

MediPi

Telehealth Demonstrator

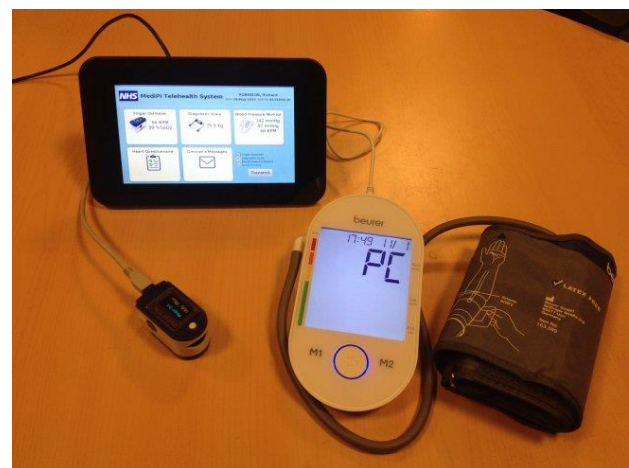
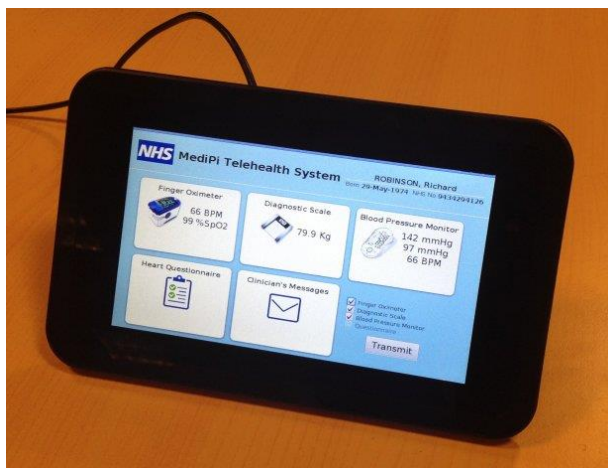


Background

The use of mobile healthcare technology in remote monitoring and self-assessment of patients with chronic medical conditions helps their pro-active management; early interventions of preventable episodes can avoid expensive emergency admissions.

Studies have shown that the telehealth market is expected to grow by 13% CAGR (Compound Annual Growth Rate) until 2018¹ with estimated yearly average costs at nearly £2,000² per patient, however the key to success in this market will be keeping patient information secure, transforming information into actionable knowledge and system affordability at scale.

Introducing MediPi



MediPi is an HSCIC-built telehealth system demonstrator, comprising hardware and software components enabling a secure, patient friendly and low-cost solution for monitoring of chronic medical conditions in the home.

MediPi - Features & Benefits

Clinical

- **Full pathway management** - We are currently developing MediPi to support the care of cardiac patients with the clinical assistance of Trust in the south of England. MediPi guides heart failure patients to take oximetry, weight and blood pressure measurements and complete a simple daily Yes/No health questionnaire. This data is then transmitted securely to clinical endpoint(s). The clinician can also directly message the patient using the software. This model could allow clinicians to receive data digests and inspect the underlying raw data, but only receive alerts based upon programmable thresholds, thereby avoiding clinical 'data overload'. Further improvements to MediPi could allow remote software configuration/upgrades, allow patient's access to their own Summary Care Record, SMS/email alerts, renew repeat medication etc.
- **Clinically defined and pathway specific** – MediPi is a clinically led, ongoing agile development. It is not a solution for a telehealth system on its own, but a demonstration of software and hardware components which, with clinical engagement, is helping us generate robust specifications for pilotable solutions.

Patient

- **Patient friendly** – designed for maximum patient accessibility, the clear, simple dashboard style interface, intuitive design and integrated guides with pictures help patients easily access all the system has to offer.
- **Patient involvement** - Two-way interaction with the clinician and the patient's measurement of their own condition increases their sense of ownership.

¹ Digital health in the UK: an industry study for the Office of Life Sciences
² Whole Systems Demonstrator telehealth questionnaire study

MediPi Features & Benefits cont...

Operational

- **Efficient use of clinician's time** - MediPi allows a reduction in the number of clinician's home visits and of appointments for the patient (hence fewer DNAs). Patient data received instantly and remotely results in better management of conditions.
- **An affordable solution** – the MediPi hardware, medical monitoring devices (pulse oximeter, scales and blood pressure cuff) and software is estimated to cost ~£250, equivalent to 4 community nurse visits, freeing up valuable time. This makes MediPi affordable at scale.

Technical

- **Security and interoperability** – by integrating medical measurement with bi-directional patient / clinician communication. MediPi transmits messages directly using one of a range of secure communication options including VPN and Spine over N3. This flexibility allows MediPi to easily integrate and interoperate with clinician's existing systems.
- **British designed and manufactured hardware** – MediPi is a Raspberry Pi 2 Linux based platform within a 7" touchscreen enclosure. The MediPi software is written in Java for maximum flexibility and can be deployed on any device – Android, PC, iOS, etc.
- **Built with open-source software** – making a flexible, configurable and extensible system allowing integration of any suitable medical device, either directly via USB or wirelessly.

MediPi - Strategic Justification

MediPi helps the NHS address many key principles of the *Personalised health and care 2020: a framework for action*³.

- **'assures best value for taxpayers'** - MediPi's utility and affordability potentially enable significant downstream savings.
- **'gives care professionals and carers access to all the data, information and knowledge they need' and 'supports care professionals to make the best use of data and technology'** – through NHS led design, HSCIC development and Spine enabled interoperability and security.
- **'enabling me to make the right health and care choices'** - capable of allowing patient access to their Summary Care Record.
- **'brings forward life-saving treatments and supports innovation and growth'** – through the use of open standards and license free open source architecture MediPi encourages third-party support and independent innovative development.
- **'makes the quality of care transparent' and 'builds and sustains public trust'** – MediPi opens up systems and data that would normally only be seen by clinicians, because of the tried and tested security model it uses. This transparency builds and sustains public trust

MediPi going forward – an HSCIC & NHS collaboration

We need your help! MediPi's roadmap is 100% clinically driven, therefore HSCIC is looking to work with NHS organisations who are in a position to pilot MediPi, helping us develop a solution fit for the current and future needs of the NHS.

If you're interested in finding out more about MediPi, seeing a demo or in getting involved in future pilots to help shape the future of mobile healthcare technology, then please contact:

Richard Robinson (<mailto:rrobinson@nhs.net>)
Messaging and Integration Team
Health and Social Care Information Centre