NHS
Health Education England

ACF Clinical Pharmacology and Therapeutics Programme Details in conjunction with The University of Liverpool

Post availability

There is one post available in **Clinical Pharmacology and Therapeutics**, aligned to the NIHR Integrated Academic Training priority research theme of **Clinical Therapeutics and Pharmacology and Industry**.

Overview

You can find generic information about Academic Clinical Fellowships in the North West plus links to the National Institute for Health Research's guidance via https://www.nwpgmd.nhs.uk/nihr-academic-clinical-fellowships-glance

This post is based at the Royal Liverpool University Hospital (Liverpool University Hospitals NHS Foundation Trust, part of NHS University Hospitals of Liverpool Group), with clinical rotations in the North West region, and at the Department of Pharmacology and Therapeutics in the Institute of Systems, Molecular and Integrative Biology, University of Liverpool. The Academic Clinical Fellow (ACF) will be supervised by Professor Sir Munir Pirmohamed and Dr Anna Stewart and will develop a programme of research focusing on **drug safety, polypharmacy and multimorbidity using health data science approaches**. This post offers an outstanding opportunity to begin a clinical academic career in Clinical Pharmacology and Therapeutics (CPT) in one of the leading CPT departments internationally.

Liverpool has a unique place in the history of the specialty. Professor Sir Alasdair Breckenridge, one of the small group of individuals who established CPT as a medical specialty, became Head of the Department of Pharmacology in Liverpool in 1974. The Department is now led by Professor Shampa Das, whose own research focuses on infection pharmacology using novel pharmacometric techniques.

The Department of Pharmacology and Therapeutics is internationally recognised for excellence in research, teaching and innovation. It has been awarded the Queen's Anniversary Prize in recognition of its work to improve the safety and effectiveness of medicines. Its research spans the life, physical and clinical sciences, and scientists and clinicians work side by side, with drug safety and data science running as key themes across the Department's activity. The Department is home to the Centre for Drug Safety Science, the Wolfson Centre for Personalised Medicine, the Centre for Experimental Therapeutics (TherEx),

and the Centre of Excellence for Long-acting Therapeutics (CELT), and holds the NHS Chair of Pharmacogenetics.

Clinically, the ACF will be based at the new Royal Liverpool University Hospital, which opened in October 2022 and is the largest hospital in the country to provide 100% single en-suite inpatient rooms. The NIHR Liverpool Clinical Research Facility, an MHRA Phase I accredited unit, is located on the same site, providing seamless links between clinical care and research.

Academic Training

The ACF will have 25% protected research time and will be supported by the University of Liverpool's Integrated Academic Training programme, joining ACFs across specialties for postgraduate research training, including access to Masters-level research training. Academic supervision will be provided by Professor Sir Munir Pirmohamed, David Weatherall Chair of Medicine and NHS Chair of Pharmacogenetics, supported by the wider data science and drug safety team in the Department.

The aims and objectives of the academic training programme are to:

- Induct the ACF into the Department and into the multidisciplinary team working on drug safety, polypharmacy, multimorbidity and health data science.
- Co-design a research project with the ACF focusing on drug safety, polypharmacy and multimorbidity, incorporating a data science approach, and tailored to the ACF's own interests (including links with organ-based specialties where relevant).
- Provide hands-on training in the analysis of large-scale health datasets such as the Clinical Practice Research Datalink (CPRD) and biobanks including UK Biobank, Our Future Health and All of Us, all of which the team has access to.
- Undertake analyses in the co-designed area with a view to publishing at least one primary research paper and one review article during the ACF.
- Generate pilot data and support the ACF to prepare a competitive application for a doctoral (PhD) training fellowship (if necessary).
- Provide longer-term career mentorship towards an NIHR Clinical Lecturer post and early independent funding such as an Academy of Medical Sciences Starter Grant.

The Department has an excellent track record of training ACFs and Clinical Lecturers in CPT, many of whom have gone on to obtain externally funded clinical training fellowships and to establish successful independent academic careers; examples include Professor Catriona Waitt and Professor Lauren Walker. Each post is trainee-centred, ensuring that relevant clinical training is obtained alongside a period of supervised research training that maximises the ACF's chance of securing a doctoral fellowship.

The environment for doctoral training in this area is particularly strong. The University of Liverpool leads MEDATA (Medicines and Health Data Science), a new £13 million PhD training programme funded by Wellcome (£12 million) and Health Data Research UK (£1 million), delivered in partnership with the Universities of Birmingham, Cambridge, Leeds and Strathclyde, to train a new generation of clinician data scientists in medicines-related data science. We also lead on the MRC Medicines Development Fellowship in collaboration with GSK and AZ.

Research Areas / Research Environment

The research programme for this post. We have an extensive programme of work focusing on data science aspects of drug safety and polypharmacy. Our work, quoted in the NHS 10-Year Health Plan, has shown that 16.5% of hospital admissions are due to adverse drug reactions, costing the NHS in England £2.2 billion per annum (PMID: 35788071). Current funded research includes:

- The HDR UK Medicines in Acute and Chronic Care Driver Programme (total funding £5 million), co-led by Liverpool and the University of Birmingham, which aims to understand the longitudinal determinants and consequences of appropriate and inappropriate polypharmacy, reduce medicines-related harm from individual medicines and drug–drug combinations, enable safe deprescribing, and build treatment guidelines that reflect real-world patient complexity, particularly in people with multiple long-term conditions.
- An NIHR Programme Grant (RENAL-HF; £2.5 million) using data science approaches.
- HDR UK North, a partnership of six northern universities (Lancaster, Leeds, Liverpool, Manchester, Newcastle and Sheffield) directed by Professor Sir Munir Pirmohamed, focused on using health data to address the substantial health inequalities in the North of England.
- Centre of Excellence in Regulatory Science and Innovation in Pharmacogenomics (CERS-PGx). Working with regulators to develop proportionate regulatory pathways to foster innovation.

The ACF will also benefit from the breadth of research across the Department, which includes:

- Drug safety science, including the mechanisms, genetic predisposition and clinical consequences of adverse drug reactions (Centre for Drug Safety Science).
- Personalised medicine and pharmacogenomics, including implementation of pharmacogenomic testing into clinical care (Wolfson Centre for Personalised Medicine).
- Experimental therapeutics and clinical trials, with a focus on optimising the use of existing drugs, safe prescribing and managing drug interactions in

patients with multiple conditions (TherEx, in partnership with the NIHR Liverpool Clinical Research Facility).
- Drug–drug interactions: the Liverpool Drug Interactions Group, established in 1999, provides free prescribing support tools for HIV, hepatitis and COVID-19 that handle over 16 million searches a year across 220 countries and territories, and are referenced in WHO guidance.
- Antimicrobial pharmacology and antimicrobial resistance.
- Long-acting therapeutics and nanomedicines (CELT).
- Global health and HIV pharmacology, including the multinational DolPHIN-2 study on preventing mother-to-child transmission of HIV.
- Immunopharmacology, cancer pharmacology and cardiovascular pharmacology.

CPT in Liverpool has longstanding collaborative research with many other specialties, including neurology, infectious diseases, cardiology, renal medicine, diabetes and cancer medicine, so projects can readily be linked to organ-based specialties depending on the interests of the ACF. The Department has funding from a number of sources including Wellcome, NIHR, MRC and the pharmaceutical industry, an international Joint Centre for Pharmacology and Therapeutics with Xi'an Jiaotong-Liverpool University, and holds an Athena SWAN Gold award.

NIHR ACF posts in Liverpool adhere to the stipulated requirements for protected research time (25%). Precise arrangements for each trainee are however bespoke and depend on specialty, level of the post, and type of research activity. For most, research time is in protected academic blocks (usually lasting 3 months), but sometimes it is more appropriate for trainees to have specific weekly research days, so that the required academic/clinical split is achieved over the duration of the post.

Each trainee is encouraged to record their research time and discuss any issues with their academic supervisor. This is formally reviewed at ARCP meetings. Further, trainees have several mechanisms to raise potential concerns, including trainee forum meetings, mentorship support, and feedback to the ICAT Officer.

Prospective applicants are warmly encouraged to discuss potential research areas with Professor Sir Munir Pirmohamed (munirp@liverpool.ac.uk).

Research Facilities

Department of Pharmacology and Therapeutics, Institute of Systems, Molecular and Integrative Biology, University of Liverpool (https://www.liverpool.ac.uk/systems-molecular-and-integrative-biology/about/pharmacology-therapeutics/)

Centre for Experimental Therapeutics (TherEx)
(https://www.liverpooltherapeutics.org/)

NIHR Liverpool Clinical Research Facility, Royal Liverpool University Hospital
(https://clinicalresearchliverpool.nihr.ac.uk/)

HDR UK Medicines in Acute and Chronic Care Driver Programme
(https://www.hdruk.ac.uk/research/research-driver-programmes/medicines-in-acute-and-chronic-care/)

Liverpool Drug Interactions resources (https://www.hiv-druginteractions.org/)

MRC Medicines Development Fellowship (https://www.liverpool.ac.uk/medicines-development-fellowship/).

The Wolfson Centre for Personalised Medicine and the Centre for Drug Safety Science (https://www.liverpool.ac.uk/centre-for-drug-safety-science/), both based within the Department.

Centre of Excellence in Regulatory Science and Innovation (https://cersi-pgx.org/).

Access to large-scale health data resources for research, including CPRD, UK Biobank, Our Future Health and All of Us, together with trusted research environments and data science expertise through HDR UK North.

Clinical Training

You can find out more about the clinical training programmes in the North West via the following link - https://www.nwpgmd.nhs.uk/specialty_schools

Clinical Pharmacology and Therapeutics is a Group 1 physician specialty with dual training in Internal Medicine. In line with NIHR guidance, the ACF is a run-through appointment into CPT, with progression directly into the specialty as long as core competencies are achieved. Clinical training will be delivered in Liverpool University Hospitals NHS Foundation Trust and other NHS Trusts in the North West, with rotations determined by NHS England North West. Clinical placements will provide experience in acute and general internal medicine alongside specialist CPT training, and the content of each year will be tailored to the training and research needs of the ACF.

Clinical person specifications can be found via the following link - Person Specifications | Medical Hub

Useful Links

https://www.oriel.nhs.uk/Web/Vacancies
https://www.nwpgmd.nhs.uk/nihr-academic-clinical-fellowships-glance
https://www.nwpgmd.nhs.uk/specialty_schools
https://www.liverpool.ac.uk/systems-molecular-and-integrative-biology/about/pharmacology-therapeutics/
https://www.liverpooltherapeutics.org/
https://www.hdruk.ac.uk/research/research-driver-programmes/medicines-in-acute-and-chronic-care/
https://news.liverpool.ac.uk/2026/08/14/13m-to-support-the-next-generation-of-healthcare-researchers/

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