



# Ovarian Cancer Research Program

## Strategic Plan

### INTRODUCTION

The Congressionally Directed Medical Research Programs (CDMRP) represents a unique partnership among the U.S. Congress, the military, and the public to fund innovative and impactful medical research in targeted program areas. In 2015, an ad hoc committee of the National Academies of Sciences, Engineering, and Medicine was assembled to evaluate the CDMRP's two-tier review process and its coordination of research priorities with the National Institutes of Health (NIH) and the Department of Veterans Affairs (VA). As part of their final report,<sup>1</sup> the committee recommended that each CDMRP program "... develop a strategic plan that identifies and evaluates research foci, benchmarks for success, and investment opportunities for 3–5 years into the future," and that these strategic plans "should specify the mission of the program, coordination activities with other organizations, research priorities, how those priorities will be addressed by future award mechanisms, how research outcomes will be tracked, and how outcomes will inform future research initiatives."

This document presents the current strategy for the CDMRP's Ovarian Cancer Research Program (OCRP). The OCRP Strategic Plan identifies the high-impact research goals most important to its stakeholders while providing a framework that is adaptable to changes in the medical research environment to address those goals. This plan has been formulated to provide greater clarity of the program's goals over time to the public and other stakeholders. Funding for the OCRP is congressionally appropriated on an annual basis; therefore, there is no guarantee of future funding. The OCRP Strategic Plan will be reviewed during the program's annual Vision Setting meeting and updated as necessary.

### OCRP BACKGROUND AND OVERVIEW

The Department of Defense (DOD) OCRP was established in 1997 to address the critical research gaps facing the ovarian cancer community. Based on recommendations from the OCRP Programmatic Panel, the OCRP has developed the following vision and mission in response to congressional intent.

**VISION:** To eliminate ovarian cancer

**MISSION:** To support patient-centered research to prevent, detect, treat, and cure ovarian cancer to enhance the health and well-being of Service Members, Veterans, retirees, their Family members, and all women impacted by this disease

### FUNDING HISTORY AND NUMBER OF AWARDS

From fiscal years 1997–2023 (FY97–FY23), the OCRP has received \$496.5 million (M) in congressional appropriations. Through FY22, the OCRP has funded 632 research awards, resulting in over 2,142 peer-reviewed publications and 132 patent applications. Award data, abstracts, and associated publications resulting from this funded research can be found under the "Search Awards & Publications" tab on the CDMRP website (<https://cdmrp.health.mil/default>).

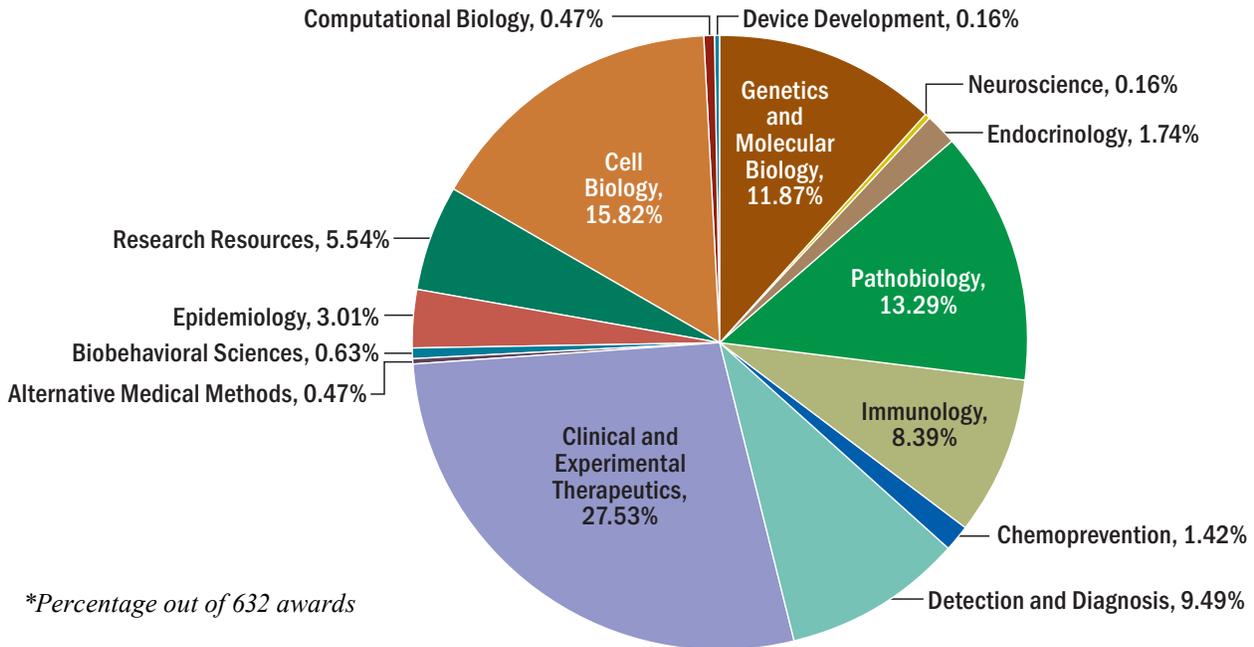
The success of the OCRP can be attributed to the synergistic efforts of many talented and dedicated individuals. A hallmark of the OCRP is the partnership of ovarian cancer survivors and advocates with scientists and clinicians, all of whom work together to set program priorities, design funding opportunities, evaluate research applications, and identify high-impact, innovative research that will lead to the elimination of ovarian cancer. Ovarian cancer survivors participate in all milestones of the program cycle and provide their unique perspectives on the human dimension of this disease to support research that reflects their community's concerns, as well as those of the clinicians who treat them.



## RESEARCH AND FUNDING ENVIRONMENT

The OCRP has transformed the landscape of ovarian cancer to the benefit of patients everywhere by funding high-impact research in the prevention, screening, diagnosis, and treatment of ovarian cancer, as well as survivorship and quality of life issues. The OCRP investment strategy portfolio depicted (**Figure 1**) shows the percentage of awards funded in each research area across scientific areas.

**Figure 1. OCRP FY97–FY22 Portfolio Categorized by Research Area\***

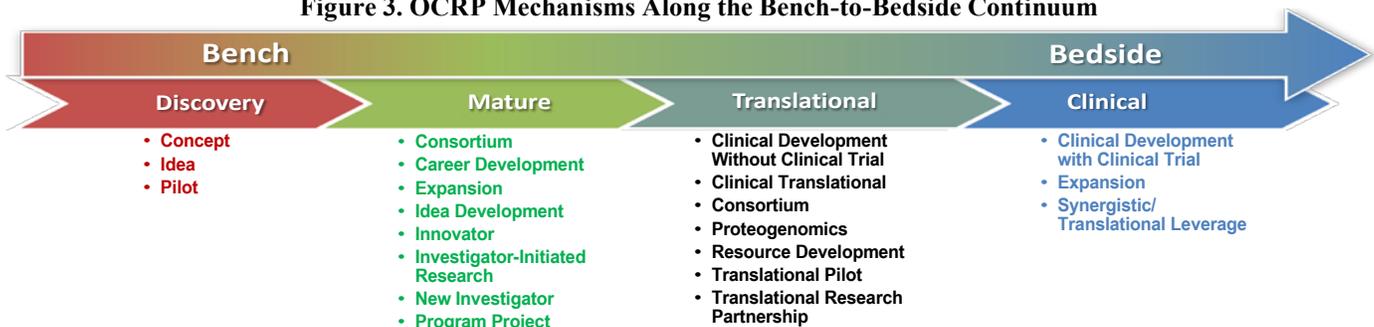


The OCRP designed an investment strategy that emphasizes innovation and high-impact translational research. In recent years, there has been increasing emphasis on high-impact clinical research that has immediate benefits to the ovarian cancer patient (**Figure 2**). The OCRP funds research across the bench-to-bedside continuum, from early discovery through the development of ideas and onto clinical applications (**Figure 3**).

**Figure 2. Changes in the OCRP Investment Portfolio from FY97-FY23**



**Figure 3. OCRP Mechanisms Along the Bench-to-Bedside Continuum**





**STATE OF THE SCIENCE**

Many issues and concerns that are unique to ovarian cancer greatly affect the health and well-being of Service Members, Veterans, retirees, their Family members, and all women impacted by this disease. Gynecologic cancers have a disproportionately high mortality rate and economic impact. Ovarian cancer is the fifth leading cause of cancer-related death in women and the deadliest of gynecologic cancers. Ovarian cancer initial care costs are a staggering 100% higher than the average U.S. initial cancer care cost.<sup>2,3</sup> This cancer affects the military population, as women make up 17% of the active-duty force, 21% of the National Guard and reserves,<sup>4</sup> and 11% of the Veteran population.<sup>5</sup> Early detection and treatments that increase survival rates and decrease the cost of care would have tremendous implications for the military population and the American population as a whole.

The OCRP references important ovarian cancer resources when considering research gaps and the needs of the ovarian cancer community. Ovarian cancer research gaps, critical research areas, and the needs of patients and caregivers have been discussed by the ovarian cancer community (Figure 4).

**Figure 4. Pressing Research Gaps Facing the Ovarian Cancer Community**



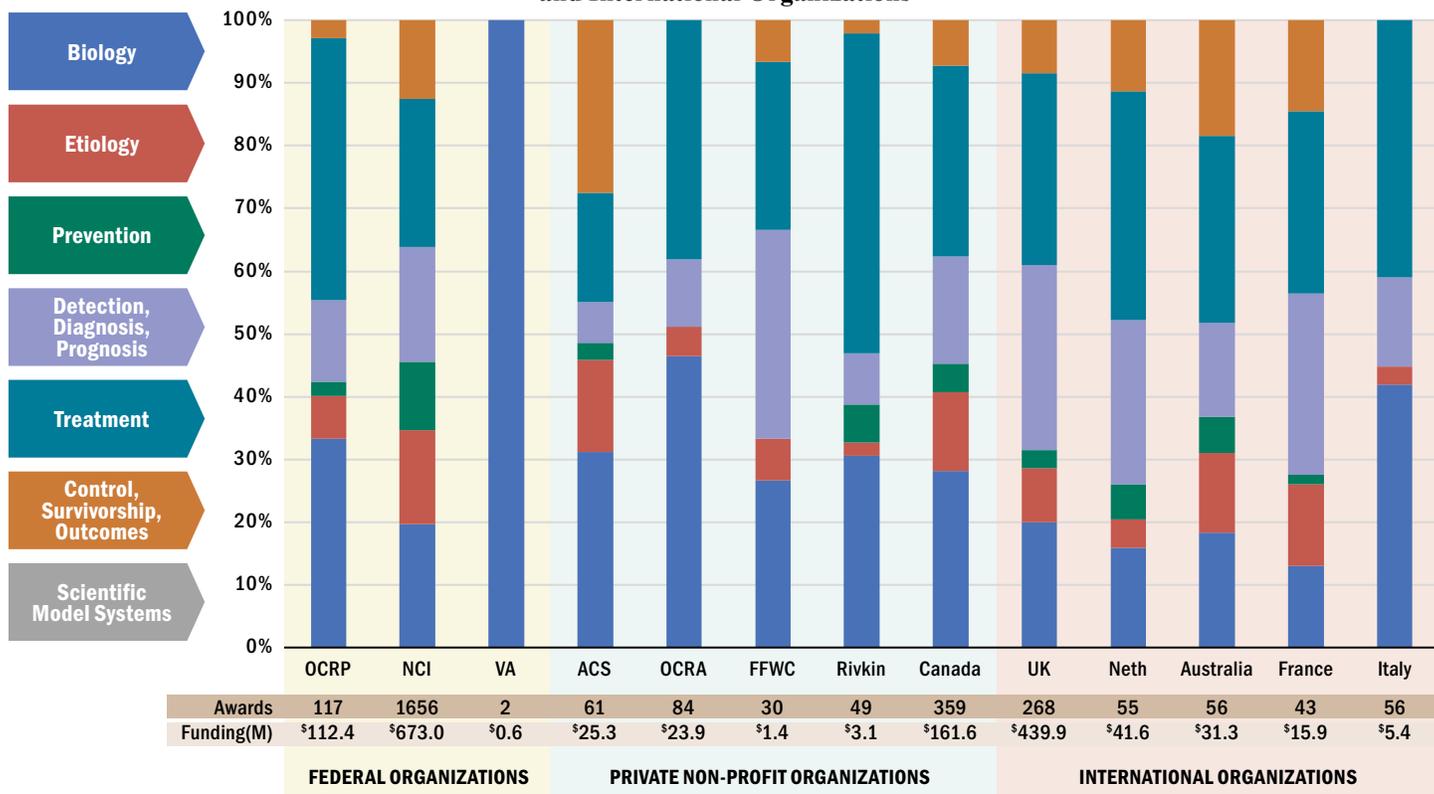
**RESEARCH FUNDING LANDSCAPE**

The OCRP coordinates with other ovarian cancer agencies to recognize gaps and needs in research. Government representation from the NIH, Centers for Disease Control and Prevention (CDC), DOD, and Gynecologic Oncology Center of Excellence has continued on the OCRP Programmatic Panel. There is also extensive coordination with other agencies, including the Ovarian Cancer Research Fund Alliance, as well as presentations at annual ovarian cancer conferences, participation in Society of Gynecologic Oncology workshops, attendance of the Murtha Cancer Center research seminar, and sharing of information about research funding opportunities with DOD and VA investigators and other organizations.



The OCRP evaluates the funding landscape by comparing research portfolios from over 70 federal and non-federal agencies throughout the world and then determines its program priorities, develops award mechanisms, and establishes an investment strategy to target the most critical needs along the pipeline, from basic to translational to clinical research. To accomplish this, the OCRP analyzes data on an annual basis from NIH-, VA-, and CDC-funded ovarian cancer projects, as well as data for ovarian cancer projects funded by private non-profit and foreign funding agencies (Figure 5).

**Figure 5. 2018–2022 Ovarian Cancer Research Funding and Awards Data for Federal, Private Non-Profit, and International Organizations**



NCI-National Cancer Institute, OCRA-Ovarian Cancer Research Alliance, ACS-American Cancer Society, FFWC-Foundation for Women’s Cancer, UK-United Kingdom, Neth-Netherlands

The OCRP is the second-leading funder of ovarian cancer research in the United States after the NIH. The OCRP funds new awards with each congressional appropriation. Other agencies contribute important and impactful funding for ovarian cancer research, including private non-profit and international organizations. See Appendix A for a complete comparison of worldwide funding organizations.

## STRATEGIC DIRECTION

The OCRP’s strategic direction is based on the scope of the ovarian cancer problem affecting military and Veteran populations and all women affected by the disease, as well as the pressing research gaps faced by the ovarian cancer community. The OCRP’s strategic direction includes the following program priorities:

- Rapidly respond to new discoveries (pipeline of discovery)
- Develop innovative funding mechanisms to invent a cure for ovarian cancer and improve quality of life of the ovarian cancer patient population
- Advance our understanding of the biology of ovarian cancer
- Translate research discoveries
- Respond to the priorities of the patient and advocate community, including health disparity
- Enhance ovarian cancer research field by developing and deploying the next generation of ovarian cancer scientists
- Build research resources and network to better invest in basic research, translational research, clinical research, clinical trials, and early-career investigators (ECIs) at the Ovarian Cancer Academy



## **STRATEGIC GOALS – ONGOING**

The OCRP's ongoing research goals are focused on developing preventative measures for ovarian cancer and understanding how the disease responds to therapy.

- Understand the precursor lesion/stem cell, microenvironment, and pathogenesis/progression of all types of ovarian cancer, including rare subtypes
- Promote research that focuses on cancer risk and primary prevention
- Investigate tumor and host response to therapy, including tumor survival, dormancy, cell death, clonal evolution, resistance, and immune factors
- Promote synergistic team science to reduce the incidence of ovarian cancer and improve outcomes
- Accelerate translation of laboratory discoveries into the clinic

## **STRATEGIC GOALS – NEAR- to MEDIUM-TERM (5-10 YEARS)**

The OCRP's near- to medium-term research goals address the most pressing needs of the ovarian cancer community by focusing on improving the immediate care of the patient. These research goals also focus on providing a solid research foundation for future goals.

- Promote readiness for military members and their families as well as the overall health of citizens of the United States and the world
- Promote research that will address health disparities, improve access to quality care, and improve the physical and psychosocial well-being of those diagnosed with ovarian cancer
- Utilize precision medicine approaches that identify individual tumor characteristics and predictive biomarkers across diverse groups to optimize patient care and outcomes
- Enhance and sustain the pool of ovarian cancer basic, translational, and clinical scientists

## **STRATEGIC GOALS – LONG-TERM (> 10 YEARS)**

The OCRP's ultimate goal is to prevent, detect, treat, and cure ovarian cancer.

- Develop and validate models to understand initiation, progression, metastasis, treatment response, and recurrence of ovarian cancer
- Develop or improve the performance and reliability of screening and diagnostic approaches
- Increase long-term survivorship and improve quality of life throughout the continuum of ovarian cancer care

## **AREAS OF EMPHASIS**

To achieve the above-mentioned goals, to further provide guidance for research, and to understand the priorities in the field of ovarian cancer research, the OCRP uses the following areas of emphasis:

- Understand the basic biology and etiology of ovarian cancer initiation, progression, metastasis, recurrence, genetics, and other critical events
- Develop novel therapeutic strategies for treatment and prevention
- Identify and develop new strategies for screening, early-stage detection, prevention, accurate diagnosis, and prognosis
- Identify and implement strategies to improve survivorship and quality of life
- Address health disparities
- Improve precision medicine

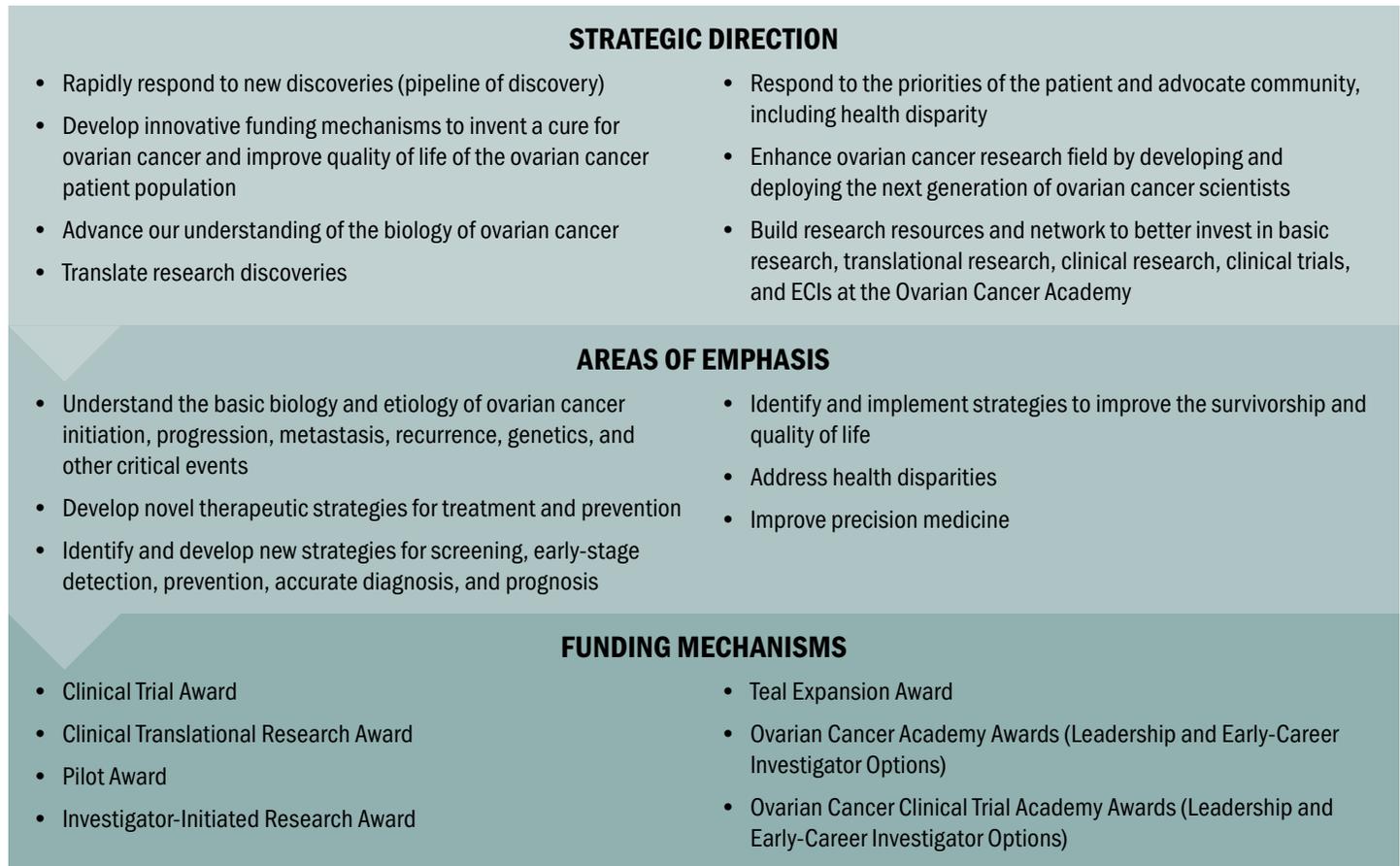


## TRANSLATING PRIORITIES INTO MECHANISMS AND AN INVESTMENT STRATEGY

The OCRP utilizes their funding mechanisms to address program priorities (Figure 6). The OCRP’s investment strategy and associated award mechanisms provide the framework and direction necessary to invest each congressional appropriation most effectively in ovarian cancer research.

By combining both basic and patient-based research, the OCRP hopes to achieve its ultimate goal of preventing, detecting, treating, and curing ovarian cancer.

**Figure 6. OCRP Program Priorities and Funding Mechanisms**



## MEASURING PROGRESS

The OCRP uses award outcomes to gauge its progress toward meeting its strategic goals. Some of the notable products evolving from OCRP-funded research include the following:

### Research Tools

- Animal model to study BRCA1 effects on ovarian cancer
- Chicken model of spontaneous ovarian cancer
- Endometriosis ovarian cancer model
- OPHID/I2D – online databases of protein-protein interactions and software for analysis and visualization
- Australian Ovarian Cancer Study – resource of linked data and samples from thousands of women



## Prevention/Risk Assessment

- Genetic testing guidelines in the United States and Australia
- Book: Ovarian Cancer Risk-Reducing Surgery – a decision resource
- RAD51D kit to test predisposition
- Asn372His genotype of BRCA2 to assess risk
- BROCA algorithm to assess ovarian cancer risk in BRCA1 women
- PALB2 and BARD1 mutations as genetic risk test

## Detection and Diagnosis

- OVA1TM multivariate index assay to determine benign versus malignant masses and facilitate surgical planning
- Algorithm to diagnose precursor serous tubal intraepithelial carcinoma lesions
- AIM gene panel to predict viral defense gene expression in patients

## Treatment and Quality of Life

- Rucaparib to treat BRCA ovarian cancer
- Ontuxizumab as a vaccine against vascular markers
- CDxBRCA sequencing test to detect BRCA mutations and responsiveness to PARP [Poly (ADP-ribose) polymerase] inhibitors
- 384-hanging drop array with three-dimensional spheroids to simultaneously test the efficacy of multiple treatments
- Anginex as an anti-angiogenic agent
- National Comprehensive Cancer Network-endorsed recommendation to offer genetic testing to all women with ovarian cancer
- Margaret Dyson Family Risk Assessment Program, a community-based network of health care providers who offer risk assessment and counseling to women with a family history of ovarian or breast cancer

The OCRP also places importance on the development of talented young investigators who are committed to studying this disease. In FY09, the OCRP initiated the Ovarian Cancer Academy. This unique Academy brings together a group of talented and highly committed ECIs, their mentors, and an Academy Dean and Assistant Dean in a synergistic partnership that fosters extensive mentoring and collaborations and national networking to help the ECIs establish themselves as the next generation of successful and highly respected ovarian cancer researchers. The Academy has shown great success; it now includes 21 ECI alumni, 11 current ECIs, and 4 incoming ECIs for FY23. To date, current and former Academy ECIs in laboratories across the United States have produced 995 publications and 412 presentations and obtained nearly \$96.4M in external ovarian cancer research grants.

## REFERENCES

1. *Evaluation of the Congressionally Directed Medical Research Programs Review Process, a Report of the National Academies of Sciences, Engineering, and Medicine*. 2016. The National Academies Press, Washington, DC. (available at <https://nationalacademies.org/hmd/reports/2016/cdmrp.aspx>)
2. *Annual Cancer Facts and Figures, Special Section: Ovarian Cancer*, American Cancer Society (available at <https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2018/cancer-facts-and-figures-special-section-ovarian-cancer-2018.pdf>)
3. *Financial Burden of Cancer Care*, National Cancer Institute (available at [https://progressreport.cancer.gov/after/economic\\_burden](https://progressreport.cancer.gov/after/economic_burden))
4. *2021 Demographics Profile of the Military Community*, Department of Defense (available at <https://www.militaryonesource.mil/data-research-and-statistics/military-community-demographics/2021-demographics-profile/>)
5. *Population Tables for Veterans in the Nation by Age/Gender*, U.S. Department of Veterans Affairs (available at [https://www.va.gov/vetdata/veteran\\_population.asp](https://www.va.gov/vetdata/veteran_population.asp))

# Fiscal Year 2023

## Department of Defense

### Ovarian Cancer Research Program

### Ovarian Cancer Funding Landscape

The Ovarian Cancer Funding Landscape is provided to help determine where the Department of Defense (DOD) Ovarian Cancer Research Program (OCRCP) fits amongst other ovarian cancer funders. The funding of numerous federal, private, and international organizations has been compiled in this booklet.

The OCRCP funded 632 research awards totaling \$451.45 million (M) from fiscal year 1997 (FY97) through FY22 (<https://cdmrp.health.mil/>).



#### OCRCP VISION

To eliminate ovarian cancer

#### OCRCP MISSION

To support patient-centered research to prevent, detect, treat, and cure ovarian cancer to enhance the health and well-being of Service Members, Veterans, retirees, their Family members, and all women impacted by this disease

### OCRCP ONGOING GOALS

- Understand the precursor lesion/stem cell, microenvironment, and pathogenesis/progression of all types of ovarian cancer, including rare subtypes
- Promote research that focuses on cancer risk and primary prevention
- Investigate tumor and host response to therapy, including tumor survival, dormancy, cell death, clonal evolution, resistance, and immune factors
- Promote synergistic team science to reduce the incidence of ovarian cancer and improve outcomes
- Accelerate translation of laboratory discoveries into the clinic

### FY23 AREAS OF EMPHASIS

- Understand the basic biology and etiology of ovarian cancer initiation, progression, metastasis, recurrence, genetics, proteogenomics, and other critical events
- Develop novel therapeutic strategies for treatment and prevention
- Identify and develop new strategies for screening, early-stage detection, prevention, accurate diagnosis, and prognosis
- Identify and implement strategies to improve the survivorship and quality of life
- Address health disparities
- Improve precision medicine

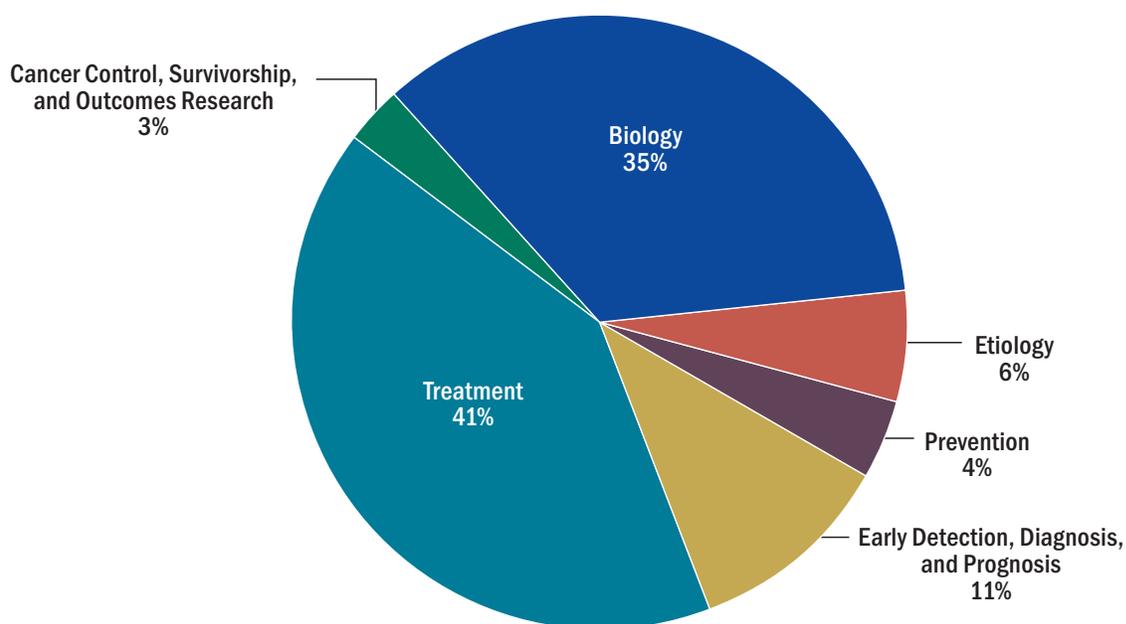
## FY23 DOD OCRP MECHANISMS

- The *Clinical Trial Award* supports rapid implementation of clinical trials with the potential to have a significant impact on ovarian cancer.
- The *Clinical Translational Research Award* is intended to support correlative studies that are associated with a clinical trial. The translational research should address high-impact or unmet needs in ovarian cancer.
- The *Investigator-Initiated Research Award* supports studies that significantly impact ovarian cancer research and/or patient care. Research may focus on any phase of research. Preliminary data relevant to ovarian cancer are required.
- The *Ovarian Cancer Academy – Early-Career Investigator (ECI) Award* supports a unique, interactive virtual academy to provide intensive mentoring, national networking, and a peer group of junior faculty.
- The *Ovarian Cancer Clinical Trial Academy (OCCTA) – Leadership Award* supports building an interactive academy that will focus on developing early-career investigators interested in developing clinical trials on ovarian cancer in a collaborative research and career development environment. The OCCTA will provide clinicians and scholars with intensive mentoring, networking, collaborations, and a peer group to support investigators in developing clinical trials of ovarian cancer treatments. This award supports the structuring of the interactive academy and its curriculum and the introduction of the Academy Dean and Assistant Dean; future awards will invite investigators to take part in the interactive academy through their research.
- The *Pilot Award* supports conceptually innovative, high-risk/high-reward research that could ultimately lead to critical discoveries or major advancements that will drive the field of ovarian cancer research forward.
- The *Teal Expansion Award* provides support for the expansion of an awardee’s original research idea or the generation of a new idea based on the original research project through the OCRP FY16 – FY19 Ovarian Cancer Academy – ECI Award, OCRP FY16 – FY19 Investigator-Initiated Research Award, OCRP FY17 – FY20 Pilot Award, OCRP FY16 – FY19 Clinical Development Award, or OCRP FY15 Clinical Translational Award.

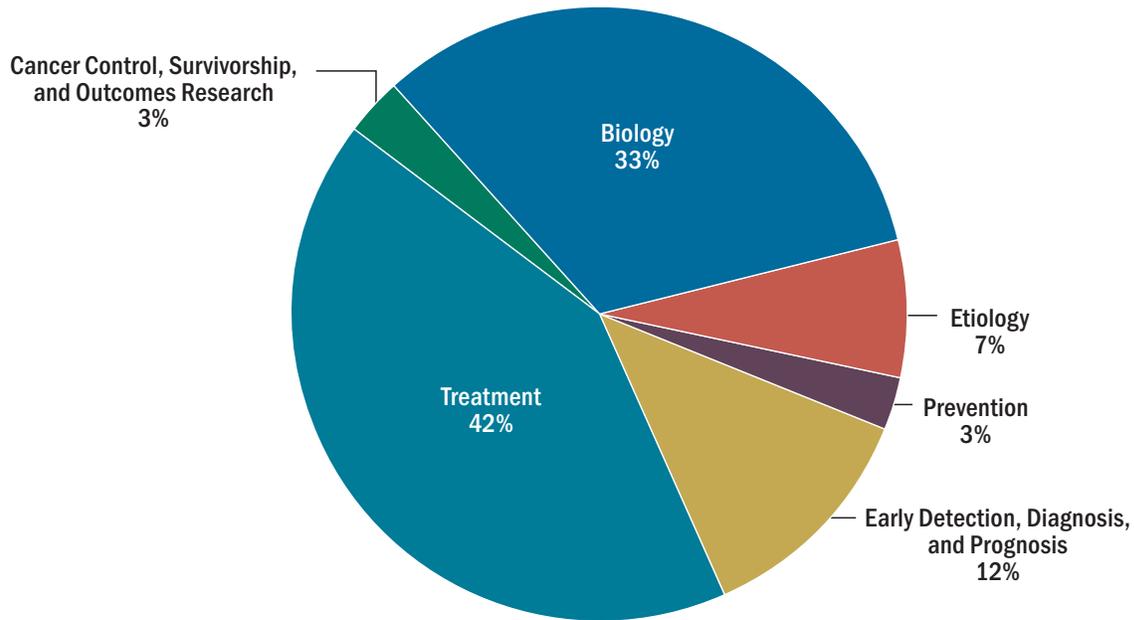
From FY18–FY22, the DOD OCRP funded 205 awards totaling \$115M\*; 11 different award mechanisms were used. Awards included: 4 Clinical Development Awards; 8 Clinical Translational Research Awards; 2 Clinical Trial Awards; 82 Investigator-Initiated Research Awards; 1 Omics Consortium Award and 3 Omics Consortium Development Awards; 2 Ovarian Cancer Academy Dean and Assistant Dean Awards; 14 Ovarian Cancer Academy – ECI Awards; 68 Pilot Awards; 3 Proteogenomics Research Awards; and 18 Teal Expansion Awards.

\*FY22 awards are still under negotiation.

DOD OCRP FY18-FY22 (by Funds)



**DOD OCRP FY18-FY22 (by Awards)**



In FY22,\* 54 awards were recommended to be funded, including 2 Clinical Trial Awards, 30 Investigator-Initiated Research Awards, 3 Ovarian Cancer Academy Awards, 13 Pilot Awards, and 6 Teal Expansion Awards.

\*FY22 awards are still under negotiation.

Organization	Description	Funding
<b>Department of Veterans Affairs</b>	The Department of Veterans Affairs (VA) reports its funded research through the National Institutes of Health (NIH) RePORT Expenditures and Results (Federal RePORTER), but does not report the dollar amount associated with each project. From 2016 through 2020, the VA provided funding to four research projects that are directly associated with ovarian cancer.	<p>These awards are exclusively for intramural Principal Investigators (PIs) only; they are:</p> <ul style="list-style-type: none"> <li>Targeting GRB7 Signaling in Solid Tumors. PI: Dr. S. Luoh; Funding: 2015 and again in 2019</li> <li>The Tissue Transglutaminase-Fibronectin Interaction in Ovarian Cancer Metastasis. PI: Dr. D. Matei; Funding: 2015 – 2019</li> <li>Phage Display for Improved Peptide-Based Tumor Targeting and Imaging Agents. PI: Dr. S. Deutscher; Funding: 2016 – 2019</li> <li>New Epigenetic Targets in Ovarian Cancer Stem Cells. PI: Dr. D. Matei; Funding: 2020</li> </ul> <p>In FY20, the VA funded a total of 14 new projects associated with ovarian cancer.</p>
<b>National Institutes of Health/National Cancer Institute</b>	<p>The National Cancer Institute (NCI) is the federal government’s principal agency for cancer research and training. Established under the National Cancer Institute Act of 1937, the NCI is part of the NIH, one of 11 agencies that make up the Department of Health and Human Services (HHS).</p> <p>The NCI’s mission is to lead, conduct, and support cancer research across the nation to advance scientific knowledge and help all people live longer, healthier lives.</p>	<p>The NCI supported \$446.8M in intramural and extramural research related to ovarian cancer in FY16 – FY19, as reported by the International Cancer Research Partnership (ICRP). The oldest project with continued funding in this group was initiated in 1978. The NCI funded a total of 243 new extramural ovarian cancer projects in FY16 – FY19 for \$352.7M.</p> <p>In FY20, the NIH/NCI funded 75 new extramural projects associated with ovarian cancer totaling \$118.2M.</p>

Organization	Description	Funding
<p><b>Centers for Disease Control and Prevention</b></p>	<p>The Centers for Disease Control and Prevention (CDC) is a federal agency under the HHS. The funding numbers outlined below represent congressional appropriations, some of which fund programmatic activities (such as comprehensive cancer control). There is no set dollar amount set aside for research, and the research done by the CDC is often performed “in house” (usually through a contract). The CDC does fund external partners (academic institutions, state health departments) through cooperative agreements (similar but not identical to grants). Funding for research is all intramural, and some of the funds go to programmatic activities (such as comprehensive cancer control).</p> <p>In addition, the CDC receives funding for a national gynecologic cancer awareness campaign, Inside Knowledge, that focuses on cervical, ovarian, uterine, vaginal, and vulvar cancers (<a href="https://www.cdc.gov/cancer/knowledge/">https://www.cdc.gov/cancer/knowledge/</a>). Funds for this campaign are provided through the Gynecologic Cancer Education and Awareness Act of 2005, or Johanna’s Law. In 2015, an evaluation of the Inside Knowledge campaign advertising was completed, as mandated by Congress. Overall, the evaluation found that campaign ads were effective in increasing awareness of gynecologic cancer symptoms.</p>	<p>The CDC provided \$7M for ovarian cancer research, awareness, and testing activities in FY15. The CDC had a budget of \$7.5M in ovarian cancer funding in FY16, \$7.98M in FY17, \$9.47M in FY18, \$9.97M in FY19, and \$11M in FY20.</p> <p>Funding for this campaign in FY15 – FY17 was \$5.5M each year. In FY18, the funding increased to \$6.96M and increased again to \$7.47M in FY19.</p> <p>According to the Federal RePORTER, the CDC funded 17 projects associated with ovarian cancer totaling \$2.87M.</p>
<p><b>Ovarian Cancer Research Alliance</b></p>	<p>The Ovarian Cancer Research Alliance (OCRA) is the largest independent organization in the United States that is dedicated exclusively to funding ovarian cancer research and finding a cure. Since 1998, the OCRA has awarded 363 grants for ovarian cancer research, representing an investment totaling more than \$104M. From 2015 through 2020, 124 awards were made.</p> <p><b>OCRA Mechanisms</b></p> <ul style="list-style-type: none"> <li>• The Collaborative Research Development Grant (previously called the Program Project Development Grant) provides a 3-year award of \$300,000 per year for large ovarian cancer research projects that involve several investigators within one institution or collaborations between groups in multiple institutions. The grant is for investigators seeking to develop program project grant applications for submission to peer-review funding agencies (e.g., the NCI, NIH, DOD). Since 2011, 47 awards have been funded totaling \$27.6M.</li> <li>• The Liz Tilberis Early Career Award (formerly the Liz Tilberis Scholars Award) is focused on junior faculty with a strong commitment to an investigative career in ovarian cancer research. These awards support early-career investigators for 3 years at \$150,000 per year. Since 2011, this award has been given to 66 recipients for a total of \$29.7M.</li> <li>• The Ann Schreiber Mentored Investigator Award (formerly the Ann Schreiber Research Training Programs of Excellence) provides a 1- to 2-year grant of \$75,000 for trainees who are working under the supervision of a mentor who is a recognized leader in the field of ovarian cancer research. Applicants must be clinical fellows (gynecologic oncology, medical oncology) or have been under the supervision of a mentor since 2011, totaling \$7.25M postdoctoral fellows.</li> </ul>	<p>In 2020, 20 awards totaling \$7.3M were funded, including 4 Collaborative Research Development Awards, 8 Liz Tilberis Early Career Awards, and 10 Ann Schreiber Mentored Investigator Awards.</p> <p>In 2021, 16 awards totaling \$4.4M were funded, including 2 Collaborative Research Development Awards, 4 Liz Tilberis Early Career Awards, and 10 Ann Schreiber Mentored Investigator Awards.</p>

Organization	Description	Funding
<p><b>Rivkin Center for Ovarian Cancer Research</b></p>	<p>Between 2009 and 2015, the Rivkin Center, in collaboration with the Swedish Medical Center and the Fred Hutchinson Cancer Research Center, opened enrollment to the Ovarian Cancer Early Detection Screening Program to test whether CA-125 blood tests and annual ovarian ultrasounds help detect ovarian cancer early in women at increased risk. Although the Rivkin Center’s Ovarian Cancer Early Detection Screening Program terminated at the end of 2015, the Swedish Cancer Institute is operating an ovarian cancer screening clinic to take on surveillance of women who are at high risk for ovarian cancer (<a href="https://www.rivkin.org/">https://www.rivkin.org/</a>).</p> <p><b>Rivkin Center Mechanisms</b></p> <ul style="list-style-type: none"> <li>• The Pilot Award supports innovative approaches to address scientific questions for new ideas that may not yet be in the scientific mainstream. Pilot Awards, which provide \$75,000 for 1 year, have been the mainstay of this organization; 140 awards totaling \$10.45M have been made from 2006 to 2020.</li> <li>• The Scientific Scholar Award supports young, talented investigators who offer novel ideas and fresh approaches to scientific challenges. Each award recipient names a mentor who will guide them through the process of becoming an established researcher. Scientific Scholar Awards (\$60,000 for 1 year) have been offered since 2006; 47 awards totaling \$2.86M have been made to date.</li> <li>• Challenge Grants (\$150,000 for 2 years) were offered in 2011, 2013, and 2016 to support the best solution in areas in ovarian cancer research in which the greatest strides can be made today. The Marsha Rivkin Center, with input from its Scientific Advisory Board, identifies these areas. Three awards have been made to date.</li> <li>• Bridge Funding Awards support researchers’ production of the data needed to substantiate their proposal resubmission for federal funds. Funding up to \$30,000 for 6 months is provided to researchers whose proposals were close to a fundable score but were declined funding from the NIH or DOD. Eleven awards have been made from 2014 to 2020.</li> </ul>	<p>The Rivkin Center has invested over \$14M in ovarian cancer research since its inception in 1996.</p> <p>The Center provided about \$465,000 during 2009 – 2010 to support this screening study program. Results on biannual CA-125 tests and annual ultrasounds provided researchers with data on early-detection rates for high-risk women. Clinical specimens collected from participants were banked for research purposes.</p> <p>In 2020, 10 awards totaling \$0.66M were funded, including 6 Pilot Awards, 3 Scientific Scholar Awards, and 1 Bridge Funding Award.</p>
<p><b>Foundation for Women’s Cancer</b></p>	<p>The Foundation for Women’s Cancer is dedicated to increasing public awareness of gynecologic cancer risk, prevention, early detection, and optimal treatment. The foundation has raised \$60M for research, awareness, outreach, and education. Funding is in the form of research and career development grants and excellence prizes for important contributions to literature and/or programs. Applicants must be a Society of Gynecology (SGO) member or apply with a co-investigator who is an SGO member (<a href="https://www.foundationforwomenscancer.org">https://www.foundationforwomenscancer.org</a>).</p>	<p>The bulk of the research funding is awarded to young investigators, and the grants range in funding from \$1,000 to \$202,500.</p> <p>Fifty-seven awards totaling \$2.4M were funded in 2019 – 2022, 32 of which were ovarian-cancer specific awards. In 2022, the foundation provided 12 awards totaling \$628,500, 6 of which were ovarian-cancer specific awards.</p>
<p><b>American Cancer Society</b></p>	<p>The American Cancer Society (ACS) has funded 39 research awards with ovarian cancer relevance worth approximately \$14M. Compared to ICRP data, ACS website data seem to represent only research awards (not training awards) with 100% ovarian cancer relevance. The Council for Extramural Grants, a committee of senior scientists, recommends funding based on the relative merit of the applications, the amount of available funds, and the Society’s objectives. Stakeholders are involved in both levels of review with full voting privileges. Award types tend to be pilot-type awards and fellowships.</p>	<p>As reported through the ICRP (which includes both training and research funding), in 2015 – 2018, the ACS funded 54 awards with some ovarian cancer relevance totaling \$20.2M. In 2019, the ACS funded five awards with ovarian cancer relevance totaling \$3M.</p> <p>In 2021, the ACS funded 4 awards with ovarian cancer relevance totaling \$2.21M.</p>
<p><b>Canary Foundation</b></p>	<p>Applying a business-inspired and result-oriented approach to science, the Canary Foundation focuses on collaborations between methodologies, disciplines, and organizations to amplify and accelerate progress. All Canary Foundation funding requests are by invitation only; recent information from their website indicates that, in 2018, the Canary Foundation partnered with the BRCA Foundation to launch a new ovarian cancer initiative that examines the link between high-risk factors and early detection. In 2019, the Canary Foundation launched a multi-institutional Canary High-Grade Serous Ovarian Initiative. No further information is provided (<a href="https://www.canaryfoundation.org">https://www.canaryfoundation.org</a>).</p>	<p>The Canary Foundation has supported 38 awards in ovarian cancer research totaling about \$64M since 2004.</p>

Organization	Description	Funding
<p><b>Hera Women's Cancer Foundation</b></p>	<p>The Hera Women's Cancer (HERA) Foundation is a nationally recognized non-profit ovarian cancer organization providing funding for cutting-edge research grants to scientists at respected medical institutions. The foundation promotes cross-disciplinary science and seeks to attract young researchers. The OSB1 Grant (<i>Outside-the-Box Grant or Ovarian Cancer Seed Bursary Grant</i>) supports up-and-coming talent and is awarded annually to scientists with "outside-the-box" or new ideas regarding research into new directions in the treatment, early detection, and prevention of ovarian cancer. Applications for OSB1 grants are by invitation only and are institution-specific. Funding is not publicized, but is estimated to be \$20,000-\$25,000 per award.</p> <p>HERA Foundation grants are reviewed by a committee comprised of the foundation's scientific committee members, advocates, senior scientists, and clinicians; these lists are not posted on the foundation's website (<a href="https://www.herafoundation.org">https://www.herafoundation.org</a>).</p>	<p>During 2003 – 2020, the HERA Foundation funded 42 awards with an estimated total of over \$1M; most of the OSB1 (Ovarian Cancer Seed Bursary) grant awards were given to Johns Hopkins University School of Medicine.</p> <p>In 2021 – 2022, 9 OSB1 Grants were funded.</p>
<p><b>Kaleidoscope of Hope Foundation</b></p>	<p>The Kaleidoscope of Hope (KOH) Foundation has been raising funds since 2000 to fund research and find a cure for ovarian cancer. The foundation provides funding opportunities for established and young investigators to initiate new studies or continue current projects related to various aspects of ovarian cancer research.</p> <p><b>KOH Foundation Mechanisms</b></p> <ul style="list-style-type: none"> <li>• General Research Grants support individual projects or part of a larger project related to ovarian cancer. Clinical trials should be original investigational studies related to ovarian cancer in which the grantee is the PI or co-PI. Until 2012, the award was \$80,000, but was reduced to \$50,000 in 2013.</li> <li>• Young Investigator Grants support career development for postdoctoral fellows or early assistant professors who wish to establish a career in the area of ovarian cancer research. Until 2012, the award was \$80,000, but was reduced to \$50,000 in 2013 (<a href="https://www.kohnj.org">https://www.kohnj.org</a>).</li> </ul>	<p>Since its inception, the KOH Foundation has awarded over \$3.25M in research grants. However, no detailed descriptions of how many awards per mechanism are given out each year. Some overlap exists between the advisory board members' institutions and those of the grant recipients.</p> <p>In 2016 – 2019, the KOH Foundation made 15 research awards totaling \$650,000.</p> <p>In 2022, the KOH Foundation funded 2 new research awards.</p>
<p><b>Minnesota Ovarian Cancer Alliance</b></p>	<p>Since 2001, the Minnesota Ovarian Cancer Alliance (MOCA) has awarded more than \$9.8M in grants for more than 100 research projects to researchers at Minnesota institutions, including the University of Minnesota and the Mayo Clinic. In an effort to continue its push for an early detection test for ovarian cancer, the MOCA launched its National Early Detection Research Award in 2017. Each year, funding is provided to researchers outside Minnesota who are committed to the work of developing an early detection test for ovarian cancer, and a panel of national expert reviewers help advise the MOCA on the scientific merit and national significance of each research proposal. A group of consumer advocates made up of survivors and caregivers also reviews the grants to ensure the MOCA is funding research that is most likely to have the biggest impact on the community. Although the website states that special consideration is given to proposals that involve clinical trials and those that may lead to improvements in treatment for ovarian cancer, grants are also provided to assist investigators in acquiring preliminary data (<a href="https://mnovarian.org/">https://mnovarian.org/</a>).</p>	<p>During 2013 – 2018, 43 awards totaling \$4.2 were funded.</p> <p>In 2019 – 2021, MOCA funded 18 research projects totaling \$1.7M.</p> <p>In 2022, MOCA funded 9 research projects totaling \$1.1M.</p>
<p><b>Sandy Rollman Ovarian Cancer Foundation, Inc.</b></p>	<p>The Sandy Rollman Ovarian Cancer Foundation has awarded \$5.6M to ovarian cancer research. The foundation funds research to find a cure for ovarian cancer, a screening test for early detection, and breakthrough treatments, as well as improving the quality of life for those living with ovarian cancer. Preference is given to those researchers in the state of Pennsylvania and to proposals leading to early detection, better treatment, or a cure for ovarian cancer. Starting in 2014, budgets for grant proposals were reduced to not exceed \$50,000 (<a href="https://www.sandyovarian.org">https://www.sandyovarian.org</a>).</p>	<p>In 2018 – 2022, Sandy Rollman Ovarian Cancer Foundation made 11 research awards.</p>

Organization	Description	Funding
<p><b>Stand Up 2 Cancer Foundation</b></p>	<p>The Stand Up 2 Cancer Foundation (SU2C) funds collaborative, multidisciplinary, multi-institutional scientific research teams and investigators.</p> <p>One notable team grant is the 2015 SU2C-OCRA-National Ovarian Cancer Coalition (NOCC) Ovarian Cancer Dream Team Grant, DNA Repair Therapies for Ovarian Cancer, led by Dr. Alan D'Andrea of the Dana-Farber Cancer Institute and Dr. Elizabeth Swisher of the University of Washington. Clinical trials are underway to determine which combination treatments re-sensitize cancer cells to poly (ADP-ribose) polymerase (PARP) inhibitors. The team has enrolled women in a MAGENTA genetic testing prevention trial and Women Choosing Surgical Prevention (WISP) surgical prevention trial. The OCRP contributed to the WISP trial through early funding to Dr. Swisher.</p> <p>One of the Catalyst Grants builds on the groundbreaking work of the SU2C-OCRA-NOCC Ovarian Cancer Dream Team aimed at developing a standard of care for patients with advanced or metastatic triple negative breast cancer and patients with platinum-resistant recurrent ovarian cancer. The researchers plan to identify key cellular components that drive this recurrent disease to better predict and improve patient outcomes. Drs. D'Andrea and Swisher also lead this project (<a href="https://www.standup2cancer.org/">https://www.standup2cancer.org/</a>).</p>	<p>Since 2009, 93 team grants have been awarded. SU2C has funded 9 grants with ovarian cancer relevance; more detail is not provided on their website.</p> <p>SU2C offers different types of single investigator research grants that fund early-career scientists with novel ideas. Since 2009, 51 have been awarded. In 2016, Dr. Juan Cubillos-Ruiz received the award for his ovarian cancer project, "Phospholipid Messengers as Drivers of Dendritic Cell Dysfunction in Cancer." They also offer team science grants that include multidisciplinary, multi-institutional, collaborative teams of expert investigators, and, in some, patient advocates.</p> <p>SU2C also offers a Catalyst Grant that establishes a mechanism through which industry and academic scientists in the cancer community conduct SU2C collaborative research projects. Thirteen have been funded.</p>