Predictive Sepsis Test to Save Lives of COVID-19 Patients

A revolutionary test to predict which COVID-19 patients will develop sepsis, before symptoms appear, has received initial funding to accelerate development to help diagnose and save the lives of seriously ill patients.

Presymptom Health has received an initial £200k seed funding from Ploughshare Innovations to accelerate the development of the test which will transform clinicians' ability to provide appropriate treatment, potentially saving lives.

Iain Miller, Presymptom Health's CEO, said:

"This is a significant step to help in the fight against coronavirus. Presymptom Health develops new tests to determine the presence of diseases in patients – before they show symptoms.

"Having the opportunity to leverage Dstl's ground-breaking work and apply this sepsis technology to aid clinicians dealing with the pandemic is deeply important to us. We are confident this technology will provide vital and life-saving information when it is most needed."

The science, based upon 10-years' of work conducted at the UK MOD's Defence Science and Technology Laboratory (Dstl), suggests the test will be able to determine whether a patient will develop sepsis up to three days before symptoms appear, providing valuable extra time to deliver the optimal treatment to improve patient recovery rates and also reduce treatment costs.

Gary Aitkenhead, Chief Executive of Dstl, where the original development work was conducted, said:

"The work we do at Dstl is fundamental to the defence and security of the UK and we are constantly seeking ways in which our technologies can be applied to deliver impact to the wider society.

"Here, we have a unique concept that has the potential to improve the lives of thousands and Dstl is proud to be the science behind this novel development."

Roman Lukaszewski, the lead scientist on the sepsis work at Dstl said:

"This funding is fantastic news. It will see a programme of work that is backed by the most comprehensive sepsis study ever conducted and one that I have personally been involved with for more than 10 years to finally come to fruition. It will be an amazing achievement and will have benefits for the treatment of sepsis on a global scale."

The project to develop the prototype diagnostic test will last six months and will include proof of concept trials with both patients with COVID-19 and samples from a Dstl biobank. Up to 300 patients are expected to be involved in the trial, with a further 200 samples from the biobank being used to establish the test's effectiveness.

Ploughshare Innovations, as the technology transfer office for Dstl, is responsible for the commercialisation of this innovation and established Presymptom Health as the vehicle for getting it to market.

Hetti Barkworth-Nanton, Ploughshare's CEO, in committing to the funding said:

"It is unusual for Ploughshare to make investments such as this, however, given how much potential this technology has we saw the value in accelerating its development.

"Beyond COVID-19, the test will have the potential to help with the treatment of the 49 Million people worldwide affected by sepsis every year, and to also prepare us for future pandemics."

Sepsis has been linked to a number of COVID-19 fatalities. A recent Lancet article which analysed the outbreak in Wuhan, China found that sepsis was the most frequently observed complication and that all Wuhan patients who tragically lost their lives to coronavirus by February 2020 had sepsis.

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Presymptom Health is a pioneering medtech company that creates innovative tests to diagnose illnesses earlier to help save lives. Established in 2019, it was founded to exploit the intellectual property created from a 10-year Ministry of Defence clinical discovery program to detect Sepsis in patients before symptoms appear. The company is seeking up to £3M over two years to develop its clinical diagnostic test portfolio which will include test offerings at both point of care and within central laboratories.

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Protecting life with early diagnosis