

OCRf RESEARCH STRATEGY

OVARIAN CANCER RESEARCH FOUNDATION

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

If a woman is diagnosed with ovarian cancer, the chance that she will still be alive five years later is just 46 per cent. That is mothers, given less than half a chance to raise their children. Wives, grappling with the fact their partner will grow old alone. Sisters and daughters, facing the unimaginable. Ovarian cancer is one of the most lethal and least understood cancers and over the next 10 years, an estimated 14,000 Australian women will die of it. We want to change that.

The Ovarian Cancer Research Foundation's research strategy outlines how we are going to achieve our goal of a 50 per cent survival rate by 2025, and our intention of nearly doubling the current survival rate for the next generation of women.

We surveyed researchers, those living with ovarian cancer, and clinicians, and they overwhelmingly agreed on three things:

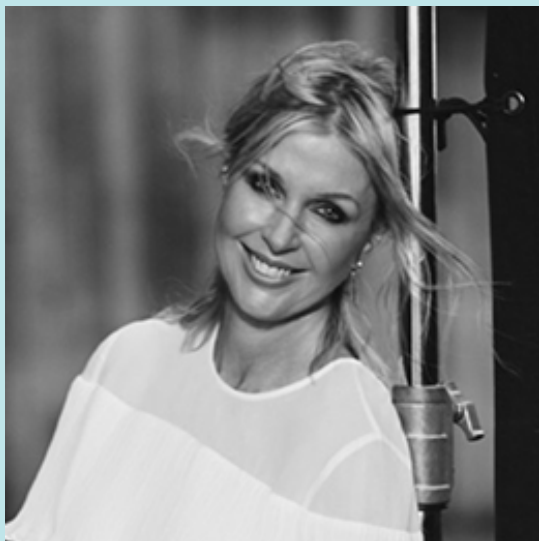
- We need an early detection test.
- We need increased funding for a national approach to treatment and research; and
- We need to act now.

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 29% 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 for 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 most often 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 through 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 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 repeated rounds 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.

ABOUT THE OCRF

Established in 2000, the OCRF has grown to become Australia's leading independent body dedicated to funding national ovarian cancer research. We remain the largest non-governmental funder of ovarian cancer research in Australia and the largest funder of early detection and diagnosis research. We demonstrate leadership in the ovarian cancer space through:

- prioritising research that will have the biggest impact for the most women
- collaborating with ovarian cancer experts to identify and pursue the most promising projects
- embracing a dual focus on both the present (reducing the lethal threat for women today) and the future (striving for complete eradication of ovarian cancer)

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. The OCRF continues to lead and advocate for increased research funding to save women's lives.



Early diagnosis (when treatment is most likely able 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 46% to 90%."

- Professor Iain McNeish, Director of the Ovarian Cancer Action Research Centre, Imperial College London, OCRF Scientific Advisory Committee Member

Our Vision

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



STATE OF THE
NATION 2020



THE STATE OF THE NATION: OVARIAN CANCER RESEARCH AUDIT

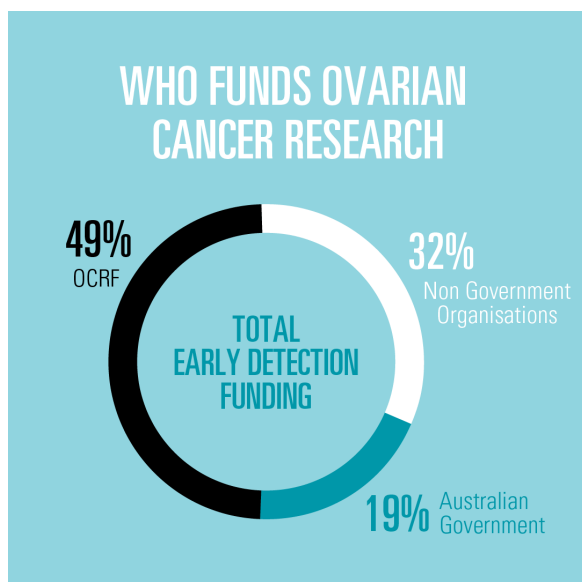
The State of the Nation in Ovarian Cancer: Research Audit was a landmark and fully independent report conducted by Insight Economics. The report provided a clear and informed view on the future research priorities and the urgent need for investment in ovarian cancer research. It was the first of its kind in Australia and incorporated information and data from every major research institute and university in Australia, as well as the views of clinicians, researchers and consumers. Most importantly, it provided an investment roadmap for saving tens of thousands of women's lives.

We need to know where funding gaps are so that we can stop ovarian cancer from taking the lives of so many women.

What we now know about research funding

- The State of the Nation report shows that the majority of funding globally for ovarian cancer research to date has come from the United States. Annually, US government departments and agencies invest more than \$180 million in ovarian cancer research. The National Cancer Institute and National Institutes of Health have been the largest funders.
- Australia has also played a crucial role in funding and research. The Federal government accounts for 60 per cent of all Australian funding over the 2010-2020 period; since 2005, it has funded over \$100 million in ovarian cancer research, at an average of \$8 million per year. In 2020, the Australian Government announced an increase on historic funding levels of \$4 million a year through the Medical Research Future Fund.
- After the Australian Federal government, the Ovarian Cancer Research Foundation has been the largest funder of ovarian cancer research in Australia and New Zealand. Since 2010, we have contributed more than \$17 million with funding over the past three years increasing to \$1.8 million per year.
- Following the OCRF, the next major funder of ovarian cancer research has been state-based cancer councils and state governments. All state governments combined fund an average of \$1.1 million in research each year.

[The US has led the way in research funding, but Australia plays an increasingly crucial role – as does the Ovarian Cancer Research Foundation](#)



Where is funding currently spent?

Most of the funding for ovarian cancer research in Australia has gone towards improving what we know about the disease and developing new treatments.

- 46% of all funding has gone into research for treatment. Excluding industry-led trials, research into treatment has accounted for nearly half of all funding.
- 24% of funding has gone to understanding the disease biology.
- 7% of funding has been allocated for research into early detection. Not only has there been limited funding for early detection, but 49 per cent of that figure has been funded by the OCRF.
- 5% has been put towards prevention.
- 18% has been directed to infrastructure.

This includes biobanking capabilities and fellowships.

Most of the funding has been spent on understanding the disease and how we can treat it.

What we need to do

Unanimously, researchers, those living with ovarian cancer, and clinicians all agree the key to improving survival rates lies in an early detection method. Following that, finding more treatment options and ways to prevent disease recurrence and metastasis were priorities.

If we are going to find solutions, there is an urgent need for more comprehensive research. Australia needs:

+ **More funding allocated to early detection research.** We need a way to identify early indicators of ovarian cancer more clearly, particularly among those at high risk.

- By doubling the current survival rate for the next generation of women via the introduction of an early detection test, we will save 8000 women over a decade and more than 1.3 million women worldwide.

+ **More funding allocated to prevention research.** We need to better understand the role of lifestyle and environmental factors in ovarian cancer development so that we can start to prevent the disease before it occurs.

+ **More research into treatment options.** We need to invest in the development of precision medicine capabilities in ovarian cancer and better understanding of how to best prevent disease recurrence.

+ **A national approach to clinical best practice.** While the national 5- year survival rate is 46 per cent, currently each state and territory in Australia has a different outcome when treating ovarian cancer and some states have reported 5-year survival rates above 50 per cent. We need to quickly establish a best practice approach nationally, reduce variation in care, expand awareness of ovarian cancer risk and uptake of preventative surgery by high-risk women.

- Between now and 2035, nearly 14,000 Australian women are expected to die from ovarian cancer. Finding better and more personalised treatments and establishing a national approach to clinical best practice could save more than 680 of those women.

+ **A greater understanding of what causes the disease and its fundamental biology.** Importantly, this includes funding research to better understand disease progression.

We want a future that is free of ovarian cancer, and we need a national and collaborative research strategy to get there.



I want to know what hope I can give my daughter... I share lots of things with her, and unfortunately, I've shared these cancer genes with her. I want to know what will be available for our daughters. We need to keep all of the mothers around as long as we can, but that's what keeps me going, what gives me hope... that we can make things different for our daughters."

- Ovarian cancer survivor

Our Mission and Objectives

Given the clear findings of the State of the Nation Research Audit, our mission focuses on:

Funding innovative ovarian cancer research to save women's lives through early detection and personalized treatment.

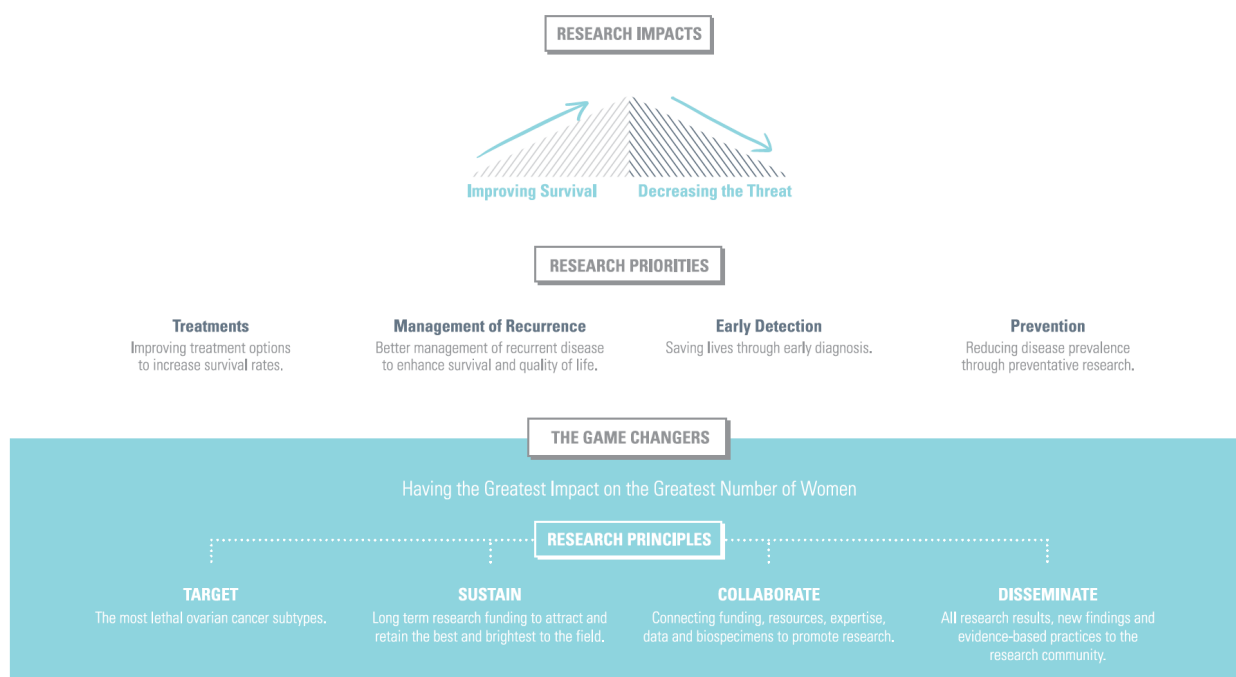
To achieve this, the OCRF has three main objectives:

- 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 and girls with ovarian cancer.
- Attract and fund the most innovative and skilled researchers.

Our Goals

- 1 Goal 1: We want to improve survival rates to 50 per cent for women today by rapidly incorporating recent research advances into clinical practice nationally.
- 2 Goal 2: We want to improve 5-year survival rates beyond 50 per cent for the next generation of women. We will do this through development, testing, and increased access to new and innovative personalised treatments.
- 3 Goal 3: We want to improve 5-year survival rates towards 90 per cent through the development of new methods for early detection and diagnosis.

Our Research Approach



To achieve our three goals, we focus on the following research priorities:

- 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

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 approaches and trials
- Immunotherapies
- Drug re-purposing
- Targeted drug-delivery systems
- Development of experimental models reflective of disease heterogeneity
- Management of metastasis through the identification of novel drugs that target the metastatic potential of ovarian cancer cells
- 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 tumours or a specific response of the body to the presence of cancer.

The UK Collaborative Trial of Ovarian Cancer Screening

In May of 2021, the UK Collaborative Trial of Ovarian Cancer Screening (UKCTOCS) investigators released the final report of their truly remarkable randomised trial involving over 200,000 women over a period of 25 years.

This important study developed from the recognition that the key to improving survival for ovarian cancer lies in early detection of the disease. The UKCTOCS study detection methods included monitoring CA125 marker levels with patterns then interpreted through the Risk of Ovarian Cancer Algorithm (ROCA), and through transvaginal ultrasounds. However, despite promising results from an interim report published in 2015, the final analysis indicated that, although more cancers were detected at an earlier stage when both ultrasound and CA125 were used for screening, this did not translate into improved survival.

Most notably, the use of CA125 and ultrasound for screening does not account for biological and pathological changes that contribute to cancer development. The OCRF is committed to funding research into detecting the earliest biological events that lead to cancer. Identifying changes that occur before abnormalities appear on ultrasound or by CA125 levels will result in true early detection. In addition, the OCRF recognises that better understanding of the biology of cancer will also result in development of better treatments.

The OCRF funded biobank has collected and stored tissue from women with all stages of ovarian cancer, offering the opportunity for researchers to identify differences in the biology and pathology of early versus late-stage cancers.

Key areas of focus for the OCRF remain:

- Identifying earliest events in tumour formation and progression, to help diagnose the presence of ovarian cancer
- Identifying biomarkers that are at a concentration detectable at the pre-malignant (pre-cancerous lesions) or early stages of the disease (Stage 1A or 1B); and
- Understanding the biology of ovarian cancer to enhance both detection and improvements in treatment

The OCRF applauds the efforts of the UKCTOCS collaborators. However, it is clear that early detection using ultrasound and CA125 are not enough to change the course of the disease. Awareness campaigns are not enough to change the course of the disease. The disappointing results from the UKCTOCS trial strengthen the resolve of the OCRF to unlock the true keys to early detection.

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. While this is a long-term goal for researchers, 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

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

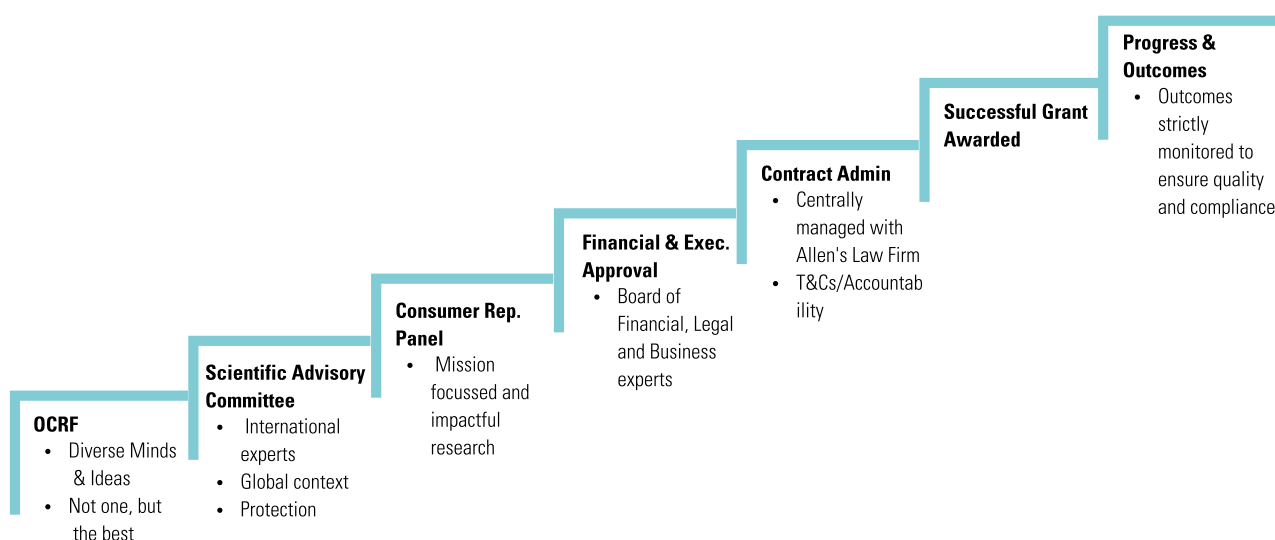


The OCRF’s grant process is outlined under Grant Guidelines, available on the website.

OUR RESEARCH GRANT GOVERNANCE

All applications for the OCRF Grant Scheme undergo a rigorous process to determine the most promising and innovative applications - so that we continue to successfully pursue greater survivability rates and quality of life for women and girls impacted by ovarian cancer. The grant applications 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 which includes financial and legal experts. The full criteria for assessment are available under our Grant Guidelines on our website.

The life of a successful OCRF grant application



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. Please refer to our website for the profiles of our SAC members.

THE OCRF CONSUMER REPRESENTATIVE PANEL

Our Consumer Representative Panel (CRP) members offer unique and valuable insights into how research is designed, conducted, and translated. They help to ensure that projects are important to those impacted by ovarian cancer and assess whether projects have adequate consumer engagement. The CRP also supports the translation of our research impact to the broader community.



The views of consumers are vitally important to our research projects. We are looking for research that will make the biggest impact, and those that have the lived experience can articulate the benefits of individual research projects to ensure the outcomes will make a difference for all women."

- Anne Marie Corboy, Chair, Consumer Representative Panel

COLLABORATION: BUILDING A SUSTAINED RESEARCH COMMUNITY

The OCRF recognises that a strong and sustainable ovarian cancer research community is the necessary foundation for increased knowledge of the disease and improvements to the quality of life and survivability rates of women with ovarian cancer. 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.

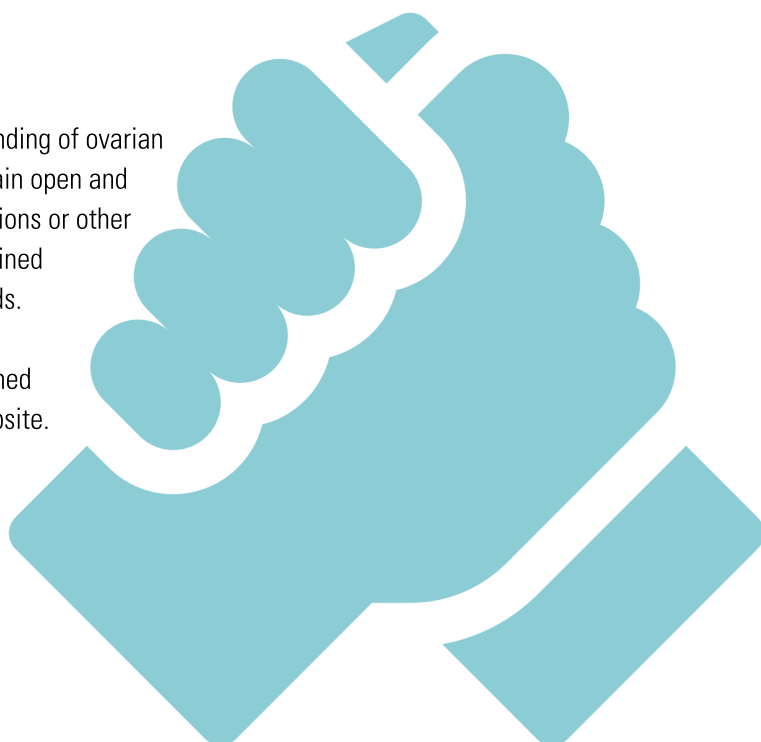
Partnerships with other cancer research funding peers

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 of 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. The assessment processes for our collaborative grants do not follow our normal OCRF grant assessment process but occur via alternative, independent and expert means as part of the collaborative partnership.

Our current research collaborations are outlined in the most recent Annual Report – available on our website.

Partnerships with Government

We have a strong history of advocating for increased funding of ovarian cancer research with the Federal Government. We remain open and interested in research proposals where research institutions or other organisations seek a partnership with the OCRF as co-joined applicants or collaborative partners for Government funds. Our most recent successful collaborative partnerships in accessing Medical Research Future Funds are also outlined in our most recent Annual Report – available on our website.



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