

Simple test to help diagnose bowel and pancreatic cancer could save thousands of lives

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A simple online calculator could offer family GPs a powerful new tool in tackling two of the most deadly forms of cancer, say researchers.

Academics from The University of Nottingham and ClinRisk Ltd have developed two new QCancer algorithms, which cross-reference symptoms and [risk factors](#) of patients to red flag those most likely to have pancreatic and bowel [cancer](#), which could help doctors to diagnose these illnesses more quickly and potentially save thousands of lives every year.

Leading the research, Professor Julia Hippisley-Cox in the University's Division of [Primary Care](#), said: "We hope these [new tools](#) will help GPs with the difficult task of identifying patients with suspected cancer earlier and that this in turn could help improve [treatment options](#) and outcomes for patients."

Pancreatic cancer, which affects more than 8,000 people in the UK every year, has the worst survival rate for any cancer — almost three-quarters of patients die within a year of diagnosis. Catching the disease in the early stages can offer a more optimistic prognosis for patients — however, with very few established risk factors and no reliable screening test available, it is also one of the toughest cancers for GPs to spot.

The research, published in the January edition of the *British Journal of*

General Practice (BJGP), used patient data from 564 GPs practices to develop the algorithm and test its success at predicting which patients were likely to have pancreatic cancer, based on a combination of symptoms such as weight loss, appetite loss, and abdominal pain and risk factors such as age, chronic pancreatitis, smoking and diabetes.

It was successful in predicting 62 per cent of all pancreatic cancers diagnosed over the following two years which were in the top 10 per cent of patients predicted to be most at risk.

Colorectal cancer, or bowel cancer, is the second most common cancer in Europe as well as the second most common cause of cancer-related death. In the UK, 16,500 people die every year from bowel cancer and 36,000 people develop the disease. The UK has one of the poorest [survival rates](#) for bowel cancer in Europe, which is thought to be largely due to late presentation, delays in diagnosis and delays in treatment. Swift diagnosis can make all the difference — among patients where the disease is diagnosed early, the five year survival rate can be as high as 90 per cent.

Many of the major symptoms, such as rectal bleeding, weight loss, appetite loss, diarrhoea, constipation or abdominal pain are very common and can more often be linked to other less serious conditions, presenting GPs with a diagnostic challenge.

Based on using single 'red flag' symptoms such as rectal bleeding, doctors could miss 60 per cent of current bowel cancers.

For the research, published in the same edition of the BJGP, academics used anonymous data from the same 564 GP surgeries to develop and test the colorectal cancer algorithm by looking at a combination of risk factors, including age, family history of bower cancer, anaemia, symptoms including rectal bleeding, abdominal pain, appetite loss,

weight loss, diarrhoea and changes in bowel habits. The researchers also took into account the different risks affecting men and women.

The study found that the algorithm was very successful in spotting which patients would be most likely to develop bowel cancer over the following two years — 70 per cent of all bowel cancer patients subsequently diagnosed were in the top 10 per cent of patients predicted to be most at risk. The two studies used the anonymous data of patients aged between 30 and 84 years old who were all free from diagnosis or symptoms of the two cancers over the previous 12 months. The GPs' practices were all contributing to the QResearch® database system — a not-for-profit partnership between The University of Nottingham and leading GP systems supplier EMIS.

The new algorithms for pancreatic and [bowel cancer](#) could be incorporated into existing GP computer systems to alert doctors to patients who are potentially most at risk of developing the diseases.

They could support the work of GPs in reducing diagnosis times in line with current Government policy and the National Awareness and Early Diagnosis Initiative (NAEDI) — a public/third sector partnership between the Department of Health, National Cancer Action Team and Cancer Research UK. Evidence suggests that simply raising awareness of symptoms and speeding up diagnosis could save 5,000 lives per year without any new advances in medicine.

The study has resulted in two simple web calculators — one for [pancreatic cancer](#) and one for [bowel cancer](#) — which are designed for doctors but a simpler version could also be made available on the internet to raise awareness among the general public and to prompt patients with risk factors or symptoms to seek advice from their doctor.

Similar QResearch® scores have already proven effective in previous

research in identifying patients at most risk of developing lung cancer, gastro-oesophageal cancer, heart disease, type 2 diabetes, fractures, kidney disease and serious blood clots.

Dr Clare Gerada, Chair of the Royal College of General Practitioners, which publishes the BJGP, said: "Early diagnosis, and access to appropriate diagnostic tests and tools, can make an enormous difference to the treatment and outcomes of patients with cancer and this new calculator, which is concerned with two of the most deadly forms of cancer, has the potential to save many lives.

"Professor Hippisley-Cox and her colleagues at The University of Nottingham are leading the way in devising simple but effective ways to help GPs speed up and improve their identification and diagnosis of cancer, and they should be rightly proud of this new research.

"The very foundation of the British Journal of General Practitioners is research such as this, which serves to improve the care GPs across the UK and further afield are able to provide to their patients."

Professor Hippisley-Cox added: "We are very grateful for the continuing support of the EMIS GP practices that contribute their high quality data to QResearch. Without them, our research would not be possible."

Provided by University of Nottingham

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