



School of Pharmacy,
University of London

Postgraduate Diploma
in
General Pharmacy Practice

MEDICINES INFORMATION CURRICULUM GUIDE 2013/14

In association with the Joint Programmes Board:

East and South East England Specialist Pharmacy Services
King's College
Kingston University
Medway School of Pharmacy
School of Pharmacy, University of London
University of Brighton
University of East Anglia
University of Portsmouth
University of Reading

This training pack is based on the requirements of the UKMI E&T standards, which specify the training that a general level pharmacist should undertake in MI.

The UKMi Competency Framework and UKMi Workbook have been used to select competencies for assessment.

Please note, for those Training Centres that don't have a Medicines Information department practitioners may work through the learning outcomes using clinical or on call enquiries as evidence.

Introduction

This curriculum guide is intended to direct the learner towards the relevant skills and knowledge required of a general pharmacy practitioner providing Medicines Information. The learning objectives listed in this document represent the competencies to be met during the first 18 months of the programme i.e. to satisfy the global aim and objectives described for the Postgraduate Certificate in General Pharmacy Practice (PG Cert GPP).

The programme recognises that the opportunity to handle a variety of enquiries in a Medicines Information Centre or in other areas of pharmacy practice will be influenced by the various rotations on offer within the training centre. Consequently the learning objectives have been presented so that they can be achieved in a variety of settings. Training Centres should review the learning outcomes and consider how they can be met. Where key categories of enquiries are not encountered during the 18 months diploma period practitioners should have access to the resources listed and ensure that the learning outcomes are still met.

After the general skills learning outcomes the specific learning outcomes are grouped according to the category of enquiry. Some are based on chapters 1 to 7 of the UKMI Workbook. These will normally be covered during the preregistration year but are included for practitioners who need to revisit these learning outcomes and for those who did not complete an MI rotation during their pre-registration year (eg. community pre-reg)

It is expected that practitioners will work under the direction of relevant national and local policies, guidelines and Standard Operating Procedures (SOPs) at all times.

Using the Guide:

The Medicines Information curriculum guide should be used in conjunction with the three other curriculum guides to support learning in pharmacy practice. There are a number of areas of overlap between the curriculum guides which have been signposted to help the learner to achieve learning outcomes across the four core service areas where possible. Practitioners should aim to be working through the four guides simultaneously although one may be used more prominently in specific rotations e.g. MI or technical services.

The four curriculum guides should be brought to the Record of In-service Training Assessment (RITA) meetings that occur at regular intervals throughout the programme. The Guides will be used to review practitioner progress and to assist in planning the focus of learning for the next period of the programme.

In order to facilitate this process, practitioners are asked to place a tick against the learning objectives as and when they feel they have been achieved. Practitioners are reminded that all learning outcomes are subject to assessment either in the workplace (mini-CEX, CbD, MRCP, DOPS) or at their HEI portfolio review, MCQs or OSCEs.

RESOURCES

The UKMi workbook – a textbook teaching MI skills and available to selected individuals through your regional medicines information centre. **Includes tutorials for all sections of this curriculum guide.**

The Medicines Information Computer Aided Learning package (MiCAL) – a fully interactive web-based training package which teaches fundamental MI skills . **Includes tutorials and practice enquiries** <http://www.midatabank.com/mical/>

Web-based resources and texts listed on the UKMi essential resources list:
<http://www.ukmi.nhs.uk/activities/clinicalGovernance/default.asp?pageRef=4>

Specific content on all aspects of Medicines Information work available at www.ukmi.nhs.uk
Includes Quality assurance, enquiry answering standards, legal and ethical considerations, training tools.

The range of literature on critical appraisal and evidence-based medicine is extensive; some key publications include:

Greenhalgh T. How to read a paper: Getting your bearings (deciding what a paper is about). BMJ 1997; 315: 243-246

Greenhalgh T. How to read a paper: Assessing the methodological quality of published papers. BMJ 1997; 315: 305-308

Statistics in Divided Doses via www.ukmi.nhs.uk/activities/Research/default.asp?pageRef=27

Statistics for the non-statistician:

I: Different types of data need different statistical tests Greenhalgh T BMJ 1997; 315: 364-6

II: “Significant” relations and their pitfalls Greenhalgh T BMJ 1997; 315: 422-5

CASP Tools <http://www.phru.nhs.uk/Pages/PHD/resources.htm>

1. GLOBAL LEARNING OBJECTIVES

- Consult effectively with patients, carers and the multidisciplinary healthcare team, respecting diversity and confidentiality.
- Independently develop clinical pharmacy knowledge and skills in order to identify, prioritise and resolve complex pharmaceutical problems in a range of common conditions.
- Critically review the overall management and monitoring of patients with a range of common disease states.
- Recognise the evidence-based approach to management of a range of common conditions and apply evidence-based medicine (EBM) to individualised patient care.
- Identify, prioritise and resolve the medicines management needs of patients, carers and other social and health care professionals.
- Demonstrate a systematic approach to medicines management for patients with a range of common conditions.
- Apply pharmacokinetic and pharmacodynamic principles to the design of appropriate drug regimens.
- Advance knowledge and understanding through continuing professional development and life long learning

2. GENERAL PRACTICE LEARNING OBJECTIVES

LEARNING OUTCOME	ACHIEVED?
GENERAL SKILLS	
Describe the structure of MI provision within the UK.	
Identify the common types of enquiries received in MI	
Demonstrate effective use of questioning to gather all the relevant background information in order to establish the nature of the enquiry and be able to research and provide an answer	
Describe i) how and when to use the information sources on the UKMi Minimum Recommended Resources List, including textbooks, databases, bibliographic databases, websites etc., and ii) their advantages and limitations	
Demonstrate how to plan and record search strategies appropriate to the level and category of enquiry	
Demonstrate how to effectively search EMBASE and Medline	
Identify sources external to the NHS that can be used to obtain information	
Discuss the Quality Standards that underpin an MI service, and have specific working knowledge of the "Guidelines for Ensuring Quality in Enquiry Answering".	
Discuss the risks associated with delivering a Medicines Information service.	
Demonstrate good writing skills in preparing formal written responses to enquiries	
Describe the principles of good communication when applied to enquiry answering, including verbal and written communication.	
Demonstrate the use of an Enquiry Management database to accurately record and retrieve enquiries.	
Describe the CASP framework (or other approved framework) as applied to the evaluation of a randomised controlled trial	
Discuss the legal and ethical issues as they relate to the provision of the MI service	

3. SPECIFIC LEARNING OBJECTIVES

These learning objectives are related to specific enquiry types

SPECIFIC ENQUIRY TYPES	
ADMINISTRATION OF MEDICINES	see also Clinical, Patient and Technical Curriculum Guides
Describe the different types of enteral feeding tubes	
Describe the options to consider when asked about administration of a medicines for patients with dysphagia or with a feeding tube when a licensed liquid preparation is not available.	
Identify the standard questions to ask an enquirer to obtain the relevant background information when asked about administration of medicines	
List, and demonstrate the use of, the common information sources used when answering enquiries related to administration of medicines	
ADVERSE DRUG REACTIONS	see also Clinical Curriculum Guide
Explain the different types of adverse drug reactions	
Describe the factors to consider when assessing the likely cause of an adverse reaction	
Describe to Yellow Card reporting scheme and the role of the MHRA in monitoring data on adverse drug reactions	
Identify the standard questions to ask an enquirer to obtain the relevant background information when asked about an adverse drug reaction	
List, and demonstrate the use of, the common information sources used when answering enquiries related to adverse drug reactions	
DRUG INTERACTIONS	see also Clinical Curriculum Guide
Explain the different mechanisms of drug interactions	
Identify the standard questions to ask an enquirer to obtain the relevant background information when asked about a drug interaction	
List, and demonstrate the use of, the common information sources used when answering enquiries related to drugs interactions	
DRUGS IN PREGNANCY	see also Clinical Curriculum Guide
Describe the different stages of foetal development	
Describe the potential adverse effects of drugs in pregnancy	
Explain the principles of prescribing in pregnancy	
Identify the standard questions to ask an enquirer to obtain the relevant background information when asked about drugs in pregnancy	
List, and demonstrate the use of, the common information sources used when answering enquiries on drugs in pregnancy	
COMPATABILITY OF PARENTERAL DRUGS	see also Technical Curriculum Guide
Describe the different types of incompatibility and the factors to be considered when assessing if parenteral preparations are likely to be compatible	
Describe the standard infusion equipment and the different types of IV access and routes and catheters and connectors in use.	
Identify the standard questions to ask an enquirer to obtain the relevant background information when asked about compatibility of parenteral drugs	
List, and demonstrate the use of, the common information sources used when answering enquiries on compatibility of parenteral drugs	

DRUGS IN RENAL DISEASE	see also Clinical Curriculum Guide
List the 4 main types of renal replacement therapy.	
Describe the factors affecting the removal of a drug from the blood by dialysis and haemofiltration.	
Explain the physical, pharmacokinetic and pharmacodynamic properties of drugs to advise on dosing of drugs in the absence of data	
Identify the standard questions to ask an enquirer to obtain the relevant background information when asked about a dose adjustment for a drug in renal impairment.	
List, and demonstrate the use of, the common information sources used when answering enquiries related to drugs in renal impairment; their advantages and disadvantages.	
DRUGS IN LIVER DISEASE	see also Clinical Curriculum Guide
Explain the limitations in using LFT's alone to assess the extent of liver dysfunction and the likely effects on drug handling	
Explain the basic principles for prescribing drugs in liver disease, this is to include examples of drugs that should be avoided or used cautiously in liver disease.	
Identify the standard questions to ask an enquirer to obtain the relevant background information, including clinical signs, when asked about the dosage or suitability of a drug in liver disease.	
List, and demonstrate the use of, the common information sources used when answering enquiries relating to drugs in liver disease; their advantages and disadvantages.	
DRUGS IN BREASTFEEDING	
Describe the advantages to mother and baby of breast feeding	
Describe the main drug characteristics which determine the extent to which the drug will pass into breast milk	
Explain the factors which affect the choice of drug treatment in a woman who is breast-feeding and strategies for reducing risk	
Explain why it is important to ask the age of the infant, whether premature or full term, and whether the infant is healthy.	
Explain why the same drug used throughout pregnancy cannot be assumed to be safe and unlikely to cause any problems in the breastfeeding infant.	
Identify the standard questions to ask an enquirer to obtain the relevant background information when asked about a drug whilst breast-feeding.	
List, and demonstrate the use of, the common information sources used when answering enquiries related to breast-feeding; their advantages and disadvantages	
CHILDREN AND MEDICINES	
Identify the factors to be taken into consideration when advising on administration of a dose and calculating doses	
Identify examples of problem excipients and their effects when used in children	
Discuss the appropriate measures to be taken to ensure that the patient, you and health care professionals are protected when dealing with enquiries related to unlicensed/off-label medicines	
Identify the standard questions to ask an enquirer to obtain the relevant background information when answering enquiries related to children	
List, and demonstrate the use of, the common information sources used when answering enquiries related to use of medicines in children; their advantages and disadvantages	

ALTERNATIVE MEDICINES	
Explain the terms herbal medicines, homeopathic medicines and dietary supplements and list common examples of each	
Know the principles of homeopathy and the methods by which homeopathic medicines are prepared.	
Explain the regulations that exist for herbal medicines, homeopathic medicines and dietary supplements	
Describe the safety issues surrounding herbal medicines, homeopathic medicines and dietary supplements	
Identify the standard questions to ask an enquirer to obtain the relevant background information when asked about alternative medicines.	
List, and demonstrate the use of, the common information sources used when answering enquiries relating to alternative medicines; their advantages and disadvantages	
SUBSTANCE MISUSE	see also Clinical Curriculum Guide
Explain the terms 'drug misuse or abuse', and 'drug withdrawal'	
Identify examples of drugs involved in substance misuse and describe their associated broad pharmacological effect and routes of administration	
Describe the treatment of alcohol dependence, including treatment of acute alcohol withdrawal, vitamin supplementation and considerations for discharge	
Identify the questions to ask an enquirer to obtain the relevant background information when asked about i) misuse of drugs and ii) drug withdrawal	
List, and demonstrate the use of, the common information sources used when answering enquiries relating to substance misuse/drug withdrawal; their advantages and disadvantages.	
IMMUNISATION AND HEALTH PROTECTION	
Describe the main regimes that are used for malaria prophylaxis	
Describe the contra-indications and cautions to the main regimes used for malaria prophylaxis (including the reasons they should be avoided in particular patients.)	
Describe the general precautions that travellers should observe when travelling to hot climates or areas of poor sanitation	
Identify the main groups of vaccine types, and specify the precautions that need to be observed with respect to timing when administering more than one vaccine.	
Identify patient groups or disease states needing special consideration when administering vaccines and explain why.	
Identify the standard questions to ask an enquirer to obtain the relevant background information when asked about appropriate immunisation programmes in the UK and health protection for persons travelling abroad	
List, and demonstrate the use of, the common information sources used when answering enquiries related to appropriate immunisation programmes in the UK and health protection for persons travelling abroad..	
PALLIATIVE CARE	see also Clinical, Patient and Technical Curriculum Guides
Discuss the principles of symptom control in palliative care	
Discuss the principles of continuous subcutaneous administration of medicines via a syringe driver	
Identify the questions to ask an enquirer to obtain the relevant background information when asked about symptom control in palliative care.	
List, and demonstrate the use of, the common information sources used when answering enquiries about symptom control in palliative care	

PHARMACOKINETICS	see also Clinical Curriculum Guide
Discuss pharmacokinetic principles and how they are applied to drug selection, dose, frequency and route of administration.	
Identify the standard questions to ask an enquirer to obtain the relevant background information when answering enquiries about pharmacokinetics about interpretation of plasma drug levels	
List, and demonstrate the use of, the common information sources used when answering enquiries relating to pharmacokinetics and TDM, and their advantages and disadvantages	

General Level Framework (GLF)

GLFDPC		DELIVERY OF PATIENT CARE COMPETENCIES (DPC)	
GLFDPC1	Patient Consultation		
GLFDPC1.1		Patient Consultation :	Patient Assessment
GLFDPC1.2		Patient Consultation :	Consultation or referral
GLFDPC1.3		Patient Consultation :	Recording consultations
GLFDPC1.4		Patient Consultation :	Patient consent
GLFDPC2	Need for the drug		
GLFDPC2.1		Need for the drug:	Relevant Patient Background
GLFDPC2.2		Need for the drug:	Drug History
GLFDPC3	Selection of drug		
GLFDPC3.1		Selection of drug:	Drug – drug interactions identified
GLFDPC3.2		Selection of drug:	Drug – drug interactions prioritised
GLFDPC3.3		Selection of drug:	Drug – drug interactions actioned
GLFDPC3.4		Selection of drug:	Drug – patient interactions identified
GLFDPC3.5		Selection of drug:	Drug – patient interactions prioritised
GLFDPC3.6		Selection of drug:	Drug – patient interactions actioned
GLFDPC3.7		Selection of drug:	Drug – disease interactions identified
GLFDPC3.8		Selection of drug:	Drug – disease interactions prioritised
GLFDPC3.9		Selection of drug:	Drug – disease interactions actioned
GLFDPC4	Drug Specific Issues		
GLFDPC4.1		Drug Specific Issues:	Ensures appropriate dose
GLFDPC4.2		Drug Specific Issues:	Selection of dosing regimen: route
GLFDPC4.3		Drug Specific Issues:	Selection of dosing regimen: timing
GLFDPC4.4		Drug Specific Issues:	Selection of formulation
GLFDPC4.5		Drug Specific Issues:	Selection of concentration
GLFDPC5	Provision of drug product		
GLFDPC5.1		Provision of drug product:	The prescription is clear
GLFDPC5.2		Provision of drug product:	The prescription is legal
GLFDPC5.3		Provision of drug product:	The correct medicine is dispensed
GLFDPC5.4		Provision of drug product:	The medicine is dispensed in a timely manner
GLFDPC6	Medicines Information and patient education		
GLFDPC6.1		Medicines Information and patient education :	Public Health
GLFDPC6.2		Medicines Information and patient education :	Health Needs
GLFDPC6.3		Medicines Information and patient education :	Need for information is identified
GLFDPC6.4		Medicines Information and patient education :	Medicines Information
GLFDPC6.5		Medicines Information and patient education :	Provision of written information
GLFDPC7	Monitoring drug therapy		
GLFDPC7.1		Monitoring drug therapy:	Identification of medicines management problems
GLFDPC7.2		Monitoring drug therapy:	Prioritisation of medicines management problems
GLFDPC7.3		Monitoring drug therapy:	Use of Guidelines
GLFDPC7.4		Monitoring drug therapy:	Resolution of medicines management problems
GLFDPC7.5		Monitoring drug therapy:	Record of contributions
GLFDPC8	Evaluation of outcomes		
GLFDPC8.1		Evaluation of outcomes:	Assessing outcomes of contributions
PERSONAL COMPETENCIES (PC)			

GLFPC1	Organisation		
GLFPC1.1		Organisation:	Prioritisation
GLFPC1.2		Organisation:	Punctuality
GLFPC1.3		Organisation:	Initiative
GLFPC1.4		Organisation:	Efficiency
GLFPC2	Effective Communication Skills		
GLFPC2.1		Effective Communication Skills:	Patient and Carer
GLFPC2.2		Effective Communication Skills:	Medical Staff
GLFPC2.3		Effective Communication Skills:	Nurses
GLFPC2.4		Effective Communication Skills:	Other Healthcare Professionals
GLFPC2.5		Effective Communication Skills:	Other Health Staff
GLFPC2.6		Effective Communication Skills:	Immediate Pharmacy Team
GLFPC2.7		Effective Communication Skills:	Mentor/tutor
GLFPC2.8		Effective Communication Skills:	Employing Organisation
GLFPC2.9		Effective Communication Skills:	Linked Organisations
GLFPC3	Team work		
GLFPC3.1		Team work:	Pharmacy Team: Recognises value
GLFPC3.2		Team work:	Pharmacy Team: Works as part of the team
GLFPC3.3		Team work:	Multi-disciplinary team: Recognises value
GLFPC3.4		Team work:	Multi-disciplinary team: Uses appropriate referral
GLFPC3.5		Team work:	Organisational Team
GLFPC4	Professionalism		
GLFPC4.1		Professionalism:	Confidentiality
GLFPC4.2		Professionalism:	Recognition of limitation
GLFPC4.3		Professionalism:	Quality and accuracy of documentation
GLFPC4.4		Professionalism:	Legislation
GLFPC4.5		Professionalism:	Responsibility for own action
GLFPC4.6		Professionalism:	Confidence
GLFPC4.7		Professionalism:	Responsibility for patient care
GLFPC4.8		Professionalism:	CPD: Maintain a CPD record
GLFPC4.9		Professionalism:	CPD: Reflect on performance
GLFPC4.10		Professionalism:	CPD: Identify learning needs
GLFPC4.11		Professionalism:	CPD: Evaluates learning
PROBLEM SOLVING COMPETENCIES (PS)			
GLFPS1	Gathering Information		
GLFPS1.1		Gathering Information:	Accesses information
GLFPS1.2		Gathering Information:	Summarises information
GLFPS1.3		Gathering Information:	Up to date information
GLFPS2	Knowledge		
GLFPS2.1		Knowledge:	Pathophysiology
GLFPS2.2		Knowledge:	Pharmacology
GLFPS2.3		Knowledge:	Side effects
GLFPS2.4		Knowledge:	Interactions
GLFPS3	Analysing information		
GLFPS3.1		Analysing information:	Evaluates information
GLFPS3.2		Analysing information:	Problem identification
GLFPS3.3		Analysing information:	Appraises options
GLFPS3.4		Analysing information:	Decision making
GLFPS3.5		Analysing information:	Logical Approach
GLFPS4	Providing information		
GLFPS4.1		Providing information:	Provides accurate information
GLFPS4.2		Providing information:	Provides relevant information
GLFPS4.3		Providing information:	Provides timely information
GLFPS5	Follow up		
GLFPS5.1		Follow up:	Ensures resolution of problem

MANAGEMENT AND ORGANISATION COMPETENCIES (MO)			
GLFMO1	Clinical Governance		
GLFMO1.1		Clinical Governance:	Clinical Governance issues
GLFMO1.2		Clinical Governance:	Standard Operating Procedures
GLFMO1.3		Clinical Governance:	Working Environment
GLFMO1.4		Clinical Governance:	Risk Management: Documents critical incidents
GLFMO1.5		Clinical Governance:	Risk Management: Forwards critical incidents
GLFMO2	Service Provision		
GLFMO2.1		Service Provision:	Quality of Service
GLFMO2.2		Service Provision:	Service Development: Describe key drivers
GLFMO2.3		Service Provision:	Service Development: Need for new services
GLFMO3	Budget setting and reimbursement		
GLFMO3.1		Budget setting and reimbursement:	Service Reimbursement: Reference sources
GLFMO3.2		Budget setting and reimbursement:	Service Reimbursement: Claims appropriately
GLFMO3.3		Budget setting and reimbursement:	Prescribing budgets
GLFMO4	Organisations		
GLFMO4.1		Organisations:	Organisational structure
GLFMO4.2		Organisations:	Linked Organisation
GLFMO4.3		Organisations:	Pharmaceutical Industry
GLFMO5	Training		
GLFMO5.1		Training:	Pharmacy Staff
GLFMO5.2		Training:	Other healthcare professionals
GLFMO6	Staff Management		
GLFMO6.1		Staff Management:	Performance management
GLFMO6.2		Staff Management:	Staff development
GLFMO6.3		Staff Management:	Employment issues
GLFMO7	Procurement		
GLFMO7.1		Procurement:	Pharmaceutical: Describe sourcing
GLFMO7.2		Procurement:	Pharmaceutical: Timely sourcing
GLFMO7.3		Procurement:	Supply problems
GLFMO7.4		Procurement:	Stock management
GLFMO7.5		Procurement:	Cost effectiveness

Appendix: AIM & OBJECTIVES OF MI TRAINING

Aim

To provide training in the core skills required in medicines information in order that you become competent in providing medicines information at a general level.

Objectives

To attain the following competencies by the end of MI Training.

COMPETENCY	ACHIEVING THE COMPETENCY – YOU NEED TO DEMONSTRATE THAT YOU: (SEE ASSESSMENT SECTION FOR FURTHER INFORMATION)
SECTION A – DELIVERING THE MI SERVICE	
<i>Delivers own work to time</i>	Deliver work within agreed deadlines Prioritise own work and adjust priorities in response to changing circumstances
<i>Ensures quality in own work</i>	Seek quality review of own work from experienced colleagues, act upon advice given
<i>Works accurately with information management systems</i>	Make effective use of IT (eg: databases)
SECTION B – WORKING WITH PEOPLE	
<i>Is a committed member of the MI team</i>	Accept responsibility for own work (and for those in training where appropriate) Know when to ask for help
<i>Develops relationships with enquirers, inspires confidence in the service</i>	Are polite and helpful Use questioning effectively to establish and understand the query Understand the needs and priorities of enquirers, explain when the query will be answered
SECTION C – WORKING WITH INFORMATION	
<i>Designs and executes basic search strategies</i>	Plan and record a search strategy appropriate to the task Know how (and when) to use all information sources on the UKMIPG minimum resource list
<i>Evaluates and applies information at a basic level</i>	Follow a logical approach to problem definition and solving Identify relevant information and disregard irrelevant information in a systematic way Summarise evaluated information to give appropriate factual information and/or professional opinion.
<i>Communicates information effectively and articulately</i>	Communicate effectively in verbal, electronic and written form
SECTION D – SEEING THE WIDER CONTEXT	
<i>Keeps up to date with current practice</i>	Maintain a broad background clinical knowledge
<i>Works within professional and organisational standards</i>	Know professional and personal limitations, seek advice where necessary Work within the professional code of ethics and UKMi code of practice
<i>Understands and manages risk at an individual level</i>	Are aware of and take steps to minimise risk