Scientists must reduce antibiotic use in experiments

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Scientists should reduce antibiotic use in lab experiments - according to a researcher at the University of East Anglia.

Microbiology, molecular biology and genetic research such as the Human Genome Project use antibiotics in experiments.

But it all adds to the global problem of antibiotic resistance according to Dr Laura Bowater, from UEA's Norwich Medical School.

A new article published today in the *Journal of Antimicrobial Chemotherapy* highlights the problem.

Dr Bowater said: "The discovery of antibiotics was heralded as a magic bullet for modern medicine. Using antibiotics in research has

transformed scientific discovery. But now antibiotic resistance is a catastrophic threat -and it threatens the achievements of modern medicine.

"Rising rates of antibiotic resistance are a growing danger in hospitals and health facilities throughout the world. Industries such as medicine and agriculture have been asked to cut the use of antibiotics wherever possible. But this message needs to be extended to scientists too because there is a widespread use of antibiotics in the research community.

"Scientists use antibiotics and antibiotic resistance as fundamental tools for research. They are particularly used to help culture bacteria in the lab, and are used throughout genetic sequencing research.

"They are cheap, freely available and easy to use. But researchers risk releasing antibiotics and new antibiotic resistant bacteria into the environment.

"The antibiotics used in the laboratory, such as ampicillin, chloramphenicol and tetracycline often overlap with antibiotics used in the clinic. And antibiotic resistance genes can effectively provide a pool of bacterial resistance towards a range of different antibiotics.

"Reliance on antibiotic based technologies is not acceptable, necessary or responsible. In this day and age we need to consider other synthetic options and technologies that avoid the use of clinically important antibiotics.

"At the very least researchers must be encouraged to use antibiotics more responsibly and sparingly in both educational and research settings," she added.

More information: 'Antimicrobial stewardship: the scientists' role?' is

published in the *Journal of Antimicrobial Chemotherapy* on March 20.