Digital innovation in blood pressure monitoring

Current Project Brief

Objectives and Background

The development of a clinically validated, ISO compliant blood pressure measurement software that uses just a smartphone camera could have profound implications for providing health care, especially for pregnant women in low- and middle-income settings.

OptiBP™, a cuffless blood measurement algorithm application developed by Biospectal in partnership with the Swiss Centre for Electronics and Microtechnology (CSEM), uses the built-in smartphone camera to measure blood pressure at the fingertip easily and quickly, overcoming the inconvenience and lack of access to traditional blood pressure cuffs, as well as dependencies on external hardware.

Whilst the software has been tested in Switzerland, HRP is currently initiating a multi-country study on OptiBP™ in Bangladesh, South Africa and the United Republic of Tanzania. It is important to enhance the OptiBP™ blood pressure measurement algorithm for diverse population subtypes (especially pregnant women) as well as validate it for local populations and markets. The software is currently only available to health care professionals, it is hoped that the software may be made available more broadly.

A linked research project that integrates the use of OptiBP™ with algorithms from WHO’s recommendations on antenatal care and delivered through OpenSRP software will enable healthcare workers to easily capture a pregnant woman’s blood pressure and then be guided to the next steps for her care.

Geographic location
Bangladesh, South Africa, United Republic of Tanzania

Main deliverables
Two phase research study completed, manuscript published

Partners
JiVita, Ifakara Health Institute, South African Medical Research Council, Biospectal

 Sources of funding
Bill and Melinda Gates Foundation, HRP

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