Lady Garden Foundation
Report 2021

The ROYAL MARSDEN Cancer Charity

Dear Lady Garden Foundation,

From all of us at The Royal Marsden, thank you for your phenomenal support of The Royal Marsden Cancer Charity this year. Despite the challenging circumstances still posed by the pandemic, your commitment to supporting women affected by gynaecological cancer is stronger than ever.

We are so grateful for your generous donation to the new Oak Cancer Centre (OCC) at our hospital in Sutton. It means so much to us for you to be part of our most ambitious fundraising campaign to date. 2021 has seen the transformation of the site, and in September the building reached its maximum height.

In March, we held the first ever Lady Garden Foundation Scientific Committee meeting, chaired by Professor James Larkin. We were joined by gynaecological cancer experts from The Royal Marsden and other highly rated institutions, to evaluate the shortlisted research proposals. We were thrilled with the decision to fund four of the projects; covering a range of innovative areas of gynaecological cancer research.

Your commitment to also funding new equipment for gynaecological cancer patients has enabled our Chelsea hospital to update two vital pieces of equipment used to diagnose and treat gynaecological cancers. Utilising the latest technological developments, the colposcope camera system and the laparoscopic video camera stack, help our clinicians provide the very best care for gynaecological cancer patients at The Royal Marsden.

Your dedication and enthusiasm to improve gynaecological health is truly inspiring. You are transforming the lives of women diagnosed with gynaecological cancer by funding research to identify new treatments, by investing in the latest equipment, and by helping make our state-of-the-art Oak Cancer Centre a reality. Thank you so much.

With kindest regards,

Antonia Dalmahoy
Managing Director, The Royal Marsden Cancer Charity

LGF Achievements in 2021

4 exciting new research projects, covering a range of innovative areas of gynaecological cancer research

2 vital pieces of equipment used to diagnose and treat gynaecological cancers

1 consultation room at the Oak Cancer Centre, providing a welcoming environment for cancer patients

6 courageous patient case studies that have helped raise awareness of gynaecological cancers

1 responsive research project exploring the effect of the pandemic on the mental health of clinicians working with cancer patients

New gynaecological cancer research projects supported by the Lady Garden Foundation

In March, the Lady Garden Foundation Scientific Committee met for the first time to discuss the gynaecological cancer research proposals submitted by clinicians at The Royal Marsden. Four projects were chosen to receive funding, covering a range of incredibly exciting areas of gynaecological cancer research. By funding these projects, you are helping to develop new treatments and methods of care for women diagnosed with these cancers. We hope you enjoy reading about the progress made so far. Thank you so much for making these projects possible.

Integration of genomic data into endometrial cancer reporting at the Royal Marsden – led by Dr Angela George

Dr Angela George

The diagnosis and classification of endometrial cancer is as complex as the disease is highly variable, with some cases having a good prognosis, and others where the cancer behaves aggressively. Recent advances have shown that molecular analysis can predict the behaviour of an individual's tumour, which can help determine how best to treat the disease. Over a one-year period, this project is testing the molecular make-up of all cases of endometrial cancer at The Royal Marsden, along with 100 retrospective cases. This includes testing for mutations in the POLE gene – which is not currently available through the NHS in England – as well as testing for other potential disease mutations. Endometrial cancer patients with mutations in the POLE gene are less likely to experience recurrence, so could benefit from less aggressive treatment.

This work is enabling Dr George's team to formally examine the impact of this testing on patient outcomes, and potentially direct treatment accordingly. There is a particular emphasis on identifying patients who would benefit from immunotherapy, rather than chemotherapy, to ensure the best possible outcome.

Recruitment of patients began in June and Dr George has received 165 results to date. So far, she has identified patients who are less likely to experience recurrence because of the molecular makeup of their tumour. This means that these patients can have less intense treatment for a shorter length of time. She has also identified patients who are now eligible for clinical trials, based on their results and disease status. In addition, Dr George's team have identified several patients with possible inherited gene alterations, that would not have been tested for outside of this trial. These patients can now take measures to prevent other cancers that may be caused by these gene alterations. They also have an opportunity to inform family members, so that they can take steps to reduce their risk of developing cancer in the future.

Recruitment for this project will continue until the end of May 2022, with all gene sequencing to be complete by July of that year. The final analysis of clinical and genomic data will be completed by the end of August 2022 and we look forward to sharing this with you. Dr George then hopes to submit an application to NHS England, with the goal of adding full molecular classification testing for endometrial cancer to the National Genomic Test Directory. If Dr George's application is successful, this would make this type of genetic testing available on the NHS for all endometrial cancer patients in the future; making a significant difference to those with a diagnosis of endometrial cancer.

Using AI to improve radiotherapy for cervical cancer patients – led by Dr Alexandra Taylor

Accurately identifying tumours on radiotherapy planning scans is essential for successful treatment. However, clinicians often have to manually draw around the tumour and normal tissue on radiotherapy planning scans, which can be time-consuming. There can also be variation between doctor's opinions on where exactly to treat. Machine Learning (ML) is a form of Artificial Intelligence that creates computer algorithms to emulate human performance. This project aims to develop a ML model to automatically plan radiotherapy scans for cervical cancer patients and investigate new approaches to account for the variation that occurs between individual clinicians and imaging systems. The aim of this work is to improve the treatment's quality and patient outcomes, as well as build confidence in radiotherapy accuracy.

Dr Taylor's team carried out preparatory work using scans from patients who have been previously treated for cervical cancer at The Royal Marsden. The scans were uploaded onto the Artificial Intelligence system and the information was integrated into the radiotherapy planning system. This formed the pilot model which is being used for the project.

Dr Taylor appointed clinical research fellow Dr Katherine MacKay, using the generous funding from the Lady Garden Foundation, who started work on the project in October 2021. She is analysing the performance of the pilot model and plans to use another 100 CT scans to develop the algorithms used in ML to emulate human performance. Work on this project will continue until September 2023.

Artificial Intelligence, particularly with Machine Learning approaches, is going to significantly change how radiotherapy treatments are planned and delivered in the UK. Lady Garden Foundation funding is helping The Royal Marsden utilise these new techniques to improve radiotherapy treatments for gynaecological cancer patients everywhere.

Dr Alexandra Taylor

Dr Susana Banerjee

Predicting treatment benefit in low grade serous ovarian cancer (LGSOC) – led by Dr Susana Banerjee

Dr Banerjee is trying to establish whether mutations in a gene named KRAS can be detected in the blood of patients with LGSOC. The project will also look at whether the presence of KRAS gene mutations changes over the course of treatment and if this might indicate a clinical response to treatment. This will help guide further trials on treating and monitoring LGSOC patients.

Work on this project began in June and Dr Banerjee's team, which includes clinical fellow Dr Lima and lead research nurse Sally Gill, have identified patients receiving active care for LGSOC at The Royal Marsden. The team also identified 40 LGSOC patients who had participated in previous research trials and had consented for their samples to be used in future work.

In December, the gene panel analysis of tumour samples has begun to test for specific mutations, including the KRAS mutation, at the Centre for Molecular Pathology on our Sutton site. In March 2022, the analysis of blood samples will commence to try and detect KRAS mutations. If KRAS mutations can be detected, they will be monitored over the course of a patient's treatment to detect whether the presence of the mutations changes, depending on the treatment given.

The final report from this study will be produced by the end of 2023 and Dr Banerjee will submit the results for presentation at the National Cancer Research Institute. This project is a valuable opportunity to generate evidence which Dr Banerjee hopes will contribute towards an application for NHS funded gene testing for LGSOC patients and the possibility of a new treatment option for these patients.

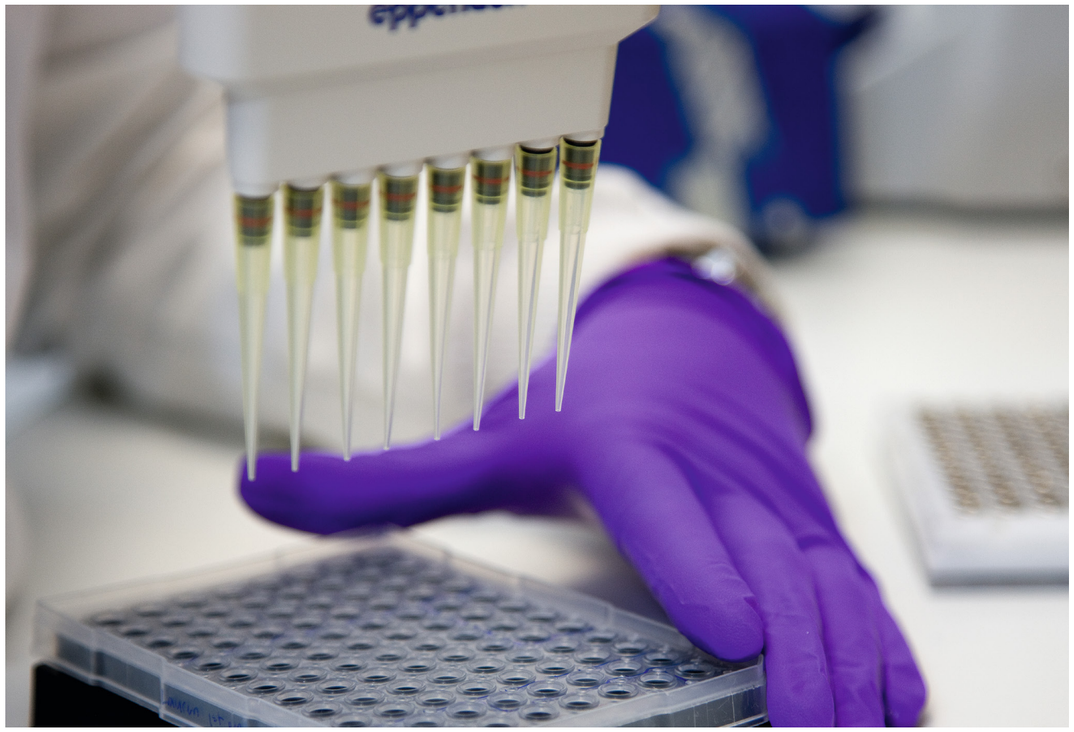
A blood test to detect cervical cancer relapse- led by Susan Lalondrelle

Researchers at The Royal Marsden and the Institute of Cancer Research, London, have developed a blood test that can detect the presence of human papilloma virus (HPV) – which causes 95% of cervical cancer cases – in the blood. They believe, following a small study of 22 women treated for cervical cancer, that if HPV is present in the blood at the end of treatment or detected during follow-up appointments, this can indicate cancer remaining or returning. Taking the data from this small study, Dr Lalondrelle will use the Lady Garden Foundation funding to expand the study to more patients. This will help her gather more evidence that could lead to the test being used in standard clinical practice.

Dr Lalondrelle's team have identified project collaborators from institutions in the UK and study sites are being set up. Patient recruitment will begin in the New Year with the aim of recruiting 113 patients across UK sites.

The results from this study could prove that a blood test for HPV-DNA is as good, or better, than current methods used to detect relapse in cervical cancer patients. A blood test could replace some or all of the hospital based follow up currently undertaken and could lead to earlier detection of relapse, when more treatment options may be available.

Dr Susan Lanlondrelle



Equipment

Over the past year, the Lady Garden Foundation has funded two state-of-the-art pieces of equipment at The Royal Marsden. Having the very latest technology within the gynaecology unit is vital in enabling faster, more accurate diagnoses and delivering the very best care for gynaecological cancer patients.

Colposcope and camera system

A colposcope is a specialist microscope with a light which is used to examine the cervix, vulval or vagina for abnormalities which may indicate the presence of cancer. The camera system allows high-resolution images of the area under investigation to be viewed on a screen by clinicians during a procedure. The colposcope and camera system is an incredibly important piece of equipment which enables the early diagnosis of gynaecological cancers and helps clinicians plan treatment throughout a patient's gynaecological cancer journey.

The new colposcope and camera system arrived at our Chelsea hospital in May 2021 and the team are thrilled with the new equipment. It has enhanced image capture technology, allowing clinicians to spot even the smallest of abnormalities during procedures. It also has improved reporting capabilities which will enable clinicians to make even more accurate diagnoses.

Thank you so much for your donation of £55,000 to fund the colposcope and camera system.

Laparoscopic video camera stack

The laparoscopic video camera stack is an essential piece of equipment for surgeons, comprising a number of instruments including a high-definition camera, video monitor and a light source. These instruments are used to guide surgeons, using the live camera relay on the video monitor to examine the area, diagnose and perform procedures. Common gynaecological procedures performed at The Royal Marsden include the laparoscopic hysterectomy and oophorectomy – the removal of one or both ovaries. The laparoscopic video camera stack is also used by The Royal Marsden's robotic surgeons whilst performing innovative gynaecological procedures.

The new laparoscopic video camera stack arrived at our Chelsea hospital in September and the team have appreciated the benefits of the new model, which include:

- Enhanced image quality
- Additional viewing screen
- Ability to record procedures
- Printing of live images
- Wireless capability, which makes it easy to use

Thank you so much for your donation of £71,716 to fund the laparoscopic video camera stack.

"Having the latest technology is vital for our ability to diagnose gynaecological cancers earlier and provide the very best treatment for our patients. Thank you to everyone at the Lady Garden Foundation for funding the colposcope and camera system and the laparoscopic video camera stack this year."

Mr John Butler, Consultant Gynaecological Surgeon at The Royal Marsden

Oak Cancer Centre

In January, the Lady Garden Foundation kindly funded a consultation room in the state-of-the-art Oak Cancer Centre in Sutton. This generous support will help give more patients access to The Royal Marsden's life-saving treatment and care. The new centre will provide welcoming, purpose-built environments, rooms that are full of natural light, and spaces equipped with the most modern technologies and facilities.

The Royal Marsden will be the first hospital in the UK that co-locates world-leading researchers in the same physical space as patients with the most challenging and rare types of cancers. The benefit of doing this will be that we will gain much greater patient insight, whilst greater visibility of our clinical research amongst patients, their friends and family, will increase the amount of patient-generated research ideas. The result will put patient care firmly at the heart of our research.

Over the past year, The Royal Marsden has seen the transformation of the Sutton site as the Oak Cancer Centre has taken shape. Despite the challenges presented by the COVID-19 pandemic, construction work has continued at pace and the building has now reached its maximum height.

We're also pleased to share this image with you of the architect's visualisations of the outpatient's department, where the consulting room you have funded will be situated. There will be plenty of natural light in the outpatient's department, and wooden flooring and carefully chosen plants and trees will create a calming, natural environment. The consulting rooms will be suitably and flexibly sized with enough space for friends, family and all the medical experts that need to be involved in the consultation.

Thank you so much for your support of our Oak Cancer Centre appeal. We are looking forward to updating you as progress continues in 2022.

You can find out more about the Oak Cancer Centre by viewing this short video.

An artists impression of the atrium in the outpatients department of the Oak Cancer Centre

The Royal Marsden's Emergency Appeal

In 2020, the Lady Garden Foundation generously supported our Emergency Appeal, launched at the onset of the COVID-19 pandemic. This included funds to help the hospital provide vital support to patients and staff and a commitment to Dr Banerjee's COVID research project, exploring the effect of the pandemic on the mental health of clinicians working with cancer patients.

The impact of COVID-19 in oncology – burnout and well-being led by Dr Susana Banerjee

In this national study, Dr Banerjee is working alongside researchers at Lancaster University, hoping to develop well-being initiatives and shape supportive policies across the NHS. The study was launched in June 2020 and a survey was sent to frontline NHS staff members, working with cancer patients across the country, to measure burnout, resilience and wellbeing. 1,038 doctors, nurses, pharmacists, administrators and allied health professionals (such as dieticians and physiotherapists) took part in the survey.

The results from the first survey found that whilst 66% of staff felt able to do their job without compromising their personal safety, 42% of staff felt they were likely to be 'at risk' of poor wellbeing and 34% indicated signs of burnout. The survey also uncovered the coping strategies staff use, with doctors tending to use planning and humour as strategies, whereas allied health professionals sought out emotional support and information from others. Staff were also asked how valued they felt by their organisation and by the public. Overall, 68% said they felt valued by the public and 66% said they felt valued in the workplace.

A second survey was sent to frontline NHS workers in mid-2021 with over 1,000 participants taking part. Results from this survey will be available in January 2022 and will help Dr Banerjee gain a deeper understanding of how burnout has affected staff throughout the pandemic.

When Dr Banerjee first developed the research project in April 2020, it was not expected that the pandemic would still be having a significant global impact in December 2021. Dr Banerjee has therefore adapted the timeline of the project and is developing a third survey which is expected to be sent in Spring 2022.

The team are using a wellbeing thermometer which is a framework that has been put together by the Royal College of Physicians to measure the levels of burnout experienced by staff.

A second element of the study involves focused, semi-structured interviews with staff. Key staff groups are being interviewed, such as trainees, those who have been redeployed to work away from their regular roles, and individuals who have had to self-isolate.

Dr Banerjee hopes that the information collated in this study will inform new supportive policies across the NHS, to help staff overcome new challenges in the future and prevent burnout.

ATARI Trial

In 2017, the Lady Garden Foundation committed £260,000 towards this exciting trial, led by Dr Banerjee, which hopes to revolutionise treatment options for women with rare, relapsed or advanced gynaecological cancers. We are delighted to provide an update on this exciting research trial.

Currently only one in ten of women with rare, relapsed or advanced gynaecological cancer will see tumour shrinkage with chemotherapy, but laboratory results suggest that one in six women may have a greater chance of responding to a class of drug called ATR inhibitors. The multi-site trial tests an ATR inhibitor, known as Ceralasertib, as a single agent and in combination with the PARP inhibitor drug, Olaparib.

The Royal Marsden is leading the trial and was the first hospital to open for recruitment. Recruitment began in November 2019 once the additional funding needed to complete the trial had been confirmed by Astra Zeneca. A second trial site opened in Manchester in July 2020, followed by sites in Glasgow, Edinburgh and an additional site in London. A sixth site was established in Bath in June 2021.

The trial is progressing well, and recruitment will continue until June 2022 with the aim of recruiting a total of 40 patients across the UK trial sites. The team anticipate that results will be published towards the end of 2022. If the results demonstrate that the use of ATR inhibitors leads to tumour shrinkage in some patients, the trial will be expanded, and a further group of patients recruited.

This trial is incredibly exciting and has the potential to change standard care for these women. It could also help develop a greater understanding of which patients will benefit from this new treatment option. Thank you to everyone at LGF for so kindly supporting this project.

2021 Patient Case Studies

In 2021, we were delighted to share new case studies of women who have been treated for gynaecological cancer at The Royal Marsden. These women have bravely shared their experiences and all stories have featured on your website and social media channels.

Here is a short summary of the stories shared this year:

Reija Sillanpaa

In 2019, Reija was diagnosed with stage 3c endometrial cancer and had seven months of treatment. Genetic tests showed that she had Lynch syndrome which puts her at greater risk of developing some types of cancer, including endometrial cancer. Her most recent scans have shown no signs of the disease.

Reija is keen to raise awareness of endometrial cancer as she had symptoms for much longer than she realised. At the time of her diagnosis, she was not aware that the symptoms she experienced were signs of the disease.

You can read Reija's full story here.

Natalie Hickton

Natalie shared her story of being diagnosed with cervical cancer at the age of 32, as she was planning on starting a family with her husband. Thanks to advances in technology at The Royal Marsden, Natalie was able to avoid a full hysterectomy and instead underwent a cone biopsy using robotic surgery. Natalie now has two young sons, and it has been five years since she finished her treatment.

You can read Natalie's full story here.

Tia

In March 2020, 22-year-old Tia was diagnosed with a rare ovarian cancer known as an Immature Teratoma. Tia underwent treatment to protect her fertility by freezing her eggs before she had surgery to remove her left ovary. Fortunately, Tia's cancer was caught at its earliest stage, but she will remain on active surveillance for the next 10 years.

You can read Tia's full story here.

Katie Wilkins

At the start of the pandemic, Katie Wilkins was diagnosed with Low Grade Serous Ovarian Cancer after experiencing bloating, stomach cramps and extreme tiredness. She underwent surgery and six rounds of chemotherapy before receiving the news that there was no evidence of the disease in January 2021.

Katie shared another update one year on from her diagnosis. She detailed her recovery and her involvement in a World Ovarian Cancer Day billboard campaign on the 8th May.

Katie was delighted to support the Lady Garden Foundation's #GiveYourFannyFive campaign during gynaecological cancer awareness week in September. She shared a video featuring five things she'd learnt from having ovarian cancer. This was featured on Lady Garden Foundation social media channels.

You can read Katie's full story here.

You can read Katie's update here.

Anonymous Story

In September, we shared the story of a patient who bravely told us about her treatment for vulva cancer at The Royal Marsden. She had three surgical procedures including one using pioneering technology and a special dye to identify cancerous lymph nodes. The patient received an early diagnosis thanks to an in-person GP appointment and subsequent referral for further tests.

You can read the anonymous story here.

Emily Plane

Emily Plane is already a close friend of the Lady Garden Foundation, having shared her blog post and having raised funds for the Foundation previously. In September, she attended your Fortnum and Mason's lunch to talk to your guests about her experience of being diagnosed with ovarian cancer at the age of 23.

You can read Emily's full story here.

Thank you

The Lady Garden Foundation have already achieved so much for gynaecological health and in 2021 you have done even more to improve the lives of those diagnosed with gynaecological cancers in the UK and beyond. Your determination to make a difference for these women is astounding and we are so proud to work alongside you, now and in the future.

Since our last report, you have supported four exciting and varied gynaecological cancer research projects. These projects cover innovative areas of cancer research including the personalisation of treatment using genomics, machine learning through Artificial Intelligence, and the use of liquid biopsies to detect response to treatment and relapse. These projects could help improve treatment options for patients across the three most common forms of gynaecological cancer.

You have also provided two new pieces of equipment for the gynae unit at The Royal Marsden's Chelsea site. This means that our staff and patients benefit from the very latest technological developments.

We are delighted that you chose to support our Oak Cancer Centre Appeal by funding a consultation room. The building has transformed our Sutton site this year, and we are looking forward to updating you on the project as it progresses in 2022.

We are very much looking forward to what next year holds, and we are excited to see how the projects you have funded develop. Thank you to all the Lady Garden Foundation founders, trustees, committee members and supporters for your inspirational support of women affected by gynaecological cancers.

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