

Internationally Peer- Reviewed Quality in Experimental Cancer Medicine

ecmc

Experimental
Cancer
Medicine
Centres



Introduction

Purpose

This document summarises the process for applicants during the Quinquennial Review of the Experimental Cancer Medicines Centre (ECMC) Network. The aim of this document is to highlight the required skills, capabilities, and experience applying sites must demonstrate to be part of the ECMC Network.

Background

The Experimental Cancer Medicines Centre (ECMC) Network was launched in 2007, through a joint investment from Cancer Research UK (CRUK), the National Institute for Health and Care Research in England (NIHR), and the Health Departments for Scotland, Wales, and Northern Ireland. Since then, more than £100 million of ECMC funding has been supporting staff members across the UK, to deliver Early Phase oncology trials for adult, paediatric and teenage/young adult (TYA) populations.

Funding is awarded on a five-year basis, with ECMCs reporting annually to ensure high quality research is carried out throughout this time, in alignment with the ECMC network vision. At the end of a funding cycle, there is a review of the Network, referred to as the Quinquennial Review (QQR), which determines the membership and funding for the network for the next five years. CRUK and its funding partners recently ran a call for applications for the next ECMC funding period, which will run from April 2023 to March 2028. In the new quinquennium, the ECMC Paediatric Network will also be co-funded by The Little Princess Trust.

The ECMC Network aims to act as an efficient and effective network that will deliver early phase cancer studies, facilitating collaboration between research partners to enable faster and more personalised patient benefit. Through collaboration and teamwork, the ECMC Network's vision is to bring together world-leading laboratory and patient-based clinical research to build a UK-wide network of clinicians and scientists.

From 2017-2022, the ECMC Network delivered:

**~1,000 Trials
Opened**

**9,500 Patients
Recruited**

**£150m Total
Investment (To Date)**

QQR Process

International Expert Review Panel

All locations with submitted final applications were invited for interview, to present their vision for experimental cancer research to an international expert review panel, which consisted of 14 panellists, 2 of which were Patient and Public Involvement (PPI) representatives. Of the other panellists, 41.7% were female and 25% were assumed to be of ethnic minority background. The panellists were key opinion leaders from prestigious institutions, from:

- The UK
- European countries (Italy, Spain and Netherlands)
- North America (US and Canada)

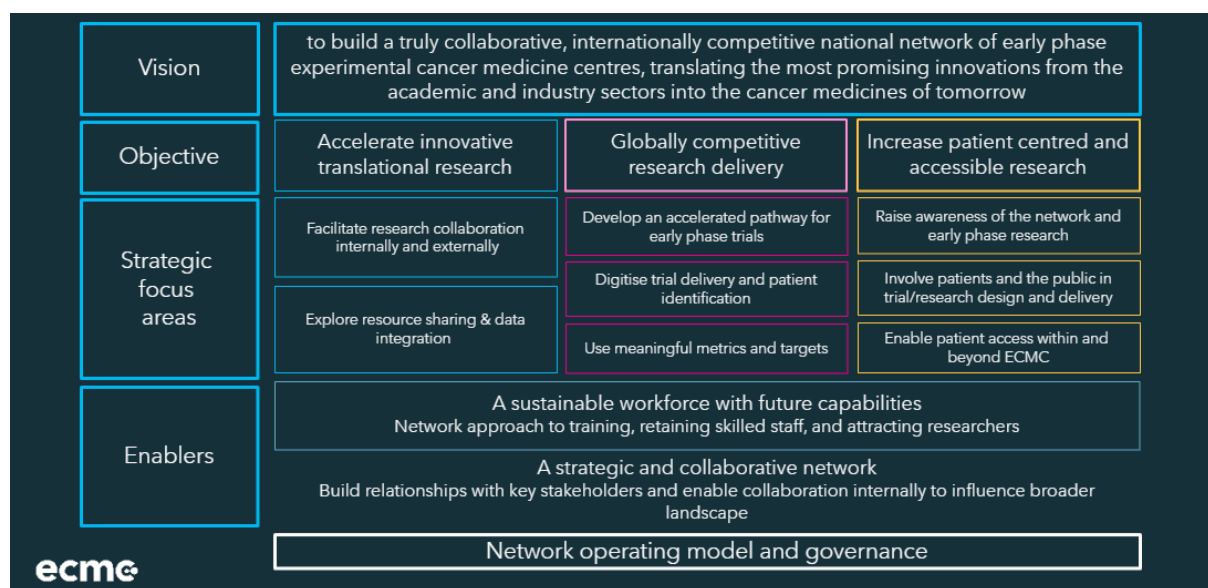
Areas of expertise covered by the panel included:

- Drug development
- Early phase trials
- Precision medicine
- Solid and haematological malignancies
- Translational research
- Surgery
- Paediatric oncology
- Radiation oncology
- Industry

The panel's rigorous assessment included appraising the performance of existing ECMCs in both Adult and Paediatric Networks, evaluating the future proposals for ECMCs and assessing the potential for the Network to deliver against the ECMC Network's strategy. From this, the panel made distinct recommendations to Network Funders for ECMC awards for the next funding period.

ECMC Network Strategy

The ECMC’s new Network strategy focuses on the vision to build a collaborative, competitive national network of early phase ECMCs, to translate innovations from the academic and industry sectors into cancer medicines of the future. It aims to achieve this by focusing on three main objectives: accelerating innovative translational research; globally competitive research delivery and increasing patient centres and accessible research, as seen in the below graphic. Increasing importance and focus has been placed on PPI and Equality, Diversity and Inclusion (EDI), particularly in this review process.



ECMC Application

ECMC sites were asked to provide information on:

- Local environment (integration and pan-age infrastructure)
- Impact of the COVID-19 pandemic on the site (learnings e.g. set up of remote monitoring/consent, and recovery to date)
- Contribution towards Network operational delivery
- Contribution towards Network scientific and clinical excellence
- Future strategy and vision for the site
- Overall contribution to ECMC Network, along with EDI and PPI in the site.

Applications also contained information on the site's request for financial support from Funders and their approach to data management and sharing. Alongside the applications, sites submitted information regarding their trial portfolio activity and specific capabilities.

As a minimum, all Adult ECMC sites must have:

- Arrangements in place for patient admission to an ITU, in case of emergencies
- Ability to accommodate patients staying overnight for treatments
- Capabilities and facilities to perform pharmacological/pharmacodynamic (PK/PD) sampling and analysis
- Access to an aseptic pharmacy
- Ability to conduct Remote Site Initiation Visit

The majority of ECMC sites in the Adult Network have:

- Pharmacy located in the same building as the trial unit
- Access to NGS (Next Generation Sequencing) or profiling at point of entry to Early Phase trials
- Access to a Molecular Tumour Board

Assessment Criteria

Sites had to demonstrate their progress and strengths in the following areas: Scientific Excellence, Operational Delivery and Value to the Network, which considered patient accessibility to trials from a site, PPI and EDI.

Scientific Excellence

The Scientific Excellence area concerned the quality of science that takes place at the ECMC, evidenced by a track record of innovative work and strong scientific strategy. Areas of particular interest to the panel were the initiation, design and development of novel trials; complex innovative design trial activity; novel biomarker expertise and translation or reverse translation activity.

All ECMC sites are expected to lead at least one early phase clinical and/or experimental cancer medicine study. Infrastructure supported by ECMC awards should place emphasis of their activity in the following fields:

- Translational activity of clinical relevance and aimed at informing treatment decisions
- Biomarker activity directly relevant to prospective early phase clinical trials such as pharmacological (PK) and pharmacodynamic (PD) molecular biomarkers or prognostic/predictive/stratification biomarkers where the endpoint clearly informs precision oncology trials
- Early phase clinical trials with an interventional purpose, where the trial endpoint is safety or tolerability. Trials looking to establish efficacy of a treatment are not within ECMC funding remit
- Funding may only be used to support late phase trials where there is a significant translational component, and may only be used to support those translational components

Case Study: Network and Commercial Collaborations, Developing Innovative Treatments

King's ECMC leads a collaboration with Adaptimmune and UCL, Glasgow and Manchester ECMCs, developing innovative, affinity-enhanced autologous 'SPEAR' T-cells, directed toward an HLA-A*02-restricted AFP peptide in HCC (Hepatocellular Carcinoma). This will be followed by evaluation of an autologous T-cell targeting MAGE-A4 in gastro-oesophageal cancers.

Case Study: Utilizing Learnings from the COVID-19 Pandemic to Create Cancer Vaccines

Oxford ECMC, with Vaccitech and the Ludwig Institute developed an anti-cancer vaccine using the same ChAdOx1 platform as the Oxford AstraZeneca COVID-19 vaccine. This has now been taken on by the CRUK Centre for Drug Development portfolio and Oxford ECMC, in collaboration with Manchester ECMC, are clinically testing the novel therapy, targeting NY-ESO-1 and MAGE positive lung and oesophageal cancers.

Operational Delivery

The Operational Delivery area concerned the governance structures and operational processes of sites, to ensure that early phase trials are safe for participating patients and delivered to time and target. Areas that the panel were interested in were activities to reduce study start up timelines, adopting novel technology and quality management systems to maintain/document trial governance, such as quality assurance/control, method validation and data integrity.

To be rated highly in this area of the review process, sites had to demonstrate:

- Excellent operational frameworks
- Competitive trial set-up times
- Robust patient recruitment to early phase/experimental medicine studies

- Sharing their operational expertise with the Network

Case Study: Improving Operational Efficiency and Working with Regulators

Centre Business Leads (CBLs) from the ICR ECMC, in conjunction with leads from other ECMCs, led the 'Remote Trial Monitoring Workstream' during the pandemic, sharing experiences and SOPs, as well as aiding in the development of MHRA (Medicines and Healthcare products Regulatory Agency) guidance for remote source data entry and verification. This supported post-pandemic Restart/Recovery processes and generated a Network resource hub of SOPs/guidelines.

They also worked across ECMCs, with NIHR colleagues, to develop commercial trials costing templates, assisted in streamlining digital processes in the ECMC Network (eISF, eConsent, decentralized activities), and initiated a working group for the Network, focused on developing a sustainable Phase One trials workforce.

Value to the Network

The Value to the Network area concerned the contribution of unique expertise from ECMC sites to the Network, to accelerate progress in experimental cancer medicine beyond which sites could achieve on their own, as well as site performance in PPI/EDI.

The level of engagement and contribution to the following activities was assessed by the panel:

- Share best practice, scientific and clinical expertise
- Collaborate with other ECMCs to open multi-site trials and in clinical and/or translational experimental medicine research
- Contribute to Network activities and projects, such as providing faculty for the Junior Investigators Network Group meetings. For more information,

visit <https://www.ecmcnetwork.org.uk/network-groups/junior-investigator-group>

- Provide access to the local population to a portfolio of early phase trials (academic and Industry sponsored)
- Contribute data to and utilise the Experimental Cancer Trial Finder, to both recruit and refer patients to trials in the ECMC Network. For more information, visit <https://www.ecmcnetwork.org.uk/ec-trial-finder> or contact ECTrialFinder@cancer.org.uk

Funding decisions also took into consideration the panel's view on applicants' future plans for PPI/EDI within their workforce, governance, leadership and research participants, informing development objectives for successful sites. Sites had to demonstrate they had identified relevant underserved populations and that they had meaningful plans in place to improve inclusion.

Case Study: Ensuring Trial Access for All Patient Groups

Newcastle ECMC works closely with their TYA team, as these patients span both Paediatric and Adult treatment locations. Following focus group work with the Young Person's Advisory Group North England, the ECMC established a TYA PPIE group to develop educational resources for this population in their region.

The first output from this group was the request for an educational resource to demystify what TYA clinical trials are, what the patient journey may entail and what support is available. Resulting future developments from Newcastle ECMC to meet these requests include a web-app/online educational resources, supported from their Centre engagement funds. This work is being shared through the CRUK nurse TYA subgroup.

Case Study: Creating Interactive Communities for Research Professionals

Cardiff ECMC established and leads the ECMC Network Haematology Group, which links haematologists across the Network. Over the last four years, the group has evolved to a highly interactive community of over 120 clinicians, clinical and scientific academics, pharmacists and senior nurses from across the UK, including 12 ECMCs.

Quarterly virtual group meetings provide a forum to define and promote haematology-related issues from multiple disease groups, for feedback to the wider ECMC Network. New initiatives from the group include collective biobanking to improve translational studies, advanced therapy trial design, building Paediatric ECMC Network links and developing opportunities for haematology trainees who are underrepresented, compared to their oncology colleagues. The group has fostered joint research projects involving previously unconnected ECMC centres, for development into academically led Early Phase trials. In 2021, the ECMC Haematology Group held a well-attended workshop on Immunotherapy and Advanced Therapies as part of the Crick Institute 'New Directions in Immuno-Oncology Conference', which provided a focus for future activities.

Panel Feedback on ECMC Network

To obtain ECMC funding, sites demonstrate they have extensive scientific, clinical, and operational capabilities, reviewed by a panel of international experts.

Receiving ECMC funding/status is a gold standard, acknowledged by the expert international review panel during the recent QQR process, with comments hailing the "impressive" standard of science coming out of the UK, in both the Adult and Paediatric Networks. The panel chair stated that while other countries have adult early therapeutic networks, they are "nothing like this (the ECMC Network)". In addition, panel members praised how the Paediatric Network "translates to the

NHS”, stating that other countries “don’t have this kind of setup where every child is going to get this (treatment) free of charge”.

The ECMC Network is a one-of-a-kind, UK-wide network that serves both adult and paediatric populations in all the devolved nations. To learn more or engage with the ECMC Network, contact ecmadmin@cancer.org.uk, or visit our Twitter page https://twitter.com/ECMC_UK.

Abbreviations

ECMC	Experimental Cancer Medicine Centre
CRUK	Cancer Research UK
NIHR	National Institute for Health and Care Research
TYA	Teenage and Young Adult
QQR	Quinquennial Review
PPI	Patient and Public Involvement
EDI	Equality, Diversity and Inclusion
PK	Pharmacological
PD	Pharmacodynamic
NGS	Next Generation Sequencing
HCC	Hepatocellular Carcinoma
CBL	Centre Business Lead(s)
MHRA	Medicines and Healthcare products Regulatory Agency