
NAU Researcher Works to Create Vaccine for Opioids

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America is in the throws of an opioid addiction crisis. The medications can be helpful to treat pain, but have hooked many people. So what if you could be inoculated against the addictiveness of those drugs?

Researchers at Northern Arizona University and the University of New Mexico are working on a vaccine that would do just that. KNAU's Zac Ziegler spoke with Naomi Lee, an assistant professor of chemistry and biochemistry at N-A-U about the research.

Naomi Lee: "So a lot of vaccines that are designed are to prevent disease: so prevent HPV infection, prevent the flu. The main concept of this vaccine is to treat individuals who are suffering from opioid addiction. It's to trick your body into thinking that it's a foreign or bad molecule, and create antibodies which is essentially what we do with our current vaccines, and then protect your body against those opioids."

Zac Ziegler: "Would it also then prevent the high?"

NL: "Exactly, that's a concept that won't allow the opioid to get into their blood, into their brain and allow that high to happen."

ZZ: "With a vaccine if I go in and get my shot, maybe a periodic booster, I'm good for a sustained amount of time. Is that the hoped for goal?"

NL: "Ideally, that's what we would like. However, if they have short-term antibodies, that would be good because then the person hopefully can be treated for their addiction and then farther down the road if they do not require an opioid for a medical reason, they can still receive the benefits of the opioid."

ZZ: "What is it that brought you to this area of research? What got you interested?"

NL: "The way we're delivering the opioid vaccine, we're essentially chemically tagging what are called virus-like particles. And you can think of them as a small sphere that looks like a virus but it's not. It just mimics a virus. And so we've actually been doing research in this area for many years. My lab primarily targets infectious diseases, but the concept is the same. We're just using it towards opioids. And a lot of it actually has to do with the national emergency that the president declared and the funding that came from the National Institutes of Health. And so really that was the driving force. Grants became available and we immediately decided to apply to that so we can start working on this project."

ZZ: How long of a process would it be to get something out there?

>NL: "Clinical trials take a long time, and we're at the very beginning stages of it right now. We have a one-year pilot project, and our goal is to get some good data from immunizing mice. From there we will hopefully design a much larger project, and then you no farther down the road we'll look at doing trials in humans. But, again, you're talkin years."