

New GP-administered blood test could help diagnose ovarian cancer faster and more accurately

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A simple blood test that can be given by general practitioners (GPs) could help diagnose ovarian cancer faster and more accurately,

particularly for women under the age of 50, according to research funded by leading women's health charity, Wellbeing of Women.

The study, undertaken by Dr. Garth Funston, Dr. Chloe Barr and Professor Emma Crosbie from the University of Manchester, Dr. David Jeelvan and Professor Sudha Sundar from the University of Birmingham and Dr. Luke Mounce from the University of Exeter, investigated whether a type of protein found in the blood, human epididymis protein 4 (HE4), could help identify ovarian cancer more accurately and save other women from unnecessary and often [invasive tests](#) and procedures, such as physical examinations and biopsies.

The study has been published in the journal, *Cancers*.

Ovarian cancer is the sixth most common cancer in women in the UK with around 7,500 new cases every year. Almost one in five new diagnoses (18 percent) are in women under the age of 50. Currently, women with suspected ovarian cancer undergo a blood test to analyze the level of a protein called CA125 in their body. A high amount of this protein can be a sign of cancer, but it can also be caused by other conditions, such as menstruation, pregnancy, [uterine fibroids](#) and endometriosis.

Nine in 10 women with raised levels of CA125 in their blood, who are then subject to further tests, do not have ovarian cancer. Meanwhile, some ovarian cancers may be missed if levels of CA125 are too low. This can result in diagnosis occurring when the cancer is more advanced.

Researchers studied [blood samples](#) collected from 1229 patients over a 12-month period. Samples were tested for HE4 and the team investigated the diagnostic accuracy of HE4 alone and in combination with CA125. The study concluded that HE4 levels, when analyzed alongside the current CA125 test and within an algorithm, could improve

the detection of ovarian cancer, particularly in women under the age of 50.

A larger-scale study is now recommended to confirm these findings.

Dr. Funston, an Academic Clinical Fellow in General Practice at the University of Manchester, who was awarded the inaugural Transformational Research Award by The World Ovarian Cancer Coalition in 2021, said: "While our results require validation in a much larger sample, these findings are extremely promising. Ovarian cancer is notoriously difficult to diagnose at an early stage, as symptoms are often non-specific, including bloating, pain and feeling full quickly after eating. We also know that the current [blood test](#) we use to investigate symptomatic women for ovarian cancer in primary care—CA125—is less accurate in younger women.

"We hope our research can contribute to a change in how quickly ovarian cancer is identified. This is especially exciting as there has been little progress over the years towards developing more accurate ovarian cancer testing approaches for use in primary care."

Previous studies have highlighted HE4 as a promising cancer biomarker, but until now, tests have only been conducted in groups of women in hospital when a pelvic mass has already been detected. It is currently approved by the Food and Drug Administration (FDA) in the U.S. for monitoring remission.

Professor David Williams, Chair of the Research Advisory Committee at Wellbeing of Women, and based at The Institute for Women's Health, University College London, said: "The potential impact of this research is significant. About 21 women in the UK are diagnosed with [ovarian cancer](#) every day and we know the earlier cancer is detected, the more likely treatment will be successful, so giving GPs the ability to detect

potential cases more quickly is vital.

"This is the first time that HE4 has ever been evaluated in a primary care setting, so it will be exciting to see larger-scale studies implemented to further assess its effectiveness as a diagnostic aid. Earlier diagnosis will have important implications for [women](#)'s treatment, care and ultimately, survival."

More information: Chloe E. Barr et al, The Performance of HE4 Alone and in Combination with CA125 for the Detection of Ovarian Cancer in an Enriched Primary Care Population, *Cancers* (2022). [DOI: 10.3390/cancers14092124](https://doi.org/10.3390/cancers14092124)

Provided by University of Manchester

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