about side effect or allergic reactions from antibiotics than from other common medications, and they also feel that antibiotics are one of the most likely types of medications to cause problems if directions are not followed exactly.**
- **While 84% of respondents say they are very or somewhat aware of antibiotic resistance, two-thirds of them do not think that antibiotic resistance is very common.**
 - Furthermore, one-third of those who are aware do not know that antibiotic resistance occurs as often in hospitals or nursing homes as in other places.
 - The lowest levels of awareness about antibiotic resistance occur among African Americans, those with low levels of education or income, and very young adults (under 25).
 - Awareness of antibiotic resistance increases gradually with level of income and education.

In summary, a variety of factors contribute to improper procurement, misuse, and misperceptions of antibiotics.



- **Several behaviors decrease with higher levels of education or income:**
 - Obtaining an antibiotic from someone other than a health care provider
 - Preferring to take an antibiotic in the first few days of a cold
 - Not completing a prescription
 - Lack of awareness about antibiotic resistance
- **Other types of misuse are higher among the more educated and affluent:**
 - Requesting an antibiotic from a health care provider
 - Obtaining an antibiotic over the phone
- **Younger adults are the most likely to not fill a prescription, to not complete a prescription, and to prefer to give a child an antibiotic for an early-stage cold.**
 - Younger adults also tend to be less aware about antibiotic resistance.
- **Actions of the health care provider during the course of an office visit have little positive effect on the behaviors studied.**
- **However, the experience of having a pharmacist give verbal directions for taking medications (in general, not just antibiotics) reduces the chance that a person will not fill a prescription for an antibiotic.**
- **Being at least somewhat aware of antibiotic resistance makes people less likely to not complete a prescription and less likely to prefer using antibiotics in the first few days of one's own or a child's cold.**



Improper Procurement of Antibiotics

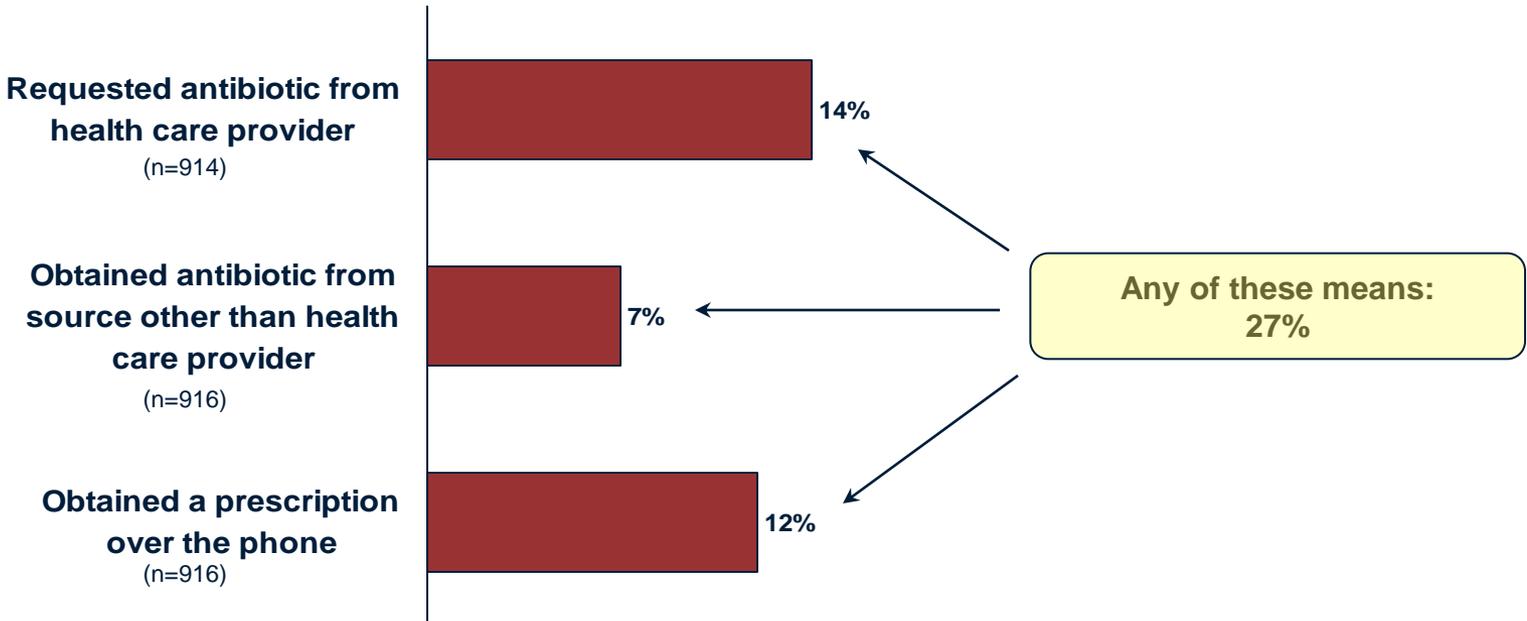
- **Summary of Improper Procurement**
- **Requested Antibiotic from Health Care Provider**
- **Obtained Antibiotic from Someone Else**
- **Obtained Antibiotic over the Phone**

Overall, 27% of people who have used antibiotics in the past year have used at least one improper means to obtain the medication.



Improper Procurement of Antibiotics

Summary of Improper Antibiotic Procurement Past 12 Months



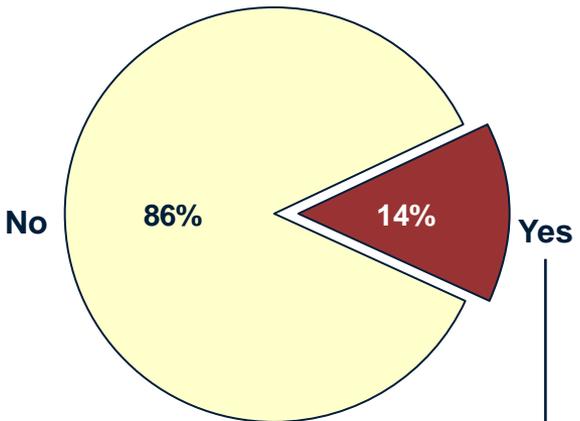
One in seven people who have used antibiotics in the past year have requested an antibiotic from a health care provider and have almost always received it.



Improper Procurement of Antibiotics

Requested Antibiotic from Health Care Provider

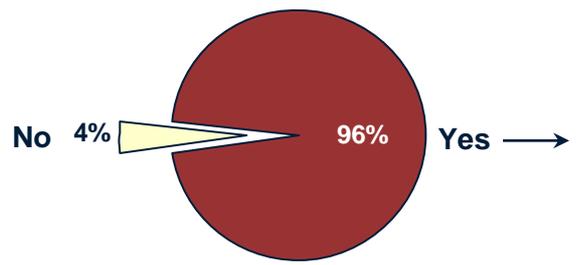
Past 12 Months
(n=914)



Reason Requested Antibiotics	Mentions ^{1,2} (n=128)
▪ Fight off an infection	82
Sinus	28
Cold, sore throat, runny nose	14
Urinary Track	10
Ear	4
Pneumonia	4
Bronchitis/lung	4
Other (not specific)	18
▪ Same symptoms as before/Chronic illness	28
▪ Thought I needed it	6
▪ Wasn't getting better	6
▪ Have compromising condition	5

Antibiotic Was Prescribed

(n=129)



Antibiotic Prescribed	Mentions ^{1,2} (n=124)
▪ Amoxicillin	25
▪ Zithromax	12
▪ Levaquin	10
▪ Penicillin	3
▪ Keflex	3
▪ Biaxin	3
▪ Cipro	3
▪ Other antibiotics	11
▪ Not antibiotics	6
▪ Medication not recognized	7
▪ Don't know	50

¹Multiple responses accepted; responses of 5 or more listed
²Not weighted.

¹Multiple responses accepted; responses of 3 or more listed.
²Not weighted.

People who are college graduates or have incomes over \$100,000 are the most likely to ask their health care provider to prescribe an antibiotic.



- Additionally, people covered by either Medicaid or private insurance have an increased tendency to request antibiotics from their health care provider, compared to those covered by other types of insurance or not covered at all.

Predictors: Requested Antibiotic from Health Care Provider

Less than College Graduate	College Graduate or Beyond
11%	19%
Have Medicare, Other Insurance, or No Insurance	Have Medicaid or Private Insurance
10%	16%
Income Under \$100,000	Income \$100,000 or Over
13%	22%

Improper Procurement of Antibiotics

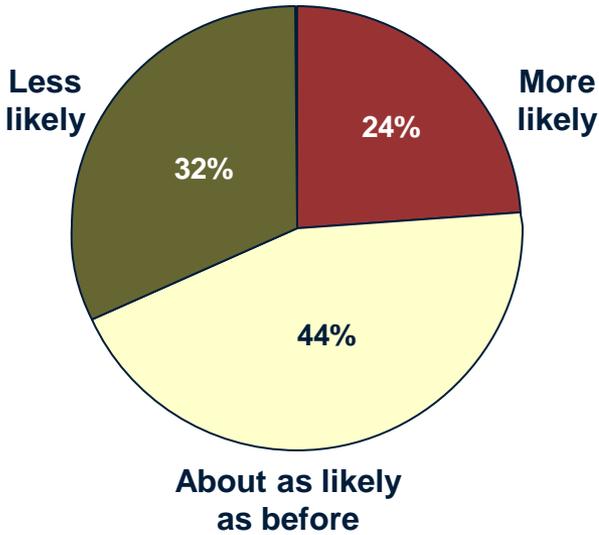
About one-third of adults are less likely to request antibiotics today compared to five years ago, and many cite awareness of antibiotic resistance as the reason.



Improper Procurement of Antibiotics

Change over Past Five Years in Tendency to Request Antibiotics
(n=849)

Reason Less Likely	Mentions ^{1, 2} (n=265)
▪ Don't want to build up immunity/resistance	66
▪ Don't feel I need them	56
▪ Leave it up to doctor	54
▪ Educated about over use	23
▪ Worried about side effects	18
▪ Only use when necessary	18
▪ Don't like taking them	18
▪ Prefer alternative medicines	11



Reason More Likely	Mentions ^{1, 2} (n=184)
▪ Effective against illness	78
▪ Elderly getting older	29
▪ Preventative measure	18
▪ Ask for them if I feel I need them	16
▪ Recurring problem	11
▪ More knowledgeable than I was previously	11

¹Multiple responses accepted; responses of 10 or more listed.
²Not weighted.

¹Multiple responses accepted, responses of 10 or more listed.
²Not weighted.

Not having health insurance or not tending to consult a health care provider for illnesses increases the tendency to obtain an antibiotic from a source other than a health care provider.

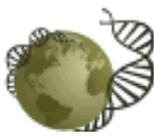


Predictors: Obtained Antibiotic from Source Other than Health Care Provider

Improper Procurement of Antibiotics

Any Health Insurance	No Health Insurance
6%	15%
Use PCP, ER, Urgent Care, or Alternative Medicare Practitioner	Do Not Seek Medical Care for Illness
6%	17%
Born in the U.S.	Born Elsewhere
6%	16%
Age 65 or Over	Age Under 65
1%	8%
White/Caucasian	Hispanic, African American, or Other Ethnicity
5%	10%
Zip Code Less than 20% Urban	Zip Code 20% or More Urban
2%	7%
Income \$25,000 or Over	Income Under \$25,000
6%	10%

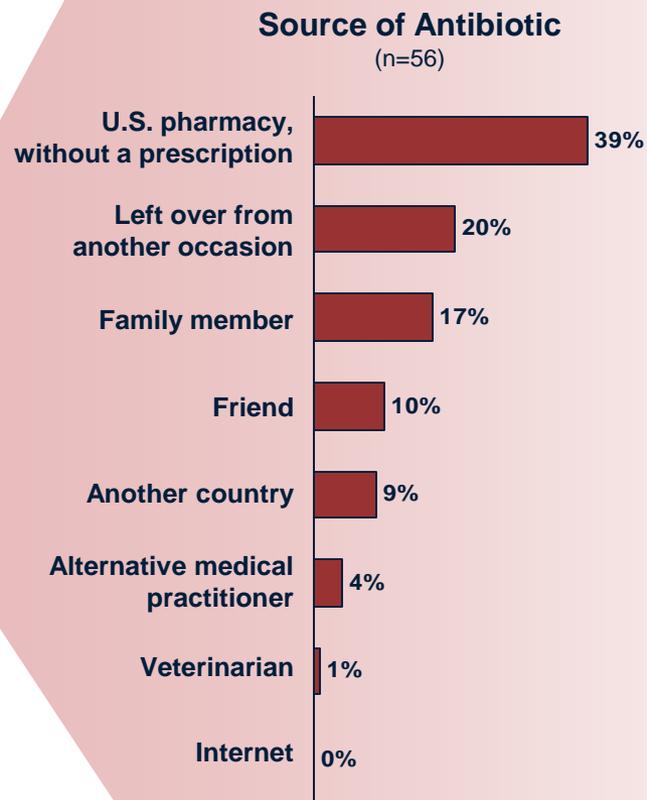
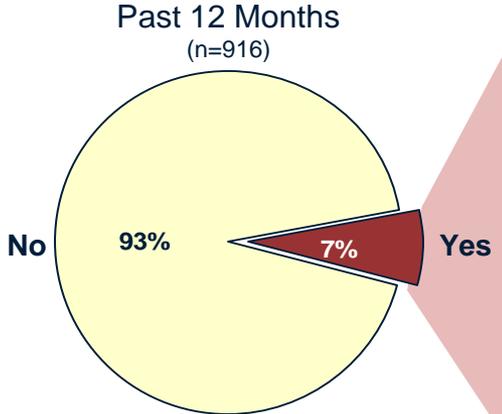
Only 7% of antibiotic users say they have obtained an antibiotic from a source other than a health care provider.



➤ Of the 22 respondents who reported that they obtained an antibiotic from a pharmacy without a prescription, only 3 named an antibiotic as the medication, while 9 named other medications and 10 did not know the name.

Improper Procurement of Antibiotics

Obtained an Antibiotic from Source Other than Health Care Provider



Reason for Taking Antibiotic	Mentions ^{1,2} (n=55)
<ul style="list-style-type: none"> Fight off an infection <ul style="list-style-type: none"> Cold, sore throat, runny nose Sinus Urinary track Ear Other (not specific) Didn't feel well Thought I needed it Make me feel better Same symptoms as before 	<p>31</p> <p>10</p> <p>6</p> <p>3</p> <p>2</p> <p>10</p> <p>8</p> <p>5</p> <p>4</p> <p>3</p>

¹Multiple responses accepted; responses of 3 or more listed.
²Not weighted.

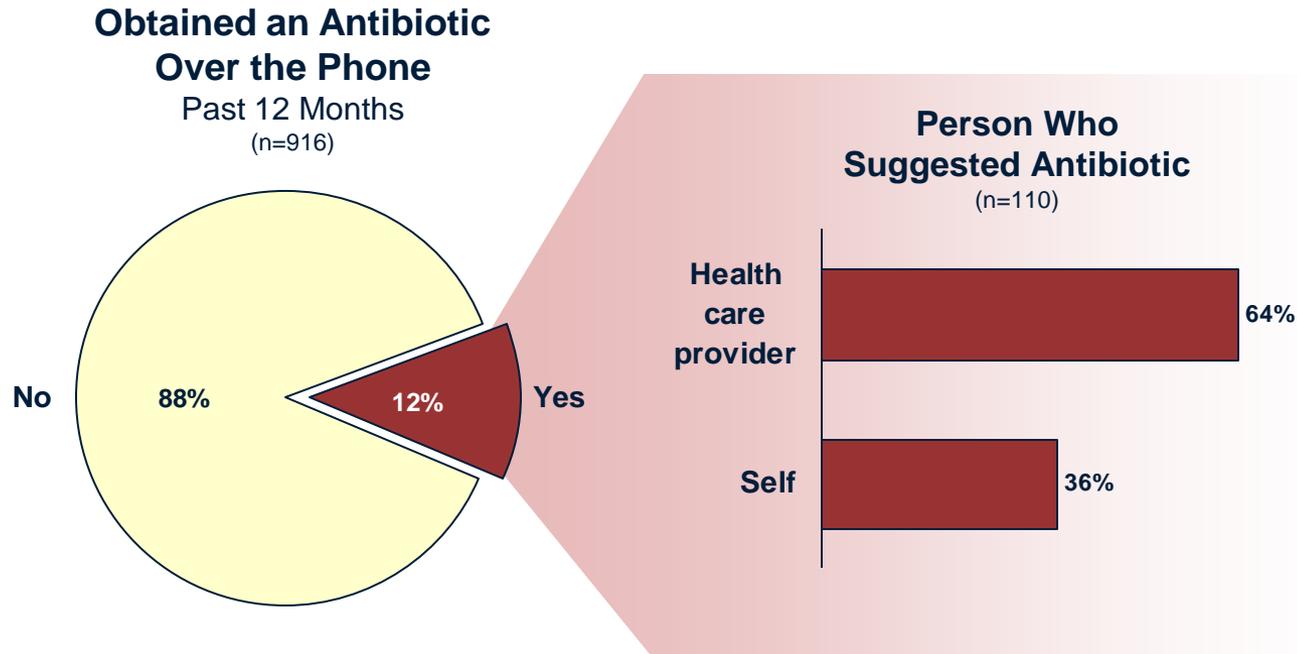
Antibiotic Taken	Mentions ^{1,2} (n=55)
<ul style="list-style-type: none"> Amoxicillin Penicillin Zithromax Other antibiotic Not antibiotic Medication not recognized Don't know 	<p>7</p> <p>2</p> <p>2</p> <p>10</p> <p>15</p> <p>3</p> <p>20</p>

¹Multiple responses accepted; responses of 2 or more listed.
²Not weighted.

In two-thirds of the cases where an antibiotic was prescribed over the phone without an office visit, the health care provider was the one to suggest using an antibiotic.



Improper Procurement of Antibiotics



People with incomes over \$50,000, as well as those with lower incomes who do not live in a very densely populated area, are more likely to have antibiotics prescribed for them over the phone.



Predictors: Obtained Antibiotic Over the Phone

Income Under \$50,000	Income Over \$50,000
9%	15%
Income Under \$50,000, Zip Code 98% or More Urban	Income Under \$50,000, Zip Code Under 98% Urban
3%	12%

Improper Procurement of Antibiotics



General Use of Antibiotics

- **Use Overall, by Age, by Gender**
- **Response to Cold**
- **Response to Child's Cold**
- **Prescription Not Filled**
- **Prescription Not Completed**
- **Doses Skipped**

33% of the adult population has used antibiotics to treat an illness within the past 12 months.



- Use is higher among women than among men, particularly women between the ages of 25 and 34.

General Use of Antibiotics

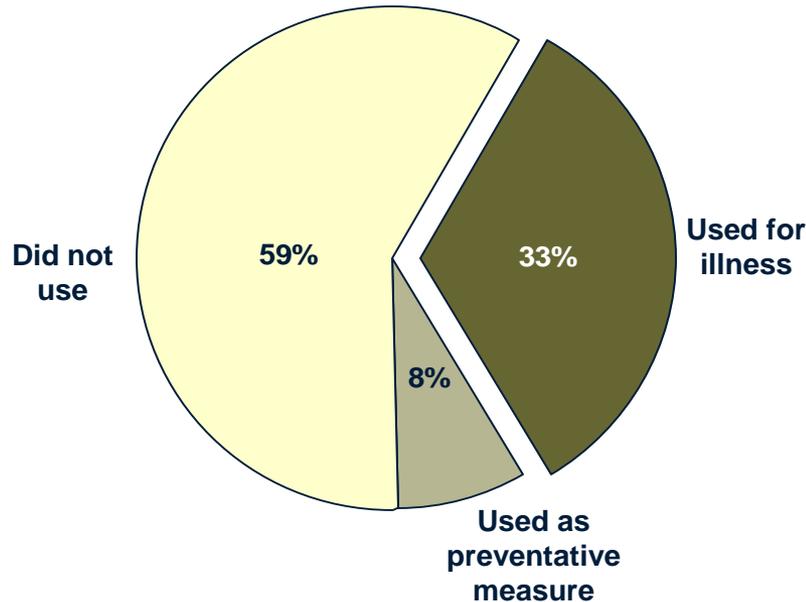
Use by Gender

(n=1,184)¹

Age	Gender of Respondent		Total
	Male	Female	
Under 25	25%	38%	32%
25-34	25%	44%	34%
35-44	26%	43%	34%
45-54	30%	32%	31%
55-64	36%	39%	37%
65-74	27%	39%	33%
75 or over	25%	26%	26%
Total	28%	37%	33%

Use of Antibiotics in Past 12 Months

(n=1,184)¹



□/○ = Higher/lower than the percentage for all adults.

¹Based on sample of respondents and potential respondents who did not qualify for study.

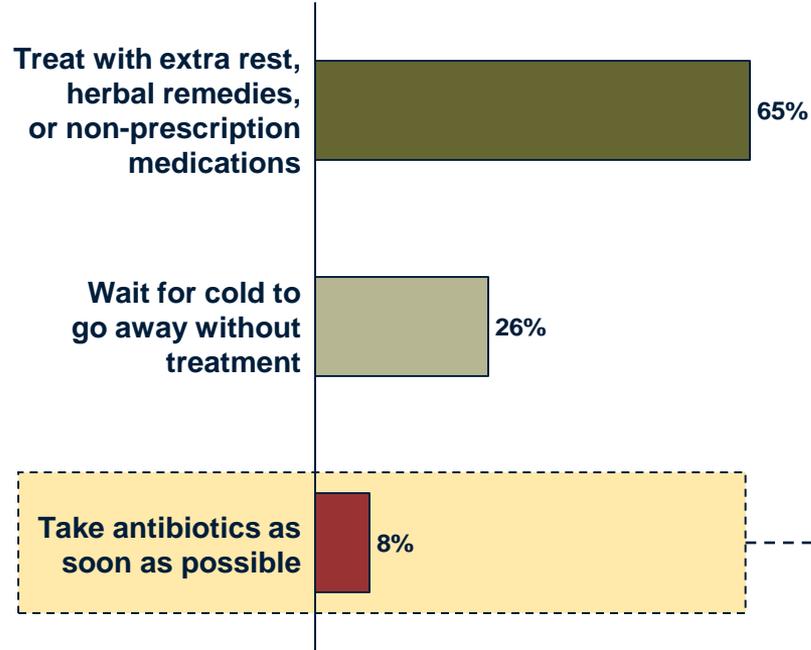
Among the relatively few people (8%) who prefer to treat an early-stage cold by taking antibiotics, one-half are motivated by a desire to recover more quickly.



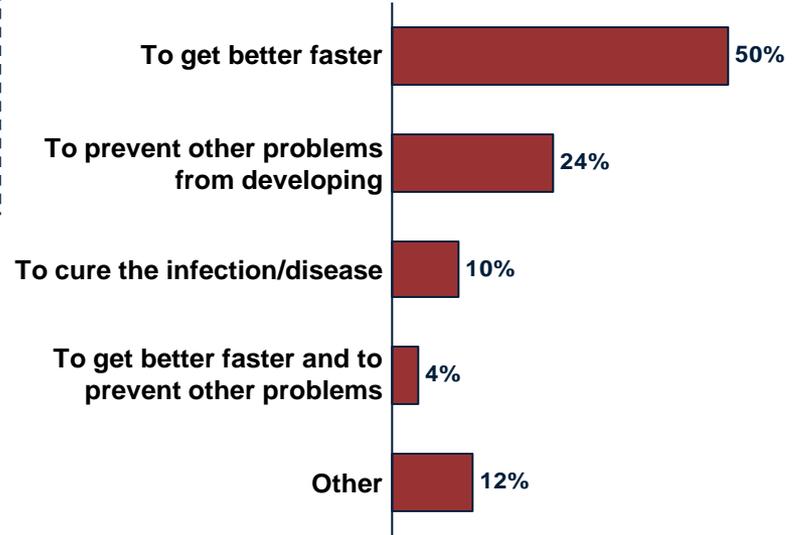
➤ Lack of knowledge about what antibiotics can treat is associated with preferring to take antibiotics as soon as possible.

General Use of Antibiotics

Preferred Response to Own Cold in First Few Days
(n=903)



Reason for Preferring to Take Antibiotics as Soon as Possible
(n=70)



Belief about Effectiveness of Antibiotics	Prefer to Take Antibiotics
▪ Can treat viruses	11%
▪ Don't know	19%
▪ Only treat bacteria	5%

Predictors of preferring to treat a cold with antibiotics include fair or poor health, very low income, and a lower level of education.



- An inability to transport oneself or have a household member provide transportation to the health care provider is also associated with a preference for taking an antibiotic for a cold.

Predictors: Prefer to Take Antibiotics in First Few Days of a Cold

Excellent or Good Health	Fair or Poor Health
6%	16%
Medical Transportation by Self or Other Household Member	Medical Transportation by Someone Outside of Household or Public Transportation
7%	26%
Income \$15,000 or Over	Income Under \$15,000
7%	19%
Some Education Beyond High School	High School Graduate or Less
6%	14%
White/Caucasian or Hispanic	African American or Other Ethnicity
7%	15%
Less Than Half an Hour from Health Care Provider	More Than Half an Hour from Health Care Provider
7%	16%

General Use of Antibiotics

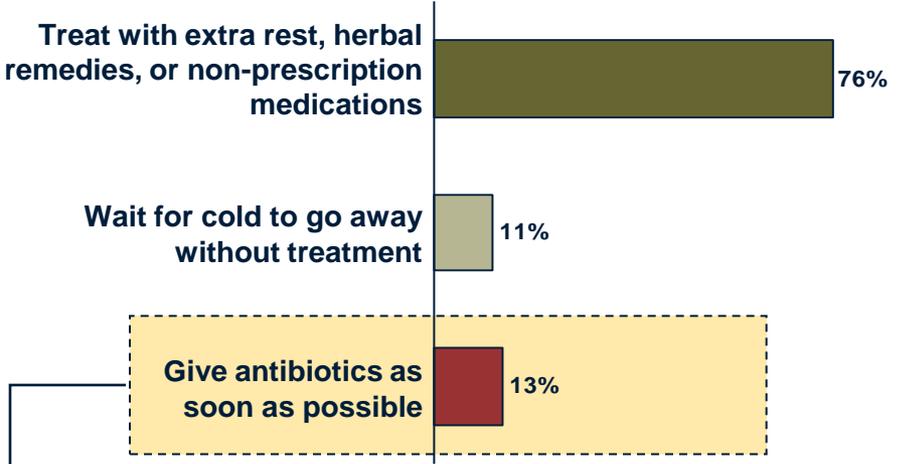
For the early stages of a cold, 13% of parents prefer to give a child antibiotics, as compared to 8% of adults who prefer this treatment for themselves.



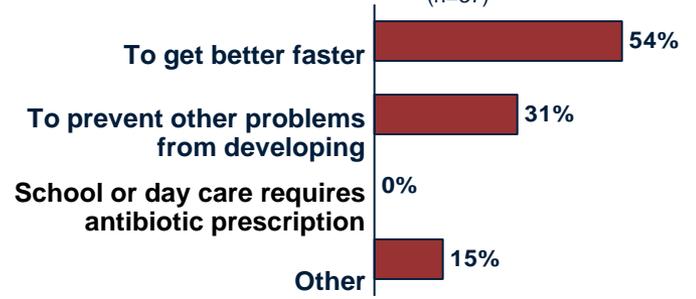
➤ Lack of knowledge about what antibiotics can treat is associated with preferring to give one's child antibiotics as soon as possible.

General Use of Antibiotics

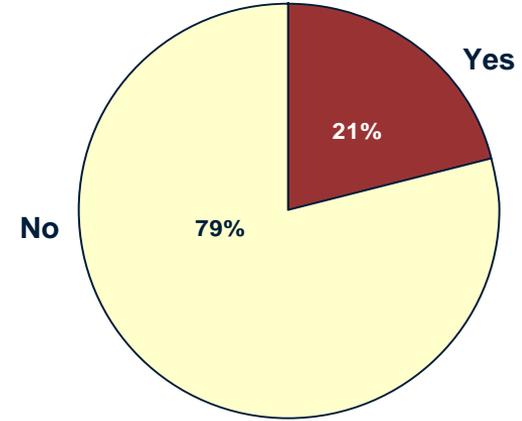
Preferred Response to Child's Cold in First Few Days
- Adults Who Make Decisions for Child¹ -
(n=374)



Reason for Preferring to Take Antibiotics as Soon as Possible
(n=37)



Have Asked Health Care Provider to Prescribe Antibiotic for Child
- Adults Who Make Decisions for Child¹ -
(n=384)



Belief about Effectiveness of Antibiotics ²	Prefer to Give Child Antibiotics
▪ Can treat viruses	21%
▪ Only treat bacteria	5%

¹Child under 18 living at home at least half the time.
²Too few responses of Don't Know for differences to be statistically significant

Parents who are very young, who are members of minority groups, or who have children under the age of 4 are more likely to favor antibiotics as a treatment for colds.



Predictors: Prefer to Give Child Antibiotics in First Few Days of a Cold

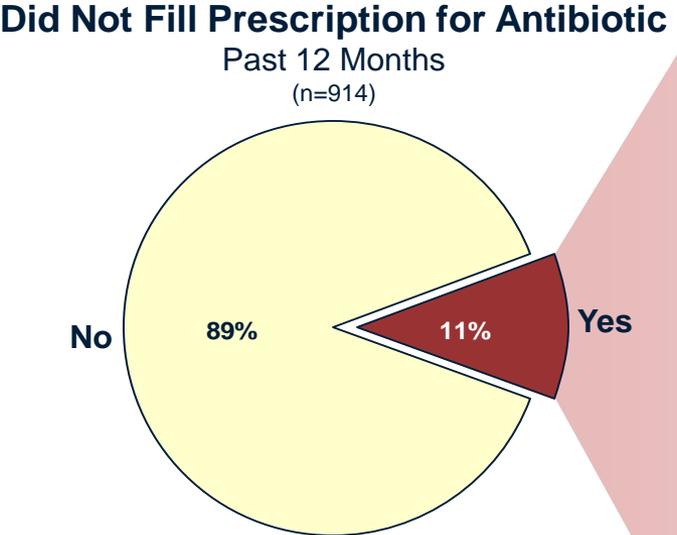
Age 25 and Over	Age Under 25
10%	41%
White/Caucasian	Hispanic, African American, Other Ethnic Groups
8%	24%
Child Age 4 and Over	Child Under 4
4%	18%

General Use of Antibiotics

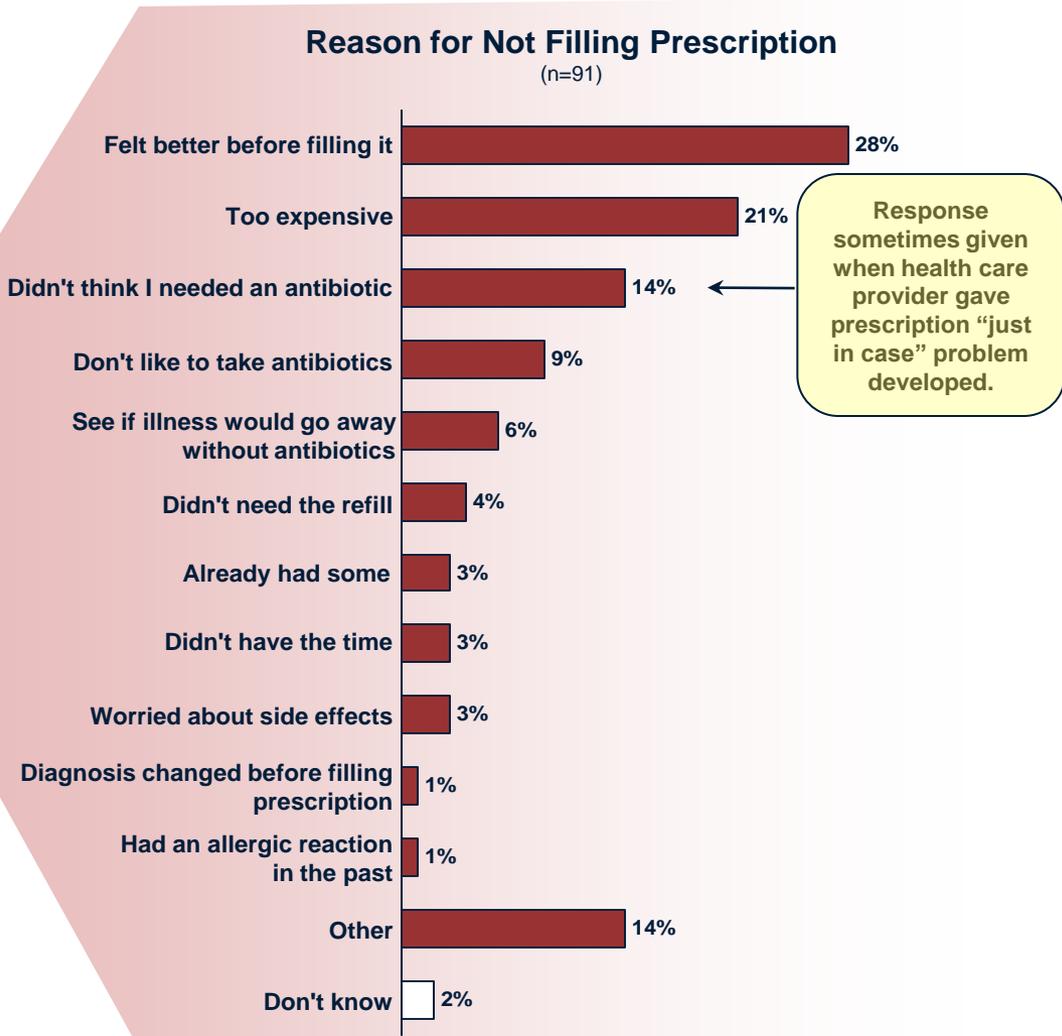
Over one in ten people who took antibiotics within the past year also received a prescription for an antibiotic that they did not fill.



General Use of Antibiotics



Received Verbal Directions from Pharmacist for Last Prescription	Percent Not Filling Antibiotic Prescription
Yes	9%
No	13%





Young people (under 35) and minorities are more likely to not fill a prescription.

- The presence of another person during a visit to a health care provider is associated with a lower likelihood of not filling a prescription.
- Additionally, a history of personal attention from a pharmacist reduces the tendency to not fill a prescription.

Predictors: Not Filling Prescription

Age 35 and Over	Under Age 35
7%	18%
Someone Else Drives to Medical Care	Drive, Walk, or Take Public Transportation to Medical Care
3%	11%
White/Caucasian	Hispanic, African American, or Other Ethnicity
9%	14%
Received Verbal Directions from Pharmacist for Lost Prescription	Did Not Receive Verbal Directions from Pharmacist
9%	13%

General Use of Antibiotics

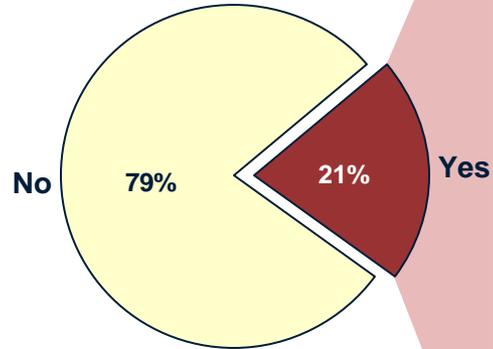
Almost one-quarter of respondents did not finish taking an antibiotic they were prescribed in the past year, most often because they were already feeling better.



General Use of Antibiotics

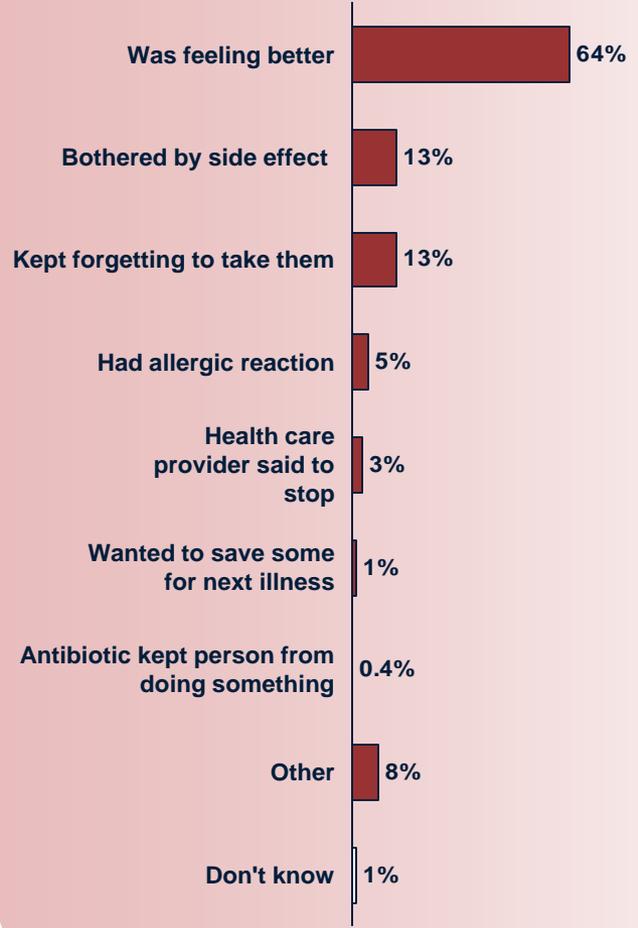
Did Not Complete Antibiotic Prescription

Past 12 Months
(n=916)



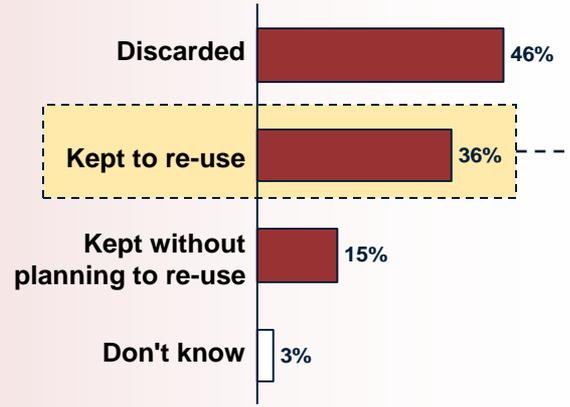
Reason for Stopping Antibiotic¹

(n=189)



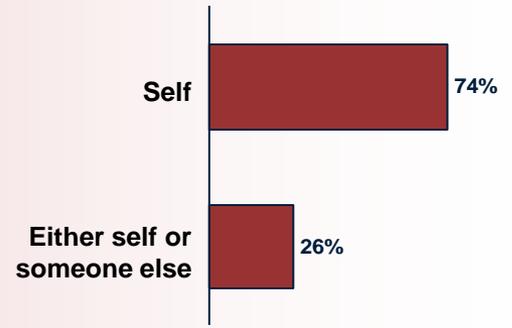
Disposition of Remaining Medication

(n=189)



Thought Would Eventually Use Antibiotics

(n=65)



¹Multiple responses accepted

Younger people and people who do not have an established relationship with a health care provider are the most likely to not finish a medication they have been prescribed.



Predictors: Not Completing Prescription

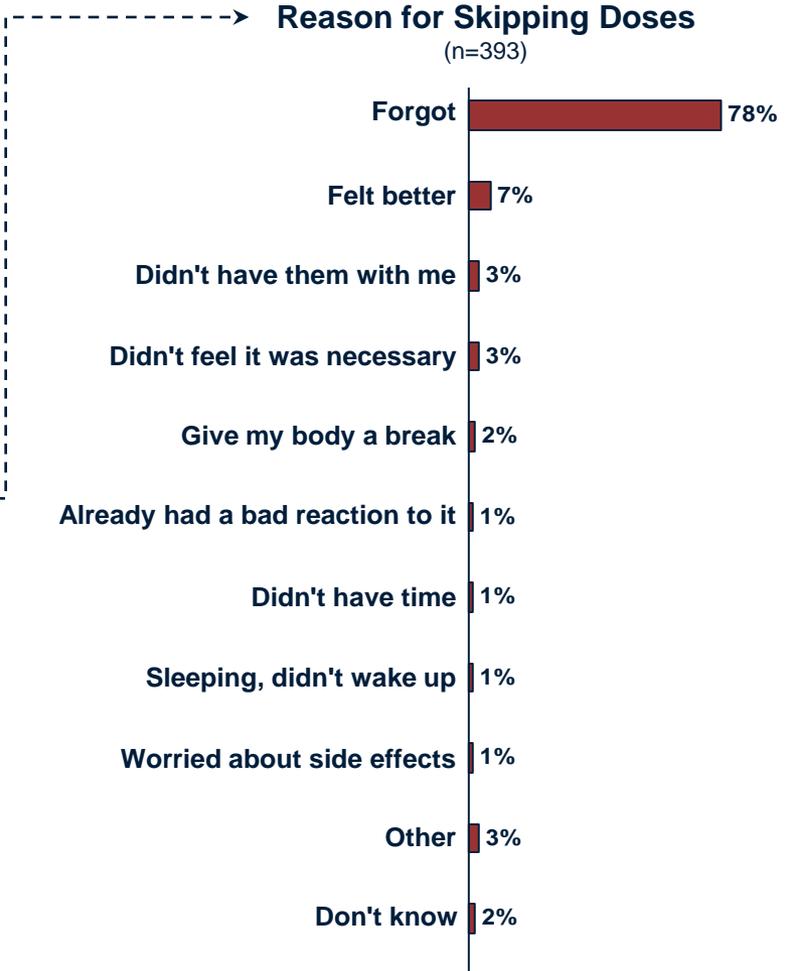
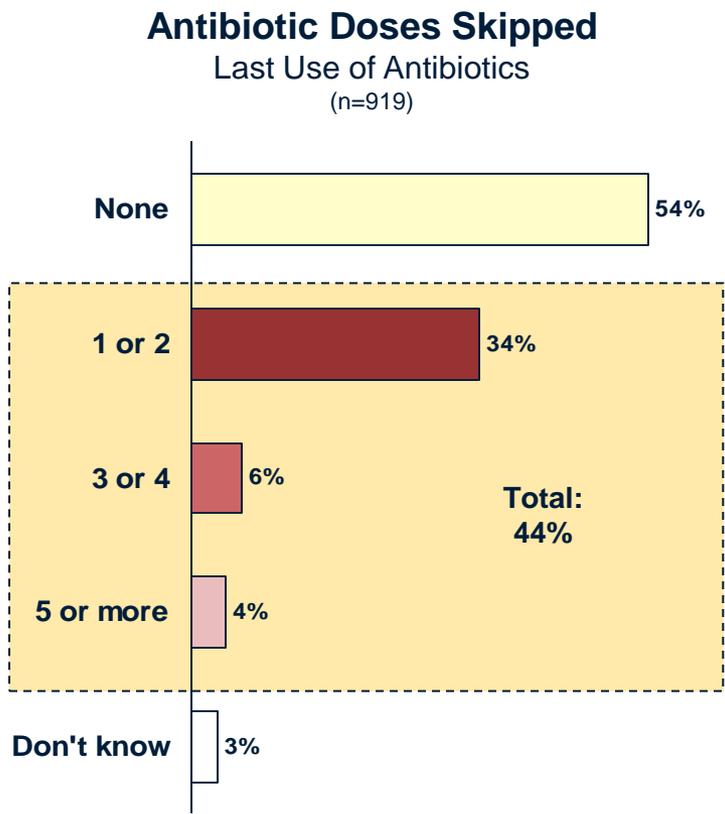
Age 35 or Over	Age Under 35
16%	32%
Use PCP or Alternative Practitioner	Use ER or Urgent Care Center, or Do Not Seek Medical Care
19%	35%
At Least Some Graduate School	Less than Some Graduate School
9%	24%
Medical Transportation by Non-Household Member or Public Transportation	Medical Transportation by Self or Other Household Member
4%	21%
Born Somewhere Else	Born in the US
9%	22%
Zip Code Under 90% Urban	Zip Code Over 90% Urban
18%	24%

General Use of Antibiotics

The last time they used antibiotics, 44% skipped at least one dose, usually because they forgot to take it.



General Use of Antibiotics

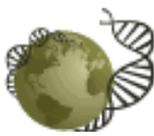




Concerns about Antibiotics

- **Identification of Antibiotics**
- **Perceptions about Use in Treatment of Illness**
- **Concerns about Side Effects**
- **Problems from Not Following Directions**
- **Awareness of Antibiotic Resistance**
- **Concern about Antibiotic Resistance**

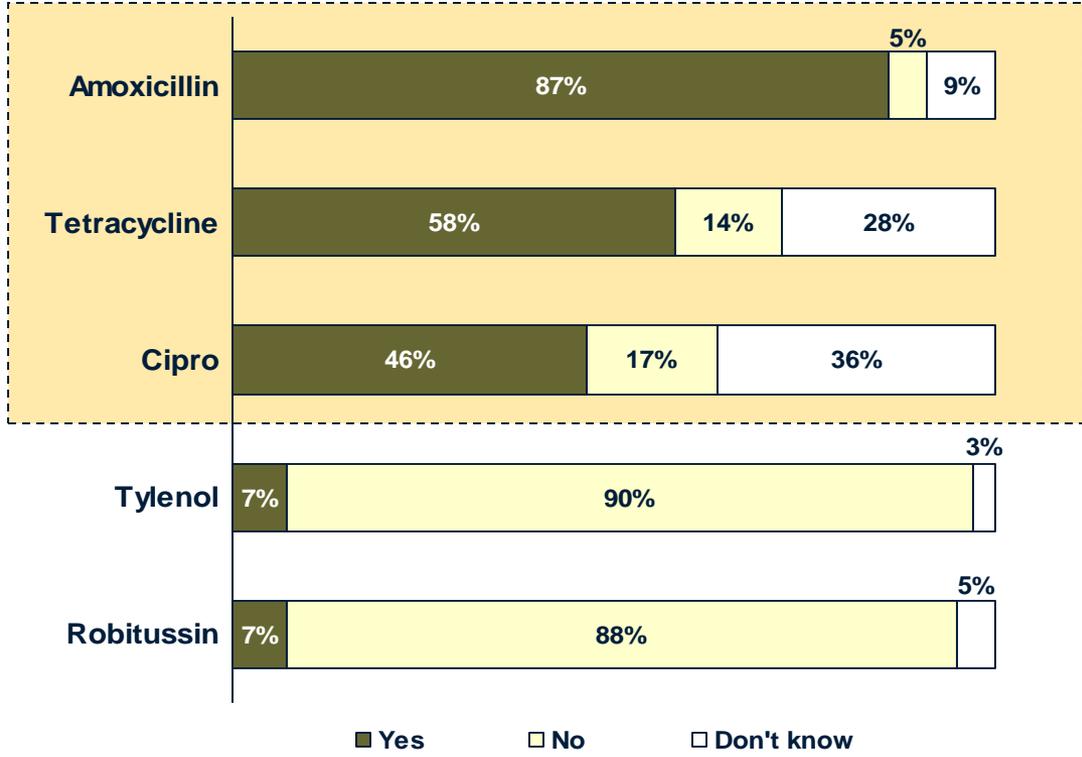
Only one-third of respondents correctly identified five medications as either antibiotics or not antibiotics.



Concerns about Antibiotics

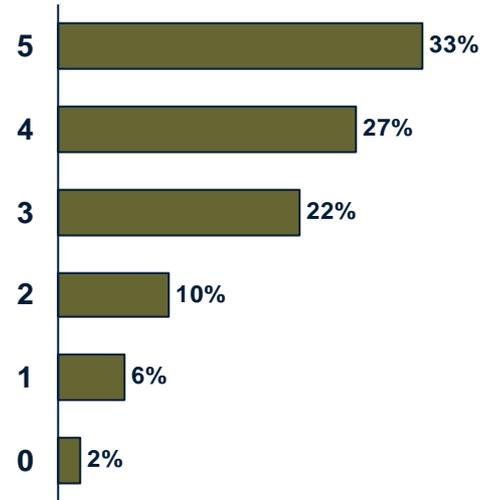
Identified Medication as Antibiotic

(n=919)



Number of Medications Identified Correctly

(n=919)



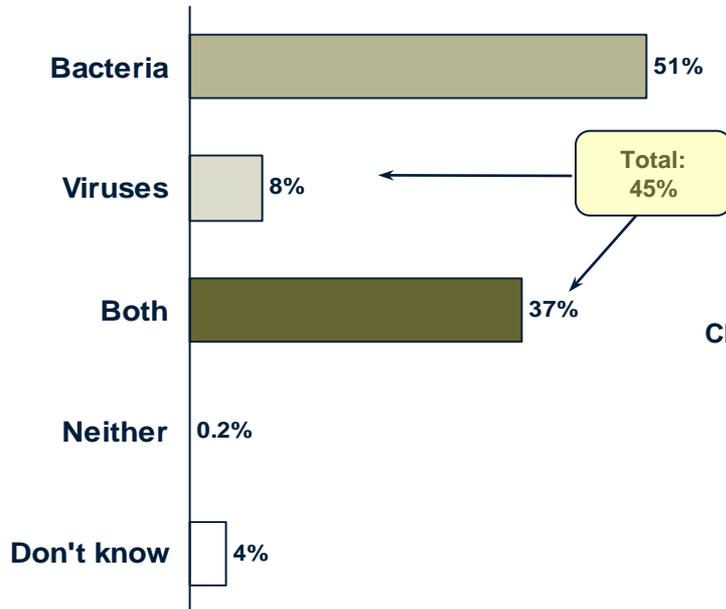


45% of antibiotic users think that viruses can be treated with antibiotics.

- At least one-half of respondents think that an antibiotic should almost always be used to treat strep throat, bronchitis, childhood ear infections, and sinus infections.
- A belief that antibiotics can treat viruses is not associated with improper procurement of antibiotics.

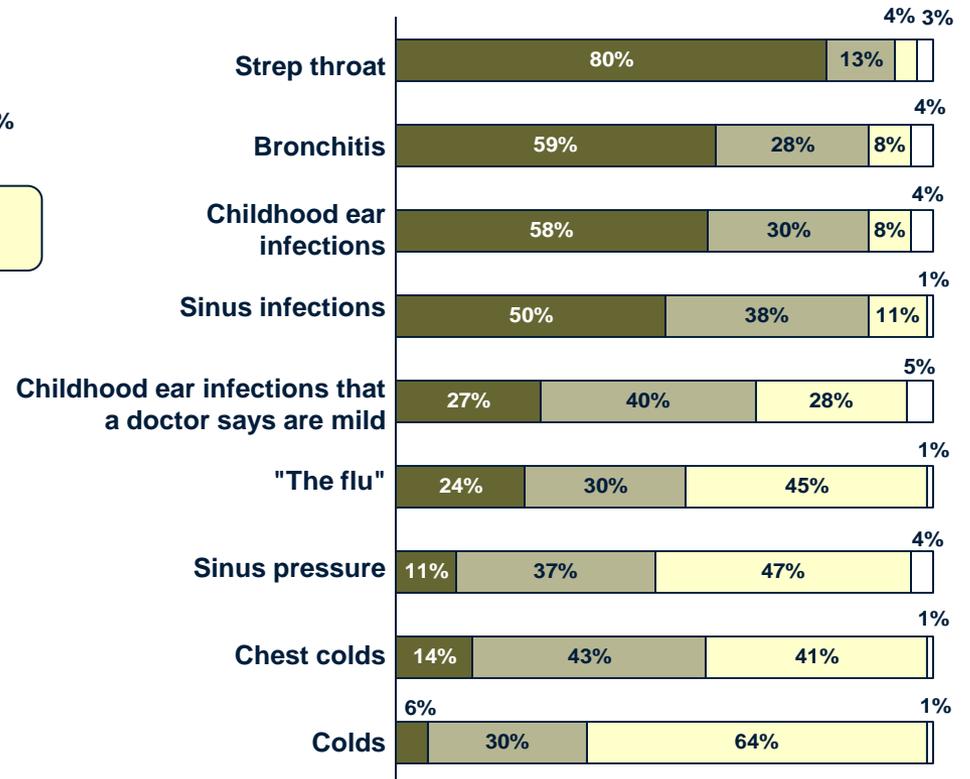
Type of Infections Thought to Be Treatable with Antibiotics

(n=918)



Expectation that Illness Should Be Treated with Antibiotics

(n=917 to 918)



■ Almost always ■ Sometimes □ Almost never □ Don't know

Concerns about Antibiotics

Respondents tend to be more concerned about side effects and allergic reactions when taking antibiotics than when taking other types of medication.



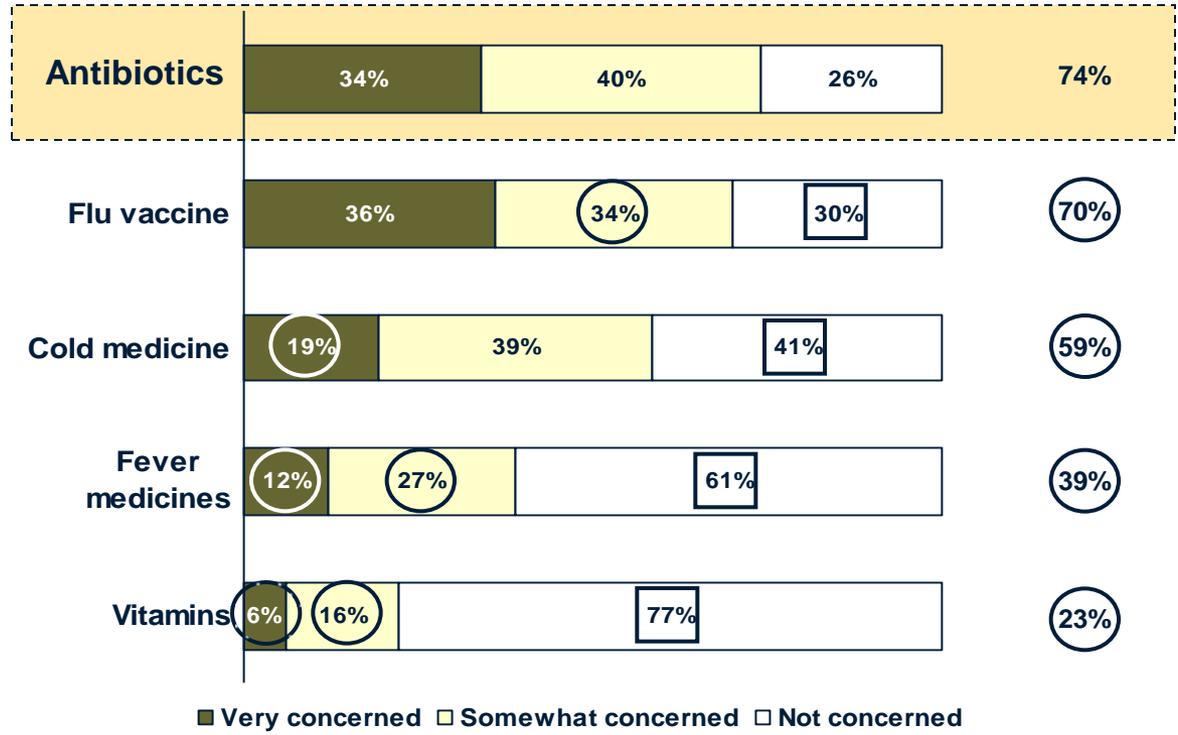
- Concern about antibiotic side effects is not associated with improper procurement of antibiotics or preference for treating an early-stage cold with antibiotics.
- 41% of those very concerned about negative effects of antibiotics are less likely to use antibiotics today than five years ago, as compared to 29% of those who are somewhat or not concerned.

Concerned about Side Effects or Allergic Reactions When Taking Medications

(n=885 to 917)

Total Very or Somewhat Concerned

Concerns about Antibiotics



□/○ = Higher/lower than level for antibiotics.

Respondents rated antibiotics as one of the most likely medications to cause problems if directions are not followed exactly.



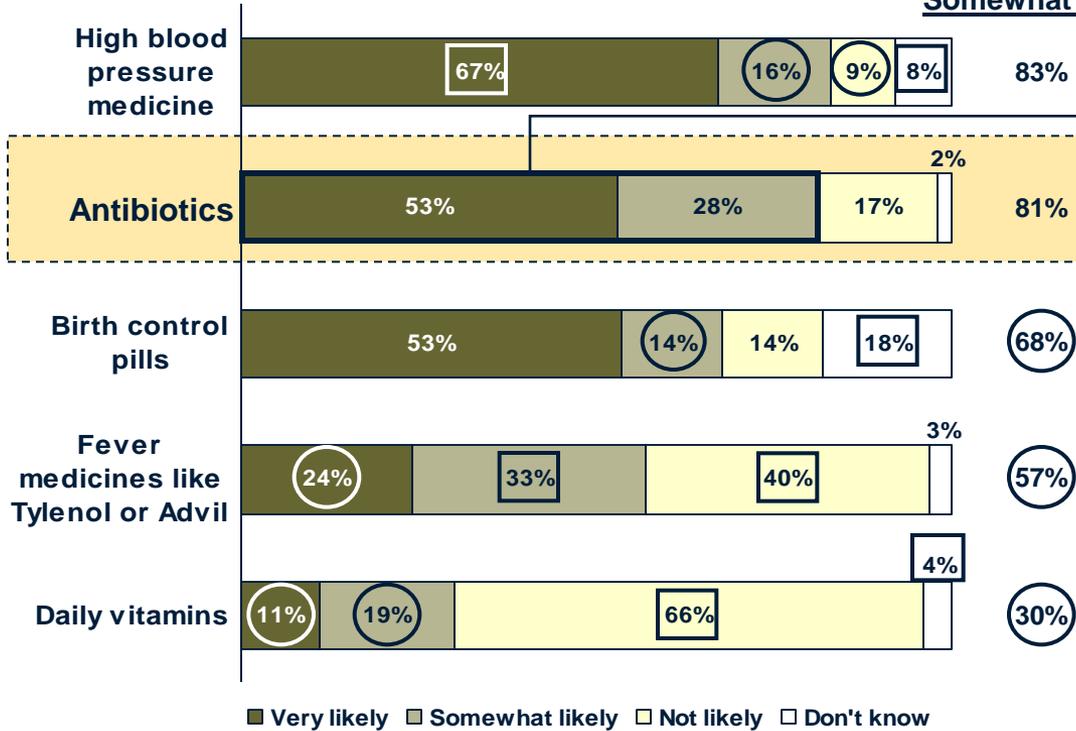
- Eight in ten respondents think that not exactly following directions for antibiotics is very or somewhat likely to cause problems.
- The possibility of antibiotic resistance was mentioned as a potential problem less frequently than the prospect of not getting better or experiencing side effects and other health problems.

Not Following Medication Directions Exactly Is Likely to Cause Problems

(n=916 to 919)

Total Very or Somewhat Likely

Concerns about Antibiotics



Problems from Not Taking Antibiotics According to Directions	Mentions ^{1,2} (n=687)
▪ Illness may persist or worsen	433
▪ Side effects or other health problems	169
▪ Become immune to antibiotics/ create resistant strains	131
▪ Problem can reoccur	86
▪ Allergic reaction	24
▪ Can overdose	44
▪ Death	22
▪ Drug interaction	19
▪ Get an infection	13

¹Multiple responses accepted, responses of 10 or more listed.

²Not weighted.

□/○ = Higher/lower than level for antibiotics.

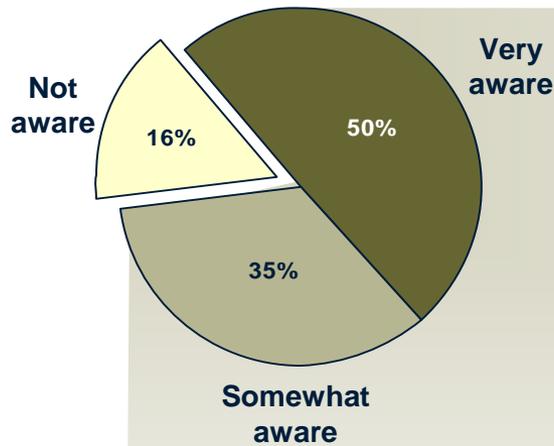
Of the 84% of respondents who are very or somewhat aware of antibiotic resistance, only about one-third think that it is very common.



➤ Awareness of antibiotic resistance is not associated with improper procurement of antibiotics.

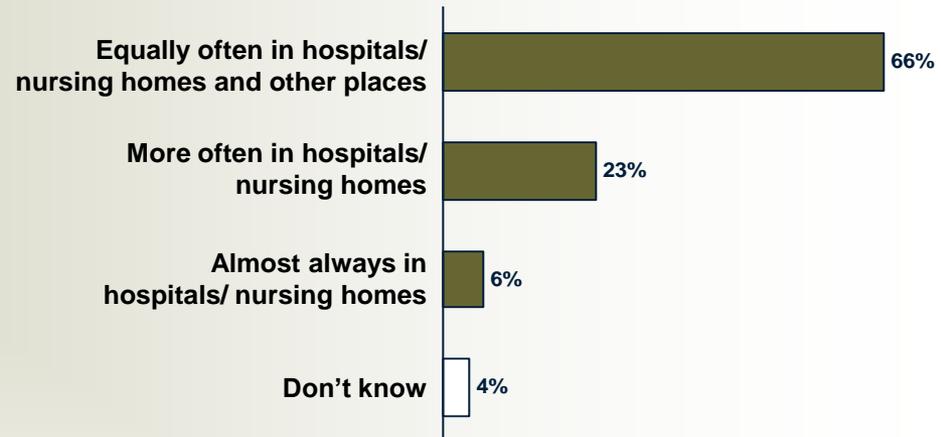
Awareness of Antibiotic Resistance

(n=914)



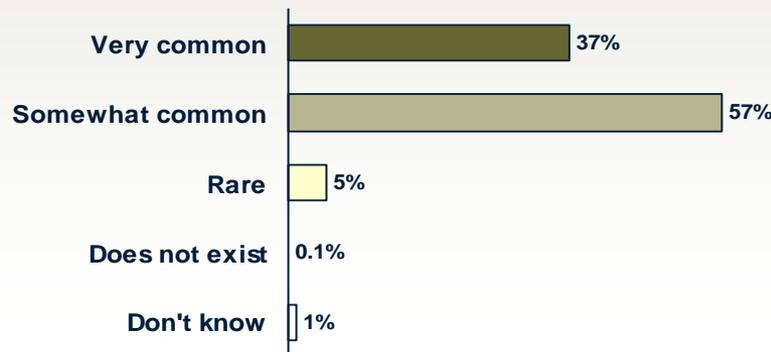
Where Antibiotic Resistance Is Thought to Occur

(n=774)



How Common Is Antibiotic Resistance

(n=784)



What Causes Antibiotics to Become Ineffective

Mentions^{1,2}
(n=766)

▪ Germs mutate into new strains/adapt	202
▪ Body builds up resistance	146
▪ Misuse of antibiotics causes problems	129
▪ Taking antibiotics when they are not needed causes problems	33
▪ Taking the wrong antibiotic causes problems	19
▪ Antibiotics are used in food chain and personal products	13

¹Multiple responses accepted, responses of 10 or more listed.

²Not weighted.

African Americans, people with no education beyond high school, people with very low incomes, and very young adults are less likely than others to be highly aware of antibiotic resistance.



- The low awareness among young adults and high school graduates suggests that primary and secondary schools are not effective in providing information in this area.

Predictors: Being Very Aware of Antibiotic Resistance

African American		White/Caucasian, Hispanic, Other Ethnicity	
29%		53%	
High School Graduate or Less	Trade/Vo-tech School, Some College, College Grad	At Least Some Graduate School	
37%	49%	71%	
Income Under \$15,000	Income \$15 - \$75,000	Income \$75,000 and Over	
33%	47%	63%	
Age Under 25		Age 25 or Over	
34%		52%	
Medicaid		Private Insurance, Medicare, Other	
29%		51%	

Concerns about Antibiotics

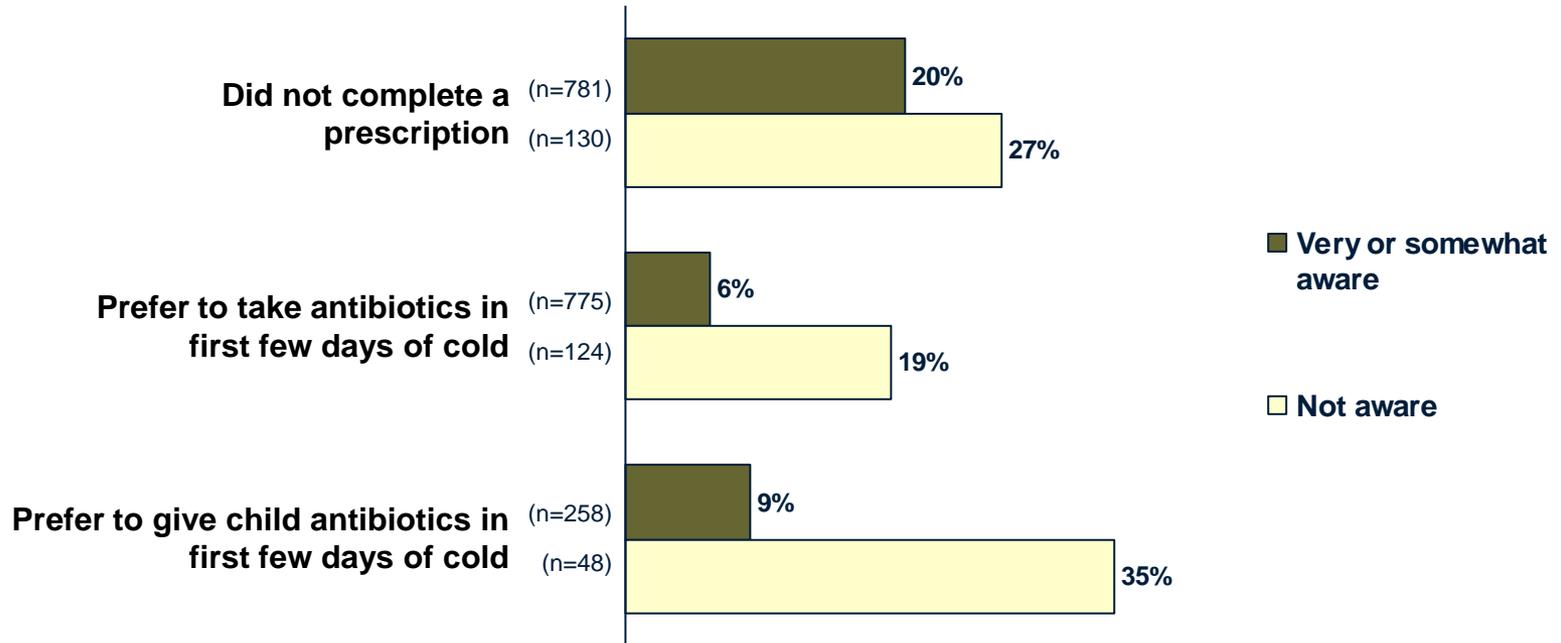
Any awareness of antibiotic resistance decreases peoples' inclination to not complete a prescription and to prefer administering antibiotics in the first few days of one's own or one's child's cold.



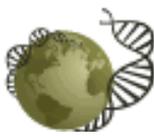
- Awareness does not significantly impact the tendency to improperly obtain an antibiotic or to not fill an antibiotic prescription.
- There was no significant difference between being very aware and being somewhat aware of antibiotic resistance.

Effect of Awareness of Antibiotic Resistance
Percent Reporting the Behavior

Concerns about Antibiotics



Twice as many antibiotic users are very concerned about maintaining a healthy weight than are very concerned about antibiotic resistance.



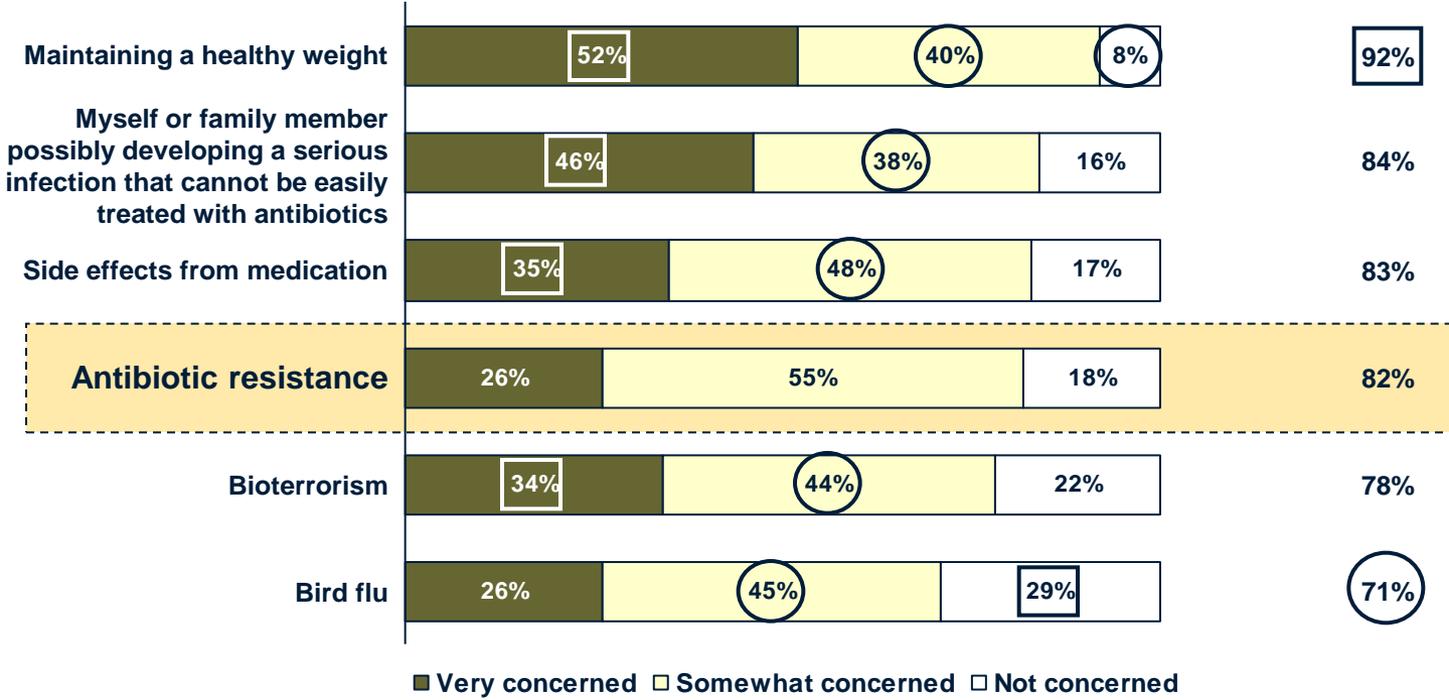
- When antibiotic resistance is described in terms of family implications, the proportion who are very concerned rises from 26% to 46%.

Concerns about Antibiotics

Concerns about Antibiotic Resistance and Other Health Issues

(n=896 to 917)

Total Very or Somewhat Concerned

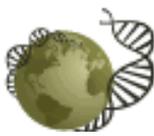


□/○ = Higher/lower than level for antibiotic resistance..

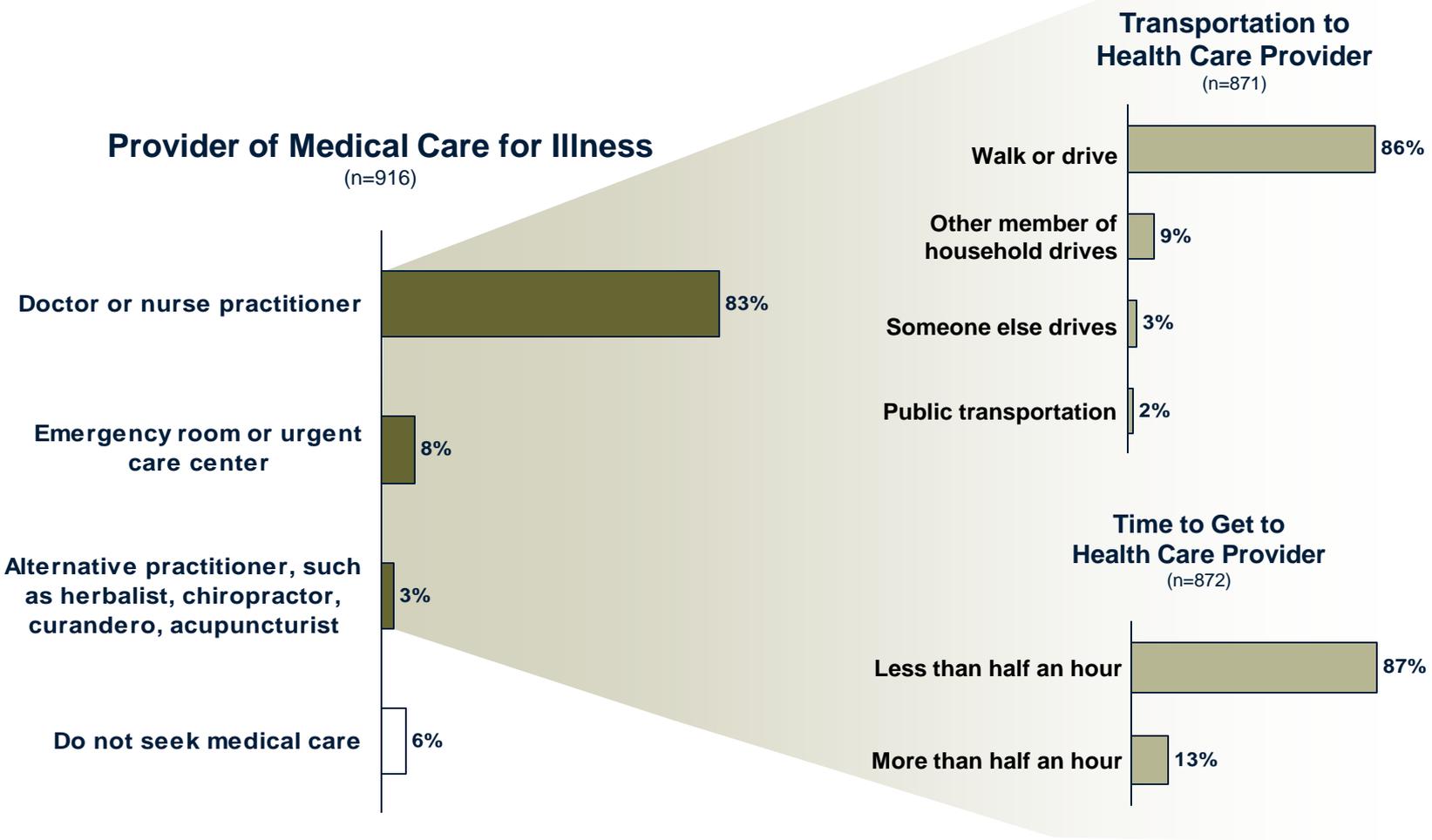


Health Care Practices

Over 80% of respondents are treated by a doctor or nurse practitioner, walk or drive themselves to office visits, and can reach their health care provider in less than half an hour.



Health Care Practices



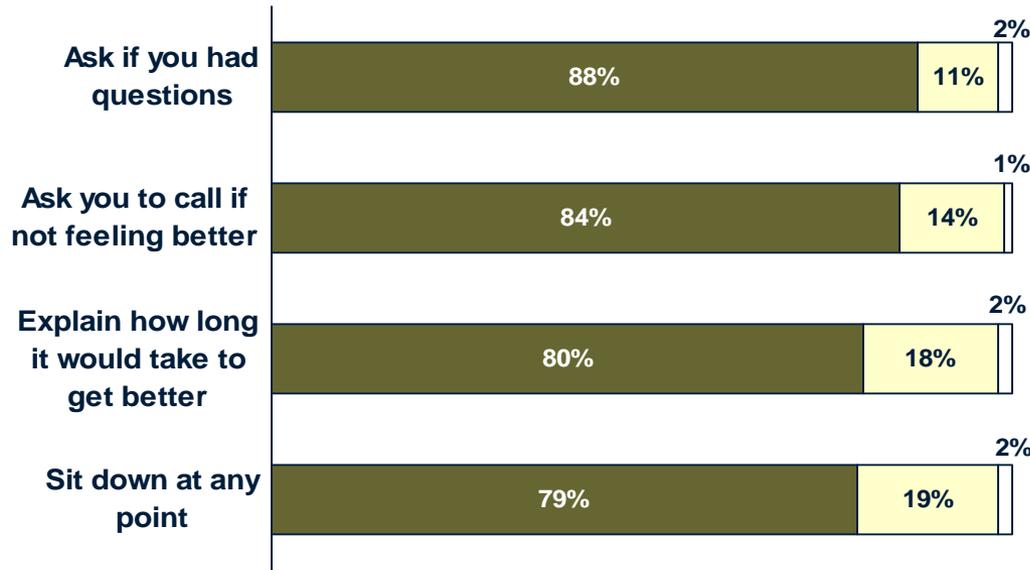
Just over one-half of respondents report that their health care provider follows all recommended patient care practices, and a similar number report that their pharmacist verbally gives instructions for taking medication.



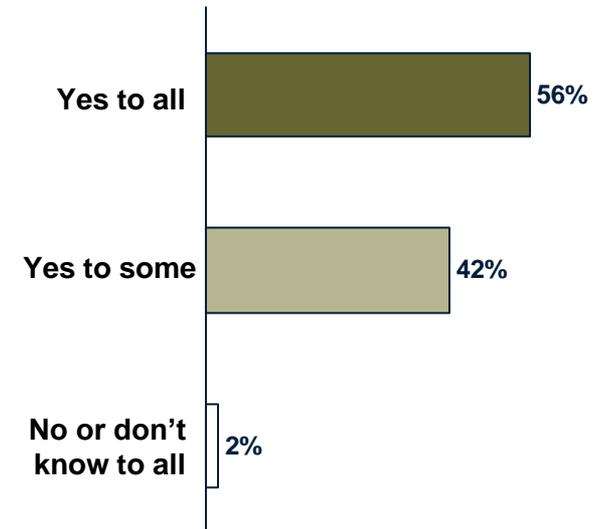
- Health care providers' use of recommended actions is not associated with less improper procurement of antibiotics or more appropriate behavior with prescriptions.

Health Care Practices

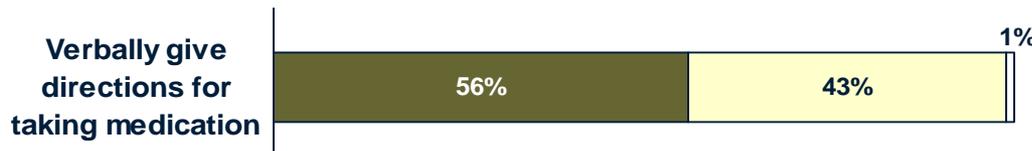
Actions of Health Care Provider
Last Visit for Illness
(n=872 to 873)¹



Summary of Health Care Provider Actions
(n=873)¹



Actions of Pharmacist Last Time
New Prescriptions Was Filled
(n=918)



■ Yes □ No □ Don't know

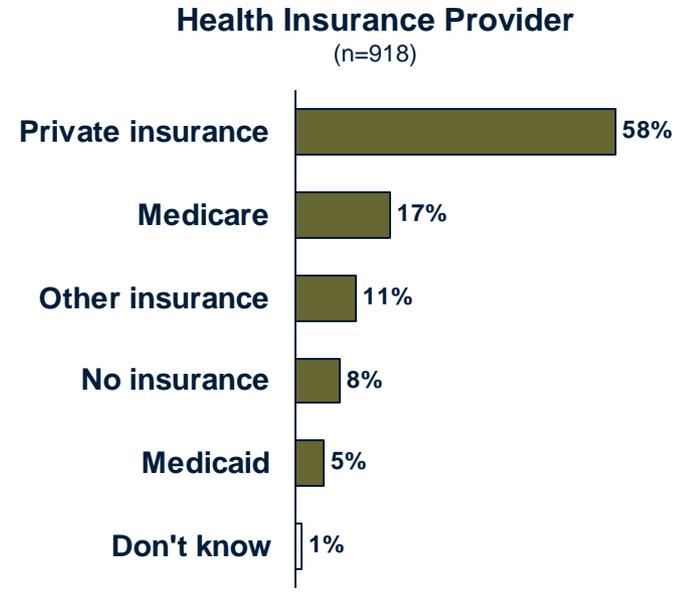
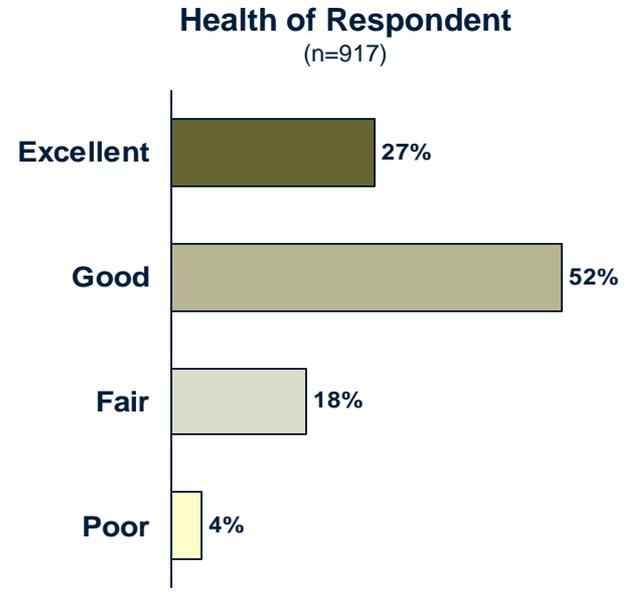
¹Asked of respondents who usually seek medical care for illness.

Over three-quarters of respondents say they are in excellent or good health, and over one-half are covered by private insurance.



Health Care Practices

Health and Health Insurance of Respondents





Respondent Demographics

Demographic Profile of Respondents¹

(n=919)

