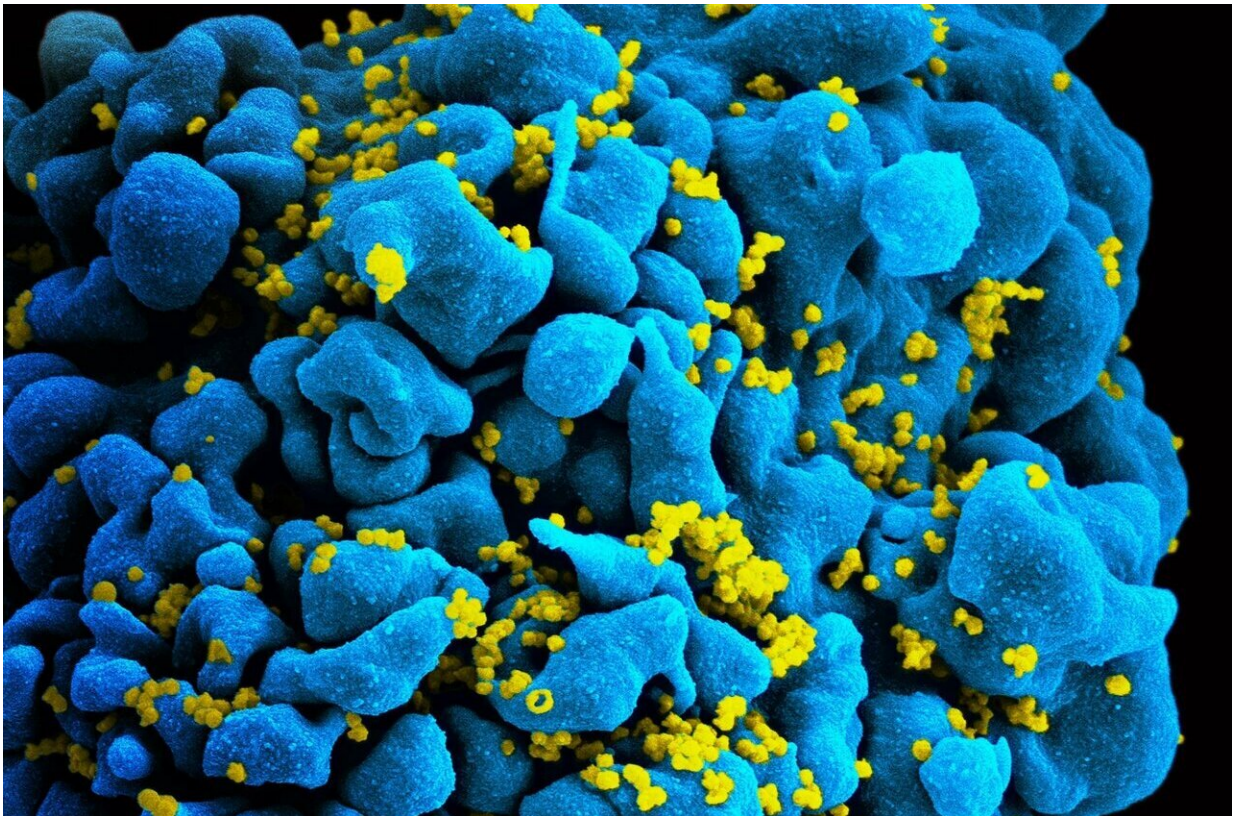


Common antibiotic found to reduce adverse health events in HIV patients

April 4 2019, by Bob Yirka



Scanning electromicrograph of an HIV-infected T cell. Credit: NIAID

A large team of researchers with members from the U.K., Canada, Uganda and Zimbabwe has found that the common antibiotic cotrimoxazole reduces adverse health events in children with HIV. In

their paper published in the journal *Science Translational Medicine*, the group describes testing the effectiveness of the antibiotic in young HIV patients and what they found.

Over the past several decades, scientists have made great strides in treating people who have been infected with HIV—so much so that it is no longer considered lethal, at least in people who live in developed countries. In many parts of Africa, the situation is much more dire—many people who become infected cannot afford the cocktail of drugs required to treat the [infection](#). There is also the problem of high transmission rates. In response to the situation, medical personnel in Africa have been looking for other ways to help those with HIV infections, particularly children. One such treatment is the inexpensive antibiotic cotrimoxazole, which has a prophylactic effect. Researchers suspect that the drug may also reduce adverse [health](#) events associated with HIV infections such as pneumonia. In this new effort, the researchers sought to find whether the antibiotic really did help HIV patients.

The researchers gave cotrimoxazole to 293 children with HIV infections living in Uganda and Zimbabwe for 96 weeks. Then they collected plasma samples from all of the children and ceased administering the antibiotic to half of them. The researchers then collected plasma samples from all of the children again 48 weeks later and compared what they found.

The researchers report that the children who had continued to receive cotrimoxazole had lower systemic inflammation compared to those who had gone without the drug. They also found a decrease in activity levels of *Streptococcus*. More specifically, they found that the children who stopped taking the antibiotic were 18 percent more likely to suffer from an adverse health event than the children who continued with the [drug](#).

In taking a closer look at the impact of the antibiotic on the body, the researchers found that it had a direct effect on [immune cells](#) which inhibited inflammatory molecule production in 16 adult patients. They conclude that despite widespread resistance to the antibiotic, giving it to people with HIV can provide them with some degree of relief from adverse health events.

More information: Claire D. Bourke et al. Cotrimoxazole reduces systemic inflammation in HIV infection by altering the gut microbiome and immune activation, *Science Translational Medicine* (2019). [DOI: 10.1126/scitranslmed.aav0537](https://doi.org/10.1126/scitranslmed.aav0537)

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