

Grantee News

Powerfree Education & Technology (PET) project leads to exciting new commercial developments for combatting infant mortality

The Sir Halley Stewart Trust is delighted to report on the success of one of its grantees in developing a wind-up fetal heart rate monitor for developing countries.

The team behind this pioneering innovation has now secured large-scale industry support from the Philips Africa Innovation Hub to develop, test and commercialise the product to address the high rates of preventable infant mortality across Africa.



Over 99% of all newborn and maternal deaths occur in the developing world, with important causes including the lack of skilled personnel and lack of essential technology and medicines. Between 2002 and 2007, the Sir Halley Stewart Trust awarded start-up funding to establish a strategic partnership between PET (a not-for-profit company in South Africa) and Freeplay, a commercial company with world-leading expertise in human-powered technology. The purpose of the collaboration was to develop and test a range of power-free devices to improve healthcare especially for mothers, babies and children developing countries.

The wind-up, power-free Fetal Heart Rate Monitor that was developed as a result of this collaboration is a portable, lightweight, high sensitivity doppler designed for operation in low resource settings. It enables the measurement of the fetal heart rate during labour, so that midwives can detect an abnormal heart rate early and take necessary actions to save the child.

Professor John Wyatt is a Trustee of the Sir Halley Stewart Trust, a Professor of Ethics & Perinatology and a Consultant Neonatal Paediatrician at the University College London. He played a key role in the formation of the partnership and the work of PET throughout this project.

Following the development of the heart monitor for a number of years and positive impacts from testing in the field, we are delighted to report that in October 2014 Phillips announced a collaboration with PET to commercialise the wind-up fetal heart rate monitor. It has unveiled the first Philips prototype for the “*power-independent wind-up fetal Doppler*”, which is subject to clinical testing and regulatory approval before release for general usage. For more information on this exciting development, please see the Philips press release here:

www.healthcare.philips.com/main/clinicalspecialities/womenshealthcare/foa/powerfree-fetal-heart-rate.html

The Trust’s support has also enabled PET to develop “*The Fetal Heart Rate Handbook*”, to help midwives and doctors in developing countries to learn what the fetal heart rate means and what to do if the fetal heart rate is abnormal. Written by obstetricians and paediatricians with an interest in fetal wellbeing during labour, this small handbook outlines the physiology of labour and how the fetus responds to normal and abnormal labour. The Maternal Care and Intrapartum Care manuals of the Perinatal Education Programme provide additional information to enable health professionals to improve care. Combining appropriate technology and self-help, distance learning holds promise particularly in rural clinics where both access to continuing education and a reliable energy supply are often lacking.