Researcher develops innovative glucometer training device

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An innovative new medical simulator that teaches students and patients how to measure and analyze blood glucose has been developed by a Coventry University Professor.

Through years of experience teaching healthcare professionals in this area, Assistant Professor Nina Godson, the Clinical Skills lead in Coventry University's Faculty of Health and Life Sciences, identified a gap in the market for a medical simulator that provided an all in one solution for delivering blood glucose training.

Nina has been working with Adam, Rouilly—a medical simulation manufacturer that has been serving medical education for more than 100 years—to develop the GlucoHand in response to rising cases of diabetes. The disease affects some 415 million people globally and in the UK alone an estimated 4.5 million people live with the condition.

Uncontrolled diabetes can result in a number of issues, but with effective treatment, people can live healthy and complication-free lives. Diabetes management is now a growing part of the general skills which all clinicians should possess.

The new device is designed to facilitate the understanding and teaching of blood sampling, the interpretation of glucose level data and its implications in patient treatment planning. It includes a realistic adult sized hand with two refillable, self-closing finger blood pads.

It features a simulated glucometer device which allows the tutor or trainer to pre-set a low, normal, high or completely randomized glucose reading. Blood samples may be drawn and measured using the reusable blood glucose test strips, producing a result which can then be interpreted by the learner.

Diabetic patients and students can learn to recognize hypoglycaemia and hyperglycaemia through a simulated scenario and discuss the next appropriate clinical steps. The device is already being used to train Coventry University students, and Nina hopes that it will take away any fear or anxiety for patients and students in performing the procedure.

"We aim for perfection, but settle for excellence and that's why we've designed this hand. We want to make sure that we give excellent teaching and learning experiences for the students so once they are out in clinical practice, they can relate to a real patient," says Nina Godson of Coventry University.

The GlucoHand is also being developed in multiple skin tones to reflect ethnic and racial diversity.

Daniel Mogentale, product development and marketing manager at Adam, Rouilly, says, "We are very excited to bring to market a complete solution for blood glucose training which is both realistic and cost effective. The scenario control is an excellent feature which will really ensure that trainees or patients are confident in being able to decipher any blood glucose reading as part of wider treatment planning."

Provided by Coventry University