

CLINICAL PHARMACOLOGY & THERAPEUTICS SPECIALTY TRAINING

CAREER PATHWAYS, ENTRY REQUIREMENTS AND TRAINING



WHAT IS CLINICAL PHARMACOLOGY?

Clinical pharmacology encompasses all aspects of the relationship between drugs and humans.

It is the only medical specialty in the NHS focusing on the safe, effective and economic use of medicines. It is a diverse and dynamic discipline that both sustains and advances best healthcare.

If you are interested in the use of medicines, wherever that may be – from general medicine through to the critically ill and paediatrics – then consider clinical pharmacology.

Dr Dagan Lonsdale, specialty registrar in clinical pharmacology, general and intensive care medicine, St George's Hospital, University of London

WHAT IS A CLINICAL PHARMACOLOGIST?

Clinical pharmacologists are clinicians with training in clinical pharmacology and therapeutics (CPT) whose core goal is to improve patient care through the safe and effective use of medicines.

A wide variety of roles exist within clinical pharmacology and career paths can interface with multiple disciplines including:

clinical medicine, toxicology, scientific research, clinical education, medicines policy & regulation, and the pharmaceutical industry.



WHAT DOES A CLINICAL PHARMACOLOGIST DO?

Clinical pharmacologists enjoy a great deal of diversity throughout their careers. Some choose to focus on a specialist area, but many combine a broad range of work to forge a unique career.

Clinical medicine

Most clinical pharmacologists undertake clinical commitments throughout their careers. Many work in general medicine, supervising acute admissions and running outpatient clinics, or as consultants in their sub-specialty interest such as cardiovascular disease, respiratory medicine or oncology.

Toxicology

Poisoning is one of the most common causes of admission to hospital. Clinical pharmacologists, with specialty training in toxicology, oversee acute admissions and provide advice on acute poisoning cases via the National Poisons Information Service. They are also responsible for managing Toxbase*, an evidence-based toxicology database, and lead research and development in this field.

Scientific research

Qualified clinical pharmacologists often work as researchers. The specialty curriculum enables them to undertake a range of clinical research and some trainees opt to undertake higher degrees such as PhD, MD or MSc.

Clinical education

Many clinical pharmacologists are heavily involved in medical education: as experts in drug prescribing, many teach prescribing in universities.

Medicines policy and regulation

Clinical pharmacologists play crucial roles in local formularies and area drug and therapeutics committees. At a national level, CPT consultants frequently occupy senior positions within bodies involved in drug regulation, including the National Institute for Clinical Excellence (NICE), the Medicines and Healthcare products Regulatory Agency (MHRA) and pharmacovigilance schemes (for example Yellow Card Centres).

Pharmaceutical industry

Having formal training in clinical trial research renders clinical pharmacologists invaluable to the pharmaceutical industry. Some work full-time in industry and contribute their expertise to drug discovery programmes.

Clinical pharmacology contributes widely to the NHS. We provide broad-based clinical care, and this is going to become increasingly important with an ageing population, as hospital admissions with comorbidities and on multiple drugs become more common. Clinical pharmacologists have been trained to handle this growing challenge.

Prof. David Webb, Christison chair of therapeutics and clinical pharmacology, the University of Edinburgh, and president of the British Pharmacological Society

I'm looking at drug-resistant epilepsy and doing several clinical research studies in both healthy volunteers and patients with epilepsy. I'm looking to see if biomarkers predict whether someone will develop drug-resistant epilepsy and if we can find that out when they are diagnosed with epilepsy.

Dr Lauren Walker, specialty registrar in clinical pharmacology, National Institute for Health Research Lecturer in clinical pharmacology, University of Liverpool

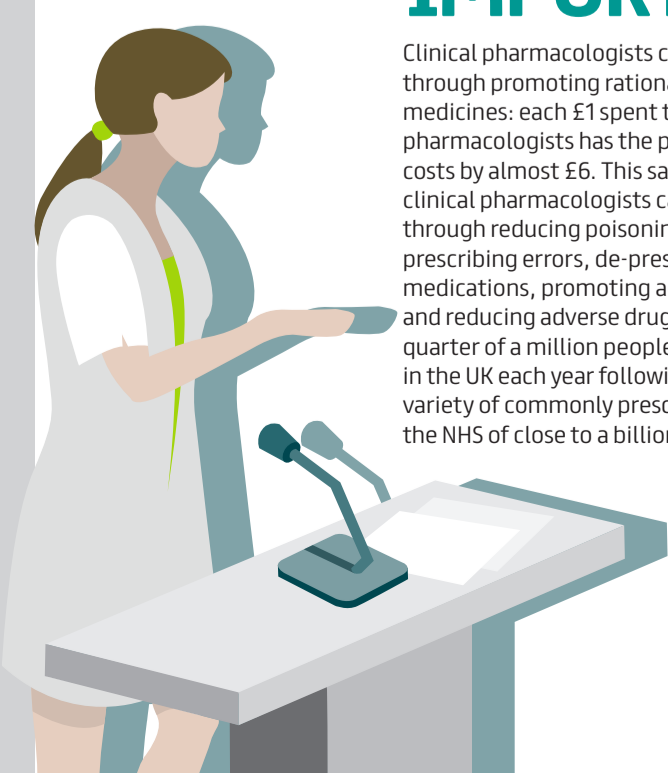
The balance of clinical and academic pursuits enjoyed by consultant clinical pharmacologists is largely dictated by the needs of their main employer, either the NHS or universities. NHS consultants in CPT often deliver a clinical service, retain a strong research emphasis in their work, play an important role in undergraduate teaching and contribute to local medicines management.

WHY IS CLINICAL PHARMACOLOGY IMPORTANT?

Clinical pharmacologists can improve NHS efficiency through promoting rational, cost-effective use of medicines: each £1 spent to hire additional clinical pharmacologists has the potential to reduce NHS costs by almost £6. This saving reflects the benefits clinical pharmacologists can bring to the NHS through reducing poisoning events, minimising prescribing errors, de-prescribing ineffective medications, promoting adherence to prescriptions and reducing adverse drug reactions. Notably, a quarter of a million people are admitted to hospital in the UK each year following adverse reactions to a variety of commonly prescribed drugs, at a cost to the NHS of close to a billion pounds a year.

We undertook research to better understand why serious side effects occur in 7% of HIV patients treated with abacavir. We found that this was due to a genetic factor and developed a test to screen for this which led to a reduction in the incidence of serious side effects to under 1%.

Prof. Sir Munir Pirmohamed, David Weatherall chair of medicine, NHS chair of pharmacogenetics and head of department of molecular and clinical pharmacology, University of Liverpool and Royal Liverpool University Hospital



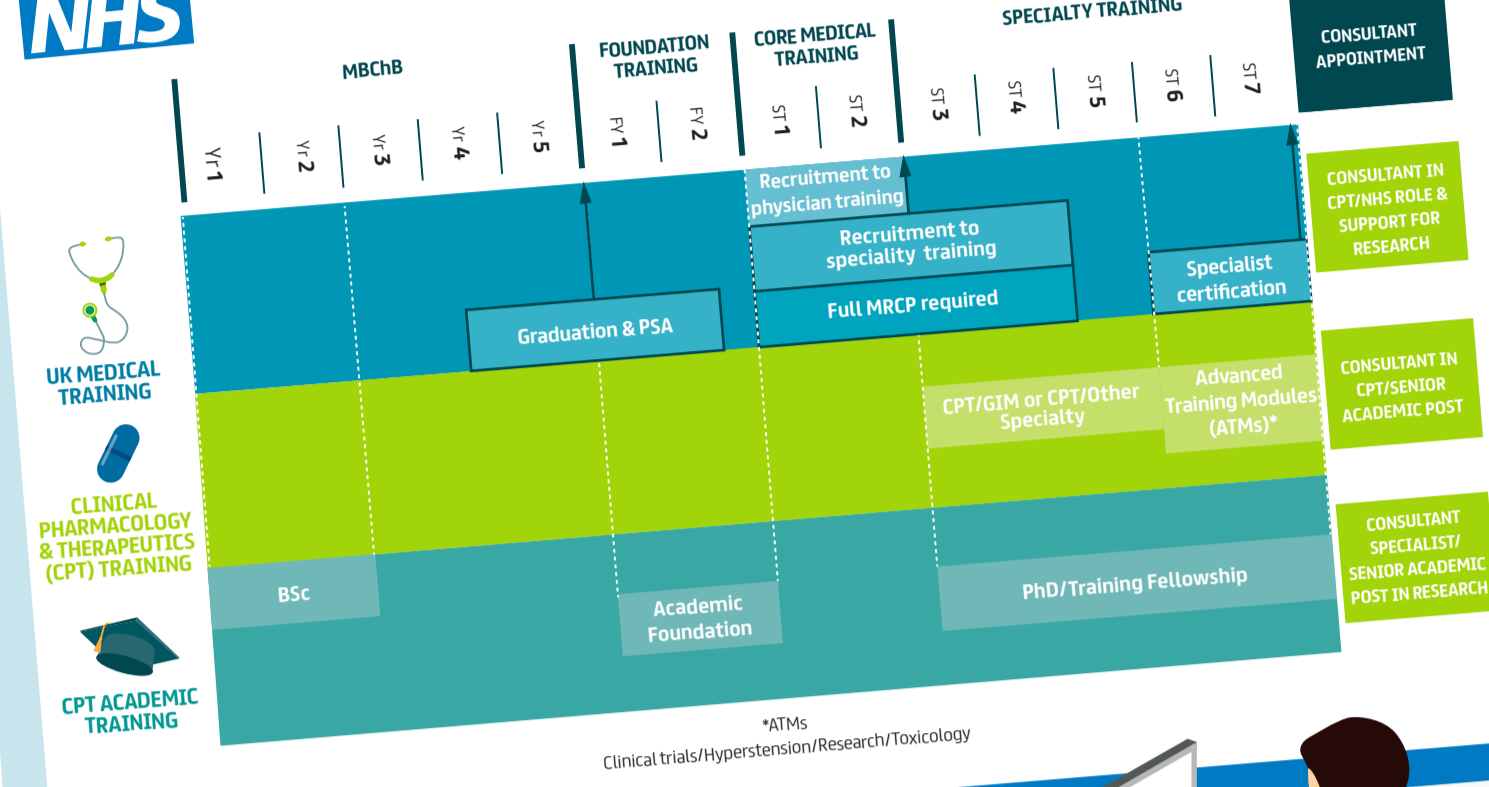


ELIGIBILITY AND ENROLMENT

Am I eligible to become a CPT trainee?

Entry into CPT training at ST3 is possible following successful completion of both a foundation programme and a core training programme. Core training can be completed by either of two routes: core medical training (CMT) or acute care common stem-acute medicine (ACCS-AM). Applicants must have membership of the Royal College of Physicians (MRCP) UK full diploma, or membership of the Royal College of Paediatrics and Child Health (MRCPh) full, or membership of the Royal College of General Practitioners (MRCGP), full with certificate of completion of training (CCT) by the time of interview. All trainees entering CPT combine this with training in another clinical speciality – usually general internal medicine, although links with other specialities are possible (if dual accreditation has been arranged prospectively).

Alternatively, an academic clinical fellowship (ACF) can provide training in CPT. ACF entry can be undertaken at ST1 or ST3 and provides training alongside designated research blocks, enabling trainees to develop early research interests and generate pilot data for grant or fellowship applications. The ACF scheme can provide run-through training in CMT/CPT, combining job security with the opportunity to research a topic of interest in depth, through a funded PhD. After returning to the programme, trainees continue their clinical speciality training, usually as a clinical lecturer employed by the university, with their time split between academic and clinical work.



Career routes to becoming a clinical pharmacologist

For further information, please visit

<http://specialtytraining.hee.nhs.uk/Recruitment/Person-specifications>



I gained significant research experience setting up my own cross-sectional multi-site study in patients on stable dose warfarin.

Dr Anna Stewart, specialty registrar in clinical pharmacology and GIM honorary lecturer, University of Liverpool

Clinical pharmacologists are the physician equivalent of pluripotent stem cells – able to do many different things.

Prof. Jamie Coleman, professor of clinical pharmacology and medical education, University of Birmingham

What characteristics does a CPT trainee need?

CPT will appeal to trainees with a wide range of interests and skills. It will particularly suit trainees who are:

- Self-directed
- Keen to work with a measure of independence
- Innovative
- Seeking variety
- Inquisitive

How do I apply for CPT training?

Learn more about the recruitment and interview process by visiting the ST3 recruitment website: <http://www.st3recruitment.org.uk/specialties/clinical-pharmacology>

ASSESSMENT AND SUPERVISION

What will I learn during CPT training?

The CPT curriculum is broad in scope. It is designed to attract high-quality trainees into the discipline by providing the flexibility necessary to allow doctors with different sub-specialty interests to progress through training. Notably, training in clinical pharmacology provides time for critical appraisal, analysis and academic development, which is not always available in other specialities.

The curriculum is divided into two elements: the core curriculum and advanced training modules.

Core curriculum

By the end of their training, all trainees are expected to be able to:

- Prescribe rationally for individual patients
- Critically evaluate literature and understand statistical techniques
- Collaborate on policies for rational, safe, cost-effective prescribing
- Understand and work within the current drug regulatory framework
- Advise on the management of patients presenting with toxicology issues
- Understand and influence what determines the pattern of use of medicines in populations
- Anticipate, detect, manage, report and analyse adverse drug reactions (ADRs) and prescribing errors
- Understand mechanisms of drug action to extrapolate likely effects of new drugs and to devise appropriate dosing

Advanced training modules

Trainees are expected to undertake in-depth training in at least one advanced training module during their training. The four advanced area topics are: hypertension, toxicology, clinical trials, and research.

I absolutely love working on cutting edge science because it's exciting and you get the chance to work with people at the top of their game - clinically and scientifically.

Dr Duncan Richards, medicine development leader, GlaxoSmithKline

Clinical pharmacology is the best job in the NHS. It allows me to pursue diverse interests throughout the entire course of my career and affords me the freedom to develop my own interests in clinical practice and research.

Dr Emma Morrison, specialty registrar in clinical pharmacology, MRC clinical research fellow at NHS Lothian, the University of Edinburgh

Further information

Useful websites:

British Pharmacological Society
<https://www.bps.ac.uk>

Joint Royal Colleges of Physicians Training Board: CPT specialty
<https://www.jrcptb.org.uk/specialties/clinical-pharmacology-and-therapeutics>

Royal College of Physicians: CPT specialty spotlight
<https://www.rcplondon.ac.uk/education-practice/advice/specialty-spotlight-clinical-pharmacology-and-therapeutics>

Joint Royal Colleges of Physicians Training Board ST3 Recruitment: CPT specialty
<http://www.st3recruitment.org.uk/specialties/clinical-pharmacology>

WHAT IS GOOD ABOUT TRAINING IN CPT?

- 1 It's intellectually challenging** – you're most likely to see patients with complex therapeutic problems and to have to manage complex prescribing. To do this, you need to keep up-to-date with the latest evidence.
- 2 It's diverse** – there are few training opportunities that will equip you as well to take on clinical work, research and teaching.
- 3 It's your own** – there is a broad range of career options for clinical pharmacologists. You can develop a career that interests you and balance the different aspects of the role in a way that suits you.

