

## Why don't we yet have a universal flu vaccine?

By all accounts, the 2017–18 influenza season has been a bad one. It feels like everyone's family has been hit, sometimes twice. Schools have had to shut down to disinfect; hospitals are overcrowded.

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A major reason this flu season has been so rough is that the vaccine just wasn't that good.

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[Anthony S. Fauci, director of the National Institute of Allergy & Infectious Diseases] and many other flu experts argue what's really needed is a so-called universal flu vaccine. Ideally, this kind of immunization would provide protection against all flu strains and would last for years, maybe even for someone's entire lifetime. The tricky ways the virus mutates make it a tough proposition. But around 20 companies and government agencies are chipping away at it, using a range of strategies and technologies to create broadly protective flu vaccines. Some are even being tested in the clinic.

"It turns out to be a pretty challenging goal," says Jesse Bloom, who studies the molecular evolution of viruses at Fred Hutchinson Cancer Research Center.

The problem begins with flu's ability to change faster than most other infectious diseases. Bloom explains that the flu virus can make small tweaks to the two main proteins on its surface: hemagglutinin and neuraminidase.

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"It's conceptually simple but technically difficult," says Neil King, a biochemistry professor at the University of Washington who designs nanomaterials for use in potential universal flu vaccines.

**Read full, original post:** [In search of a universal flu vaccine](#)