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TRANSCRIPT

Transcript Details

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ReachMD

www.reachmd.com
info@reachmd.com
(866) 423-7849

COVID-19 Vaccine Development & Rollout: How Did It Differ from Other Vaccination Efforts?

Announcer:
Welcome to *VacciNation* on ReachMD, sponsored by Moderna. Here's Dr. John Russell.

Dr. Russell:
You know, we've been doing kind of vaccines for a long time when you get back to Edward Jenner. So for most things that we vaccinate against, it took a while to figure out what caused it. And so oftentimes, there would be someone who would have to figure out what caused it. Sometimes they were right, sometimes they weren't. So, H flu they thought caused influenza. It did not cause influenza. So, figuring out what the etiology is, proving that through Koch's postulate, putting it into an animal and see can they infect something else. And then once you figure out what that is, then to see can you develop a vaccine.

If you're going to develop a vaccine, and there's a lot of different ways to develop vaccines, people would start out by testing it in an animal model. And then they would start through clinical trials. They would do Phase 1 clinical trials, which are mostly for safety. They might have 30 to 50 people in them. They probably won't have the disorder; it's just looking at the safety of something. And then as you get into Phase 2 and Phase 3 clinical trials, Phase 2 clinical trials might have a couple hundred people, Phase 3 might have a couple thousand people. Remember every phase, you'll lose about a third of the trials.

And then if a vaccine is developed, then you're going to have some post-marketing surveillance to see things that might happen with the vaccine. If you only tested the vaccine on a couple thousand people and there's a side effect that happens 1 in every 50,000 people, you might not pick that up during the early clinical trials that went on.

And if you look at the two vaccines that had the shortest arc from development to actually, getting on the market it would have been mumps and Ebola, which both came out over about a four-year period of time.

So, with the mRNA vaccines within a very short period of time after discovering the virus that caused COVID, they had the spike protein sequence that they could start the process of making some vaccines, which was really very, very remarkable. And then would people take this vaccine with a short period of time. Not four years, but you know, 10 months of work on this? Well, we were talking about something that was lethal, something that was spread respiratory-wise, something that was going all over the world very quickly.

And I was thinking in more recent history, what did we face that was fairly similar? And maybe if in 1982 or 83, we had an AIDS vaccine, would that have languished for three or four years before people started using it? Or would have people said there was a crisis going on, right away let's start doing this? So, I think there was very much a rush to get this vaccine started.

Announcer:
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