

Unit 3: QUM in Various Settings and in Special Populations

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3.1 QUM follows the patient across settings

Medicines travel with the patient between hospital, clinic, home and residential care, and quality failures cluster at the borders: the medicine changed in hospital and never reconciled at discharge, the clinic letter that never reached the community pharmacist, the residential facility working from an outdated list. Unit 3 therefore teaches QUM setting by setting, and then population by population, because the principles of Unit 1 are constant and their machinery differs. The constant discipline at every border is medication reconciliation in its general sense: one accurate, current list of medicines, checked at each transfer, with every change and its reason recorded and communicated.

3.2 QUM in hospital settings

In hospital, QUM is organised through committees and clinical pharmacy practice. The pharmacy and therapeutics or drug and therapeutics committee owns the hospital formulary, evaluates new medicines for local adoption, approves guidelines and reviews medicine use and safety learning, so that individual prescribing operates inside a judged framework. Restricted and guidance led use applies where evidence, cost or resistance risk demands it, most visibly for antimicrobials at the level of principle. Clinical pharmacists work on wards: taking medication histories on admission, reviewing charts daily for indication, choice, interaction, duplication and monitoring, intervening with prescribers, counselling patients on changed therapies and reconciling medicines at discharge. Prescribing systems, whether paper charts with disciplined design or electronic prescribing with decision support, shape error rates by their design, which Unit 5 examines. The hospital advantages are concentration and observation: many professionals, full records and daily review. Its characteristic risks are the mirror image: complex patients on many medicines, rapid changes, handovers between teams, and transitions at admission and discharge where information is most easily lost.

3.3 QUM in ambulatory care

Ambulatory care, the clinic, outpatient and community world in which most medicines are actually used, has the opposite profile: brief encounters, long intervals between reviews, and execution of therapy by the patient alone at home. QUM here rests on the quality of the individual encounter and of the record that connects encounters. The prescriber's tasks are a precise problem list, a maintained medicine list reviewed at each visit, avoidance of indefinite continuation without review, and explicit instructions for what to do when symptoms change. The community pharmacist is the most frequently seen professional in this setting and carries much of its QUM: checking new prescriptions against the patient's profile, noticing duplication between prescribers, counselling, supplying compliance supporting information in plain terms, identifying the patient whose collection pattern suggests a therapy has been abandoned or is being overused, and referring back to the prescriber with a specific, evidenced concern. Continuity is the scarce resource, and every shared record, shared list and referral letter is QUM infrastructure.

3.4 QUM in residential care

In residential care, older and frailer people live with staff support, medicines are commonly administered by care staff from supplied packs or charts, and the prescriber visits rather than resides. The QUM risks are

characteristic: many medicines accumulated over years and prescribers, psychotropic and other high risk medicines continued without structured review, administration rounds under time pressure, and residents least able to report a problem clearly. Quality machinery therefore emphasises periodic, structured medication review involving prescriber, pharmacist and care team together, clear administration records, careful use of when required medicines with recorded indication and effect, staff training in administration and observation, and incident reporting that treats an administration error as system learning. The pharmacist's review role, often as a visiting or contracted service, is the single most characteristic QUM intervention of this setting, and its method is the rational prescribing process of Unit 2 run retrospectively over a whole list: for each medicine, is the indication still present, the benefit still plausible, the harm still acceptable, and the combination still coherent.

3.5 Role of health care professionals in promoting QUM

Each profession promotes QUM through the part of the medicine's journey it owns, and the syllabus expects the roles distinguished and then joined. Doctors and other prescribers own choice and review. Pharmacists own supply, verification, information and much of the system's evaluation and safety machinery. Nurses own administration in institutional settings and the closest continuous observation of effect and harm, and in many services own medicines reconciliation tasks and patient education at the bedside. Dentists, and other authorised prescribers within their scopes, carry the same duties inside those scopes. Allied health professionals contribute the non drug therapies that QUM counts as real alternatives and observe functional outcomes medicines claim to improve. Managers and administrators, easily forgotten in a clinical syllabus, control formularies, staffing, systems and time, without which professional intentions cannot become routine practice. Joined, the roles form the partnership principle of Unit 1 with job titles attached; unjoined, each profession optimises its own step while the patient's whole therapy quietly fails between them.

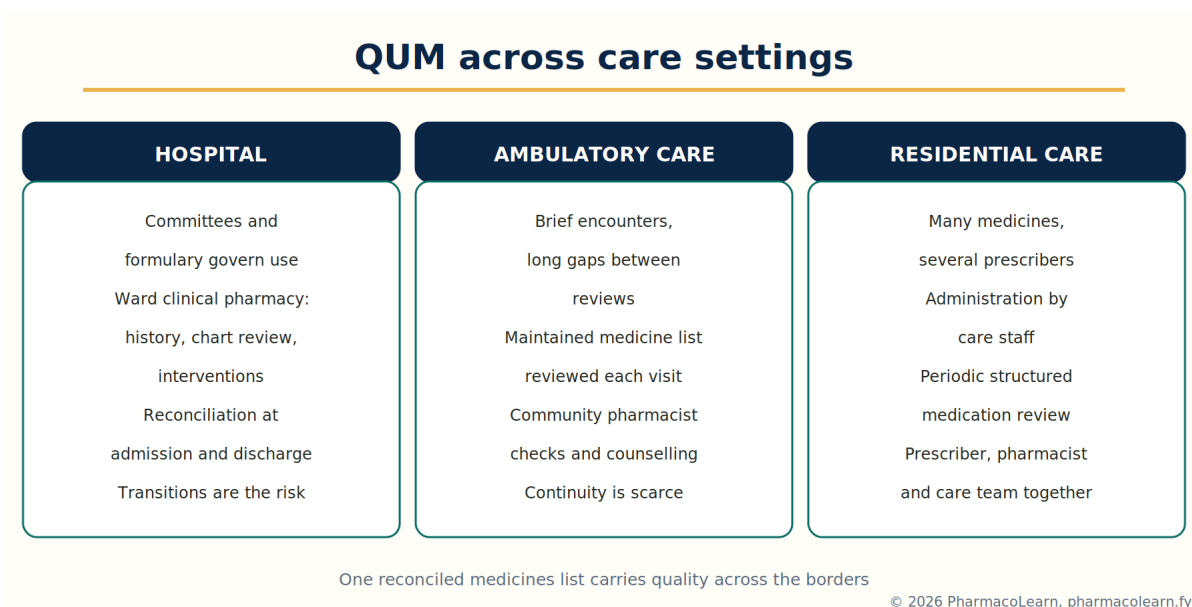


Figure: Three settings, three machineries, one patient. The reconciled list is what carries quality across the borders.

3.6 Strategies to promote QUM

Strategies to promote QUM are classified usefully by their target. Educational strategies change knowledge and habit: academic detailing, in which a trained pharmacist or peer visits prescribers with concise, independent evidence on a chosen topic; guideline dissemination with local discussion rather than by post alone; audit and feedback, in which prescribers see their own practice measured against a standard and against peers; and patient education campaigns and materials. Managerial strategies change the choice

environment: formularies and preferred lists, prescribing indicators monitored by services, structured medication review programmes, and prescribing support at the point of decision. Regulatory strategies, Unit 4 in full, change what the law permits: scheduling, labelling and advertising controls and professional standards. Financial strategies change incentives, for good or ill, and must be examined for the prescribing behaviour they actually reward. The evidence informed lesson across strategies is that single, passive measures, a circular, a lecture, a poster, rarely move practice for long; combined, active strategies, education joined to feedback, system redesign and follow up evaluation, are what a QUM plan proposes, with the evaluation cycle of Unit 1 built in from the start.

3.7 Impact of QUM on E health

By E health the syllabus means the electronic systems through which modern medicine use is recorded, ordered and shared: electronic health records, electronic prescribing and dispensing systems, shared medicines lists, decision support and telehealth services. QUM shapes what these systems must do well, and is in turn reshaped by them. Well designed, they carry one reconciled list across settings, check interactions and allergies at the moment of prescribing, make guidelines available inside the workflow, create the data from which prescribing evaluation and pharmacovigilance signals are drawn, and let a pharmacist review a chart without standing beside it. Badly designed, they manufacture new error types, which Unit 5 counts honestly: wrong selection from look alike lists, alerts so frequent they are reflexively overridden, copy forward records that preserve yesterday's medicines as today's, and automation bias, the assumption that the system has checked what it has not. The QUM position is neither celebration nor rejection: specify systems against medicine safety requirements, train users, monitor the errors the system itself creates, and keep the professional check, especially the pharmacist's independent review, visibly alive inside the electronic workflow.

3.8 Integrative medicine and multidisciplinary care

Integrative medicine, in the sense relevant here, is the coordinated use of conventional treatment with complementary approaches a patient is using or wishes to use, inside one care plan, openly discussed and safety checked, rather than two parallel treatments invisible to each other. Its QUM significance is practical. Patients use complementary medicines widely and disclose them incompletely unless asked without judgement; those products can interact with prescribed therapy, vary in quality, and substitute for effective treatment where evidence does not support substitution. The multidisciplinary team is the structure that handles this well: prescriber, pharmacist, nurse, dietitian, physiotherapist and others planning together, with the pharmacist specifically screening the full product list, prescribed, purchased and complementary, for interaction, duplication and quality concerns, and the team agreeing what continues, what stops and what is monitored. Multidisciplinary care is also the general answer of this unit: complex patients exceed any one profession's view, and the team meeting, the shared plan and the shared record are QUM machinery in their own right, for integrative questions and for everything else.

3.9 QUM in special populations: the general principle

Special populations are groups in whom the standard adult assumptions behind most prescribing, about body size and composition, organ function, physiology and risk, do not hold, so that a choice ordinary in a healthy adult may be unsuitable, unsafe or ineffective in them. The syllabus names four: children, older people, pregnancy and lactation, and people who are immune compromised or living with organ failure. The shared discipline is individualisation with evidence and humility: establish how this population changes the medicine's handling and effects, prefer medicines with experience and guidance in the group, involve the specialist sources and teams who hold that experience, monitor more deliberately, and record the reasoning. No doses are stated in these notes for any population; dosing in special populations belongs to

current references and specialist guidance checked at the time of prescribing.

3.10 Pediatric prescribing

In pediatric prescribing the child is not a small adult. Absorption, distribution, metabolism and excretion all change with age, most rapidly in the youngest children, so handling of medicines matures over childhood and the same medicine behaves differently at different ages. Body weight and developmental stage therefore govern prescribing in a way adult practice does not rehearse, formulations must exist that a child can actually take accurately, and measurement and administration at home, by parents using household measures or confused instructions, is a recognised error source that counselling and proper measuring devices answer. Evidence is thinner because children are less studied, which raises the prescriber's duty to follow pediatric guidance and formularies, to be explicit where use is outside a product's licensed terms and why it is nonetheless justified, and to watch and report outcomes, including adverse reactions, with the pharmacovigilance care of Unit 5. The pharmacist's pediatric roles are verification against age and weight based references, formulation and supply advice, and parent counselling that checks the caregiver can state the plan back accurately.

3.11 Geriatric prescribing

In geriatric prescribing the changes run the other way: kidney and liver function decline, body composition shifts, homeostatic responses blunt, and, above all, medicines accumulate, because older people live with several long term conditions and several prescribers. The characteristic QUM problems are polypharmacy in its harmful form, prescribing cascades in which an adverse effect is misread as a new disease and treated with a further medicine, medicines whose harms outweigh shrinking benefit as frailty and goals change, and adherence defeated by complexity, cost, vision, dexterity or cognition rather than by intention. Quality practice answers with regular whole list review and deprescribing, the planned, supervised stopping of medicines whose harm now outweighs benefit or whose indication has passed; with explicit caution lists and guidance on medicines risky in older people, used as prompts for review rather than as absolute bans; with simplification of regimens; and with goals set by what the patient values, function, comfort, independence, rather than by disease targets alone. The pharmacist led medication review is the flagship intervention, here as in residential care, which is largely geriatric care by another address.

3.12 Prescribing in pregnancy and lactation, in immune compromise and in organ failure

Prescribing in pregnancy must hold two patients in one decision: benefit and risk to the mother, whose untreated illness is itself a fetal risk, and direct and developmental risk to the fetus, which varies by stage of pregnancy and is greatest while organs are forming. The discipline is to prefer medicines with accumulated pregnancy experience, to use reliable specialist information sources rather than memory or fear, to avoid both unsafe prescribing and the equally harmful reflex of stopping necessary treatment, and to document counselling and shared decision making. In lactation the parallel questions are how much of the medicine reaches milk, what the infant's age and health make of that exposure, and how feeding and treatment can both be protected, again from specialist sources. In immune compromised patients the governing facts are vulnerability to infection, interaction between anti infective, immunosuppressant and other therapies, and the need for prophylaxis, vaccination judgement and close monitoring to be planned with the specialist team. In organ failure, principally kidney and liver, clearance falls or activation and protein binding change, active metabolites may accumulate, and the organ failure itself may be worsened by the wrong choice; prescribing leans on organ function based guidance and therapeutic monitoring where the sister subjects teach it. Across all four groups the pharmacist's contribution is the same shape: specialist reference checking, interaction and accumulation screening, monitoring plans and counselling that the patient and

family can act on.

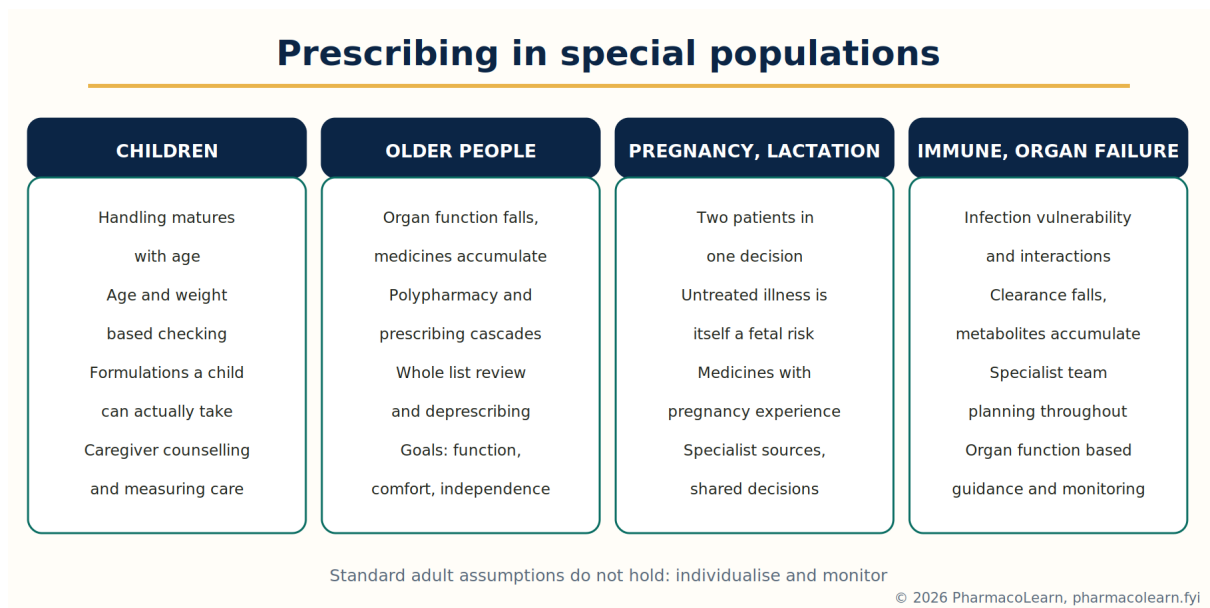


Figure: Four populations, one discipline: standard assumptions do not hold, so individualise, use specialist guidance and monitor deliberately.

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