



## Doing the Right Thing: Antibiotics Control



A new study shows that behavioural interventions that target the competitive spirits and desire of doctors to strengthen their reputations can motivate them to reduce unnecessary antibiotic prescriptions. The study is published in *The Journal of the American Medical Association*.

Principal investigator and senior author Jason Doctor, Director of Health Informatics for the USC Schaeffer Center for Health Policy and Economics explains that efforts to reduce antibiotic prescribing are limited to education, reminders or financial incentives. But this study tested socially motivated interventions such as pride in performance and accountability for decisions to address this problem.

The researchers used a series of behavioural interventions called nudges and used them to curtail inappropriate antibiotic prescriptions for acute respiratory infections at 49 practices in Boston and Los Angeles. These nudges were used with the intention of changing human behaviour without any threat of punishment.

There are approximately 22 million inappropriate prescriptions for acute respiratory infections each year. Doctors tend to prescribe antibiotics to patients with the common cold despite the fact that antibiotics are ineffective against viruses. During the 18 months of the study, the interventions prevented an average of 1 inappropriate prescription for every 8 patients seen.

"Recent clinical guidelines note that increased use of antibiotics is highly correlated with antibiotic-resistant infections and that adverse reactions to antibiotics are implicated in an important subset of visits to emergency departments for adverse drug reactions," said Marie A. Bernard, deputy director of the National Institute on Aging, which funded in the study in part. "This is an area we all need to pay attention to when treating patients of all ages."

The research was conducted with 248 clinicians at 49 primary care practices for 18 months. The interventions were tested for another 18 months and focused on 16,959 cases of acute respiratory infection. Clinicians received an email and were informed of their ranking from highest to lowest with respect to inappropriate antibiotic prescriptions. Those with low prescriptions were rated as top performers and were congratulated and those who were not top performers received an email with a count of their inappropriate antibiotic prescriptions. This form of "peer-comparison" intervention resulted in a 16 percent decline in the rate of antibiotic prescriptions - from 20 percent to 4 percent.

Another intervention that was used was "accountable justification". Whenever the clinician would enter information in a patient's electronic chart, he would be prompted to justify the antibiotic prescription. This would be added to the patient's chart unless the prescription was cancelled. This particular intervention resulted in an 18 percent decline - from 25 percent to 5 percent - of antibiotic prescription rate.

The third nudge was that of "suggested alternatives". A pop-up box would appear that would encourage clinicians to consider alternative treatments instead of an antibiotic prescription. This particular intervention did not result in any significant effect however.

Source: University of Southern California

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