Interview - Jon Cohen
Kaiser Family Foundation
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JACKIE JUDD: Jon Cohen of *Science Magazine*, welcome as always. A key researcher said something profound today at a news conference we both attended. He said, "This may be the day that the cure agenda moves from the lab to the clinical stage." He said that because of three studies that were discussed. Walk us through them.

JON COHEN: One of the studies we talked about earlier, it's about people who start treatment very early after becoming infected within 40 days. They stayed on three years. They went off. It's now on average seven years later; the virus hasn't rebounded. The virus usually rebounds in about a month in people who stop treatment.

Today they showed how those people have something remarkable happening in their bodies. When you have undetectable levels on the standard tests you still have reservoirs of virus, pools of virus that are sleeping in their infected cells. That's what the reservoir is. Their reservoirs are going down without any drugs; remarkable. That's Study Number 1.

JACKIE JUDD: And Number 2?

JON COHEN: Number 2 is a study that says one of the things about that reservoir is if you could wake up those cells and make them produce virus they'd die and then the reservoirs would over time shrink and you would theoretically cure the

disease. For the first time a group from the University of North Carolina gave drug to eight people who had undetectable virus and their reservoirs spit out virus. Now, are those cells going to die? Are their reservoirs going to shrink? We don't know yet, but it's a proof of concept that's very important. You can flush a reservoir.

JACKIE JUDD: And the third study had only two people in it.

JON COHEN: Only two people. A lot of people would say what's the meaning of N equals two. Well you have to go back to Timothy Brown who is also known as the Berlin patient. First person, only person, ever cured of AIDS. Timothy Brown had a cancer.

He then received a transplant of another person's immune system and went off antiretrovirals; no virus has returned for more than five years. These two people similarly had cancers and received transplants. Many differences with Timothy Brown, and researchers using the most sensitive tests can't detect any virus in them.

Two huge caveats; number one, they haven't gone off antiretrovirals. Could be that they go off, virus comes screaming back. They also haven't looked in the tissues and that's where the reservoirs really reside. We have to wait and see.

JACKIE JUDD: This same scientist at the end of these presentations was asked how long will it be. How long will it be before these things prove themselves can be rolled out for a larger number of people? He said well over a decade and that there are very good scientists who are dubious about all of this.

JON COHEN: Yes. Whenever you're at the cutting edge of science it's really exciting and it's really humbling because you can be wrong. Stuff that looks real and exciting today, next week you go, well it looked good but it isn't real. I think the caveats are important and I'm not expecting a cure next week or next year, but I think we've made some progress that those skeptics five years ago would have said this wouldn't happen. Let's wait and see.

JACKIE JUDD: And a final question. We started this week talking about something called the treatment cascade and speculated it would be a theme running through many presentations here. What have you learned?

JON COHEN: One of the big pushes at this conference has been about creating an AIDS-free generation where we have the opportunity to end AIDS. What it means is that we can use treatment as the cornerstone of prevention because if you're on antiretroviral drugs and you're undetectable the likelihood of your transmitting is extremely low.

That's the idea behind the excitement, but it means you've got to be on antiretroviral drugs. It means you've got to know you're infected. It means you've got to get into care. It means you've got to stay in care. It means you've got to start taking drugs. It means you've got to take drugs every day. That's the treatment cascade.

There was a study presented here nearly 60,000 people in Sub-Saharan African countries that looked at people who found out they were HIV infected. Only 25-percent of them even started to take drugs.

JACKIE JUDD: It's trying to figure out why people are falling off of the cascade.

JON COHEN: Exactly. How do you plug those leaks in the cascade? There are lots of ideas right now but that's a major issue for the world to confront if it really wants to take advantage of the tools we have and make some progress in bringing the epidemic to a halt in communities.

JACKIE JUDD: Okay. Thank you so much, Jon Cohen.

JON COHEN: Thank you.

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