

SBRI Healthcare

Case Study



Company: Aseptika Ltd

Competition Entered/ Phase: Improving the Health of People with Long-Term Conditions

Innovation: Home use sputum test for the prediction of exacerbation of lung infections

Total award: £1,242,500 awarded across Phase 1, Phase 2 & Phase 3 development stages

Savings to the NHS: Estimated to be in excess of £50 million per annum

Product availability: Q4 2016

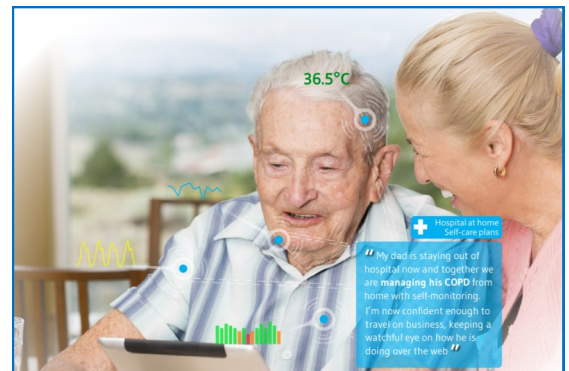
Overview

Aseptika is a healthcare company who with the help of SBRI funding, is developing a patient self-monitoring system in the form of a home-use sputum test used to predict the onset of lung infections in people with long-term respiratory disease. Patients with severe airways disease are often chronically infected by the bacterium *Pseudomonas aeruginosa* and in these patients, despite attempts to treat

these infections, complete eradication can be difficult. Flare ups of the infection (exacerbations) are common, leading to deterioration in symptoms which can result in 3-4 prolonged hospital admissions per year. Repeated exacerbations resulting in loss of lung function reduce a patient's quality of life, are very disruptive, costly and can result in premature death.

In a simple to use cassette format (lateral flow), the sputum test and dedicated reading device combined with other self-monitoring devices as part of the Activ8rlives solution, can be used by patients at home to predict an increase in the virulence of the bacteria in chronically infected lungs, forewarning of an impending exacerbation. The sputum test is also able to support clinicians in their decision about the efficacy of antibiotics being prescribed. Small-scale trials have been conducted with volunteers who have Cystic Fibrosis (CF) using the laboratory-based version of the test. Further trials are underway with patients who have other respiratory conditions such as Chronic Obstructive Pulmonary Disease (COPD), non-CF Bronchiectasis (NCFB) and Asthma.

Lung disease has overtaken coronary heart disease and cancer as the major killer in the UK, making it the third largest cause of death. The NHS provides 2.8 million hospital bed days for sufferers, costing £1,857 to £4,096 per admission, spending an estimated £4.7 billion a year treating patients and 24 million working days are lost.



Patient perspective

It is anticipated that patient self-monitoring with this new test will reduce the frequency of unscheduled admissions for lung infections and reduce the 1 in 3 readmissions within 28 days of the first admission by 50-80%. The benefit for the patient is the longer preservation of lung function by seeking treatment earlier, by tracking bacterial biomarkers and other simple indicators such as: weight, levels of physical activity, temperature, blood pressure, oxygen saturation, peak flow and scores of wellness. Taken together, the patient, their family and carers can build a better understanding of their current state of health and will forewarn them of declining health. These same data can be shared with the healthcare professionals when needed and during future Clinical Reviews.

In the current Clinical Trial at Portsmouth Hospitals NHS Trust patient comments include:

"In the past I haven't had the tools to let me see when my lung function was declining".

"These tools will allow me and my family, who are my carers, to communicate my health declines to the clinician so that we can get support and medication for a chest infection sooner".

"Using the simple monitoring tools and the iPad wizard was much easier than I had first thought and it reminds me what I need to do every day as part of my routine."

"I feel like I'm making a difference to being able to manage at home and keeping out of hospital."

Economic impact

SBRI funding has allowed Aseptika to create five full-time new roles and fund two NHS research staff for the duration of the clinical trial. Sales of the sputum test product are expected to start towards the end of 2016, as the Company develops, manufactures and conducts large clinical trials as evidence for NICE approval of the sputum test. 90% of sales will be overseas, as smoking and pollution take their toll in the developing economies.

In addition to SBRI funding, the company has raised a further £99,000 from an additional SBRI grant to develop a third-generation of wearable health monitors for consumers.

There are currently 46,000 subscribers to the Activ8rlives online self-management solution.

"The SBRI Healthcare competition process enabled us to...make a real difference in the care of long-term respiratory disease. It has been more than just funding - the award brings us credibility within statutory healthcare providers in the UK and EUwithout it, the novel products we are creating would never have been developed."

Kevin Auton, Managing Director, Aseptika

Visit: www.activ8rlives.com

