Antibiotic resistance in livestock: what are the risks?

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For many years, health groups have warned that the increased use of antibiotics in livestock could become a major global issue. And now, a study carried out by a team of researchers at Princeton have found that these concerns are justified.

The researchers found that, over the last 18 years, farm animals like chickens and pigs have been given large doses of antibiotics in order to meet consumer demand. This has, however, caused a huge surge in antibiotic resistance around the world.

In order to gain an understanding of how antibiotic resistance has grown in recent years, the researchers looked at data from low to middle income countries. In these countries, antibiotic resistance tends to be a larger problem than in regions with higher average incomes.

The researchers looked at data from over 1000 veterinary records between 2000 and 2018, studying four types of bacteria that pose a threat to animals and humans: salmonella, Campylobacter, Staphylococcus aureus, and Escherichia coli.

In this time, there was an increase in meat consumption, which increased the frequency of antibiotic use. In 40% of South American countries, there was an increase in meat consumption; in Asia and Africa, this figure was 60%.

The researchers also found that, in the last 18 years, the number of animals that were completely resistant to antibiotics had doubled. In chickens, it had tripled. The researchers noted that, for this reason, it's crucial that we find ways to regulate the use of antibiotics for livestock.

Researcher Ramanan Laxminarayan noted: "This paper is the first to track antibiotic resistance in animals globally and it finds that resistance has gone up dramatically over the last 18 years. We certainly do want higher-protein diets for many people, but if this comes at the cost of failing antibiotics, then we need to evaluate our priorities."

In addition, researcher Dr. M. Hong Nguyen added: ““The prudent approach when fighting bacteria is to have multiple treatment options in the pipeline so that when resistance is inevitably developed to the current drug, a new antibiotic is waiting in the wings.”

“But we found that market prospects will become even more daunting if more anti-CRE drugs are approved, which is bad news for infectious disease physicians and, more importantly, our patients.”