Queensland Government

A Competency Framework for Pharmacy Practitioners to Provide Minimum Standard of Pharmaceutical Review:

The General Level Framework Handbook

Second Edition

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Queensland Health

Adapted with permission of the Competency Development and Evaluation Group (www.codeg.org) and Safe Medication Practice Unit

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Endorsement

The Safe Medication Practice Unit (SMPU) Queensland Health General Level Competency Framework was endorsed by Directors of Pharmacy on 23rd October 2006 as a document that outlines the essential activities in the three competency clusters of *Delivery of Patient Care*, *Problem Solving* and *Professional Competencies* that a competent general level pharmacist would be expected to undertake within the limits of their resources on any given day.

This endorsement acknowledged that the GLF is NOT itself a measure of competency (as in it is not a pass or fail) but is a tool that describes the standard of knowledge, skills and attitude required by, identifies what activities are or are not performed and how consistently it appears that these activities are undertaken.

Each site is asked to sign a Service Level Agreement that outlines how each site will work with SMPU to best facilitate the implementation of a routine process for evaluation and feedback of practicing clinical staff.

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Background

In April 2004, all Australian Health Ministers agreed that hospitals should "*Provide a pharmaceutical review of prescribing, dispensing, administration and documentation of medications for all inpatients by December 2006".* The working definition of pharmaceutical review endorsed by Queensland Health (QH) Medication Safety Implementation Group, the Safe Medication Practice Unit (SMPU) board and the Safety and Quality board in 2005 is:

A ***minimum standard*** of systematic appraisal of all aspects of patients' medication management within an institution conducted *(or supervised)* by a qualified and suitably trained health professional (***ideally a pharmacist***) acting as part of a multidisciplinary team. It includes objective review of medication prescribing, dispensing, distribution, administration, monitoring of outcomes and documentation of medication related information in order to optimise Quality Use of Medicines (QUM).

It is anticipated that the development of a competent pharmacist workforce will facilitate the provision of optimal pharmaceutical review activities to inpatients as dictated by the 2004 Ministerial Communiqué.

The key activities encompassed within pharmaceutical review also align with the Australian Pharmaceutical Advisory Council (APAC) *Guiding Principles to Achieve Continuity in Medication Management*, revised in 2005[1], which QH has made a commitment to adhere to as a key component of the Pharmaceutical Reform agenda. Similarly, they are aligned with the Society of Hospital Pharmacist of Australia (SHPA) *Standards of Practice for Clinical Pharmacy 2005*[2] , the combined *Pharmacy Professional Competency Standards of Practice* and *Queensland Health Service Capability Frameworks 2003* (Table 1).

The purpose of this document is to provide supporting information to the pharmaceutical review activities encompassed within a framework (The General Level Framework or GLF) (Appendix 1), which has been devised to support the development of pharmacists as safe,

[1] http://www.health.gov.au/internet/main/publishing.nsf/Content/nmp-guiding
[2] http://qheps.health.qld.gov.au/medicines/documents/general_policies/glf_shpa.pdf

effective general level practitioners with the appropriate skills, knowledge and attitudes to provide a minimum standard of pharmaceutical review.
Inconsistency in the practice of clinical pharmacy encouraged McRobbie, Webb, Bates, et al (2001)[3] to develop the General Level Competency Framework to facilitate practitioner development and assessment in the UK NHS, where it is now in place.

The framework has been demonstrated by Antoniou, Webb, McRobbie et al (2005)[4] in the UK (Appendix 2) to:

- Practically describe the activities expected of a clinical pharmacist
- Facilitate continuing professional development through evaluation and feedback, which are core components of adult learning
- Help individuals and their tutors define gaps in knowledge and skills, and identify training and development needs
- Assist pharmacists to efficiently develop their own practice
- Enable a structured measure of change in knowledge, skills and practice
- Provide documentary support for appraisals (see Appendix 2 for full published paper)
- Fast-track practitioners to be able to consistently perform key pharmaceutical review activities at a desirable standard

The UK edition of this framework was evaluated among general level hospital practitioners. However, it would be expected that registered Australian pharmacists practicing at levels above HP3 would also demonstrate these basic competencies, thereby making the GLF an appropriate tool to assist in the training and development of all hospital pharmacists.

For hospital practitioners, general level would be expected to be delivered by a rotational pharmacist who has undertaken an appropriate rotational training period.

[3] McRobbie et al. Pharmacy Education 2001;1:676-76
[4] Antoniou et al, pharmacy education 2005; 5:201-7

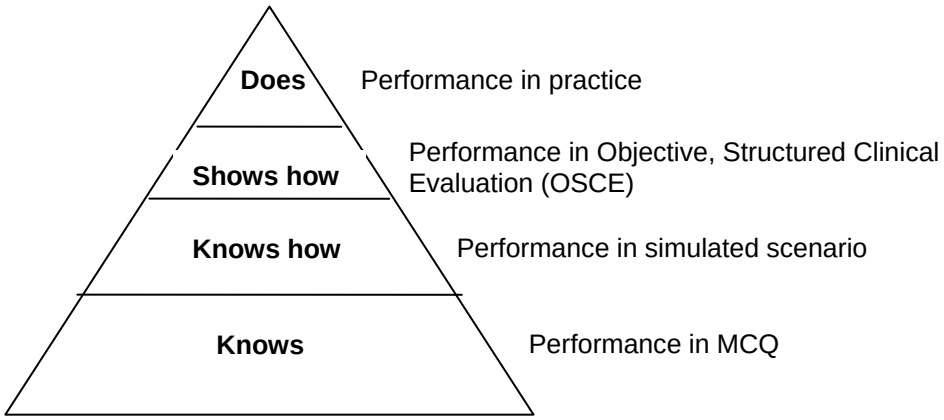
Competencies and their Uses in Practitioner and Service Development

What is a competency framework?

Competence is the ability to carry out a job or task.
A ***competency*** is a quality or characteristic of a person related to effective or superior performance. It is made up of many things e.g. motives, traits, skills, attitudes etc.
A ***behavioural competency*** describes typical behaviour observed when effective performers apply motives, traits, skill, etc. to job relevant tasks.
A ***competency framework*** is a collection of competencies that are based on accepted standards of practice agreed to be central to effective performance as pharmacy practitioners as a means by which to measure fitness for purpose.

Miller's pyramid of competence *(*Figure 1) indicates that in clinical practice, the ability to do the job is the key area to be assessed.

Figure 1: Miller's pyramid of competence



The development of knowledge and skills post-registration have largely been the key components of locally developed in-hospital training and formal university pharmacy post-graduate training and are assessed most often as a "summative" assessments at the end of a period of learning. There is currently no continuous progression to the next stage of development for adult professional learning.

Formative assessment allows assessment of what a pharmacist *know*s, and does not know, whereas the GLF allows assessment of *what* they do and *how* they do, or do not do, something. This combined with constructive feedback allows for superior focused development of a practitioner's performance.

The General Level Competency Framework has been developed using a combination of behavioural assessments, which assist individuals (and their managers) to look at how they perform their job.

Need for agreed standards of clinical pharmacy practice to achieve pharmaceutical review

Assessment using the competency framework provides individuals formal guidance on expected standards of professional practice, effectively describing the service level expected for patients. This level of practice is aligned with the SHPA *Standards for Clinical Pharmacy* and other national guidelines for clinical pharmacy practice (Table 1), and is dictated by the medication risks of the patient (Table 2).

What can competency frameworks be used for?

Competency frameworks can be used to support a range of different professional activities. Typically, they are used to assist with:

- Training and development; by helping individuals and managers define gaps in activities, skills and knowledge against accepted standards of practice, they help to identify specific training and development needs
- Acting as a tool to facilitate an individual's continuing professional development (CPD)
- Providing a framework to support local performance and appraisal processes

How can the framework assist pharmacist development at an organisation or departmental level?

By completing assessments of pharmacy practitioners within a department, a "snapshot" of the performance of different activities and behaviours observed against agreed standards and competencies can be obtained.

This can be used:

- To identify the level of service provided within the organisation and monitor progress towards achieving minimum agreed standards
- To identify and plan training and development for all pharmacists in a department.

- To identify gaps between agreed standards of pharmaceutical review and actual activity.
- When linked to other measures such as key performance indicators and the results of prescribing audits, the findings help managers with the planning and development of pharmaceutical services. Findings also provide valuable information regarding the level of pharmacy practitioners required to meet agreed standards of pharmaceutical review.

Standards of Practice and Guiding Principles Associated with Pharmaceutical Review

The GLF is mapped to professional standards and principles for pharmaceutical review.

National standards and principles

The Queensland model of the GLF has been developed to remain consistent with agreed national standards and principles produced by the following bodies (Table 1):

- The Society of Hospital Pharmacists of Australia (www.shpa.org.au)
- The Combined Pharmacy Professional Competency standards
- The Australian Pharmaceutical Advisory Council (APAC) (www.health.gov.au)

Queensland Health

The GLF is also consistent with the agreed activities developed by Queensland Health (QH) in relation to the process of pharmaceutical review and the associated key performance indicators, as well as the QH service capability framework (Table 1).

Patient specific guidelines

In addition, pharmaceutical review activities need to be performed consistently with the needs of the patient load. This must include response to the acuity of patient mix and the inherent risk of patients experiencing a medication-related misadventure. Guidelines regarding this are outlined in Table 2.

Table 1: Mapping of Competencies and Behaviours with Professional Standards and principles for Pharmaceutical Review

APAC Guiding principles (2005)	QH Service Capability Frameworks (Sept 2006)	SHPA Standards of Practice for Clinical Pharmacy (2005)	Combined Pharmacy Professional Competency Standards (2003)	QH Pharmaceutical Review Activities	General Level Framework (GLF)	QH Key Performance Indicator (KPI)
				Obtain patient list with current/ past medical problems		
				See all NEW patients		
Guiding Principle 4: An accurate and complete medication history should be obtained and documented at the time of presentation or admission, or as early as possible in the episode of care.	**Adverse drug reaction review** **Medication History interview**	**Accurate medication history (Appendix A)** • Patient / carer medication history interview • Assessment of patient's medication management	**3.1.1 Obtain Patient History** • Assess records • Obtain additional relevant information	Confirm medication history including allergies and ADRs	1.1 Patient History – includes opening the consultation / questioning technique / allergy & ADR review / medication history / confirmation of medication history / obtaining relevant patient background / reconciliation of medication history.	**Performance Indicator 5:** Percentage of patients reviewed by a ward pharmacist within twenty-four hours of admission. Structure and process with steps for review taken, documented, confirmed and reconciled.
Guiding Principle 5: Throughout an episode of care, current medicines and other therapies should be assessed to ensure the quality use of medicines.	**Medication order review** **Clinical (pharmacy) review**	**Assessment current medication management (Appendix B)** • Ensures medication ordered appropriate to patient-specific needs • Detects drug-specific issues • Ensure prescription is legal and supply possible	**3.1.2 Review medication treatment** • Assess records • Obtain additional relevant information • Uses information to clarify / confirm	• Reconcile medication and medical history with current therapy. • Prioritise patients by medications/ disease. • Medication chart / order review for relevant issues: • Therapy appropriateness with respect to: Drug, route, frequency, interactions, legibility and safety, legality • Resolve medication related issues	1.2 Assessment of Current Medication Management – includes assessment of drug interactions / checking prescription legality & ambiguity / ensuring dose, route of administration, formulation details are appropriate. 1.3 Monitoring of Current Drug Therapy – including identification, prioritization and resolution of drug related issues and assessment of outcomes. Also includes documentation of drug related issues. 2.3 Appraises therapeutic options	Percentage patients with a signed medication order.
		Clinical review (Appendix C) • Collection of patient specific data for the purpose of identifying response to therapy and detecting / managing potential or actual clinical problems.	**3.1.2 Review medication treatment** • Understands patho-physiology • Understands pharmacology • Evaluates lab tests and investigations • Considers the appropriateness of each medicine Promote Rational Drug Use			**Performance Indicator 4:** Average number of interventions per 100 patient chart reviews
Guiding Principle 6: Medication Action Plan A Medication Action Plan should: • Be developed with the consumer and relevant health care professionals as early as possible in the episode of care • Form an integral	**Provision of therapeutic information** **Input to health care team via meeting and or clinical rounds**	**Decision to prescribe a medicine (Appendix D)** • Consider patient-specific factors e.g. medication history, clinical status, goals of therapy, pathophysiology, actual / potential medicine related problems etc. • Consider current evidence to support medication choice.	3.1.2.8 Identifies potential / actual drug related problems 3.1.2.10 Applies evidence based treatment guidelines 3.1.2.11S Applies advanced knowledge to assess indication, appropriateness, safety, efficacy. 3.1.3.3 Assesses treatment options & selects most appropriate option for therapeutic needs of the individual.		1.3 Monitoring of Current Drug Therapy – includes documentation of drug related problems and documentation of clinical pharmaceutical review activities	Percentage of patients with a documented medication action plan.
	Therapeutic Drug	**Therapeutic drug monitoring**	3.2.2.3 Recommends TDM where	• Monitor		

APAC Guiding principles (2005)	QH Service Capability Frameworks (Sept 2006)	SHPA Standards of Practice for Clinical Pharmacy (2005)	Combined Pharmacy Professional Competency Standards (2003)	QH Pharmaceutical Review Activities	General Level Framework (GLF)	QH Key Performance Indicator (KPI)
part of care planning for the consumer • Be reviewed during the episode of care and before transfer.	**monitoring**	**(Appendix E)** • Identify desired therapeutic outcome. • Consider TDM in context of patient's clinical status and other appropriate factors. Communicate TDM results effectively.	indicated. 3.2.2.4 Ensures TDM is performed according to guidelines. 3.2.2.5 Provides advice on dose adjustments according to TDM results.	Therapeutic response		
	Input to health care team via meeting and or clinical rounds	**Ward round participation (Appendix F)** • Enables prescribing to be influenced at the time of decision making. • Reduces medication errors. • Promotes quality use of medicines.		• Resolve issues/ plan of action • Provide specific advise	2.4 Provides information to other health care professionals	
	Provision of therapeutic information	**Provision of medicines information to health team. (Appendix G)** • Influences the prescribing, administration, monitoring and use of medicines.	3.1.3.4 Recommends alternate treatment options 3.1.3.5 Recommends changes to treatment based on latest evidence 3.1.3.6 Provides additional advice relevant to tests / investigations.		1.3.6 Consultation / referral 1.3.4 Use of guidelines / references 2.3 Analysing information – includes evaluation of information, decision making. 2.4 Provision of accurate, relevant and timely information to health care professionals	**Performance Indicator7:** Average number of prescriptions requiring modification per 100 prescriptions dispensed.
Guiding Principle 9: When a consumer is transferred to another episode of care, the health care provider / s should supply comprehensive and accurate information to those responsible for continuing the medication management in accordance with the Medication Action Plan.	**Patient communication** **Therapeutic information provision and individual and group counseling (regards medication)**	**Provision of Medicine information to patients (Appendix H)** • Encourages safe and appropriate use of medicines. • Priority patients include those with chronic disease states, those taking drugs with narrow therapeutic index, those with a high incidence of ADRs, those on multiple medicines, those whose medicines have been changed, the elderly / pediatric populations.	7.3.3 Educate members of the general public 7.3.2 Provide information to assist patient care. 7.3.4 Evaluates disseminated information 6.3.1 Provide information on and participate in public health strategies for the prevention & early detection of disease.	• Medication liaison	1.6 Medicines Information, patient education and liaison – includes identification of the need for information, retrieval of accurate & reliable information and provision of oral / written information.	**Performance Indicator 3:** Percentage of patients receiving a Discharge Medication Record (DMR) during an episode of care including current medications / changes in medications / reason for changes / adverse drug reactions / ongoing supply mechanism.
		Information for ongoing care (Appendix I) • Facilitates the seamless care of the patient during transition between healthcare providers. • Includes provision of information to the community pharmacist, institution / GP etc. to ensure ongoing medication supply and monitoring.	7.3.4 Educate members of the general public 7.3.3 Provide information to assist patient care. 7.3.4 Evaluates disseminated information	• Provision of patient specific advice	1.5 Discharge Facilitation – includes reconciliation of medicines on discharge, ensuring continuity of supply, provision of discharge medication record and liaison with community health care providers	**Performance Indicator 8:** Percentage of patient / carers receiving written information for medications during an episode of care
		Adverse drug reaction (ADR) Management (Appendix J) Enables the detection, prevention, assessment management and documentation of ADRs.	3.2.1.3 Investigates whether undesirable clinical effects may be related to medication. 3.2.1.4 Records suspected or confirmed adverse drug reactions or allergies.	• Identification, investigation and resolution of medication issues	1.1 Patient history – includes allergy / ADR documentation and confirmation	

Table 2: Pharmaceutical review activities & recommended clinical pharmacist to patient ratios targeted to the acuity of patients and risk of medication related problems of the medications those patients may receive.

Risk of drug related problems	Patient/ medication factors determining risk Group	Minimum level of Service – Pharmaceutical review activities to be provided	Ratio pharmacist staff to patients[1]
Minimum	• Adult patient < 65 yrs AND • No regular medications	• Medication and ADR history confirmation and documentation • Ensure safe administration of any medications ordered during stay • Reconciliation of discharge medications ordered with patient details on discharge • Provision of medicine information on discharge to patient/carer	1:90
Medium	Any ONE of the following factors: • 1-5 medications • High risk medicine(s)[2] • High risk patient groups[3] • Poor adherence • Admission with ADR	***AS ABOVE PLUS:*** • Assessment of drug-patient, drug-drug or drug-disease problems • Therapeutic drug monitoring – including biochemistry, culture and sensitivities • Efficacy – evaluation of appropriate evidence based therapy • Medication liaison with GP/CP • Provision of medicine information to health professionals (Junior/ Registrar level)	1:30 Junior mentored/ supervised by advanced or specialist level practitioner.
High	Any TWO or more factors from Medium Group: • Combination of patient types	***AS ABOVE BUT EXPECT HIGHER LEVELS OF PROBLEM IDENTIFICATION AND RESOLUTION, PLUS:*** • Pro-active input on ward round/unit meeting • Provision of medicine information to consultant level staff	1:30 As above
Advanced	• Specialist areas: • Critical care (adult and paediatric), oncology, transplant, infectious disease (all patients)	***AS ABOVE PLUS*** • Development of guidelines • Education of staff • Audit therapeutic and financial reporting	1:20 Specialist or advanced level practitioner

Optimal service model for delivery of pharmaceutical review should include:

- **For Elective Surgical Patients**: Review in a pre-admission clinic (PAC) setting where services are provided – by advanced level practitioner (HP4 or above) with handover of medication related problems and actions to be followed up
- **For Acute Admission medical and surgical Patients**: Review in Emergency Departments or in admissions unit – by advanced level practitioner (HP4 or above)
- **Rural and remote sites without pharmacist**: Initial history and ADR taking by trained medical/ nursing staff with remote review of medications on admission and during stay, liaison with on site team and remote reconciliation and information provision on discharge = TELEPHARMACY MODEL

Source 1= SHPA Clinical standards, June 2005
Source 2 and 3 = See Table 3, page 11- High risk medicines and patient groups

Table 3: High risk medicines and high risk patient groups

These tables have been developed from the SHPA Standards of Practice for Clinical Pharmacy, a full review of the literature and in consultation with:

- Medical, nursing and pharmacy members of the QH Medication Safety Implementation Group,
- Medical, nursing and pharmacy members of the Brisbane South Adverse Drug Event Prevention Collaborative.
- The QH Safety and Quality Board in August 2005.
- Sixty-five senior pharmacy staff from QH and interstate attending two pharmaceutical review workshops in March and July 2006.

High Risk Medicines & Patient Groups

1. High risk medicines	2. High risk patient groups
• Drugs with a narrow therapeutic range e.g. digoxin, lithium • Drugs requiring specialised monitoring/interpretation i.e. TDM • Anticoagulants • Cytotoxics • NSAIDs or COX-2 inhibitors • Opiate analgesics • Aminoglycosides • Anti-epileptics • Insulin • IV Electrolyte supplementation • Weekly dosing regimens	• Renally impaired • Cardiac disease • Liver disease • Transplantation • Mental health problems • Cancer • Paediatrics • Elderly

(Safe Medication Practice Unit, Queensland 2006)

Introducing the Framework

The structure of the framework

The framework consists of *competency clusters* which describe core activities within each of three main work areas:

1. Delivery of patient care (Pharmaceutical Review Activities)
2. Problem solving
3. Professional

- The delivery of patient care cluster focuses on clinical performance and is aligned to the medication management cycle and specific pharmaceutical review activities required for patients, commensurate with their medication risks.
- The personal and problem solving clusters concentrate on the generic skills of individuals.

Each competency cluster is broken down into individual descriptive competencies. Using the *Delivery of Patient Care* competency cluster as an example, the competencies in this area pertain to:

Competency Title	Description
Patient consultation	Current/past medical problems, medication and ADR history
Need for the medication in that individual	Reconciliation between the patient, their medication and their medical condition/s
Selection of medication and its appropriateness for that individual	o Drug-drug, drug-patient, drug-disease interactions o Identification of medication related problems or issues
Identification of medication specific issues	Dose, route, frequency
Provision of product	o Legality and compliance with SDL, S100, PBS etc. o Organising supply
Medicines information and patient education	o Provision of patient specific advice to staff and to the patient and carers o Medication liaison
Monitoring drug therapy	o Monitoring therapeutic responses o Reconciliation of medications on discharge against inpatient therapy
Evaluation of outcomes	

Each of these competencies has:

- A number of statements, known as *behavioural statements*, which define how that competency would be recognised.
- An *assessment rating* ranging from “rarely” to “consistently”.

Specific behaviours

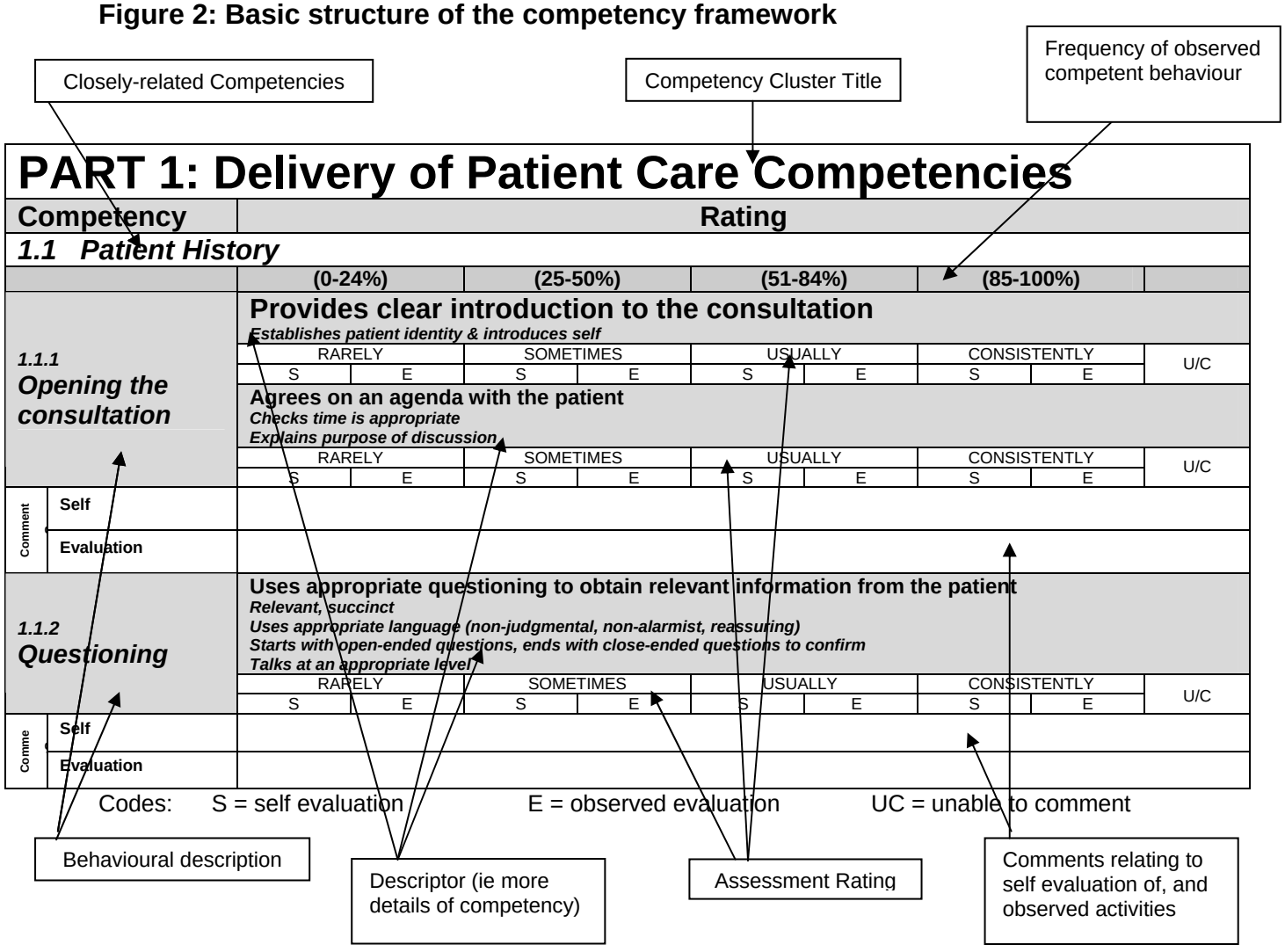
Each individual descriptive competency is broken down further to a range of behaviours which can be observed at a ward level.

For example, within the *Delivery of Patient Care Cluster,* the "monitoring of drug therapy" competency behaviours include:

- Identification of drug related problems
- Prioritisation of drug related problems
- Use of guidelines / references
- Consultation or referral
- Resolution of drug related problems

The basic structure is illustrated in Figure 2 .

Figure 2: Basic structure of the competency framework



Assessment Rating

In most cases, the assessment rating is on a 4-point scale ranging from “rarely” to “sometimes”, “usually” and “consistently”. An ‘unable to comment’ option is available for use when a competency is not observed or not appropriate.

Feedback at a workshop held in Brisbane in February 2006 attended by most QH Directors of Pharmacy indicated that pharmacists appreciated a frequency range applied to these terms (Table 4).

Assessment should be referenced to the *standard practice* expected at a particular level of practice. This may vary between levels of practitioners (for example, that expected of a newly registered pharmacist will differ to that expected of a more experienced pharmacist) but should be assimilated to the SHPA Standards of Clinical Pharmacy Practice.

Table 4: Frequency Ranges for Assessment Ratings

Rating	Definitions	Percentage expression
Consistently	Consistently demonstrates the expected standard practice, with very rare lapses	85-100%
Usually	Demonstrates expected standard practice with occasional lapses	51-84%
Sometimes	Demonstrates expected standard practice less than half of the time observed. Much more haphazard than “mostly”	25-50%
Rarely	Very rarely meets the standard expected. No logical thought process appears to apply	0-24%

Development and Utilisation of the Framework in Queensland Health

The current version of the General Level Framework represents an adaptation of an original framework developed and utilised in the UK. Work has occurred with permission and assistance from the Competency Development and Evaluation Group with permission. It builds on initial work by the National In-patient Medication Chart Working Group, established by the Australian Council for Safety and Quality in Health Care.

The definitions of activities and risk based framework have been discussed widely at three state-based workshops involving 84 senior pharmacy practitioners from Queensland Health and interstate.

The multidisciplinary advisory groups attached to the Safe Medication Practice Unit (SMPU), Brisbane South Adverse Drug Event Collaborative and the Queensland Health Medication Safety Implementation Group (QHMSIG), have provided input to and endorsed the framework and principles of practitioner evaluation, feedback and development in line with national standards.

The tool was piloted at two QH sites in July 2006. Pharmacists reviewed as part of the Queensland Hospitals pilot were asked to complete a feedback form which rated aspects of the review process. A summary of the feedback received can be found in Appendix 3.

A completed GLF document (see Appendix 1) and frequently asked questions about the process are included (see Appendix 4).

Assessment Tools

As a result of ongoing implementation of the framework, various other assessment tools have been developed (see Appendix 5). These tools provide formative assessments which are designed to *compliment* the GLF and inform educational planning, identify areas for development and monitor performance.

They have been adapted from similar tools developed by the Competency Development and Evaluation Group (CODEG) in the UK and include:

- Mini - Peer Assessment Tool (mini-PAT)
- Mini- Clinical Evaluation Exercise (mini-CEX)
- Case Based Discussions (CBD)

A portfolio based on this framework and the associated assessment tools can be used to demonstrate a pharmacist's ability to work at a general level. This provides a platform for further development to higher level practice.

Section One:

Delivery of Patient Care Competencies

1. Delivery of Patient Care Competencies

1.1 Patient History

This competency incorporates the structure and processes needed to obtain and document information relating to the patient's admission, which will provide a baseline for ongoing pharmaceutical care. The personal skills needed for effective communication in this process are described in the professional competencies cluster.

1.1.1 Opening the consultation

A pharmacist should always provide clear introduction to the consultation and agree on an agenda with the patient. After determining the ability of the patient to communicate, confirming the time is convenient to the patient and adopting a suitable position to enable the consultation to take place comfortably, the pharmacist should:

- establish the identity of the *patient* and greet the patient
- introduce themselves and other colleagues if present
- explain what the pharmacist is hoping to achieve, e.g. taking a medication history, drug specific counselling or a medication chart review
- respect the patient's right to decline an interview or consultation, or choose a more appropriate time for the interview

1.1.2 Questioning

Pharmacists must determine the specific goals of the interview and tailor the questions and discussion to obtain the necessary data. The pharmacist must talk at a level which enables the patient to hear, but does not compromise patient confidentiality. Appropriate language must be used i.e. non judgmental, non alarmist, reassuring and using terminology that the patient will understand.

Questions must be relevant and succinct, as exhaustive interviews may be counter-productive. Appropriate questioning makes it easier to obtain relevant information from the patient. For example, begin the medication history interview with open-ended questions to encourage the patient to explain and elaborate, then move to

close-ended questions to systematically minimise omissions. Leading questions should be avoided as they can result in false information.

1.1.3 Patient consent

Patient consent is required prior to requesting patient specific information from other healthcare providers, such as general practitioners, community health nurses, carers and community pharmacists. The need to contact other health care providers should be explained to the patient before permission is requested. If the patient is not involved in the management of their medicines, the interview/consultation should be conducted with the relevant person(s), after obtaining consent from the patient.

1.1.4 Allergy/ADR review

To document an accurate and comprehensive allergy/ADR history, the pharmacist should:

- confirm with the patient any history of drug allergies or previous adverse reactions to any agents
- document the drug, reaction and date of reaction (if known) on the medication chart, if an allergy or ADR is known
- tick the 'nil known' box on the medication chart, if the patient reports no history of ADR or allergy
- Tick the 'unknown' box on the medication chart, if the patient's ADR history cannot be established
- sign and date their entry and print their name

Known ADRs should be highlighted by use of yellow 'Adverse Drug Reaction' stickers, and the pharmacist should ensure these are present on all charts, including the PRN side. The pharmacist should also ensure that the patient is wearing a red armband.

It is important to follow institutional policy regarding documentation of allergy/ADR history in the patient's medical notes.

1.1.5 Medication history

An accurate medication history will assist in patient care and should include an interview with the patient/carer. Taking accurate and complete drug histories has been shown to have a beneficial effect on patient care (refer Appendix 6). Pharmacists have demonstrated an ability to accurately and reliably take medication histories. The benefit of this to the patient lies in the fact that errors of omission or transcription are identified and corrected early, reducing the risk of harm and improving care.

Queries regarding drug therapy should be clarified with the prescriber, or referred to a more senior pharmacist. Full details of medication history taking are described in the Australian Pharmaceutical Advisory Council (APAC) *Guiding Principles to Achieve Continuity in Medication Management, July 2005* and The Society of Hospital Pharmacists of Australia (SHPA) *Standards of Practice for Clinical Pharmacy 2005*. The core components are, however, listed below in Table 5 and in the SMPU checklist (Table 6).

Table 5: Core components of a complete medication history

1. Introduce yourself to the patient and explain the purpose of the visit/consultation.
2. Identify and document any drug allergies or serious ADRs
3. Determine the individual responsible for administration and management of medication e.g. patient, or carer
4. Ascertain any information the patient is able to provide about their medication from (in order of priority):
    - their own knowledge, the patient's own medication list, or other concordance aids
    - the medication they brought into hospital
    - the community pharmacy
    - repeat prescriptions
    - a GP referral letter
    - information available in medical notes
    - the GP
5. Ensure the following are recorded:
    - generic name of the medication (brand name to be recorded where appropriate).
    - dose
    - frequency
    - length of therapy if appropriate (e.g. antibiotics)
6. Document any recent changes to the medication regimen and reason(s) for discontinuation or alteration of any medicines
7. Ensure that items such as inhalers, eye drops & topical agents are included and are used correctly, as patients often do not consider these to be 'medication'
8. Identify any self-treatment that the patient may be using e.g. OTC, herbal, homeopathic

Table 6: Medication History Checklist
(Source: Safe Medication Practice Unit, Queensland 2005)

The patient should be specifically questioned regarding use of the following items:
• Prescription medication
• Sleeping tablets
• Inhalers – puffers, sprays, sublingual tablets
• Oral contraceptives, HRT
• OTC, Analgesics esp. - NSAIDS, paracetamol +/- codeine
• Gastrointestinal drugs (for reflux, heartburn, constipation, diarrhoea)
• Complementary medicines (e.g. herbals, vitamins)
• Topical medicines (e.g. patches, creams, ointments)
• Inserted medication (e.g. nose/ eye/ ear drops, pessaries, suppositories)
• Injected medication (e.g. Insulin)
• Intermittent treatments (i.e. weekly)
• Recently completed courses of medicine/ other people's medicine
• Social and recreational drugs
• Any previous allergies or adverse reactions

1.1.6 Confirmation of medication history

Although a patient/carer interview should be the primary source of data, a combination of information sources can be used to obtain the medication history. If the patient is not responsible for medication administration or if a reliable medication history cannot be obtained from the patient/carer, then alternative sources of patient information must be accessed. These information sources may include:

- medication dispensing history from previous hospital admissions and/or community pharmacies
- administration records from nursing homes or other care facilities
- other health care professionals i.e. GP, community nurse
- patient's own medications or list of medications
- patient's prescriptions (community pharmacy prescriptions, discharge and outpatient prescriptions)

1.1.7 Relevant patient background

In providing pharmaceutical care for a patient, it is essential that background information about the patient's health and social status is identified. Without this information it is difficult to establish the existence of, or potential for, medication

related problems. Review of medication charts and prescriptions without this information risks flawed judgements on the appropriateness of therapy for that individual. The detail required depends on the circumstances. The data collected should be succinct and relevant. The key focus should be on obtaining the most relevant data rather than collection of all information.

Details required may include:

Age – the very young and the very old are most at risk of medication-related problems. A patient's age will indicate their likely ability to metabolise and excrete medicines and therefore has implications for appropriate selection of drug dosage.

Gender – may impact on the choice of therapy for certain conditions.

Ethnic background/religion – pharmaceutical implications of this information include racial pre-dispositions to intolerance or ineffectiveness of drug classes, e.g. ACE-inhibitors in Afro-Caribbean individuals, or the unsuitability of drug formulations, e.g. blood products in Jehovah's Witness patients, porcine-derived products for Jewish and Muslim patients.

Social background – this may impact on their ability to manage their medications and influence their pharmaceutical care needs e.g. what are their home circumstances – do they live in their own home or in residential accommodation? Do they have a visiting district nurse or carer, etc?

Presenting condition – establish what symptoms the patient described and the signs identified by the doctor on examination – could they be adverse effects related to their prescribed or purchased medication? Could lack of symptom control indicate poor adherence, inadequate dose or inappropriate agent?

Working diagnosis of the medical team treating the patient – How would you expect this condition to be managed? What drug therapy would be considered appropriate and evidence-based? This will give you an indication as to the classes of medications you should expect to see on the medication chart.

Previous medical history – concurrent medical conditions may guide the selection of appropriate therapy. Knowing the patient's concurrent medical conditions will help the pharmacist identify potential drug-disease contraindications and ensure that

management of the acute newly diagnosed problem does not compromise a prior condition.

Relevant laboratory or other findings (if available) - focus on findings that will affect drug therapy, including:

Renal Function	Liver Function
Full Blood Count	Blood Pressure
Cardiac Rhythm	Pain Scores
Temperature	

Consider not only the impact that these findings could have on the ongoing management of drug therapy e.g. the need for dose adjustments, but also whether these results could have been caused by an unwanted drug effect.

Establishing this background information will allow you to make a more accurate assessment of the appropriateness of therapy.

Sources of Patient Information

Obtaining relevant information will depend on your sector of practice. Sources of patient information include medical, nursing and electronic records, as well as directly from the patient or carer themselves. Routine review of medical notes (if available) and all laboratory tests may be time consuming, inappropriate and unnecessary for the retrieval of basic information. The most concise information source should be used. Possible sources of information include:

Nursing handover sheet – In a hospital setting, this is usually an excellent basic summary of the patient's admission details and should be used as the first source of information. It is concise and accessible and will often provide all of the key features identified above, with the possible exception of laboratory findings, although abnormal results are often commented upon.

Nurses (including community nurses) – are the frontline care providers for the patients in hospital and increasingly in primary care. Hence developing a good working relationship with the nursing staff is a valuable exercise. In hospital, a daily

handover from the nursing team may provide excellent information about the patient's current condition.

Patients – patients are often able to provide information, particularly in relation to medicine-taking, although some skill is required in terms of managing the consultation to avoid becoming sidetracked. In some situations patients may be the only accurate available source of information.

Medical notes – will provide the most detailed description of the patient's care to date, although they are often lengthy and repetitive and should therefore be used to confirm findings, rather than as a first source of reference. Previous hospital admissions and subsequent discharge summaries are often useful to clarify medication histories.

Allied health care professionals – e.g. physiotherapists, social services care workers, occupational therapists etc, may be involved in the patient's medicines management e.g. assessing compliance and recommending compliance aids.

Laboratory results systems – if laboratory results are readily available, the pharmacist should ensure that they have personal access and have been trained in retrieving correct patient information from the database.

Finally, it should be remembered that all patient information is CONFIDENTIAL and should not be discussed with anyone not involved in that patient's care.

1.1.8 Patients' understanding of illness

Gauging the patient's lay understanding of their illness allows you to elicit what the patient perceives their health care needs to be and may be related to their current illness or past medical conditions. This knowledge will allow the pharmacist to accurately review current therapy and provide appropriate medicines information to the patient and/or carer.

Open ended questions such as 'What has brought you into hospital?' will often illicit a patient's perception of what has happened. This may impact on how the patient

deals with health professionals and the way they use medication. A poor understanding of their illness may need to be addressed before the patient can fully understand what treatment is necessary and the rationale for treatment.

1.1.9 Patient's experience of medication use

Assess the patient's experience of medication use, specifically regarding:

- perceived effectiveness of medication
- control of symptoms
- perceived problems with this or other medication used
- perceived adverse effects
- why did the patient stop / start / change medication

1.1.10 Patients' understanding of treatment

Assess the patient's understanding and attitude to their therapy and seek specific information on the following:

- patient's understanding of rationale for treatment
- patient's perception of the purpose of the medication
- patient's perception of potential adverse effects

These perceptions may impact on the patient's adherence to prescribed treatment.

1.1.11 Adherence assessment

Non-adherence may be due to perceived adverse effects, and could be contributing to the presenting condition. Use a non-judgmental, empathetic approach and open ended questions. Assess the patient's adherence by normalising poor compliance for example asking:

- "People often have difficulty taking their medication…. Do you have any difficulty taking your medication?"
- "About how often would you say you miss taking your medication?"

Inform the medical staff if significant areas of poor compliance are identified. Strategies to address poor compliance include use of dose administration aids (e.g.

Webster packs), education of carers, discharge medication records, a reduction in the number of medications or simplification of the drug regimen.

1.1.12 Patient's medication management

Knowing how medicines were managed prior to the patient's hospital admission allows therapy to be appropriately tailored to the patient and additional supports to be initiated if needed. Factors such as cognition, alertness, mental acuity, literacy, vision impairment and physical disabilities may impact on the patient's ability to manage their medication.

For example:

- Patients with impaired cognition or alertness may require medication compliance aids, dosette boxes or additional supports, such as, community nurse visits or assistance of family members in medication administration
- Patients with vision impairment, especially common in diabetic patients, may require large-print labels and written information

1.1.13 Medication reconciliation

The medication history obtained should be reconciled with that recorded by medical staff and also with the medication chart at the time of admission. The pharmacist must be able to justify changes made to medications taken prior to and on admission. If any discrepancies are identified, check the medical notes and ascertain if these discrepancies are intentional. The patient, nursing staff and medical staff may also be contacted. Non-intentional discrepancies should be communicated to the attending resident or registrar and nursing staff as appropriate.

If significant unresolved discrepancies exist, and a medical officer cannot be contacted, the issues should be documented in the medical notes and / or Medication Action Plan and Handover Form. Inform the nurse looking after the patient of any medication-related problems. It is imperative that such problems are followed up at a later time to ensure appropriate resolution.

Medications currently prescribed for the patient must also be reconciled with their current problems and relevant patient background, for example with respect to

interactions as detailed in section 1.2a

1.2 Assessment of Current Medication Management

1.2a Selection of Drug

This relates to the principles of evidence-based medicine, clinical and cost-effectiveness in the selection of the most appropriate drug, dose and formulation for an individual patient. Pharmacists are not expected to know the full breadth of clinical evidence for all conditions, but should have a clear understanding of, and be able to access, local prescribing guidelines. They should also familiarise themselves with, and be able to demonstrate appreciation of, key literature relevant to their current field of practice, for example they should be aware of the Therapeutic Guidelines and unit/site based guidelines. Pharmacists should also be aware of the Queensland Health Standard Drug List. Postgraduate education and continuing professional development should be guided by learning needs identified in practice.

1.2.1 Drug-drug interactions

With the appropriate use of reference material, pharmacists are expected to:

- Identify common, well-documented, clinically significant drug interactions (including complementary medication)
- Identify the mechanism by which the interaction occurs
- Be able to recognise medications with increased risk of potential interactions, e.g. those with narrow therapeutic indices, those metabolised by the CYP450 system and those which are inducers or inhibitors of the CYP450 system
- Assess the actual or potential interaction for clinical significance and management options, prioritise the problem and refer as appropriate. See SMPU guidelines on prioritising action, table 7.

Table 7: Prioritising Action (Risk Rating Based on Harm)
(Source: Safe Medication Practice Unit, Queensland 2005)

Extreme	Consequence major or extreme **OR** probability of occurrence likely or almost certain **OR** timeframe to harm is < 1 hour	Act now
Very High	Consequence moderate **OR** possibly will occur **OR** timeframe to harm is<4 hours	Act ≤ 4 hours
High/ Medium	Consequence minor **OR** unlikely **OR** timeframe to harm today	<leaving work
Low	Consequence negligible **OR** harm rare **OR** not likely to impact on patient outcome today	tomorrow

1.2.2 Drug-patient interactions

This refers to *individual, patient specific* reactions and *contra-indications/cautions* to medication in certain patient groups, e.g. the elderly, children and during pregnancy. A pharmacist should:

- Understand the *potential* for unwanted effects of medications e.g. allergies and other adverse drug reactions (ADRs)
- Ensure that any allergy or ADR is identified and documented
- Review the prescription to ensure that no medications likely to cause harm have been prescribed
- Assess actual or potential interaction for clinical significance and management options, prioritise the problem and refer as appropriate

1.2.3 Drug-disease interactions

This refers to the *contra-indications/cautions* that should be applied to the use of individual drugs in a range of pathophysiological conditions. A pharmacist should be able to:

- Understand the mode of action and pharmacokinetics of medications
- Understand how these mechanisms may be altered by the disease (e.g. renal impairment)
- Understand how these mechanisms may be altered by genetic determinants (e.g. beta blockers in patients of Afro-Caribbean origins)
- Assess the actual or potential interaction for clinical significance and management options, prioritise the problem and refer as appropriate.

1.2b Prescribing and Administration of medications and fluids

The pharmacist should ensure that the medication as prescribed can be supplied and administered safely and effectively to the individual patient. Particular attention should be paid to the monitoring of parenteral therapy, which carries the additional risk of extravasation, infection and administration errors.

Pharmacists should be familiar with the Australian Injectable Drugs Handbook (4th edition, 2008, Society of Hospital Pharmacists).

1.2.4 The prescription is unambiguous

- Ensure all aspects of the prescription - drug name, dose, administration routes and times - are clear and legible, in accordance with the Queensland Health Guidelines for the use of the Statewide Medication Chart[5] Clarify any ambiguous orders by clear, signed annotation or request an appropriate medical officer rewrite the order. If the pharmacist is unsure of the intentions of a medication order, they should liaise with the appropriate medical officer for clarification.

- Ensure all medications are prescribed by generic names, except combination products and some controlled drugs, according to QH accepted list. To minimise selection of the wrong drug, prescribing by brand name is preferred in combination products and controlled drug formulations. Examples include:
    - Anginine® - Glyceryl Trinitrate
    - Microlax® - Sodium citrate, sodium lauryl sulfoacetate and sorbitol
    - Fungizone® - Amphotericin B
    - AmBisome® - Amphotericin (LIposomal)
    - Abelcet ® - Amphotericin (Phospholipid complex)
    - Seretide® - Salmeterol and fluticasone

[5] http://qheps.health.qld.gov.au/medicines/maintenance_packages/national_inpatient_medication.htm

- Annotate additional information to ensure the safe and effective administration, e.g. multiples or fractions of tablets, for example, 2 x 50mg tabs.

1.2.5 The prescription is legal

- Check patient identifiers are present and the prescription is legal:
  - Drug, form, route, dose, frequency, date and prescriber's signature
  - Quantity and strength are also legal requirements for discharge and outpatient prescriptions (n.b. there are additional special requirements for schedule 8 drugs)

1.2.6 Checking of appropriate dose

The pharmacist should assess the prescription to ensure that the dose is appropriate. This includes adjustments for:

- Patient weight
- Patient age
- Disease states e.g. renal/hepatic impairment
- Route and formulation prescribed e.g. IV versus oral metronidazole, IM versus oral anti-psychotics, liquid versus solid dosage forms
- Concurrent medications e.g. reduction of digoxin dose if used with amiodarone

1.2.7 Checking route and timing of dose

The pharmacist should assess the prescription to ensure the prescribed route is *available* (e.g. is the patient nil by mouth? Are they able to take medicines orally?) and *appropriate* (e.g. unnecessary prescription of IV medication when the patient can swallow, or a solid dosage form when the patient has dysphagia) for that patient.

The pharmacist should assess whether the *timing* of the dose:

- is appropriate with respect to food e.g. before food, after food
- is away from nasogastric or PEG feeds where appropriate e.g. phenytoin

- correlates with medication administration rounds
- convenient for the patient e.g. frusemide in the morning

Administration related information should be annotated as needed, e.g. for alendronate, “take 30 minutes before food and sit upright for 30 minutes after dose. Do not lie down.”

1.2.8 Selection of formulation and concentration/rate

- Is the medication available in a suitable form for administration via the prescribed route?
- Is the form prescribed suitable for the patient e.g. oral liquid or tablets for paediatric patients?
- Do the nurses or care staff require any specific information in order to administer the medication safely (e.g. appropriateness of crushing tablets, dilution requirements for parenteral medication, rate of administration, IV compatibilities including syringe drivers)?
- Are aids required to ensure safe and effective administration (e.g. Volumatic spacers for inhalers)?
- Documentation should be completed to ensure the safe and effective administration of the medication. This may include annotating dilutions of intravenous injections and maximum or minimum rates of administration. If possible it is best to do this on the area used by nurses for recording dose administration – the right-hand side of the medication chart.

1.3 Monitoring of Current Drug Therapy (Includes Clinical Review, Decision to Prescribe and Therapeutic Drug Monitoring)

Once a medication has been appropriately selected for a patient, supplied and administered, ongoing use of the drug should be assessed, both for the desired therapeutic effect and the appearance of adverse reactions. Therapeutic drug monitoring (TDM) is an essential duty for hospital pharmacists.

Assessment involves the following steps:

1. Identify patients at high risk of drug-related problems

2. Identify monitoring parameters for ongoing disease management, e.g. BP, cholesterol, etc.
3. Evaluate the patient against these parameters
4. Recommend appropriate monitoring to medical staff
5. Discuss with a colleague if necessary
6. Review ALL current inpatient medication charts (including IV fluids, heparin, insulin and PCA charts etc) and if needed, patient observation charts
7. Discuss changes to medication with medical staff if required

1.3.1 Identification of drug-related problems

The pharmacist should be able to identify high risk medications and patients for whom ongoing monitoring of therapy is required. The pharmacist should monitor for effectiveness of treatment and potential adverse effects, and also establish and maintain a plan for reviewing the therapeutic objective/end point of treatment.

- **High Risk Medications**

- Anticoagulants (warfarin, heparin, enoxaparin)
- Drugs with narrow therapeutic range (e.g. digoxin, lithium, theophylline)
- NSAID or opiate analgesic
- IV antibiotics (e.g. gentamicin, vancomycin)
- Chemotherapy
- Electrolyte supplementation (IV potassium, IV magnesium)
- Drugs requiring TDM + interpretation
- Anti-epileptics (phenytoin, carbamazepine)
- Insulin

- **High Risk Patient Groups**

- Renal impairment
- Cardiac
- Liver disease
- Transplantation
- Mental Health
- Cancer
- Paediatrics
- Very Elderly
- Unstable Clinical Condition

The pharmacist should be able to prioritise the medication management problems of both individual patients and the group of patients for whom they are responsible.

1.3.2 Documentation of medication related problems

It is necessary to document medication related problems so there is a record of pharmaceutical input into the patient's care. This facilitates follow up by other health care professionals, ensures resolution of medication related problems and ensures documentation of ongoing monitoring requirements. Documentation can be made on the Medication Action Plan and Handover Form, in the patient's medical record, on the medication chart or on other locally accepted tools e.g. pharmacy profiles or clinical pathways.

1.3.3 Prioritisation of medication related problems

Once a problem has been identified the pharmacist must be able to identify the urgency of resolution and appropriately prioritise their actions. Factors that may be considered include:

- Is the patient likely to be harmed?
- Time until next dose due
- Can the dose be withheld until the problem is resolved?
- What do I need to do to resolve this problem?
- Who do I need to inform regarding this problem e.g. nurse, doctor, patient?

1.3.4 Use of guidelines or references

A pharmacist should be able to demonstrate an awareness of guidelines available for the clinical field in which they are practising. Pharmacists should also know the practical implications of these guidelines. Guidelines may be local policies or national guidelines from established groups (e.g. Therapeutic Guidelines, QH warfarin prescribing guidelines, IV fluids and electrolytes prescribing guidelines or local pre-admission clinic guidelines). The pharmacist should be able to appropriately apply current guidelines to their practice and be aware of both the advantages and disadvantages of their use. They should show regard for individual patient need when using guidelines.

1.3.5 Documentation of clinical/ pharmaceutical review activities

It is necessary for the pharmacist to record their activity or input into a patient's care. Appropriate documentation facilitates liaison with other health care providers and other pharmacists that may be involved in looking after the patient. This may include:

- Documentation of a medication action plan

  This may be documented on the Medication Action Plan and Handover Form, Pharmacy Profile or Clinical Pathway in accordance with hospital policy. Include all relevant information pertaining to pharmaceutical care for example:

  - Relevant background information
  - Problems identified and resolution gained
  - Results of relevant laboratory tests/investigations
  - Ongoing monitoring requirements
  - Education needs
  - Compliance issues/aids

- Sign for clinical pharmaceutical review activities

  The pharmacist should initial the clinical review section at the bottom of the daily column on the medication chart. This indicates to other pharmacists and health care providers that the patient's chart has been reviewed by a pharmacist on a particular day. It also facilitates prioritisation of patient care by covering pharmacists during periods of unpredicted absence.

- Documentation of clinical interventions

  Interventions should be documented in accordance with the hospital pharmacy department policy, for example using:

  - iPharmacy
  - PRIME
  - Medication Action Plan and Handover Form
  - Pharmacy Profile

1.3.6 Consultation or referral

The pharmacist should be aware of their limitations and always consult a more senior colleague if necessary or refer the patient appropriately to another healthcare professional. Referral can occur at different points during an episode of care, for example:

- on the first visit to the patient, when the health need is inappropriate for medication management
- at the end of the consultation with the patient, when drug-related problems have been identified and referral is needed to medical staff and community health supports

The referral and consultation process should form part of continuing professional development and it is expected that during the course of an individual's work, repeated exposure to similar pharmaceutical problems will result in development of the pharmacist's experience and competence.

1.3.7 Resolution of medication-related problems

Having identified and prioritised drug-related problems, the pharmacist should ensure that an appropriate course of action is identified and implemented. If actions by multiple health professionals are required for resolution of the problems, the pharmacist should accurately communicate to the relevant personnel the action required and the urgency of that action. At all times, the pharmacist must ensure that no harm comes to the patient. (Refer Pharmaceutical Review Prioritising Action p30)

1.3.8 Assessing outcomes of contributions

Reflection and evaluation of practice is essential if an individual pharmacist is going to undertake effective work based learning. Contributions to care should be recorded and followed up where possible to establish the outcomes of individual actions. It may not be appropriate or possible for a pharmacist to follow the care of an individual patient in every case, but effective communication with colleagues will often establish outcomes.

There are different mechanisms for assuring evaluation of contributions:

- Actual feedback from patient, carer, or health professional on a specific issue/service
- Reflecting on service delivery or patient encounter and identifying a resultant service improvement or learning need

The pharmacist should be able to demonstrate that they reflect on their contributions and learn from the outcomes.

1.4 Provision of Drug Product

The pharmacist is responsible for the efficient supply of medication to patients. When supplying a medication for an individual patient the pharmacist should check that:

1.4.1 Prescribed drugs appear to be administered correctly

The pharmacist should:

- Check the administration area of the medication chart and ensure that administration has occurred and has been documented
- Identify occasions where drugs have not been administered, and if due to unavailability of drug, ensure initiation of supply
- Check visible infusions to ensure administration of parenteral medications is correct

1.4.2 The prescribed medication can be made available (SDL/S100/SP/PBS restrictions)

- Consider the availability of the drug within the hospital or community, in relation to:
  - Queensland Health Standard Drug List (SDL)
  - Special purchase (SP) or Special Access Scheme (SAS)
  - Section 100 highly specialised drugs program (S100)
  - PBS restrictions or authority prescriptions

- Consider whether the prescribed indication is within the drug's license (unlicensed drugs procedure)
- Follow local guidelines to obtain unlicensed and non-SDL drugs and ensure that appropriate documentation is completed
- Communicate clearly with the relevant people to ensure the efficient and safe supply of medication
- Ensure continuity of supply for in-patient use, discharge and in the community

1.4.3 Medication supply

- The prescribed medication is supplied accurately and legally
  - Correct drug, form, strength, quantity, packaging and patient name.
- The prescribed medication is labelled accurately and appropriately
  - Correct drug, form, strength, quantity, patient name, date, and pharmacy details.
  - Instructions as necessary. Inpatient items often do not require dosing instructions. Exceptions to this may be items that may be self administered by the patient and may subsequently be used for discharge supply for example, metered dose aerosols, eye drops, and topical preparations. All discharge medication and inpatient leave supplies must be labelled with clear dosage instructions and, where appropriate, ancillary labels.
  - Ensure medications are labelled appropriately for the patient e.g. the visually impaired, non-English speaking patients.
- The prescribed medication is provided for the patient in a timely manner
  - Medication should be available on the ward for administration at the prescribed times.
  - Supply of newly prescribed medication may be prioritised depending on medical condition of the patient and availability of nursing or medical staff to administer the medication e.g. IV antibiotics.
- Supply of the drug is documented on the medication chart
  - The pharmacy box on the medication chart is annotated in accordance with the Queensland Health guidelines for use of the state-wide medication chart version 3 (appendix 6). Annotations include:

• **I** for medicines available on imprest

• **S** for non-imprest items that will be supplied and labelled for individual use from the pharmacy

• **Pts own** for medicines checked by the pharmacist and confirmed to be acceptable for use during the patient's admission

• **CD** to indicate a Schedule 8 medicine (stored in CD cupboard)

• **Fridge** to indicate a medication that is stored in the fridge

1.5 Discharge Facilitation

1.5.1 Reconciliation of medication on discharge

- Discharge prescription / medication must be checked against the patient's current inpatient medication chart/s

  Reconcile medications prescribed/supplied for discharge against current inpatient chart. Check all drugs are documented and doses and frequencies are correct. When differences are identified, assess if difference is an error or intentional, for example:

  - "When required" medication used in hospital not required for discharge e.g. analgesics, anti-emetics
  - Regular inpatient medication not required for discharge e.g. post-operative analgesia, post-chemotherapy anti-emetics
  - Antibiotics where course has been completed
  - Chemotherapy
  - Changes intended for discharge documented in medical notes

  Where identified discrepancies can not be resolved, the prescriber or, if unable, another doctor responsible for the patients care, must be contacted for confirmation

- Discharge prescription/medication is checked against admission history

  Reconcile discharge medication against admission medication, thus ensuring:

  - Ongoing medication is prescribed/supplied/documented as appropriate according to hospital policy
  - Changes made during admission are identified so that details can be

relayed to the patient and community health care providers

- Patients' own drugs are checked against discharge prescription/medication and returned if appropriate
  - Check patient's own medications with respect to drug, formulation, strength, and quantity.
  - Confirm medication has been stored appropriately and is suitable for re-supply (check fridge, CD cupboard etc). If there are any concerns regarding appearance of product, legibility of label or the product has expired, organise resupply prior to discharge.
  - Check that label reflects current dose and frequency instruction. Where appropriate, patient's own medication may be relabelled to reflect current instructions, according to departmental policy.
  - After discussion with and agreement from the patient, return (if the patient requests) or destroy any ceased medication according to local hospital policy.

1.5.2 Continuity of supply

- Provide the patient or carer with information about ongoing supply of medicines after discharge, including:
  - Quantity/duration supplied from hospital
  - Obtaining further PBS prescriptions from their GP
  - Special provisions for obtaining S100/SAS or clinical trial drugs e.g. ongoing supply by hospital pharmacy
- Liaise with the patient's community pharmacy as necessary, for example:
  - To organise dose administration aids such as Webster packing
  - To organise supplies for nursing home patients
  - Regarding arrangements for supply of S100/SAS drugs

1.5.3 Provision of Discharge Medication Record (DMR)

An accurate and complete discharge medication record generated using the Enterprise Liaison Medication System (eLMS) or a similar in-house database should be provided to all appropriate patients, for example:

- Patients with more than 4 regular medications on discharge
- Patients with more than 2 changes to their medication (additions/deletions, dose changes)
- Elderly patients and those undergoing rehabilitation
- Patients with identified barriers to compliance
- Patients who have a previous discharge medication record on admission

1.5.4 Provision of medication contingency plan

Where appropriate the patient may be provided with a medication contingency plan, for example:

- Details of what to do if specific adverse drug events occur. Depending on the situation and medication involved, options may include: to continue if tolerated, to see the GP at earliest convenience, to stop medication or to seek medical advice immediately, e.g. management of bleeding for patients receiving warfarin
- Initiating a short course of medication if required by disease flare e.g. prednisolone for exacerbations of COPD
- Changing dose of medication in response to monitoring e.g. changing insulin dose according to blood glucose levels
- Specific documented patient action plans e.g. asthma action plan

1.5.5 Liaison with community healthcare providers

Where appropriate the pharmacist is expected to liaise with community healthcare providers such as general practitioners, community pharmacists, carers and nursing home staff regarding issues such as:

- Ongoing supply
- Compliance issues
- Dose administration aids such as Webster packing
- Monitoring requirements

1.6 Medicines Information, Patient Education and Liaison

It is expected that the pharmacist will provide medication and health information and advice to patients, carers and medical staff where appropriate e.g. in response to information requested by an individual. In addition, the pharmacist should actively seek opportunities to provide this aspect of the pharmacy service.

When consulting with patients and carers the pharmacist should demonstrate a structured, patient-centred process. The following information should be provided where appropriate:

- Information on why a particular course of action is being suggested and how to achieve the intended outcomes
- Information on the condition as assessed during the consultation and any changes that need to be monitored
- Information on the medication / treatment recommended and how to use it
- Advice on when it would be appropriate to seek further advice from either the pharmacist or someone else if the condition does not improve
- A combination of any of the above

1.6.1 Need for information is identified

Individuals have differing information needs. Pharmacists should be cautious about providing information to patients in a 'blanket' format, and should tailor their provision of information to individual circumstances. For example, general drug-specific counselling advice may not be appropriate for patients who have been on a medication long-term. These patients will more likely require specific information relevant to their situation; this will not be established unless the pharmacist allows the patient an opportunity early in the consultation to ask questions.

1.6.2 Cultural / social background

The pharmacist must take into account the patient's cultural and social background when assessing their health needs. This will influence their health beliefs and may affect the style of communication adopted. Interpreter services should be used when needed.

1.6.3 Accurate and reliable medication information is retrieved appropriately

The pharmacist must retrieve information specific to a patients needs. Patients commencing a medication are likely to require general information on indication, administration, side effects and supply. Patients with ongoing supply may request specific information regarding side effects they have experienced or use in circumstances such as pregnancy and lactation.

The information must be accurate and retrieved from a reliable source such as company produced information (CMI, MIMS, APP Guide), published literature or medical databases such as Micromedex®.

1.6.4 Provision of oral/written information

In most situations, the pharmacist should personally provide information in order to facilitate patient compliance. Information can be provided verbally or in writing and should be provided in a way that is appropriate to the patients needs. For example, information should be provided:

- To the appropriate person i.e. patient and/or carer
- Identifying any potential barriers to successful information exchange e.g. non-English speaking, cognitive impairment, deafness, visual impairment, illiteracy
- Using a format that can be comprehended e.g. non-medical jargon, appropriate language (using an interpreter if required), enlarged font for visually impaired patients/carers
- Using written information to back up verbal counselling
- To demonstrate devices e.g. inhalers, insulin pens

The following information should be provided:

- Generic and brand names of the drug
- Purpose and action
- Dose, route and administration schedule
- What to do if a dose is missed

- Special directions or precautions
- Common adverse effects, ways in which to minimise them and action required if they occur
- Details of medications ceased
- Details of new medications or medication regimens
- Techniques for self monitoring of therapy
- Storage requirements
- Safe ways to dispose of medication
- Relevant drug-drug, drug-food, drug-alcohol and drug-procedure interactions
- Number of days treatment supplied and the duration of treatment
- How to obtain further supplies
- CMI as appropriate
- Explanation of Discharge Medication Record if provided
- Relevant contact details for healthcare professionals and health services for any follow-up information

1.6.5 Consideration of non-drug alternative

The pharmacist should discuss non-drug alternatives as part of their information provision, for example:

- Anti-embolism stockings for prevention of venous thromboembolism, or for treatment of deep vein thrombosis and prevention of post-thrombotic syndrome
- Heat packs (usually available from physiotherapy department)
- Lemonade for management of hypoglyceamia
- Mobilisation
- Physiotherapy
- Relaxation techniques

1.6.6 Lifestyle Advice

Pharmacists should actively explore the patient's need for lifestyle advice e.g. diet, smoking and exercise. An awareness of local services and initiatives and the referral process in primary care or discharge planning is essential e.g. Quitline, local alcohol and drug dependence units.

1.6.7 Facilitating Informed Use of Medicines

The patient's comprehension of the information provided should be assessed. The pharmacist should assess the patient's understanding of the information provided by:

- Asking the patient to describe how they are going to take the medication
- Using the Discharge Medication Record as a guide and asking the patient to show which medications need to be taken with breakfast etc.
- Asking the patient to demonstrate use of a device such as an inhaler
- Asking the patient if they have any questions or if they understand the information provided to them during hospitalisation. Encourage the patient to discuss with their community pharmacist if required (provide contact details).

Based upon the assessment of the patient's understanding, the pharmacist should determine whether follow-up or further education is required. This may include home visits and / or referral to other healthcare professionals.

Section Two:

Problem Solving Competencies

2. Problem Solving Competencies

2.1 Knowledge

2.1.1 Pathophysiology

An understanding of normal organ function and the effect on this of disease state is relevant to the effects of, and the effects on, drug therapy. The pharmacist should be able to clearly describe the pathophysiology relevant to the therapeutic areas in which they are currently working and apply this knowledge when reviewing the therapeutic use of drugs.

2.1.2 Pharmacology

The pharmacist should be able to clearly discuss the mode of action of medications that they routinely review in the course of their daily practice. An appreciation of the distribution, metabolism and elimination of these medications and the influence of disease states (e.g. renal failure) and patient factors (e.g. age) should also be demonstrated.

2.1.3 Side effects

Knowledge of the common and major side effect profile of routinely used medications must be demonstrated. The pharmacist should be able to both discuss the potential for these with patients and recognise and describe any appropriate monitoring parameters.

2.1.4 Interactions

The pharmacist should be able to describe the different mechanisms of drug interactions and be able to identify which type of interaction applies.

2.2 Gathering information

2.2.1 Accesses information

The pharmacist should be able to demonstrate that they can access all the information necessary in order to undertake a thorough review of the appropriateness, safety and efficacy of the medications prescribed for a patient. They should be able to access this information from a variety of sources and in the most time-efficient manner.

2.2.2 Abstracts information

Following review of the information, the pharmacist should demonstrate the ability to summarise the information and extract the key points that influence drug therapy.

2.3 Analysing information

2.3.1 Evaluates information

The pharmacist should demonstrate the ability to effectively evaluate information they have retrieved. This could be for a variety of purposes including designing a patient information leaflet or critically appraising information about new products. The pharmacist should be able to assess information for the following aspects

- Reliability of source – depending on the nature of information retrieved, the pharmacist should be able to evaluate the likely accuracy of information and any likelihood of bias (e.g. pharmaceutical company sponsored information).
- Relevance to patient care – the impact or potential impact that the information has on the pharmaceutical care of the individual patient or group of patients.
- Required response – the pharmacist should demonstrate the ability to identify an appropriate response, both in the nature of the action required and the priority that it should be assigned.

2.3.2 Appraises therapeutic options

The pharmacist should demonstrate that they have considered the various options available to them to resolve a problem. They should consider the possible outcomes of any action and recognise the pros and cons of the various options. In order to achieve this, the pharmacist should determine the goal of treatment. This might be one of the following:

- Curing a disease or disorder
- Reducing or eliminating a symptom
- Arresting or slowing disease progression
- Preventing a disease
- A combination of any of the above

2.3.3 Decision making

Having appraised a selection of options, the pharmacist should be able to identify the most appropriate solution and be able to justify the decision taken. However, pharmacists should recognise their personal limitations and seek advice from another colleague wherever necessary.

2.4 Providing information to other Health care Professionals

2.4.1 Provides accurate information

Whenever medication-related information is requested, or a need for information is identified, it is the pharmacist's responsibility to ensure that the response they give is accurate. Information should be accessed from reliable sources and, if necessary, reference should be made to appropriate literature or to colleagues.

2.4.2 Provides relevant information

The content and style of presentation should be appropriate to the recipient's needs. Establishing the reason for the request and appreciating what action will be taken on receipt of the information should be a first priority. The pharmacist should demonstrate that they have considered these aspects and responded appropriately by tailoring the information that they provide.

2.4.3 Provides timely information

When information is requested, or the need for information is identified, the pharmacist should provide it in a timely manner. It may be that the information is immediately required for patient care and it will take priority over other activities e.g. management of drug alerts. Conversely, other duties may take precedence over a considered review of the literature.

2.5 Follow up

2.5.1 Ensures resolution of problems

If a problem is identified by, or reported to, a pharmacist, it is their responsibility to ensure that it is appropriately resolved. This may not require their direct action, but they must ensure that the appropriate person is alerted to the situation and that accurate information is given to them. As a minimum they must ensure that no harm comes to the patient.

For development purposes the pharmacist should seek to follow up problems, both those that they had dealt with directly and those that were referred to another party, and reflect on the outcomes.

The General Level Framework

Section Three:

Professional Competencies

3. Professional Competencies

3.1 Organisation

3.1.1 Prioritisation

The pharmacist should be able to prioritise their own work and adjust priorities in response to changing circumstances; for example, knowing which patients/tasks should take priority. It is not possible or necessary to review the pharmaceutical care of every patient every day. Prioritisation of clinical workload may include:

- Identifying all new patients that have arrived since the last pharmacist visit
- Obtaining and recording a complete medication history for new patients
- Identifying patients approaching discharge and establishing their need for discharge medications and information
- Ensuring that all medications are appropriate and that the patient is informed about their medications
- Ensuring newly prescribed medications are safe for the patients and sufficient supplies are available
- Monitoring narrow therapeutic index drugs and other identified monitoring parameters
- Monitoring parenteral therapy
- Evaluating current medication for safety and effectiveness

3.1.2 Punctuality

The pharmacist should ensure they attend appointments and meetings on time, and are there to provide cover at previously agreed times, e.g. back at dispensary when rostered.

3.1.3 Initiative

The pharmacist should demonstrate initiative in solving a problem or taking on a new opportunity/task without the prompting from others, and demonstrate the ability to work independently within their limitations.

3.1.4 Time Management

The pharmacist should organise their time effectively, assigning appropriate amounts of time to different tasks with regular review and revision of time frames and deadlines. For example, a pharmacist may be allocated a morning to cover a ward. They may spend the first hour organising discharges, the second seeing new patients and the remaining time reviewing existing patients and counselling. If any of these time lines slip, the others have to be adjusted to allow the work on the ward to be completed in the given allocated time.

3.1.5 Delivers work within agreed deadlines

The pharmacist is able to complete tasks within a previously agreed timeframe. This timeframe may be set by a pharmacy manager, supervisor, or somebody outside the pharmacy department (e.g. nurse manager or consultant). For example, seeing all the new patients on an allocated ward on a daily basis, or having discharge medication ready prior to the patient leaving by ambulance.

3.1.6 Efficiency

The pharmacist is able to use their time productively with minimum waste. For example, checking the renal function of patients taking medications that may require dose adjustment in renal impairment, rather than checking the renal function of all patients on the ward.

3.2 Communication

Good communication is an essential component of pharmaceutical care. It involves communicating effectively in verbal, electronic and written form, using the language appropriate to the recipient; for example, use of open questions initially followed by appropriate closed questions and supporting any recommendations with evidence.

Effective communication encompasses the following skills:

- Questioning
- Explaining
- Listening – active listening demonstrates genuine respect and concern for the individual. It involves both verbal and non verbal aspects
- Feedback – to ensure that the message is understood. It can take the form of appropriate questions and asking the individual to demonstrate that they understand or can now do what you have explained
- Empathy – seeking to understand where other people are coming from and what their wants and needs are
- Non verbal communication
- Overcoming physical and emotional barriers to effective communication, e.g. speech difficulties, fear and aggression
- Negotiating
- Influencing

The desired outcome of using effective communication skills should be a concordant relationship. There are three aspects of concordance with medicines:

1. Patients as partners: the patient and the healthcare team participate as partners to reach an agreement on the illness and its treatment
2. Patient's beliefs: the agreement on treatment draws on the experiences, beliefs and wishes of the patient to decide when, how and why to use medicines
3. Professional partnerships: healthcare staff treat one another as partners and recognise each other's skills to improve the patient's participation

3.2.1 Patient and carer

The 'patient' in this context means any person the pharmacist provides any pharmaceutical service to. The 'carer' may be a friend or relative of the patient as well as a social services or private agency care worker.

3.2.2 Prescribers

Doctors and nurse practitioners

3.2.3 Nursing staff

Nursing staff at all levels both within the hospital environment and in primary care facilities.

3.2.4 Other health care professionals

This includes physiotherapists, occupational therapists, dieticians, speech pathologists, opticians, paramedics, ward clerks, cleaners, GP receptionists, and medical secretaries.

3.3 Team work

It is important for the pharmacist to be a team player. This includes:

- Understanding the roles and responsibilities of team members and how the team works.
- Respecting the skills and contributions of colleagues and directly managed staff.
- Recognising one's own limitations within the team.

3.3.1 Pharmacy team

Within the pharmacy team, the pharmacist should be expected to:

- Be a committed member of the team
- Understand the roles of all other team members
- Understand individuals' strengths and weaknesses
- Identify when team members need support and provide it
- Establish good working relationships with all colleagues
- Accept responsibility for own work (and for those in training where appropriate)
- Give and receive constructive criticism
- Work efficiently in the team

- Know when to ask for help
- Share and/or hand over information to avoid duplication of work by team members

3.3.2 Multi-disciplinary teams

The pharmacist should recognise the roles and skills of other healthcare professionals and seek to establish co-operative working relationships with colleagues, based on understanding of, and respect for, each other's roles.

3.3.3 Shares learning experiences with colleagues

The pharmacist must interact with colleagues both within the pharmacy department and outside to convey information gained both within the hospital and externally. For example:

- Relays information learnt at continuing education sessions, training sessions, conferences, etc.
- Contributes to departmental training sessions, journal clubs, etc.
- Relays patient safety issues
- Contributes to staff meetings
- Shares with colleagues new information / journal articles if relevant

3.4 Professional Qualities

3.4.1 Professional Code of Ethics

The pharmacist must behave in an ethical manner in accordance with professional codes such as:

- Queensland Health Code of Conduct
- SHPA Code of Ethics
- Pharmaceutical Society of Australia Code of Professional Conduct

3.4.2 Confidentiality

As for all health care professionals, pharmacists must respect individuals' right to confidentiality, maintain confidentiality and understand the circumstances when information about the patient's condition can be shared with colleagues. This includes an awareness of QH policies and relevant legislation, e.g. Queensland Health Code of Conduct, General Practice Advisory Council Privacy Guidelines, Privacy Act.

3.4.3 Logic

The pharmacist must develop a logical approach to their work. The competency framework is intended to guide the activities that should be undertaken for each patient or task, to ensure that points are not overlooked. The pharmacist should be able to demonstrate that they use a logical process when reviewing a prescription and that this process identifies the key action points that need to be addressed for that patient. It is recognized, however, that individuals will use different approaches to problem solving and still achieve the required outcome.

3.4.4 Confidence

- Inspires confidence in others

  All pharmacists must inspire confidence in patients and other healthcare professionals.

- Demonstrates confidence

  The pharmacist must be confident of their own abilities.

3.4.5 Recognition of limitation

The individual should know their own professional and personal limitations and seek advice or refer when necessary. The individual must continue to work within the professional Code of Ethics.

3.4.6 Responsibility for own action

Professional responsibility may be defined as the ability to provide an account of professional judgements, acts and omissions in relation to a professional's role. This therefore requires accountability for professional practice.

In professional ethics, accountability is of paramount importance. The SHPA Code of Ethics states that, 'In accord with their individual roles, pharmacists and pharmacy technicians (under supervision) take responsibility for their own actions.'

3.4.7 Responsibility for patient care

The pharmacist should adopt a non-discriminatory attitude to all patients and recognise their needs as individuals. As part of their responsibility, pharmacists should recognise when to ask for advice and be willing to consult others. They should act upon actual or potential errors and ensure resolution of identified issues.

3.4.8 CPD

The pharmacist should understand the need for, and take personal responsibility for, Continuing Professional Development. This involves:

- Reflecting on own practice, e.g. using critical incident review
- Maintaining current awareness of professional, pharmaceutical and clinical issues (e.g. attends in-house clinical pharmacy meetings, continuing education meetings and professional conferences as appropriate)
- Maintaining a broad background clinical knowledge
- Recognising and using relevant learning opportunities
- Evaluating learning
- Being self-motivated and eager to learn
- Showing willingness to learn from colleagues
- Being willing to accept criticism for the benefit of their own development

Demonstration of the above may be facilitated by review of a CPD portfolio.

Appendices