

The Power of **proximity**

How co-location drives innovation on the Cambridge Biomedical Campus



Cambridge
Biomedical Campus

Who we are

Cambridge Biomedical Campus Ltd was created in 2021 as a non-profit partnership which represents the main organisations located on the Campus. CBC's purpose is to support the sustainable development of the site to keep it globally competitive as a centre for health, education and life sciences.

Members of CBC Ltd.



The power of proximity

How co-location drives innovation on the Cambridge Biomedical Campus

The Cambridge Biomedical Campus (CBC) is the largest centre of medical research and health science in Europe. For more than six decades it has been at the leading edge of global health innovation, from developing the antibody technology used in one of the most important classes of medicines, to pioneering new techniques for organ transplants and using genetic insights to tailor treatment to the individual patient. And the secret to this success? - **the power of proximity.**

Here you will find researchers and clinicians working within an ecosystem of elite biomedical laboratories such as the MRC Laboratory of Molecular Biology (12 Nobel Prizes), global biopharmaceutical and biotechnology companies including AstraZeneca, GSK, BioNTech and Abcam. The Campus is also home to three NHS trusts treating over a million patients each year, a top-tier medical school, high-tech clinical trial facilities and multiple research institutes run by the University of Cambridge.

We recognise that tackling the world's most challenging diseases requires expertise beyond medicine. In the Early Cancer Institute, for example, cancer specialists collaborate with data scientists, mathematicians, computer scientists, social scientists, biologists, physicists and engineers because they can offer innovative approaches to health problems. Furthermore, creating a place that delivers on its purpose relies on the skills and dedication of chefs, cleaners, builders, facilities managers, and many others. People make this Campus work.

As this report will show, the best ideas come from putting extraordinary people from different sectors, specialities and backgrounds together in the same physical space, and giving them opportunities to connect, share, and collaborate.

You will read about the chance cup of coffee between a physicist and a doctor that led to a laser normally used to analyse electrons, being developed into a device that can spot one of the most-deadly cancers. We highlight the landmark study from MIT in the US that analysed tens of thousands of scientific papers and showed how, even in the era of digital communication, physical proximity boosts collaboration, which is especially important for starting new companies. And you will hear from scientific and healthcare leaders about how moving to the CBC and connecting with different organisations has turbo-charged their success, leading to better health outcomes for patients across the UK and the globe.

“Basing our world-class R&D centre at the heart of the Cambridge Biomedical Campus has transformed our access to world-leading academic and industry networks, unlocking scientific talent and collaboration opportunities. Here we work side-by-side with our neighbours to advance scientific innovation from molecule to medicine – from illuminating links between genes and diseases, to identifying novel drug targets, to designing innovative clinical trials for patients.”

Shaun Grady, Chair of AstraZeneca UK

“Science is a contact sport and nowhere is that truer than on the Cambridge Biomedical Campus. Whether it's walking over to a collaborator's lab, dropping into a seminar, or having an impromptu discussion with someone from a different discipline, physical proximity fuels collaboration in a way that simply wouldn't happen otherwise.”

Jan Löwe, Director of the MRC Laboratory of Molecular Biology



23,000 workers
600,000 m²
£4.7 billion GVA

Proximity powering the economy

The Cambridge Biomedical Campus contributes £4.7bn GVA to the UK economy each year. Every £10 the Campus makes generates a further £10 for the UK economy, and every 10 jobs created on the Campus support a further 10 jobs around the country.

Recent research by the Centre for Economics and Business Research (CEBR) demonstrates how that economic output could more than double in a decade, creating a workplace for 50,000 people, if the Campus is developed in a way that harnesses the power of proximity, with the kind of amenities, transport links, green social spaces and events that will allow staff, visitors and local residents to meet and mix.

Currently, 23,000 people work on 600,000m² of healthcare, commercial and academic R&D research space.

The 2024 Campus Spatial Framework report sets out plans to develop an additional 1,000,000m² of commercial, academic and healthcare space and create 23,000 new jobs by 2050.

We have an exciting ambition – our 2050 Vision, supported by the 2024 Spatial Framework – to double the size of the Campus that would see it contribute £8.8-10.6bn a year to the country by 2035 and more than £18bn a year by 2050, creating tens of thousands of new jobs. By 2035 It would also secure over 10% of the £78bn Oxford-Cambridge Corridor target announced by the UK Government in January 2025.

“
The proximity of world-leading organisations on the Campus is accelerating discoveries, improving patient outcomes, and driving sustainable economic growth
”

Nick Kirby, Managing Director, CBC Ltd

Proximity powering the science

Global scientific breakthroughs happen faster because the right people and organisations are working side by side on the Campus. Examples include:

Development of monoclonal antibodies

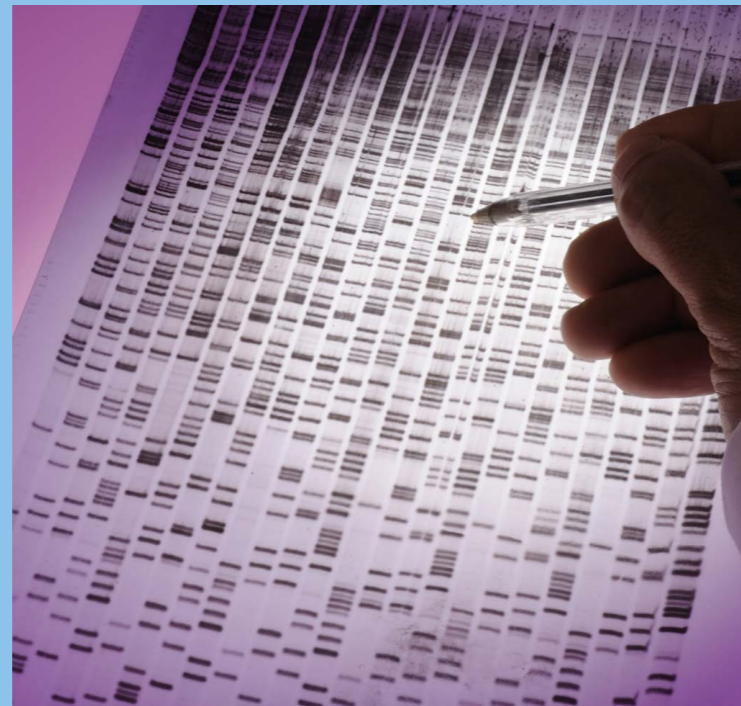
Work by George Köhler, César Milstein, Greg Winter and colleagues at the MRC-LMB pioneered technologies that led to the development of monoclonal antibodies. Monoclonal antibodies are now one of the most important classes of medicines used in the treatment of rheumatoid arthritis, multiple sclerosis, cancer and other diseases. This technology underpins six of the world's top 10 best-selling drugs.

DNA sequencing and application of genomics to medicine

The 'Sanger sequencing method' to read DNA was developed in 1977 at the MRC-LMB by Fred Sanger. This technique changed how problems in biology and medicine were viewed. Today, researchers across the Campus are using genomic information to make more accurate diagnoses and enable personalised medicine, often saving patients from unnecessary and harmful treatment that their DNA showed they didn't need.

Transplantation science

Royal Papworth Hospital performs more heart and lung transplants than any other UK centre. Innovation in transplantation science continues on the Campus, including at The Heart and Lung Research Institute (HLRI) next door, which is a partnership between the University of Cambridge and Royal Papworth. Fundamental discoveries on Campus, including the development of monoclonal antibodies, have supported the development of medicines to help prevent transplant rejection.



An autoradiograph showing a DNA sample pattern.

© MRC Laboratory of Molecular Biology

A cafe's as important as a lab

On the CBC, innovation isn't confined to labs – it happens in corridors, cafes and even on the way into work. When researchers, clinicians, and industry colleagues are in close proximity, it can lead to spontaneous conversations and unexpected collaborations. These chance encounters – the kind you can't plan for – might just lead to the next big discovery.

"I was chatting over coffee with Rebecca Fitzgerald at a scientific meeting at the Cancer Research UK Cambridge Institute and Rebecca was telling me about the difficulty of detecting pre-cancerous lesions. I realised that the technology we had available in my lab might be a solution to that problem and that's how our collaboration on multispectral imaging to detect cancer earlier began."

Sarah Bohndiek, Professor of Biomedical Physics, Department of Physics and the CRUK Cambridge Institute



"Talk to any clinician or scientist on Campus and they'll have a story about a collaboration or an idea that sprang out of an impromptu coffee, a walk between buildings or queuing for a sandwich. When I'm on Campus, I know I don't have far to travel for a stimulating conversation. Whether popping over to the HLRI or to the café at the CRUK-CI, I'll inevitably run into someone doing something remarkable."

Kristin-Anne Rutter, Executive Director, Cambridge University Health Partners

Early Cancer Institute

The Early Cancer Institute brings together researchers from biological, physical, mathematical, social, medical, and computer sciences. These multidisciplinary team members are focused on a singular goal: the prediction and prevention of cancer.

"Proximity to patient clinics is essential. Half of our 12 Group Leaders at the Early Cancer Institute are clinicians. We also have Group Leaders trained in physics and mathematics with joint affiliations at the Cavendish Laboratory Department of Physics or the Department of Applied Mathematics and Theoretical Physics who interact with clinicians and cancer researchers on the Cambridge Biomedical Campus to make their work as clinically relevant as possible."

Professor Rebecca Fitzgerald OBE, Director of the Early Cancer Institute, University of Cambridge

"Even for some of the more straightforward inventions that we've created here, particularly in early detection, they could have been developed years faster had scientists been located next to patients."

Professor Richard Gilbertson, Head of the Cancer Research UK Cambridge Centre and Li Ka Shing Chair and Head of Department of Oncology at the University of Cambridge.

380 Cambridge University Clinical School researchers on the Campus also hold posts in Campus NHS Trusts.

“Clinicians from Cambridge University Hospitals work closely with researchers across the Cambridge Biomedical Campus. With labs often just steps away from wards, research is shaped everyday by real clinical challenges and insights. This mindset accelerates progress for patients, expediting the development of new diagnostics and treatments by years. Co-location like this, and the true integration of life sciences and clinical care, will transform the future of NHS healthcare.”

Roland Sinker, CEO, Cambridge University Hospitals
NHS Foundation Trust

“Proximity plays a vital role in shaping the unique and effective relationship between the University of Cambridge and the NHS hospital trusts on the Cambridge Biomedical Campus. It fosters a deep, day-to-day understanding of the challenges and opportunities we share. This close connection has been fundamental to the development of the vision for the Campus.”

Patrick Maxwell, Regius Professor of Physic and Head of the School of Clinical Medicine at the University of Cambridge

“Strong institutional partnerships across the CBC — including the University of Cambridge’s Department of Psychiatry and Clinical Neurosciences, and Cambridge University Hospitals (CUH) — position CPFT as a key enabler of translational research and collaborative innovation. This ecosystem presents a unique opportunity for industry partners to co-develop and test integrated, patient-centred solutions at scale and to support aspirations to develop a Brain and Mind Science Institute.”

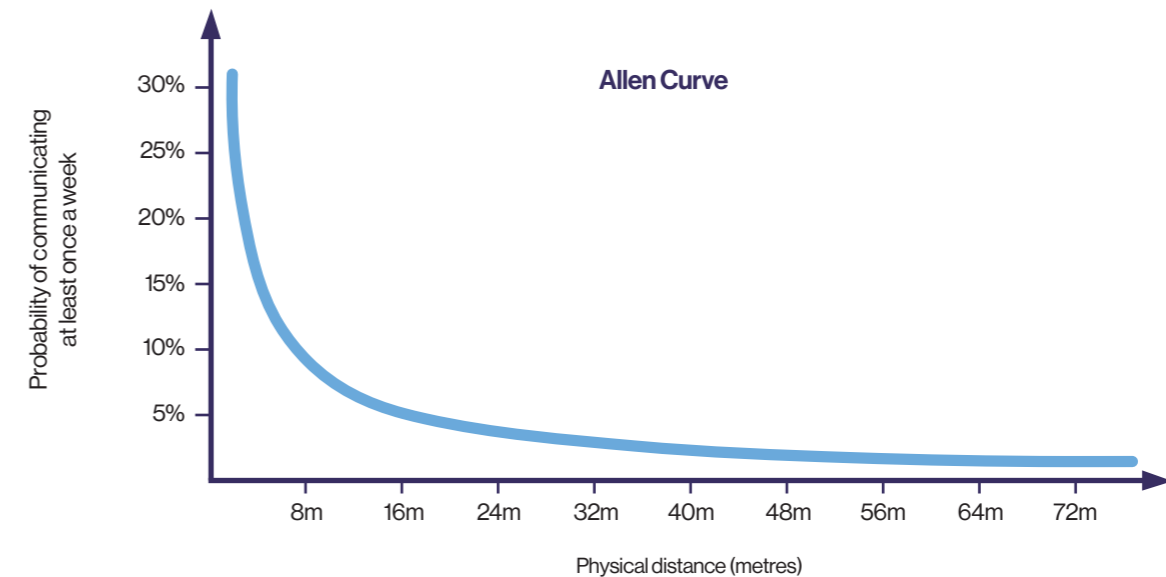
Steve Grange, Chief Executive Officer, Cambridgeshire and Peterborough NHS Foundation Trust

Power of Proximity: The academic evidence

Clusters and ecosystems offer many advantages to organisations, including access to concentrated pools of talent and shared infrastructure. This report takes the common benefits of agglomeration as a given, and instead focuses on how proximity benefits scientific discovery, innovation, and healthcare.

A wealth of published research supports the theory that being physically closer boosts collaboration and research impact. Proximity makes it easier for colleagues to communicate and collaborate.

This concept builds on the pioneering research by Thomas J. Allen at the Massachusetts Institute of Technology (MIT) in the 1970s, who found that that communication between engineers decreased exponentially as the physical distance between them increased. His work led to the development of the ‘Allen Curve’, a visual representation of this relationship that is still considered relevant even through the rise of digital communications.



Proximity boosts collaboration and supports new companies

A landmark study in 2017 by researchers from the Massachusetts Institute of Technology found that even in the era of digital communication, physical proximity boosts collaboration. They analysed over 40,000 scientific papers and over 2000 patents and revealed a persistent relationship between proximity and collaboration.

Close proximity to the mother institute is particularly important for life science spin offs and startups during the early phases of growth.

Schaft, J. and Füller, S. (2023). Supporting a vibrant entrepreneurial ecosystem. EMBO Reports, 24(9).

“A cluster allows each member to benefit as if it had greater scale or as if it had joined with others without sacrificing its flexibility.”

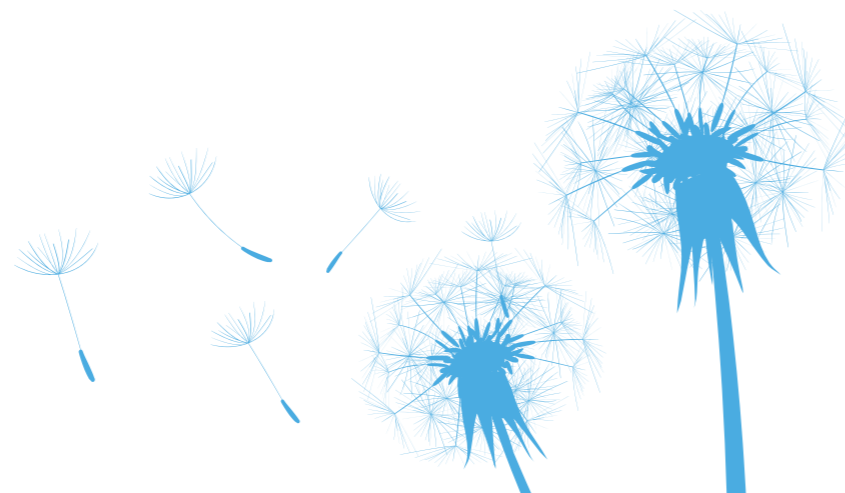
Michael E. Porter, Bishop William Lawrence
University Professor, Emeritus, Harvard Business School

One is more likely to find a seed close to the dandelion flower, and the likelihood of finding a seed decays exponentially as the distance increases. In the case of MIT faculty, one is more likely to find a collaborator close by.

The Milner Therapeutics Institute on the CBC provides space for start-up companies through its bio-incubator, “Frame Shift”. The Institute provides a unique environment for companies to interact with clinicians, researchers and drug discovery scientists at the University of Cambridge and on the Campus. The Bio-Incubator has been home to 16 companies so far and created 109 jobs. These start-ups benefit from the campus facilities and access to human tissue from the hospitals on campus.

“The Milner Therapeutics Institute’s location on the Cambridge Biomedical Campus places it at the heart of one of the world’s leading hubs for life sciences, where close proximity to hospitals, industry, and academia fuels groundbreaking collaborations and accelerates the path from discovery to impact.”

Cathy Tralau-Stewart, Executive Director, Milner Therapeutics Institute.



TRIMTECH Therapeutics is a spin out company currently based in the ‘Frame Shift’ bio-incubator. It is based on more than fifteen years of research by Leo James, MRC Laboratory of Molecular Biology and Will McEwan, Group Leader at the UK Dementia Research Institute, University of Cambridge’s groups. The team is developing a pipeline of potent, central nervous system penetrant therapeutics to treat severe neurodegenerative and inflammatory disorders, including Alzheimer’s and Huntington’s disease.

“Leo and I have hugely benefitted from the LMB and UK Dementia Research Institute being close on the campus. Over the years we have had innumerable occasions where we have dropped by for coffee and to chat science. And our teams have been able to freely exchange reagents and share tips and protocols. More recently being able to establish TRIMTECH at the Milner Therapeutics Institute – midway between our labs – has really smoothed one of the barriers to spinning out.”

Will McEwan, co-founder of TRIMTECH Therapeutics and Group Leader at the UK Dementia Research Institute, University of Cambridge

A follow up study in 2021 confirmed that spatial proximity makes it more likely that researchers will collaborate. In this study, the team analysed ten years of research activity data from MIT and found that researchers who were relocated into the same building – due to renovations on campus – were more likely to co-author papers with their new colleagues.

Moving two researchers to the same building increased collaboration with their new colleagues by 0.8 scientific papers per year.

...with the effect strongest in the first five years. The findings underline the power of proximity in fostering cross-disciplinary research, especially when buildings bring together people from different departments working on related challenges.



Claudel M, Massaro E, Santi P, Murray F, Ratti C (2017) An exploration of collaborative scientific production at MIT through spatial organization and institutional affiliation. PLoS ONE

Salazar Miranda A, Claudel M (2021) Spatial proximity matters: A study on collaboration. PLoS ONE 16(12): e0259965.

Proximity boosts research impact

A 2010 study by researchers at Harvard Medical School found that the physical proximity of researchers – especially between the first and last author on published scientific papers – strongly correlates with the impact of their work.

“If you want people to collaborate, these findings reinforce the need to create architectures and facilities that support frequent, physical interactions.”

Isaac Kohane, Harvard study author

An analysis of R&D labs in the United States found that labs were more likely to be grouped together or ‘clustered’ than randomly scattered at close spatial proximity. The team observed that clustering was most significant within a quarter of a mile radius and that the impact of clustering drops off quickly as the distance increases to around half a mile. The rapid decline at larger distances suggests that knowledge spillovers (the sharing of ideas and innovations between labs) are most effective when labs are very close to each other. They went on to discover that R&D labs located in the clusters were substantially more productive than labs outside the clusters as measured by the number of patents or future citations of the patent. Labs within a half mile cluster are almost three times more likely to patent and almost three times more likely to have one of their patents cited compared with labs outside a half mile R&D cluster.

They went on to discover that R&D labs located in the clusters were substantially more productive than labs outside the clusters.

A follow up analysis found that labs in close proximity (within the same cluster) are more likely to share knowledge by citing each other’s patents. Patent citations are more likely to come from the same cluster than would be expected by chance. For example, the team found that citations in California are roughly 10 to 12 times more likely to come from the same cluster as earlier patents than one would predict using the control sample.

Lee K, Brownstein JS, Mills RG, Kohane IS (2010) Does Collocation Inform the Impact of Collaboration? PLoS ONE 5(12)

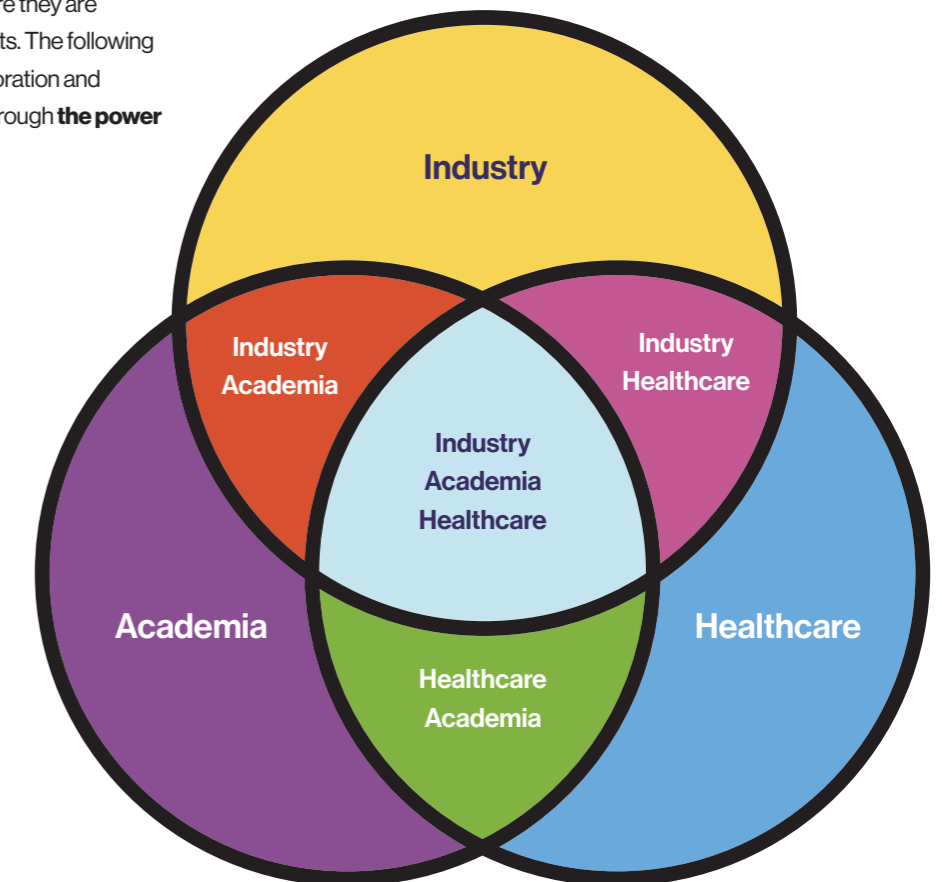
The agglomeration of R&D labs, Gerald A. Carlino, F. Robert M. Hunt, Jake K. Carr, Tony E. Smith
Published: September 2012

K. Buzard, G.A. Carlino, R.M. Hunt, J.K. Carr, T.E. Smith, Localized Knowledge Spillovers: Evidence from the Agglomeration Of American R&D Labs and Patent Data, Federal Reserve Bank of Philadelphia (2016), Working Paper No. 16-25

The Cambridge Biomedical Campus Venn diagram

(the Venn diagram was invented in Cambridge by John Venn in 1880)

The Cambridge Biomedical Campus is home to globally recognised research organisations across academia, industry and healthcare. Cross-sector collaboration can accelerate scientific discoveries and ensure they are translated into real-world impact for patients. The following examples highlight where scientific collaboration and impact is being accelerated on Campus through **the power of proximity.**



Industry x Academia

MRC-Laboratory of Molecular Biology and AstraZeneca Blue Sky collaboration

The Blue Sky Collaboration is a research fund set up between the UK Medical Research Council (MRC) and AstraZeneca to support preclinical research projects at the MRC Laboratory of Molecular Biology (LMB). The aim is to improve understanding of fundamental biology and disease and encourage innovative scientific thinking by sharing knowledge and technologies. A key feature of the Blue Sky programme is that scientists from the two organisations work side by side, either within the LMB building or at the AstraZeneca Discovery Centre next door on the Cambridge Biomedical Campus.

“This partnership has further strengthened our existing, long-standing relationship with AstraZeneca, allowing scientists to work together, share ideas and expertise.”

Jan Löwe, Director of the MRC Laboratory of Molecular Biology

“Our Blue Sky Collaboration with the LMB is a shining example of the benefits and impact of working together with a shared goal. We are proud to work side-by-side with partners to support scientific innovation, entrepreneurship and growth across Cambridge and beyond.”

Steve Rees, Senior Vice President, Discovery Sciences, R&D, AstraZeneca

New method discovered on Campus enables rapid discovery of potential antibody drugs

A project team from within the Blue Sky Collaboration has developed a new method that enables faster discovery of potential antibody drugs. It has the potential to transform the discovery of antibodies for medicine from a process of multiple rounds of drug hit discovery, to a simple survey of all potential antibody drug hits in a single experiment. The technology developed in this project has now resulted in a spin out company from LMB – Sortera Bio.

Campus-based test centre supported national effort to boost COVID-19 testing

In 2020, the Cambridge Covid-19 testing centre – based in the Anne McLaren Building on the Cambridge Biomedical Campus – was set up through a collaboration between the University of Cambridge, AstraZeneca and GSK. The proximity of the organisations meant that equipment, knowledge and volunteers could easily be shared. The centre was created in just six weeks, an operation which would usually take six months. Soon after its launch, it was brought into the government’s national diagnostic lab network and the centre processed over 3 million tests during the pandemic.

“The ability to deliver reliable and rapid COVID-19 PCR testing on Campus was only possible because of the close collaboration and physical proximity of our clinical, academic, and industry teams. By combining cross disciplinary expertise, we were able to provide verified results in a timeframe that impacted virus transmission on the Campus, and the University in real time — protecting students, staff and patients. We were able to implement this before the national lateral flow testing programme was launched.”

Patrick Maxwell, Regius Professor of Physic and Head of the School of Clinical Medicine at the University of Cambridge

Abcam collaborates with Cancer Research UK Cambridge Centre to accelerate cancer discoveries

The ongoing collaboration combines the CRUK Cambridge Centre’s world-class cancer science with Abcam’s proteomics expertise to develop tools and solutions to help advance the understanding, diagnosis and potential treatments of cancer. The expected outcomes include knowledge sharing, collaborative development and validation of research tools, joint presentations, and potentially the development of research products for use by cancer researchers globally.

University of Cambridge-AstraZeneca-MRC functional genomics screening laboratory opens on the CBC

The Functional Genomics Screening Laboratory (FGSL) established by AstraZeneca, the University of Cambridge and the Medical Research Council, opened at the Milner Therapeutics Institute in March 2025. The FGSL is part of the UK Human Functional Genomics Initiative, contributing to the UK’s ambition of having the most advanced genomic healthcare system in the world. It is the first centre to offer arrayed CRISPR screening on this scale for chronic diseases through collaborations with researchers from across the UK.

This will enable more researchers to identify novel targets for drug discovery across a range of diseases including cardiovascular, inflammatory, respiratory and metabolic conditions. The partnership builds on the success of the Functional Genomics Centre (FGC), AstraZeneca’s collaboration with Cancer Research UK’s innovation arm, Cancer Research Horizons, focused on accelerating the discovery of new cancer medicines, which is also based on the CBC.

FGSL Partners



“This collaboration with the MRC and AstraZeneca is a fantastic example of what can be achieved when academia and industry share expertise and resources, and I’m excited by the FGSL’s potential to deliver new diagnostics and treatments to people with chronic diseases.”

Professor Sir Tony Kouzarides, Director, Milner Therapeutics Institute

Healthcare x Academia

Creation of the Heart and Lung Research Institute

Opened in July 2022, the Victor Phillip Dahdaleh Heart and Lung Research Institute (VPD-HLRI) is a joint venture between Royal Papworth Hospital and the University of Cambridge. By bringing together the NHS, academia, industry and charity, it has created a unique environment to deliver high-impact research tackling global cardiovascular and respiratory diseases - some of the world's biggest killers. Funders of the HLRI include: The UK Research Partnership Investment Fund, the University of Cambridge; the Wolfson Foundation; the British Heart Foundation, the Royal Papworth Charity and the Cystic Fibrosis Trust and the Victor Dahdaleh Foundation.

“The very existence of the HLRI is a tangible example of the power of proximity - the partners would not have realised this vision without the co-location.”

Eilish Midlane, Chief Executive Officer, Royal Papworth Hospital.

CPFT as a strategic partner within the Cambridge Biomedical Campus

Cambridgeshire and Peterborough NHS Foundation Trust (CPFT) is a research-active mental health and community services provider with a growing presence on the Cambridge Biomedical Campus (CBC) and strong collaborations with the Departments of Psychiatry, Clinical Neurosciences, Paediatrics and others. This strategic expansion is designed to enhance CPFT's contribution to the Life Sciences ecosystem and foster deeper integration with academic, clinical, and industry partners.

CBC-based team develop an artificial pancreas

Researchers from the Wellcome-MRC Institute of Metabolic Science at the University of Cambridge, supported by the NIHR Cambridge BRC, have developed an artificial pancreas that can help maintain healthy glucose levels. The device combines an off-the-shelf glucose monitor and insulin pump with an app. The app is run by an algorithm that predicts how much insulin is required to maintain glucose levels in the target range.

Healthcare x Healthcare

Relocation of Royal Papworth Hospital to the CBC

In May 2019, Royal Papworth Hospital achieved its move from the village of Papworth Everard to the Cambridge Biomedical Campus. Co-location on the Campus has realised a number of benefits for patients, staff and the local economy including:

- A 'link corridor' to Addenbrooke's Hospital enables the transfer of patients requiring treatment in the two hospitals and eliminates the need for ambulance trips, saving taxpayer money
- Staff with different clinical expertise can now walk between the sites to provide support to complex cases - they no longer need to travel 16 miles each way to the old site
- Royal Papworth and Addenbrooke's now share a number of services including pathology, linen, occupational health and waste disposal. This has reduced operating costs

Royal Papworth and Addenbrooke's collaborate on complex and challenging case

Royal Papworth Hospital often takes on some of the most complex and challenging cases in cardiothoracic surgery. The team recently collaborated with specialists at Addenbrooke's to support a patient with advanced breast cancer that had spread to her sternum, ribs, and upper abdominal wall.

“Recognising the urgency, we acted immediately, coordinating a complex, multi-disciplinary surgery within days.”

Mr Aman S Coonar, Consultant Thoracic Surgeon at Royal Papworth Hospital



The patient - Shanti (standing, fourth from left) - with her sons and Mr Coonar (standing third left) and the multidisciplinary team.

Cambridge Biomedical Campus to become home to world-first hospital that cares for children's physical and mental health together

In August 2024 the Outline Business Case for Cambridge Children's Hospital was signed off by the Chief Secretary to the Treasury and the Secretary of State for Health and Social Care. Strategically located on the Cambridge Biomedical Campus, the hospital will unite clinical teams from two NHS trusts (CPFT and CUH) with world-leading research from the University of Cambridge through the embedded Cambridge Children's Research Institute, alongside key industry partners.

Cambridge Children's Hospital is set to redefine the future of paediatric care. Purpose-built to integrate physical and mental health services with teaching and research, it aims to set new standards regionally, nationally, and globally. By breaking down the traditional divide between 'mind and body', the hospital will help reduce stigma and improve outcomes for children and young people. Embracing a 'hospital without walls' model, it will promote shorter hospital stays and stronger links with community-based services.



An architect concept design of Cambridge Children's Hospital

Industry x Healthcare

GSK Clinical Unit Cambridge

The CBC is home to GSK's Clinical Unit Cambridge (CUC), which leads on early phase 1 and 2 clinical studies. Scientists and clinicians interact to support the scientific knowledge and advance innovative and experimental clinical trial design in GSK. The CUC sits within the Addenbrooke's Centre for Clinical Investigation (ACCI) and therefore allows for close monitoring of patients and proximity to critical care facilities. Many of the Principal Investigators for the trials are based at Addenbrooke's.

"Our position on the Campus has enabled us to develop a large number of academic links and collaborations to support and conduct experimental and translational studies and to recruit patients by partnering with the local networks as well as in the wider environment."

Dr Edward Banham-Hall MRCP DHP PhD, Interim Medical Director, Clinical Unit Cambridge

Academia x Healthcare x Industry

Cambridge-GSK Translational Immunology Collaboration (CG-TIC)

CG-TIC is an interdisciplinary collaboration between the University of Cambridge and GSK, which is focused on improved outcomes for patients with hard-to-treat kidney and respiratory diseases.

The ambition of the partnership is to treat immune-related diseases more precisely with existing therapies and to rapidly develop new ones. The collaboration is focused on understanding the onset of a disease, its progression, how patients respond to therapies and on developing biomarkers for rapid diagnosis. Ultimately, the goal is to trial more effective, personalised medicines.

The aim of CG-TIC is to improve outcomes for patients and Cambridge provides a unique environment in which to involve them, with Cambridge University Hospitals playing a pivotal role in the collaboration and Royal Papworth Hospital NHS Foundation Trust, the UK's leading heart and lung hospital, a likely future partner.

Home to the hospitals and to much of the collaboration's research activity, the Cambridge Biomedical Campus provides a unique environment where academia, industry and healthcare can come together and where human translational research is supported by the National Institute for Health and Care Research (NIHR) Cambridge Biomedical Research Centre.

Cambridge Centre for Children's Gut Health

The Cambridge Centre for Children's Gut Health is a newly established collaborative hub dedicated to transforming the understanding and treatment of gastrointestinal diseases in children. Its work centres on uncovering the complex biology of the developing gut, with a strong focus on conditions affecting infants, children, and young people.

The Centre brings together regional paediatric care with globally leading scientific research, particularly in the fields of developmental biology and stem cell science. It is a strategic partnership between Cambridge University Hospitals and the Cambridge Stem Cell Institute—both based on the Cambridge Biomedical Campus. The team also works extensively with academic and industry collaborators across the UK and internationally.

"The close proximity of our research labs to the hospital setting is vital—not only does it allow us to embed clinical insight into our science, but it also facilitates the rapid translation of discoveries from bench to bedside. Importantly, it enables us to involve patients and their families at every stage, ensuring that our research remains focused on real-world needs and meaningful outcomes for children."

Professor Matthias Zilbauer, Clinical Professor of Paediatric Gastroenterology and Centre Director

Cambridge-AstraZeneca proximity enabling innovative clinical trial design

The proximity of AstraZeneca, the University and Cambridge University Hospitals on the Cambridge Biomedical Campus has fostered collaboration between AstraZeneca researchers and Cambridge clinical academics. This includes partnerships on clinical trials for investigational novel medicines, which help turn advances in science into advances in patient care.

The PARTNER study: A new approach to treating aggressive breast cancers

A team of researchers from across the CBC have proposed and tested a new approach where cancers were treated with chemotherapy followed by a targeted cancer drug before surgery. In the trial, 100% of patients survived the critical three-year period post-surgery and results show that leaving a 48-hour "gap" between chemotherapy and the targeted cancer drug olaparib leads to better outcomes.

"It is rare to have a 100% survival rate in a study like this and for these aggressive types of cancer. We're incredibly excited about the potential of this new approach, as it's crucial that we find a way to treat and hopefully cure patients who are diagnosed with BRCA1 and BRCA2 related cancers."

Professor Jean Abraham, Addenbrooke's consultant Professor of Precision Breast Cancer Medicine at the University of Cambridge and trial lead.

Professor Abraham said trialling the 48-hour gap approach followed a "chance conversation" with Mark O'Connor, chief scientist in Early Oncology R&D at nearby AstraZeneca.

The study was led by Cambridge University Hospitals (CUH) NHS Foundation Trust and the University of Cambridge, funded by Cancer Research UK and AstraZeneca, and supported by the NIHR Cambridge Biomedical Research Centre, the Cancer Research UK Cambridge Centre and Addenbrooke's Charitable Trust (ACT).

The ASCERTAIN study: Phase 1 study of a new targeted inhibitor in newly diagnosed prostate cancer

The ASCERTAIN study is investigating a new targeted inhibitor, an existing hormone treatment, and a combination of the two, in men with newly diagnosed prostate cancer. It is one of a number of 'window-of-opportunity' prostate cancer studies being run collaboratively by two University of Cambridge teams in partnership with AstraZeneca.

"We're in a great place on this Campus. It is quite unique that we can bring together surgery, radiotherapy, oncology, pathology and radiology experts to develop treatments for earlier onset patients to help them live much longer. And we're right next to the biopharma company, AstraZeneca, which is world class at developing PARP inhibitors and DNA repair inhibitors."

Dr Simon Pacey, Academic Consultant in Medical Oncology, Cambridge University Hospitals NHS Foundation Trust, University of Cambridge

This type of collaboration between NHS, academia and industry reflects the vision of **Cambridge Cancer Research Hospital**. It will bring clinical expertise from Addenbrooke's Hospital with world-class scientists from the University of Cambridge, Cancer Research UK Cambridge Centre, and industry partners together in one location to create new diagnostics and treatments to detect the earliest signs of cancer and deliver personalised, precision medicine.

By bringing the lab bench to the patient bedside, we will accelerate the translation of scientific discoveries into cutting-edge patient care. We will detect cancer earlier, treat it more precisely and save more lives.

Cambridge Cancer Research Hospital Website

Philanthropic proximity

Many of the new buildings on the Cambridge Biomedical Campus – and the people working in them – are only there thanks to generous philanthropic support. Donors' significant gifts have enabled the establishment of the Victor Phillip Dahdaleh Heart and Lung Research Institute, the Jeffrey Cheah Biomedical Centre and the Li Ka Shing Early Cancer Centre, among others. Some philanthropists prefer to support the research carried out in both the University of Cambridge buildings, and Addenbrooke's and Royal Papworth hospitals – some supporting endowment gifts for professorships and studentships. The close physical links between the University and the hospitals, thanks to philanthropy, enable world-leading bench-to-bedside research – improving health outcomes for people not just in Cambridge but around the world.

The University of Cambridge and Addenbrooke's Charitable Trust are jointly raising £100m towards the new Cambridge Cancer Research Hospital, expected to open in 2030.

Architect image of Cambridge Cancer Research Hospital



Scientific exchange - events on campus

The organisations on the CBC host a vast programme of scientific seminars and events. This allows for exchange of scientific discussion and networking between organisations and teams.

520 delegates gathered over a 12-month period at the Jeffery Cheah Biomedical Centre for seminars hosted by the Milner Therapeutics Institute

Cambridge AI Club for Biomedicine

AI club is organised by the Milner Therapeutics Institute and CRUK. Participants enjoy monthly talks and networking, discuss common themes and explore different topics and methodologies.

800 delegates gathered over a 12-month period at the Jeffery Cheah Biomedical Centre for AI Clubs.

CBC Innovation Breakfasts

This event series, organised by CBC Limited, brings together aspiring innovators and clinicians with expert speakers, to explore what it takes to turn a great idea into something that can make a difference for patients.

Cambridge Immunology Network

The Cambridge Immunology Network run weekly seminars, supported by the Cambridge Institute of Translational Immunology and Infectious Disease (CITIID). The seminars are hosted in the Jeffrey Cheah Biomedical Centre (JCBC) and attract an audience from the Cambridge Biomedical Campus Community and beyond.

Campus Careers Fair

The Campus hosts a Careers Fair twice a year which allows potential job seekers to meet local and national employers face-to-face. The event is open to job seekers of all backgrounds and levels. A wide range of employers across the Campus are represented including NHS trusts, the University of Cambridge and the MRC Laboratory of Molecular Biology.



Attendees at the Campus Careers Fair

Collaborating across the Campus to support tomorrow's STEM leaders

Work experience "safari"

CBC Ltd is collaborating with STEM and Early Career representatives from organisations across the Campus to pilot a "Work Experience Safari" in 2025 starting with AstraZeneca and the Medical Research Council (MRC) Biostatistics Unit at the University of Cambridge.

Local schools are already visiting the AstraZeneca STEM Inspiration Lab at The Discovery Centre (DISC), and by extending the opportunity to other CBC organisations, it enables maximum utilisation of the school transport and widens the student experience by raising awareness of the variety of careers and workplaces available on the CBC.

As part of AstraZeneca's UK STEM programme, the company hosts STEM Inspiration Lab sessions and tours for schools (priority audiences 7-14 years). In 2024 over 800 students visited the STEM Inspiration Lab, met AstraZeneca scientists and learned about the process of medicine making, The DISC, and our neighbours on the Cambridge Biomedical Campus.

The Department of Psychiatry at the University of Cambridge, which is based on the CBC, is offering five days of work experience in mental health research to local secondary school pupils over the next five years. Postgraduate research students from Psychiatry, the MRC Cognition and Brain Sciences Unit and Clinical Neurosciences lead an annual summer camp for undergraduates from outside Cambridge who belong to groups that are currently underrepresented among researchers.





Cambridge

Biomedical Campus

CBC Ltd is a non-profit partnership which represents the health, research, life science and education organisations located on the Cambridge Biomedical Campus.

Our purpose is to support the sustainable and positive development of the Campus to keep it globally competitive as a hub for health, education and life sciences.

We also want to ensure the Campus is a be great place to work, visit or live beside.



www.cambridge-biomedical.com/