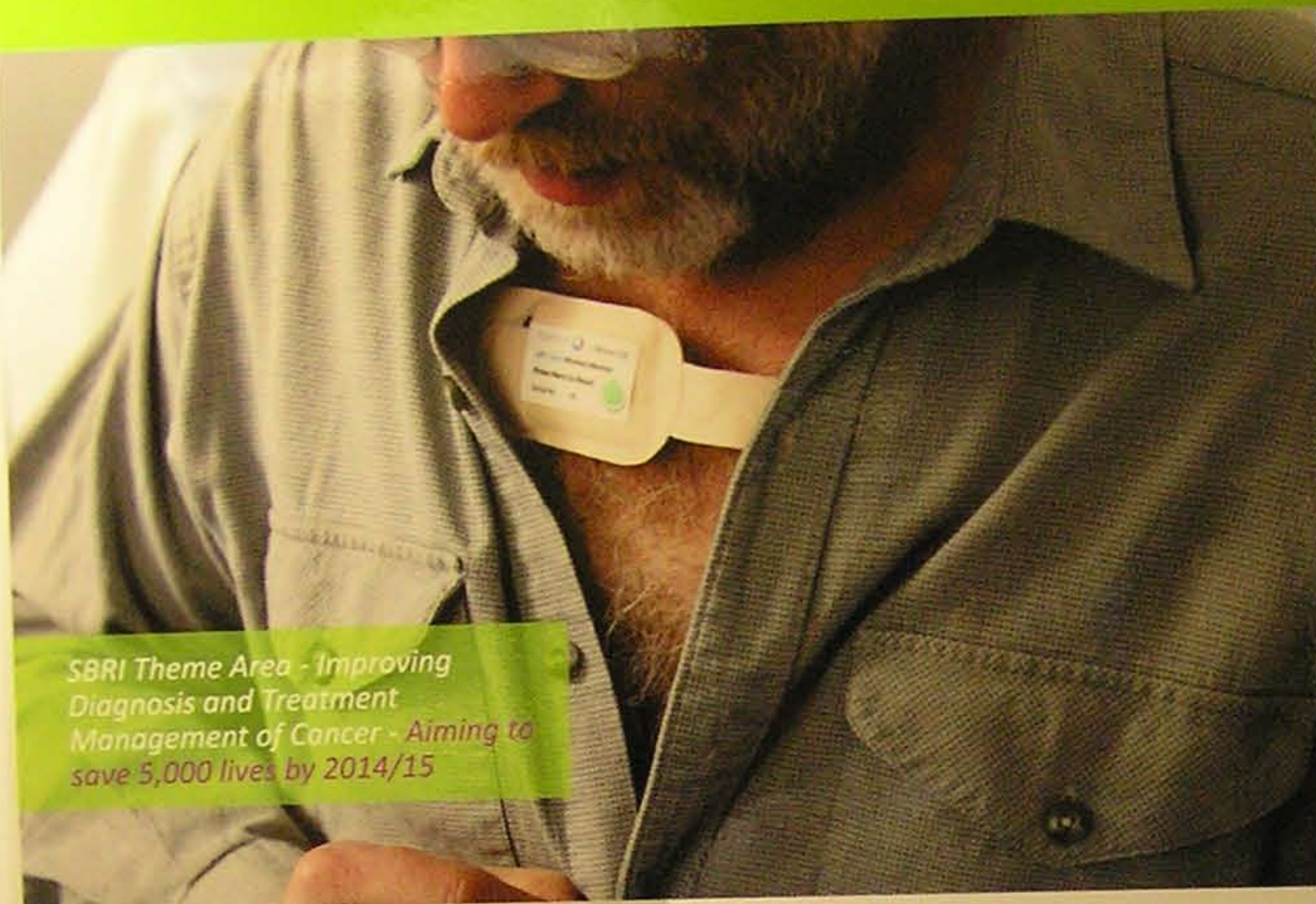


Early Detection of Sepsis in the Community to Avoid Hospital Admissions in Chemotherapy Patients – an SBRI Healthcare NHS Development Contract to Reduce Number of Cancer Deaths

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SBRI Theme Area - Improving Diagnosis and Treatment Management of Cancer - Aiming to save 5,000 lives by 2014/15

Early detection of sepsis can lead to saving hundreds of untimely deaths and around £100 million annually

Background

A national SBRI Healthcare competition launched by NHS England in partnership with the Academic Health Science Networks to find innovative new products and services, have awarded a Phase 1 contract to Isansys Lifecare to develop technology that gives early warning of sepsis in cancer patients recovering from chemotherapy at home. This project falls under the theme "Improving Diagnosis and Treatment Management of Cancer" which aims to save 5,000 lives by 2014/15.

- Sepsis in cancer patients is a clinical priority area for the NHS
- 125,000 patients annually undergo chemotherapy in the UK, largely susceptible to sepsis

The Problem

Sepsis is a more common reason for hospital admission than heart attack and has a higher mortality. It accounts for 100,000 hospital admissions annually in the UK, costs on average £20,000 per admission, and is the cause of 37,000 deaths.

The NHS treats around 125,000 chemotherapy patients per year, a large percentage of whom are at high risk of developing sepsis and around 20,000 are admitted to hospital. Preventing only one quarter of these by early detection and intervention at the primary care level would save around £100 million in hospital costs and prevent hundreds of untimely deaths from sepsis.

The Project

Isansys will extend its existing CE marked Patient Status Engine real-time wireless vital sign acquisition and analysis system, to provide warning notifications of sepsis in patients at home at an early stage in the critical 72-hour period.

Technology Outcomes

- A patient mobile app for inputting and receiving information
- An integrated wireless clinical thermometer
- Algorithms correlating temperature data with heart rate variability (HRV) data provided by the Lifetouch cardiac sensor. Rapid fluctuations in each of these measures have been reported as early indicators of sepsis. This two-channel methodology will be more sensitive and robust than single-channel markers

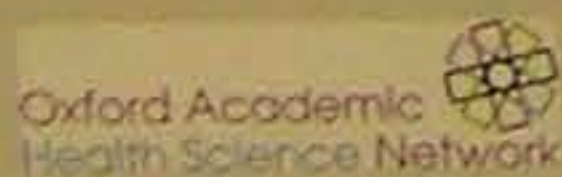
Clinical Outcomes

- Presentation of early warnings to the patient and (remotely) to the care team
- Indications of earlier, lower cost and less traumatic interventions
- The product will be piloted at Queen Elizabeth Hospital, Birmingham



The Small Business Research Initiative for Healthcare (SBRI Healthcare) is an NHS England initiative, championed by the newly formed Academic Health Science Networks (AHSNs), who aim to promote UK economic growth whilst addressing unmet health needs and enhancing the take up of known best practice.

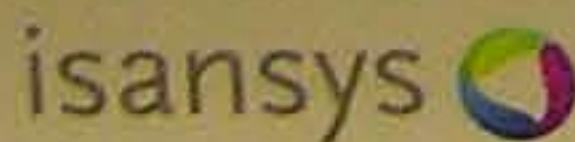
Part of Innovation Health and Wealth the SBRI Healthcare programme sets industry the challenge in a series of health related competitions which result in fully funded development contracts between the awarded company and the NHS. Unlike many R&D projects which offer grant or match funding, SBRI contracts are 100 per cent funded and the company retains the IP.



Academic Health Science Networks (AHSNs) have a unique opportunity to bring together clinical research, informatics, innovation and training and education, with healthcare delivery to improve health outcomes and raise quality and value through large-scale, sustainable change.

The Oxford Academic Health Science Network covers a population of 3.3 million across 4 counties where the NHS spends £5bn a year and employs 85,000 people. The Oxford AHSN area is also home to many major international companies and over 300 life science businesses. In addition it covers 12 Clinical Commissioning Groups, four Local Enterprise Partnerships and 12 local authorities – as well as 10 NHS Trusts and 9 Universities.

- The objectives of the Oxford AHSN are to:
- Focus on the needs of patients and local populations
 - Speed up adoption of innovation into practice
 - Build a culture of partnership and collaboration
 - Create Wealth



Isansys Lifecare is a new generation healthcare company that provides patient surveillance and monitoring services built on an innovative, low cost and scalable platform. We work with leading healthcare professionals, institutes and policy organisations operating in a wide range of healthcare settings, who want to employ new patient monitoring technologies and methods to improve patient outcomes and reduce costs. Based on its scalable wireless sensor technology, Isansys' 'Vitals as a Service' clinical solution provides continuous real-time information for automated patient surveillance, for early warning scores and track and trigger indicators, and for predicting adverse events.

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