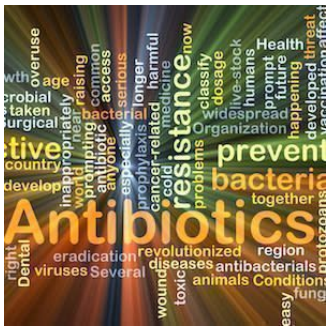
ICU MANAGEMENT & PRACTICE

Antibiotic Review Kit for Hospitals



Antibiotic overuse is a growing problem in healthcare. Antimicrobial resistance has a significant impact on global public health, and its effects are similar to that of malaria and HIV. Antimicrobial resistance caused nearly 4.95 million deaths in 2019. In addition, antimicrobial resistance has significant economic consequences on healthcare systems.

Human antibiotic consumption is the primary cause of antimicrobial resistance. The consistent increase in the use of antibiotics is driving resistance at the population level and the individual patient level.

Antimicrobial stewardship can help minimise resistance by ensuring antibiotics are prescribed only when clinically indicated. However, strategies to reduce such overuse depend on prescribers, who are primarily responsible for making the right decisions to stop unnecessary use.

In this review, the researchers evaluate a multifaceted behaviour change intervention - the antibiotic review kit. The kit is designed to reduce antibiotic use among adult acute general medical inpatients and increase appropriate decisions by prescribers to stop antibiotics at clinical review.

The researchers performed a stepped-wedge, cluster-randomised controlled trial. Hospitals in the U.K. that admitted adult non-elective general or medical inpatients, had a local representative to oversee the intervention, and could provide the study data were included in the analysis.

Hospital clusters were randomised to an implementation date at 1–2 week intervals. The assessment was based on data from pseudonymised electronic health records, antibiotic dispensing, *Clostridioides difficile* tests, prescription audits, and an implementation process evaluation. The co-primary outcomes of the research were monthly antibiotic-defined daily doses per adult acute general medical admission and all-cause mortality within 30 days of admission.

Three pilot sites implemented the intervention in the first calendar block; 43 other sites were randomised to implement the intervention in the second calendar block. Thirty-nine sites were followed up for 14 months.

Findings showed reductions in total antibiotic-defined daily doses per acute general medical admission following the intervention. The antibiotic review kit intervention was associated with an immediate change and sustained change in adjusted 30-day mortality among acute general medical admissions.

These findings show that the antibiotic review kit intervention resulted in sustained reductions in antibiotic use among adult acute general medical inpatients. While the mortality effects were inconsistent, they could be explained by the onset of the COVID-19 pandemic. Overall, the results suggest hospitals should use the antibiotic review kit to reduce antibiotic overuse.

Source: The Lancet

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