Royal College
of Physicians

NHS
Health Education England

Flexible portfolio training
Research pathway

Research pathway

This is made up of six capabilities, each of which is underpinned by descriptors, and followed by illustrative professional activities that might be used to evidence the outcome descriptors.[*]

The pathway describes a structured framework of activities a trainee might sample and undertake developing a range of experiences and is not intended to be exhaustive in its implementation.

The six capabilities are:

1. Understanding research methodologies
2. Research governance and ethical approval
3. Presentation
4. Publications
5. Participation in clinical research
6. Data collection, analysis and management

Outcome 1: Understanding research methodologies	
Capability descriptors	1 Understand the relevant methodologies and types of study design
	2A Interpret statistical methods for summarising data 2B Explain qualitative research methods and interpretation of qualitative data
Illustrative professional activities to evidence the capability descriptors	• Complete GCP in secondary care course • Read proposals / study synopses • Identify and work with a PI within the trust • Perform literature review
GPC domains 1, 2, 3, 8, 9	

---

[*]The curriculum has been developed in collaboration with a research working group at the Royal Free Hospital, London.

Outcome 2: Research governance and ethical approval	
Capability descriptors	1A Knowledge of NHS and university research and data governance 1B Ability to register a project within relevant organisation 1C Understand peer review process
	2A Understand ethical approval and procedures
Illustrative professional activities to evidence the capability descriptors	• Attend trust research governance meeting and ethics committee (if possible as a trainee representative) • List the requirements of clinical governance including probity • Read ethics guidelines and proposals • Follow MHRA guidelines on ethical conduct in research and consent for research • Design a consent form, PIS and study protocol • Work with a PI to obtain ethical and REC, MHRA and HRA approvals • Communicate rationale of ethics submission to ethics committee and patients • Self-directed learning on the topic of degrees of confidentiality
GPC domains 1, 2, 3, 5, 8, 9	

Outcome 3: Presentations	
Capability descriptors	1 Ability to give well-structured presentations
	2 Develop communication, interpersonal and influencing skills
Illustrative professional activities to evidence the capability descriptors	• Present at journal club and other physicians' educational meeting • Conference platform presentations (regional and/or national) • Perform a literature search with critical appraisal of literature and assessment of quality of research in published journals
GPC domains 1, 2, 3, 8, 9	

Outcome 4: Publications	
Capability descriptors	1A Understand principles of research and academic writing 1B Ability to write concise, coherent and cogent discussions for reports and journal articles 1C Ability to interpret and present data effectively to disseminate research findings
	2 Develop collaborative and team working skills in publication writing
Illustrative professional activities to evidence the capability descriptors	• Read relevant published work and draft publication • Poster presentations with abstract publications • Write a critical appraisal of a research paper or topic • Write an evidence-based review of a clinical subject • Scientific writing: abstract and/or paper publication in peer-reviewed journals
GPC domains 1, 2, 3, 8, 9	

Outcome 5: Participation in clinical research	
Capability descriptors	1A Understand study feasibility and study set-up 1B Describe the preparation required to deliver a study including patient identification, recruitment and retention and their role in GCP 1C Identify potential and realistic funding sources for research
	2A Understand the role of concept sheets, protocol development, case report forms and study database 2B Understand how the CRN works 2C Understand and describe safety reporting including (serious) adverse events, (serious) adverse reactions and suspected unexpected serious adverse reactions
	3 Study closure
Illustrative professional activities to evidence the capability descriptors	• Meet with the trust research and development director and join the trust research and development team • Perform a clinical audit • Work as a co-investigator with a trust PI to participate in clinical research trial programme • Draft and submit proposal based for trust feasibility meeting with the view of obtaining trust approval • Recruit to clinical trials and follow patients up (as co-investigator) • Manage clinical information/data appropriately (see outcome 6)
GPC domains 1, 2, 3, 4, 5, 7, 8, 9	

Outcome 6: Data collection, analysis and management	
Capability descriptors	1 Understand and be able to apply quantitative data analysis and evaluation techniques
	2 Understand qualitative research analysis techniques
Illustrative professional activities to evidence the capability descriptors	• Shadow a statistician to improve understanding of statistical analysis of quantitative data including (but not limited to) p-value, confidence intervals, error types and standard deviation • Further reading around qualitative research methods and techniques for interpreting, coding and theming qualitative data • Participate in (or perform) a thematic analysis of qualitative data from either a focus group or a series of interviews
GPC domains 1, 2, 3, 9, 9	

Abbreviations

CRN = Clinical Research Network; GCP = good clinical practice; GPC = generic professional capabilities; HRA = Health Research Authority; MHRA = Medicines and Healthcare products Regulatory Agency; PI = principal investigator; PIS = patient information sheet; REC = Research Ethics Committee.