Helping to save lives wit cancer detection

CanSense brings a pioneering AI-powered color cancer screening solution to market in partners with Informed Genomics and IBM

Overview Transformation Outcomes About Info

Colorectal cancer is the fourth most common ca
responsible for 700,000 deaths globally each ye
of bowel cancer cases are preventable[3] and earl
to delivering positive outcomes for patients.

Testing for colorectal cancer currently requires patients to u
invasive procedure carried out by clinicians in a hospital set
colorectal cancer rising, many hospitals in the UK are strugg
increased demand for colonoscopies, and waiting lists are g
National Health Service (NHS) patients waited six weeks or
2023[4]—a trend that could continue to worsen.

Most people who attend a hospital for a colonoscopy will nc
This means that the diagnostics pathways in secondary care
the best use of their resources, as they end up screening a s
patients who may not have actually needed to undergo a co

While colonoscopies are traditionally the most accurate way
has colorectal cancer, AI holds the potential to make cancer
and less invasive. Informed Genomics—a UK-based genomi
harness innovations in science and technology to improve c

Building on its recent successful launch of an accurate, non
Informed Genomics is now turning its attention to improvin
through a new partnership with CanSense.

Spun out from a research project started at Swansea Univer
the power of spectroscopy and AI to develop a quick, inexp
test for colorectal cancer.

“We’re really excited about the potential that the CanSense
clinicians deliver more efficient and higher quality care,” exp
Informed Genomics. “To bring the solution to market and se
must ensure that the underlying technology is reliable, robu

90%

sensitivity

The CanSense solution has a high sensitivity to ensure accurate results.

“To take CanSense out
and bring it to market,
scalable technology th
compute-intensive wo

Hello! How can we help you?

to ensure excellent gov
powering our solution.

Adam Bryant
CEO
CanSense

Spearheading new cancer screening technology

CanSense decided to develop its new AI-powered colorectal cancer screening solution, CanSense – CRC, on IBM Cloud® to provide seamless scalability. And to support its regulatory approval journey, CanSense also selected IBM® watsonx.governance™ to help the company to monitor and manage its AI model from a single platform.

"We decided to partner with IBM on this project because they have an excellent track record of supporting healthcare innovations and have been developing AI for decades," explains Adam Bryant, CEO of CanSense. "We really value that watsonx.governance enables us to track model health, accuracy, drift bias and other key metrics about our AI model. To gain regulatory approval, we need to show how our solution works and watsonx.governance helps us to provide transparency."

By teaming up with IBM, CanSense also gained access to IBM experts through the IBM Client Engineering service. For instance, CanSense participated in a workshop that brought clinicians and IT experts together to explore how technology can help to transform healthcare. Providing technical advice and support, IBM engineers continue to work with CanSense to co-develop its screening solution and help the company extract maximum value from its IBM solutions.

Bryant comments: "Participating in the healthcare technology workshop at IBM provided us with a great opportunity to get input and feedback from leading experts—including laboratory service providers, NHS clinicians and investors. Insights from IBM and industry experts are helping us to mature our solution and effectively prepar market launch."

With CanSense – CRC, colorectal cancer can be detected using a blood samp healthcare professional. The CanSense solution then runs spectral analysis of the blood sample and sends this data to a proprietary AI model hosted on IBM Cloud. Trained

extensively with real-world samples and data, the CanSense AI then detects whether evidence of colorectal cancer is present in the blood sample.

Davis comments: “From a technology perspective, CanSense ticks a lot of boxes for Informed Genomics and has the potential to help us launch a brand-new colorectal cancer screening service. Knowing that CanSense constantly monitors its AI performance with IBM solutions gives us confidence that we will be able to bring this to market successfully and prove its efficacy to industry regulators.”

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Simon Davis

CEO
Informed Genomics

Supporting early cancer diagnosis

In the coming months, Informed Genomics is planning to deploy the solution from its UK laboratory and accredit the service to ISO15189 quality standards. After thoroughly testing and validating the solution, Informed Genomics will offer colorectal cancer screening as a service to clinicians and hospitals to support diagnostics activities.

“If we can successfully bring a colorectal cancer screening service underpinned by the CanSense solution to market, the benefits will be significant,” says Davis. “For instance, clinicians will be able to send patients for a non-invasive blood test so they can triage colonoscopy waiting lists. In turn, this will help to ease the workload of clinicians that carry out these procedures and help them to focus their time and resources on the highest-risk patients.”

CanSense and Informed Genomics are working to reduce the diagnosis timeline from weeks to days, which will help to support early diagnosis and improve patient care.

“We know that the sooner colorectal cancer is diagnosed, the better the outcome for patients,” explains Bryant. “CanSense and Informed Genomics can help doctors make accurate and quick diagnoses, which will enable them to make timely interventions and give patients the best chance of a full recovery. It will also reduce costs; we anticipate that the NHS could save £300 million a year by enhancing colorectal cancer treatment pathways with our solution.”

After it has launched CanSense – CRC, Informed Genomics hopes to work with clinicians in public and private hospitals in the UK and beyond to transform colorectal cancer care.

Davis concludes: “Our core focus remains offering innovative cancer testing services which enable earlier diagnosis, personalized treatments and improved patient outcomes. Our partnership with CanSense and IBM allows to deliver this while also broadening the scope of our portfolio to new markets and bringing access to these services to even more patients.”

Informed Genomics

About Informed Genomics

Established in 2022, Informed Genomics (link resides outside of ibm.com) provides a wide range of clinical genomics services, including hereditary cancer testing and bladder cancer testing. The company also offers clinicians and academics full exome, genome, and RNA sequencing, tumor profiling and custom panel design services.

CanSense

About CanSense

Founded by leading colorectal surgeons, scientists and researchers from Swa[illegible] University, CanSense (link resides outside of ibm.com) is an innovative startup that is revolutionizing bowel cancer detection and treatment by detecting cancer at its earliest

stages making treatment quicker and easier. In 2023, CanSense was awarded the St David Award for Innovation, Science and Technology by the Welsh Government.

Solution components

- IBM® Client Engineering
- IBM Cloud®
- IBM watsonx.governance™

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Citations

[1]Bowel Cancer (link resides outside of ibm.com), bowelcanceruk.org, 15 May 2024.
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[3]Bowel cancer statistics (link resides outside of ibm.com), Cancer Research UK, 15 May 2024.
[4]NHS Diagnostic Waiting Times and Activity Data (link resides outside of ibm.com), NHS England, 15 May 2024.
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