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Firm run by kids to use mosquito to deliver vaccine

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Singapore: Provita, a company which is staffed entirely by kids ranging from the age of 15-to-18, is looking to use mosquitoes as a vector to deliver vaccines. The firm recently gave a presentation on its novel method to the FDA on what it calls the "flying syringe". The company, which is led by 16-year-old CEO Mr Joshua Meier who was also a finalist in the 2012 Google Science Fair, submitted a grant idea to the Bill and Melinda Gates Foundation.

The first goal of the project will be to genetically engineer mosquitoes so that they can produce and deliver a vaccine (via their saliva) for West Nile Virus. The mosquitoes will be sterilized to prevent any out-of-control problems Mr Meier, who attends the science and technology program at Bergen County Academies' high school, said that the school has control of most of Provita's intellectual property since much of it was developed on campus and because the school district pays for all of Provita's research.

Provita was founded in 2008 when some science-focused kids decided to collaborate with the business-minded students on a business plan competition for their research. The firm has enough equipment at its disposal, including a stem cell lab and a microbiology lab at the school. Moreover, the Memorial Sloan Kettering Cancer Center in New York, US, has indicated interest in helping with future development of the firm.

While speaking about the flying syringe project, Mr Meier, said, "We can't really culture mosquitoes in the lab at our high school because that's dangerous, but we a have research advisor and ideas planned out, and the next step is making a partnership, contacting other places that do have animal facilities. We're not out here to get a profit. We're doing this because

most of us want to start our own companies or go into research. We're here as an educational experience."

The company's first product, Coagula, aims to decrease the number of injections that patients with hemophilia and von Willebrand disease have to endure. Mr Meier, while speaking about the product, said that, "Hemopheliacs have uncontrolled bleeding, and they to have to take coagulants to make their blood thicker. The problem with treatment is that they have to take it several time a week, and there are issues of infection and having transfusions all the time. We came up with new method, so instead of taking treatment a few times a week, you do it once every few months. We're still working on that."