ICR The Institute of Cancer Research

Health Economist
Candidate Information

August 2025

The Institute of Cancer Research

About our organisation

We are one of the world's most influential cancer research institutes with an outstanding record of achievement dating back more than 100 years. We are world leaders in identifying cancer genes, discovering cancer drugs and developing precision radiotherapy. Together with our hospital partner The Royal Marsden, we are rated in the top four centres for cancer research and treatment worldwide. As well as being a world-class institute, we are a college of the University of London.

We came second in the league table of university research quality compiled from the Research Excellence Framework (REF 2021). We have charitable status and rely on support from partner organisations, charities, donors and the general public. We have more than 1000 staff and postgraduate students across three sites – in Chelsea and Sutton.

CRUK Convergence Science Centre

The Cancer Research UK Convergence Science Centre (CSC) is a partnership between Imperial College London and The Institute of Cancer Research (ICR) with funding from Cancer Research UK. Convergence research is driven by a societal need and utilises a deep integration across disciplines. Our Centre focusses on areas of unmet need within the cancer research and clinical management space and provides an interdisciplinary framework to solve these challenges. The mission of the CSC is to bring together researchers across Imperial and the ICR from different disciplines, such as engineering, physical sciences, life sciences and medicine, to develop innovative ways to address challenges in cancer research to benefit cancer patients. This is achieved through interdisciplinary collaborations that integrate otherwise distinct approaches to co-create new tools, technologies and methodologies.

This position of Health Economist is integrated within our Cancer Technology Catalyst team (CTC). The CTC is an initiative designed to expedite the journey of promising cancer technologies from concept to clinical impact. Led by a diverse team of experts, the CTC is committed to unlocking the full potential of innovative solutions and addressing the challenges inherent in bringing them to patients. By harnessing a

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collaborative Team Science approach, the CTC works closely with Principal Investigators and their teams to develop comprehensive evidence packages that not only inform robust value propositions for cancer technologies, but also strategically position them for successful clinical integration.

Health Economist

We seek a Research Manager in Early Health Economics to pioneer evaluations at the CRUK CSC. Based in South Kensington, London, with travel to partner sites (The Royal Marsden NHS Foundation Trust, ICR Sutton, Imperial College Healthcare NHS Trust). You will lead early-stage health economic modeling and health technology assessment (HTA) for cutting-edge oncology innovations, including precision drugs, diagnostics, treatments, clinical guidelines, and digital health technologies (DHTs).

Our mission is to make the discoveries that defeat cancer.

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Our values

The ICR has a highly skilled and committed workforce, with a wide variety of roles, each requiring different skills. But whether you work as a researcher, or work as part of our corporate team, your work and behaviour is underpinned by these six values. They are what bring us together as one team - as 'One ICR'.

Pursuing excellence

We aspire to excellence in everything we do, and aim to be leaders in our field.

Acting with Integrity

We promote an open and honest environment that gives credit and acknowledges mistakes, so that our actions stand up to scrutiny.

Valuing all our people

We value the contribution of all our people, help them reach their full potential, and treat everyone with kindness and respect.

Working together

We collaborate with colleagues and partners to bring together different skills, resources and perspectives.

Leading innovation

We do things differently in ways that no one else has done before, and share the expertise and learning we gain.

Making a difference

We all play our part, doing a little bit more, a little bit better, to help improve the lives of people with cancer.

Our values set out how each of us at the ICR, works together to meet our mission – to make the discoveries that defeat cancer. *They summarise our desired behaviours, attitudes and culture – how we value one another and how we take pride in the work we do, to deliver impact for people with cancer and their loved ones."*

Professor Kristian Helin
Chief Executive

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Job description

Department / division:	CRUK Convergence Science Centre
Pay grade / staff group:	Scientific professional 3
Hours / duration:	Full time (35 hours per week), Monday to Friday. Fixed term contract for 2 years (potential extension)
Reports to:	Professor Axel Behrens
Accountable to:	Dr Patrick Kierkegaard
Main purpose of the job:	Pioneer simulation-driven early health economic models to evaluate oncology innovations, delivering evidence for translation, funding, and NICE EVA approvals, incorporating methods such as cost-utility analysis, cost-benefit analysis, and value-based pricing.

Duties and responsibilities:

Early Health Economics at the CTC (Duties)

Building and validating simulation models (e.g., Markov models, discrete event simulations (DES), partitioned survival models (PSM), microsimulations) in R (using packages like hesim, BCEA, simmer) or Python (e.g., with Dash for interactive outputs).
Test hypothetical scenarios, quantify cost-effectiveness (e.g., via incremental cost-effectiveness ratios (ICERs)), budget impacts, value-based assessments, and quality-adjusted life years (QALYs) or disability-adjusted life years (DALYs).
Incorporate data such as real-world evidence (RWE), event-free survival (EFS), progression-free survival (PFS), and clinical trial data to address unmet needs, evidence gaps, and support NICE Early Value Assessment (EVA) processes.
Conduct evidence synthesis (e.g., via systematic reviews, meta-analyses, network meta-analyses, and survival analyses); explore pioneering methods like AI-assisted modeling for automation and patient-level simulations (PLS) vs. cohort-level modeling. Collaborate in multidisciplinary teams, contribute to publishing in high-impact journals, present findings, and secure funding.

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Early Health Economics at the CTC (Responsabilities)

Develop and validate health economic models (e.g., cost-effectiveness analyses, budget impact models, value assessments, cost-utility analyses) for cancer drugs, diagnostics, treatments, and guidelines using R (hesim, simmer, BCEA) or Python (Dash for interactive outputs).
Execute simulations to probe hypothetical scenarios and conduct analysis such as sensitivity analyses (deterministic, probabilistic), probabilistic sensitivity analyses (PSA), threshold analyses, and value of information (VOI) analyses for robust decision-making.
Perform evidence synthesis (e.g., through systematic literature reviews, network meta-analyses, survival analyses such as Kaplan-Meier or parametric models), and integration of clinical trial data, RWE, registries, and patient-reported outcomes (PROs).
Generate actionable evidence for translational pathways, grant proposals, NICE EVA submissions, HTA dossiers, and stakeholder reports on clinical effectiveness, economic viability, QALYs, ICERs, and budget impacts.
Contribute to grant writing and funding applications, targeting bodies like CRUK, NIHR, and EUnetHTA frameworks.
Plan research independently, ensure data validity/reliability, maintain detailed records.
Contribute to authoring reports, publish in high-impact journals (e.g., Value in Health, PharmacoEconomics), present at international conferences (e.g., ISPOR, ESMO).
Forge collaborations within Centre, ICR, Imperial, and external networks, including industry for precision medicine HTA and health outcomes research (HEOR).
Participate in meetings, seminars; supervise students/researchers as needed.
Comply with safety protocols, GDPR, and ethical standards in oncology research. Handle administration, training, other duties as assigned
Maintain accurate, current data and records.
Attend meetings, workshops, conferences.
Uphold Convergence Science Centre's reputation and values.

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General

All staff must ensure that they familiarise themselves with and adhere to any ICR policies that are relevant to their work and that all personal and sensitive personal data is treated with the utmost confidentiality and in line with the General Data Protection Regulations
Any other duties that are consistent with the nature and grade of the post that may be required.
To work in accordance with the ICR's Values.
To promote a safe, healthy and fair environment for people to work, where bullying and harassment will not be tolerated.
This job description is a reflection of the present position and is subject to review and alteration in detail and emphasis in the light of future changes or development.

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Person specification

Education and Knowledge

PhD in health economics, health technology assessment, biostatistics, or related quantitative field. **MSc acceptable** with substantial relevant experience (e.g., 4+ years in oncology health economic modeling).	Essential

Skills

Expertise in early health economic evaluation methods, including cost-effectiveness analysis, budget impact modeling, cost-utility analysis, cost-benefit analysis, and value-based assessments in oncology.	Essential
Proficiency in programming for economic modeling (R with hesim, BCEA, simmer; Python with Dash or similar).	Essential
Strong command of simulation techniques (e.g., Markov models, DES, microsimulation, PSM, decision trees). Proficiency in at least 2-3 core techniques preferred.	Desirable
Knowledge of evidence synthesis (systematic reviews, meta-analyses, network meta-analysis, survival analysis, regression models).	Essential
Understanding of UK healthcare systems, NICE EVA processes, funding mechanisms, HTA submissions, and translational oncology research (e.g., precision medicine challenges, unmet needs, evidence gaps).	Essential
Awareness of pioneering HTA methods, such as RWE integration, AI-assisted modeling, histology-independent therapy assessments, EFS/PFS endpoints, QALYs/DALYs, ICERs, and discounting	Desirable
Advanced modeling skills for hypothetical scenario analysis, uncertainty quantification (e.g., PSA, deterministic sensitivity), and decision analytics in R/Python.	Essential
Competence in statistical analysis, data visualization, and managing large datasets (e.g., trial data, RWE, registries).	Desirable
Proficient in literature review, critical appraisal, and evidence integration.	Desirable
Strong grant writing and research proposal development.	Desirable
Ability to blend qualitative/quantitative methods in multidisciplinary oncology contexts.	Desirable
Track record in early-stage health economic modeling for innovations (drugs, diagnostics, or treatments).	Essential
Experience generating evidence for funding bids, regulatory approvals (e.g., NICE EVA, full HTA), and translational decisions.	Desirable
Publications in peer-reviewed journals and conference presentations (e.g., ISPOR, EUnetHTA, ESMO).	Desirable
Collaboration in research teams, including stakeholder engagement in precision oncology and HEOR	Essential

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Mentoring or supervisory experience.	Desirable
Industry or consulting experience in HEOR/HTA for cancer technologies.	Desirable
Excellent communication and interpersonal skills for teamwork and presentations.	Essential
Strong organisation skills, attention to detail, and initiative in research planning.	Essential
Commitment to integrity, innovation, and delivering impact in cancer research.	Desirable

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Benefits

We offer a fantastic working environment, great opportunities for career development and the chance to make a real difference to defeat cancer. We aim to recruit and develop the best – the most outstanding scientists and clinicians, and the most talented professional and administrative staff.

The annual leave entitlement for full time employees is 28 days per annum on joining. This will increase by a further day after 2 years' and 5 years' service.

Staff membership to the Universities Superannuation Scheme (USS) is available. The USS is a defined benefit scheme and provides a highly competitive pension scheme with robust benefits. The rate of contributions is determined by USS and details of the costs and benefits of this scheme can be found on their website. If staff are transferring from the NHS, they can opt to remain members of the NHS Pension Scheme.

We offer a range of family friendly benefits such as flexible working, a parents' group, and a maternity mentoring scheme. Other great benefits include interest free loans for discounted season tickets for travel and bicycle purchases, access to the NHS discounts website, a free and confidential Employee Assistance Programme which offers a range of well-being, financial and legal advice services, two staff restaurants, and access to a gym and sporting facilities at our Sutton site.

Further information

You may contact Dr Patrick Kierkegaard for further information by emailing p.kierkegaard@imperial.ac.uk. This job description is a reflection of the current position and is subject to review and alteration in detail and emphasis in the light of future changes or development.