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Whooping cough vaccine may not halt spread of illness

by MIKE STOBBE





The whooping cough vaccine may keep people from getting sick, but it doesn't prevent them from spreading the illness to others, research suggests. Justin Sullivan

A government study offers a new theory on why the whooping cough vaccine doesn't seem to be working as well as expected.

The research suggests that while the vaccine may keep people from getting sick, it doesn't prevent them from spreading whooping cough — also known as pertussis — to others.

"It could explain the increase in pertussis that we're seeing in the U.S.," said one of the researchers, Tod Merkel of the Food and Drug Administration.

Whooping cough is a highly contagious disease that can strike people of any age but is most dangerous to children. It was once common, causing hundreds of thousands of illnesses annually and thousands of deaths. But after a vaccine was introduced in the 1940s, cases dropped to fewer than 5,000 a year.

The vaccine was replaced in the 1990s because of side effects that included pain and swelling from the shot and fever. The newer vaccine is part of routine childhood vaccinations as well as adult booster shots.

But cases have rebounded. Last year was the nation's worst year for whooping cough in six decades — U.S. health officials received reports of more than 48,000 cases, including 18 deaths.

This year hasn't been half as bad — about 20,000 reported illnesses, including six deaths so far. Whooping cough ebbs and flows in cycles, so experts aren't surprised to see cases recede. But 20,000 can still be seen as a lot when a widely used vaccine is supposed to protect the public.

Some studies have concluded the newer vaccine doesn't last as long as the old one. But the study by Merkel and his colleagues offers a new wrinkle.

Their research used baboons, considered the most human-like model for studying whooping cough. Baboons at ages 2, 4 and 6 months were vaccinated and then exposed to whooping cough at 7 months — when vaccine protection would be new and strong.

The baboons didn't get sick, but they had high levels of bacteria in their respiratory system for five weeks — which suggest they were contagious for about that long. Some baboons given the old vaccine had low levels after only two weeks.

That's a big deal finding because it was thought that people only spread the disease when they had coughs and other symptoms, said Dr. Erik Hewlett, a University of Virginia whooping cough researcher who was not involved in the FDA study but has collaborated with Merkel.

Health officials have sought to protect small children by vaccinating the people who are in contact with them such as grandparents and baby sitters — a strategy called "cocooning." But that may not work as well as hoped if infected people who don't show any symptoms can still spread it, the research suggests.

"This is a whole new way of thinking of the problem," Hewlett said.

Still, cocooning is better than nothing. An infected person with a cough is probably spreading more germs than someone who spreads it through talking or exhaling, said the FDA's Merkel.

The study was published Monday in the journal Proceedings of the National Academy of Sciences.

Versions of the vaccine are made by two companies — Sanofi Pasteur and GlaxoSmithKline. A GSK spokesman said the company didn't have enough information on the study to comment. Sanofi said in a statement that it's not clear how well the findings translate to humans, and that many factors may contribute to recent surges in whooping cough. It also said the research contains "valuable information" and points to areas for further study.
