

Special report

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Taking on TB and winning

TB kills 5,000 people every day. **Debbie Mayhew** finds out how a Babraham firm is slowing its spread



Dennis Camilleri, chief executive of Rapid Biosensor Systems, demonstrates how the TB Breathalyser works.

EVERY day 5,000 people die of tuberculosis (TB) and almost nine million new cases are diagnosed around the world each year.

In the East of England alone, cases have almost doubled in the last 10 years to reach 487 last year.

Population migration and modern transportation are driving the spread of the highly-contagious disease, which is carried through the air when infected people cough, sneeze or spit.

Now a Babraham company has come up with a simple 'while-you-wait' testing device - a TB Breathalyser - that could prove a vital weapon in the battle against the growing threat to world health.

The device is the brainchild of Dr Elaine McCash, technical director of Rapid Biosensor Systems (RBS) at the Babraham Research Campus.

"It has huge potential because not only is it very portable and easy to use, but it's also low cost," said RBS chief executive Dennis Camilleri.

The firm has signed an agreement with a large US corporation that specialises in medical instrumentation.

"Our prototypes have been successfully tested in India and Ethiopia," said Mr Camilleri. "Now they have to be scaled up for manufacture, tested and then launched into the market - and our new US partner will be responsible for doing just that."

"As we transfer the prototype technology to them, it enables us to go out and raise funding to adapt the technology and develop other tests - for things like bovine TB, E. coli and malaria, for example."

The TB Breathalyser comprises a disposable sample collection tube and a multi-use reading device. The patient coughs into the collection tube, at the bottom of which is a glass sensor with a biochemical coating formulated to react with TB bacteria.

Not only is it very portable and easy to use, but it's also low cost - Dennis Camilleri



The tube is then inserted into the reader, which takes just two minutes to return either a positive or negative result - compared with up to two weeks for existing TB tests.

"If you are found to be TB positive, you'll be isolated and then taken to hospital for further tests, full diagnosis and drug treatment," said Mr Camilleri.

"Because you've been isolated, it stops you spreading the disease to others - you would be infecting literally hundreds of people if you were still out in the community."

The device can be used to screen arrivals at airports and ferry ports or to check the populations of schools or prisons.

And - because it is portable - it can be used out in the field in developing countries if there is no access to clinics or hospitals.

"Although we have effective drugs against TB, it remains one of the world's most serious public health problems and kills more adults than any other single infectious agent," said Dr Ruth McNerney, a senior lecturer at the London School of Hygiene and Tropical Medicine.

"The RBS TB Breathalyser test is an exciting new development in TB control."

Dirtiest and coldest in running for prize

ENTRIES are being accepted for the Lodestar Night Run taking place in Lode, Cambridgeshire, on January 29 from 7pm.

This is a new and different type of race, taking place from Lode Fen on Fen Road, just a few minutes from the A14.

Various forms of lighting will illuminate the three-lap, 10k cross-country course.

Runners will negotiate four obstacles, which have been chosen so they are manageable for all levels of runner.

There will be a range of prizes, including those for the coldest and dirtiest runners to finish.

Organisers are encouraging participants to bring along friends and family to enjoy the atmosphere, the bar, refresh-

ments and music, as well as the racing.

There will also be on-site parking, a heated changing area and medical support. Participants who finish the race will receive a memento and goody bag.

For more information, or to book a place, visit www.welcomeevents.co.uk



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