



the gynaecological cancers charity

Our Research 2024



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Message from our Chair



What an exciting time to be a part of this incredible charity! As Chair of the Board of Trustees, I am honoured to be able to carry on the legacy established by my predecessor, Melanie Richards CBE.

Due to her dedication and commitment, we have a strong foundation for funding vital research into gynaecological cancers. During my tenure as Chair, I hope to expand those efforts by strengthening the relationships with you and with our research partners.

As we continue our commitment to research and collaboration, I wanted to share an overview of the amazing research we currently support. One key initiative of which I am immensely proud is our Fellowship Program. Launched in 2023, it is already developing research and sparking innovation through two outstanding Fellows whose work is essential to driving new breakthroughs in gynaecological cancer research. Partnerships, such as that with North West Cancer Research, are also vital to our ability to maximise our reach and impact. You will read more about these and other initiatives in this report.

Every step forward has been made possible by the generosity and dedication of our donors, partners, and supporters. Each contribution gives our researchers the tools they need to make strides toward the prevention and earlier detection of gynaecological cancers. We are grateful to every one of you for standing with us.

Our talented team, led by our hardworking Chief Executive Athena Lamnisos, has also shown boundless dedication in advancing our mission.

I feel privileged to work alongside Athena, the Board, the staff, and the researchers, as well as all the generous donors who allow us to continue to expand our research, education, and support. **We have much to accomplish, and I look forward to the progress we will make together.**

Thank you to those who are already part of this journey with us and a warm welcome to those who will become part of our team this year. Because of you, we hope to one day live in a world where all gynaecological cancers are prevented or detected at the earliest stage, when they are the most treatable.

Tamara Box
Chair of the Board of Trustees

66 **Every step forward has been made possible by the generosity and dedication of our donors, partners, and supporters**

A Message from our CEO



As I reflect back on the last decade at The Eve Appeal, the urgent need for more research in gynaecological cancers has never been clearer.

These cancers remain some of the most underfunded and under-researched, directly affecting lives and exacerbating healthcare disparities for women and people with gynae organs. Without sufficient investment, advancements in early detection, prevention, and screening continue to fall far behind. Closing this gap is critical. Our focus at The Eve Appeal remains on driving forward research that can transform early detection and prevention.

In 2024, we've embraced a new era of partnerships and collaborations to double the impact of our research funding. Our Fellowship Scheme is growing, and our co-funding partnership with North West Cancer Research is driving essential studies in womb and ovarian cancer. Through our Rare Gynae Cancer Fund, we're proud to support four pioneering projects in Birmingham, Leicester, and London.

One landmark this year was our involvement in the NHS's national BRCA screening program. Eve-funded research laid the groundwork for this important step forward in the prevention of ovarian cancer. Seeing these findings brought into mainstream healthcare is a moment of great pride. The research you have helped support is making a difference and is already saving and improving lives.

Our mission is powered by the generosity of you, our supporters. Every contribution not only drives scientific breakthroughs but also sustains our vital services and outreach. Thank you for standing with us as we move toward a future where all gynaecological cancers are preventable, or detectable at the earliest stage.

Athena Lamnisos

Athena Lamnisos
CEO

66 Without enough investment, progress in the early detection, prevention and screening of these cancers lags far behind.

What we do

The Eve Appeal is the leading gynaecological cancer charity. Our aim is to prevent gynae cancers from developing in the first place, but if they do develop, we want to make sure they're detected early so more people survive their diagnosis.

In the UK, gynaecological cancers receive just 5% of cancer research funding (CRUK, 2021). Less still is focused on prevention and earlier detection.

Eve is committed to bridging this gap.

We partner with leading researchers and universities in the UK and beyond. We fund world-class research from leaders in the field of gynae cancer, as well as support the next generation of talent. We're building up a strong community of scientists, now and for the future, all dedicated to preventing or detecting gynaecological cancers earlier.

What are our 3-year priorities 2023-2025?

- > Fund research across all five gynaecological cancers
- > Establish The Eve Appeal Fellowships Programme
- > Support the Eve research community
- > Support early career researchers from clinical and academic backgrounds
- > Capture and share the impact of our research activity
- > Ensure partnership and collaboration across the research landscape
- > Develop patient engagement with Eve research

To make our goals a reality, we fund world-class research in four key areas:



Uncovering the causes of gynae cancers



Predicting a person's risk of developing gynae cancer



Identifying how people can reduce their risk



Improving detection and diagnosis

Timeline

<1995

1984

Ian Jacobs, a newly qualified doctor and trainee surgeon, horrified by the low survival rates of women with advanced ovarian cancer, began to search for a way of screening women for ovarian cancer. In order to raise funds for this research in 1985 he founded the Gynaecology Cancer Research Fund as a registered charity.



1996

The Gynaecology Cancer Research Fund received significant support from Peter Vagn-Jensen to expand the charity.

Since its inception the charity has funded ground-breaking medical research focused on the risk prediction, earlier detection and the prevention of gynae cancers.

2000

2001

The UK Collaborative Trial of Ovarian Cancer Screening (UKCTOCS) launches. This was the world's largest randomised controlled trial, involving 200K+ women. It looked whether screening for ovarian cancer can save lives.

2002

The charity was formally registered in 2002 and later became known as The Eve Appeal.

The UK Familial Ovarian Cancer Screening Study (UK FOCSS) begins. A trial testing screening for those at a higher risk of ovarian cancer because of an inherited risk.

2005

2006

The UK Ovarian Cancer Population Study (UKOPS) starts. Looking into whether other genetic and epidemiological factors are at play in the 9 in 10 women with ovarian cancer who don't have an inherited risk.



2008

The Genetic Cancer Prediction through Population Screening (GCaPPS) study looked into the feasibility of population based screening for BRCA 1 and BRCA 2 gene alterations for the Ashkenazi Jewish community versus current family history based testing.

2010

2011

PROMISE (Predicting Risk of Ovarian Malignancies Improved Screening and Early Detection) aimed to find new biomarkers and developed a screening test for the early detection of ovarian cancer.

2013

EpiFem took a holistic approach to women's cancers, aimed at developing an understanding of early epigenetic markers for four key cancers—breast, womb, ovarian, and cervical. This work led on to the ground-breaking FORECEE (4C) programme.

2014

The Eve Appeal receives an overwhelmingly positive 5-Year Review, led by Sir John Pattison.

2015

2015

Launch of the BRCA Protect Research Clinic. The clinic hoped to develop new ways for women to reduce their risk of breast and ovarian cancer

UKCTOCS results suggest that screening via an annual blood test may reduce the number of women dying from ovarian cancer by around 20%.

FORECEE (4C) aims to make individualised risk predictions for cancer available to women for the first time. By looking for molecular markers in cervical cells they can predict the risk of them developing developing breast, womb, ovarian and cervical cancer.

The Eve Appeal were the first beneficiary of the Tampon Tax Fund. This significant donation helped to achieve our aim of funding the FORECEE project.

2016

Launch of specialist gynae cancer information service – Ask Eve. This service provides free, confidential and expert gynae health information and advice.



2017

UK FOCSS results suggested that screening women at high risk of ovarian cancer every four months may reduce the likelihood of them being diagnosed with advanced stage ovarian cancer.

The European Research Council awarded The Eve Appeal lead-researcher Professor Martin Widschwendter the prestigious ERC Advance Award of 2.5 million euros. This came after the Eve funded BRCA Research Clinic published significant results.

Launched our key awareness campaign Know Your Normal in September, to sit alongside Gynaecological Cancer Awareness Month.



2018

The Eve Appeal were mentioned during a House of Lords debate on cancer innovations.

GCaPPS Stage 2 results were published which found that screening the entire population for breast and ovarian cancer gene alterations could prevent up to 17,000 fewer ovarian cancers and 64,000 fewer breast cancers than current testing.

2020

2020

Fourth of four House of Commons ovarian cancer receptions

2021

The Eve Appeal becomes a member of the Association of Medical Research Charities.

2022

The first two Rare Gynae Cancer Research Fund grants are awarded.

2023

Launch of The Eve Appeal and North West Cancer Research Fellowship Scheme.

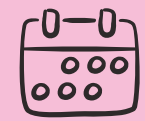
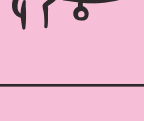
2024

Womb Cancer Audit launches, part-funded by The Eve Appeal.

NHS BRCA Testing programme launches in January.

NICE guidelines for familial and genetic risk for ovarian cancer were updated. A significant amount of the research that led to the development of the guidelines was led by The Eve Appeal.

Our research in numbers

 22 years of supporting gynae cancer research as The Eve Appeal	 7 active funding partnerships with other charities/organisations
 38 years since Professor Ian Jacobs set up the charity	 10 prizes and awards received in 2024
 £10M total investment in research	 3 international collaborations in 2024
 £834K research spend 2022-2024	 8 researchers supported in 2024
 202K participants in one of the world's largest trials – UKCTOCS	 16 UK and international research centres funded
 4 types of funding calls run by the charity	 £360K value of an Eve and North West Cancer Research Fellowship
 16 women with ovarian cancer who reviewed our fellowship applications	 24 research findings shared in high impact journals in 2024
 3 years as a member of the Association of Medical Research Charities	 14 key conferences attended in 2024

Research highlights

Read more about about the research



Dr Jason Yap,
University of Birmingham

Fellowships

We recognise the unique challenges in gynaecological cancer research. There are limited options for researchers to get funding and progress their career. This needs to change.

We are investing in the next generation of researchers. Our aim is to attract bright minds to the field with financial support, resources, professional networks, and career-building opportunities.

With a 20-year track record of nurturing early-career researchers, The Eve Appeal has helped many scientists secure large grants and push the field of gynaecological cancer research forward.



Dr Neil Ryan, University of Edinburgh

The Fellowships programme



Launched in partnership with North West Cancer Research in May 2023, our Fellowships programme continues this legacy. It supports promising researchers dedicated to the early detection, prevention and screening of gynecological cancers.



University of Manchester

Womb

3 years

Dr Kelechi Njoku, Eve’s Inaugural Fellow

In November 2023, Dr Kelechi Njoku became the first recipient of The Eve Appeal / North West Cancer Research Fellowship.

He and his team are developing a new, gentler test to diagnose womb cancer using proteins found in vaginal fluid. This could replace the uncomfortable and invasive tests currently used for women with abnormal bleeding. Early results show that his new test detects 95% of womb cancers in postmenopausal women. Kelechi’s team now plans to study its effectiveness in 500 women. They will also look into its cost efficiency and comfort compared to current diagnostic tests.

Dr Neil Ryan

Our second Fellow is Dr Neil Ryan, Clinical Lecturer and Subspecialty Trainee in Gynaecology Oncology from the University of Edinburgh.

Neil is working to develop a blood test to detect ovarian cancer in its earliest stages, when treatment is most effective. At the moment, most ovarian cancers are diagnosed too late. This leads to poorer outcomes for the women diagnosed. Neil’s research will focus on identifying proteins in the blood that signal early ovarian cancer.

He will collaborate closely with two patient advisory groups to guide this much-needed research.



University of Edinburgh

Ovarian

3 years

Rare Gynae Cancer Research Fund

There is far too little research into rare gynaecological cancers. This leads to women getting diagnosed later when there are fewer treatment options open to them.

For patients with even rarer subtypes of these cancers, there may be no research at all. We know this is an area where more funding is desperately needed. Thanks to the generosity of some dedicated supporters who have been impacted by these cancers, Eve now funds four pioneering projects to increase the understanding and improve outcomes in rarer gynaecological cancers.



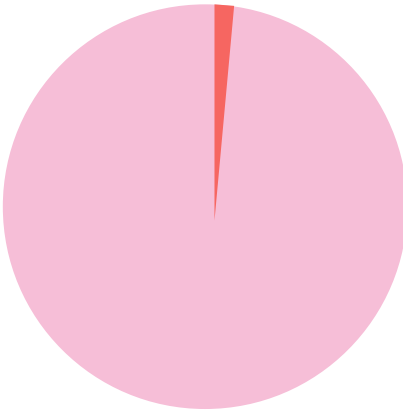
Research on vulval cancer aims to Identify Risk Factors for Women with Lichen Sclerosus

Vulval cancer is one of the less common types of gynaecological cancer. Many women with vulval cancer also have a non-cancerous skin condition called lichen sclerosus.

Lichen sclerosus causes persistent inflammation. It can happen anywhere on the body, but is most common on the genitals. Only a small percentage (5%) of women and people with gynae organs with lichen sclerosus go on to develop vulval cancer. **We don't yet know why some women develop cancer and some do not.**

Dr Jason Yap at the University of Birmingham will study whether specific genetic changes, or alterations, in cells could explain why vulval cancer develops in some women with lichen sclerosus and not others. His team will analyse biopsies from women with lichen sclerosus and those with both lichen sclerosus and vulval cancer. By picking up on any patterns, Jason hopes to uncover who may be at higher risk. This could help doctors better monitor and support people with lichen sclerosus and reduce or monitor their risk of developing vulval cancer. For those at low risk, it could help put their mind at rest and reduce their need for as frequent check-ups.

Jason's work is important as there is very little research into vulval cancer, and few studies are looking into the link between lichen sclerosus and cancer risk. This project has been shaped by input from a local group of women with vulval cancer and lichen sclerosus. Jason hopes this research will empower women with more personalised care options and pave the way for future treatments that could reduce cancer risk.



2-3%
of ovarian cancer cases are mucinous

Understanding and detecting mucinous ovarian cancer

Mucinous ovarian cancer is a rare and hard-to-treat type of ovarian cancer. It makes up just 2-3% of all ovarian cancer cases. It most commonly affects women in their 40s and 50s. Mucinous ovarian cancer can be difficult to manage, especially if it is diagnosed at a later stage when there are fewer treatment options. This makes early detection crucial in improving outcomes for the women diagnosed.

Professor Sudha Sundar and her team at the University of Birmingham are **investigating five specific hormone markers they have found to be linked to mucinous ovarian cancer.** These markers, called steroids, were higher in women with mucinous ovarian cancer or with borderline, pre-cancerous mucinous tumours but not in other types of ovarian cancer or in healthy women. This discovery has led them to explore the role of these steroids and their breakdown (or “metabolism”) in the development of mucinous ovarian cancer. They hope this work could pave the way for a diagnostic tool that could help catch this cancer earlier.

Sudha and her team will continue this research by studying mucinous ovarian cancer in lab models and monitoring hormone levels in patients who have completed their initial treatment. They'll use “3D organoids” — mini tumour replicas grown from cancer cells — to help mimic real tumour behaviour in the lab. By better understanding how these hormones work in mucinous ovarian cancer, the researchers hope to not only improve detection of mucinous ovarian cancer but also open up the opportunity for research into possible treatment options.

This project is co-funded by the Birmingham Women's Global Health Research Programme. This additional funding allows the team to expand their research collaborations internationally. They have worked with diverse communities to make this research accessible, translating information into multiple languages and engaging with patients directly. With this innovative approach, Sudha and her team are working to uncover new insights into mucinous ovarian cancer that could make a real difference for those affected by this rare disease.



Lucy Beevors and Professor Sudha Sundar, University of Birmingham



Advances in early detection for vulval cancer and precancerous conditions

Professor Maria Kyrgiou’s team at Imperial College London is pioneering a new approach to diagnosing and treating vulval cancer.

Vulval cancer is a rarer form of cancer affecting around 1,400 women and people with gynae organs in the UK each year. It is most common in older women, which could be due to an ageing population and an increase in human papillomavirus (HPV). HPV is a common virus transmitted through skin-to-skin sexual contact which if high-risk strains aren’t cleared by the immune system can sometimes lead to certain cancers developing, including vulval cancer.

Diagnosing and treating vulval cancer is challenging as the symptoms can be similar to other conditions. Surgery is the main treatment and women often need multiple procedures. This has a significant physical and psychological impact.

Maria’s team is developing an innovative diagnostic test using Laser-Assisted Rapid Evaporative Ionisation Mass Spectrometry (Laser-REIMS). This technology uses a laser to sample tissue, generating a vapor as it cuts. This vapor is analysed immediately by the tool which can identify whether the tissue is healthy, precancerous or cancerous. The goal is to use Laser-REIMS in clinics and during surgeries to help doctors make quicker, more accurate decisions. By identifying areas of cancer vs healthy tissue in real time, Laser-REIMS could reduce the need for repeat surgeries, minimise the removal of healthy tissue, and improve outcomes for women.

Initial research using Laser-REIMS in other gynaecological cancers, like ovarian and cervical, has promising results. Maria’s team hopes the technology will also be a success in **allowing a faster, kinder and more accurate diagnosis and treatment for women with vulval cancer.** Their work has already received recognition with team member Dr Mary Paraskevaïdi presenting findings at major international conferences and winning multiple awards.

Laser-REIMS may be particularly useful in settings where there are limited resources and the current diagnostic methods aren’t available. By supporting this project, our wonderful community of donors are helping to revolutionise vulval cancer care.

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The Eve Appeal funding has enabled us to initiate our research project on vulva disease and the use of innovative metabolomics-based technologies, which have the potential to enhance the early detection, diagnosis and treatment of vulva disease.

– Prof Maria Kyrgiou, Imperial College London



Dr Apostolia Galani and Dr Mary Paraskevaïdi



University of Leicester
Womb
2 years

New research to improve diagnosis of uterine sarcomas

Uterine sarcomas are a rare and aggressive type of cancer that affects the womb. They account for around 3 in every 100 womb cancers. They are difficult to diagnose because they share many symptoms and look very similar to common, non-cancerous growths called fibroids.

Only around 1 in 3 uterine sarcomas can be detected through current testing methods which is a biopsy. There is no blood test available for uterine sarcomas. This all means that women are often diagnosed late when they have less treatment options available.

Dr Esther Moss and her team at the University of Leicester are developing a blood test to help identify uterine sarcomas. This test will be based on circulating tumour DNA (ctDNA) – tiny fragments of DNA shed by cancer cells into the bloodstream. By analysing these DNA fragments, the team hopes to create a test that can separate sarcomas from fibroids.

This project is particularly important for Black women, who are at higher risk of both fibroids and uterine sarcomas. The aim of the blood test is to enable an accurate and quicker diagnosis of uterine sarcoma, helping to support patients’ treatment decision making, and ultimately to help save lives. Thanks to your support, this innovative research could be a vital step forward in diagnosing and treating uterine sarcomas.



Dr Natalie Darko, Dr Esther Moss and Professor Jacqui Shaw, University of Leicester

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It is fantastic that The Eve Appeal is supporting this project which aims to make a real-world impact on women who are suspected of having, or diagnosed with, a uterine sarcoma.
– Dr Esther Moss, University of Leicester

Angela’s Small Cell Ovarian Cancer Research Fund

Angela’s Fund was set up in memory of Angela Butcher, who died of small cell ovarian cancer in 2013. Angela and her family’s outstanding fundraising efforts have raised over £240,000 to support research in this area, and into other rare gynae cancers.



McGill University, Canada
Small Cell Ovarian Cancer
4 years

Research progresses in small cell ovarian cancer are bringing new hope to young women

With support from The Eve Appeal and some very dedicated supporters who have experience of small cell carcinoma, Dr William Foulkes and his team at McGill University, Canada, have been working to understand and treat small cell carcinoma of the ovary, hypercalcemic type (SCCOHT).

Small cell is a rare but aggressive ovarian cancer that affects young women, with the average age at diagnosis being 23.

Small cell is difficult to diagnose and treat. It is linked to variations on the SMARCA4 gene. Many of the gene variations, known as variants of uncertain significance (VUS), create difficult decisions for patients and doctors. In some cases, young women are advised to consider preventive surgery because of their risk, removing both ovaries. This is a big step that has both a physical and emotional impact.

Will and his team have created the SCCOHT & SMARCA4 Registry and Biobank. This is a global resource where data and biological samples are kept helping researchers across the world to understand small cell ovarian cancer. The registry has become an essential hub for scientists, doctors, and patient advocates working together to increase awareness, improve diagnosis, and develop treatment options for this under-researched cancer.

The project continues to connect researchers and build momentum in small cell research. It is only thanks to the support of very dedicated donors that has enabled this life-changing project to move forward. The team is hopeful that, with continued support, they’ll be able to develop treatments that offer real hope for patients and their families in the years to come.

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There is still a lot of work to be done to improve outcomes for this disease, but with more health care providers aware, and more research participants, research progress is accelerating.
– Prof William Foulkes, McGill University, Canada

Vulval Cancer Research Fund

The concerns and interests of a number of our donors and supporters led to the development of the Vulval Cancer Research Fund. Before it, there was no research that had been funded in the UK on the risk prediction or prevention of this cancer.



New hope for the early detection of vulval cancer
Dr Jackie McDermott and her team at Imperial College London are working to develop our understanding of vulval cancer.

Jackie is working with the advocacy group Visible Vulvas on this project. Their research is looking into the genetic changes that occur in two types of vulval pre-cancerous conditions — those linked to a HPV infection and those associated with inflammatory conditions like lichen sclerosus. This research can help identify why some women develop vulval cancer and some don't.

The research team is using a technique called spatial transcriptomics. This allows them to map gene activity in sections of vulval tissue. This technique gives a detailed view of how healthy skin can progress to pre-cancer or cancer. By viewing this process at the genetic level, **they hope to uncover early warning signs.** This could lead to earlier diagnoses, more targeted treatments, and hopefully reduce the need for multiple surgeries for women with vulval cancer.

- Imperial College London
- Type: Vulval
- Duration: 2 years

MEET MANDY

Mandy was diagnosed with vulval cancer in 2012. Her story emphasises the critical need for early detection and prevention research.

66 I noticed a small painful lump in my groin. After being examined by my GP I was told that I had an abscess and was given antibiotics.

On my third abscess and visit I saw a different doctor. I could never in my wildest dreams have prepared myself for what he said. He thought I had vulval cancer.

How do you tell everyone you love that you have cancer? The hardest thing for me to do was to break this news to my children.

I needed an operation called a radical vulvectomy and removal of lymph nodes in my groin. The surgery went ahead, five days later I was home with the Professor confident that he had good margins.

At a routine appointment, the shock came like a punch in the face: a new suspicious area that needed removing. Since then, I have had seven surgeries, and I have regular appointments with multiple teams to keep on top of my physical and mental health.

This has been my life since 2012. **I feel that the more funding and research into vulval cancer the better.**



Small Grants Scheme

Researchers have expressed the need for smaller, flexible pots of funding to gather essential data and evidence. The Eve Appeal’s Small Grants Scheme helps provide a stepping stone to get early-stage research off the ground.



 University College London

 Womb

 3 years

Cancer detection for women with Lynch syndrome

The Eve Appeal has funded critical research with **Professor Adam Rosenthal** at **University College London Hospitals (UCLH)** to explore the early detection of womb cancer in women with Lynch syndrome.

Women and people with gynae organs with Lynch syndrome are at increased risk of certain cancers, including womb cancer. Knowing you have Lynch syndrome opens up options for risk-reducing surgery and regular surveillance, but the tests can be uncomfortable and invasive. They face tough decisions about risk-reducing surgery that has both a physical and psychological impact.

For those who choose to delay or decline surgery, having a reliable surveillance option is crucial. The existing guidelines don’t currently recommend any standard gynaecological screening, leaving these women with limited options. This project aims to change that by investigating whether specific changes in DNA repair proteins within the womb lining can indicate the early onset of cancer in women with Lynch syndrome.

Thanks to your kind support, Eve funding has enabled the collection and analysis of 74 historical tissue samples from women with Lynch syndrome, including those who developed a pre-cancer or cancer. By studying these samples, researchers hope to uncover patterns in the loss of DNA repair proteins that may signal whether someone is likely to soon develop womb cancer. This research could provide women and their clinical team with a guide to make personalised decisions on if and when to have preventative surgery.

The team has gone on to secure further funding to expand the study with DNA methylation analysis. The team hope this could lead to a **new, less invasive way of surveying women’s risk of womb cancer**. Together, these two projects highlight our role in the prevention and earlier detection of gynaecological cancers, and how we can give women at high-risk more options and peace of mind.



 Leeds Beckett University

 5 Gynae Cancers

 3 years

Increasing awareness of gynaecological cancer and early detection in young women in university

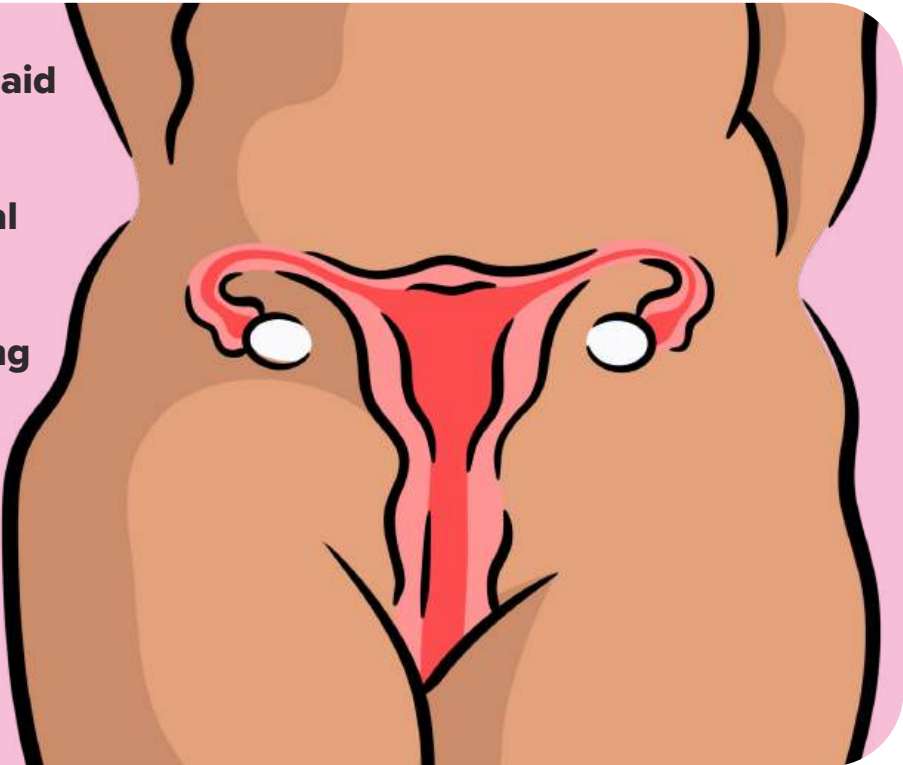
Gynaecological cancers can affect both younger and older women and people with gynae organs. Yet awareness remains low.

The key to detecting cancer early is **lifelong awareness**, where people have an understanding of their body and what’s normal for them, know the signs and symptoms to look out for and feel empowered to get any changes checked by their doctor.

Dr Trish Holsch and her team at Leeds Beckett University have developed an innovative educational program aimed at increasing awareness of gynaecological cancers in university students. The project uses an online film and interactive help sheet. They’re designed to empower young women with knowledge about symptoms, self-checking, and raise their confidence in seeking medical help. Trish’s team hopes to embed good health seeking behaviours in young women, so that they can take care of their gynae health throughout their life.

The participants said they had a better understanding of the gynaecological cancers and more confidence in spotting and acting on symptoms. The study also found that participants felt more comfortable having conversations around gynaecological health, reducing stigma. The team hope to expand the program to universities across the UK, helping more young people become proactive in looking after their health.

The participants said they had a better understanding of the gynaecological cancers and more confidence in spotting and acting on symptoms.



Strategic Funding – University College London

The FORECEE (4C) program and WID-Tests for cancer prevention

We have been supporting research to develop new molecular tests that could predict the risk of breast, womb, ovarian and cervical cancer, as well as provide kinder and less invasive routes to diagnosis.



- University College London
- Womb, Ovarian, Cervical
- 10 years

66

After all these years of working in cancer research, it feels great to be in a position where we have a test that is ready for implementation into healthcare systems.

– Professor Martin Widschwendter

FORECEE, led by Professor Martin Widschwendter and his team at the Institute for Women’s Health at University College London (UCL), started in 2015 and was co-funded by The Eve Appeal and the EU’s Horizon 2020.

The WID-Test analyses DNA methylation on cells taken from a cervical screening sample. DNA methylation sits on top of DNA in our cells and tells them which parts of the genetic code to read, like the software in a computer, with the DNA being the hardware. DNA methylation is affected by environmental and lifestyle factors like diet, exercise, smoking and hormonal exposures and some changes can increase the risk of certain diseases like cancer.

Martin and his team have published several papers on WID-Tests exploring how they can be used to earlier detect or predict the risk of cancer:

WID-qEC

A new pathway for womb cancer detection - The WID-qEC test is a breakthrough in detecting womb cancer. Womb cancer is the fourth most common cancer in women in the UK, with one ‘red-flag’ symptom of abnormal vaginal bleeding. Women with abnormal bleeding symptoms face uncomfortable, often painful, and invasive tests to investigate womb cancer, including intravaginal ultrasounds, hysteroscopies, and biopsies.

WID-qEC

The WID-qEC test was found to be just as effective as transvaginal ultrasound at detecting womb cancer and was shown to reduce the need for surgical procedures like hysteroscopy and biopsies for 9 out of 10 women who do not have cancer. Unlike transvaginal ultrasound, the WID-qEC test also performs well in Black women, who are twice as likely to die from womb cancer, often from late diagnosis. The WID-qEC has the potential to streamline the diagnostic pathway, reduce health inequities, save women from added anxiety and discomfort, and save the NHS time, resources, and money.

Improving cervical screening, The WID-qCIN test, when combined with current HPV testing, detected 69% of all cancers and precancerous cell changes, compared to just 18% with the existing test. By analysing DNA methylation in a cervical screening sample, WID-qCIN could more accurately predict which people with HPV would go on to develop cancer. This test could reduce the need for invasive follow-up procedures like colposcopies and LLETZ, sparing women unnecessary anxiety and discomfort.

Predicting cancer risk, WID-Tests can detect up to 30% more women at risk for breast and ovarian cancers than tests based on genetics (Polygenic Risk Scores). The next phase of this research is focusing on further validation and how the tests might be implemented in screening programmes.

Looking ahead, Martin and his team see a future where WID-Tests are available at all NHS GP surgeries. Sola Diagnostics, a spin-out company in which The Eve Appeal owns shares, is launching the WID-qEC test in the UK and is in discussions with the NHS about implementation.



Professor Martin Widschwendter’s research team at University College London

Research impact

Eve has a track record of funding early stage, new and ‘riskier’ projects that have grown with wider support and are creating change in the field of gynae cancer research.

UKCTOCS

The UK Collaborative Trial of Ovarian Cancer Screening (UKCTOCS) has left a growing legacy in ovarian cancer research.

The project, which was the largest ever clinical trial – working with over 202,000 women – looked into whether ultrasound could be used as a screening test for picking up early-stage ovarian cancers. The project was led by Professors Ian Jacobs and Professor Usha Menon.

The results of the trial sadly didn’t show that screening would save lives, the measure needed for a screening programme on the NHS. The trial did however teach us a lot about ovarian cancer and a huge bank of samples was collected, with over half a million serum samples. **This biobank is now called the UKCTOCS Longitudinal Women’s Cohort (UKLWC).** The samples are a vital tool for ongoing research in ovarian cancer and has created important collaborations in academia and industry. It has led to over 70 projects and



Professor Usha Menon

counting, with 65 papers already published with important findings. With its long-term sample data, the biobank provides a unique and important foundation for research into the early detection, and hopefully one day the screening of ovarian cancer.

PROMISE

The PROMISE programme, supported by Eve, has been pivotal in increasing our understanding of ovarian cancer and its prevention.

PROMISE—short for Predicting Risk of Ovarian Malignancies, Improved Screening, and Early Detection—was a seven-year international research initiative with a bold aim: to halve deaths from ovarian cancer.

Ovarian cancer is often detected in its later stages as the symptoms are often vague and similar to other less serious conditions. PROMISE aimed to spot women at risk and improve diagnostic techniques to pick up ovarian cancer earlier. This study had £3.2 million of funding, £1.65 million of which was from The Eve Appeal. Many leading research institutes collaborated on the project including University College London (UCL), the University of Cambridge, the University of Manchester, Harvard Medical School, and the University of Southern California.

The PROMISE team worked on validating methods of predicting the risk of ovarian cancer, developing new tools to diagnose it and creating a cost-effective screening programme. The PROMISE Feasibility Study explored the possibility of offering all women the option to assess their ovarian cancer risk. Through a user-friendly web-based decision aid, participants were given information and genetic testing to find out their cancer risk. For those found to be at higher risk,

follow-up screening and prevention options were offered. This pioneering approach promised to transform ovarian cancer prevention, creating pathways to earlier detection and better outcomes for women worldwide.

The PROMISE programme continues to get significant follow-on funding from a range of organisations including the Medical Research Council, Cancer Research UK, and the NHS Innovation Accelerator Fellowship scheme.

GCaPSS

The Eve Appeal’s partnership with Professor Ranjit Manchanda started with the charity supporting his PhD.

Now at Queen Mary University, Ranjit is a leading gynaecological oncologist. He continues to drive impactful research into population-based screening for BRCA alterations, that increase the risk of breast, ovarian, prostate, and pancreatic cancers. His work led to the NHS launching BRCA population testing in the Jewish community in 2023.

This new approach, studied through the Genetic Cancer Prediction through Population Screening study (GCaPPS) at University College London (UCL), compared population-based BRCA screening with traditional family history-based methods in the Ashkenazi Jewish community. BRCA alterations are more common in this community with around 1 in 40 people of Ashkenazi Jewish heritage having a BRCA alteration compared to 1 in 800 in the general population. GCaPPS found that over 1 in 2 (56%) people with a BRCA alteration found through population screening would have been missed by previous family history-based screening.

The study also found that population screening was acceptable to people and had no further impact on their wellbeing compared to family-history based testing. The team also modelled the cost population-based testing would have on the NHS and found that it would save the health service millions of pounds. We are continuing to support this work through outreach, awareness, and engagement programs with Jewish community organisations.

PROTECTOR

The PROTECTOR study is testing a new two-step surgery to prevent ovarian cancer in women at high risk due to genetic alterations like BRCA alterations or a family history of ovarian cancer.

Current preventive surgeries remove both fallopian tubes and ovaries. This plummets women into an early menopause which brings both physical and psychological symptoms. PROTECTOR tests removing only the fallopian tubes at first, with ovaries removed later after the woman has reached a natural menopause. This new method **hopes to reduce cancer risk while preserving women’s fertility and improving their quality of life.**

Participants can choose between this two-step approach, single-surgery removal, or no surgery. The study, now active in 37 centres across the UK, has enrolled over 420 women so far. They hope to have 1,000 women by December 2024. The study has also now expanded to include women with PALB2 gene alterations, those planning IVF, and cancer survivors post-treatment.

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Broadening genetic testing beyond just family history can save both lives and money.

– Athena Lamnisos, Eve CEO

UKFOCSS

The results of UK Familial Ovarian Cancer Screening Study (UK FOCSS), which was co-funded by Eve, support surveillance of women at high risk of ovarian cancer who wish to delay or decline preventative surgery.

The study screened over 4,000 women with an inherited risk of ovarian cancer. They study used a test called the Risk of Ovarian Cancer Algorithm (ROCA).

ROCA tests track the levels of CA125, a blood marker associated with ovarian cancer. Screening the women every four months, the study found 9 out of 10 cancers at an earlier stage before the women experienced any symptoms. This meant they were less likely to need extensive surgery to remove all the visible cancer. The ROCA test therefore **offers women at a high risk of ovarian cancer the option of monitoring their risk while they consider surgery.**

We are delighted to report that the UKFOCSS trial led the National Institute of Health and Care Excellence (NICE) to approve use of the ROCA test for women with BRCA1 and BRCA2 gene. This allows women at the highest risk of ovarian cancer to make personalised decisions about their health when facing the difficult choice of whether to have preventive surgery.

iKnife

This research, led by Professor Sadaf Ghaem-Maghami from Imperial College London, has developed a tool to instantly diagnose or rule out womb cancer.

If used in clinic, the intelligent knife (iKnife) technology, could give a diagnosis in minutes for people with abnormal vaginal bleeding.

The iKnife cuts through tissue whilst delivering an electrical current, heating as it cuts. It then captures and analyses the vapour that is released. Using a technique called mass spectrometry it can spot any ‘cancer flags’ in the phospholipids that make up the outside of cells.

The iKnife would speed up access to treatment for those with womb cancer, as well as reducing the stress and anxiety of waiting for results. The next step in this project is to run a large-scale trial to test the technology in the clinic.



Changing clinical practice

The recent updates to the NICE guidelines on identifying and managing inherited and genetic risk of ovarian cancer mark a transformative moment in preventative healthcare.

The research you have helped to fund has laid the groundwork for these changes. Spearheaded by Professor Ranjit Manchanda, an Eve fellow, and with board member Professor Adam Rosenthal on the committee, these guidelines represent a major step forward in ovarian cancer prevention and risk management.

The guidelines open up genetic testing to many more people, which could save thousand from the devastating diagnosis of ovarian cancer. They are expected to have a substantial impact on the NHS, with a greater need for genetic counselling and testing services to meet demand. These guidelines are a testament to our long-standing dedication to changing practice and improving outcomes for women at risk of ovarian cancer.

The impact of our research is already transforming gynae cancer care. Our early ‘seed’ funding has given important research the kick-start it needs to get off the ground. We cannot thank you, our supporters, enough for helping make all of this work possible. Together, we have already achieved a lot, but we have so much more to do to achieve our vision of a world where all gynaecological cancers are prevented or detected at the earliest stage.

Thank you

A huge thank you to each and every one of you — our supporters, partners, researchers, and volunteers.

Thank you Mandy and to the many women and their families who have shared their time, their stories, their feedback and their energy to make research happen to help the next generation.

Every project highlighted in this report reflects the dedication of our incredible community. Your contributions are at the heart of our work.

We are grateful to the following people who help us choose the world-class research projects that we support:

Research Advisory Committee Members

The Research Advisory Committee scrutinises all research and fellowship proposals and monitors the progress of funded projects throughout the year. This committee is made up of independent experts. Thank you for your time and expertise.

- Professor Emma Crosbie (Chair)
- Rhea Crighton
- Dr Garth Funston
- Professor Raji Ganesan
- Dr Helen Howie
- Professor Anne Lanceley
- Professor Sudha Sundar

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Board Members on the Research Committee

- Professor Ian Jacobs (Chair)
- Emma Dean
- Dr Christine Ekechi
- Professor Adam Rosenthal



the gynaecological cancers charity

The Eve Appeal is the leading gynaecological cancer charity.

There are five gynae cancers, which are womb, ovarian, cervical, vulval and vaginal cancer. Our aim is to prevent gynae cancers from developing in the first place, but if they do develop, we want to make sure they're detected early so more people survive their diagnosis.

To make our goals a reality, we fund research that aims to identify the causes of gynae cancers, predict and reduce a person's risk of developing them, and improve their detection and diagnosis.

We also educate people about their gynaecological health and anatomy and the signs and symptoms of gynae cancers. And we answer people's questions about their gynae health and gynae cancers through our Ask Eve nurse service.

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