Job Description for NIHR Academic Clinical Fellowship in Clinical pharmacology and therapeutics (IMT 1 – IMT 2)

(Research Theme - Clinical Therapeutics & Pharmacology & Industry)

1. Job Title.
Academic clinical fellow in clinical pharmacology and therapeutics

2. Duration of post.
This will be a 3-year post, commencing at internal medicine training (IMT) year 1 or year 2. The post-holder will undertake 3 years of internal medical training with research in clinical pharmacology and therapeutics. It is anticipated that the successful candidate will apply for a research training fellowship during the 3 years and, if successful, will go on to complete a PhD or MD. Of 10 previous academic trainees in Clinical Pharmacology and Therapeutics at St George's, 8 are doing/have completed PhDs. All clinical pharmacology registrars (ACF and non-academic pathway) trained by the department in the past decade have submitted funding for and/or completed higher degrees. Three previous academic clinical fellows are now consultants within the department, alongside an academic Professor, a Reader and other senior lecturers in clinical pharmacology.

The post attracts a national training number in clinical pharmacology (run through training). However, if the candidate is not successful in obtaining funding for further research or chooses not to continue a clinical pharmacology career, the completion of internal medicine training will leave them well placed to apply for competitive selection in any medical specialty.

3. Research institutions in which training will take place
Research training will take place at City St George's, University of London, with the opportunity to spend some time with an industry Clinical Pharmacology partner. We have established agreements for training in partnership with AstraZeneca and Roche, but other placements could be considered depending on the interests of the candidate.

4. Timetabling of clinical and research time
It is anticipated that successful candidate will undertake 9 months of clinical training and 3 months in full time research in year 1 followed by 6 months of clinical training and 6 months in full time research in year 2. Year 3 is expected to be primarily clinical training although timetabled research may be negotiable depending on research and funding application progress.

There is some scope for negotiation on timing of research blocks and the team at City St George's envisage working with the successful candidate to create a bespoke training program that complements their interests and prior experience.

In the event that there is collaboration with an industry partner, the amount of time spent with them will be negotiated and agreed with the successful candidate following appointment and upon identification of a suitable project.

5. Description of research component of programme
St George's has one of the largest Clinical Pharmacology and Therapeutics (CPT) groups in the UK. We have a diverse range of clinical and research interests. Consultants in our team are accredited and work in a range of partner clinical areas including polypharmacy, critical care and acute medicine. Our research portfolio

reflects this diversity and presents an attractive opportunity for someone at the beginning of their academic career to pursue a project that suits their background and interests.

Pharmacokinetic-pharmacodynamic (PK-PD) modelling

The association of the British Pharmaceutical Industry's report, bridging the skills gap in the biopharmaceutical industry: Maintaining the UK's leading position in life sciences, highlights pharmacokinetic-pharmacodynamic modelling as one of seven 'top priorities'. City St George's has considerable expertise in training and research in this area, including academic collaborations with industry.

Training

The department has an established research group in this area comprising a reader, lecturer and four PhD students. Three out of five foundation program academics have undertaken projects within the group, all successfully publishing their own independent research. There are established local, regional and international collaborations and a range of laboratory and clinical projects ongoing.

The wider team has developed a highly-innovative BSc in Clinical Pharmacology where knowledge of pharmacokinetics and pharmacodynamics, alongside coding, data and statistics and modelling skills are taught. This provides excellent teaching and learning materials for a potential ACF to develop the core knowledge and skills needed to develop a research project in this discipline. This includes training in industry standard non-linear mixed-effects modelling software (NONMEM and nlmixr2).

Current PK-PD research

Our most recent research projects and collaborations in this field include:

Understanding the impact of continuous renal replacement therapy on clearance of commonly used antimicrobials. Laboratory and clinical study. NIHR funded.

Understanding the impact of continuous renal replacement therapy on the clearance of newly licensed antimicrobials. Laboratory study. MRC funded.

CSF penetration of antimicrobials (current study vancomycin).

PKPD of thiamine in critical illness. NIHR funded.

Development of a hollow-fibre infection model of invasive candidiasis to investigate the emergence of hetero-resistant populations during antifungal therapy using pharmacokinetic-pharmacodynamic statistical models. Wellcome funded.

Investigating the pharmacokinetics of anti-epileptics during renal replacement therapy. St George's Hospital Charity funded.

Pharma-5FC – pharmacokinetics and pharmacodynamics of flucytosine in the treatment of HIV-associated cryptococcal meningitis. Wellcome funded.

Understanding pharmacokinetics of antifungals in critical illness (CandiRes). Industry funded.

Cross sectional observational study of antimicrobial PKPD target attainment in critical illness (DALI II). Charity/University funded.

Opportunities for ACF

With a diverse portfolio of pharmacometric research, the fellow can join and take leadership of a stream of an ongoing project or develop *de novo* work that suits their interests and training to date. In addition to the above,

we have established collaborations with colleagues in infection and immunity within St George's and at UCL. We also have established industry connections that may be suitable for the incoming ACF.

Polypharmacy and medicines optimisation

The department hosts one of the UK's first clinical pharmacology services for patients living with complex multimorbidity and polypharmacy. The St George's Polypharmacy Service was developed from consultant-led PhD research and shaped by expertise from the wider team. It consists of a weekly outpatient clinic, a monthly multidisciplinary case discussion meeting for clinicians in primary care and a dedicated Advice and Guidance service. The department is recognised nationally for its innovation in this field. The lead consultant is establishing a national polypharmacy network to promote collaboration between clinicians and researchers, to stimulate healthcare innovation and address key evidence gaps in medicines management for people with complex healthcare needs.

Resident doctors play an active role in the delivery of the service and are encouraged to participate in multidisciplinary meetings, present cases and review patients in the clinic. This provides a unique opportunity to develop expertise in clinical pharmacology, evidence-based medicine and shared decision making. Trainees gain experience in critically appraising the literature, balancing the benefits and harms of treatments in complex patients and developing individualised medication plans with appropriate monitoring and follow-up.

An ACF would have the opportunity to pursue research into polypharmacy and medicines optimisation. Potential areas of study include the clinical and cost-effectiveness of polypharmacy interventions, the implementation of deprescribing strategies and the safety and effectiveness of deprescribing in older adults living with frailty, multimorbidity and high treatment burden. There would also be opportunities to develop expertise in specific therapeutic areas relevant to this population, for example analgesia and chronic pain management, cardiovascular risk, or drugs associated with dependence and withdrawal.

Pharmacogenomics

The team has growing expertise in pharmacogenomics, with a particular focus on translating genomic evidence into routine NHS care. Consultants were members of the NICE diagnostics advisory committee evaluating CYP2C19 genotype testing after acute ischaemic stroke, and continue to contribute as members of the South East Genomic Medicine Service Alliance pharmacy workstream, with opportunities for trainees to contribute.

Our trainees are actively involved in pharmacogenomic research and education. Three trainees, including a Specialised Foundation Programme doctor, led an analysis of the potential wider prescribing implications of CYP2C19 genotype testing in patients with stroke and polypharmacy, published in the *British Journal of Clinical Pharmacology*. Trainees have also been supervise din contributing evidence reviews to the UK Clinical Pharmacy Association Pharmacogenomics Handbook.

An ACF would have opportunities to develop research focused on the clinical implementation of pharmacogenomic testing within the NHS. Potential projects include evaluating the introduction of point-of-care or laboratory-based testing, understanding the impact of genotypes on prescribing across multiple medicines, and studying implementation pathways for established or emerging applications such as

CYP2C19-guided antiplatelet treatment and rapid pharmacogenomic testing before aminoglycoside administration. Projects could incorporate clinical epidemiology, implementation science, service evaluation and qualitative methods, supported by established links with regional genomics, pharmacy, and specialist teams (e.g. stroke medicine, neonatology).

Clinical trials

Group members have expertise in design and implementation of investigator-led clinical trials (MRC-funded 'metformin for COPD exacerbations') and the delivery of clinical trials (e.g. RECOVERY) through the clinical research network. Consultants have extensive experience as principal investigators (PIs), with many ongoing trials. There are strong links with the clinical research facility at the hospital site.

Opportunities for ACF

Acting as sub-PI to gain experience and learn skills in trial management and delivery and research governance. We have supported several resident doctors through the NIHR associate PI scheme.

Education

The City St George's clinical pharmacology team has extensive expertise in undergraduate and postgraduate medical education. The team contributes to teaching, curriculum development and assessment across the BSc Clinical Pharmacology, MBBS and MPharm programmes, including expertise in prescribing education and assessment. Several consultants hold formal higher education qualifications, and members of the team have received the British Pharmacological Society's Rang Prize for excellence in pharmacology teaching on multiple occasions. Many of the team contribute to education at a national level, including leading the development of the British Pharmacological Society's clinical pharmacology curriculum, and senior positions in the Prescribing Safety Assessment and Medical Licensing Assessment.

Training and current activity

The team is involved in the design and delivery of clinical pharmacology across a range of undergraduate curricula, including developing clinical pharmacology scientists, and medical student preparation for clinical practice and the transition to working as a resident doctor. Academic activity spans the development of teaching resources, assessments and quality-assurance processes, alongside evaluation of student performance and educational outcomes.

An ACF would be able to draw on established educational datasets, teaching programmes and expertise in quantitative and qualitative research methods. They could also be supported to complete a postgraduate certificate in biomedical education, providing formal training in curriculum design, assessment, educational theory and research methods.

Opportunities for ACF

Potential projects could include:

- studying patterns of prescribing of commonly used or high-risk medicines;
- exploring prescribing behaviours, decision-making and learning needs among resident doctors;
- evaluating the effectiveness of prescribing education or workplace-based interventions;
- investigating the validity, reliability and educational impact of different assessment methods; and
- examining relationships between assessment performance, prescribing competence and subsequent clinical practice.

The fellow could contribute to an established programme of educational activity or develop a new project aligned with their clinical and academic interests, supported by colleagues with expertise in clinical pharmacology, prescribing education, assessment and biomedical education.

6. Description of clinical training component of programme

The successful candidate with undergo their Internal Medicine Training in south west sector in London; 25% of their time will be dedicated to research time which translates to 3 months in each year of IMY1-3 training years. Internal Medicine Training (IMT) forms the first stage of specialty training for most doctors training in physicianly specialties and will prepare trainees for participating in the acute medical take at a senior level and managing patients with acute and chronic medical problems in outpatient and inpatient settings. It is a three-year programme which will continue to develop doctors to become a medical registrar and provide them with the skills needed to manage patients presenting with a wide range of general medical symptoms with an emphasis on comorbidity and an ageing population. Although Academic trainees are supernumerary, experience managing the acute unselected take is mandatory as is experience in Intensive care Medicine, Geriatric Medicine and outpatients. Trainees will receive simulation training during their programme. The Annual Review of Competency Progression (ARCP) decision aid defines the targets that have to be achieved for a satisfactory ARCP outcome at the end of each training year for trainees in IMT and can be accessed via this link : https://www.thefederation.uk/document/imt-arcp-decision-aid-2019-2022-update

Clinical training will take place in rotational posts based at St George's University Hospitals NHS Foundation Trust in London. St George's Hospital has a great strategic advantage as the main healthcare provider in Southwest London and thereby covers the broad range of medical specialties required to complete medical training, including cardiology, neurology, renal and respiratory medicine, oncology, haematology, gastroenterology, dermatology and rheumatology.

St George's Healthcare serves a population of 1.3 million across Southwest London. As well as acute hospital services, we provide a wide variety of specialist care and a full range of community services to patients of all ages. A large number of services, such as cardiothoracic medicine and surgery, neurosciences, and renal transplantation, also cover significant populations from Surrey and Sussex, totalling around 3.5 million people. A number of our services are members of established clinical networks which bring together doctors, nurses, and other clinicians from a range of healthcare providers working to improve the quality of services for patients. These include the designated heart attack centre, hyper-acute stroke unit and major trauma centre.

7. Academic Programme Director name

Professor Nidhi Sofat, Integrated Academic Programme Lead for St George's, University of London (nsofat@sgul.ac.uk)
Dr Dagan Lonsdale for clinical pharmacology and therapeutics research training (dlonsdal@sgul.ac.uk)

8. Clinical Programme Director name

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Specialty Team https://lasepgmdesupport.hee.nhs.uk/support/home
Recruitment Enquiries - https://lasepgmdesupport.hee.nhs.uk/support/home

13. Useful websites for further information IAT Guide | NIHR
https://www.nihr.ac.uk/explore-nihr/academy-programmes/integrated-academic-training.htm

14. Confirmation that the post attracts an NTN (A)
Yes

This job description was prepared on 11th August 2026