

Targeting prescribers can reduce excessive use of antibiotics in hospitals

April 29 2013

Giving prescribers access to education and advice or imposing restrictions on use can curb overuse or inappropriate use of antibiotics in hospitals, according to a new Cochrane systematic review. This is important because unnecessary use of these life-saving drugs is a key source of antibiotic resistance in bacteria.

Some infections are no longer treatable due to [bacterial resistance](#). Compared to infections caused by treatable bacteria, those caused by multidrug-resistant bacteria lead to more deaths, longer hospital stays and increased healthcare costs. Reducing inappropriate [use of antibiotics](#) should help to slow the spread of [resistant bacteria](#). Achieving this is proving difficult as by most estimates, [antibiotic use](#) in hospitals is rising, with some evidence suggesting more than a third of prescriptions are inappropriate.

The review, published in *The Cochrane Library*, included 89 studies from 19 countries, with most studies aiming to decrease excessive antibiotic use. The researchers analysed data from two types of studies. In persuasive studies, doctors were given advice and feedback about prescribing antibiotics. In restrictive studies, restrictions were placed on prescribing, for example, doctors might be required to seek approval from a specialist. Overall, prescribing in hospitals improved and data from 21 studies showed that [hospital infections](#) decreased.

"Our review shows that a wide variety of different interventions have been successful in changing antibiotic prescription in hospitals," said

lead researcher Peter Davey, who is based at the Population Health Sciences Division at the University of Dundee in Dundee, UK.

"However, we need more studies that explore how these changes benefit patients and how they impact on healthcare costs."

Restrictive methods yielded greater improvements in prescription, although no studies undertook direct comparisons between restrictive and persuasive methods. "The fact that restrictive methods work well is important because it supports restriction of antibiotic use when the need is urgent, such as in an outbreak situation," said Davey. "However, the evidence base would be enormously enhanced by direct comparisons with persuasive methods."

More information:

doi.wiley.com/10.1002/14651858.CD003543.pub3

Provided by Wiley

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