

Antibiotic prescriptions increased in study to promote better prescribing for UTIs

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An initiative to improve prescribing of antibiotics for urinary tract infections (UTIs) resulted in better-quality prescribing of first-line antibiotics, although the number of prescriptions also increased, according to new research in *CMAJ (Canadian Medical Association Journal)*.

"The increase in overall [prescribing](#) of antimicrobials for [urinary tract infection](#) was unexpected, and it was not possible to conclude whether this was clinically appropriate or an unwanted consequence," writes Dr. Akke Vellinga, Epidemiologist, School of Medicine, National University of Ireland, Galway, Ireland, with coauthors.

The World Health Organization has deemed antimicrobial resistance an immediate threat to world health. Overuse and overprescribing of antibiotics are major contributors to antibiotic-resistant diseases. Urinary tract infections are one of the most common illnesses for which antibiotics are prescribed. Efforts to curb overuse must involve patients, physicians and other [health care workers](#), pharmaceutical companies and policy makers.

In a study that included 71 physicians, 30 general practices in Ireland were randomly assigned to one of three groups with the goal of changing prescribing behaviour for [urinary tract](#) infections. Group A and B participated in a workshop on coding for UTIs as well as one on prescribing guidelines and received results of monthly follow up audits. Group B received additional evidence for delayed prescribing while the

control group only participated in the coding workshop.

Patients whose doctors participated in one of the intervention groups were twice as likely to receive a prescription for a first-line antibiotic, with nitrofurantoin the preferred option. Compared with the control group, overall prescribing of a first-line antibiotic increased 24.5% in group A and 18.4% in group B. Nitrofurantoin prescribing increased by 38% in group A and 33% in group B, but remained stable in the [control group](#). This change in prescribing behaviour was still in effect 5 months after the intervention was completed.

"The improved quality of prescribing must be put into the context of its unintended effect, an increase in actual antimicrobial prescriptions," write the authors. "Research has shown that the nature of complex systems, such as general practices, where many interrelated factors influence antimicrobial prescribing, makes it difficult to predict the results of interventions."

The authors suggest that if the increase in antibiotic prescribing is the result of an increase in nitrofurantoin, the potential harm may be muted as there is little evidence of acquired resistance to nitrofurantoin. They call for further study to determine if increased prescribing is clinically appropriate or an unintended result of behavioural change.

"The reduction in repeat consultations (a proxy for treatment failure and thus antibiotic resistance) among patients who received nitrofurantoin, but not in the intervention arms overall, suggests that improving adherence to prescribing guidelines leads to better patient outcomes," write Drs. Sarah Tonkin-Crine and Kyle Knox, researchers at the Nuffield Department of Primary Care Health Sciences, Oxford University, Oxford, United Kingdom in a related commentary.

They state that general practitioners can play an important role in

limiting antibiotic prescriptions, although studies should consider unintended consequences of an intervention to change behaviour.

More information: *Canadian Medical Association Journal*,
www.cmaj.ca/lookup/doi/10.1503/cmaj.150601
Commentary: *Canadian Medical Association Journal*,
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