

Progressing the Vision of an All-Island Cancer Research Institute (AICRI)



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Our aim is to establish an All-Island Cancer Research Institute (AICRI). This will be a virtual institute and through our work we will gain a better understanding of cancer, develop more personalised treatment options and ease suffering and save lives. We will become a global leader in cancer research.

About AICRI

Potentially one in two people living on the island of Ireland will develop cancer during their lifetime. To help improve the lives of many living with and beyond cancer, there is an urgent need for greater collaboration in the area of cancer research throughout the island of Ireland. Indeed, the COVID-19 pandemic has made the situation even more acute for cancer patients, with there being considerable challenges put in place in terms of delayed diagnosis and associated care.¹

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options and ease suffering and save lives. We will become a global leader in cancer research.

AICRI will also help to deepen North/South collaboration and to strengthen social, economic and political links on the island of Ireland.

Mission and focus

AICRI will bring together the combined strengths of cancer researchers on this island of Ireland to tackle cancer, linking with US and other international colleagues.

Our mission is to provide an overarching framework for cancer research across the island of Ireland, from discovery to implementation, for the benefit of cancer patients and wider society.

Our ethos will be **“With the patient; around the patient; for the patient”**.

Benefits and Impact

AICRI offers many benefits and will provide a significant return on investment as follows:

- **Health and healthcare:** Reduce cancer incidence, improve prevention and early diagnostics, provide more cost-effective cancer care; increase healthy living and prevention to reduce healthcare costs.
- **Society:** The projected 233,000 deaths from all invasive cancers in Ireland from 2011-2030 is predicted to result in lost productivity of €73 billion, i.e. 1.4% of the annual GDP.² Emerging health economic data

demonstrate that precision medicine can significantly reduce costs and increase quality of life.

- **Economy and jobs:** AICRI represents a significant opportunity to attract key industries to the island, leveraging return of Investment and innovative spin out/SME activity that will benefit our economy, generate high value jobs, and will be enabled to become cornerstones of the knowledge industry.

In sum, AICRI envisages the birth of a new biotech Cluster and will encourage a vibrant and innovative start-up and SME environment for indigenous biotech North and South working closely with the IDA, InterTrade Ireland and Invest NI.

Investing in cancer will not only enhance the health of our citizens but will underpin significant economic and societal benefit, particularly through an inter-sectoral data-enabled cross-border ecosystem that aligns with government health and industrial strategies in both Ireland and Northern Ireland. For example, AICRI will help the National Cancer Control Programme (NCCP) to implement the cancer research element of the National Cancer Strategy 2017-2026.

AICRI also aligns well with Europe's Beating Cancer Plan.

Main Research Pillars

AICRI will be comprised of four main Research Pillars:

- 1) Cancer Prevention
- 2) Cancer Diagnosis
- 3) Cancer Treatment
- 4) Survivorship/Quality of life

Each of the four main research pillars will be broken down into focus areas such as Molecular Mechanisms, Microbiome, Metabolism & Obesity, Food & Nutrition, Inflammation, Exercise & Sports. These focus areas will be refined further as AICRI's Research Programme is fleshed out.

Who's Involved?

AICRI builds on the All-Ireland Cancer Consortium (AICC). This tripartite partnership between the Governments of Ireland and Northern Ireland and the National Cancer Institute in the USA was established in October 1999 and had a striking impact on cancer research in Ireland over the last 20 years.³ The re-signing of the Memorandum of Understanding Ireland-Northern Ireland-NCI Cancer Consortium took place in March 2021.

AICRI is currently harnessing the collective input of multiple stakeholders from academia, industry, government agencies and the health services. Active patient engagement in the evolution of AICRI's activities is a key feature.

To date, nine academic institutions have agreed to partner to fulfil the AICRI vision. These are University College Dublin, Trinity College Dublin, Royal College of Surgeons in Ireland, Technical University Dublin, Queen's University Belfast, Ulster University, NUI Galway, University of Limerick and University College Cork. Representatives from the NCCP and Cancer Trials Ireland are also engaged with the AICRI initiative. All of the aforementioned institutions and organisations, along with two patient advocates, are members of the AICRI Steering Committee, established in February 2021. Novel platform and targeted project ideas have been solicited from hundreds of cancer researchers across the island of Ireland, with a series of workshops planned over the coming months with a view towards creating an integrated framework for cancer research.

Funding

AICRI is a ground-breaking initiative in its early stages, but has the potential to transform cancer research and its impact on care across the island of Ireland. The overall aim of AICRI is to make **science work for the patient, for society and for the economy.**

We are presently seeking funding from a variety of sources (Government (NI, IRE, UK), philanthropy, charities, funding agencies and industry partnerships) to fulfil our vision. Please contact us if you would like further information and/or assist in delivering our goal.

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AICRI Promotional Video:
<https://www.youtube.com/watch?v=OFk1YFeJ6Ho>

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Cancer News

Obese Cancer Research

The most obese cancer patients have the lowest number of cancer-killing Natural Killer (NK) cells in their tumours. That is according to new research, which also identifies a biological pathway that can be targeted with drugs to mitigate the unhelpful migration of NK cells away from the tumours where they can fight the cancer.

In combination, the findings offer significant hope that a new therapeutic approach may one day make a difference by redirecting and reinvigorating the anti-cancer immune response.

A team of scientists led by Dr Melissa Conroy and Dr Joanne Lysaght from Trinity College Dublin's School of Medicine, worked with blood, fat, and tumour tissue samples collected from oesophagogastric adenocarcinoma (OAC) patients, who were being treated at the National Oesophageal and Gastric Centre at St. James's Hospital.

OACs are a group of obesity-associated and inflammation-driven cancers. Sadly, survival rates are very low: five-year

survival rates for oesophageal adenocarcinoma and gastric adenocarcinoma are 20 and 32% respectively and this is largely due to poor treatment response rates of <30%, highlighting the need for new and additional treatment options.

The team of scientists discovered an inverse correlation between visceral obesity and NK cells in tumours, such that the most obese patients have the lowest number of NK cells in their tumours.

Crucially, the scientists identified that a protein called Fractalkine plays a key role in both pulling the NK cells into the visceral fat and altering their activity.

They showed experimentally that this pathway can be targeted with drugs to reduce the extent to which the NK cells are erroneously diverted from the tumours.

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