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UQ and Vaxxas in Australia win $2 M from US to advance patch-based mRNA COVID-19 vaccine

January 14, 2025 | News

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Australia-based University of Queensland's (UQ) BASE facility, within the Australian Institute for Bioengineering and Nanotechnology (AIBN), and biotechnology company Vaxxas have been announced as stage winners of a prestigious global prize to accelerate a patch-based mRNA vaccine for COVID-19.

The UQ and Vaxxas partnership is one of 4 Concept Stage winners in the $50 million Biomedical Advanced Research and Development Authority (BARDA) Patch Forward Prize, established to advance the commercialisation of microneedle patch-based mRNA vaccines for COVID-19, seasonal influenza and pandemic influenza.

The $2 million (A$3.2 million) prize will help to accelerate the use of Vaxxas' high-density microarray patch (HD-MAP) technology to administer mRNA vaccines manufactured at UQ's BASE facility.

The HD-MAP is a small patch containing thousands of microprojections, each coated with a small vaccine dose in a dried formulation. When applied to the skin, the patch delivers the vaccine to immune cells below the skin's surface.

The HD-MAP offers potential benefits over syringe-administered vaccination including a reduced need for cold-chain storage and distribution – a particular challenge for mRNA vaccines – as well as self-administration via an easy-to-use applicator.

UQ BASE Director Professor Timothy Mercer said the HD-MAP has the potential to improve access to mRNA vaccines across all regions, with even greater benefits in lower middle-income countries and hard-to-reach areas where distribution and administration is a challenge.

The BARDA Patch Forward Prize is one of the largest incentive prizes backed by the US Department of Health and Human Services.