

YOUR HEALTH

When Will Covid Vaccines Be Available for Kids?

A vaccine for adults and older teens has been authorized. But younger children will have to wait. Here's what parents need to know.

By Sumathi Reddy

When will Covid-19 vaccines be available for children, and will they be safe?

Parents are asking those questions as the first Covid vaccine authorized for adults and older teens begins to roll out across the country. But the timeline for children is still unclear. Here's what parents need to know.

Why isn't a vaccine available for children yet?

Researchers have yet to begin clinical trials in children under 12; trials in teens have just recently started. It's not unusual in drug development to test adults first: New drugs and

vaccines are often tested on adults before children, whose bodies are still developing and can have different responses to medication. In the case of Covid, adults are also generally more at risk for severe complications. Covid vaccines for younger children especially may require different dosage levels or formulations than the adult versions. Kids generally can't get the vaccine until it is authorized for their specific age.

The result is a delay in children having access to the vaccine, creating uncertainty over whether kids will be vaccinated before the start of the 2021 school year. Why is it important for children to be vaccinated?

A delay in vaccinating children could slow down the country's ability to reach herd immunity, the point at which enough people are immune to a disease to make its spread unlikely. Studies estimate about 75% to 80% of the U.S. population needs to be immune to Covid-19 to reach herd immunity. "It would be very, very difficult for us to reach herd immunity before vaccines are available to younger individuals," says Michael Mina, an epidemiologist at the Harvard T.H. Chan School of Public Health.

In general, children don't get as seriously sick from the new coronavirus at the same rates as adults do, notes Roberta DeBiasi, division chief of Infectious Diseases at Children's National Hospital in Washington, D.C. But cases in children are rising, with more than 1.4 million U.S. children infected so far, according to the most recent estimates from the American Academy of Pediatrics and Children's Hospital Association. "They clearly are spreading the virus to vulnerable adults, grandparents and health care workers, so it's really important that children are vaccinated," says Dr. DeBiasi.

And children themselves have become seriously ill or died from the virus. Children need to be vaccinated to prevent hospitalizations and rare but serious complications such as myocarditis or multisystem inflammatory syndrome (MIS-C), a hyperinflammatory response to the new coronavirus. "I have still seen really sick kids come into our hospital," says Grace Lee, a professor of pediatrics at Stanford University School of Medicine. How does a delay in vaccinating kids affect the need to continue taking Covid precautions?

Until herd immunity is reached, measures like social distancing and masking will need to remain in place, even for those who have been vaccinated, experts say. That includes in schools. "We're still in a long haul with schools," says Dr. Mina. Does Covid severity vary depending on kids' age?

Rates of infection, transmission and serious illness from Covid-19 appear to increase as children get older, research has shown. "I think it was a mistake not to move more quickly on adolescents," says Andrew T. Pavia, chief of pediatric infectious diseases at the University of Utah. "They get sick with the virus more so than younger kids and are

important in transmission.”Are companies starting to test vaccines in children?

Pfizer and its German partner BioNTech started testing their vaccine candidate in children 12 and older this fall. A Pfizer spokeswoman said they expect full safety and efficacy results for adolescents ages 12 to 17 in early 2021. They are working with regulators on a pediatric study plan for younger age groups which will potentially require a modified formulation or dosing schedule, she said.

Moderna, working in partnership with the National Institute of Allergy and Infectious Diseases, is finalizing a design for a trial in children under 12, which they anticipate launching in the first quarter of the year. A spokeswoman said they hope to have a vaccine for adolescents by the start of the 2021 school year.

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What needs to happen before a vaccine for children will be authorized?

The timetable on producing vaccines for children and adolescents will depend on the type of studies done. Experts say efficacy studies in children don’t necessarily need to be done. Rather, when vaccines exist for adults, companies often do studies demonstrating safety in children and what are called “bridging” studies demonstrating that the immune response in children is similar to adults. But a spokeswoman for Pfizer said their studies in adolescents and children are not bridging studies. The adolescents are part of the current Phase 3 study; a planned under-12 study would involve a different formulation and dose so will require a new safety and efficacy study. Stanford’s Dr. Lee, a member of the CDC’s Advisory Committee on Immunization Practices, which makes recommendations on vaccines once they’re authorized for use, says she wants to see both safety and some efficacy data on the vaccine in children. Are side effects a concern in children?

Despite the fact that the vaccine has been tested in tens of thousands of people, unexpected side effects can still surface. On the first day that the U.K. started vaccinations, two people suffered allergic reactions. That prompted the U.K.’s health regulatory agency to advise those with a history of significant allergic reactions to vaccines, medicine or food to hold off on receiving the inoculation for now. Some doctors say there is a possibility, particularly with the novel type of vaccines produced by Pfizer and Moderna using messenger RNA, that side effects such as fever, fatigue and headaches

seen in adults may be more pronounced in children. Dr. Pavia says mRNA vaccines trigger side effects in part through the innate immune system, which is more robust in younger children. Studies need to be done in children so physicians can educate parents and children about what to expect in terms of side effects, particularly because the vaccine will likely require boosters and they don't want families to be scared off by strong reactions. Side effects are a sign that the vaccine is working and the immune system is doing its job, doctors say. Even if the side effects are similar to Covid-19 the vaccine can't cause Covid-19 and those side effects shouldn't pose the same potential serious health effects as the coronavirus. Cody Meissner, a professor of pediatrics at Tufts Children's Hospital and a member of the federal advisory board that makes recommendations to the U.S. Food and Drug Administration, says it's important to evaluate the potential for unanticipated reactions in children, including MIS-C, which is believed to be triggered by the spike protein on the new coronavirus. He acknowledges this reaction is unlikely as the amount of protein produced by the vaccine is much smaller than in the virus from a natural infection. While he strongly agrees that a vaccine is needed for children, he would first like to wait and see how vaccination goes with the millions of adults about to get it, reasoning that the lower risk of severe disease in children changes the risk-benefit calculation. "If by early 2021 we don't see any surprises, then that's a firm basis by which to look at adolescents and young children," he says.

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