

# ICR

The Institute  
of Cancer Research

---

## Strategic Plan 2011-2016

*Approved by the Board of Trustees on 14th July 2011*

# Contents

---

<b>Our Vision, Our Mission</b>	3
<b>Our Values</b>	4
<b>Introduction from the Chief Executive</b>	5
<b>Strategic Direction</b>	6
<b>Goal 1: Research and Impact</b>	6
» Objectives and Outcomes	
» Research	
» Transforming Outcomes for Patients	
» Partnership and Collaboration	
» Enterprise	
» Measures of Success	
<b>Goal 2: Education and Training</b>	12
» Objectives and Outcomes	
» Education and Training	
» Measures of Success	
<b>Goal 3: Environment and Infrastructure</b>	16
» Objectives and Outcomes	
» The Estate	
» The Environment	
» Financial Sustainability	
» High Quality People	

## Our Vision

---

Is that people may live their lives free from the fear of cancer as a life threatening disease.

## Our Mission

---

Is to relieve human suffering by pursuing excellence in the fight against cancer through:

- » Research into the causes, prevention, diagnosis and methods of treatment of cancer
- » Education and advanced training of medical and scientific staff
- » Treatment and care of the highest quality for cancer patients
- » Attraction and development of resources to the optimum effect.

# Our Values

---

## Research for Public Benefit

We are committed to carrying out cancer research that can be exploited to its maximum potential for the benefit of the public

## Excellence

We are committed to the pursuit of excellence in the fight against cancer. This encompasses every aspect of our work, research, education and all the supporting activities

## Integrity

We are committed to integrity, honesty and consistently high standards in all our activities, both internally and externally

## Accountability

We believe that we are accountable for our actions to the public and to our funders, and we submit ourselves to appropriate scrutiny

## Equity

We will ensure that our policies and practices do not discriminate unfairly or lead to other forms of unfair treatment

# Introduction from the Chief Executive

---

The ICR is one of the world's leading cancer research organisations and together with our partner the Royal Marsden Hospital forms the largest Comprehensive Cancer Centre in Europe.

Our Strategic Plan for 2011-16 provides a framework for our academic activities. Our focus as ever is to undertake research of the highest quality which will ultimately have significant impact on improving outcomes for cancer patients.

We are a confident, vibrant and enterprising organisation with some of the best minds in the world working on areas of cancer research where we have a track record of success and where we can make the most clinical impact.

Our new Scientific Strategy 2010-15 outlines our objective to lead in the evolving era of personalised medicine. We will focus on those areas of research where there is either substantial fundamental research at the ICR together with substantial clinical practice at the Royal Marsden Hospital, or where there is a significant new opportunity.

We believe that working in partnership with others is key to ensuring a major leap forward in the understanding and treatment of cancer. Therefore, we will take a leading role in forging new strategic alliances particularly where there are opportunities to expand our efforts in undertaking translational research for patient benefit.

We are a college of the University of London, and our research students, who are recruited competitively, make a significant contribution to our scientific endeavour. We are committed to providing them with knowledge and skills which both challenge and inspire them to become the next generation of researchers. We will continue to provide our current portfolio of research-led postgraduate taught programmes.

Our strategy has been developed at a time of continued financial uncertainty particularly within the public sector but we are confident that our core activities are sustainable. Our finances are sound and our budget has the flexibility to enable us to seize new and exciting opportunities when they appear.

We will enhance our position as one of the world leaders in cancer research, and continue to invest in developing an infrastructure and environment that attracts scientists and students from across the globe to join us and make a real difference to the lives of those affected by cancer.

## STRATEGIC DIRECTION

# Goal 1: Research and Impact

To be a world leader in fundamental research into cancer and the translation of research discoveries into improved outcomes for cancer patients

---

The ICR is one of the world's leading cancer research organisations and is internationally renowned for the quality of its science. Following the 2008 Research Assessment Exercise (RAE), the most rigorous assessment of research quality in the UK conducted by the Higher Education Funding Council (HEFCE), the ICR was rated as the UK's leading academic research centre.

## Scientific achievements over the past 5 years

---

- » We have identified 112 genetic variants that increase risk of different types of cancer: breast (19), prostate (23), leukaemia (14), colorectal (16), lung (3), brain (7), lymphoma (4) myeloma (3)
- » We have solved the molecular structures of a number of important proteins involved in protein folding and cell division that have implications for cancer treatment such as APC and Hsp90
- » We led the internationally renowned START trials, which have changed standard clinical practice for delivery of radiotherapy to treat breast cancer and had a major impact on patients who will now have to make fewer hospital visits
- » We played a leading role in clinical trials that demonstrated the effectiveness of aromatase inhibitors in breast cancer and in February 2009, the National Institute for Health and Clinical Excellence (NICE) recommended these drugs as a first line hormone treatment for certain women after surgery
- » We maintained our position as the leading academic drug discovery unit in the world with the discovery and nomination for development of 14 drug candidates over the last five years;
- » We have licensed three novel series of anti-cancer drugs to major pharmaceutical companies in the last three years; HSP90 inhibitors to Novartis, PKB inhibitors to AstraZeneca and PI3Kinase inhibitors to Genentech

- » Abiraterone, a life-extending new drug to treat patients with advanced prostate cancer discovered at the ICR and further developed at the ICR and The Royal Marsden, has been approved by the FDA, recommended for approval by the European Medicines Agency and licensed in the UK. Abiraterone is the first treatment of its kind shown to be effective in men with a type of advanced prostate cancer. This will likely make a huge difference to the 10,000 men diagnosed with aggressive forms of the disease in the UK every year
- » We have explained some of the key steps in the progress of metastasis, how tumours spread, by understanding how cells change shape and how they generate the force required to move. This finding raises the possibility that drugs targeting these proteins could potentially stop metastasis, which is responsible for 90 per cent of cancer-related deaths
- » We have contributed to significant advances in the understanding of the causes of skin cancer by defining how the protein BRAF triggers cancer, which is faulty in more than half of all melanomas. This work has already led to the discovery of potential new drugs to treat skin cancer that are now showing promise in clinical trials
- » We discovered that cancer stem cells in the most common childhood leukaemia have complex and diverse combinations of mutations, even within individual patients. This research may help explain why advanced cancers remain so difficult to eradicate. Many companies are developing new drugs for advanced cancer that target the tumours' specific genetic mutations, our research has shown that these genetic mutations are constantly evolving, which has the potential to create lethal resistance to treatment
- » We were instrumental in the development of PARP inhibitors in BRCA driven cancers by showing that cancer cells with a mutated BRCA gene are particularly sensitive to treatment with these inhibitors. We went on to lead the successful Phase I and II clinical trials in both breast and ovarian cancer. It is now apparent that a significant proportion of patients with sporadic ovarian cancer exhibit similar sensitivity to PARP inhibition, raising the possibility of a much broader application of this approach. The use of the concept of synthetic lethality exemplified by this work is now being widely explored

Our first goal demonstrates our intention to continue to undertake and be recognised internationally for research of the highest quality which has maximum impact for the patient.

## Objectives

- » To undertake excellent basic, translational and clinical research throughout the ICR as defined by international peer review
- » To transform outcomes for cancer patients through linking personalised treatment regimes to the genetic makeup of the patient and tumour with our partner the Royal Marsden Hospital
- » To form strategic alliances and collaborations which enhance opportunities to conduct research aimed at improving outcomes for cancer patients
- » To ensure appropriate and effective exploitation of the ICR's intellectual property and research outputs to maximise patient benefit

## In the next 5 years we plan to:

- » Demonstrate measureable progress toward improved outcomes for cancer patients
- » Further enhance our effective working relationship with the Royal Marsden Hospital
- » Invest in existing research strengths and redirect resources to capitalise on emerging research opportunities
- » Exploit opportunities to broaden and enhance our research through collaboration and partnerships
- » Optimise opportunities to further patient benefit through commercial interaction

## Research

For the last ten years the ICR Scientific Strategy has been increasingly focused around the three interlinked themes of genetics, molecular pathology and therapeutics. The world-wide explosion of work in cancer genomics means that the exploitation of cancer genes needs to remain at the core of the ICR Scientific Strategy.

Our genetics programmes in identifying germ-line cancer predisposition genes have been outstandingly successful and will be strengthened.

Therapeutic development encompasses clinical trials, imaging and all ICR activities in basic cell, molecular, developmental and structural biology as well as the directed drug development programmes and other therapeutic modalities such as radiotherapy.

Our success in understanding cancer-causing genes and pathways has underpinned our world leading position in cancer drug discovery and development. Over the last five years we have discovered 14 preclinical development drug candidates, progressed 6 of these into Phase I clinical trials in the Royal Marsden Hospital and seen our prostate cancer drug

abiraterone approved by the FDA, launched in the USA and recommended for approval in the European Medicine's Agency. Examples of our successful drug discovery include inhibitors of the molecular chaperone HSP90 and the signalling enzymes PI3 kinase and PKB.

We have also pioneered the use of PARP inhibitors in BRCA mutant cancer.

A central component of the future Scientific Strategy will be enhancement of our activities in molecular pathology. The rationale for expanding molecular pathology is three fold, first next generation sequencing will provide much deeper insights into the molecular changes in cancer, second this will lead to new targets for therapeutic development and third, changes in molecular pathology on repeat sampling provide a better understanding of variations in response to treatment.

## Transforming Outcomes for Patients

Key to the future direction of the ICR will be the strengthening of the close interaction with the Royal Marsden Hospital through the establishment of an integrated Comprehensive Cancer Centre. This will ensure that we have the most appropriate research and governance structures in place to translate our findings in basic research to the clinical setting, for instance in developing and undertaking early and late phase clinical trials. A central theme of this partnership will be exploiting advances in understanding the genetic aberrations that cause cancer in order to deliver personalised medicine.

Personalised medicine marks a new era in cancer treatment and will dramatically improve the effectiveness of patient care. Cancers are caused by alterations in a patient's genetic code. Personalised medicine involves treating a patient with drugs that specifically target those alterations, in the expectation that the treatment will be more effective and carry fewer side-effects. ICR scientists are leading advances in this field. Together with our partner, the Royal Marsden Hospital, we are striving to:

- » Improve our understanding of the genetic make-up of the patient, and how genetic changes in tumours alter cell signalling and determine their response to drugs
- » Discover and develop new drugs to treat cancer
- » Tailor innovative treatments to the characteristics of an individual patient's tumour.

## Partnership and Collaboration

We aspire to take a leading role forging further alliances and collaborations where these will help us to exploit opportunities to broaden and enhance our research and through which we can achieve our translational objectives more speedily.

In addition to our close partnership with the Royal Marsden Hospital, we form part of an academic and research partnership with Mount Vernon Hospital which will allow us to expand the scope and scale of our operations. Our partnership with our key funders including Cancer Research UK, Breakthrough Breast Cancer and the Wellcome Trust, continues to be strong and is critical for our future success.

## Enterprise

Our primary objective for ICR's discoveries is that they are developed first and foremost for patient benefit. In addition, we seek to achieve a fair financial return as an outcome for any exploitation by commercial organisations of ICR discoveries.

If a discovery such as a diagnostic or bio-marker can be used widely with little or no further development then it should be made available freely or through non-exclusive licensing; exclusive licensing should be limited to those discoveries, primarily new therapeutics, which require substantial further investment from an industrial partner to realise patient benefit.

We recognise the added value that early partnering with industry can bring to many research programmes, for example, through access to increased resources, research tools and complementary skills and we will continue to promote and increase our interactions with the business community to ensure that our laboratory discoveries can be developed in the most timely manner for the benefit of patients.

Whilst patient benefit rather than income is our primary aim, we still expect that exploitation of ICR discoveries will generate income for reinvestment in ICR's research. Our target is for invention income to exceed £1 million per annum by the end of the planning period (of which at least £150,000 will be from sources other than abiraterone) and to achieve £2 million per annum in income from industrial collaborations.

## How will we measure our success?

---

- » Through improving our long term research achievements and the impact these have on patient benefit including: overall survival rates, duration of remission and alleviation of side effects of treatment
- » Through achieving our grant application success rate targets
- » By maintaining the highest level of achievement in external scientific reviews including the Research Excellence Framework
- » Through sustaining the relative citation impact of scientific papers in biomedical sciences
- » Through the number of high quality industrial collaborations and an increase in projects partnered for further development

## STRATEGIC DIRECTION

# Goal 2: Education and Training

To educate and train the next generation of cancer researchers and clinicians

---

The concentration of world class scientific and clinical expertise within our organisation means the ICR has the best academic staff available to prepare students, postdoctoral staff, scientists and clinicians to receive the best education and training to develop their talent and launch them into a successful career in cancer research and clinical practice.

## Key achievements over the past 5 years

---

- » Being awarded one of the Wellcome Trust's first clinical PhD programmes
- » Consistently achieving at least 70% of PhD submissions within four years and a pass rate of 100% for PhD submissions
- » Achieving the highest category of assessment from the QAA's Institutional Audit 2008 in respect of postgraduate research awards and learning opportunities
- » Establishing the MSc in Oncology as the ICR's first postgraduate taught course, attracting more than 50% of the UK clinical oncology trainees and successful completion of the first cohort on this programme.
- » Launching a Virtual Learning Environment to support the MSc course delivery, providing software to allow 100% on-line off-site access to electronic resources through the Library and Information Services
- » Achieving the European Commission's 'HR Excellence in Research Award' for supporting the training and career development of research staff and students

## Objectives

- » To offer high quality postgraduate research training for students of the highest intellectual calibre
- » To provide research-led education to clinicians specialising in oncology to enable a rapid translation of research outcomes to improve patient care
- » To provide tailored training opportunities and support for the career development of postdoctoral researchers

## In the next 5 years we plan to:

- » Competitively recruit the most promising PhD students, support and monitor their progress and evaluate the success through time to PhD submission and pass rates
- » Deliver effective teaching for medical and clinical oncologists and monitor completion rates
- » Review our Learning, Teaching and Assessment Strategy to develop and implement a new strategy for 2012-16

## Education and Training

The ICR is a postgraduate College of the University of London. We are able to recognise the contributions of academic staff (Faculty) through the award of academic titles and our students benefit from the international recognition of the standards of quality conveyed by the award of a University of London degree.

Supervising research students is an intrinsic part of any vibrant academic research culture and in this, the ICR is no exception. Postgraduate researchers are an integral part of our research capability and we have scientifically and/or clinically trained students working towards research degrees in all areas of research.

Research Degrees: during the planning period we will focus on:

**Recruitment** of the best and brightest students and ensuring they are studying in the best environment with the right supervisors for them, through the continual review of the recruitment process

**Student training:** Provision of self-directed learning material for Study Skills and grounding in Cancer Sciences and a wide portfolio of face to face training

**Continual evaluation** of the effectiveness and adequacy of the support for students

**Staff training:** Provision of supervisor training for new staff and update training for more experienced practitioners

**Mentoring and career development** for postdoctoral researchers and Career Development Faculty

Our research and educational objectives are closely aligned with those of the Royal Marsden Hospital. Approximately one third of our Faculty are medically qualified and many of these staff lead developments in clinical practice through their work in the hospital as well as leading their research teams. It is the integrated way in which we work together which optimises the ability of the joint organisation to rapidly translate research findings into advances in patient care.

Consistent with this we run an MSc in Oncology which is a modular taught course aimed primarily at Specialist Registrars in the field of Clinical and Medical Oncology. The course is taught by both ICR and Royal Marsden Hospital staff and by experienced clinicians drawn from the wider UK Oncology community. There are exit points at Certificate, Diploma and MSc degree level. The course currently attracts the majority of London-based Medical Oncology trainees and about half of all clinical oncology trainees in the UK. During the life of this strategy we will further consolidate this programme and consider whether to initiate taught postgraduate courses to underpin planned research developments in molecular pathology and translational genetics.

We will meet the ‘best practice’ standards in providing information, training and career advice to all researchers as identified by the Research Concordat, and so build on our ‘HR Excellence in Research’ accreditation, underpinned by the HR Strategy.

The Learning and Development team will ensure high quality, tailored support through partnerships with our Postdoctoral Association, Scientific Officer Forum and student representatives and, with the advice, guidance and involvement of the ICR’s Faculty in our training and career development activities. These will focus on:

**Sharing scientific expertise** through workshops in key techniques

**Developing all round research skills** through workshops such as statistics, grants and fellowships, research integrity, scientific computing, science communication, getting published, commercialising research and research leadership

**Providing advice and support for career development** through internal and external career talks and conferences and one to one advice from ICR staff and external careers professionals

We will continue to collaborate with our peers in other prestigious research organisations, to ensure our researchers have access to the widest possible range of training and career development opportunities at the ICR and beyond.

## How will we measure our success?

---

- » Ensuring trends in application and admissions data are in line with projections and targets
- » Achieving MSc Oncology recruitment targets
- » Achieving research degree completion rates
- » Monitoring the destination of students and their career progression

## STRATEGIC DIRECTION

# Goal 3: Environment and Infrastructure

To deliver a world class and sustainable organisation to support cancer research and education for patient benefit

---

In order to achieve our academic goals we need to ensure that the ICR has both the financial stability and the organisational capacity to support our scientific and academic endeavours and ensure successful outcomes.

## Key achievements over the past 5 years

---

- » Converting office areas in the Brookes Lawley Building into laboratories to provide improved and expanded accommodation for the Sections of Haematology and Cancer Genetics
- » Implementing a high performance computing and large scale data storage environment to support key areas of research such as Genome Wide Association Studies (GWAS), Next Generation Sequencing (NGS), radiotherapy modelling and high-throughput docking for lead generation
- » Implementing an integrated administrative systems platform to streamline processes and improve efficiency
- » Achieving and maintaining the Investors in People accreditation for Corporate Services staff
- » Establishing an Equality Steering Group
- » Achieving the Athena Swann Bronze Award in 2009

## Objectives

- » To expand our world class facilities and infrastructure to support research
- » To deliver a sustainable environment
- » To obtain sufficient funds to ensure the long term financial viability of the ICR's work
- » To be the employer of choice for those working in cancer research
- » To deliver excellent and cost effective professional support services aligned with our Scientific Strategy

## In the next 5 years we plan to:

- » Continue to expand and refurbish our estate and infrastructure to deliver state of the art research facilities
- » Further minimise our impact on the environment by implementing our Environmental Management System and Carbon Management Plan
- » Target resources to deliver the Scientific Strategy, through sound investment strategies and maximising our income streams
- » Continue to attract scientists, clinicians and professional support staff of the highest calibre through our international reputation for both scientific success and excellent support services

## Environment and Infrastructure

### The Estate

In the past fifteen years more than 90% of our laboratory estate has been rebuilt or refurbished at a cost of over £100 million. Our future strategy is to both maintain the quality and standard of our current provision and to expand to provide further 'state of the art' facilities to support our scientific objectives and world class research.

We will work alongside our partners at the Royal Marsden Hospital to support the delivery of the Centre for Molecular Pathology as a fully functioning research facility. It will facilitate a rapid translation of basic research discoveries into benefit for cancer patients and this will meet a central objective of our Scientific Strategy.

We require further accommodation for a new and expanding initiative in multi-modality imaging to enhance our programmes in drug discovery and development and to expand essential support functions. The business case for the recommencement of the Sir Richard Doll Building Phase 2 project (Centre for Multi-Modality Imaging) which plans to house this development has been agreed and planning is underway to deliver it within the lifetime of this strategy.

We will continue to plan and implement works to protect our planning permissions for future expansion on the Sutton Campus as a precursor to achieving our aspiration for the development of one of the largest cancer drug development units in the world.

In IT, an ongoing investment programme has led to substantial improvements in supporting scientists and support staff to take advantage of an enhanced infrastructure capacity at lower cost, improved performance and efficiency. The new IT Strategy 2011-16 will focus on meeting the increasing challenge of supporting scientific research which has become increasingly dependent on information management. The ICR is committed to realising the benefits of high performance computing, large scale data management collaborative systems, information storage, retrieval and communications.

The ICR aims to consistently meet its service level agreements throughout our support services and has maintained its OHSAS 18001:2007 Health and Safety accreditation and ISO 9001:2008 accreditation for the Facilities Directorate.

## The Environment

The ICR recognises its responsibility to the environment and commits to promote the protection of the environment and minimise the impact of our activities upon the local, regional and global environment. We have already demonstrated our commitment by joining the EcoCampus Scheme to develop our Environmental Management System and we believe this and our Carbon Management Plan will further enable us to cut our carbon emissions to the target levels we have set. We believe we have a duty to act in this socially responsible way and our reputation will be increasingly linked to progress in this area.

We hope to obtain the gold and platinum Eco Campus Awards as we continue to implement our Environmental Management System. Our Environmental Management System in addition to carbon management targets includes objectives and targets relating to waste reduction, increased recycling and promotion of green travel in accordance with our Green Travel Plan.

The achievement of our carbon emissions target will be a challenge as the majority of our estate comprises highly serviced and densely equipped laboratory accommodation with the associated high energy use and carbon footprint. However, we believe significant reductions in energy use can be made without compromising our operational requirements.

## Financial Sustainability

The ICR aims to acquire and manage resources to finance cancer research to the highest international standards both today and in the future.

The ICR has more than 1,000 staff and postgraduate students. Our current funding is broadly: HEFCE 32%, Cancer Research UK 25%, Breakthrough Breast Cancer 8%, Other Grants 26%, Investment Income 1%, Legacies and donations 8%. Annual expenditure is over £85 million and net assets exceed £134 million.

In order to ensure our financial sustainability, we maintain a rolling five-year financial plan and monitor the level of our free reserves in comparison to a target level which is calculated on the basis of financial risk. Our free reserves are currently above the target level and will allow us to invest further in our research in the short term. Our free reserves are forecast to reduce to the target level of £18.6 million by 2016.

The current financial climate is challenging across all income streams and our key funders are having to manage their resources within the prevailing economic constraints. Our HEFCE funding will fall to some £19.2 million in 2011/12. To sustain our financial position, and provide for a sustainable expansion in order to achieve our research and teaching objectives, we must increase, diversify and maximise our income and continue to monitor and reduce our cost base.

We will continue to work closely with the major funders of cancer research for our mutual benefit and the advancement of cancer research. We will become a Cancer Research UK Centre.

We aim to increase our fundraising income to £15 million per annum by 2020, mainly through our long term legacy fundraising, major gifts and trusts. Our short term aim is to raise £12 million per annum by 2015/16.

We will continue to exploit our intellectual property, promoting interactions with the business community which ensure that our laboratory discoveries are developed for the benefit of patients and generate a significant income for reinvestment in the ICR's research.

These long term fundraising and commercialisation targets are ambitious; the income budgets, on which we base the expenditure plans, are more prudent.

We will continue to invest in our estate and infrastructure in order to maintain the facilities necessary for the conduct of our world leading research and to develop new facilities, as funding allows, for the implementation of our Estates Strategy which sets out the further expansion of our estate.

## High Quality People

Our continuing objective is to remain an employer of choice in a global and competitive market and to attract, develop and retain the very best staff from all disciplines.

We will recruit world class leaders in cancer research including the best career development faculty, postdoctoral researchers and technical staff. We will create a culture which encourages research excellence and is supported by high quality, cost-effective professional services.

We will balance investment in training and development with ensuring accountability for performance and effective management of the ICR's finances and other resources.

Our new scientific management structure will increase collaborative working and joint appointments, changing the size and profile of the workforce. This will be supported by an increased focus on leadership and management. Enhanced communication will be key to ensuring engagement at all levels and commitment to the ICR's strategic goals.

## How will we measure our success?

---

- » Through delivering our Estates Strategy, including our Environmental Management System and Carbon Management Plan
- » By having sufficient resources to carry out our planned level of research activity whilst maintaining the ICR reserves at an appropriate level
- » Through consistently achieving agreed service levels
- » By improving staffing engagement as measured by external assessment and internal processes

# The Institute of Cancer Research: Royal Cancer Hospital

Registered office: 123 Old Brompton Road, London, SW7 3RP

Tel. +44 (0)20 7352 8113 | Fax. +44 (0)20 7370 5261 | [www.icr.ac.uk](http://www.icr.ac.uk)

A Charity, Not For Profit. Company Limited by Guarantee. Registered in England No. 534147

---