Microsoft's AI for Health supports COVID-19 vaccine development

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Covax-19 is an Australian-developed COVID-19 vaccine developed with the help of computational and artificial intelligence (AI)-based technologies. Credit: Vaxine Pty Ltd, Flinders University

Given the global urgency of the COVID-19 pandemic, Microsoft's AI

for Health program has stepped in to support the development and potential deployment of Vaxine's COVAX-19 vaccine with a philanthropic grant.

Vaxine Pty Ltd, a [biotechnology company](#) based in South Australia, uses computational and [artificial intelligence](#) (AI)-based technologies to accelerate [pandemic vaccine](#) and [drug development](#) with the aim to reduce drug development processes that normally take decades down to just weeks.

The Microsoft AI and Azure cloud capabilities will help the company accelerate clinical testing of its COVAX-19 [vaccine](#).

"Large international Phase 3 [vaccine trials](#) are extraordinarily complex and generate vast amounts of data that needs to be efficiently processed", says Vaxine Research Director, Flinders University Professor Nikolai Petrovsky.

"Supported by Microsoft technology, we aim to collect and analyze the COVAX-19 trial data in real time, rather than waiting until the end of the trial before seeing if the vaccine is working, which is the traditional process."

At the beginning of July, Vaxine launched a Phase 1 trial of its COVAX-19 vaccine, with all vaccinations in the 40 volunteers now completed. The focus is now to advance COVAX-19 into pivotal Phase 2 and 3 [trials](#) to enable applications for marketing approval before the end of the year.

Professor Nikolai Petrovsky with the Covax-19™ prototype vaccine developed with the help of computational and artificial intelligence (AI)-based technologies. Credit: Vaxine Pty Ltd/Flinders University

"We are proud to support the pandemic research being done at Vaxine," says John Kahan, Chief Data Analytics Officer and global lead of the AI for Health program. "Microsoft's AI and Azure technology supports organizations accelerate the work being done to better understand and develop solutions to fight COVID-19 and make them globally accessible."

"This new partnership with Microsoft's AI for Health—together with our existing partnerships with leading universities, manufacturers and government funding agencies—are vital to Vaxine's ability to make its

Covax-19 vaccine globally available in the shortest possible time", adds Vaxine Business Manager Sharen Pringle.

This project will also seek to use this live-fire pandemic vaccine development program, to see whether it is possible to re-design the way in which future pandemic trials are designed and managed. The goal will be to reduce the time needed to access valuable results, allowing faster transfer of positive results to clinicians working at the frontline.

Covax-19 was the first Australian-developed COVID-19 vaccine to commence human clinical trials and is based on a recombinant spike protein manufactured in insect cells combined with Vaxine's unique non-inflammatory Advax adjuvant. This is expected to provide a safe and well tolerated vaccine that is able to induce potent T cell responses and antibodies against the SARS-CoV-2 virus that causes COVID-19.

Provided by Flinders University