



Cardiff University **Cancer Strategy** 2025-2030

Driving scientific
innovation to
increase cancer
survival rates and
enhance quality of
life for patients.





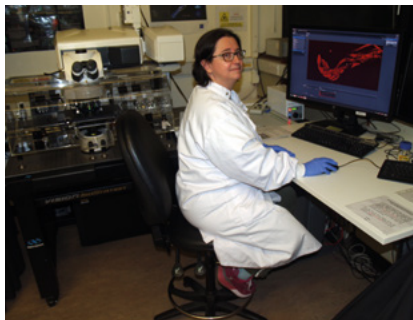
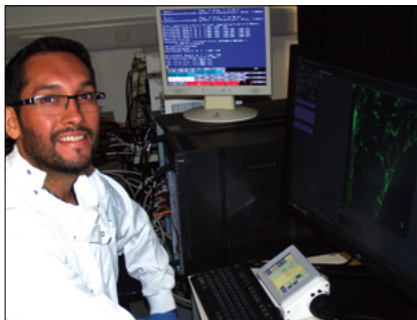
Our commitment to cancer research

Every two minutes, someone in the UK is diagnosed with cancer.

Whilst survival rates are improving overall, cancer claims more than 160,000 lives each year across the four nations. It also significantly reduces patients' quality of life, and that of their families. It's a devastating disease that affects us all.

Given the huge impact that cancer has on our population, our researchers are striving to ensure that more people get the early diagnosis, treatment and care they need to survive and stay cancer-free.

Our vision is to strengthen our discovery science portfolio and accelerate translation of our research findings to deliver new therapeutics, policies and interventions faster.



This new strategy allows us to build on the scientific progress being made at Cardiff University to combat cancer. Working co-operatively, we can move the dial on the poorer cancer outcomes that exist in Wales. There is much to do, especially in relation to improving early diagnosis and addressing inequalities, but this new cancer strategy offers the opportunity for all academic disciplines to work together to ensure that more people will survive cancer.

Professor Daniel Kelly OBE School of Healthcare Sciences

Our multidisciplinary endeavour

At Cardiff University, our cancer research excellence is delivered by the combined activities of researchers within the Schools of Biosciences, Medicine, Dentistry, Pharmacy, Healthcare Sciences and Engineering.

Research teams also deliver pioneering work through our European Cancer Stem Cell Research Institute, the Systems Immunity University Research Institute, the Experimental Cancer Medicines Centre, the Medicines Discovery Institute and the Centre for Trials Research.

Our activities are further enhanced by our strong partnerships with the Wales Cancer Bank and the Wales Cancer Research Centre, which share our research priorities.

Working in partnership to increase cancer survival rates and patients' quality of life

Whilst our cancer research is extensive, if we're to succeed in enabling more people to survive and receive the best possible care, we can't pursue this strategy alone.

That's why a key tenant of this plan is to strengthen our collaborative partnerships with Velindre University NHS Trust and the Cardiff and Vale University Health Board.

Our collaboration will be facilitated through the tri-partite Cardiff Cancer Research Partnership – a new cancer research infrastructure and community with shared research priorities. It will focus on a translational pipeline between the laboratories where cancer research takes place, and the clinics where cancer patients are treated.

This partnership is a major step towards the establishment of a Cancer Innovation Institute, which is a planned centre of excellence in cancer innovation and research in Wales.

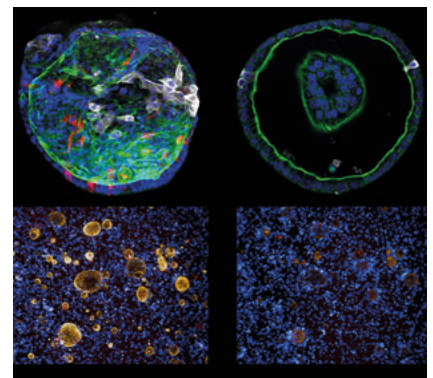
This strategy is aligned with the All Wales Cancer Research Strategy (CReST), The Office of Life Sciences Vision, and the priorities of our major funders – namely, UK Research and Innovation (UKRI), Cancer Research UK (CRUK), Blood Cancer UK, and Cancer Research Wales (CRW).



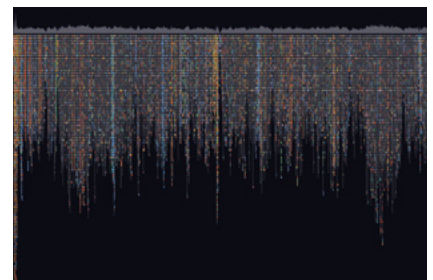
This strategic framework will enable Cardiff University

to grasp the opportunities of the present by strengthening connections across disciplines involved in cancer research, and making sure our discoveries go on to benefit patients. Importantly, it will also position us for opportunities of the future, by investing in training and career progression.

Professor Mererid Evans Director,
Wales Cancer Research Centre
(WCRC)



Human cancers can be grown as mini-organs in the lab and used to test the ability of different drugs or immune cells to kill them (courtesy of Stephanie Burnell and Chloe Harris, Gallimore – Godkin Lab).



A snapshot of genomic sequencing data generated using 'GW', an app developed at Cardiff University comparable to 'Google Earth' for your genome (courtesy of Kez Cleal, Baird Lab).

Our five-year cancer strategy



The background

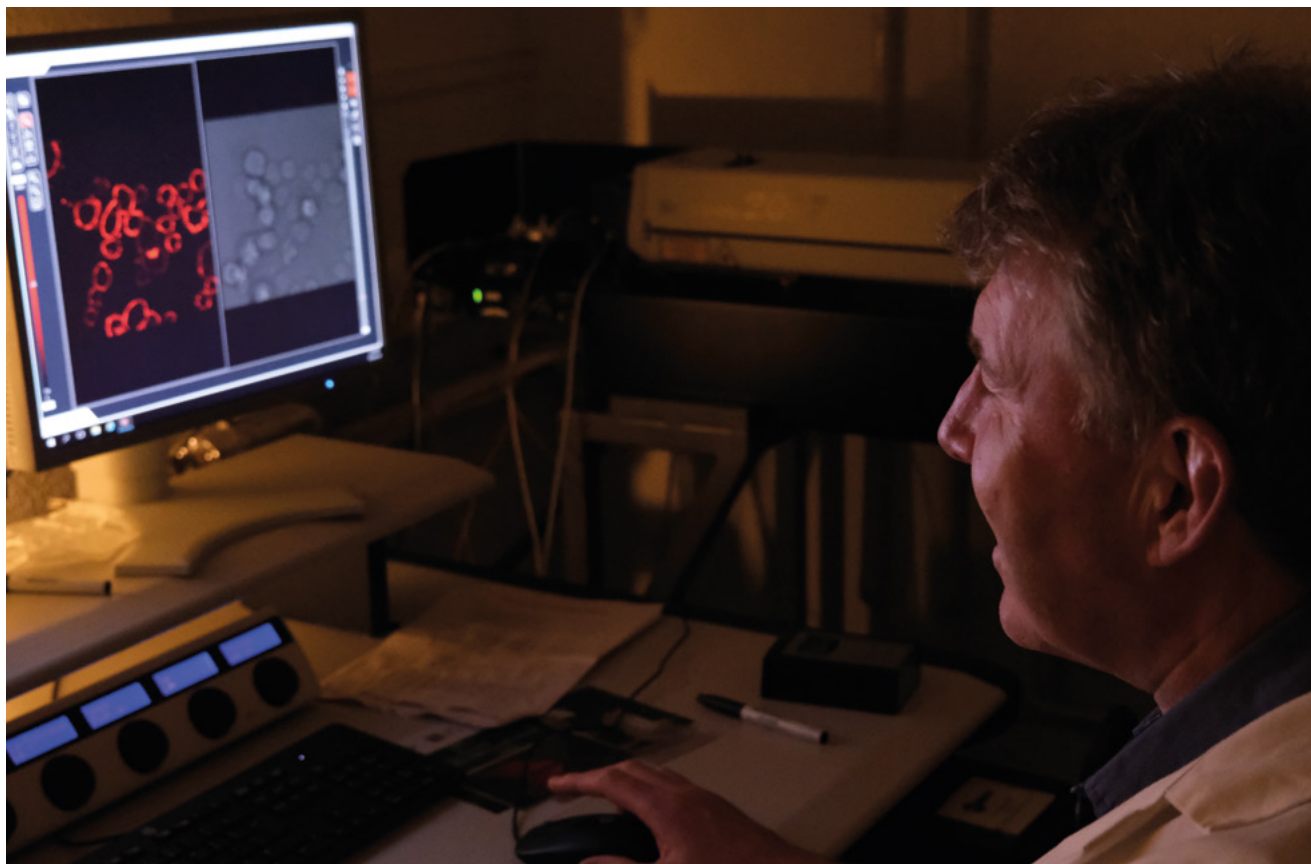
According to the Welsh Cancer Intelligence and Surveillance Unit (WCISU) and the International Cancer Benchmarking Partnership, Wales is positioned towards the bottom of league tables for patient survival in the UK and with other similarly developed countries, and this survival gap is not closing. As such, Welsh Government is committed to enhancing cancer services and outcomes in Wales, backed by substantial investments in cancer health.

Our cancer research community now has a unique opportunity to galvanise support and create a lasting impact in cancer care by working closely with clinicians and partners across the NHS, as well as other researchers and stakeholders. We will also engage with Welsh Government to inform cancer policy and improve patient outcomes.



Virtually every one of us will be touched by cancer during our lives. Cancer outcomes are not where we want them to be and research should be the foundation of strategies to improve them. We know patient outcomes are better where care is delivered in research rich environments. Research is everyone's business.

Professor Tom Crosby
Clinical Director of Cancer In Wales



The objectives

This strategy recognises the vital importance of transforming our understanding of fundamental cancer biology through scientific research. It's through this discovery science that we will drive innovation and real-world change for cancer patients.

We're bringing our research community together to:

consolidate our existing research activities into a distinct discovery science portfolio.

enhance our ability to attract major external investment from commercial, third-sector and government organisations (particularly UKRI funding, centre funding and commercial funding for cancer research at Cardiff University).

establish a prominent front door for the vast array of innovative cancer research at Cardiff University.

position ourselves as a globally recognised entity that delivers cutting-edge cancer innovation, training, and translation-rich clinical studies for the benefit of patients in Wales and beyond.

Our strategy

Our strategy will be realised by implementing a plan comprising five interconnected aims which:

- nurtures discovery and innovation in areas of strength and international identity
- empowers and motivates the workforce
- aligns its clinical and translational activities with Welsh Government and NHS partners to drive substantial improvement in cancer outcomes and enhance patient care for the people of Wales.

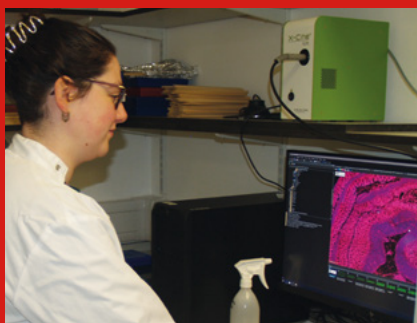


Our strategy: A quick overview

Our five-year Cancer Strategic Framework, as outlined below, has been led by our College of Biomedical Sciences' leading cancer research academics.

It has also been developed in partnership with Wales Cancer Research Centre, Wales Cancer Bank and Experimental Cancer Medical Centre.

This framework aims to take full advantage of the critical mass of our cancer research community by centralising the co-ordination of our cancer research activities. It ensures that our like-minded, dedicated researchers are all facing the same direction as we work to sustain our innovation and enhance our impact.

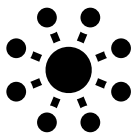


This future for cancer research ensures a critical

mass of activity to deliver real improvements in diagnosis and treatment for patients. Bringing together key strategic stakeholders whilst overtly addressing health inequalities and diversity in the clinical teams is a high priority for the College of Biomedical and Life Sciences.

Professor Steve Riley
Pro Vice-Chancellor
College of Biomedical and Life Sciences

Below is a summary of our five interconnected aims:



Connect cancer research across Cardiff University and key NHS partners

- Coalesce cancer research teams and infrastructure at Cardiff University.
- Support and evolve Multidisciplinary Research Groups (MDRGs).
- Develop the Cardiff Cancer Research Partnership into a Centre of Cancer Innovation Excellence.



Ensure equal representation in cancer research

- Build culturally competent practices into all relevant areas of our research.
- Implement INCLUDE and other related frameworks.
- Develop and implement personal and public involvement (PPI) in all research.



Leverage cancer data from every patient

- Place the patient at the heart of our research by facilitating Biobanking, Bioinformatics and Data Science.



Train future leaders and teams in cancer research

- Define and support career progression pathways for clinical and non-clinical cancer researchers.
- Develop co-funded cancer research posts with Health Care Research Wales, Cancer Research Wales and our NHS partners.
- Build a diverse and confident workforce.



Accelerate discovery and innovation to bring about faster healthcare improvements

- Identify two targets per year for drug / biotherapeutics development.
- Focus on one area of greatest need per year to achieve better cancer outcomes via policy and service innovation.



Through its five interconnected aims, Cardiff University's cancer strategy will galvanise expertise that exists not only within the university but also partner organisations to deliver cutting edge bench to bedside cancer care.

Dr Matt Wise, Associate Director for R&D, Cardiff and Vale University Health Board



I am a convinced that the connectivity demonstrated by this new strategy will breakdown traditional barriers to academic-lead success and enable exciting new cancer drug discovery projects with clinical and lived experience at their core.

Professor Simon Ward, Director, Medicines Discovery Institute at Cardiff University



By bringing together research, education and healthcare, this exciting new strategy is set to cultivate a highly skilled cancer research workforce which puts patients right at the heart of its research endeavours.

Wendy Larnar, Vice Chancellor, Cardiff University



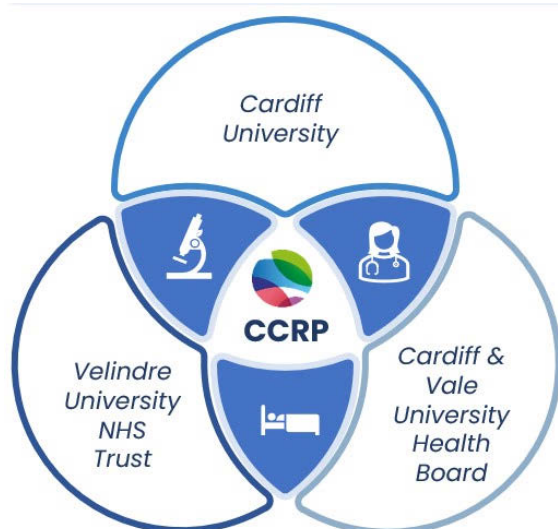
Our strategy: In detail

1 Connect cancer research across our university and key NHS partners

By bridging the gap between our research teams and our NHS partners at Velindre University NHS Trust and Cardiff and Vale University Health Board, we aim to expedite our research and the translation of our findings into tangible patient benefits. To achieve this, we will develop the emerging Cardiff Cancer Research Partnership (CCRP) into a centre of excellence for driving innovation in cancer research.

2 Accelerate discovery and innovation to bring about faster healthcare improvements

Using our expertise in drug development, we'll progress new drugs and biotherapeutics. Our aim is to safely and robustly move our discoveries along the research pipeline, through to clinical trials and development.



We'll also strive for significant efficiency gains in processes such as disclosures, intellectual property management, commercialisation, licensing, and spinout creation, as well as improved engagement with industry, investors, and external partners.

In parallel, we'll foster a culture of blue-sky thinking. This will be achieved by enhancing our infrastructure to cultivate an environment that encourages and empowers researchers to explore ground-breaking ideas.

We also plan to identify social determinants of cancer inequities to understand the impact of diversity and lifestyle factors on cancer incidence and progression, as well as on biological mechanisms of disease. These insights should lead to more effective prevention, earlier diagnosis and treatment for patients. Effective collaboration with the Welsh Government will enable us to implement new healthcare interventions as well as influence cancer policy and service delivery.

3 Train future leaders and teams in cancer research

Cancer researchers increasingly require experience across a wide range of disciplines including areas such as cell biology, immunology, genomics, imaging, population and health sciences, as well as bioinformatics, statistics and computational skills. We will therefore facilitate career progression pathways focussed on enabling researchers to flourish within a multi-disciplinary workforce.

We will also strive to create a workforce from diverse backgrounds which aligns with our approach to engage students from diverse backgrounds at the earliest stages of their education and training.

“Here at Cardiff University, we are embarking on this five-year cancer strategy amidst transformational scientific discovery and technological advancements. The strategy will provide a framework by which we will support and mentor the next generation of cancer researchers, paving the way for the next generation of leaders and teams to deliver a sustained output of discovery, innovation and better treatments for cancer patients.”

Dr Helen Pearson (Cancer Research UK Fellow, European Cancer Stem Cell Research Institute)



4 Ensure equal representation in cancer research

Our commitment to diversity and inclusion will be evident across all relevant research areas. Equity of access to cancer trials and cancer research will help us to understand the impact of diversity. It will lead to improved design of discovery and translational research and clinical decision-making processes.

Through cultivating a diverse workforce which works closely with its Patient and Public Involvement partners, we will create a research culture which engenders the trust of patients and their families.

5 Leverage cancer data from every patient

Cancer research comprises disparate multi-modal datasets, including patient treatment and outcome data, digital imaging, multi-omics, genetic and functional data. We aim to optimize data usage and sharing through a combination of access to specialist equipment, expertise and training, underpinned by a robust information governance framework.

The new hypotheses emerging from data analysis outcomes will drive inter-disciplinary collaborations between academic, NHS and industry partners. Our efforts will be channelled into the development of more personalised and targeted cancer interventions, which is the future of cancer treatment and care.



This exciting cancer strategy demonstrates the commitment to cancer research by Cardiff University and will undoubtedly strengthen the mutual ambition and partnership between our organisations. It is also completely aligned to VUNHST's 10 year Cancer Research Ambition and will enhance the development of the Cardiff Cancer Research Partnership. This new cancer strategy is also an important signal to prioritise cancer research in Wales in an inclusive and transformational way and we look forward to the improvement in cancer outcomes this will ultimately lead to.

Dr Jacinta Abraham, Executive Medical Director and Interim Deputy Chief Executive Velindre University NHS Trust (VUNHST)

How our strategy will be managed and coordinated

Our strategy will be guided by an external strategic advisory board and supervised by an operations group known as ‘The Discovery and Translational Research Group’.

This operations group will be led by the Academic Lead and include appropriate academics from various disciplines across Cardiff University. Together they will represent our key areas of research strength and priorities. This operations group will oversee the implementation of the delivery plan, as outlined above.

Our cancer researchers are driven by:

1

**Curiosity,
Ambition,
Rigour and
Excellence**

2

**Personal
Development,
Team Building
and
Collaboration**

3

**Education
and Social
Responsibility**



Our core values are underpinned by

- **Inclusion**
- **Diversity**
- **Fairness**
- **Respect**
- **Courage**



Patients are naturally concerned about the inferior cancer

survival rates in Wales and will welcome the plans for developing and implementing new pioneering technologies which will offer new options both for treating cancer and for improving early detection methods. Wales has a very diverse population and the emphasis being put in the strategy to improve equality of access to cancer diagnosis and treatments for everyone is very welcome.

Julie Hepburn, Lead Lay Research Partner for Wales Cancer Research Centre and Cardiff Experimental Cancer Medicines Centre

The Cardiff Cancer Research Partnership

Our vision is to deliver world-class translational research in oncology and revolutionise patient care.

Driven by the ambitious Cardiff Cancer Research Partnership (CCRP), our mission is to forge a cutting-edge multidisciplinary partnership of groundbreaking translational and reverse translational research activities across Cardiff University, Cardiff and Vale University Health Board (CVUHB), and Velindre University NHS Trust (VUNHST). We are bringing together scientists and clinicians to deliver and create novel precision therapies to transform patient outcomes.

One key ambition of the CCRP is the integration of our pioneering expertise in basic immunology and cancer models with translational and clinical research in immunotherapy. Our goal is to develop and test innovative immune-based therapies tailored for maximum patient benefit. At Cardiff University, we are fine-tuning these therapies by honing T-cell specificity, boosting immune cell fitness and homing capacity, and conquering the immunosuppressive tumour microenvironment (TME). To truly make a difference for cancer patients, we need the infrastructure and a skilled workforce ready to test and deliver these sophisticated therapies and the CCRP is already proving pivotal in turning this ambition into reality.

Already, Cardiff University is delivering cell therapies with the use of NICE-approved CAR-T cells for treating certain blood cancers set to surge. Thanks to a Wellcome Trust Institutional Translation Partnership Award from Cardiff University, a multidisciplinary team of medics, nurses, and pharmacists from both CVUHB and Velindre embarked on insightful scoping visits to leading Cell Therapy centres across the UK.

They returned with invaluable knowledge and expertise essential for advancing our clinical capabilities in this revolutionary field. This progress opens the door to new opportunities for patients with both blood and solid cancers to participate in early-phase clinical trials of CAR-T and T cell therapies, alongside other cutting-edge immune- and non-immune based treatments developed by Cardiff University researchers. In fact, the CCRP is already planning delivery of a solid tumour CAR-T trial and T cell therapy, which will be the first in Wales.

The CCRP is not just a partnership for cancer research; it will be transformational for training new scientists and clinicians, attracting a highly skilled workforce to Wales and for offering new options for patients and their families. It accelerates the achievements of our basic scientists, innovators, and drug developers, enabling us to propel our most promising new targets forward in a bedside-to-bench-and-back approach.

Awen Gallimore (Cancer Research Theme Lead, College of Biomedical and Life Sciences)

Claire Lang (Senior Research Nurse, Cardiff Cancer Research Partnership)

i <https://walescancerresearchcentre.org/crest/#:-:text=The%20first%20national%20cancer%20research,cancer%20research%20activity%20in%20Wales>

ii <https://www.gov.uk/government/publications/life-sciences-vision>

iii phw.nhs.wales/services-and-teams/welsh-cancer-intelligence-and-surveillance-unit-wcis/cancer-survival-in-wales-2002-2019/cancersurvivalinwaleswebnewssstory2002-2019pdf/

iv <https://www.longtermplan.nhs.uk/online-version/chapter-3-further-progress-on-care-quality-and-outcomes/better-care-for-major-health-conditions/cancer/>



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