Antivenom against lethal snake gives hope to developing countries

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Venom extraction from Papuan taipan. Credit: David Williams

(Medical Xpress) -- Researchers from the Australian Venom Research Unit (AVRU) at the University of Melbourne have collaborated with scientists from the University of Papua New Guinea and the University of Costa Rica, to develop new antivenom against the lethal Papuan taipan.

The preclinical studies of this antivenom have been published in the international journal *PLoS Neglected* Tropical Diseases.

Around 750 people are bitten in PNG each year. PhD candidate David Williams from AVRU, who coordinated the project in PNG, said snakebite is a neglected public health problem compounded by antivenom shortages, poor infrastructure and inadequate health worker training in many of the world's least developed countries, including

PNG.

“Most victims of snakebite are among the poorest, least empowered people in the world,” he said.

“Access to safe, affordable medicines is a basic human right and our focus is to give that right back to victims of snakebite in PNG and other developing nations.”

“This antivenom helps give Papua New Guineans that chance.”

Researchers said the high cost of imported Australian antivenom has made it difficult for the PNG Government to meet demand. Chronic shortages have become common, creating a black market in stolen antivenoms that have been sold for up to three times their price.

Australian Venom Research Unit Director, Dr. Ken Winkel said AVRU and its partners in PNG and Costa Rica have shown that affordable, potent antivenom to one of the world’s most lethal snakes, the Papuan taipan can be produced for less than US$100 per dose by adopting a humanitarian approach to drug development.

“The partnership between the three Universities involved in the project is a landmark example of how international cooperation can help to solve the challenge of delivering, high quality, effective antivenoms to developing world nations,” he said.

Mr. Williams said with extra funding they could pursue a rigorous randomized controlled trial to test the safety and effectiveness of the new antivenom.

Provided by University of Melbourne