

Unit 1: Introduction to Clinical Pharmacy and the First Clinical Pharmacy Services

Free notes at pharmacolearn.fyi

Clinical Pharmacy Practice, subject code MPP101T, is the first core theory subject of M.Pharm Pharmacy Practice, Semester 1. It carries 4 credits and 60 hours of theory, taught at 4 hours per week, for 100 marks, and its five units are of equal length at 12 hours each. Pharmacy Practice has no Modern Pharmaceutical Analytical Techniques subject in Semester 1; this branch begins directly with its clinical subjects, and MPP101T is the foundation on which the pharmacotherapeutics, hospital pharmacy and clinical research subjects are built. Its scope, as the syllabus states it, is to impart the basic knowledge and skills required to practice pharmacy, including the provision of pharmaceutical care services, to both healthcare professionals and patients in clinical settings. Its objectives follow: to understand the elements of pharmaceutical care and provide comprehensive patient care services, to provide integrated and critically analysed medicine and poison information that enables healthcare professionals in efficient patient management, and to interpret laboratory results to aid the clinical diagnosis of various disorders. Unit 1 defines clinical pharmacy, traces its evolution and scope, sets the international and national scenario, introduces pharmaceutical care, and opens the services with ward round participation and drug therapy review. Unit 2 continues the services: the medication history interview, the basic concepts of medicine and poison information services and of pharmacovigilance with haemovigilance, materiovigilance and adverse events following immunisation, patient medication counselling, drug utilisation evaluation, documentation, and quality assurance. Unit 3 turns to patient data analysis: the case history, medical abbreviations and terminologies, communication skills, and the first laboratory group, haematological, renal function and liver function tests. Unit 4 completes the laboratory teaching with cardiac tests, pulmonary function tests, thyroid function tests, fluid and electrolyte balance, and microbiological culture and sensitivity tests. Unit 5 gives the information services their full treatment: the medicine information service, its resources, the systematic approach to queries, verbal and written responses, the drug information centre, and the poison information service and centre. One discipline runs through the whole subject: clinical pharmacy is practised on evidence about an individual patient. Every service takes patient specific information in, applies pharmaceutical knowledge to it systematically, and produces a documented professional judgement out. These notes teach services, roles, methods and documentation at professional practice level: no drug doses are stated, laboratory tests are described by what they measure and what a change means in general terms without printed reference ranges, and no hospital statistics or named institutional protocols are claimed, because none are in the syllabus.

1.1 Definition of clinical pharmacy

Clinical pharmacy is the branch of pharmacy practice in which the pharmacist works directly with patients and with the healthcare team to ensure that medicines are used safely, effectively and appropriately for the individual patient. The standard textbook definitions converge on the same core: clinical pharmacy is a health science discipline in which pharmacists provide patient care that optimises medication therapy and promotes health, wellness and disease prevention. In the formulation used in Indian teaching, it is the area of practice concerned with the rational use of medicines in patients, in which the pharmacist's knowledge of drugs, diseases and the individual patient is applied at the bedside rather than only at the dispensing counter. Three elements must be drawn out in an examination answer, because each separates clinical pharmacy from the older product centred practice. First, the object of the work is the patient and the

patient's drug therapy, not the medicine as a product: the clinical pharmacist asks whether this medicine, in this dose form and schedule, for this patient, is the right therapy, rather than only whether the correct product was supplied. Second, the setting is direct patient care: the pharmacist takes a medication history, reviews the treatment chart, joins the ward round, counsels the patient and follows the response to therapy. Third, the responsibility is shared and prospective: the pharmacist contributes to decisions before and while medicines are given, and intervenes to prevent harm, instead of only detecting errors after supply. The contrast the syllabus expects is therefore between traditional practice, organised around procurement, compounding, dispensing and distribution, and clinical practice, organised around the patient and the outcome of therapy.

1.2 Evolution of clinical pharmacy

The evolution of clinical pharmacy is taught as a movement of the pharmacist's attention from the product, to the process of supply, to the patient. In the earliest phase the pharmacist was primarily a compounder, preparing medicines extemporaneously, and professional standing rested on pharmaceutical skill. As industrial manufacture took over the making of medicines in the twentieth century, the compounding role shrank and practice settled into dispensing ready made products, a phase in which clinical knowledge was underused and the profession questioned its future role. The clinical movement began as a response to that gap and to a documented problem: medicines had become numerous and potent, medication errors and adverse reactions were recognised as a significant cause of harm, and no team member was systematically reviewing the whole of a patient's drug therapy. In the United States in the 1960s, hospital pharmacists began moving onto the wards, maintaining medication profiles, checking orders against the patient's condition and advising prescribers at the point of decision; satellite pharmacies and unit dose distribution carried pharmacists closer to patients, and drug information services grew in the same period. Through the 1970s and 1980s the role formalised: clinical services were defined, drug therapy monitoring appeared, pharmacists joined ward rounds routinely in teaching hospitals, and education responded with clinically oriented degrees, most notably the Doctor of Pharmacy (PharmD) model, which trains pharmacists primarily for direct patient care. The United Kingdom developed the same movement as ward and clinical pharmacy within the National Health Service, and Australia and Canada built comparable services, with professional bodies publishing the practice standards the syllabus cites. The conceptual completion came with pharmaceutical care, treated in Section 1.6: once the pharmacist accepted responsibility for the outcomes of drug therapy and not only for its supply, the modern definition was complete.

1.3 Scope of clinical pharmacy

The scope of clinical pharmacy is the range of settings and activities over which this patient centred practice extends. In setting, its home is the hospital, where inpatients receive complex, rapidly changing drug therapy and where the full service set of this subject is delivered. It extends to ambulatory and outpatient clinics, where chronic therapy is monitored over long periods; to community pharmacy, where the same review, counselling and referral skills are applied at first contact with the public, a development the companion subject MPP103T teaches in full; and to specialised environments such as intensive care, paediatrics, geriatrics, oncology and renal services, where drug therapy is at its most individual and most hazardous. In activity, the scope is the service list Units 1 and 2 teach in sequence: medication history taking, drug therapy review, ward round participation, detection and resolution of drug related problems, adverse drug reaction monitoring within pharmacovigilance, medicine and poison information, patient counselling, drug utilisation evaluation, therapeutic monitoring support, and participation in formulary and drug policy work. In population, the scope gives particular attention to patients in whom drug therapy most often fails or harms: patients on many medicines at once, older patients, patients with impaired renal or hepatic function, pregnant patients, children, and patients moving between care settings, where errors

cluster at admission, transfer and discharge. The boundary should also be stated, since examinations reward it: the clinical pharmacist does not diagnose disease or prescribe independently in the Indian hospital model this syllabus describes; the pharmacist's authority is the medicine itself, exercised in collaboration with the prescriber, who remains responsible for the prescription.

1.4 International scenario of clinical pharmacy practice

The international scenario, as the syllabus frames it, describes how far the clinical model has been established in the health systems where it began, stated structurally rather than by statistics. In the United States, clinical pharmacy is an established hospital discipline: pharmacists are integrated into ward teams, residency training after the PharmD prepares pharmacists for specialist clinical roles, and services such as medication reconciliation, monitoring clinics and antimicrobial stewardship support are recognised parts of hospital care, with board certification providing a credentialing structure for advanced practice. In the United Kingdom, hospital pharmacists progress through clinical roles of increasing independence, ward based clinical pharmacy is a standard service, and suitably qualified pharmacists may gain prescribing rights under the supplementary and independent prescribing frameworks, the furthest formal extension of the clinical role in any major system. In Australia, the professional standards published by the Society of Hospital Pharmacists of Australia, cited in this syllabus's own reference list, define clinical pharmacy services for hospitals, and accredited pharmacists conduct medication reviews in community and residential care under national programmes. Canada and several European countries show the same pattern in their own forms. Two lessons are drawn from the international picture in standard teaching. First, everywhere the model advanced on the same evidence: pharmacist review detects drug related problems other team members miss, and pharmacist presence at prescribing changes outcomes toward safer, more effective and more economical therapy. Second, education led practice: systems that created a clinical degree and supervised clinical training produced clinical pharmacists, and systems that did not, waited.

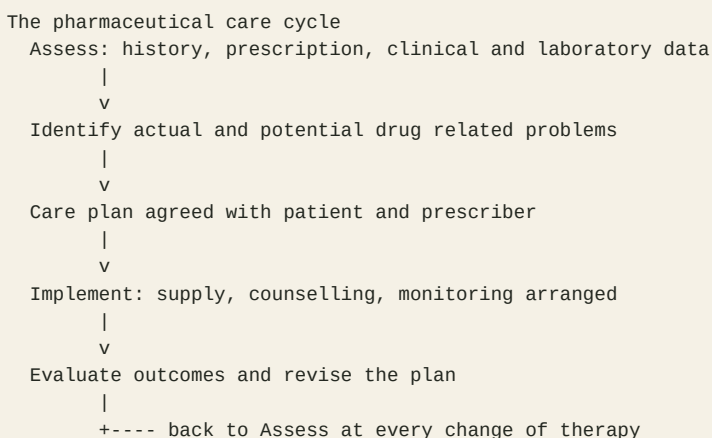
1.5 National scenario: clinical pharmacy in India

In India, clinical pharmacy developed later and is still developing, and the honest examination answer describes both the delay and the direction of travel. Historically, Indian pharmacy practice was product centred: the pharmacist worked in manufacturing, quality control, sales and dispensing, hospital pharmacy departments were small and supply oriented, and the clinical subjects had little place in the undergraduate curriculum. The turning points in standard accounts are educational and institutional. The introduction of the Master of Pharmacy in Pharmacy Practice, the very programme this subject belongs to, and later of the Doctor of Pharmacy (PharmD) programme under the Pharmacy Council of India, created graduates trained specifically for ward based patient care, with clerkship and internship in hospitals. Teaching hospitals, first in the south of India and then more widely, established clinical pharmacy services of the kind this subject teaches: ward round participation, drug information centres, adverse drug reaction monitoring linked to the national pharmacovigilance programme, patient counselling and medication history services, staffed substantially by Pharmacy Practice and PharmD graduates and faculty. Recognition has followed practice: pharmacovigilance in India formally receives reports from pharmacists, hospital accreditation standards expect medication management systems in which pharmacist review has a place, and antimicrobial stewardship programmes in larger hospitals routinely include clinical pharmacists. The limitations must be stated with equal clarity. Clinical pharmacist posts remain uneven across the country, many hospitals still run pharmacy services organised around supply alone, the ratio of clinical pharmacists to beds is low outside teaching and corporate hospitals, and the legal framework defines the pharmacist's role in supply more clearly than in clinical decision support. The direction, however, is settled: the curriculum, the accreditation environment and the medication safety agenda all move toward the patient facing pharmacist, and the M.Pharm Pharmacy Practice graduate is trained to build the services of Units 1, 2 and 5 in

institutions that may not yet have them.

1.6 Pharmaceutical care

Pharmaceutical care is the philosophy of practice that the clinical services of this subject exist to deliver. In the classic formulation of Hepler and Strand, pharmaceutical care is the responsible provision of drug therapy for the purpose of achieving definite outcomes that improve a patient's quality of life. Each phrase carries weight. Responsible provision means the pharmacist accepts accountability for drug therapy outcomes, jointly with prescriber and patient. Drug therapy, not dispensing, is what is provided: assessment, care plan, monitoring and follow up, of which supply is one component. Definite outcomes means the goals of therapy are stated in advance and checked: the outcomes named in the classic definition are cure of a disease, elimination or reduction of symptoms, arresting or slowing of a disease process, and prevention of disease or symptoms. The working method, as standard textbooks present it, is a cycle repeated for every patient: assess drug related needs from history, prescription and clinical data; identify actual and potential drug related problems; develop a care plan resolving and preventing those problems in agreement with patient and team; and evaluate outcomes at follow up, revising the plan as the response appears. Drug related problems are classified into the families the care plan must check: an untreated indication, an improper drug selection, a subtherapeutic or supratherapeutic dosage, an adverse drug reaction, a drug interaction, failure to receive the drug as intended, and drug use without a valid indication. The distinction examinations probe is between clinical pharmacy and pharmaceutical care: clinical pharmacy names the discipline and its services, pharmaceutical care names the philosophy and outcome responsibility those services serve. A department can perform clinical pharmacy activities mechanically; pharmaceutical care is present when each activity is tied to an assessed need, a plan and a checked outcome for an individual patient.



1.7 Clinical pharmacy services: the service set in outline

A clinical pharmacy service is a defined, repeatable patient care activity, delivered by pharmacists to an agreed standard, documented, and capable of being counted and audited. The syllabus distributes the service set across Units 1, 2 and 5, and this section maps it whole so the parts can be placed. Unit 1 carries ward round participation and drug therapy review, the two services that put the pharmacist inside the daily decision cycle of the ward. Unit 2 carries the medication history interview, the basic concepts of the medicine and poison information services and of the vigilance family (pharmacovigilance, haemovigilance, materiovigilance and adverse events following immunisation), patient medication counselling, drug utilisation evaluation, and the two services that make all the others accountable, documentation and quality assurance. Unit 5 carries the medicine information service and the poison information service in full operational detail. Around these named services sit supporting activities the same pharmacists commonly

provide, including medication reconciliation at transitions of care, discharge medication planning, and education of patients and staff on medicines use; the student should treat these as applications of the named services rather than as separate syllabus heads. A service, to be real and not aspirational, needs the same anatomy wherever it is delivered: a defined patient group, a defined activity with a method, a place in the ward routine, a record, and a measure by which its quality is assured.

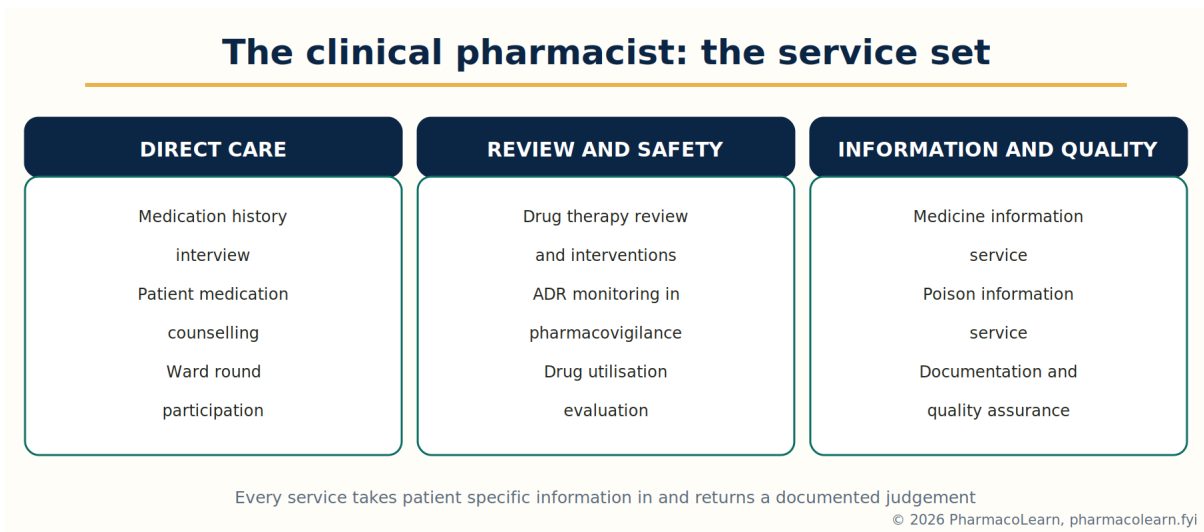


Figure: The clinical pharmacist's service set in outline. Every service takes patient specific information in and returns a documented professional judgement.

1.8 Ward round participation

A ward round is the scheduled visit of the treating team to its inpatients, at which each patient's progress is reviewed, investigations are considered and the treatment plan, including drug therapy, is confirmed or changed. Ward round participation is the clinical pharmacist's attendance on that round as a working member of the team, contributing pharmaceutical judgement at the moment decisions are made. The pharmacist prepares before the round, and preparation is half the service: charts and case records are reviewed in advance, therapy is checked against the data of Unit 3, likely problems are noted and prioritised, and concise proposals are formed. On the round itself the pharmacist listens first, answers drug questions as they arise, and raises interventions briefly, with the reason and the alternative stated, in the manner Section 1.12 describes. After the round the pharmacist follows up: agreed changes are checked into the orders, outstanding questions are answered through the method of Unit 5, patients needing counselling are identified, and the day's interventions are documented. Rounds differ in form, consultant led, unit and teaching rounds among them, but the preparation, contribution and follow up structure is constant.

Ward round participation: preparation, contribution, follow up

Before: review charts and case data, prioritise problems,
prepare concise proposals

|

v

During: listen, answer drug questions, raise interventions
briefly with reason and alternative

|

v

After: verify agreed changes in the orders, answer
outstanding queries, list patients for counselling

|

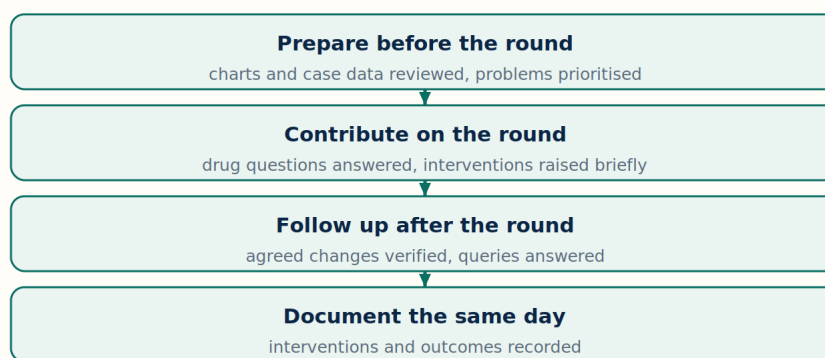
v

Document interventions and outcomes the same day

© 2026 PharmacoLearn | pharmacolearn.fyi

Page 5

Ward round participation: the cycle



Preparation and follow up carry as much of the service as the round itself

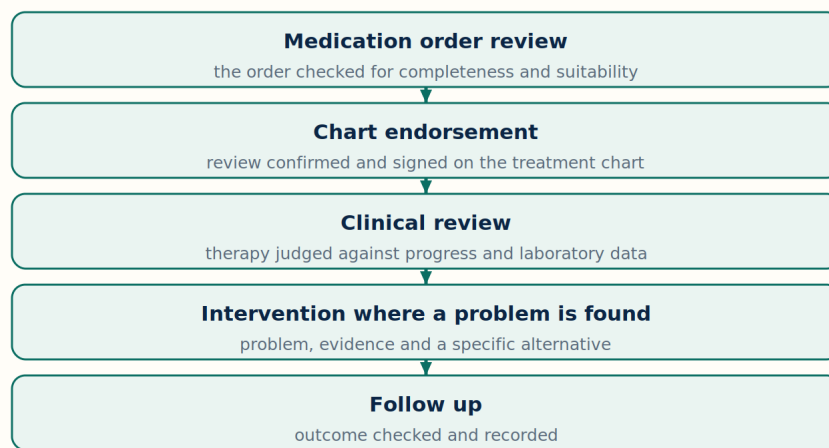
© 2026 PharmacoLearn, pharmacolearn.fyi

Figure: The ward round cycle. Preparation before and follow up after the round carry as much of the service as the contribution made on the round itself.

1.9 Drug therapy review: drug therapy monitoring in outline

Drug therapy review, which the syllabus equates with drug therapy monitoring, is the systematic examination of a patient's whole drug therapy against that patient's clinical condition, to confirm that every medicine is indicated, effective, safe and correctly used, and to identify drug related problems for resolution. It is the central analytical service of clinical pharmacy, the activity from which ward round interventions, counselling priorities and much documentation flow. For each medicine the reviewer asks whether there is a current indication; whether the drug, dose form, route, frequency and intended duration suit this patient, including age, weight, renal and hepatic function, pregnancy status where relevant, and allergy history; whether the medicine is achieving its goal, judged by symptoms, signs and the laboratory data of Units 3 and 4; whether harm is present or likely, as adverse effects, interactions, duplication, or medicines aggravating coexisting conditions; and whether the patient is actually receiving and able to use the medicine as intended. The syllabus divides the review into three working components, which the next three sections take in order: medication order review, the check of the order itself; chart endorsement, the pharmacist's recorded confirmation on the treatment chart; and clinical review, the deeper assessment of therapy against clinical data and progress, from which pharmacist interventions arise. Where a medicine is one whose blood levels are monitored in practice, the reviewer also checks that monitoring has been ordered, sampled at the right time in relation to the dose, and acted upon; the full science of that monitoring is a Semester 2 subject, handled here qualitatively as one input to the review.

Drug therapy review: the sequence



Every medicine, the same questions, every time: that is what systematic means

© 2026 PharmacoLearn, pharmacolearn.fyi

Figure: Drug therapy review as a sequence. The order is checked first, then therapy against the patient, and every problem found ends in an intervention and a follow up.

1.10 Medication order review and chart endorsement

Medication order review is the pharmacist's check of each medicine order, ideally before the first dose is administered. The order is read for completeness and legality first: the patient's identity, the drug name stated unambiguously, dose form, route, strength or dose, frequency, duration or review point, and the prescriber's authorisation; incomplete, ambiguous or illegible orders are clarified with the prescriber rather than interpreted by guesswork, a rule that prevents a whole class of medication errors at its source. The order is then read clinically, as the first pass of Section 1.9: indication, suitability, allergy, duplication, interaction and formulary status are checked, and any problem is resolved with the prescriber before supply or administration proceeds. Chart endorsement is the visible record of that check on the treatment chart itself: the pharmacist signs or initials and dates the chart to show that the orders have been reviewed, with queries and their resolution noted where the system provides for it. Endorsement matters beyond tidiness, and the examination answer should say why. It tells the nurse administering medicines that a pharmacist has reviewed the order; it creates accountability, recording who checked what and when; it gives the team a written place to find the pharmacist's queries; and it provides the raw material of the documentation and quality assurance services of Unit 2, since endorsed charts can be audited for review coverage and for the problems review detects. The limits should be noted as carefully: endorsement certifies that review took place to the department's standard, it does not transfer prescribing responsibility, and an order judged unsafe is not endorsed into acceptance but escalated to the prescriber and, if unresolved, through the hospital's clinical governance route.

1.11 Clinical review

Clinical review is the component of drug therapy review in which the pharmacist assesses therapy against the patient's clinical progress, and it is therefore the component that most depends on the data skills of Unit 3. Where medication order review asks whether the order is right as written, clinical review asks whether the therapy is working and remains right for this patient today. The reviewer assembles the picture from the case history and progress notes, the observation charts, the laboratory results of Units 3 and 4, the medication history of Unit 2, and the patient's own account of symptoms and of how the medicines are being taken and tolerated. Against that picture each medicine is judged on the pharmaceutical care questions: is the therapeutic goal being met, and if not, is the reason pharmacological, a wrong drug, an

inadequate regimen, an interaction, or non pharmacological, including non adherence; is harm emerging, as a new symptom or laboratory change that fits an adverse effect; have the conditions changed, a new diagnosis or a changed renal function, so that a once correct regimen is correct no longer; and can therapy now be simplified, stepped down, converted from intravenous to oral form where criteria are met, or stopped, since review that only adds medicines has done only half its work. Clinical review runs on a rhythm matched to the patient's state, daily or near daily for inpatients whose therapy is changing, and at defined intervals for stable long term therapy, and its output is a set of proposals to the team, which is where the next section begins.

1.12 Pharmacist interventions

A pharmacist intervention is a recommendation or action by the pharmacist, arising from review, that changes or proposes to change a patient's drug therapy or its monitoring in order to resolve or prevent a drug related problem. Interventions are classified in standard teaching by the problem they address, and the classification doubles as a checklist of what review looks for: prescribing interventions, on drug choice, dose, dose form, route, frequency, duration and untreated indications; safety interventions, stopping or replacing a medicine causing or risking harm, resolving interactions and duplications, and correcting therapy in allergy or organ impairment; monitoring interventions, proposing the test, observation or review point that therapy needs; and use interventions, on administration technique, timing and the patient's own handling of the medicine, which connect review to the counselling service of Unit 2. The pharmacist intervenes with the prescriber, privately and courteously where the matter allows, states the patient specific problem first, the evidence and the risk second, and a specific workable alternative third, and is ready to be questioned and occasionally overruled on clinical grounds the prescriber holds; the outcome, accepted, modified or not accepted, is recorded either way.

*More free M.Pharm notes and unit wise PDFs at pharmacolearn.fyi
Free video lectures on the [PharmacoLearn YouTube channel](#)*