Diagnostics for the Real World: The team behind rapid COVID-19 test deal with growth and look to the future

Diagnostics for the Real World (DRW) made worldwide headlines earlier this year with a game-changing way of testing for COVID-19 that was rolled out to the NHS after being first used at Addenbrooke's Hospital in Cambridge.

Based at Chesterford Research Park, the University of Cambridge spin-out responded quickly to the pandemic by adapting its HIV testing machine SAMBA II to diagnose COVID-19 infection in just 90 minutes.

Professor Ravi Gupta from the Cambridge Institute of Therapeutic Immunology & Infectious Diseases led the 'COVIDx' clinical study within Cambridge University Hospitals to evaluate the impact of the test.

Reflecting on the study he said: "It was a national emergency. Within one week we got ethical approval to do a comparison between SAMBA and our standard laboratory test, so we ran a clinical study and the average time to result was 10 times faster with the SAMBA. We were really impressed and saw no loss of accuracy."

Unsurprisingly there has been huge demand for the point-of-care test, so we caught up with Craig Wisniewski, chief operating officer at DRW to find out the impact devising a breakthrough in testing for a pandemic disease has had on the business and what's next for the team.

Dr Helen Lee, CEO of Diagnostics for the Real World (DRW)

SCALE-UP

Back in April a generous $3 million donation from businessman and philanthropist Sir Chris Hohn meant the SAMBA II machines were made available to hospitals across the country. How have you scaled up production and manufacture since then?

Craig Wisniewski: "The growth has been tremendous, and it's been a huge learning curve for all of us at DRW. We feel proud that our scientists were able to quickly produce a diagnostic solution for SARS-CoV-2 with such brilliant results.

"Since the Phase I implementation started we have installed 150 machines across 21 NHS hospitals. Tests are being run to full capacity at almost all the hospitals and the demand is increasing on a daily basis. Sites have been able to reduce the turnaround time for critical samples from 18-72 hours to just under two hours."

What obstacles have you had to overcome and how did you do this?

Craig Wisniewski: "The test is simple to use but this comes with a big price on the manufacturing side that takes on all the complexity upfront.
"There are over 150 components that go into making one test so managing the supply chain comes with its challenges. The testing needs are so high all over the world and there is a global shortage of reagents, not to mention the competition with other companies that are all trying to procure them.

A simple shipment, which normally would take 48 hours, has been known to take over two weeks at the peak of the pandemic.

"Our assay uses different reagents from traditional rapid tests which are more environment friendly, enable safer disposal of the assay cartridge and don't suffer as much from shortages. Because of this we were able to scale up our production ten-fold to deliver to the NHS, where we feel tests are needed the most.

"It's been a stressful period and everyone is working around the clock to orchestrate everything – the feeling around here is that there is so much we can do to help.

"We have a responsibility in trying to provide the means for a safer environment for all of us and we are doing the best we can but we're in no doubt there will be more challenges to come."

Are there any other specific projects that you are working on that you can give us some insight into?

Craig Wisniewski: "As winter approaches, we are worried about infections with other viruses and want to facilitate the diagnostic differentiation between these different pathogens, as the clinical picture is very similar.

"The R & D team is working on releasing the quadruplex respiratory panel before the winter kicks in. This will be a one test solution for four targets to detect COVID-19, FluA, Flu B and Respiratory Syncytial Virus.

"Distinguishing between these viruses is of key importance as treatment and isolation measures can be adjusted accordingly. We hope to announce this assay soon and are positive it will be of great help in this global crisis."

Unsurprisingly DRW is looking to hire more team members. What does it take to work at the biotech and what makes the team special?

Craig Wisniewski: "We are always looking for willing bright minds with a positive attitude towards work. We all take a lot of pride in what we do so there is no room for cutting corners. If you love to work, are good at wearing multiple hats and enjoy a good challenge, you will love DRW.

"Our location is special, too, as we are surrounded by natural beauty at Chesterford Research Park, which also provides a wonderful scientific community with major companies on our doorstep offering excellent scope for collaborations.

"We are growing in all aspects, from manufacturing, engineering, sales and marketing, contract management to administrative roles. No matter what the skill set there might be a place for you.

"The ethos underpinning how the whole company functions is 'balancing doing well with doing good'. There is tremendous scope of growth in the company. As our CEO Dr Helen Lee says to all of us: "There is only a floor, no ceiling."

If we project a year into the future, what might Diagnostics for the Real World look like?

Craig Wisniewski: "There is potential for huge growth and I really hope that in a year's time we have a much bigger team and are able to successfully deliver a much wider array of tests to include other respiratory viruses and other infectious diseases both in the developed and developing world.

"The teams on both sides of the Atlantic are doing their best to make this a huge success and it's a privilege to be a part of this journey."

To explore DRW in more detail please visit: https://www.drw-ltd.com

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In addition to DRW, the park is home to life science innovators including Arecor, AstraZeneca, Charles River Laboratories, Isomerase and Microbiotica. To date, more than 350,000 sq ft of laboratory R & D space has been let and occupied.

Further phases of construction are proposed to extend the development to approximately one million sq ft.

To discover more about Chesterford Research Park visit: https://www.chesterfordresearchpark.com