

# Patients don't understand risks of unnecessary antibiotics, study shows

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Over prescription of antibiotics is a major factor driving one of the biggest public health concerns today: antibiotic resistance. In a first-of-its-kind study, research led by the George Washington University suggests that public health educational materials may not address the misconceptions that shape why patients expect antibiotics, driving doctors to prescribe them more. The research appeared in October in the journal *Medical Decision Making*.

Researchers from George Washington, Cornell and Johns Hopkins universities surveyed 113 patients in an urban hospital to test their understanding of antibiotics. They discovered a widespread misconception: patients may want antibiotics, even if they know that, if they have a viral infection, the drugs will not make them better. These patients believe that taking the medication will not worsen their condition—and that the risk of taking unnecessary antibiotics does not outweigh the possibility that they may help.

"Patients figure that taking antibiotics can't hurt, and just might make them improve. When they come in for treatment, they are usually feeling pretty bad and looking for anything that will make them feel better. These patients might know that there is, in theory, a risk of side effects when taking antibiotics, but they interpret that risk as essentially nil," said David Broniatowski, assistant professor in GW's School of Engineering and Applied Science.

Contrary to these patients' beliefs, there are risks associated with taking

unnecessary antibiotics, such as secondary infections and allergic reactions.

"More than half of the patients we surveyed already knew that antibiotics don't work against viruses, but they still agreed with taking antibiotics just in case," Dr. Broniatowski said. "We need to fight fire with fire. If patients think that antibiotics can't hurt, we can't just focus on telling them that they probably have a virus. We need to let them know that antibiotics can have some pretty bad side effects, and that they will definitely not help cure a viral infection."

Dr. Broniatowski's research found that most educational tools used to communicate the dangers of taking unnecessary [antibiotics](#) focus on the differences between bacteria and viruses—the idea that "germs are germs"—but do not address patients' widespread "why not take a risk" belief.

While the study—[Germs Are Germs, and Why Not Take a Risk? Patients' Expectations for Prescribing Antibiotics In an Inner-City Emergency Department](#)—was small, the results signal the need for a shift in the way health care officials educate patients and caretakers. Dr. Broniatowski urges members of the [public health](#) community to reconsider their communication tactics and adjust educational materials to address [patients'](#) concerns and beliefs.

In the future, Mr. Broniatowski and his team, which included Eili Klein at Johns Hopkins and Valerie Reyna at Cornell, hope to test these communication strategies in a clinical setting and, ultimately, reduce the rate of over prescription.

Provided by George Washington University

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