



OCRF RESEARCH STRATEGY

OVARIAN CANCER RESEARCH STRATEGY
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**OVARIAN
CANCER
RESEARCH
FOUNDATION**

The Ovarian Cancer Research Foundation (OCRF) - Funding the most promising and innovative ovarian cancer research to save women's lives

Not only does the OCRF directly invest the most money into ovarian cancer research of any Australian charity, it strives to be the charity of choice by:

- focusing on research that will make the greatest difference to the greatest number of women
- using international and Australian experts in the field to identify the most innovative and promising research projects
- having a clear and achievable strategy – focusing on the here and now, to extend the lives of women with ovarian cancer; and an eye to the future – removing the lethal threat and eradicating the disease.

Currently, the OCRF receives more high-quality grant applications than it can fund so is actively seeking to significantly increase revenue to ensure that progress continues and that women's lives are saved.





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ABOUT OVARIAN CANCER

Ovarian cancer is the most lethal of the gynaecological cancers. Today, in Australia alone, three women will die from the disease and a further four women will receive a devastating diagnosis. As the symptoms of ovarian cancer are so vague and mimic common female complaints, **over 70% of women will be diagnosed in the late stages of the disease - and only 25% of these women will survive beyond five years.**

Currently, there is no early way of detecting or diagnosing the disease other than surgery. Many women go into surgery thinking it is a diagnostic procedure, but most will wake up to find they have undergone a complete hysterectomy. Instead of recovering from major surgery, they are then subject to intense chemotherapy, without a clear understanding of whether this approach is suitable or effective for their specific cancer type. Ovarian cancer is renowned as becoming resistant to chemotherapy so the reality is that **90% of these same women will have a recurrence within 12-24 months, and by this stage the disease is terminal.**

Because the symptoms of early stage ovarian cancer are vague and non-specific, the disease is diagnosed at a late stage after the cancer has spread beyond the ovary to other parts of the abdominal cavity. Early ovarian cancer diagnosis would improve patient outcomes since tumours that are detected before they have spread can be completely removed by surgery, effectively curing the patient. Screening for cervical cancer (Pap smear) and breast cancers (mammography) have been effective in reducing mortality; unfortunately, there is currently no screening test for early ovarian cancer detection.



Leane Flynn is a 51 year old mother of 3 girls and married to Justin. She was diagnosed with ovarian cancer in April 2017 and the diagnosis was a complete surprise because she was in good health and had no obvious symptoms. Subsequent surgery confirmed it was Stage 3C advanced ovarian cancer.

Sometimes Leane thinks back to before she was diagnosed and tries to recall when she first noticed the bloating and how things could have worked out differently had she done something about it then, or better still if it could have been detected before she even had symptoms. Her prognosis would have undoubtedly been better and instead of going through extensive debulking surgery followed by 6 months of chemotherapy – she may have simply had a hysterectomy and got on with her life.

An early detection test would have allowed her to do this.

“Early diagnosis (when treatment is most like to cure patients) is the most effective way to improve outcomes for patients like Leane Flynn. In fact, early ovarian cancer detection could increase patients’ 5-year survival rates from less than 45% to 90%.”

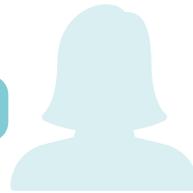
Professor Iain McNeish
Director of the Ovarian Cancer Action Research Centre

AUSTRALIAN OVARIAN CANCER STATISTICS

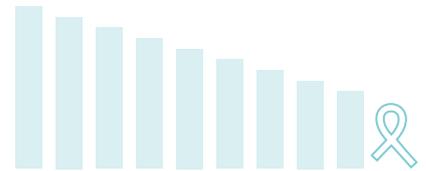


One woman dies every **8 hours** from ovarian cancer

1500



Over 1500 women are diagnosed every year

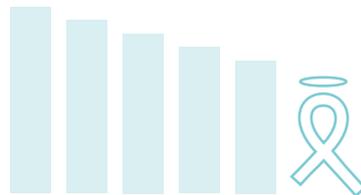


Ovarian cancer is the **10th most commonly diagnosed cancer** among females

1046



There will be an estimated **1046 deaths** from ovarian cancer in 2019



Ovarian cancer is the **6th most common cause of death from cancer** among females

20-25%

5 years +

Only 20-25% of women diagnosed in advanced stages of ovarian cancer will survive **beyond 5 years.**

90%+

When ovarian cancer is found early, patients have over **90% chance of survival** beyond 5 years; however only around **15% of cases are diagnosed** at these early stages.



Women who carry a mutation in their BRCA1 or BRCA2 genes have an approximately **20% greater risk of developing ovarian cancer** than women with normal BRCA genes. However, **less than 20%** of all women with ovarian cancer have a genetic link to the disease.

OCRF RESEARCH PRIORITIES

Wellness, or the state of good health, is an actively pursued goal for most people. The OCRF wants to ensure a future where ovarian cancer no longer threatens women’s well-being. While there have been many advances in our understanding of the basic biology of ovarian cancers, we have been unable to meaningfully shift survivability rates of ovarian cancer patients. Research remains the only solution.

Our Vision

Our vision remains constant – Every woman, everywhere – free from the threat of ovarian cancer

Our Mission and Objectives

Our mission focuses on: Funding innovative ovarian cancer research to save women’s lives through early detection and personalised treatment.

The OCRF has three main objectives:

- Develop and implement an early detection program for ovarian cancer that is non-invasive, highly accurate and widely available.
- Improve the mortality rate, management and long-term survival of women with ovarian cancer.
- Attract and fund the most innovative and skilled researchers.

Currently, we are fulfilling our vision and mission by focusing on extending women’s lives through research that explores individualised and targeted therapeutic approaches; as well as research that explores how best to save women’s lives through early detection, prevention and cure.

Our Research Priorities

The disproportionately high percentage of women that die from ovarian cancer can be attributed to the lack of effective screening strategies and lack of new and personalised treatment options. The OCRF believes that as part of its research strategy, it is essential to find an early detection test and discover new therapies for this disease, so that women with ovarian cancer have the best chance of survival.

Finding new and effective treatments

improving treatment options to increase survival rates

Managing recurrence

Better management of recurrent disease to enhance survival and quality of life

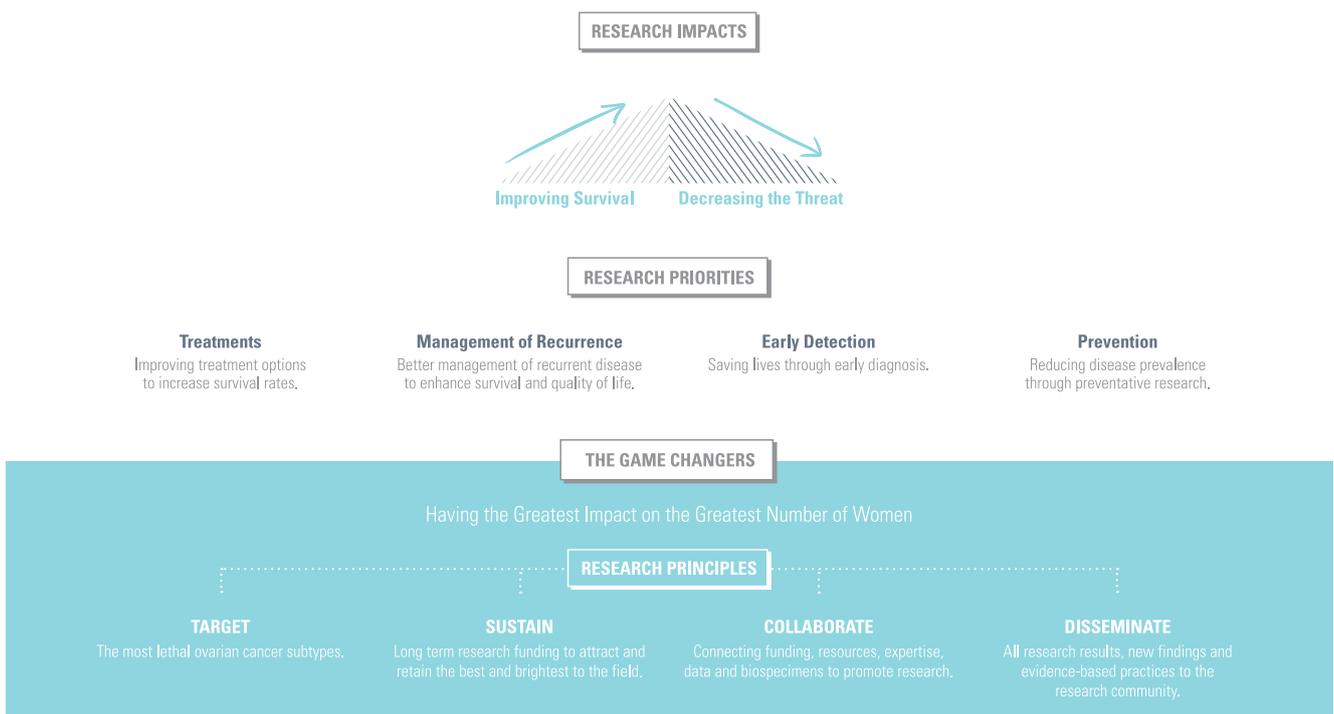
Early Detection

saving lives through early diagnosis

Prevention

reducing disease prevalence through preventative research

Our research strategy – a snapshot



Finding New and Effective Treatments

Improving treatment options to increase survival rates – moving from generic and limited treatment options to targeting the heterogeneity of the disease, metastasis progression and chemo-resistance development.

Currently, we are fulfilling part of our mission by focusing on extending women's lives through research that explores individualised and targeted therapeutic approaches.

Some exciting areas of potential focus include:

- Precision medicine trials
- Immunotherapies
- Drug re-purposing
- Targeted drug-delivery systems
- Development of experimental models reflective of disease heterogeneity
- Management of metastasis
- Management of chemo-resistance

Managing Recurrence

Better management of recurrent disease to enhance survival and quality of life – exploring the ability to monitor, measure and restrict disease recurrence, given the lethality of recurrence in most women.

Ovarian cancer recurrence is common in women diagnosed in the later stages of disease and is a particularly difficult diagnosis as treatment options are limited for this population of patients.

The OCRF has funded projects that are making promising progress in:

- Predictive markers of treatment response
- Markers of therapeutic resistance and exceptional response

Early Detection

Saving lives through early diagnosis – developing accurate, non-invasive and accessible early detection programs to ensure ovarian cancer is diagnosed in the early stages, making it curable.

Over the past 20 years, significant progress has been made towards finding an early detection test for ovarian cancer, in part thanks to funding provided by the OCRF. Several researchers throughout Australia have identified various biomarkers that could potentially be used as a screening tool for ovarian cancer. These biomarkers include molecules secreted by tumors or a specific response of the body to the presence of cancer.

Key areas of focus remain:

- Identifying early events in tumour formation and progression, to help diagnose the presence of ovarian cancer

- Identifying biomarkers that are at a concentration detectable at the early stages of the disease, and
- Multimodality screening strategies

Professor Magdalena Plebanski from RMIT University, is one of many passionate about the pursuit of an early detection test.

“Enormous strides have been taken in the last few years in identifying markers for potential tests.”

Prevention

Reducing disease prevalence through preventative research – exploring the ability to “prevent” ovarian cancer similar to results delivered in other gynaecological cancers such as cervical cancer.

The ultimate aim for ovarian cancer research is to prevent or eradicate disease. This is a long term goal for researchers, but progress has been made in some areas. Some interesting and promising research themes are:

- Preventative hormone-based drug approaches
- Vaccines similar to those for cervical cancer
- Nonsurgical and surgical prevention strategies

The Game Changers – Our Research Principles

If we are to have the greatest impact on the greatest number of women, then we need to abide by our key principles:

Targeting

the most lethal ovarian cancer subtypes

Sustaining

long-term research funding to attract and retain the best and brightest to the field

Collaborating

across the sector to connect funding, resources, expertise, data and biospecimens to promote research

Disseminating

all research results, new findings and evidence-based practices to the research community

OUR RESEARCH GRANT ROUNDS

The OCRF opens annual research grant rounds to the scientific community in Australia and New Zealand. Our Grants are underpinned by:

- A focus on innovation – funding research projects which are innovative and have a direct link to our mission
- Sustained research investment – a commitment to funding multi-year grants (1-3 years in length) to provide stability in the sector and a focus on researcher salaries over equipment
- Supporting researchers and the research community – promoting the development and career progression of scientists at all career stages with an emphasis on supporting highly talented mid-career researchers
- Transparency and accountability – an expectation of sound fiscal management and transparency in reporting on progress, addressing consumer expectations, and through engagement with the OCRF community

The OCRF's grant process is outlined under Grant Guidelines, available on the website.

OUR RESEARCH GRANT GOVERNANCE

All applications for the OCRF Grant Scheme are considered and assessed by our Scientific Advisory Committee, which comprises International and Australian experts appointed by our Committee of Management. Applications are also reviewed for relevance, translation, and consumer engagement by our Consumer Representative Panel, a group which brings together those affected by ovarian cancer. These recommendations for funding are reviewed and finalised by the OCRF Committee of Management. The full criteria for assessment is available under our Grant Guidelines on our website.



Helen Powell, Consumer Representative Panel

"I believe consumer engagement is key to ensuring high research quality and relevance. To be able to have direct input into a research project means that we are more likely to achieve an outcome relevant to the women who need it"



Professor Iain McNeish, Scientific Advisory Committee, Imperial College London

Ovarian cancer early detection programs are becoming more of a reality as researchers have made great strides in understanding the biology of this complex disease and are now testing methods to detect it sensitively and specifically enough for a population wide program.

BUILDING & SUSTAINING OUR RESEARCH COMMUNITY

The OCRF recognises that a strong and sustainable ovarian cancer research community will help see the greatest difference to the greatest number of women. We believe that by providing long-term, sustained funding in the field, we will attract the best and the brightest minds to solve some of the biggest challenges in ovarian cancer. By offering avenues for researchers to come together to present their research, network and look for opportunities to collaborate, the OCRF looks to connect and build a strong and engaged research community.

OUR RESEARCH COLLABORATIONS

Rather than seeking to achieve our vision and mission in a solitary manner, we understand that collaboration makes us stronger, smarter and more effective. Speed is the essence. To save women's lives now, and in the future, we need the support of so many others to help pave the way. We have explored different methods to further support relevant research in the most efficient and effective way. After discussions with some of our cancer research funding peers, we have formulated some key strategic alliances where our dollars will be matched in funding relevant ovarian cancer research.

Australian Cancer Research Foundation (ACRF)

The ACRF is a private charity whose primary mission is to provide competitive grants for major items of infrastructure and equipment to enable high quality research into all forms of cancer in Australia. In 2018, a Memorandum of Understanding was signed between the ACRF and the OCRF, where the OCRF agreed to provide financial support if any ACRF Annual or Major Grant recipient was deemed to be relevant and supportive of the aims of the OCRF. In keeping with the OCRF's funding priorities, this financial support would be to fund personnel to operate any equipment purchased by ACRF Grant monies to ensure that the equipment was available and used for maximum impact and efficiency. The OCRF has committed up to \$300,000 per annum for a term of three years commencing with the 2018 ACRF Grants round.

National Breast Cancer Foundation (NBCF)

The NBCF, in partnership with the Australian community, is leading the pursuit of new knowledge in the prevention and cure of breast cancer. Emerging evidence suggests that there is significant overlap in the mutation profile and endocrine-driven signalling pathways of patients with breast cancer and ovarian cancer. These developments clearly offer exciting new opportunities to support collaborative cancer research projects that benefit many more women compared to tumour-specific approaches. The NBCF and the OCRF have come together to jointly fund high impact translational research that spans both ovarian and breast cancers to improve outcomes for women. The total amount available for this funding opportunity is \$1 million over 3-5 years, evenly split between the two organisations for one or two research projects.

Cancer Council Victoria

Cancer Council Victoria funds between \$4 million and \$6 million to external research organisations each year and has developed an international reputation for innovative work in cancer research, prevention and support. As an independent not-for-profit organisation, they play a leading role in reducing the

impact of all cancers on all people. Cancer Council Victoria has sought ways to increase investment for research into low survival cancers, such as ovarian cancer, and has agreed to co-fund a Grants-in-Aid award with the OCRF. This model aims to access established and rigorous research assessment processes already in place to ensure the best research applications are supported – with the ultimate aim of improving outcomes for people affected by low survival cancers. A Grants-in-Aid project will be funded to a maximum of \$100,000 per year for up to three years, to support a specific ovarian cancer research project.

Australia New Zealand Gynaecological Oncology Group (ANZGOG)

ANZGOG are the peak, national gynaecological cancer clinical trials organisation for Australia and New Zealand. Their purpose is to improve outcomes and quality of life for women with gynaecological cancer through conducting and promoting cooperative clinical trials and undertaking multidisciplinary research into the causes, prevention and treatments of gynaecological cancer.

ANZGOG and OCRF recognise that inherent and acquired drug resistance, a lack of predictive biomarkers and limited therapeutic options for patients who fail standard-of-care chemotherapy all contribute to the very high mortality rate associated with ovarian cancer. Both organisations are collaborating on a project that will develop proof-of-principle for functional drug screening as a mechanism to direct therapeutic decisions for patients. Delivered on an individualised basis, this approach will enhance the use of current therapies to underpin the initiation of new clinical trials, and assist in tailored therapeutic interventions to maximise patient longevity and quality of life. This project combines the clinical trial and translational strengths of ANZGOG and the research capacity of the OCRF to assemble an outstanding team of gynaecological oncology clinicians and researchers, necessary to drive this study forward.

Through the combination of their extensive collective expertise and resources, this initiative is designed to achieve real impact on ovarian cancer treatments. The total funding of this joint initiative is \$350,000. The funding for this collaborative project has been made available by the Eliza Brunner estate.

Partnerships with Government

The OCRF is continually seeking other collaborative opportunities. We remain open and interested in research proposals where research institutions or other organisations seek a partnership with the OCRF as co-joined applicants for Government funds.

CONTACT US

The Ovarian Cancer Research Foundation Inc.
TOK Corporate Centre
Level 1, 459 Toorak Road
Toorak VIC 3142

PO Box 601
Toorak VIC 3142

1300 OVARIAN (1300 682 742)

community@ocrf.com.au

ABN: 24 898 129 866
ABRN: 130 949 834



Website: <https://ocrf.com.au/>

Facebook: @OCRFaustralia

Instagram: @ocrf

Twitter: @ocrfaustralia

LinkedIn: <https://au.linkedin.com/company/ovarian-cancer-research-foundation-inc>

THE OCRF SCIENTIFIC ADVISORY COMMITTEE

Our Scientific Advisory Committee (SAC) provides informed and expert advice to the OCRF Committee of Management to ensure that the most innovative and promising ovarian cancer research is funded. Our esteemed SAC members are experts in their field and come from across the globe to support the Committee of Management in awarding grants for maximum impact.



Dr. L. Jane McNeilage

Scientific Advisory Committee Chair and member of the OCRF Committee of Management

Dr McNeilage is a gynaecological oncologist and held the position of the first National Australia Bank Ovarian Cancer Research Foundation Research Fellow at the Prince Henry Institute of Medical Research. She currently works in private practice as a Gynaecological Oncologist and holds the position of Visiting Medical Officer, Gynaecology Oncology, Monash Medical Centre. Dr McNeilage is an author/co-author of over 50 articles and has received several awards throughout her career, including the Australian Society of Gynaecologic Oncologists – Keith Free Memorial Prize for Young Investigator Presentation and the Royal Australian and New Zealand College of Obstetrics and Gynaecology Brown Craig Travelling Fellowship.



Dr. Geraldine Goss

Member of the OCRF Committee of Management

Dr Goss graduated from the University of Melbourne in 1987. She undertook postgraduate training in oncology at the Royal Melbourne and Repatriation Hospitals, after which she undertook laboratory-based research as a Breast Cancer Fellow. She completed her MD thesis then travelled to Boston, USA where she completed fellowships at St Elizabeth's Medical Centre and the Dana Farber Cancer Institute. Here she developed her interest in gynaecological cancers. Following her return to Australia in 2000, she completed a master's degree in Women's Health at the University of Melbourne. She now works as a medical oncologist with a focus on caring for women with breast and gynaecological cancers.



Professor Iain McNeish

Director, Ovarian Cancer Action Research Centre, Imperial College London

Professor McNeish is the Director of the Ovarian Cancer Action Research Centre which was established in 2006 and is based in the Institute of Reproductive and Developmental Biology. This Research Centre is one of the largest clusters of ovarian cancer research in Europe. Professor McNeish has a strong background in ovarian cancer research. His research specifically focuses on developing improved cancer therapies through greater understanding of the disease biology. He also co-leads the BritOC translational research collaborative.



Professor Matthias Ernst

Scientific Director, Olivia Newton-John Cancer Research Institute, Melbourne

Professor Ernst is the Scientific Director at the Olivia Newton-John Cancer Research Institute. The centre focuses on developing innovative cancer therapies and international research programs, with the best of patient-centred care and medical treatment. His research focuses on molecular mechanisms that underpin the growth of cancer cells. His laboratory team is exploring novel strategies to target cancer-promoting proteins with a focus on developing new therapeutics for gastrointestinal cancers. Professor Ernst is also the Head of the School of Cancer Medicine at LaTrobe University and an NHMRC Principal Research Fellow.



Professor Kenneth P. Nephew, PhD

Professor of Cellular and Integrative Physiology and Obstetrics and Gynecology, Indiana University School of Medicine

Professor Nephew is a Professor of Cellular and Integrative Physiology and Obstetrics and Gynecology at Indiana University. He leads the Ovarian Cancer Research Group at the Simon Cancer Center, serves as the Assistant Director for Basic Science Research Bloomington, and is a Program Leader of the Walther Cancer Institute which is affiliated with the Indiana University. He has dedicated his entire professional career to the study of ovarian cancer. Professor Nephew is the Principal Investigator and co-investigator on numerous grants, serves on various editorial boards, scientific advisory committees, and review panels for both the American Cancer Society and Department of Defense Ovarian Cancer Research Program.



Professor Sandra Orsulic, PhD

Director, Women's Cancer Biology, Cedars-Sinai Medical Center, Los Angeles; Professor in Residence, UCLA

Professor Orsulic is Director of Women's Cancer Biology at the Women's Cancer Research Institute at Cedars-Sinai Medical Center. Her primary research interests include mouse models of ovarian carcinoma, the molecular characterisation of ovarian cancer, and pathway-targeted therapy. Prior to joining Cedars-Sinai, Professor Orsulic was Principal Investigator of a research laboratory at the Massachusetts General Hospital in Boston where she also served as Assistant Professor of Pathology at Harvard Medical School. Professor Orsulic is a member of the National Cancer Institute's Mouse Models of Human Cancers Consortium Steering Committee and Chair of the Gynecological Cancers Working Group. She is also a member of The Cancer Genome Atlas Project Ovarian Carcinoma Working Group, which investigates the underlying genetic changes that occur in human ovarian cancer.



Professor Magdalena Plebanski

Enabling Capability Platforms Director Biomedical and Health Innovation, RMIT, Melbourne

Professor Plebanski is an internationally recognised and award-winning researcher. Her focus is on developing practical and affordable vaccines and treatments for complex diseases like malaria and cancer. She has also pioneered the use of synthetic size-defined non-inflammatory nanoparticles in vaccines. She came to Australia from Oxford University, United Kingdom where she showed new ways in which malaria parasites can trick the human immune system. More recently, Professor Plebanski's insights have been used to help understand cancer progression across multiple human clinical trials, particularly leukemia and ovarian cancer. Her nanoparticle studies also opened the door to new nanotechnology applications to prevent allergic airways disease. Professor Plebanski has more than 50 patents in 10 patent families which have supported the formation of biotechnology companies.