

Antibiotics consumption soars, fueling fears over superbugs

Sales data for 76 countries shows that consumption of antibiotics increased 65 % from 2000 to 2015 | Photo Credit: [Vivek Bendre](#)

Global consumption of antibiotics has soared since the year 2000, stoking calls for new policies to rein in usage – and fueling fears that the worldwide threat posed by drug-resistant superbugs will spiral out of control, researchers say.

A study in the *Proceedings of the National Academy of Sciences* (PNAS) — based on sales data for 76 countries — shows that consumption of antibiotics increased 65 % from 2000 to 2015, driven by users in low- and middle-income countries. The research team said that countries needed to invest in alternative treatments, sanitation and vaccination.

"With antibiotic consumption increasing worldwide, the challenge posed by antibiotic resistance is likely to get worse," said the report. "Antibiotic resistance, driven by antibiotic consumption, is a growing global health threat. As with climate change, there may be an unknown tipping point, and this could herald a future without effective antibiotics"

In the 76 countries studied, the number of so-called "defined daily doses" consumed rose from 21.2 billion in 2000 to 34.8 billion in 2015.

Eili Klein, a researcher at the Center for Disease Dynamics, Economics and Policy and one of the study's authors, said the jump signifies "increased access to needed drugs in countries with lots of disease that can be effectively treated with antibiotics. As more and more countries gain access to these drugs, these rates will only increase and that will drive resistance rates higher."

Over the 16-year period studied, the increase in antibiotics consumption was marginal in the three countries with the highest usage — the United States, France and Italy.

But it was a different story elsewhere: in Asia, consumption of antibiotics more than doubled in India, skyrocketed 79 % in China and rose 65 % in Pakistan. The three countries are the biggest users of antibiotics among the countries deemed low and middle-income for the purposes of the study.

They are also countries that suffer in some areas from poor sanitation, irregular access to vaccines and a lack of cleaning drinking water – all conditions that allow infectious diseases and drug-resistant infections to spread.

"Radical rethinking of policies to reduce consumption is necessary, including major investments in improved hygiene, sanitation, vaccination, and access to diagnostic tools both to prevent unnecessary antibiotic use and to decrease the burden of infectious disease," the study says.

For Klein, eliminating overuse of antibiotics should be "a first step and a priority for every country" especially given the alarming projection that by 2030, consumption may have increased by another 200 %.

Perkin discovered the first synthetic dye, known as mauveine.

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