

### **Universal Access to Essential Vital Signs Monitoring.**

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Much more than a telephone, today's mobile device has become an integral part of the way we interface with the world. Mobile devices have the computing capability, display, and battery power to become powerful medical devices that measure vital signs and provide intelligent interpretation or immediate transmission of information. The widespread adoption of mobile devices, even in low-resource settings, promises to make vital signs monitoring available anywhere and at low cost. This readily available computing power will also extend the utility of vital signs monitoring to new clinical indications, especially with the use of additional processing and integration of information. This review will focus on the universal promotion of pulse oximetry and advanced processing of plethysmography to assess variables such as respiratory rate, capillary refill time, and fluid responsiveness, and how these measurements may assist with perioperative monitoring, diagnosis, and management of pneumonia in children and preeclampsia in pregnancy when combined with mobile devices.