New blood test could spare thousands of women invasive gynaecological diagnostics, major study finds

Leeds, UK – 8 July 2026 - A large NHS evaluation has found that a simple blood test, set to cost less than £30, can identify more than 99% of gynaecological cancers. The "PinPoint" test, which uses machine-learning to analyse 30 routinely collected blood markers (plus age/sex), was assessed across 16,481 urgent suspected cancer referrals, including 3,313 women on the gynaecological pathway.[1] The study is one of the largest real-world assessments of AI-enabled cancer triage in the NHS and, if implemented in gynaecology, could spare thousands of women from painful, invasive trans-vaginal procedures.

Endometrial cancer is the most common gynaecological cancer in UK women and the fourth most common cancer overall, with cases rising 58% since the 1990s and around 10,000 diagnoses and 2,700 deaths each year.[2][3][4] Approximately 90,000 women are referred annually with post-menopausal bleeding, yet only ~10% will have cancer.[5][6] It means most women undergo invasive, uncomfortable trans-vaginal procedures despite being at very low risk.

In the gynaecological pathway (where most referrals are for post-menopausal bleeding) the test correctly identified 99.1% of cancers as elevated or high risk and delivered a negative predictive value of 99.8% for women in the lowest-risk group.[1] Researchers say this could allow one in five symptomatic women to be safely ruled out in primary care, reducing pressure on overstretched hospital services.

PinPoint's Chief Medical Officer, Professor Sean Duffy MD FRCS, a former NHS England National Clinical Director for Cancer and Gynaecological surgeon who worked in NHS leadership roles nationally and locally, comments: "This is the first time an AI-enabled blood test has been evaluated across nine urgent suspected cancer pathways (USC) in real NHS practice. PinPoint's strong, clinically meaningful evidence shows that a single, affordable blood test can support clinician's decision-making - helping clinicians prioritise patients by biological urgency rather than the typical first-come, first-served appointment systems."

"Nowhere is this more compelling than in gynaecology. The accuracy we have seen in this pathway in identifying more than 99% of endometrial cancers is remarkable by any clinical standard. But equally its value lies in safely ruling out very low-risk women. This has the potential to spare thousands of patients from painful, invasive procedures they do not need. For too long, women have had to undergo uncomfortable diagnostics as a first step; this technology offers a practical, scalable alternative that protects both their experience and their safety."

Data from a smaller subset of 578 women was analysed to compare endometrial thickness measured by ultrasound (the standard diagnostic) vs. the PinPoint blood test as predictors of cancer. In this group, the invasive ultrasound scan used to measure endometrial thickness achieved an AUC of 0.792, compared to a more accurate AUC of 0.832 for the PinPoint blood test (Area Under the Curve is a measure of overall diagnostic accuracy where 1.0 is perfect and 0.5 is

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[1] Neal, M., Dean, M., Duffy, S., Tully, G., Wilson, M., & Worboys, W. (2026). *Real-world validation of PinPoint blood tests in the NHS: Multivariable machine learning to predict cancer risk in primary care urgent referrals. Mayo Clinic Proceedings Digital Health*. Advance online publication. (Real-World Validation of PinPoint Blood Tests in the NHS: Multivariable Machine Learning to Predict Cancer Risk in Primary Care Urgent Referrals - Mayo Clinic Proceedings: Digital Health)
https://linkinghub.elsevier.com/retrieve/pii/S2949761226000489

[2] Cancer Research UK (CRUK) Uterine Cancer statistics Uterine cancer statistics | Cancer Research UK

[3] Royal Marsden Gynaecological Cancer page Gynaecological cancers women need to be aware of | The Royal Marsden

[4] Health Data Insights Endometrial Cancer Audit Pilot page Endometrial Cancer Audit Pilot (ECAP) - healthdatainsight.org.uk

[5] In 2019-2020 there were 71,000 hysteroscopies in England (with population scaling, this equates to approximately 84,000 hysteroscopies annually across the UK in 2019-20). Adjusting for population growth this figure can be estimated as 87,000 in 2026 (Complications of operative hysteroscopy: an anaesthetist's perspective - PMC)

[6] NHS Scotland Management of Post Menopausal bleeding (pg 3)
https://www.rightdecisions.scot.nhs.uk/media/wapb50za/management-of-post-menopausal-bleeding.pdf?utm_source=copilot.com (last accessed: June 2026)

no better than chance).[7] In this sub-analysis, at the rule-out threshold, the blood test achieved 100% sensitivity and 100% NPV; meaning no cancers were missed.[7] In this group, 116 women could have avoided transvaginal ultrasound and hysteroscopy entirely.

The sub-analysis also found that the blood test could detect cancers outside the gynaecological pathway where initial ultrasound findings were normal, such as a peritoneal cancer (a rare cancer near the womb with no current screening method).[7] This addresses a longstanding weakness of siloed urgent cancer pathways, where a negative test in one organ system can lead to false reassurance.

Health-policy analysts say the findings align closely with the National Cancer Plan, which calls specifically for AI-driven triage tools to help prioritise patients by biological urgency rather than first-come, first-served appointment systems.[8] The test analyses 30 standard blood biomarkers routinely tested in NHS labs (plus patient's age and sex) to aggregate cancer signal and calculate the risk of cancer. By using only standard biomarkers, the cost of the test is kept to a minimum for the NHS - under £50 per patient including NHS operational costs – and can be deployed at speed; without the need for new equipment, workforce or capital investment.

"PinPoint combines three things the NHS rarely sees together: strong clinical performance, genuine affordability and immediate scalability," adds Brent Kilmurray, Chief Executive of Mid Yorks Teaching NHS Trust, "Mid Yorks was the first trust to run the PinPoint test in our pathology labs and we will be at the forefront of delivering PinPoint for the benefit of our patients. We're looking at several cancer pathways but the case in gynaecology is especially compelling and we are in the process of taking the next steps with a wider pilot."

With urgent cancer referrals rising 10% year-on-year[9] and diagnostic services under sustained pressure, NHS leaders are now reviewing how the technology could be integrated into national pathways. In gynaecological specifically, the renewed Women's Health Strategy (April 2026) commits to offering women more choice ahead of hysteroscopy and ending inadequate pain management during the invasive procedure.[10] PinPoint offers a route to reducing the number of women who need those procedures in the first place.

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About PinPoint Data Science

PinPoint Data Science is the developer of the PinPoint Test. They are a Leeds-based SME with expertise in advanced statistical analysis of medical data and machine learning. The company has been developing the core technology for 10 years as part of the medtech ecosystem in Leeds. Behind the test is PinPoint's machine learning software development platform that is used to produce medical-grade algorithms. The technology learns the patterns that connect inputs (in this case, blood test results) and outputs (in this case, cancer diagnosis). As datasets grow and improve in granularity, so the algorithms can be trained for increased accuracy. Future versions of the PinPoint Test are expected to continue this trend, separating cancer and non-cancer with improving diagnostic accuracy. The company has been supported with funding from NHS England, SBRI Healthcare and Innovate UK.

[7] PinPoint sub-analysis, data on file

[8] National Cancer Plan, 2026. Read more: AI to speed up cancer diagnosis for millions of NHS patients - GOV.UK

[9] Trends and variation in urgent referrals for suspected cancer 2009/2010–2019/2020 | British Journal of General Practice (British Journal of General Practice, 2022)

[10] Women's Health Strategy for England, April 2026 (Page 21) renewed-womens-health-strategy-for-england-web-accessible.pdf