

Too Many Antibiotics!

Patients and Prescribers Speak Up

A WebMD/Medscape Special Report

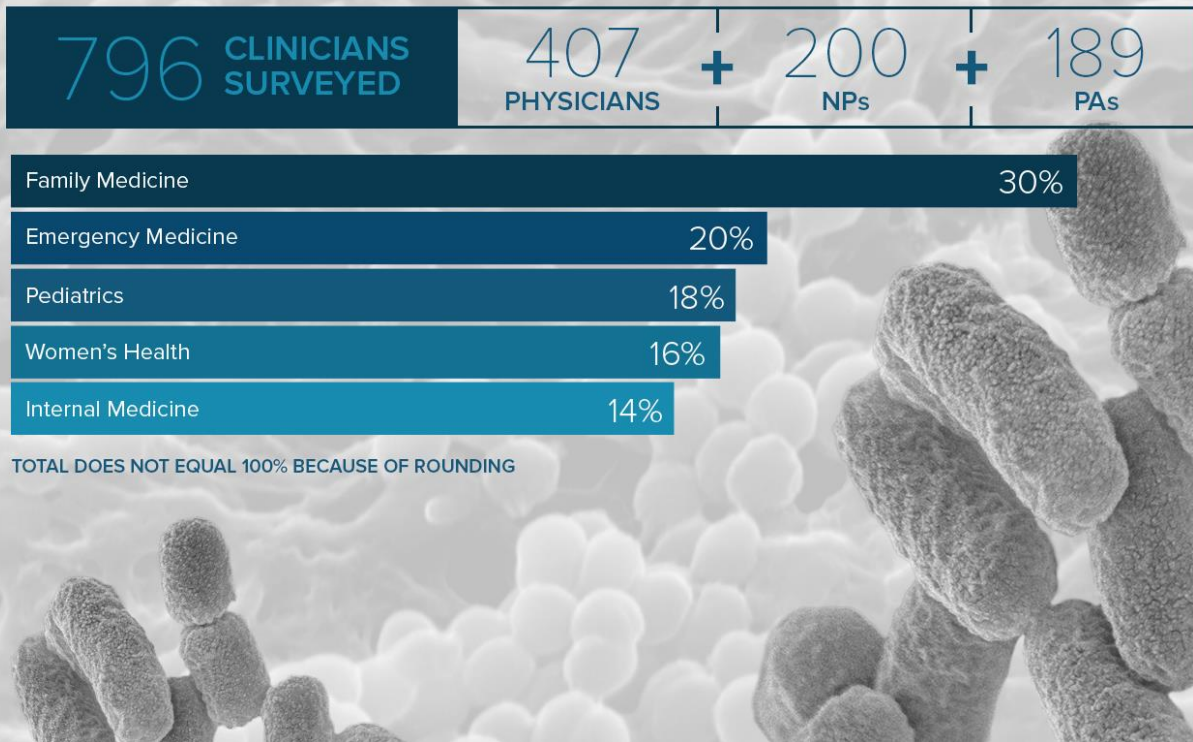


Too Many Antibiotics! Patients and Prescribers Speak Up

The Centers for Disease Control and Prevention (CDC) reports that each year in the United States, at least 2 million people become infected with bacteria resistant to antibiotics, and at least 23,000 people die as a direct result of antibiotic-resistant infections.^[1]

Tom Frieden, MD, MPH, CDC Director, points out, "It's clear that we're approaching a cliff with antibiotic resistance. But it's not too late. Clinicians and healthcare systems need to improve prescribing practices. And patients need to recognize that there are both risks and benefits to antibiotics — more medicine isn't best; the right medicine at the right time is best."

WHO WE SURVEYED: HEALTHCARE PROFESSIONALS



A WebMD/Medscape Special Report: Healthcare Professionals

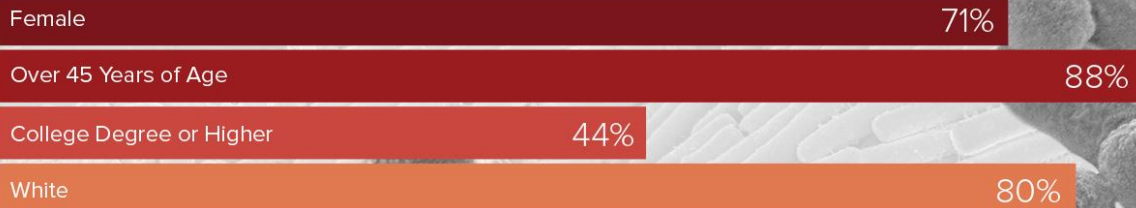
To gain a better understanding of this urgent problem, Medscape's professional division and WebMD's consumer group collaborated to survey both healthcare professionals and consumers. We wanted to know more about the critical problem of antibiotic misuse and the serious health concerns that result, looking at the issue from both perspectives.

The survey was completed by 796 clinicians currently active on Medscape. It was fielded June 9-16, 2014, via email to primary care and emergency medicine clinicians. Significance across HCPs is reported at the 90% confidence interval, with a margin of error of 2.9%.

Our professional respondents included 407 MDs, 200 nurse practitioners (NPs), and 189 physician assistants (PAs), representing the specialties of emergency medicine (20%), family medicine (30%), internal medicine (14%), women's health (16%), and pediatrics (18%). (Total does not equal 100% because of rounding.)

WHO WE SURVEYED: CONSUMERS

1,174 PATIENTS SURVEYED



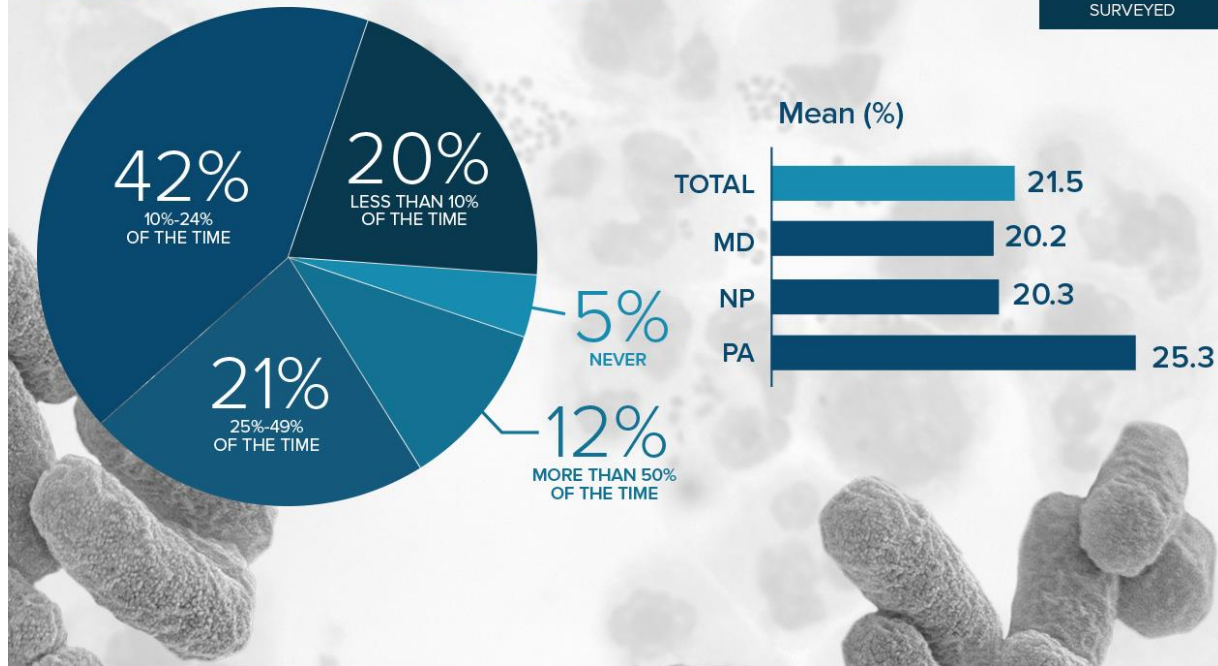
A WebMD/Medscape Special Report: Consumers

We also surveyed 1174 consumers, asking them about their beliefs and actions related to antibiotics and antimicrobial resistance. The survey was completed by random WebMD site visitors from June 9 to June 16, 2014. All WebMD visitors had an equal probability of answering the survey. The sample represents the WebMD.com online population, with a margin of error of $\pm 2.9\%$ at a 95% confidence level. The consumer sample was 71% female, and 88% of participants were over 45 years of age. Our survey respondents were also well educated (44% had a college degree or higher) and 80% were white, so their responses cannot be considered representative of the overall population.

PRESCRIBING: FREQUENCY AND CERTAINTY

How often do you think you prescribe antibiotics when you are not absolutely certain that they are necessary?

796
CLINICIANS
SURVEYED



How Often Are Antibiotics Prescribed? The Professions Vary

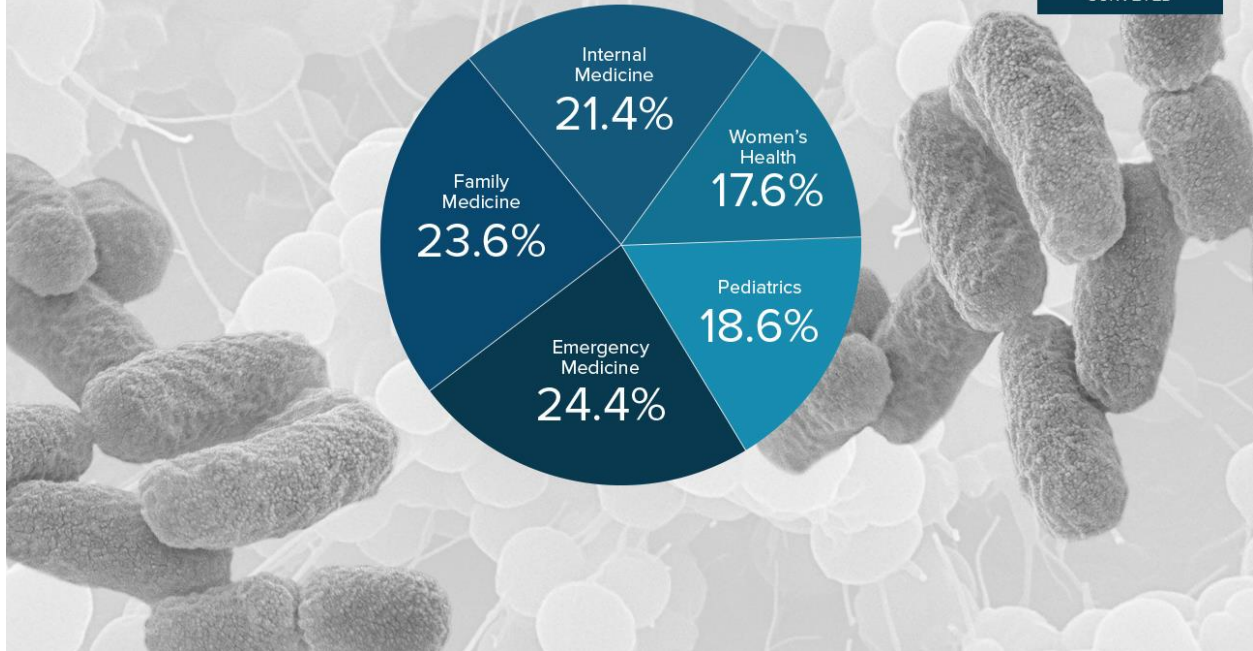
Healthcare professionals often provide antibiotics in the face of uncertainty. That is sometimes understandable, given the practical limitations of current clinical practice. However, there is surely room for improvement.

When asked how often they give antibiotics when they are not absolutely sure that antibiotics are necessary, prescribers indicated that they do this 21.5% of the time overall. (Only 5% of professionals indicated that they *never* do this.) We looked for and found differences between professionals. For example, while MDs and NPs prescribe antibiotics about 20% of the time when they are not sure that they are necessary, the PA group indicated that they did this 25% of the time.

PRESCRIBING: FREQUENCY BY SPECIALTY

How often do you think you prescribe antibiotics when you are not absolutely certain that they are necessary?

796
CLINICIANS
SURVEYED



How Often Are Antibiotics Prescribed? Specialty Differences

Our survey was sent to clinicians in the primary care and emergency specialties. When we analyzed the differences by specialty, we found a range for prescribing antibiotics in the absence of diagnostic certainty, from a low of 17.6% to 18.6% for women's health and pediatric specialists, to a high of 23.6% for family medicine and 24.4% for emergency medicine.

"These results underscore that antibiotic prescription for questionable need is a problem that occurs across all specialty types and knows no specialty boundaries," says Brad Spellberg, MD, a recently appointed Professor of Medicine at the Keck School of Medicine at USC.

REASONS FOR PRESCRIBING

What are some of the reasons you prescribe antibiotics when you are not absolutely certain that they are necessary?

796
CLINICIANS
SURVEYED

I prescribe antibiotics when I'm certain enough that they are needed	53%
In the absence of certainty, I am uncomfortable not treating a possible bacterial infection	42%
Patient is ill and the lab work may take too long	31%
Infection did not appear to be viral or fungal	30%
The patient requested an antibiotic	28%
Patient did not want or could not afford a test	19%
Malpractice concerns	15%
Antibiotic won't hurt if not needed and could help	11%
Patient expresses fear of being out of work too long	11%

Why Prescribe Antibiotics When Uncertain?

We also asked professionals why they prescribed antibiotics when they were not certain they were needed. Their top 3 reasons included prescribing when (1) they were "certain enough" that antibiotics were needed; (2) they were not certain but would feel uncomfortable not treating an infection that may be bacterial; and (3) the patient was ill and laboratory testing might take too long.

A very worrisome finding, however, was that 11% of clinicians indicated their reason for prescribing was that "antibiotics won't hurt if not needed and could help the patient sooner if I'm correct."

Dr. Spellberg points out that "all of the answers regarding why antibiotic prescriptions are given, even when they might not be necessary, reflect one overriding core principle: We do not know what we are treating with certainty, and in the absence of certainty, fear of being wrong either compels providers to prescribe or empowers them to rationalize why prescribing is okay."

FREQUENCY OF PATIENT REQUESTS

Have you ever asked a healthcare provider to prescribe antibiotics for you, your child, or a person for whom you're a caretaker, even though you were not certain that antibiotics were needed?



How Often Do Patients Request Antibiotics?

About 1 in 4 patients (23%) has asked their physician, NP, or PA for an antibiotic, which jives with the 28% of health professionals who indicate that patient request is one of the reasons they provide an antibiotic prescription. While antibiotic treatment may certainly be appropriate for some number of these patients, our survey also indicates that there may be many other (less sound) reasons why antibiotic prescriptions are given.

REASONS FOR PATIENT REQUESTS

Which of the following reasons explain why you asked for antibiotics?*

I believed it would cure the illness	85%
To feel better quickly	65%
I needed to get back to work as soon as possible	44%
Antibiotics can't hurt and it's better to be safe than sorry	27%
I believe that antibiotics always work	25%

*Based on patients who reported that they have asked for an antibiotic (N=269)

Why Do Patients Request Antibiotics?

There are many reasons why people ask health professionals for antibiotics. In our survey, the top reason was a belief that antibiotics would cure the illness (85%), followed by wanting to "feel better quickly" (65%). A bit less than half (44%) of our survey participants indicated that they wanted to have an antibiotic prescription because of a need to "get back to work as soon as possible."

PATIENT RESPONSES WHEN ANTIBIOTIC NOT NEEDED

What is the consumer experience after being told an antibiotic is not needed?

Of our 1,174 respondents,

77% SAY

they have **never asked** their clinician to prescribe an antibiotic.

Of the

23% WHO HAVE ASKED

their clinician to prescribe an antibiotic for themselves, their children, or someone else for whom they provide care (respondents could choose more than one answer)

35% SAY

they have **never been told** that the requested antibiotic was not necessary.

Of the

65% WHO HAVE BEEN TOLD

on at least one occasion that the requested antibiotic is not necessary,

11.5% WERE ASKED

at the end of that discussion whether they still wanted the antibiotic and

9% ACCEPTED THIS OFFER FOR ANTIBIOTICS.

What Happens When Patients Ask for an Antibiotic

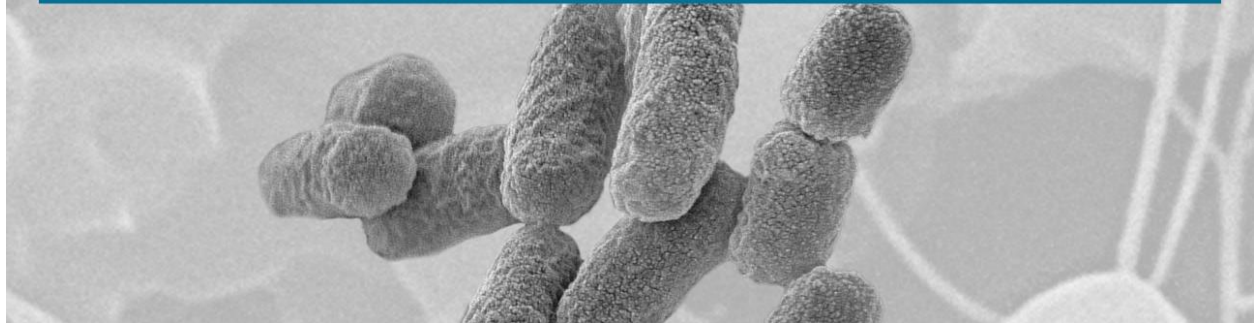
While anecdotal reports of patient demands for antibiotics abound in the healthcare community, only a quarter of our consumer respondents indicated that they had *ever* asked their clinicians for an antibiotic prescription for themselves, their children, or another person. Most state that at least some of those requests were rebuffed. But fully a third indicate that they have never had a request like this denied. And of those who do say that at least some of their requests were refused because the antibiotic was unnecessary, 11.5% report that following an explanation as to why the medication was unneeded, they were then asked if they wanted it anyway. And 9% accepted!

CLINICIAN RESPONSES TO DIAGNOSTIC UNCERTAINTY

When antibiotics are not indicated, which of the following do you tend to do during the patient encounter?

796
CLINICIANS
SURVEYED

Guide the patient on seeking follow-up care if symptoms do not improve	92%
Explain why antibiotics are not needed	91%
Provide specific recommendations for symptom relief	87%
Explain how the patient should expect to feel as the illness runs its course	82%
Offer education on the potential harms of taking unneeded antibiotics	73%
Provide the antibiotic prescription if the patient demands it	11%



What Do Clinicians Offer When They Do Not Offer Antibiotics?

Clinicians use myriad strategies to help ill patients for whom antibiotics are not indicated. First and foremost, our respondents instruct patients on the anticipated course of the illness, suggest specific symptom relief measures, and instruct patients about what to do if symptoms do not improve as expected. They also explain why an antibiotic is not needed. Almost three quarters (73%) say they educate patients about the harm of unnecessary antibiotics. All of these responses occur in the vast majority of clinical encounters. But a much less common — and more concerning — response occurs in over 1 out of 10 clinical encounters: 11% of our respondents indicated that they provide the demanded antibiotic prescription.

WHAT SATISFIES PATIENTS

If your healthcare provider told you that you, your child, or the person you care for did not need antibiotics, but you still felt that they were needed, which of the following would help you to still feel satisfied with the office visit?

1,174
PATIENTS
SURVEYED

Specific recommendations for symptom relief	94%
Guidance on when to seek follow-up medical care if my symptoms worsen or do not improve	93%
Information on how I should expect to feel as my illness runs its course	91%
An explanation as to why antibiotics are not needed	84%
Education about potential harms from taking unneeded antibiotics	71%
Nothing would help; if I take the time to visit my doctor, I expect to receive antibiotics	11%

And What Do Patients Want When They Don't Receive Antibiotics?

In addition to asking clinicians what they did during clinical encounters in which they did not offer an antibiotic, we asked our consumer audience about specific responses that would assist them in understanding why they were not receiving the desired antibiotic prescription. The majority reported that they would find the same strategies clinicians report using to be the most helpful. Consumers wanted instructions about the anticipated course of their illness, what to do to manage their symptoms, and information about what to do if they did not get better. Somewhat smaller percentages were interested in hearing about why the antibiotic was not needed and the harms of overuse. But a stubborn minority — 11% — indicated that nothing would satisfy them other than getting the demanded antibiotic prescription.

USE OF “DELAYED PRESCRIPTIONS”

How often do clinicians use a “delayed prescription” approach?
What do patients say and what do prescribers say?*

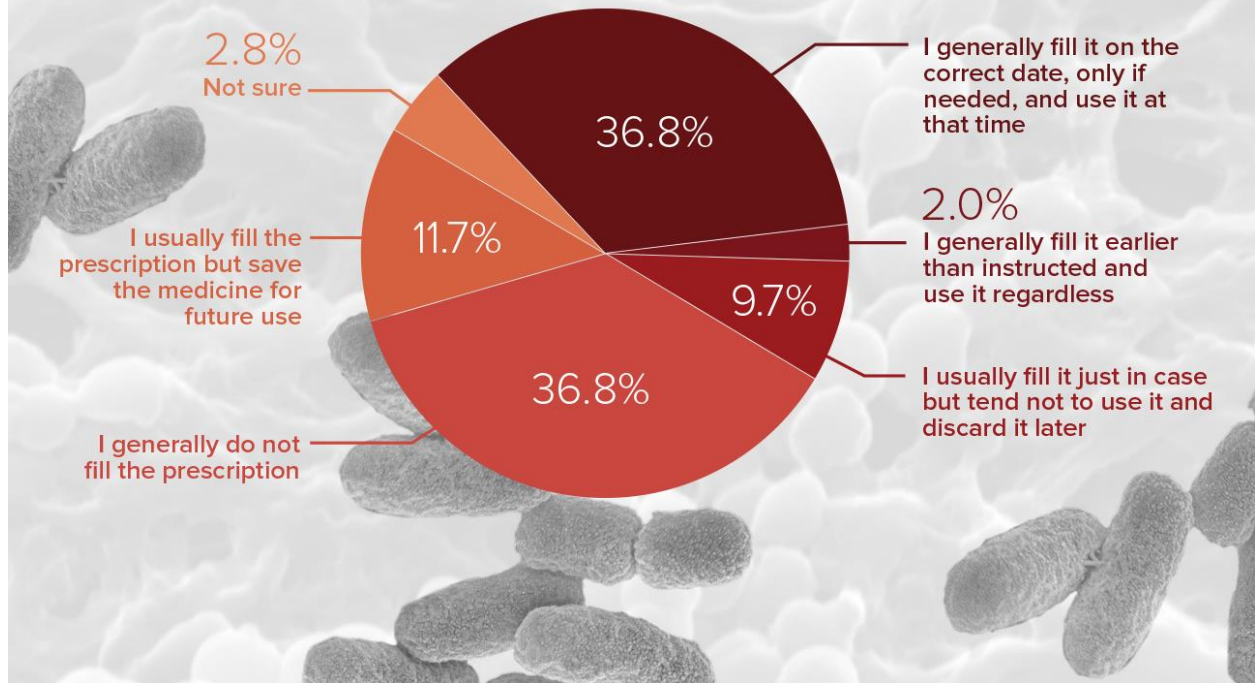


How Common Is the Practice of Delayed Prescribing?

John G. Bartlett, MD, Professor Emeritus at the Johns Hopkins University School of Medicine in Baltimore, Maryland, and an advisor to Medscape Infectious Diseases, notes in a discussion of [strategies to deal with antibiotic resistance](#) that a Cochrane Review^[2] of delayed prescribing — postdating a prescription for use 3-5 days after an office visit if a patient is not improving as expected — concluded that this method was the only one with documented success in managing patient expectations of receipt of an antibiotic prescription. But our clinician audience has not yet caught on. Almost half (47%) of our clinician respondents indicated that they had *never* used this approach, and fully three quarters (75%) of our consumer respondents said they had never received a postdated prescription.

PATIENT RESPONSES TO “DELAYED PRESCRIPTIONS”

What do you typically end up doing with a future-dated antibiotic prescription?



Do Consumers Do What They Should With Postdated Prescriptions?

Only a small percentage of our survey participants had ever been given a postdated prescription — 18% report that their provider has used this approach once or twice, and only 3% have received a postdated prescription 3 or more times. Of that admittedly small population, equal numbers (36.8% each) reported that they fill the prescription at the correct time only if needed or do not fill the prescription at all. But 2% fill it and use it regardless of how they have been instructed, and almost 12% report that they fill it and save it for future use. This is an important point for patient education that should be considered by clinicians who choose to use this strategy.

WHAT'S NEEDED FOR IMPROVEMENT

Which of the following would help you to be a better antimicrobial steward?

796
CLINICIANS
SURVEYED

Patient education materials to give out	58%
Better diagnostic tests to clarify what is causing the infection	54%
More information readily available on local antibiotic resistance patterns	47%
More comprehensive data for outcomes when antibiotics are prescribed versus not prescribed, under multiple scenarios	45%
More time to talk to patients and get needed tests done	37%
Clearer clinical guidelines	36%
Advice on how to talk to patients who expect antibiotics	30%
Better data on my own practices and how I compare to guidelines and peers	24%

What Would Clinicians Find Most Useful in the Fight Against Antibiotic Overuse?

No doubt about it, the decision about when and in what situations to use antibiotics continues to be difficult for our clinician respondents. Considering that the most common reason for providing a potentially unnecessary antibiotic was diagnostic uncertainty, it is not surprising that our respondents indicated numerous ways to address this clinical dilemma. Clinicians voiced support for more and better rapid diagnostics, improved accessibility of antibiograms, more comprehensive outcomes data for untreated patient populations, and clearer clinical guidelines. Clinicians also wanted help in educating patients, reporting that patient education materials and advice on how to talk with patients about antibiotics would improve their antibiotic stewardship. An all-too-common lament in today's rapid-fire healthcare environment, clinicians also indicated that the lack of time for patient evaluation and education was a significant barrier.

PATIENTS' BELIEFS

Please state whether each of the following statements is true for you

1,174
PATIENTS
SURVEYED

	TRUE	NOT TRUE
My healthcare provider has talked to me or provided me with information about the dangers of antibiotic resistance caused by taking prescribed antibiotics when they are not needed	53%	47%
I save unused prescribed antibiotics at home for future use	18%	82%
I have taken another family member's antibiotics*	13%	87%
Another family member has taken my antibiotics*	13%	87%
I try not to purchase antibacterial soaps, cleansers, or products for use at home	40%	60%

*19% indicated that they have done one or the other practice

Does Knowledge About Correct Antibiotic Use Translate Into Behavior for Consumers?

While large percentages of our consumer respondents indicated that they had good knowledge about antibiotics and their use, only half (53%) of all of the patients in our survey say they have talked with their healthcare provider about the dangers of antibiotic resistance and use when not needed. Our survey results indicate a significant level of patient misuse of antibiotics. Nearly 1 in 5 people (18%) save their antibiotics for future use, and 19% (in aggregate) share or have taken another family member's antibiotic. (And don't forget that 12% of respondents who indicated that they fill a delayed-approach prescription and save it for future use!) There was a similar disconnect with use of antibacterial soaps, cleansers, and other products. While 76% indicated that they understood the potential link between these products and resistance, only 40% said they try not to purchase these products for use at home.

SUMMARY OF KEY FINDINGS

PROFESSIONALS

28%

OF CLINICIANS SAY

patient request is one of the reasons they prescribe an antibiotic when they are not certain that it is necessary

11%

OF CLINICIANS REPORT

that they prescribe an antibiotic if the patient demands it

11%

OF CLINICIANS STATE

that, in the absence of certainty that an infection is not bacterial, "antibiotics cannot hurt"

21.5%

OF THE TIME CLINICIANS PRESCRIBE ANTIBIOTICS

when they are not sure that they are absolutely necessary

CONSUMERS

23%

OF CONSUMERS SAY

they have asked a clinician to prescribe an antibiotic

97%

OF CONSUMERS AGREE

that it is more difficult to cure some bacterial infections or diseases today because some bacteria have become resistant to one or more of the antibiotics used to treat them

12%

OF CONSUMERS REPORT

that they or a close family member/friend have already experienced an infection caused by antibiotic-resistant bacteria

Key Take-Away Messages

There are a number of important take-home messages for clinicians and consumers from these survey results. First, clinicians continue to prescribe antibiotics for dubious clinical reasons. While consumer demand contributes to this practice, it is by no means the biggest factor. Consumers are getting the message about the dangers of antibiotic overuse, though it's important to note that this information may not be coming from healthcare professionals. And information on the part of consumers does not always translate to behavior. Of the minority of patients who report asking for antibiotics, the overwhelming majority (85%) make that request in the belief that antibiotics will cure their illness, even though only a quarter (25%) agreed that antibiotics always work. A large percentage (65%) of our participants who asked for antibiotics just wanted to feel better — a goal shared by both clinicians and patients.



Voice Your Opinion!

Tell us what you think: Do you believe that you prescribe too many antibiotics? Why? How do you deal with patients who demand these drugs? What strategies have you used when you believe that antibiotics are not necessary? What would help you be a better antibiotic steward?

Please add your comments at [Reader Poll: Do You Stray From Appropriate Antibiotic Rx.](#)