When will we have a vaccine for COVID-19?

Vaccine development is proceeding at an unprecedented pace, but could still hit snags on the way to approval.

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Researchers have made good progress toward developing a vaccine to prevent SARS-CoV-2, the new coronavirus that causes COVID-19. Experimental vaccine candidates have been shown to stimulate both the production of antibodies and T-cell immune responses against the virus in early studies. T-cell immunity is important because it may provide ongoing protection even if antibodies don't last very long.

In November 2020, interim results showed that three vaccines—from Pfizer and BioNTech, Moderna and the National Institutes of Health, and AstraZeneca and the University of Oxford—appear to reduce the risk of symptomatic COVID-19 by 90% or more. The first two use a novel mRNA approach that has never before been used in an approved vaccine, while the third uses a weakened adenovirus vector. Other vaccines are in Phase III clinical trials—the last step before approval if they are shown to be safe and effective.

Many experts predict that a vaccine could be ready by the end of 2020 or the beginning of 2021. But once one or more vaccines are authorized for use, it will still take months before they can be manufactured in large quantities, distributed and administered to the whole population. Plans call for health care workers and people at high risk for severe COVID-19 to be vaccinated first, followed by people at lower risk.

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