National Training Requirements

UNITED KINGDOM

Specialty

Clinical Pharmacology and Therapeutics

JRCPTB

Joint Royal Colleges of Physicians Training Board

Curriculum for Clinical Pharmacology and Therapeutics Training

Implementation August 2022

ROYAL COLLEGE of PHYSICIANS of EDINBURGH

ROYAL COLLEGE OF PHYSICIANS AND SURGEONS OF GLASGOW

Royal College of Physicians

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An application has been made to change the name of the specialty General Internal Medicine (GIM) to Internal Medicine (IM). These terms are used interchangeably in this document except where there is direct reference to the Certificate of Completion of Training (CCT). The curriculum will be referred to as GIM/IM stage 2.

1. Introduction

The medical speciality of Clinical Pharmacology and Therapeutics (CPT) makes a major contribution to the health and wealth of the nation. It improves patients' lives by developing new medicines, by ensuring they are used safely and effectively, and by providing general and specialist medical services, often as part of a multidisciplinary team of healthcare professionals, both in hospitals and the community.

The purpose of the CPT specialty training curriculum is to produce doctors, qualified to practice as specialist consultant Clinical Pharmacologists, focussed on the safe, effective, and economic use of medicines.

Despite many examples of excellence in the use of medicines within specialist NHS therapeutic areas, it is critical to ensure there is an overarching, cross-specialty stewardship of all aspects of medicines use in the NHS. Clinical Pharmacologists are uniquely able to perform essential roles in 4 key domains to meet this need:

1. Specialist and generalist patient care including managing patients with complex prescribing needs including; polypharmacy, adherence and intolerance; preventing and managing adverse drug reactions; identifying and reducing medication errors; managing patients with poisoning, hypertension or other conditions requiring specialist therapeutics knowledge and skills; facilitating the transition to precision medicine, including individualised pharmacogenomic-based prescribing; and providing acute and general medical care.
2. Medicines policy and management including; providing leadership in ensuring the safe and optimal use of medicines within the health service at local, regional and national levels including the promotion of collaboration with other specialties and pharmacy; leading for medicines regulation and health economic assessments; producing prescribing guidance and medicines optimisation policy.
3. Education and training across the whole workforce in relation to all aspects of the safe, effective and economic use of medicines including design, delivery and assessment.
4. Development of medicines and other therapeutics, including; designing and leading safe and effective clinical trials, including first-in-human studies; working with the life sciences industry to discover new medicines, explore their efficacy, repurposing potential and adverse effects; bridging the translational gap between basic science and clinical practice; lead for pharmacovigilance of licensed medications; and leading NHS research facilities.

The CPT curriculum has been developed with input from trainees, consultants actively involved in delivering teaching and training across the UK, representatives from the pharmaceutical industry, the Pharmaceutical Medicine Specialty Advisory Committee

(SAC) and lay persons. This has been achieved through the work of the JRCPTB, the British Pharmacological Society (clinical committee and trainees committee), the Clinical Pharmacology Skill Alliance (CPSA) and the CPT Specialty Advisory Committee (SAC).

The Shape of Training (SoT) review was a catalyst for reform of postgraduate training of all doctors to ensure it is more patient focused, more general (especially in the early years) and with more flexibility of career structure. For physician training, the views and recommendations of SoT were like those of the Future Hospital Commission and the Francis report. With an ageing population, elderly patients exhibit co-morbidities and increasing complexity so acute medical and palliative medicine services need a revised approach to train the physician of the future to meet these needs.

A further driver for change was the GMC review of the curricula and assessment standards and introduction of the GPC framework. From May 2017, all postgraduate curricula should be based on higher level learning outcomes and must incorporate the generic professional capabilities. A fundamental component of the GPCs is ensuring that the patient is at the centre of any consultation and decision making.

JRCPTB, on behalf of the Federation of Royal Colleges of Physicians, developed a model that consists of a period of dual training leading to CCTs in a specialty plus General Internal Medicine (GIM). There will be competitive entry following completion of stage 1 Internal Medicine Training (IMT) or Acute Care Common Stem - Internal Medicine (ACCS-IM), during which there will be increasing responsibility for the acute medical take and the MRCP(UK) Diploma will be achieved.

2 Purpose

2.1 Purpose of the curriculum

This curriculum will ensure that the trainee develops the full range of generic professional capabilities and underlying knowledge and skills, specifically focusing on their application in the practice of general internal medicine and across the full scope of practice of clinical pharmacology and therapeutics. This curriculum aims to produce trainees who in general will practice in adult medicine however the CPT scope of practice does not preclude indirect and usually non-clinic practice in children.

The objectives of the curriculum are:

- To set out a range of specific professional capabilities that encompass all knowledge, skills and activities needed to practice Clinical Pharmacology and Therapeutics at consultant level.
- To set expected standards of knowledge and performance of various professional skills and activities at each stage.
- To suggest indicative training times and experiences needed to achieve the required standards.

- To set out a programme of assessment procedures to be used, such as mini-CEX, the project-based assessment tool, teaching assessments and multi-source feedback.

CPT higher specialty training will be an indicative four year programme that will begin following completion of the Internal Medicine stage 1 curriculum. Trainees may apply to enter CPT specialty training from other group 1 physician specialty training, promoting flexibility and transferability of outcomes. Training will be undertaken alongside Internal Medicine (IM stage 2) such that trainees will receive a certificate of completion of training (CCT) in general internal medicine and in CPT. Trainees will be expected to provide unselected acute and general medical care during their training (arranged flexibly either in specific blocks or longitudinally throughout specialty training).

There will be a single critical progression point at completion of CPT speciality training and trainees will be required to meet all curriculum requirements by time of completion in order to achieve a CCT in Clinical Pharmacology and Therapeutics.

Satisfactory completion of training will produce doctors eligible for a CCT (or CESR CP) and who can be recommended to the GMC for inclusion on the specialist register. At this stage they will be regarded as capable of independent unsupervised practice and will be eligible for appointment as an NHS consultant.

Scope of Practice:

Clinical Pharmacology and Therapeutics is a diverse and wide-ranging discipline that plays a key role across multiple aspects of the NHS, contributing to its organisational objectives and, most importantly, improving patient outcomes and experiences.

Clinical Pharmacologists increasingly contribute to the specialist management of individual patients with complex prescribing needs, including multimorbidity, polypharmacy, adherence issues, and medication intolerance. They are working with NHS England to develop services with senior pharmacists to provide ‘onward referral’ for patients with complex prescribing needs. The scope of practice may include delivery of a complex prescribing service, through virtual review, multidisciplinary meetings and direct patient care that will support prescribers and patients.

Therapeutic expertise

Clinical Pharmacologists usually develop a particular therapeutic area of expertise (for example, hypertension, cardiometabolic disease, airways disease, toxicology or oncology) during their training and through subsequent professional development. The focus on therapeutics differentiates the Clinical Pharmacologist from other specialty CCT holders in that clinical area (if they exist). The benefit to the NHS and Industry is that across the UK, for each therapeutic area, a small number of specialist Clinical Pharmacologists are able to use their knowledge and skills to inform medicines regulation, Health Technology Assessments, clinical guideline development, new therapeutic development and pharmacovigilance. In addition they usually continue to provide specialist care in this

therapeutic area at consultant level. This area of interest usually begins in training often during clinical placements in Clinical Pharmacology teams that have a focus on such interests. Therefore Training Programme Directors and SACs have a degree of oversight of the regional opportunities and can monitor equality of access and workforce planning.

Adverse drug reactions and pharmacovigilance

Clinical Pharmacologists are specialists in the clinical identification, assessment, investigation and management of adverse drug reactions (ADRs) and drug-drug interactions. Their scope of practice includes direct patient care, as well as prevention of adverse drug reactions through educational and strategic work, including pharmacovigilance activities, e.g. through regional yellow card centres.

Medication errors

Clinical Pharmacologists are trained to identify, investigate, manage and prevent medication errors, a role directly addressing patient safety and typically in collaborative and multidisciplinary teams. In England, reducing the incidence of medication errors has been incorporated as a key improvement area within Domain 5 of the NHS Outcomes Framework.

Clinical Toxicology

Clinical Pharmacologists with expertise in toxicology are uniquely qualified to lead specialist poison centres, which provide advice to clinicians from a range of disciplines including adult and paediatric emergency medicine and intensive care. CPT consultants lead the National Poisons Information Service, which provides advice and on-call support to all healthcare professionals from its units in Birmingham, Cardiff, Edinburgh and Newcastle using its TOXBASE database and 24-hour telephone service.

Personalised medicine

In an era of rapidly advancing genomic insight, the Chief Medical Officer of the NHS has pledged to increase the use of emergent genomic technologies to deliver ‘precision medicine’. This requires detailed knowledge of gene-environment and gene-drug interactions, and clinical pharmacologists are therefore important contributors to new teams being set up across the NHS to implement the safe and effective use of personalised medicine and specifically pharmacogenetics.

Bridging the gap between primary and secondary care

Clinical Pharmacologists play a key role in bridging the gap between primary and secondary care, being well positioned to oversee care transitions and ensure that drug therapy, adverse reactions, drug interactions, and evidence of efficacy are monitored effectively. In primary care, Clinical Pharmacologists may also be involved in community-based medicines use reviews and the provision of specialist clinics such as in hypertension

or cardiovascular risk. This role will become increasingly important as the proportion of care provided in the community increases.

Generalist care

Clinical Pharmacologists, who are dual-accredited in clinical pharmacology and therapeutics (CPT) and general internal medicine (GIM) and whose clinical focus is not restricted to specific patient groups provide broad-based acute and general clinical care to unselected patients with an additional focus on the challenges of multi-morbidity and polypharmacy.

Medicines policy and management

Consultant Clinical Pharmacologists provide leadership in ensuring the safe and optimal use of medicines within the health service at local, regional and national levels. They work in an integrated manner with other professions (particularly pharmacy) and support patients with their medications. Clinical Pharmacologists make an essential contribution to medicines policy and management, and are heavily involved in developing regulation, conducting health economic assessments, producing prescribing guidance and ensuring the best use of medicines.

Regulation

Clinical Pharmacologists hold a number of senior posts within the Medicines and Healthcare products Regulatory Agency (MHRA), including on the British Pharmacopeia Commission, the Commission of Human Medicines, the Pharmacovigilance Expert Advisory Group and the Herbal Medicines Advisory Committee.

The MHRA's Yellow Card scheme, which collects information on side-effects and ADRs, has centres in Birmingham, Cardiff, Edinburgh, Liverpool and Newcastle that are led by Clinical Pharmacologists and are responsible for education and research into Yellow Card reporting. CPT training will equip new consultants to continue this work.

Health economic assessments

The UK's health technology appraisal organisations, the National Institute for Health and Care Excellence (NICE), the Scottish Medicines Consortium (SMC) and the All-Wales Medicines Strategy Group (AWMSG), were established to ensure the best use of NHS resources by establishing the cost-effectiveness of new treatments and making recommendations on their use. These three organisations were established and led by Clinical Pharmacologists (Professor Sir Michael Rawlins, Professor David Lawson and Professor Philip Routledge respectively), who have expertise in assessing the safety, efficacy and cost-effectiveness of new medicines, as well as an overarching knowledge of general medicine within clinical practice and an ability to make complex clinical judgements. The specialty has been working with NICE on building this relationship to ensure an ongoing, current contribution to their work and new consultants are equipped to provide this.

Producing prescribing guidance

In addition to contributing to health economic assessments, Clinical Pharmacologists provide expertise to support the efficacious and cost-effective use of medicines by developing national and local prescribing guidance. At a national level, Clinical Pharmacologists support the work of the British National Formulary, the most influential and authoritative collection of prescribing advice in the UK, and clinical guidelines on the management of a range of diseases and therapeutic areas for NICE and the Scottish Intercollegiate Guidelines Network (SIGN). At a local level Clinical Pharmacologists are involved in the development of drug formularies and providing a local medicines information service, as well as working with purchasers of NHS services to ensure national guidance is implemented appropriately in response to local conditions. The specialty has been working with organisations including the BNF to ensure that it makes an ongoing, current contribution in this area and new consultants are trained to do this work.

Medicines optimisation

Clinical Pharmacologists contribute to medicines optimisation in their local organisation, through work on formulary and medicines management committees, regionally through area prescribing committees and medicines optimisation groups and nationally, through membership of the NHS England Regional Medicines Optimisation Committees (RMOCs). In these roles they contribute to the review of new medicines, implementation of national guidance, medicines risk management, DATIX (error) review and many other areas relating to medicines optimisation. This work is central to CPT training and consultants are well equipped to carry out these roles.

Other key roles

Clinical Pharmacologists are also trained to play key roles in ensuring that medicines use is in line with broader government priorities, such as combating antimicrobial resistance. The Chief Medical Officer has called for an organisational or healthcare system-wide approach to best practice in the use of antimicrobials, with the goal of optimising therapy for individual patients, preventing overuse, misuse, and abuse, and minimising the development of resistance at patient and community levels. As specialists in the best use of medicines, Clinical Pharmacologists - working with infection specialists - are well placed to drive this agenda forward. CPT training will equip new consultants to continue this work.

Education and training

The safe and effective use of medicines requires the whole workforce to be skilled in this area. Clinical Pharmacologists are trained to deliver education and training in clinical pharmacology, therapeutics and prescribing across the workforce. For the medical profession, Clinical Pharmacologists report spending around 10% of their time (about five hours a week) teaching undergraduates both the basic principles of clinical pharmacology and practical therapeutics. Clinical Pharmacologists contribute to the delivery of and

provide leadership for the National Prescribing Safety Assessment and deliver postgraduate training to junior hospital doctors, pharmaceutical physicians and GPs. For the wider workforce, Clinical Pharmacologists support pharmacists, nurses and others in obtaining the postgraduate training required to become independent prescribers and provide post-qualification support. Clinical Pharmacologists also serve as directors of postgraduate training programmes and supervise MD and PhD students, and through all these activities are training future prescribers and creating a better skilled workforce.

Development of medicines and other therapeutics

Clinical Pharmacologists have research expertise to support the NHS, working in partnership with the life sciences industry to develop new medicines. As specialists in pharmacokinetics and pharmacodynamics, Clinical Pharmacologists are well placed to design, and lead safe and effective clinical trials, ensuring participant safety and to provide ongoing pharmacovigilance once medications are approved. Their expertise also allows them to lead NHS clinical research facilities, develop their standard operating procedures, respond appropriately to regulation, engage with colleagues in the life sciences industry, and provide overarching clinical support.

Clinical Pharmacologists are required to train in 'first in human' research and can provide a key service in the development of new treatments at this stage.

There are no exclusions in the scope of practice for clinical pharmacology.

This purpose statement has been endorsed by the GMC's Curriculum Oversight Group and confirmed as meeting the needs of the health services of the countries of the UK.

2.2 High level learning outcomes – capabilities in practice (CiPs)

The CPT capabilities in practice (CiPs) describe the professional tasks or work within the scope of the specialty. Each CiP has a set of descriptors associated with that activity or task. Descriptors are intended to help trainees and trainers recognise the minimum level of knowledge, skills and behaviours which should be demonstrated for an entrustment decision to be made. By the completion of training and award of a CCT, the doctors must demonstrate that they are capable of unsupervised practice in all CiPs.

The CiPs have been mapped to the GPC domains and subsections to reflect the professional generic capabilities required to undertake the clinical tasks. Satisfactory sign off requires demonstration that, for each of the CiPs, the performance of the doctor in training meets or exceeds the minimum expected level for completion of training, as defined in the curriculum.

The CPT CiPs comprise seven specialty CiPs, six generic CiPs shared across all physician specialties and eight internal medicine clinical CiPs shared across all group 1 specialties.

Learning outcomes – capabilities in practice (CiPs)

Generic CiPs

1. Able to successfully function within NHS organisational and management systems
2. Able to deal with ethical and legal issues related to clinical practice
3. Communicates effectively and is able to share decision making, while maintaining appropriate situational awareness, professional behaviour and professional judgement
4. Is focused on patient safety and delivers effective quality improvement in patient care
5. Carrying out research and managing data appropriately
6. Acting as a clinical teacher and clinical supervisor

Clinical CiPs (Internal Medicine)

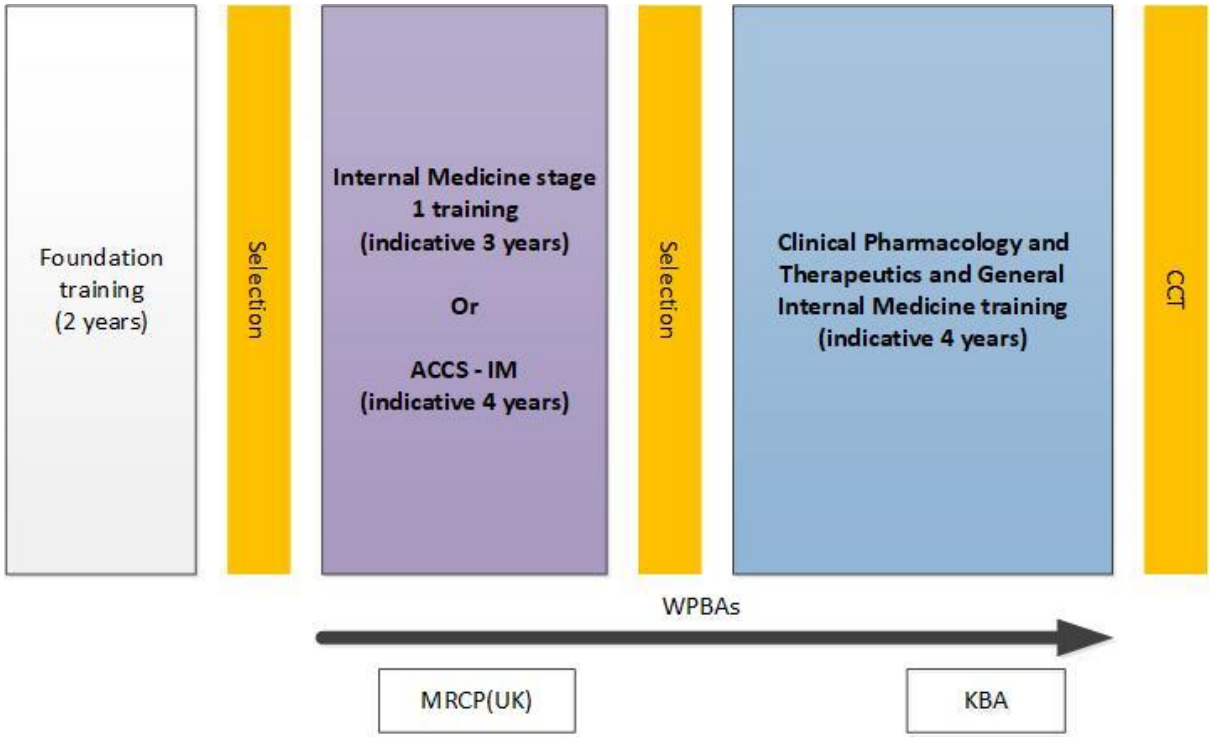
1. Managing an acute unselected take
2. Managing the acute care of patients within a medical specialty service
3. Providing continuity of care to medical inpatients, including management of comorbidities and cognitive impairment
4. Managing patients in an outpatient clinic, ambulatory or community setting, including management of long term conditions
5. Managing medical problems in patients in other specialties and special cases
6. Managing a multidisciplinary team including effective discharge planning
7. Delivering effective resuscitation and managing the acutely deteriorating patient
8. Managing end of life and applying palliative care skills

Specialty CiPs

1. Performing the clinical assessment, investigation and management of adverse drug reactions, medication errors and overdose at an individual and (where relevant) population level
2. Providing specialist management of patients with complex prescribing needs, including multimorbidity, polypharmacy, adherence issues, and medication intolerance
3. Providing analysis and expert opinion on pharmacokinetic, pharmacodynamic and pharmacogenomic factors to guide therapeutic decisions
4. Providing evidence-based practice and contributing to the evidence base in a therapeutic area of interest
5. Advising on the cost effective, safe and rational use of medicines on a population level
6. Delivering effective education in clinical pharmacology, therapeutics and prescribing to promote safe and effective use of medicines across the whole workforce
7. Providing expertise in the design and delivery of experimental medicine, and other types of clinical pharmacology & therapeutic research, including preclinical and clinical studies

2.3 Training pathway

CPT is a group 1 specialty and is entered at ST4 on completion of three years of Internal Medicine (IM) stage 1 or four years of Acute Care Common Stem – Internal Medicine (ACCS-IM) with full MRCP(UK) diploma. Training in Clinical Pharmacology and Therapeutics will comprise an indicative three years of Internal Medicine Stage 1 training followed by four years of specialty training incorporating Internal Medicine Stage 2 training.



2.4 Duration of training

Training in CPT will usually be completed in an indicative four years of full-time training. There will be options for those trainees who demonstrate exceptionally rapid development and acquisition of capabilities to complete training more rapidly than the current indicative time although it is recognised that clinical experience is a fundamental aspect of development as a good physician (guidance on completing training early will be available on the JRCPTB website). There may also be a small number of trainees who develop more slowly and will require an extension of training in line the Reference Guide for Postgraduate Specialty Training in the UK (The Gold Guide)[1].

2.5 Flexibility and accreditation of transferable capabilities

The curriculum incorporates and emphasises the importance of the generic professional capabilities (GPCs). GPCs will promote flexibility in postgraduate training as these common capabilities can be transferred from specialty to specialty. In addition, the generic CiPs will

[1] A Reference Guide for Postgraduate Specialty Training in the UK

be shared across all physicianly curricula and the IM clinical CiPs will be shared across all group 1 specialities, supporting flexibility for trainees to move between these specialties without needing to repeat aspects of training. The curriculum supports the accreditation of transferable competencies (using the Academy framework).

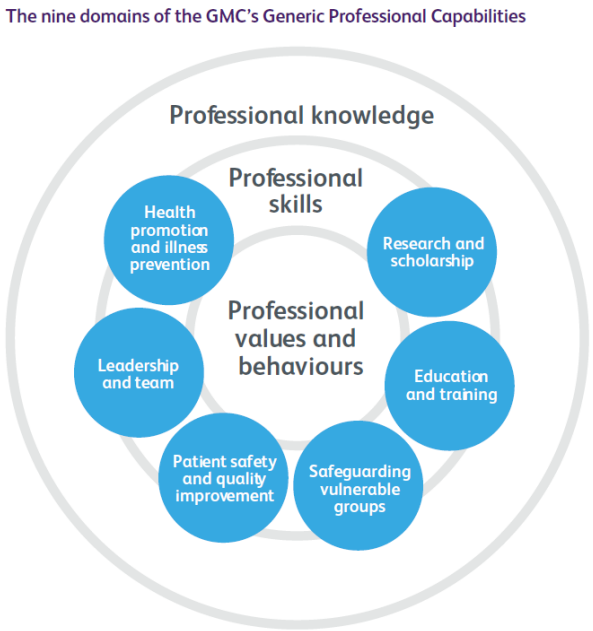
2.6 Less than full time training

Trainees are entitled to opt for less than full time training programmes. Less than full time trainees should undertake a pro rata share of the out-of-hours duties (including on-call and other out-of-hours commitments) required of their full-time colleagues in the same programme and at the equivalent stage.

Less than full time trainees should assume that their clinical training will be of a duration pro-rata with the time indicated/recommended, but this should be reviewed in accordance with the Gold Guide.

2.7 Generic Professional Capabilities and Good Medical Practice

The GMC has developed the Generic professional capabilities (GPC) framework[2] with the Academy of Medical Royal Colleges (AoMRC) to describe the fundamental, career-long, generic capabilities required of every doctor. The framework describes the requirement to develop and maintain key professional values and behaviours, knowledge, and skills, using a common language. GPCs also represent a system-wide, regulatory response to the most common contemporary concerns about patient safety and fitness to practise within the medical profession. The framework will be relevant at all stages of medical education, training and practice.



[2] Generic professional capabilities framework

Good medical practice (GMP)[3] is embedded at the heart of the GPC framework. In describing the principles, duties and responsibilities of doctors the GPC framework articulates GMP as a series of achievable educational outcomes to enable curriculum design and assessment.

The GPC framework describes nine domains with associated descriptor outlining the 'minimum common regulatory requirement' of performance and professional behaviour for those completing a CCT or its equivalent. These attributes are common, minimum and generic standards expected of all medical practitioners achieving a CCT or its equivalent.

The nine domains and subsections of the GPC framework are directly identifiable in the IM curriculum. They are mapped to each of the generic and clinical CiPs, which are in turn mapped to the assessment blueprints. This is to emphasise those core professional capabilities that are essential to safe clinical practice and that they must be demonstrated at every stage of training as part of the holistic development of responsible professionals.

This approach will allow early detection of issues most likely to be associated with fitness to practise and to minimise the possibility that any deficit is identified during the final phases of training.

3 Content of Learning

The curriculum is spiral and topics and themes will be revisited to expand understanding and expertise. The level of entrustment for capabilities in practice (CiPs) will increase as an individual progresses from needing direct supervision to be entrusted to act unsupervised.

3.1 Capabilities in practice

CiPs describe the professional tasks or work within the scope of the specialty and internal medicine. CiPs are based on the concept of entrustable professional activities[4] which use the professional judgement of appropriately trained, expert assessors as a defensible way of forming global judgements of professional performance.

Each CiP has a set of descriptors associated with that activity or task. Descriptors are intended to help trainees and trainers recognise the knowledge, skills and attitudes which should be demonstrated. Doctors in training may use these capabilities to provide evidence of how their performance meets or exceeds the minimum expected level of performance for their year of training. The descriptors are not a comprehensive list and there are many more examples that would provide equally valid evidence of performance.

Many of the CiP descriptors refer to patient centred care and shared decision making. This is to emphasise the importance of patients being at the centre of decisions about their own treatment and care, by exploring care or treatment options and their risks and benefits and discussing choices available.

[3] Good Medical Practice
[4] Nuts and bolts of entrustable professional activities

Additionally, the clinical CiPs repeatedly refer to the need to demonstrate professional behaviour with regard to patients, carers, colleagues and others. Good doctors work in partnership with patients and respect their rights to privacy and dignity. They treat each patient as an individual. They do their best to make sure all patients receive good care and treatment that will support them to live as well as possible, whatever their illness or disability. Appropriate professional behaviour should reflect the principles of GMP and the GPC framework.

In order to complete training and be recommended to the GMC for the award of CCT and entry to the specialist register, the doctor must demonstrate that they are capable of unsupervised practice in all generic and clinical CiPs. Once a trainee has achieved level 4 sign off for a CiP it will not be necessary to repeat assessment of that CiP if capability is maintained (in line with standard professional conduct).

This section of the curriculum details the six generic CiPs, eight clinical CiPs for internal medicine (stage 2) and seven specialty CiPs for Clinical Pharmacology and Therapeutics. The expected levels of performance, mapping to relevant GPCs and the evidence that may be used to make an entrustment decision are given for each CiP. The list of evidence for each CiP is not prescriptive and other types of evidence may be equally valid for that CiP.

3.2 Generic capabilities in practice

The six generic CiPs cover the universal requirements of all specialties as described in GMP and the GPC framework. Assessment of the generic CiPs will be underpinned by the descriptors for the nine GPC domains and evidenced against the performance and behaviour expected at that stage of training. Satisfactory sign off will indicate that there are no concerns. It will not be necessary to assign a level of supervision for these non-clinical CiPs.

In order to ensure consistency and transferability, the generic CiPs have been grouped under the GMP-aligned categories used in the Foundation Programme curriculum plus an additional category for wider professional practice:

- Professional behaviour and trust
- Communication, team-working and leadership
- Safety and quality
- Wider professional practice

For each generic CiP there is a set of descriptors of the observable skills and behaviours which would demonstrate that a trainee has met the minimum level expected. The descriptors are not a comprehensive list and there may be more examples that would provide equally valid evidence of performance.

KEY

ACAT	Acute care assessment tool	ALS	Advanced Life Support
CbD	Case-based discussion	DOPS	Direct observation of procedural skills

GCP	Good Clinical Practice	KBA	Knowledge based assessment
Mini-CEX	Mini-clinical evaluation exercise	MCR	Multiple consultant report
MSF	Multi source feedback	PS	Patient survey
QIPAT	Quality improvement project assessment tool	TO	Teaching observation
OPCAT	Outpatient Care Assessment Tool		

Generic capabilities in practice (CiPs)	
Category 1: Professional behaviour and trust	
1. Able to function successfully within NHS organisational and management systems	
Descriptors	• Aware of and adheres to the GMC professional requirements • Aware of public health issues including population health, social detriments of health and global health perspectives • Demonstrates effective clinical leadership • Demonstrates promotion of an open and transparent culture • Keeps practice up to date through learning and teaching • Demonstrates engagement in career planning • Demonstrates capabilities in dealing with complexity and uncertainty • Aware of the role of and processes for operational structures within the NHS • Aware of the need to use resources wisely
GPCs	Domain 1: Professional values and behaviours Domain 3: Professional knowledge • professional requirements • national legislative requirements • the health service and healthcare systems in the four countries Domain 9: Capabilities in research and scholarship
Evidence to inform decision	MCR MSF Active role in governance structures Management course End of placement reports
2. Able to deal with ethical and legal issues related to clinical practice	
Descriptors	• Aware of national legislation and legal responsibilities, including safeguarding vulnerable groups • Behaves in accordance with ethical and legal requirements • Demonstrates ability to offer apology or explanation when appropriate • Demonstrates ability to lead the clinical team in ensuring that medical legal factors are considered openly and consistently

GPCs	Domain 3: Professional knowledge • professional requirements • national legislative requirements • the health service and healthcare systems in the four countries Domain 4: Capabilities in health promotion and illness prevention Domain 7: Capabilities in safeguarding vulnerable groups Domain 8: Capabilities in education and training Domain 9: Capabilities in research and scholarship
Evidence to inform decision	MCR MSF CbD DOPS Mini-CEX ALS certificate End of life care and capacity assessment End of placement reports
Category 2: Communication, teamworking and leadership	
3. Communicates effectively and is able to share decision making, while maintaining appropriate situational awareness, professional behaviour and professional judgement	
Descriptors	• Communicates clearly with patients and carers in a variety of settings • Communicates effectively with clinical and other professional colleagues • Identifies and manages barriers to communication (eg cognitive impairment, speech and hearing problems, capacity issues) • Demonstrates effective consultation skills including effective verbal and nonverbal interpersonal skills • Shares decision making by informing the patient, prioritising the patient's wishes, and respecting the patient's beliefs, concerns and expectations • Shares decision making with children and young people • Applies management and team working skills appropriately, including influencing, negotiating, re-assessing priorities and effectively managing complex, dynamic situations
GPCs	Domain 2: Professional skills • practical skills • communication and interpersonal skills • dealing with complexity and uncertainty • clinical skills *(history taking, diagnosis and medical management; consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable disease)* Domain 5: Capabilities in leadership and teamworking
Evidence to inform decision	MCR MSF PS

	End of placement reports
Category 3: Safety and quality	
4. Is focused on patient safety and delivers effective quality improvement in patient care	
Descriptors	• Makes patient safety a priority in clinical practice • Raises and escalates concerns where there is an issue with patient safety or quality of care • Demonstrates commitment to learning from patient safety investigations and complaints • Shares good practice appropriately • Contributes to and delivers quality improvement • Understands basic Human Factors principles and practice at individual, team, organisational and system levels • Understands the importance of non-technical skills and crisis resource management • Recognises and works within limit of personal competence • Avoids organising unnecessary investigations or prescribing poorly evidenced treatments
GPCs	Domain 1: Professional values and behaviours Domain 2: Professional skills • practical skills • communication and interpersonal skills • dealing with complexity and uncertainty • clinical skills *(history taking, diagnosis and medical management; consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable disease)* Domain 3: Professional knowledge • professional requirements • national legislative requirements • the health service and healthcare systems in the four countries Domain 4: Capabilities in health promotion and illness prevention Domain 5: Capabilities in leadership and teamworking Domain 6: Capabilities in patient safety and quality improvement • patient safety • quality improvement
Evidence to inform decision	MCR MSF QIPAT End of placement reports
Category 4: Wider professional practice	
5. Carrying out research and managing data appropriately	
Descriptors	• Manages clinical information/data appropriately • Understands principles of research and academic writing • Demonstrates ability to carry out critical appraisal of the literature

	• Understands the role of evidence in clinical practice and demonstrates shared decision making with patients • Demonstrates appropriate knowledge of research methods, including qualitative and quantitative approaches in scientific enquiry • Demonstrates appropriate knowledge of research principles and concepts and the translation of research into practice • Follows guidelines on ethical conduct in research and consent for research • Understands public health epidemiology and global health patterns • Recognises potential of applied informatics, genomics, stratified risk and personalised medicine and seeks advice for patient benefit when appropriate
GPCs	Domain 3: Professional knowledge • professional requirements • national legislative requirements • the health service and healthcare systems in the four countries Domain 7: Capabilities in safeguarding vulnerable groups Domain 9: Capabilities in research and scholarship
Evidence to inform decision	MCR MSF GCP certificate (if involved in clinical research) Evidence of literature search and critical appraisal of research Use of clinical guidelines Quality improvement and audit Evidence of research activity End of placement reports
6. Acting as a clinical teacher and clinical supervisor	
Descriptors	• Delivers effective teaching and training to medical students, junior doctors and other health care professionals • Delivers effective feedback with action plan • Able to supervise less experienced trainees in their clinical assessment and management of patients • Able to supervise less experienced trainees in carrying out appropriate practical procedures • Able to act as clinical supervisor to doctors in earlier stages of training
GPCs	Domain 1: Professional values and behaviours Domain 8: Capabilities in education and training
Evidence to inform decision	MCR MSF TO Relevant training course End of placement reports

3.3 Clinical capabilities in practice

The eight IM clinical CiPs describe the clinical tasks or activities which are essential to the practice of Internal Medicine. The clinical CiPs have been mapped to the nine GPC domains to reflect the professional generic capabilities required to undertake the clinical tasks.

Satisfactory sign off will require educational supervisors to make entrustment decisions on the level of supervision required for each CiP and if this is satisfactory for the stage of training, the trainee can progress. More detail is provided in the programme of assessment section of the curriculum.

Clinical CiPs – Internal Medicine	
1. Managing an acute unselected take	
Descriptors	• Demonstrates professional behaviour with regard to patients, carers, colleagues and others • Delivers patient centred care including shared decision making • Takes a relevant patient history including patient symptoms, concerns, priorities and preferences • Performs accurate clinical examinations • Shows appropriate clinical reasoning by analysing physical and psychological findings • Formulates an appropriate differential diagnosis • Formulates an appropriate diagnostic and management plan, taking into account patient preferences, and the urgency required • Explains clinical reasoning behind diagnostic and clinical management decisions to patients/carers/guardians and other colleagues • Appropriately selects, manages and interprets investigations • Recognises need to liaise with specialty services and refers where appropriate
GPCs	Domain 1: Professional values and behaviours Domain 2: Professional skills • practical skills • communication and interpersonal skills • dealing with complexity and uncertainty clinical skills *(history taking, diagnosis and medical management; consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable disease)* Domain 3: Professional knowledge • professional requirements • national legislation • the health service and healthcare systems in the four countries Domain 4: Capabilities in health promotion and illness prevention Domain 5: Capabilities in leadership and teamworking Domain 6: Capabilities in patient safety and quality improvement • patient safety

	• quality improvement
Evidence to inform decision	MCR MSF CbD ACAT Logbook of cases Simulation training with assessment
2. Managing the acute care of patients within a medical specialty service	
Descriptors	• Able to manage patients who have been referred acutely to a specialised medical service as opposed to the acute unselected take (eg cardiology and respiratory medicine acute admissions) • Demonstrates professional behaviour with regard to patients, carers, colleagues and others • Delivers patient centred care including shared decision making • Takes a relevant patient history including patient symptoms, concerns, priorities and preferences • Performs accurate clinical examinations • Shows appropriate clinical reasoning by analysing physical and psychological findings • Formulates an appropriate differential diagnosis • Formulates an appropriate diagnostic and management plan, taking into account patient preferences, and the urgency required • Explains clinical reasoning behind diagnostic and clinical management decisions to patients/carers/guardians and other colleagues • Appropriately selects, manages and interprets investigations • Demonstrates appropriate continuing management of acute medical illness in a medical specialty setting • Refers patients appropriately to other specialties as required
GPCs	Domain 1: Professional values and behaviours Domain 2: Professional skills: • practical skills • communication and interpersonal skills • dealing with complexity and uncertainty • clinical skills *(history taking, diagnosis and medical management; consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable disease)* Domain 3: Professional knowledge • professional requirements • national legislation • the health service and healthcare systems in the four countries Domain 4: Capabilities in health promotion and illness prevention Domain 5: Capabilities in leadership and teamworking Domain 6: Capabilities in patient safety and quality improvement • patient safety

	• quality improvement
Evidence to inform decision	MCR MSF CbD ACAT Logbook of cases Simulation training with assessment
3. Providing continuity of care to medical inpatients, including management of comorbidities and cognitive impairment	
Descriptors	• Demonstrates professional behaviour with regard to patients, carers, colleagues and others • Delivers patient centred care including shared decision making • Demonstrates effective consultation skills • Formulates an appropriate diagnostic and management plan, taking into account patient preferences, and the urgency required • Explains clinical reasoning behind diagnostic and clinical management decisions to patients/carers/guardians and other colleagues • Demonstrates appropriate continuing management of acute medical illness inpatients admitted to hospital on an acute unselected take or selected take • Recognises need to liaise with specialty services and refers where appropriate Appropriately manages comorbidities in medial inpatients (unselected take, selected acute take or specialty admissions) • Demonstrates awareness of the quality of patient experience
GPCs	Domain 1: Professional values and behaviours Domain 2: Professional skills • practical skills • communication and interpersonal skills • dealing with complexity and uncertainty • clinical skills *(history taking, diagnosis and medical management; consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable disease)* Domain 3: Professional knowledge • professional requirements • national legislation • the health service and healthcare systems in the four countries Domain 4: Capabilities in health promotion and illness prevention Domain 5: Capabilities in leadership and teamworking Domain 6: Capabilities in patient safety and quality improvement • patient safety • quality improvement
Evidence to inform decision	MCR MSF ACAT Mini-CEX

	DOPS
4. Managing patients in an outpatient clinic, ambulatory or community setting (including management of long term conditions)	
Descriptors	• Demonstrates professional behaviour with regard to patients, carers, colleagues and others • Delivers patient centred care including shared decision making • Demonstrates effective consultation skills • Formulates an appropriate diagnostic and management plan, taking into account patient preferences • Explains clinical reasoning behind diagnostic and clinical management decisions to patients/carers/guardians and other colleagues • Appropriately manages comorbidities in outpatient clinic, ambulatory or community setting • Demonstrates awareness of the quality of patient experience
GPCs	Domain 1: Professional values and behaviours Domain 2: Professional skills • practical skills • communication and interpersonal skills • dealing with complexity and uncertainty • clinical skills *(history taking, diagnosis and medical management; consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable disease)* Domain 3: Professional knowledge • professional requirements • national legislation • the health service and healthcare systems in the four countries Domain 5: Capabilities in leadership and teamworking
Evidence to inform decision	MCR ACAT mini-CEX PS Letters generated at outpatient clinics OPCAT
5. Managing medical problems in patients in other specialties and special cases	
Descriptors	• Demonstrates effective consultation skills (including when in challenging circumstances) • Demonstrates management of medical problems in inpatients under the care of other specialties • Demonstrates appropriate and timely liaison with other medical specialty services when required
GPCs	Domain 1: Professional values and behaviours Domain 2: Professional skills • practical skills • communication and interpersonal skills

	• dealing with complexity and uncertainty • clinical skills *(history taking, diagnosis and medical management; consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable disease)* Domain 7: Capabilities in safeguarding vulnerable groups
Evidence to inform decision	MCR ACAT CbD
6. Managing a multidisciplinary team including effective discharge planning	
Descriptors	• Applies management and team working skills appropriately, including influencing, negotiating, continuously re-assessing priorities and effectively managing complex, dynamic situations • Ensures continuity and coordination of patient care through the appropriate transfer of information demonstrating safe and effective handover • Effectively estimates length of stay • Delivers patient centred care including shared decision making • Identifies appropriate discharge plan • Recognises the importance of prompt and accurate information sharing with primary care team following hospital discharge
GPCs	Domain 1: Professional values and behaviours Domain 2: Professional skills • practical skills • communication and interpersonal skills • dealing with complexity and uncertainty • clinical skills *(history taking, diagnosis and medical management; consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable disease)* Domain 5: Capabilities in leadership and teamworking
Evidence to inform decision	MCR MSF ACAT Discharge summaries
7. Delivering effective resuscitation and managing the acutely deteriorating patient	
Descriptors	• Demonstrates prompt assessment of the acutely deteriorating patient, including those who are shocked or unconscious • Demonstrates the professional requirements and legal processes associated with consent for resuscitation • Participates effectively in decision making with regard to resuscitation decisions, including decisions not to attempt CPR, and involves patients and their families • Demonstrates competence in carrying out resuscitation

GPCs	Domain 1: Professional values and behaviours Domain 2: Professional skills • practical skills • communication and interpersonal skills • dealing with complexity and uncertainty • clinical skills *(history taking, diagnosis and medical management; consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable disease)* Domain 3: Professional knowledge • professional requirements • national legislation • the health service and healthcare systems in the four countries Domain 5: Capabilities in leadership and teamworking Domain 6: Capabilities in patient safety and quality improvement • patient safety • quality improvement Domain 7: Capabilities in safeguarding vulnerable groups
Evidence to inform decision	MCR DOPS ACAT MSF ALS certificate Logbook of cases Reflection Simulation training with assessment
8. Managing end of life and applying palliative care skills	
Descriptors	• Identifies patients with limited reversibility of their medical condition and determines palliative and end of life care needs • Identifies the dying patient and develops an individualised care plan, including anticipatory prescribing at end of life • Demonstrates safe and effective use of syringe pumps in the palliative care population • Able to manage non-complex symptom control including pain • Facilitates referrals to specialist palliative care across all settings • Demonstrates effective consultation skills in challenging circumstances • Demonstrates compassionate professional behaviour and clinical judgement
GPCs	Domain 1: Professional values and behaviours Domain 2: Professional skills: • practical skills • communication and interpersonal skills • dealing with complexity and uncertainty

	• clinical skills *(history taking, diagnosis and medical management; consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable disease)* Domain 3: Professional knowledge • professional requirements • national legislation • the health service and healthcare systems in the four countries
Evidence to inform decision	MCR CbD Mini-CEX MSF Regional teaching Reflection

3.4 Specialty capabilities in practice

The specialty CiPs describe the clinical tasks or activities which are essential to the practice of CPT. The CiPs have been mapped to the nine GPC domains to reflect the professional generic capabilities required to undertake the clinical tasks.

Satisfactory sign off will require educational supervisors to make entrustment decisions on the level of supervision required for each CiP and if this is satisfactory for the stage of training, the trainee can progress. More detail is provided in the programme of assessment section of the curriculum.

KEY

ACAT	Acute care assessment tool	ALS	Advanced Life Support
CbD	Case-based discussion	DOPS	Direct observation of procedural skills
GCP	Good Clinical Practice	KBA	Knowledge based assessment
Mini-CEX	Mini-clinical evaluation exercise	MCR	Multiple consultant report
MSF	Multi source feedback	PBD	Project based discussion
PS	Patient survey	QIPAT	Quality improvement project assessment tool
TO	Teaching observation		

Specialty CiPs – Clinical Pharmacology & Therapeutics	
1. Performing the clinical assessment, investigation and management of adverse drug reactions, medication errors and overdose at an individual and (where relevant) population level	
Descriptors	• Defines the factors that determine the benefit to harm balance in therapeutic interventions

	• Defines, identifies, classifies, investigates and manages adverse drug reactions appropriately • Explains the role of pharmacovigilance including post Market Authorisation surveillance and the reporting systems such as the Yellow Card system of the Medicines and Healthcare products Regulatory Agency (MHRA). Describes how adverse event signals are evaluated and the actions that medicines regulators may take. Reports adverse drug reactions appropriately through the yellow card system • Defines, identifies, classifies, investigates, manages and reports drug errors appropriately • Works effectively with pharmacy to promote policy and good practice to avoid drug errors, including involvement in safety and governance processes that reach across primary and secondary care e.g. safety incident review panel, medicine optimisation committees • Defines, identifies, classifies, investigates and manages common drug overdoses and poisoning appropriately (including decontamination and risk to staff and others and the use of common antidotes. • Describes the role of the National Poisons Information Service and accesses information by telephone or via TOXBASE to support the management of drug overdose • Demonstrates initial assessment and management of suicide risk, mental capacity and mental health status in poisoned patients including effective interaction and multidisciplinary working with liaison psychiatry services. Shows practical expertise in the use of the Mental Capacity Act (MCA), Mental Health Act (MHA) and Deprivation of Liberty Safeguards (DOLS). • Shows preparedness for chemical incidents including terrorism by describing examples of hazardous substances and explaining how local Trust major incident plans and Public Health England guidance prepare healthcare systems to deal with such incidents
GPCs	Domain 1: Professional values and behaviours Domain 2: Professional skills • Communication and interpersonal skills • Clinical skills *(history taking, diagnosis and medical management; consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable disease)* Domain 3: Professional knowledge • National legislative requirements Domain 4: Capabilities in health promotion and illness prevention Domain 6: Capabilities in patient safety and quality improvement • Patient safety • Quality improvement Domain 7: Capabilities in safeguarding vulnerable groups

Evidence to inform decision	Appropriate selection from: ACAT Mini-CEX CbD PBD Audits, QIPAT if appropriate Management contribution to medicines governance MCR MSF KBA with reflection End of placement reports Teaching delivery of relevant topics Reflective practice
2. Providing specialist management of patients with complex prescribing needs, including multimorbidity, polypharmacy, adherence issues, and medication intolerance	
Descriptors	• Formulates a comprehensive assessment of patients with complex prescribing needs, including characterisation of patient, carer and clinician priorities, assessment of adherence, medication intolerances and treatment burden (for example using a Clinical Pharmacology Structured review) • Works in partnership with patients to construct a medicines optimisation plan to address complex prescribing needs. Uses an evidence-based and guideline informed approach, medicine optimisation tools, and shared decision making to align evidence with patient priorities • Effectively communicates complex prescribing issues and proposed management choices to patients, their carers and healthcare providers, including in primary care. Signposts patients to reliable resources to support decision making • Summarises options and strategies available to deal with polypharmacy, poor adherence or medication intolerance, using evidence-based approach. • Describes General Medical Council and national guidance on prescription of off-label or unlicensed medicines. Provides appropriate additional information to patients when prescribing unlicensed drugs and to healthcare practitioners when advising on this practice
GPCs	Domain 1: Professional values and behaviours Domain 2: Professional skills • Communication and interpersonal skills • Dealing with complexity and uncertainty • Clinical skills *(history taking, diagnosis and medical management; consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable disease)*

	Domain 4: Capabilities in health promotion and illness prevention Domain 6: Capabilities in patient safety and quality improvement • Patient safety • Quality improvement Domain 9: Capabilities in research and scholarship
Evidence to inform decision	Appropriate selection from: ACAT Mini-CEX CbD PBD Audits, QIPAT if appropriate MCR MSF KBA with reflection End of placement reports Teaching delivery of relevant topics Reflective practice
3. Providing analysis and expert opinion on pharmacokinetic, pharmacodynamic and pharmacogenomic factors to guide therapeutic decisions	
Descriptors	• States the underlying determinants of drug kinetics (including absorption, distribution, metabolism and elimination) and applies these principles to therapeutic decisions, including choosing and adjusting dose regimens • Explains basic pharmacokinetic concepts such as area under a plasma drug concentration-time curve (AUC), clearance, volume of distribution and half-life and applies these principles to therapeutic decisions including choosing and adjusting dose regimens. • Advises on indication for, optimum timing of, and type of drug concentration assays and interprets the relationship between blood concentration and drug effect • Uses knowledge of mechanisms of action and pharmacokinetics of therapeutic drugs to; o select the correct drug, dose, route of administration and duration of treatment most appropriate to the individual and to groups of patients. o predict likely effects, both beneficial or adverse, of introducing novel drugs including the effect of deviation from normal dose or dosing regimens o predict the effects of combinations of drugs and uses this to guide therapeutic decisions • Makes therapeutic decisions that consider individual variation including genetic, age- and gender- related (including pregnancy and lactation), co-existing renal, hepatic and other disease, and drug interaction (both beneficial and adverse) • Orders pharmacogenomic tests and interprets the results appropriately.

	• Uses national guidelines to personalise medication regimens for patients
GPCs	Domain 2: Professional skills • Practical skills • Dealing with complexity and uncertainty Domain 9: Capabilities in research and scholarship
Evidence to inform decision	Appropriate selection from: ACAT Mini-CEX CbD PBD Audits, QIPAT if appropriate MCR MSF KBA with reflection End of placement reports Teaching delivery of relevant topics Reflective practice
4. Providing evidence-based practice and contributing to the evidence base in a therapeutic area of interest	
Descriptors	For a chosen area of therapeutics, be able to: • Use the best available evidence to clinically assess and manage patients with the relevant presentations and conditions • Systematically collect, synthesise and apply information from the scientific literature to develop therapeutic protocols, guidelines and care pathways in conjunction with clinicians in the specialist area • Deliver audit and quality improvement projects related to the therapeutics used or proposed • Contribute to the evidence base for that area through design, delivery, analysis and dissemination of clinical research and trials • Share expertise with the multiprofessional team in the relevant specialist area through contribution to MDT meetings, delivering teaching and training sessions • Works with patients in the selected therapeutic area to promote shared decision making, the patient voice and inclusivity in relation to research and quality improvement projects.
GPCs	Domain 2: Professional skills • Dealing with complexity and uncertainty • Prescribing medicines safely Domain 6: Capabilities in patient safety and quality improvement Domain 9: Capabilities in research and scholarship
Evidence to inform decision	Appropriate selection from: Logbook showing number and type of patients seen CbD/ mini-CEX for selected disease area MCR from consultants in disease area Patient survey, compliments and complaints

	Training attended and reflection Guidelines, protocols, evidence summaries produced QIPAT Academic output e.g. protocols, trial delivery, papers, conference presentations
5. Advising on the cost effective, safe and rational use of medicines on a population level	
Descriptors	• Defines pharmacoepidemiology and describes the main types of pharmacoepidemiology studies (including case-control and cohort studies), data sources and repositories. • Systematically collects, synthesises, appraises and applies information from a wide range of, sometimes conflicting, sources in relation to the efficacy, clinical effectiveness, safety and cost of medicines and therapeutics to advise on medicines use at population level (eg local, regional (integrated care system), national). • Participates in decision making processes of multiprofessional committees making decisions about medicines (e.g. formulary, optimisation, management), including reviewing and presenting submissions. Contributes to discussions, respecting the views of others. • Contributes to the development of prescribing policies, formularies and guidelines and clinical decision support systems related to medicines, including recognition of drugs likely to be high risk or high cost in routine use and suggests strategies to manage this. Examples may include gene therapies, cell therapies and devices. • Makes an objective assessment of cost effectiveness, safety and rational use of medicines in clinical use e.g. by audit, systematic review, retrospective research, and quality improvement projects • Considers the factors that affect drug utilisation including social class, ethnicity, nationality, economic status, co-morbidity, age and gender (including pregnancy and lactation) when advising on medicines use at population level. • Considers the factors that affect professional and public perception of drugs and their use in treating and preventing disease, including effects of advertising, marketing and media on medicines utilisation when advising on medicines use at population level. • Applies understanding of the structure and function of medicines regulation in the UK and internationally, including the requirements for Marketing Authorisation of a new medicine, to inform advice on optimal medicines use at the population and individual level • Describes how NICE and SIGN select and make evidence based clinical guidance and technology appraisals about new medicines. Analyses the cost effectiveness of medicines using and interpreting standard health economic models and discussing their strengths and limitations
GPCs	Domain 2: Professional skills

	• Clinical skills *(history taking, diagnosis and medical management; consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable disease)* Domain 3: Professional knowledge • The health service and healthcare systems in the four countries Domain 4: Capabilities in health promotion and illness prevention Domain 6: Capabilities in patient safety and quality improvement • Patient safety • Quality improvement Domain 9: Capabilities in research and scholarship
Evidence to inform decision	Appropriate selection from: Participation in committees making decisions about medicines PBDs about committee work, guidelines etc Evidence of attendance at training days KBA with reflection CbD QIPAT MCR MSF End of placement reports Teaching delivery of relevant topics Reflective practice Research output e.g. protocols, trial delivery, papers, conference presentations
6. Delivering effective education in clinical pharmacology, therapeutics and prescribing to promote safe and effective use of medicines across the whole workforce	
Descriptors	• Develops and delivers effective education and training in clinical pharmacology, therapeutics and prescribing for undergraduate students and postgraduate practitioners to promote safe and effective use of medicines across the whole healthcare workforce o Develops and delivers training and competency assessment in prescribing for medical and non-medical prescribers o Develops and delivers effective training to multiple staff groups who are not prescribers focusing on the safe and effective use of medicines • Supports national initiatives around safe and effective use of medicines • Contributes to public education about drugs and their utilisation. • Develops assessment materials relevant to clinical pharmacology, therapeutics and prescribing education in undergraduate or postgraduate arenas (e.g. question writing for the prescribing safety assessment (PSA), medical schools or membership of the Royal College of Physicians MRCP(UK))

GPCs	Domain 1: Professional values and behaviours Domain 2: Professional skills • Clinical skills *(history taking, diagnosis and medical management; consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable disease)* Domain 4: Capabilities in health promotion and illness prevention Domain 8: Capabilities in education and training
Evidence to inform decision	Appropriate selection from: PBD e.g. around teaching delivered or materials developed TO Teaching evaluation data Teaching diary PSA/MRCP assessment material submissions and peer review Reflective practice MSF MCR
7. Providing expertise in the design and delivery of experimental medicine, and other types of clinical pharmacology & therapeutic research, including preclinical and clinical studies	
Descriptors	• Describes the phase of clinical trials, including for each phase appropriate clinical trial design, selection of participants, dosing strategy and outcome measures ○ Describes the design and interprets the results of early phase studies to determine the pharmacokinetic and pharmacogenetic parameters that inform the design and conduct of later phase studies ○ Explains what is meant by parallel, crossover, platform, basket, umbrella, adaptive trial designs, when they are used, their advantages and limitations. • Describes the national structure for clinical trial delivery in the NHS including the roles of the National Institute for Health Research (NIHR), Medicines and Healthcare products Regulatory Authority (MHRA), Health Research Authority (HRA), National Research Ethics Committee, Comprehensive Research Network and Clinical Research Facilities • Explains the purpose of guidelines produced by the International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use (ICH) and acquires and maintains certification in Good Clinical Practice (GCP) • States the regulatory, legal and ethics requirements for clinical trial approval, trial registration and reporting in the UK • Describes the process by which pre-clinical drug discovery and development data are generated and is able to synthesise and analyse pre-clinical data to describe, in summary, a safe first-trial-in-

	human study including starting dose and dose escalation, biomarker selection and monitoring schedule • Contributes to clinical study design and delivery including critical review of protocols, study set up, meeting regulatory requirements and maintaining documentation, participant recruitment and consent, monitoring, safety reporting, biomarker and patient-centric outcomes strategy and trial close out. • Demonstrates research leadership e.g. by one or more of; acting as a trial co-principal investigator or sub-investigator, medical monitor or study sponsor physician, membership of research management or governance committees, membership of research ethics committee.
GPCs	Domain 9: Capabilities in research and scholarship
Evidence to inform decision	Appropriate selection from: Mini-CEX CbD PBD Audits, QIPAT if appropriate Management contribution to research delivery MCR MSF KBA with reflection End of placement reports Teaching delivery of relevant topics Reflective practice Safety monitoring GCP certificate Peer reviewed papers, conference presentations, other output e.g. protocols, study brochure, patient information sheets with reflection on personal contribution and/or project based discussion

3.5 Presentations and conditions

The table below details the key presentations and conditions of Clinical Pharmacology and Therapeutics. Each of these should be regarded as a clinical context in which trainees should be able to demonstrate CiPs and GPCs. In this spiral curriculum, trainees will expand and develop the knowledge, skills and attitudes around managing patients with these conditions and presentations. The patient should always be at the centre of knowledge, learning and care.

Trainees must demonstrate core bedside skills, including information gathering through history and physical examination and information sharing with patients, families and colleagues.

Treatment care and strategy covers how a doctor selects drug treatments or interventions for a patient. It includes discussions and decisions as to whether care is focused mainly on

curative intent or whether the main focus is on symptomatic relief. It also covers broader aspects of care, including involvement of other professionals or services.

Particular presentations, conditions and issues are listed either because they are common or serious (having high morbidity, mortality and/or serious implications for treatment or public health).

For each condition/presentation, trainees will need to be familiar with such aspects as aetiology, epidemiology, clinical features, investigation, management and prognosis. Our approach is to provide general guidance and not exhaustive detail, which would inevitably become out of date.

Presentations
Hypertension
Overdose or poisoning: (the following are examples of common or important presentations and the list is not meant to be exhaustive) • Paracetamol • Salicylate • Tricyclic antidepressants (TCA) • Lithium • Digoxin • Toxic alcohols • Iron • Methaemoglobinaemia • Adder bite • Mushroom/plant toxicity • Opioid • Recreational drug toxicity
Adverse drug reaction, including Neuroleptic Malignant Syndrome and Serotonin toxicity
Drug-drug interaction
Polypharmacy
Personalised medicine or Pharmacogenetic testing
Medication error
Drug allergy
Prescribed drug dependence
Conditions & Issues
Drug selection in liver impairment
Drug selection in pregnancy and breast feeding
Drug selection in the elderly
Clinical trial design, delivery, analysis
Pharmacovigilance and Yellow Card reporting
Use of off license medication
New drug review / Medicines Management and Governance work
Drug concentration interpretation
Clinical Pharmacology Structured Review

4 Learning and Teaching

4.1 The training programme

The organisation and delivery of postgraduate training is the responsibility of the Health Education England (HEE), NHS Education for Scotland (NES), Health Education and Improvement Wales (HEIW) and the Northern Ireland Medical and Dental Training Agency (NIMDTA) – referred to from this point as 'deaneries'. A training programme director (TPD) will be responsible for coordinating the specialty training programme. In England, the local organisation and delivery of training is overseen by a school of medicine.

Progression through the programme will be determined by the Annual Review of Competency Progression (ARCP) process and the training requirements for each indicative year of training are summarised in the ARCP decision aid (available on the JRCPTB website).

The sequence of training should ensure appropriate progression in experience and responsibility. The training to be provided at each training site is defined to ensure that, during the programme, the curriculum requirements are met and also that unnecessary duplication and educationally unrewarding experiences are avoided.

The following provides a guide on how training programmes should be focused in each training year in order for trainees to gain the experience and develop the capabilities to the level required.

Trainees will have an appropriate clinical supervisor and a named educational supervisor. The clinical supervisor and educational supervisor may be the same person. It will be best practice for trainees to have an educational supervisor who practises internal medicine for periods of IM stage 2 training. Educational supervisors of IM trainees who do not themselves practise IM must take particular care to ensure that they obtain and consider detailed feedback from clinical supervisors who are knowledgeable about the trainees' IM performance and include this in their educational reports.

Palliative and end of life care

Palliative and end of life care is a core component of the Internal Medicine (IM) curriculum and trainees will continue to develop their knowledge and skills throughout specialty training. Palliative and end of life care is one of the eight clinical Capabilities in Practice (CiPs, clinical CiP8), with specialist palliative care experience recommended. Experience of end of life care can be achieved during attachments to routine medical teams (eg geriatric medicine, oncology, respiratory medicine) and ICU but trainees may have the opportunity to undertake a palliative medicine attachment to a specialist palliative care setting (or range of settings), which would enhance a trainee's ability to gain knowledge and skills in managing palliative and end of life patients beyond experience in an IM or other speciality environment.

During a palliative medicine placement, trainees will have a clinical supervisor and will be encouraged to undertake relevant work place based assessments to evidence entrustment decisions for CiP8. Depending on the setting in which they are based, trainees will have the opportunity to provide direct care to hospice/specialist palliative care unit inpatients, work in day hospice and outpatient settings, undertake domiciliary visits and work with hospital and community palliative care teams. During an attachment, trainees are likely to participate in the specialty palliative care on call.

4.2 Teaching and learning methods

The curriculum will be delivered through a variety of learning experiences and will achieve the capabilities described in the syllabus through a variety of learning methods. There will be a balance of different modes of learning from formal teaching programmes to experiential learning 'on the job'. The proportion of time allocated to different learning methods may vary depending on the nature of the attachment within a rotation.

This section identifies the types of situations in which a trainee will learn.

Work-based experiential learning - The content of work-based experiential learning is decided by the local faculty for education but includes active participation in:

Medical clinics including specialty clinics
The educational objectives of attending clinics are:

- To understand the management of chronic diseases
- Be able to assess a patient in a defined time-frame
- To interpret and act on the referral letter to clinic
- To propose an investigation and management plan in a setting different from the acute medical situation
- To review and amend existing investigation plans
- To write an acceptable letter back to the referrer
- To communicate with the patient and where necessary relatives and other health care professionals.

These objectives can be achieved in a variety of settings including hospitals, day care facilities and the community. The clinic might be primarily run by a specialist nurse (or other qualified health care professionals) rather than a consultant physician. After initial induction, trainees will review patients in clinic settings, under direct supervision. The degree of responsibility taken by the trainee will increase as competency increases. Trainees should see a range of new and follow-up patients and present their findings to their clinical supervisor. Clinic letters written by the trainee should also be reviewed and feedback given.

The number of patients that a trainee should see in each clinic is not defined, neither is the time that should be spent in clinic, but as a guide this should be a minimum of two hours.

Clinic experience should be used as an opportunity to undertake supervised learning events and reflection.

Reviewing patients with consultants
It is important that trainees have an opportunity to present at least a proportion of the patients whom they have admitted to their consultant for senior review in order to obtain immediate feedback into their performance (that may be supplemented by an appropriate WBA such as an ACAT, mini-CEX or CBD). This may be accomplished when working on a take shift along with a consultant, or on a post-take ward round with a consultant.

Personal ward rounds and provision of ongoing clinical care on specialist medical ward attachments
Every patient seen, on the ward or in outpatients, provides a learning opportunity, which will be enhanced by following the patient through the course of their illness. The experience of the evolution of patients' problems over time is a critical part both of the diagnostic process as well as management. Patients seen should provide the basis for critical reading and reflection on clinical problems.

Ward rounds by more senior doctors
Every time a trainee observes another doctor seeing a patient or their relatives there is an opportunity for learning. Ward rounds (including post-take) should be led by a more senior doctor and include feedback on clinical and decision-making skills.

Multidisciplinary team meetings
There are many situations where clinical problems are discussed with clinicians in other disciplines. These provide excellent opportunities for observation of clinical reasoning.

Trainees have supervised responsibility for the care of inpatients. This includes day-to-day review of clinical conditions, note keeping, and the initial management of the acutely ill patient with referral to and liaison with clinical colleagues as necessary. The degree of responsibility taken by the trainee will increase as competency increases. There should be appropriate levels of clinical supervision throughout training, with increasing clinical independence and responsibility.

Formal postgraduate teaching
The content of these sessions are determined by the local faculty of medical education and will be based on the curriculum. There are many opportunities throughout the year for formal teaching in the local postgraduate teaching sessions and at regional, national and international meetings. Many of these are organised by the Royal Colleges of Physicians.

Suggested activities include:
- a programme of formal bleep-free regular teaching sessions to cohorts of trainees (eg a weekly training hour for IM teaching within a training site)
- case presentations
- research, audit and quality improvement projects
- lectures and small group teaching
- Grand Rounds
- clinical skills demonstrations and teaching
- critical appraisal and evidence based medicine and journal clubs
- joint specialty meetings

- attendance at training programmes organised on a deanery or regional basis, which are designed to cover aspects of the training programme outlined in this curriculum.

Learning with peers - There are many opportunities for trainees to learn with their peers. Local postgraduate teaching opportunities allow trainees of varied levels of experience to come together for small group sessions.

Independent self-directed learning
Trainees will use this time in a variety of ways depending upon their stage of learning. Suggested activities include:

- reading, including web-based material such as e-Learning for Healthcare (e-LfH)
- maintenance of personal portfolio (self-assessment, reflective learning, personal development plan)
- audit, quality improvement and research projects
- reading journals
- achieving personal learning goals beyond the essential, core curriculum

Formal study courses
Time to be made available for formal courses is encouraged, subject to local conditions of service. Examples include management and leadership courses and communication courses, which are particularly relevant to patient safety and experience, particularly medicines management work.

4.3 Academic training

The four nations have different arrangements for academic training and doctors in training should consult the local deanery for further guidance.

Trainees may train in academic medicine as an academic clinical fellow (ACF), academic clinical lecturer (ACL) or equivalent.

Some trainees may opt to do research leading to a higher degree without being appointed to a formal academic programme. This new curriculum should not impact in any way on the facility to take time out of programme for research (OOPR) but as now, such time requires discussion between the trainee, the TPD and the Deanery as to what is appropriate together with guidance from the appropriate SAC that the proposed period and scope of study is sensible.

4.4 Taking time out of programme

There are a number of circumstances when a trainee may seek to spend some time out of specialty training, such as undertaking a period of research or taking up a fellowship post. All such requests must be agreed by the postgraduate dean in advance and trainees are advised to discuss their proposals as early as possible. Full guidance on taking time out of programme can be found in the Gold Guide.

4.5 Acting up as a consultant

A trainee coming towards the end of their training may spend up to three months “acting-up” as a consultant, provided that a consultant supervisor is identified for the post and satisfactory progress is made. As long as the trainee remains within an approved training programme, the GMC does not need to approve this period of “acting up” and their original CCT date will not be affected. More information on acting up as a consultant can be found in the Gold Guide.

5 Programme of Assessment

5.1 Purpose of assessment

The purpose of the programme of assessment is to:

- assess trainees’ actual performance in the workplace
- enhance learning by providing formative assessment, enabling trainees to receive immediate feedback, understand their own performance and identify areas for development
- drive learning and enhance the training process by making it clear what is required of trainees and motivating them to ensure they receive suitable training and experience
- demonstrate trainees have acquired the GPCs and meet the requirements of GMP
- ensure that trainees possess the essential underlying knowledge required for their specialty
- provide robust, summative evidence that trainees are meeting the curriculum standards during the training programme;
- inform the ARCP, identifying any requirements for targeted or additional training where necessary and facilitating decisions regarding progression through the training programme;
- identify trainees who should be advised to consider changes of career direction.

5.2 Programme of Assessment

Our programme of assessment refers to the integrated framework of exams, assessments in the workplace and judgements made about a learner during their approved programme of training. The purpose of the programme of assessment is to robustly evidence, ensure and clearly communicate the expected levels of performance at critical progression points in, and to demonstrate satisfactory completion of training as required by the curriculum.

The programme of assessment is comprised of several different individual types of assessment. A range of assessments is needed to generate the necessary evidence required for global judgements to be made about satisfactory performance, progression in, and completion of, training. All assessments, including those conducted in the workplace, are linked to the relevant curricular learning outcomes (eg through the blueprinting of assessment system to the stated curricular outcomes).

The programme of assessment emphasises the importance and centrality of professional judgement in making sure learners have met the learning outcomes and expected levels of

performance set out in the approved curricula. Assessors will make accountable, professional judgements. The programme of assessment includes how professional judgements are used and collated to support decisions on progression and satisfactory completion of training.

The assessments will be supported by structured feedback for trainees. Assessment tools will be both formative and summative and have been selected on the basis of their fitness for purpose.

Assessment will take place throughout the training programme to allow trainees continually to gather evidence of learning and to provide formative feedback. Those assessment tools which are not identified individually as summative will contribute to summative judgements about a trainee's progress as part of the programme of assessment. The number and range of these will ensure a reliable assessment of the training relevant to their stage of training and achieve coverage of the curriculum.

Reflection and feedback should be an integral component to all SLEs and WBPAs. In order for trainees to maximise benefit, reflection and feedback should take place as soon as possible after an event. Every clinical encounter can provide a unique opportunity for reflection and feedback and this process should occur frequently. Feedback should be of high quality and should include an action plan for future development for the trainee. Both trainees and trainers should recognise and respect cultural differences when giving and receiving feedback.

5.3 Assessment of CiPs

Assessment of CiPs involves looking across a range of different skills and behaviours to make global decisions about a learner's suitability to take on particular responsibilities or tasks.

Clinical supervisors and others contributing to assessment will provide formative feedback to the trainee on their performance throughout the training year. This feedback will include a global rating in order to indicate to the trainee and their educational supervisor how they are progressing at that stage of training. To support this, workplace based assessments and multiple consultant reports will include global assessment anchor statements.

Global assessment anchor statements

- Below expectations for this year of training; may not meet the requirements for critical progression point
- Meeting expectations for this year of training; expected to progress to next stage of training
- Above expectations for this year of training; expected to progress to next stage of training

Towards the end of the training year, trainees will make a self-assessment of their progression for each CiP and record this in the eportfolio with signposting to the evidence to support their rating.

The educational supervisor (ES) will review the evidence in the eportfolio including workplace based assessments, feedback received from clinical supervisors (via the Multiple Consultant Report) and the trainee's self-assessment and record their judgement on the trainee's performance in the ES report, with commentary.

For **generic CiPs**, the ES will indicate whether the trainee is meeting expectations or not using the global anchor statements above. Trainees will need to be meeting expectations for the stage of training as a minimum to be judged satisfactory to progress to the next training year.

For **clinical and specialty CiPs**, the ES will make an entrustment decision for each CiP and record the indicative level of supervision required with detailed comments to justify their entrustment decision. The ES will also indicate the most appropriate global anchor statement (see above) for overall performance.

Level descriptors for clinical and specialty CiPs

Level	Descriptor
Level 1	**Entrusted to observe only** – no provision of clinical care
Level 2	**Entrusted to act with direct supervision**: The trainee may provide clinical care, but the supervising physician is physically within the hospital or other site of patient care and is immediately available if required to provide direct bedside supervision
Level 3	**Entrusted to act with indirect supervision**: The trainee may provide clinical care when the supervising physician is not physically present within the hospital or other site of patient care, but is available by means of telephone and/or electronic media to provide advice, and can attend at the bedside if required to provide direct supervision
Level 4	**Entrusted to act unsupervised**

The ARCP will be informed by the ES report and the evidence presented in the eportfolio. The ARCP panel will make the final summative judgement on whether the trainee has achieved the generic outcomes and the appropriate level of supervision for each CiP. The ARCP panel will determine whether the trainee can progress to the next year/level of training in accordance with the Gold Guide. ARCPs will be held for each training year. The final ARCP will ensure trainees have achieved level 4 in all CiPs for the critical progression point at completion of training.

5.4 Critical progression points

There will be a key progression point on completion of specialty training. Trainees will be required to be entrusted at level 4 in all CiPs in order to achieve an ARCP outcome 6 and be recommended for a CCT.

The educational supervisor report will make a recommendation to the ARCP panel as to whether the trainee has met the defined levels for the CiPs and acquired the procedural competence required for each year of training. The ARCP panel will make the final decision on whether the trainee can be signed off and progress to the next year/level of training [see section 5.6].

The outline grids below set out the expected level of supervision and entrustment for the IM clinical CiPs and the specialty CiPs and include the critical progression points across the whole training programme.

Table 1: Grid of levels expected by the end of each training year for Internal Medicine clinical capabilities in practice (CiPs)

Level descriptors
Level 1: Entrusted to observe only – no clinical care; Level 2: Entrusted to act with direct supervision; Level 3: Entrusted to act with indirect supervision
Level 4: Entrusted to act unsupervised

IM Clinical CiP	ST4	ST5	ST6	ST7	CRITICAL PROGRESSION POINT
1. Managing an acute unselected take	3	3	3	4	
2. Managing the acute care of patients within a medical specialty service	2	3	3	4	
3. Providing continuity of care to medical inpatients	3	3	3	4	
4. Managing outpatients with long term conditions	3	3	3	4	
5. Managing medical problems in patients in other specialties and special cases	3	3	3	4	
6. Managing an MDT including discharge planning	3	3	3	4	
7. Delivering effective resuscitation and managing the deteriorating patient	4	4	4	4	
8. Managing end of life and applying palliative care skills	3	3	3	4	

Table 2: Outline grid of levels expected by the end of each training year for Clinical Pharmacology & Therapeutics specialty capabilities in practice (CiPs)

Level descriptors: Level 1: Entrusted to observe only – no clinical care; Level 2: Entrusted to act with direct supervision; Level 3: Entrusted to act with indirect supervision; Level 4: Entrusted to act unsupervised

Specialty CiP	ST4	ST5	ST6	ST7	
1. Performing the clinical assessment, investigation and management of adverse drug reactions, medication errors and overdose at an individual and (where relevant) population level	**2**	**2**	**3**	**4**	CRITICAL PROGRESSION POINT
2. Providing specialist management of patients with complex prescribing needs, including multimorbidity, polypharmacy, adherence issues, and medication intolerance	**2**	**2**	**3**	**4**	
3. Providing analysis and expert opinion on pharmacokinetic, pharmacodynamic and pharmacogenomic factors to guide therapeutic decisions	**1**	**2**	**3**	**4**	
4. Providing evidence-based practice and contributing to the evidence base in a therapeutic area of interest	**1**	**1**	**3**	**4**	
5. Advising on the cost effective, safe and rational use of medicines on a population level	**1**	**2**	**3**	**4**	
6. Delivering effective education in clinical pharmacology, therapeutics and prescribing to promote safe and effective use of medicines across the whole workforce	**2**	**2**	**3**	**4**	
7. Providing expertise in the design and delivery of experimental medicine, and other types of clinical pharmacology & therapeutic research, including preclinical and clinical studies	**1**	**1**	**3**	**4**	

5.5 Evidence of progress

The following methods of assessment will provide evidence of progress in the integrated programme of assessment. The requirements for each training year/level are stipulated in the ARCP decision aid (www.jrcptb.org.uk).

Summative assessment

Examinations and certificates

- Advanced Life Support Certificate (ALS)

Workplace based assessment (WPBA)

- Direct Observation of Procedural Skills (DOPS) - summative

Formative assessment

Knowledge based assessment (KBA)

Supervised Learning Events (SLEs)

- Acute Care Assessment Tool (ACAT)
- Case Based Discussions (CbD)
- Project Based Discussion (PBD)
- mini-Clinical Evaluation Exercise (mini-CEX)
- Outpatient Care Assessment Tool (OPCAT)

WPBA

- Direct Observation of Procedural Skills (DOPS) - formative
- Multi-Source Feedback (MSF)
- Patient Survey (PS)
- Quality Improvement Project Assessment Tool (QIPAT)
- Teaching Observation (TO)

Supervisor reports

- Multiple Consultant Report (MCR)
- Educational Supervisor Report (ESR)

These methods are described briefly below. More information and guidance for trainees and assessors are available in the eportfolio and on the JRCPTB website (www.jrcptb.org.uk).

Assessment should be recorded in the trainee's eportfolio. These methods include feedback opportunities as an integral part of the programme of assessment.

Acute Care Assessment Tool (ACAT)
The ACAT is designed to assess and facilitate feedback on a doctor's performance during their practice on the acute medical take. It is primarily for assessment of their ability to prioritise, to work efficiently, to work with and lead a team, and to interact effectively with nursing and other colleagues. It can also be used for assessment and feedback in relation to care of individual patients. Any doctor who has been responsible for the supervision of the acute medical take can be the assessor for an ACAT.

Case-based Discussion (CbD)
The CbD assesses the performance of a trainee in their management of a patient to provide an indication of competence in areas such as clinical reasoning, decision-making and application of medical knowledge in relation to patient care. It also serves as a method to document conversations about, and presentations of, cases by trainees. The CbD should focus on a written record (such as written case notes, outpatient letter, and discharge summary). A typical encounter might be when presenting newly referred patients in the outpatient department.

Direct Observation of Procedural Skills (DOPS)
A DOPS is an assessment tool designed to assess the performance of a trainee in undertaking a practical procedure, against a structured checklist. The trainee receives immediate feedback to identify strengths and areas for development.

mini-Clinical Evaluation Exercise (mini-CEX)
This tool evaluates a clinical encounter with a patient to provide an indication of competence in skills essential for good clinical care such as history taking, examination and clinical reasoning. The trainee receives immediate feedback to aid learning. The mini-CEX can be used at any time and in any setting when there is a trainee and patient interaction and an assessor is available.

Knowledge based assessment (KBA)
A formative knowledge based, online, single best answer assessment is completed by all trainees once per year. The assessment covers curriculum content delivered during the National Clinical Pharmacology and Therapeutics Specialty Training Teaching during the previous 12 months. As a formative assessment the KBA aims to allow trainees to check their learning from teaching sessions over the year and discuss progress with their educational supervisor and plan future training. Not passing this assessment on its own would not prevent a trainee from progressing.

Multi-source feedback (MSF)
This tool is a method of assessing generic skills such as communication, leadership, team working, reliability etc, across the domains of Good Medical Practice. This provides systematic collection and feedback of performance data on a trainee, derived from a number of colleagues. 'Raters' are individuals with whom the trainee works, and includes doctors, administrative staff, and other allied professionals. Raters should be agreed with the educational supervisor at the start of the training year. The trainee will not see the individual responses by raters. Feedback is given to the trainee by the Educational Supervisor.

Outpatient Care Assessment Tool (OPCAT)
The Outpatient Care Assessment Tool (OPCAT) is designed to assess and facilitate feedback on a doctor's performance in outpatient settings to provide an indication of competence in areas such as confidentiality, history taking and examination, investigation and management plan and communication. The OPCAT is designed to be used in a single clinic whether that is face to face or virtual and may be used during a direct observation if the trainer is present or as an assessment at the end of a clinic. There is no minimum number of patients that should be seen although for a post clinic assessment it would be unusual if the trainee has seen fewer than three patients.

Patient Survey (PS)
A trainee's interaction with patients should be continually observed and assessed. The Patient Survey provides a tool to assess a trainee during a consultation period. The Patient Survey assesses the trainee's performance in areas such as interpersonal skills, communication skills and professionalism.

Project Based Discussion (PBD)
The PBD is designed to provide structured formative feedback to trainees on their performance during a written piece of work or project. In CPT it works particularly well for work relating to medicines management and clinical research. It will normally involve reflective proactive and discussion with a supervising assessor.

Quality Improvement Project Assessment Tool (QIPAT)
The QIPAT is designed to assess a trainee's competence in completing a quality improvement project. The QIPAT can be based on review of quality improvement project documentation or on a presentation of the quality improvement project at a meeting. If possible the trainee should be assessed on the same quality improvement project by more than one assessor.

Teaching Observation (TO)
The TO form is designed to provide structured, formative feedback to trainees on their competence at teaching. The TO can be based on any instance of formalised teaching by the trainee which has been observed by the assessor. The process should be trainee-led (identifying appropriate teaching sessions and assessors).

Supervisors reports

Multiple Consultant Report (MCR)
The MCR captures the views of consultant supervisors based on observation on a trainee's performance in practice. The MCR feedback and comments received give valuable insight into how well the trainee is performing, highlighting areas of excellence and areas of support required. MCR feedback will be available to the trainee and contribute to the educational supervisor's report.

Educational supervisors report (ESR)
The ES will periodically (at least annually) record a longitudinal, global report of a trainee's progress based on a range of assessment, potentially including observations in practice or reflection on behaviour by those who have appropriate expertise and experience. The ESR will include the ES's summative judgement of the trainee's performance and the entrustment decisions given for the learning outcomes (CiPs). The ESR can incorporate commentary or reports from longitudinal observations, such as from supervisors (MCRs) and formative assessments demonstrating progress over time.

5.6 Decisions on progress (ARCP)

The decisions made at critical progression points and upon completion of training should be clear and defensible. They must be fair and robust and make use of evidence from a range of assessments, potentially including exams and observations in practice or reflection on behaviour by those who have appropriate expertise or experience. They can also incorporate commentary or reports from longitudinal observations, such as from supervisors or formative assessments demonstrating progress over time.

Periodic (at least annual) review should be used to collate and systematically review evidence about a doctor's performance and progress in a holistic way and make decisions about their progression in training. The annual review of progression (ARCP) process supports the collation and integration of evidence to make decisions about the achievement of expected outcomes.

Assessment of CiPs involves looking across a range of different skills and behaviours to make global decisions about a learner's suitability to take on particular responsibilities or tasks, as do decisions about the satisfactory completion of presentations/conditions and procedural skills set out in this curriculum. The outline grid in section 5.4 sets out the level of supervision expected for each of the clinical and specialty CiPs. The requirements for each year of training are set out in the ARCP decision aid (www.jrcptb.org.uk).

The ARCP process is described in the Gold Guide. Deaneries are responsible for organising and conducting ARCPs. The evidence to be reviewed by ARCP panels should be collected in the trainee's eportfolio.

As a precursor to ARCPs, JRCPTB strongly recommend that trainees have an informal eportfolio review either with their educational supervisor or arranged by the local school of medicine. These provide opportunities for early detection of trainees who are failing to gather the required evidence for ARCP.

There should be review of the trainee's progress to identify any outstanding targets that the trainee will need to complete to meet all the learning outcomes for completion training approximately 12-18 months before CCT. This should include an external assessor from outside the training programme.

In order to guide trainees, supervisors and the ARCP panel, JRCPTB has produced an ARCP decision aid which sets out the requirements for a satisfactory ARCP outcome at the end of

each training year and critical progression point. The ARCP decision aid is available on the JRCPTB website [www.jrcptb.org.uk.](http://www.jrcptb.org.uk)

Poor performance will be managed in line with the Gold Guide.

5.7 Assessment blueprint

The table below show the possible methods of assessment for each CiP. It is not expected that every method will be used for each competency and additional evidence may be used to help make a judgement on capability.

KEY

ACAT	Acute care assessment tool	CbD	Case-based discussion
DOPS	Direct observation of procedural skills	KBA	Knowledge based assessment
Mini-CEX	Mini-clinical evaluation exercise	MCR	Multiple consultant report
MSF	Multi source feedback	PBD	Project based discussion
PS	Patient survey	QIPAT	Quality improvement project assessment tool
TO	Teaching observation	OPCAT	Outpatient Care Assessment Tool

Learning outcomes	**ACAT**	**CbD**	**DOPS**	**MCR**	**Mini -CEX**	**MSF**	**PS**	**QIPAT**	**TO**	**KBA**	**PBD**	**OPCAT**
Generic CiPs												
Able to function successfully within NHS organisational and management systems				√		√						
Able to deal with ethical and legal issues related to clinical practice		√	√	√	√	√						
Communicates effectively and is able to share decision making, while maintaining appropriate situational awareness, professional behaviour and professional judgement				√		√	√					
Is focused on patient safety and delivers effective quality improvement in patient care				√		√		√				
Carrying out research and managing data appropriately				√		√						
Acting as a clinical teacher and clinical supervisor				√		√			√			
Clinical CiPs												
Managing an acute unselected take	√	√		√		√						

Learning outcomes	ACAT	CbD	DOPS	MCR	Mini -CEX	MSF	PS	QIPAT	TO	KBA	PBD	OPCAT
Managing an acute specialty-related take	√	√		√		√						
Providing continuity of care to medical inpatients, including management of comorbidities and cognitive impairment	√		√	√	√	√						
Managing patients in an outpatient clinic, ambulatory or community setting, including management of long term conditions	√			√	√		√					√
Managing medical problems in patients in other specialties and special cases	√	√		√								
Managing a multidisciplinary team including effective discharge planning	√			√		√						
Delivering effective resuscitation and managing the acutely deteriorating patient	√		√	√		√						
Managing end of life and applying palliative care skills		√		√	√	√						
Practical procedural skills			√									
Specialty CiPs												
Performing the clinical assessment, investigation and management of adverse drug reactions, medication errors and overdose at an individual and (where relevant) population level	√	√		√	√	√		√		√	√	
Providing specialist management of patients with complex prescribing needs, including multimorbidity, polypharmacy, adherence issues, and medication intolerance	√	√		√	√	√		√		√	√	
Providing analysis and expert opinion on pharmacokinetic, pharmacodynamic and pharmacogenomic factors to guide therapeutic decisions	√	√		√	√	√		√		√	√	
Providing evidence-based practice and contributing to the evidence base in a therapeutic area of interest		√		√	√		√	√				
Advising on the cost effective, safe and rational use of medicines on a population level		√		√		√		√		√	√	
Delivering effective education in clinical pharmacology, therapeutics and prescribing to promote safe and effective use of medicines across the whole workforce				√		√			√		√	

Learning outcomes	ACAT	CbD	DOPS	MCR	Mini -CEX	MSF	PS	QIPAT	TO	KBA	PBD	OPCAT
Providing expertise in the design and delivery of experimental medicine, and other types of clinical pharmacology & therapeutic research, including preclinical and clinical studies		√		√	√	√		√		√	√	

6 Supervision and feedback

This section of the curriculum describes how trainees will be supervised, and how they will receive feedback on performance. For further information please refer to the AoMRC guidance on Improving feedback and reflection to improve learning[5].

Access to high quality, supportive and constructive feedback is essential for the professional development of the trainee. Trainee reflection is an important part of the feedback process and exploration of that reflection with the trainer should ideally be a two way dialogue. Effective feedback is known to enhance learning and combining self-reflection to feedback promotes deeper learning.

Trainers should be supported to deliver valuable and high quality feedback. This can be by providing face to face training to trainers. Trainees would also benefit from such training as they frequently act as assessors to junior doctors, and all involved could also be shown how best to carry out and record reflection.

6.1 Supervision

All elements of work in training posts must be supervised with the level of supervision varying depending on the experience of the trainee and the clinical exposure and case mix undertaken. Outpatient and referral supervision must routinely include the opportunity to discuss all cases with a supervisor if appropriate. As training progresses the trainee should have the opportunity for increasing autonomy, consistent with safe and effective care for the patient.

Organisations must make sure that each doctor in training has access to a named clinical supervisor and a named educational supervisor. Depending on local arrangements these roles may be combined into a single role of educational supervisor. However, it is preferred that a trainee has a single named educational supervisor for (at least) a full training year, in which case the clinical supervisor is likely to be a different consultant during some placements.

[5] Improving feedback and reflection to improve learning. A practical guide for trainees and trainers

The role and responsibilities of supervisors have been defined by the GMC in their standards for medical education and training[6].

Educational supervisor
The educational supervisor is responsible for the overall supervision and management of a doctor's educational progress during a placement or a series of placements. The educational supervisor regularly meets with the doctor in training to help plan their training, review progress and achieve agreed learning outcomes. The educational supervisor is responsible for the educational agreement, and for bringing together all relevant evidence to form a summative judgement about progression at the end of the placement or a series of placements. Trainees on a dual training program may have a single educational supervisor responsible for their internal medicine and specialty training, or they may have two educational supervisors, one responsible for internal medicine and one for specialty.

Clinical supervisor
Consultants responsible for patients that a trainee looks after provide clinical supervision for that trainee and thereby contribute to their training; they may also contribute to assessment of their performance by completing a 'Multiple Consultant Report (MCR)' and other WPBAs. A trainee may also be allocated (for instance, if they are not working with their educational supervisor in a particular placement) a named clinical supervisor, who is responsible for reviewing the trainee's training and progress during a particular placement. It is expected that a named clinical supervisor will provide a MCR for the trainee to inform the Educational Supervisor's report.

The educational and (if relevant) clinical supervisors, when meeting with the trainee, should discuss issues of clinical governance, risk management and any report of any untoward clinical incidents involving the trainee. If the service lead (clinical director) has any concerns about the performance of the trainee, or there are issues of doctor or patient safety, these would be discussed with the clinical and educational supervisors (as well as the trainee). These processes, which are integral to trainee development, must not detract from the statutory duty of the trust to deliver effective clinical governance through its management systems.

Educational and clinical supervisors need to be formally recognised by the GMC to carry out their roles[7]. It is essential that training in assessment is provided for trainers and trainees in order to ensure that there is complete understanding of the assessment system, assessment methods, their purposes and use. Training will ensure a shared understanding and a consistency in the use of the WPBAs and the application of standards.

Opportunities for feedback to trainees about their performance will arise through the use of the workplace based assessments, regular appraisal meetings with supervisors, other meetings and discussions with supervisors and colleagues, and feedback from ARCP.

[6] Promoting excellence: standards for medical education and training
[7] Recognition and approval of trainers

Trainees
Trainees should make the safety of patients their first priority and they should not be practising in clinical scenarios which are beyond their experiences and competencies without supervision. Trainees should actively devise individual learning goals in discussion with their trainers and should subsequently identify the appropriate opportunities to achieve said learning goals. Trainees would need to plan their WPBAs accordingly to enable their WPBAs to collectively provide a picture of their development during a training period. Trainees should actively seek guidance from their trainers in order to identify the appropriate learning opportunities and plan the appropriate frequencies and types of WPBAs according to their individual learning needs. It is the responsibility of trainees to seek feedback following learning opportunities and WPBAs. Trainees should self-reflect and self-evaluate regularly with the aid of feedback. Furthermore, trainees should formulate action plans with further learning goals in discussion with their trainers.

6.2 Appraisal

A formal process of appraisals and reviews underpins training. This process ensures adequate supervision during training, provides continuity between posts and different supervisors and is one of the main ways of providing feedback to trainees. All appraisals should be recorded in the eportfolio

Induction Appraisal
The trainee and educational supervisor should have an appraisal meeting at the beginning of each post to review the trainee's progress so far, agree learning objectives for the post ahead and identify the learning opportunities presented by the post. Reviewing progress through the curriculum will help trainees to compile an effective Personal Development Plan (PDP) of objectives for the upcoming post. This PDP should be agreed during the Induction Appraisal. The trainee and supervisor should also both sign the educational agreement in the e-portfolio at this time, recording their commitment to the training process.

Mid-point Review
This meeting between trainee and educational supervisor is not mandatory (particularly when an attachment is shorter than 6 months) but is encouraged particularly if either the trainee or educational or clinical supervisor has training concerns or the trainee has been set specific targeted training objectives at their ARCP).At this meeting trainees should review their PDP with their supervisor using evidence from the e-portfolio. Workplace based assessments and progress through the curriculum can be reviewed to ensure trainees are progressing satisfactorily, and attendance at educational events should also be reviewed. The PDP can be amended at this review.

End of Attachment Appraisal
Trainees should review the PDP and curriculum progress with their educational supervisor using evidence from the e-portfolio. Specific concerns may be highlighted from this appraisal. The end of attachment appraisal form should record the areas where further work is required to overcome any shortcomings. Further evidence of competence in certain areas may be needed, such as planned workplace based assessments, and this should be recorded. If there are significant concerns following the end of attachment appraisal then

the programme director should be informed. Supervisors should also identify areas where a trainee has performed about the level expected and highlight successes.

7 Quality Management

The organisation of training programs is the responsibility of the deaneries. The deaneries will oversee programmes for postgraduate medical training in their regions. The Schools of Medicine in England, Wales and Northern Ireland and the Medical Specialty Training Board in Scotland will undertake the following roles:

- oversee recruitment and induction of trainees into the specialty
- allocate trainees into particular rotations appropriate to their training needs
- oversee the quality of training posts provided locally
- ensure adequate provision of appropriate educational events
- ensure curricula implementation across training programmes
- oversee the workplace based assessment process within programmes
- coordinate the ARCP process for trainees
- provide adequate and appropriate career advice
- provide systems to identify and assist doctors with training difficulties
- provide flexible training.

Educational programmes to train educational supervisors and assessors in workplace based assessment may be delivered by deaneries or by the colleges or both.

Development, implementation, monitoring and review of the curriculum are the responsibility of the JRCPTB and the SAC. The committee will be formally constituted with representatives from each health region in England, from the devolved nations and with trainee and lay representation. It will be the responsibility of the JRCPTB to ensure that curriculum developments are communicated to heads of school, regional specialty training committees and TPDs.

The JRCPTB has a role in quality management by monitoring and driving improvement in the standard of all medical specialties on behalf of the three Royal Colleges of Physicians in Edinburgh, Glasgow and London. The SACs are actively involved in assisting and supporting deaneries to manage and improve the quality of education within each of their approved training locations. They are tasked with activities central to assuring the quality of medical education such as writing the curriculum and assessment systems, reviewing applications for new posts and programmes, provision of external advisors to deaneries and recommending trainees eligible for CCT or Certificate of Eligibility for Specialist Registration (CESR).

JRCPTB uses data from six quality datasets across its specialties and subspecialties to provide meaningful quality management. The datasets include the GMC national Training Survey (NTS) data, ARCP outcomes, examination outcomes, new consultant survey, external advisor reports and the monitoring visit reports.

Quality criteria have been developed to drive up the quality of training environments and ultimately improve patient safety and experience. These are monitored and reviewed by JRCPTB to improve the provision of training and ensure enhanced educational experiences.

8 Intended use of curriculum by trainers and trainees

This curriculum and ARCP decision aid are available from the Joint Royal Colleges of Physicians Training Board (JRCPTB) via the website www.jrcptb.org.uk.

Clinical and educational supervisors should use the curriculum and decision aid as the basis of their discussion with trainees, particularly during the appraisal process. Both trainers and trainees are expected to have a good knowledge of the curriculum and should use it as a guide for their training programme.

Each trainee will engage with the curriculum by maintaining an eportfolio. The trainee will use the curriculum to develop learning objectives and reflect on learning experiences.

Recording progress in the eportfolio

On enrolling with JRCPTB trainees will be given access to the eportfolio. The eportfolio allows evidence to be built up to inform decisions on a trainee's progress and provides tools to support trainees' education and development.

The trainee's main responsibilities are to ensure the eportfolio is kept up to date, arrange assessments and ensure they are recorded, prepare drafts of appraisal forms, maintain their personal development plan, record their reflections on learning and record their progress through the curriculum.

The supervisor's main responsibilities are to use eportfolio evidence such as outcomes of assessments, reflections and personal development plans to inform appraisal meetings. They are also expected to update the trainee's record of progress through the curriculum, write end-of-attachment appraisals and supervisor's reports.

Deaneries, training programme directors, college tutors and ARCP panels may use the eportfolio to monitor the progress of trainees for whom they are responsible.

JRCPTB will use summarised, anonymous eportfolio data to support its work in quality assurance.

All appraisal meetings, personal development plans and workplace based assessments (including MSF) should be recorded in the eportfolio. Trainees are encouraged to reflect on their learning experiences and to record these in the eportfolio. Reflections can be kept private or shared with supervisors.

Reflections, assessments and other eportfolio content should be used to provide evidence towards acquisition of curriculum capabilities. Trainees should add their own self-

assessment ratings to record their view of their progress. The aims of the self-assessment are:

- to provide the means for reflection and evaluation of current practice
- to inform discussions with supervisors to help both gain insight and assists in developing personal development plans.
- to identify shortcomings between experience, competency and areas defined in the curriculum so as to guide future clinical exposure and learning.

Supervisors can sign-off and comment on curriculum capabilities to build up a picture of progression and to inform ARCP panels.

9 Equality and diversity

The Royal Colleges of Physicians will comply, and ensure compliance, with the requirements of equality and diversity legislation set out in the Equality Act 2010.

The Federation of the Royal Colleges of Physicians believes that equality of opportunity is fundamental to the many and varied ways in which individuals become involved with the Colleges, either as members of staff and Officers; as advisers from the medical profession; as members of the Colleges' professional bodies or as doctors in training and examination candidates.

Deaneries quality assurance will ensure that each training programme complies with the equality and diversity standards in postgraduate medical training as set by GMC. They should provide access to a professional support unit or equivalent for trainees requiring additional support.

Compliance with anti-discriminatory practice will be assured through:

- monitoring of recruitment processes
- ensuring all College representatives and Programme Directors have attended appropriate training sessions prior to appointment or within 12 months of taking up post
- Deaneries ensuring that educational supervisors have had equality and diversity training (for example, an e-learning module) every three years
- Deaneries ensuring that any specialist participating in trainee interview/appointments committees or processes has had equality and diversity training (at least as an e-module) every three years
- ensuring trainees have an appropriate, confidential and supportive route to report examples of inappropriate behaviour of a discriminatory nature. Deaneries and Programme Directors must ensure that on appointment trainees are made aware of the route in which inappropriate or discriminatory behaviour can be reported and supplied with contact names and numbers. Deaneries must also ensure contingency mechanisms are in place if trainees feel unhappy with the response or uncomfortable with the contact individual
- providing resources to trainees needing support (for example, through the provision of a professional support unit or equivalent)
- monitoring of College Examinations

- ensuring all assessments discriminate on objective and appropriate criteria and do not unfairly advantage or disadvantage a trainee with any of the Equality Act 2010 protected characteristics. All efforts shall be made to ensure the participation of people with a disability in training through reasonable adjustments.

JRCPTB

Joint Royal Colleges of Physicians Training Board

ROYAL COLLEGE of PHYSICIANS of EDINBURGH

ROYAL COLLEGE OF PHYSICIANS AND SURGEONS OF GLASGOW

Royal College of Physicians