

New approach needed in the fight against superbugs

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Credit:NIAID

An international research team, led by Professor Peter Collignon from The Australian National University (ANU) Medical School, has found we need to take a much broader approach than simply focusing on antibiotic usage, when it comes to fighting the spread of "superbugs".

Superbugs—or strains of bacteria that have adapted after coming into

contact with antibiotics—are a major global problem, causing increased deaths and suffering.

The new research suggests there are steps we need to take now to better control this problem.

Professor Collignon and his team looked at why there's such a marked difference in antimicrobial [resistance](#) rates across the world.

They found it's not just about how heavily antibiotics are being used. Factors like governance (e.g. corruption) and infrastructure (e.g. sanitation) have a much bigger role to play than previously thought.

"In developed countries the focus has been on antibiotic consumption as the most identifiable factor contributing to antimicrobial resistance, we showed that consumption explains only a portion of the observed resistance levels," Professor Collignon said.

"Reduction of antibiotic consumption will not be sufficient to control antimicrobial resistance because contagion—the spread of resistant strains and resistance genes—seems to be the dominant contributing factor."

It's one of the first studies to look at this problem on a global level, as previously such extensive data was simply not available.

The group analysed several socioeconomic factors in addition to antibiotic [consumption](#) and antimicrobial resistance levels.

Their findings could have major policy implication, including in developed countries like Australia.

Professor Collignon says simultaneous measures to improve sanitation,

infection [control](#) and prevention, access to clean water, governance, and public expenditure on health-care need to be implemented to tackle [antimicrobial resistance](#) on a global scale.

"We still need new antibiotics and to have better controls on the [antibiotics](#) we are using now, but if we address social factors and spend money on better infrastructure in developing countries, we will see much greater benefits in decreasing the resistance."

The research has just been published in the medical journal *Lancet Planetary Health*.

More information: Peter Collignon et al. Anthropological and socioeconomic factors contributing to global antimicrobial resistance: a univariate and multivariable analysis, *The Lancet Planetary Health* (2018). [DOI: 10.1016/S2542-5196\(18\)30186-4](https://doi.org/10.1016/S2542-5196(18)30186-4)

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