

# **PHARMACIST PRESCRIBING IN AUSTRALIA**

**A REPORT COMMISSIONED BY THE PHARMACY BOARD OF AUSTRALIA**

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## 1. Glossary

Table 1 below lists the terms and acronyms used in this document, together with their intended meaning for audiences of this document.

**Table 1: Meaning of terms and acronyms used in this document**

Term/Acronym	Explanation
APC	Australian Pharmacy Council
HPPP	Health Professionals Prescribing Pathway, as published by Health Workforce Australia in 2013
MBS	Medical Benefits Scheme
NPS	National Prescribing Service
OTC	Over The Counter
PBS	Pharmaceutical Benefits Scheme
PCF	Prescribing Competency Framework, as published by the NPS in 2012. Official title "Competencies required to prescribe medicines. Putting quality use of medicines into practice".

## 2. Executive Summary

Escalation of costs and demands on health care systems are driving the health reform agenda around the globe. Reform initiatives typically focus on reducing costs, increasing access and improving outcomes without compromising safety and quality. Many strategies are aimed at reallocation of tasks and activities that have historically been included in the role of medical practitioners, including prescribing.

The case for non-medical prescribing is strong, with international evidence that it improves access to medicines without undermining safety and quality. In recent years, Australia has been preparing for non-medical prescribing as demonstrated by development of the national Prescribing Competencies Framework (1) (2012) and the Health Professionals Prescribing Pathway (HPPP) (2) (2013). Together these documents offer structure and standards to guide the expansion of non-medical prescribing. Currently in Australia, prescribing rights are available to doctors, dentists, nurse practitioners, midwives, optometrists and podiatrists. By international standards, pharmacists in Australia are a notable omission from the range of health professionals with prescriptive authority.

The HPPP defines prescribing as *'an iterative process involving the steps of information gathering, clinical decision making, communication, and evaluation that results in the initiation, continuation, or cessation of a medicine'* (2). This definition reflects the four-stage model of prescribing described by Lum et al (3). The HPPP complements the four stages of the prescribing process by outlining five requirements that must be addressed in order to achieve prescribing competency. The report recommends that higher education providers accept responsibility for appropriate training and assessment of a practitioner's competence to prescribe medicines (2). Three models of prescribing have been identified by the HPPP as suitable for implementation in Australia. The Prescribing Competencies Framework (PCF) details the competencies associated with safe and effective prescribing. Collectively these materials have significant implications for pharmacists, and other health practitioners, in ensuring they are capable of undertaking a prescribing role and the context in which this should occur.

Although not specifically identified as *'prescribing'* according to current legislation, the supply of Schedule 2 (Pharmacy Only) and Schedule 3 (Pharmacist Only) medicines requires consideration of the four stages of prescribing that have been described; often within the context of a broad range of therapeutic options. Significantly, the concept of *prescribing*, particularly for pharmacists working in a community setting, must ensure clear separation between the tasks of prescribing and dispensing/supply to ensure the basic premise of patient safety is upheld.

This report explores the points raised above and presents options for consideration in three broad areas, which are (a) public interest, (b) stakeholders, and (c) models of service delivery.

a) Public interest is served by ensuring there are processes in place to guarantee that pharmacists are appropriately trained, qualified and competent to prescribe safely. This report includes a gap analysis to determine if there are any deficiencies in existing training programs and professional practice standards for pharmacists when compared with the PCF. The gap analysis found that, although many aspects considered essential to the prescribing process are covered in the

undergraduate curriculum or by professional practice standards, there are some areas that are not currently addressed.

b) Strategies for pharmacist prescribing must be acceptable to the broad range of stakeholders that will be impacted. This includes, but is not limited to, patients, funders, regulators, and other health professionals. While patient and funder groups may welcome the inclusion of pharmacists as prescribers, practical considerations in terms of access and cost need to be addressed. The current regulatory framework, including jurisdictional legislation, generally does not accommodate a prescribing role for pharmacists. Finally, while many other health professions are indifferent to a prescribing role for pharmacists, the medical profession has a history of opposition to all forms of non-medical prescribing.

c) Pharmacy practice settings span the domains of primary care (typically community pharmacy settings), acute care (typically hospital settings) and integrated care (covering the range of emerging roles for pharmacists such as outreach services, medication review services and other activities not directly linked with dispensing and supply of medicines). This presents a myriad of potential models of service delivery for prescribing pharmacists. The challenge lies in aligning training, qualifications, competencies and scope of practice with the appropriate prescribing model.

The above points are further explored by way of an extensive mapping process. Specifically, the National Prescribing Service Competencies Required to Prescribe Medicines have been mapped to:

a) Accepted national standards and codes of practice, which together articulate the expectations of a newly registered pharmacist. The intention of this mapping was to determine where the process of prescribing is articulated in our professional standards with particular reference to a junior pharmacist. Mapping revealed potential gaps in the professional standards in relation to clinical decision making (specifically the process of generating a diagnosis) and to a lesser extent the processes of communication (with specific reference to pharmacists traditionally providing information to assist another health professional identify appropriate therapeutic choices rather than to communicate a prescribing decision) and monitoring/evaluation.

b) The learning outcomes for the Bachelor of Pharmacy program provided by Queensland University of Technology. This mapping involved a detailed review of the learning outcomes for each individual subject within the program and was undertaken to reveal any gaps in the program which specifically relate to the prescribing process. Mapping revealed potential gaps in the communication and monitoring/evaluation stages of the prescribing process.

c) The final mapping exercise reviewed the three proposed models of prescribing, as identified by the HPPP final report and identified which specific performance criteria from the National Prescribing Service Competencies Required to Prescribe Medicines were required according to each model. Mapping revealed that the majority of the performance criteria considered essential to prescribing according to the first model (i.e. prescribing via a structured prescribing arrangement) were addressed by existing professional standards.

A review of the international literature was undertaken in relation to pharmacist prescribing, with a focus on countries with standards of healthcare considered similar to that experienced in Australia. Differences in healthcare funding arrangements and the scheduling of medicines has

contributed to the process to achieve, and requirements for, pharmacist prescribing across international borders. The UK and New Zealand have a more consistent, national approach to prescribing; Northern America has significant state, provincial and territory differences in legislation, licensing and educational requirements. Both the UK and NZ require completion of a nationally accredited training program prior to achieving endorsement to prescribe medicines.

The journey to achieve pharmacist prescribing in Australia presents some challenges. However many building blocks are already in place. It is expected that, given the supporting evidence, the extensive experience elsewhere, and the level of preparation for non-medical prescribing generally, the road to implementation of prescribing for pharmacists in Australia should be neither onerous, nor lengthy.

### **3. Introduction**

#### **3.1 Health Reform**

The constant escalation of costs and demands on health care systems is a global phenomenon that continues to drive the health reform agenda. The resulting reform initiatives are as varied as they are numerous but typically share common objectives around reducing costs, increasing access and improving outcomes without compromising safety and quality.

Many strategies focus on new models of health care, particularly those that reduce reliance on medically driven paradigms, through reallocation of tasks and activities that have historically been the prerogative of medical practitioners. The motivation for this approach is often twofold in that (a) medically qualified health professionals are generally the most expensive to train and employ and (b) in many environments and jurisdictions they are an extremely scarce resource.

Undoubtedly all aspects of the roles and responsibilities of medical practitioners have been scrutinised with a view to devolution but the expansion of prescribing rights among other members of the health care team has frequently been proposed, and implemented, as a mechanism to successfully address the identified concerns.

#### **3.2 Non-Medical Prescribing**

The case for expansion of prescribing rights among non-medical health professionals has been central to the health reform agenda in Australia and elsewhere. With the ageing population and increased use of medicines, health planners predict that we will need to increase the number of prescribers to maintain or improve equity of access to medicines (4). In Australia prescribing rights have already been extended to several non-medical professions; but not pharmacists. In this regard Australia lags behind our international counterparts with pharmacist prescribing formally approved in the United Kingdom, United States, Canada and New Zealand.

A recent literature review that analysed 173 articles on prescribing found that pharmacist prescribing accounted for the largest proportion (42%) of articles whereas the next most frequently studied group of non-medical prescribers (nurses) accounted for 28% (4). The same review found that three main professions (pharmacist, registered nurse and nurse practitioner) consistently rated as capable, appropriate and effective as non-medical prescribers. The report confirmed the international literature demonstrating that the practice of non-medical prescribing improves access to medicines and ensures equitable and timely access to medicines. It also cites drivers for change and notes that, as our population ages and prevalence of chronic disease increases, we will need an increased number of prescribers to maintain or improve equity of access to medicines.

#### **3.3 Preparing for Non-Medical Prescribing in Australia**

At a national level, the Australian agenda around preparedness for non-medical prescribing has been quite progressive. A key initiative was establishment of the national Prescribing Competencies Framework (PCF) (1). This framework, published by the National Prescribing Service (NPS) in 2012, describes foundation competencies for autonomous, or independent, prescribing. It was published at about the same time that the Health Professionals Prescribing Pathway (HPPP) was under development by Health Workforce Australia (2). In November 2013, the Australian



Health Ministers Advisory Committee endorsed the HPPP as the approved way for non-medical health practitioners to prescribe medicines.

In Australia, legislation governing the prescribing, dispensing, possession and other management of therapeutic goods is enacted at state level. This introduces the potential for access to prescribing rights by the various health professionals to vary, depending on the state in which they practise. Amendment of state legislation may provide for emergent professions to prescribe under a trial, or research-driven, model. For example, a recent amendment to the *Health (Drugs and Poisons) Regulation 1996* in Queensland provides the opportunity for professions not currently able to achieve endorsement to prescribe, to do so as part of a research initiative. Nationally, a consistent approach to the endorsement of prescribing rights, as currently enacted by individual professional Boards remains necessary.

### **3.4 Pharmacist Prescribing**

By international standards, pharmacists are a notable omission from the range of health professionals with prescribing rights in Australia.

Prescribing is not currently included in legislation describing a pharmacist's role. Significantly, in the interests of patient safety, it is important to differentiate the tasks of prescribing and supplying/dispensing.

Pharmacists are currently able to supply '*Schedule 2 – Pharmacy Only*' and '*Schedule 3 – Pharmacist Only*' medicines within their scope of practice. The '*supply*' activity is not considered prescribing even though, in order to effectively and safely supply an appropriate therapeutic intervention in the over-the-counter/community pharmacy setting, pharmacists must undertake a process that reflects the components of the prescribing process described by Lum et al (3), which includes:

- Information gathering
- Clinical decision making
- Communication
- Monitoring and review

It is helpful to reference this model when considering what needs to happen for pharmacists, and other health practitioners, to *competently* undertake a prescribing role. Table 2 below outlines these requirements and explores the implications for pharmacists.

**Table 2: The four stages of prescribing and the implications for pharmacist prescribers**

Stage	Meaning	Implications for Pharmacists
Information gathering	Gathering relevant information to inform selection of treatment including: <ul style="list-style-type: none"> <li>• History</li> <li>• Examination</li> <li>• Investigation</li> </ul>	Information gathering activities fall within the scope of practice for pharmacists. For example pharmacists are well versed in taking a patient history through such tasks as medication history documentation and OTC conversations regarding symptoms and disease progression. Pharmacists working in community settings frequently examine patients presenting with minor ailments and are involved in other non-invasive patient assessments such as blood pressure monitoring, blood glucose monitoring, lung function tests and weight management. Pharmacists working in acute settings often review the results of laboratory investigations as part of their role but other pharmacists have less access to these and pharmacists do not have authority to request laboratory tests.
Clinical decision making	Drawing on knowledge and experience to develop diagnosis and determine a treatment plan; including selection of treatment	Pharmacists are trained in clinical reasoning including the diagnosis and management of minor ailments and adverse medication events such as drug toxicity and interactions. As medication experts pharmacists frequently influence other prescribers regarding the appropriate selection of drug treatment.
Communication	Communicating the medication order, or prescription, to another health professional(s) and/or the patient <b>Note:</b> Separation of the task of prescribing from supply/administration is implicit in this stage of prescribing	Communicating information about medication orders is the core business of pharmacists. They are the 'receivers' of communication from prescribers and 'senders' in their patient counselling role (where they clarify and reiterate instructions with patients) and in communicating therapeutic recommendations to prescribers based on clinical information. Many pharmacists are involved in communicating medication orders from a prescriber to other health professionals, including medical practitioners and nurses, through roles in acute care and residential care. Pharmacists are also involved in communicating medication order information to prescribers, based on requests for treatment from patients/carers.
Monitoring and follow up	Ensuring systems are in place to review response to treatment and modify it as appropriate	In collaboration with patients, pharmacists are frequently engaged in evaluating and monitoring treatment outcomes. However pharmacists do not generally have the authority to put monitoring systems in place because they cannot formally 'refer' to other health professionals nor order laboratory tests and/or receive results of these. Pharmacists can make recommendations to prescribers about modifying treatment to make it more appropriate for a patient.

The HPPP is complementary to the four stages of the prescribing process in that it outlines five precursor steps, or requirements, that must be addressed in order to achieve prescribing competency. These five steps and their implications for pharmacists are outlined in Table 3.

**Table 3: The five steps of the Health Professionals Prescribing Pathway (HPPP) and the implications for pharmacist prescribers**

HPPP requirement	Implications for Pharmacists
1 Complete education and training	The existing pharmacy undergraduate curriculum may not address all areas of knowledge and skills required to become a competent prescriber. Gaps in undergraduate training could be addressed through potential coursework undertaken for postgraduate qualifications. <b>NOTE:</b> Section 4.2 of this report includes a mapping exercise to identify any gaps that may exist in prescribing competencies.
2 Obtain recognition from the National Board of competence to prescribe	Currently a Bachelor of Pharmacy (BPharm), or corresponding postgraduate equivalent (5) (MPharm), is the standard qualification required to be eligible for registration as a pharmacist in Australia. The Pharmacy Board of Australia does not recognise or endorse any qualifications, skills or competencies other than those required for general registration as a pharmacist.
3 Ensure authorisation to prescribe	A health practitioner’s authority to prescribe is embodied in the relevant state-based legislation addressing therapeutic goods. Currently no state permits pharmacist prescribing; as the term ‘prescribing’ is commonly understood.
4 Prescribe medicines within scope of practice	This is perhaps the most complex aspect of the HPPP and may incorporate self-regulation and/or formal professional recognition of ‘specialisation’. Some broad categories of pharmacy practice exist (e.g. ‘community’ vs ‘hospital’) but these reflect employment sector rather than being formally endorsed as areas of specialisation. In line with professional practice requirements, pharmacists must meet registration standards, including the recency of practice registration standard. When a pharmacist intends to modify their scope of practice, the Board requires demonstration of their competence to practice within the new scope of practice. (6)
5 Maintain and enhance competence to prescribe	Pharmacists are familiar with the concepts and requirements related to <i>continuing professional education</i> and <i>currency of practice</i> . It is expected that any pharmacist undertaking a prescribing role will take responsibility for ensuring their competency and currency are appropriate. Like other health professionals, including medical practitioners, pharmacists have access to a wide range of educational resources, courses, conferences and other events where they can maintain and improve their knowledge and skills.

### 3.5 Prescribing Models and Practice Settings

In addition to outlining baseline requirements for competent prescribing, the HPPP also describes safe prescribing models in three categories. Each category is associated with different levels of prescriptive authority as follows:

- Autonomous – the prescriber acts independently; without the supervision of another health professional
- Prescribing under supervision – the prescriber is supervised by another, authorised, health professional
- Prescribing via a structured prescribing arrangement – the prescriber has limited authorisation to prescribe medicines under a guideline, protocol, or standing order

It is worth noting that additional categories of prescribing models exist internationally. In particular, *supplementary or collaborative* prescribing models are often the way that pharmacist prescribers operate in many jurisdictions. In these models a medical practitioner makes the initial diagnosis and treatment decision, but the pharmacist selects and manages therapy in accord with the treatment plan. The HPPP project identified problems with these models of practice and they were not included in the final HPPP. Therefore only the three endorsed approaches should be considered as options for pharmacists practising in Australia.

The HPPP states that health professionals may work within more than one model of prescribing in their clinical practice. In the pharmacy context, this means that the level of prescriptive authority exercised may depend on the practice setting. In terms of patient-facing roles, pharmacy practice spans the domains of Primary Care (typically community pharmacy settings), Acute Care (typically hospital settings) and Integrated Care; which covers the range of emerging roles for pharmacists such as outreach services, medication review services and other activities not directly linked with dispensing and supply of medicines.

Regardless of practice setting, all prescribing models, including autonomous prescribing, are based on a collaborative approach with other health professionals involved with caring for the patient.

### 3.6 International Perspective

Pharmacists have been endorsed to prescribe in many of the countries with healthcare standards and principles that are typically considered comparable with those in Australia. Table 4 below outlines approaches to pharmacist prescribing in the USA, UK, New Zealand and Canada.

**Table 4: Approaches to pharmacist prescribing in the USA, UK, New Zealand and Canada.**

Country	Prescribing Model	Education and Training Requirements	Registration Requirements
USA	Prescribing authority varies substantially from state to state. State and Federal law dictate the extent and nature of pharmacist prescribing authority. Examples shown are indicative and do not represent a complete summary of all state legislation.		
	<p><b>Collaborative Practice Agreement (CPA)</b>            Authorised in the majority of US states, a formal agreement in which a licensed provider makes a diagnosis, supervises patient care, and refers patients to a pharmacist under a protocol that allows the pharmacist to perform specific patient care functions (7). Such functions can include initiation, adjustment or discontinuation of drug therapy, ordering, interpreting and monitoring of laboratory tests, development of therapeutic plans and provision of patient education (8). Each state regulates pharmacist activities permitted by law. Organisations must comply with the Pharmacy Practice Act in their state when developing CPAs, which may differ between institutions in the degree of prescribing authority and minimum education requirements (8). Most CPAs are renewed annually or biennially.</p> <p><b>Collaborative Drug Therapy Management (CDTM)</b> is an agreement between one or more providers and pharmacists permitting the pharmacist under a defined protocol to perform patient assessments, counsel, refer, order laboratory tests, administer drugs and select, initiate, monitor, continue and adjust dosage regimens.</p> <p><b>Prescriptive authority (Independent prescribing)</b>            Some states have legislated limited pharmacist prescriptive authority for certain therapeutic categories usually in accordance with a</p>	<p>Specific training and education requirements dictated by the CPA.</p> <p><i>Example 1: Provision of immunisation services may be negotiated as part of a CPA.</i></p> <p><i>Example 2: State law may be amended to modify the specific requirements of CPAs. In Arizona, an amendment to state law has removed the need for annual CPA renewal and for individual CPA protocols to be approved by the Board of Pharmacy.</i></p>	No additional requirement

<p>guideline or protocol. For example:</p> <ul style="list-style-type: none"> <li>▪ Hormonal contraceptives (e.g. Oregon, California) (9) (10)</li> <li>▪ Emergency contraception (e.g. New Mexico) (11)</li> <li>▪ Smoking cessation (e.g. California, New Mexico) (9) (11)</li> <li>▪ Naloxone for opioid overdose (New Mexico) (11)</li> <li>▪ Travel Medicine (California) (9)</li> </ul>	<p>Training varies between states e.g. New Mexico requires certification via short (4 hour) training programs for vaccine, naloxone, and emergency contraception (12). Oregon are developing an online training program for hormonal contraception (10).</p>	
<p>Recent legislation in California will authorise <b>Advanced Practice Pharmacists</b> (APPs), recognised by the California State Board of Pharmacy, to: perform patient assessments; order and interpret drug therapy related tests; refer patients to other health care providers; participate in evaluation and management of diseases and health conditions in collaboration with other health care providers; and initiate, adjust, or discontinue drug therapy (9).</p>	<p>Pharmacists seeking recognition as APPs will be required to complete any two of the following three criteria:</p> <ul style="list-style-type: none"> <li>• Earn certification in a relevant area of practice, such as ambulatory care, critical care, oncology pharmacy or pharmacotherapy.</li> <li>• Complete a postgraduate residency program.</li> <li>• Have provided clinical services to patients for one year under a collaborative practice agreement or protocol with a physician, APP pharmacist, CDTM pharmacist, or health system</li> </ul>	<p>The California State Board of Pharmacy is creating an <i>APP licence</i>.</p>
<p><b>Pharmacist Clinicians</b> in New Mexico currently have prescriptive authority enabling them to prescribe within scope of practice under a written guideline or protocol established and approved by a practitioner (usually in the form of a Collaborative Practice Agreement). The model essentially provides for the pharmacist to prescribe according to an agreed protocol under the supervision of a physician. Pharmacist clinicians are permitted to prescribe, modify and modify drug therapy according to the agreed protocol (13). The protocol has defined requirements including name of physician, type of disease covered, drugs involved and the prescriptive authority for each drug, procedures, decision criteria or plan the pharmacist is to follow (14) (15).</p>	<p>Certification as a Pharmacist Clinician requires:</p> <ul style="list-style-type: none"> <li>• Proof of completion of sixty (60) hour Board approved physical assessment course, followed by a 150 hour, 300 patient contact preceptorship supervised by a physician or other practitioner with prescriptive authority, with hours counted only during direct patient interactions</li> <li>• Submission of a log book of patient encounters</li> </ul>	<p>The New Mexico Board of Pharmacists registers the pharmacist as '<i>certified as a pharmacist clinician</i>'.</p>

	Prescribing Model	Education and Training Requirements	Registration Requirements	Comments
UK	<p><b>Supplementary Prescribing</b></p> <ul style="list-style-type: none"> <li>▪ Collaboration between pharmacist and medical practitioner</li> <li>▪ Doctor responsible for diagnosis</li> <li>▪ Pharmacist prescribes under a clinical management plan</li> </ul> <p><b>Independent Prescribing</b> Pharmacists are able to diagnose and prescribe without medical supervision</p>	<p>For both models, completion of a programme accredited by the General Pharmaceutical Council (GPhC).</p> <p><b>A pre-requisite for entry to an independent prescribing programme is at least two year's patient-oriented experience following pre-registration and registration with the GPhC.</b></p> <p>Conversion programmes (supplementary to independent prescriber) are also available with specific pre-requisite requirements.</p>	<p>Once an approved programme of study is completed, the pharmacist is issued with a practice certificate in independent prescribing and may apply for annotation as a prescriber on the register.</p>	<p>General Pharmaceutical Council:</p> <p><a href="https://www.pharmacyregulation.org/education/pharmacist-independent-prescriber">https://www.pharmacyregulation.org/education/pharmacist-independent-prescriber</a></p>
New Zealand	<p>Essentially the model is one of supplementary prescribing, based on the diagnosis of a medical practitioner</p>	<ul style="list-style-type: none"> <li>• PG Certificate in Clinical Pharmacy in Prescribing (University of Auckland) or</li> <li>• PG Certificate in Pharmacist Prescribing (University of Otago)</li> </ul> <p><b>A pre-requisite for entry to the above courses is PG Diploma in Clinical Pharmacy or equivalent.</b></p>	<p>Application for registration in the Pharmacist Prescriber scope of practice requires submission of a practice plan, which includes description of:</p> <ul style="list-style-type: none"> <li>▪ The pharmacist's role and function within the team structure</li> <li>▪ The clinical area in which prescribing will occur</li> <li>▪ The medicines likely to be prescribed</li> <li>▪ Communication processes</li> </ul> <p>CPD process in the event of changing team or practice area</p>	<p>Pharmacy Council of NZ has developed a Pharmacist Prescriber Scope of Practice</p> <p><a href="http://www.pharmacycouncil.org.nz/prescriber">http://www.pharmacycouncil.org.nz/prescriber</a></p> <p>It is expected that pharmacist prescribers work in a collaborative health environment.</p>

	Prescribing Model	Education and Training Requirements	Registration Requirements
Canada	Prescribing authority varies between provinces and territories. Provincial differences exist in the requirements for education, training and CPD and the model of prescribing permitted. Examples shown are indicative and do not represent a full search of all province/state legislation.		
<p><b>Independent Prescribing</b></p> <p>The majority of provinces have provisions for independent prescribing undertaken by pharmacists. Independent prescribing may include:</p> <ul style="list-style-type: none"> <li>• Continuing an existing prescription</li> <li>• Adapting a prescription</li> <li>• Initiating a new prescription</li> </ul> <p>Prescribers are able to prevent prescription adaptation by a pharmacist by marking the prescription “do not adapt” (16).</p>			
	<p><b>Continuing existing therapy / prescription renewal</b> (most provinces) (16) (17).</p> <p>This form of prescribing is undertaken by the majority of provinces and essentially involves the pharmacist providing continuing therapy without a current prescription. Individual provinces define requirements in relation to:</p> <ul style="list-style-type: none"> <li>• The need to inform the original prescriber (and within what time frame this must occur)</li> <li>• Whether the original prescription must have been filled at the prescribing pharmacy</li> <li>• The duration of therapy provided</li> <li>• Whether controlled drugs may be provided</li> <li>• Whether the patient needs to have been receiving the therapy at a stable dose and, if so, for how long</li> <li>• Documentation requirements</li> <li>• Additional requirements for professional insurance</li> </ul>	<p>Some provinces require additional training e.g. members of the Alberta College of Pharmacy require completion of an orientation program as part of their registration; Pharmacists working in British Columbia require completion of an orientation program.</p> <p>Newfoundland and Labrador- Pharmacists must complete 1.5 hours ‘Orientation to Prescribing by Pharmacists’ training (19).</p>	<p>Pharmacist must apply to Newfoundland and Labrador Pharmacy Board for authorization to prescribe (19).</p>



	Prescribing Model	Education and Training Requirements	Registration Requirements
	<p><b>Prescription modification/adaption</b> (Alberta, British Columbia, Newfoundland and Labrador, New Brunswick) (16) (19)</p> <p>This may include (province dependent):</p> <ul style="list-style-type: none"> <li>• Alteration of dose, formulation, regimen or duration, instructions</li> <li>• Therapeutic substitution within class (note that individual provinces may dictate which drug classes this may apply to)</li> </ul> <p>Requirements for documentation of prescribing intervention and whether the original prescriber is to be informed differ between provinces.</p>	<p>Some provinces require completion of a basic introduction to the prescribing process e.g. The Alberta College of Pharmacists requires pharmacist to complete an orientation program.</p>	
	<p><b>Additional Prescribing</b> (Alberta, New Brunswick, Newfoundland and Labrador)</p> <p>Alberta was the first province in Northern America to allow additional prescribing, which is essentially independent prescribing that includes initiation of therapy and may include prescribing in an emergency.</p> <p>Requirements outlined in each province for:</p> <ul style="list-style-type: none"> <li>• Separation of prescribing and dispensing tasks</li> <li>• Need to have personally assessed the patient</li> <li>• Documentation of assessment, prescription and follow-up plan.</li> <li>• Prescribing in an emergency may include blood products</li> <li>• Need to inform the original prescriber</li> </ul>	<p>The Alberta College of Pharmacists regulates prescribing by pharmacists through the additional prescribing authorization process that allows only qualified pharmacists to prescribe (18).</p> <p>In order to initiate drug therapy or change drug therapy for ongoing management, a pharmacist requires additional prescribing authorization from the Alberta College of Pharmacists (18).</p>	<p>The application process for additional prescribing authority in Alberta involves (18):</p> <ul style="list-style-type: none"> <li>• Self-assessment</li> <li>• Submission of a detailed application including documentation of education and training completed by the pharmacist, the collaborative working relationships the pharmacist has established and two letters of collaboration</li> <li>• The application is assessed by peers and if successful, the pharmacist is issued with an additional prescribing permit</li> <li>• Successful pharmacists are issued with a permit that notes additional prescribing authorization</li> </ul>

	<p><b>Prescribing for minor ailments</b> (Alberta, Newfoundland and Labrador, New Brunswick)</p> <p>Prescribing (including OTC and prescription only medicines) for a patient presenting with a self-limiting, minor condition. Disease states (rather than specific drugs) for which the pharmacist may prescribe have been defined (19) (20) (21).</p>	<p>New Brunswick-pharmacist must undertake minor ailments orientation training program (recorded against individual pharmacist membership status).</p>	<p>Pharmacist must apply to Newfoundland and Labrador Pharmacy Board for authorization to prescribe</p> <p>New Brunswick: Practice authorisations for ‘Assessing and prescribing Minor Ailments’, ‘Collaborative Practice Agreement’ ‘Administration of Injections’ recorded against New Brunswick College of Pharmacists membership status</p>
	<p><b>Administration of injections</b> (Alberta, British Columbia, Manitoba, Ontario, New Brunswick, Nova Scotia, Prince Edward Island)</p> <p>A number of provinces have legislation supporting pharmacist administration of injections.</p>	<p>Province and territory-specific education and training requirements.</p> <p>In some provinces, the patient age and/or vaccination will be specified.</p>	<p>Authorisation to administer injections is provided locally after completion of the required training e.g. pharmacists who successfully complete the required training in New Brunswick are notified of their authorisation to inject by the College of Pharmacists.</p> <p><a href="http://nbcpharmacist.org/site/about-pharmacist">http://nbcpharmacist.org/site/about-pharmacist</a></p>
<b>Collaborative Prescribing</b>			
	<p><b>Collaborative prescribing</b> (New Brunswick)</p> <p>The pharmacist(s) may participate in the practice of ordering, managing and modifying drug therapy according to a written collaborative practice agreement between the pharmacists and physicians who is/are responsible for the patient’s care and authorized to prescribe drugs.</p>	<p>Pharmacists in New Brunswick need to fulfil college requirements for collaborative practice.</p>	<p>New Brunswick College of Pharmacists Professional Practice Requirements:</p> <p><a href="http://nbcpharmacist.org/site/practice-rqmts">http://nbcpharmacist.org/site/practice-rqmts</a></p>

### **3.7 Matters for Consideration**

Given the body of evidence, the extensive experience elsewhere, and the level of preparation for non-medical prescribing generally, the journey to achieve pharmacist prescribing in Australia should be comparatively straightforward. Based on the points raised above, the matters that need to be dealt with are relatively easy to identify. This report explores the issues and where applicable, presents the options for consideration and/or the recommendations that can be considered to address them.

It is important to note, however, that in addition to the three specific topics that will be discussed below, a number of broader issues remain relevant to the consideration of pharmacist prescribing. These factors are outside the scope of this report but may include the following:

- Legislative amendment (and the potential to standardise legislation among states)
- Identification of mechanisms to ensure the quality of pharmacist prescribers and their ongoing competence to prescribe subsequent to initial endorsement
- Workload monitoring e.g. where non-medical prescribers are employed due to the reduced availability of medical officers
- The process for achieving access to PBS prescribing rights

The areas for consideration can be summarised into three broad areas. These are outlined below.

#### **3.7.1 Public Interest**

The public interest must be served by ensuring there are processes in place to guarantee that pharmacists are appropriately trained, qualified and competent to prescribe safely.

In terms of safeguarding the public interest, this report will explore whether there are any gaps in existing training programs and professional practice standards for pharmacists when compared with the NPS national PCF. This gap analysis will be undertaken by mapping the competencies outlined in the PCF against the learning outcomes of an accredited undergraduate program. A separate mapping exercise will compare the national prescribing competencies with three sets of professional practice standards that are applicable to all pharmacists.

The gap analysis is presented in *Section 4* of this report.

#### **3.7.2 Acceptability**

Strategies for pharmacist prescribing must be acceptable among stakeholders; especially the key stakeholders which are (a) the pharmacy profession, (b) patients (c) government (d) regulators, (e) funders and, (f) other health professionals, particularly medical practitioners.

A stakeholder analysis is presented in *Section 5* of this report.

#### **3.7.3 Models of Service Delivery**

The practice settings of prescribing pharmacists must support this activity in a manner that delivers benefits and eases the overall burden on the health system. Local and international perspectives will be explored with a view to identifying best practice models that are transferrable to the Australian environment. This discussion is presented in *Section 6* of this report.

## 4. Gap Analysis

### 4.1 The National Prescribing Competency Framework (PCF)

The PCF consists of seven competency areas. Five of these high-level competency areas are specific to prescribing, whereas the other two are general professional competencies that are considered essential to the prescribing process. Each competency area comprises elements, or essential activities for prescribing, which are further defined by performance criteria. Performance criteria essentially describe observable behaviours associated with the task of prescribing. Included in each competency area is a subsection addressing the knowledge, skills and behaviours required when performing the competency.

For the purposes of this gap analysis, the mapping of training and professional standards will be at the *competency elements* level of the national framework.

Table 5 below summarises the structure of the national PCF.

**Table 5: Summary of structure and elements in the national Prescribing Competencies Framework.**

Number	Competency Area	Number of Elements
1	Understands the person and their clinical needs	3
2	Understand the treatment options and how they support the person's clinical needs	2
3	Works in partnership with the person to develop and implement a treatment plan	3
4	Communicates the treatment plan clearly to other health professionals	2
5	Monitors and reviews the person's response to treatment	2
H1*	Practises professionally	6
H2*	Communicates and collaborates effectively with the person and other health professionals	5

\* Competency areas H1 and H2 are general professional competencies that are critical for prescribing whereas the other five competency areas are specific to prescribing

### 4.2 Undergraduate Curriculum

The Australian Pharmacy Council (APC) is the body responsible for accrediting pharmacy programs of study. In Australia, 17 pharmacy schools have been approved by the APC to deliver entry-level training for pharmacists. This means that, subject to meeting intern requirements, graduates are eligible for registration with the Pharmacy Board of Australia. The Bachelor of Pharmacy degree offered by the Queensland University of Technology is one of the APC accredited courses. This course has been selected as a case study to determine how extensively the curriculum addresses the national prescribing competencies. Gaps identified in this example can be considered a reasonable indication of how well the national prescribing competencies are addressed in undergraduate pharmacist training.

The curriculum learning outcomes were mapped against all 23 elements of the PCF. The complete results of the mapping exercise are included at Appendix A.

Sixteen (70%) prescribing competency elements could be mapped to learning outcomes including all the elements in competency areas 1 and 2. However seven elements could not be identified in undergraduate subject learning outcomes. Table 6 below presents the elements of the national prescribing competency framework that were not specifically identified in the learning outcomes for undergraduate subjects. Apart from 'Element H1.6 - Addresses the potential for bias in prescribing decisions', the unmapped competencies relate to areas of collaboration with the patient and the rest of the care team. This could be construed as a gap in subjects that address the broader context in which therapy is managed and the importance of involving the patient in management decisions.

**Table 6: Elements of the prescribing competencies framework that were not specifically identified in subject learning outcomes (BPharm, QUT)**

Element Number	Element Not Identified in Learning Outcomes	Comment
3.1	Negotiates therapeutic goals with the person	This is not specifically identified but it is likely to be covered as part of professional placements
3.3	Develops a review plan tailored to the person's needs	Often OTC prescribing (which is currently the main area of pharmacist prescribing) involves an instruction to visit the GP if symptoms persist, rather than to return to the pharmacist for review
4.1	Provides clear instructions to other health professionals who dispense, supply or administer medicines prescribed for the person	This is not a component of current practice
5.2	Works in partnership with the person and other health professionals to address issues arising from the review	This may be a component of practice in circumstances where the pharmacist becomes aware of a therapeutic issue; rather than through a structured review process
H1.6	Addresses the potential for bias in prescribing decisions	This is relevant to all areas of prescribing, including OTC health care
H2.1	Obtains consent to provide clinical services to the person	This is not specifically identified but is possibly covered as part of professional placements
H2.2	Acknowledges the person, their family and carers as integral to care and collaborates to achieve optimal health outcomes	This is not specifically identified but it is likely to be covered as part of professional placements

### 4.3 Professional Standards

Three sets of professional practice standards, that are considered to be applicable to all pharmacists regardless of practice setting, were selected for mapping against the PCF. These included:

1. National Competency Standards Framework for Pharmacists in Australia (22)
2. Pharmacy Board of Australia Code of Conduct for Pharmacists (23)
3. Pharmaceutical Society of Australia Code of Ethics for Pharmacists (24)

The professional standards were mapped against all 23 elements of the national prescribing competencies and the complete set of 73 performance criteria. The complete results of the mapping exercise are included at Appendix B.

Sixteen (70%) prescribing competency elements could be completely mapped to professional standards. Of the remaining seven elements, five were substantially addressed by professional standards and two elements were only partly reflected in practice standards. These results are shown in Table 7 below and give rise to a number of discussion points as follows:

- Existing practice standards require pharmacists to fulfil many aspects considered essential to the prescribing process.
- Diagnostic ability, while essential to the assessment and management of minor ailments (a role currently included in the scope of practice for all pharmacists and involving the prescription of S2, S3 and unscheduled therapies) is not adequately reflected in existing standards. Prescribing under any proposed model will require more specific articulation of this process and the responsibilities a pharmacist must meet in regard to this component of the prescribing process.
- Consultation and collaboration with other health professionals is reflected in existing practice standards, however the emphasis remains on the provision of information in support of the prescriptive process undertaken by colleagues. Prescribing under any proposed model will require a greater emphasis on the collaborative nature of decision making in relation to the choice and aims of therapy, including consultation with the patient and/or carer.
- Clear articulation of the requirement for monitoring (and management of outcomes) of instituted therapy with an emphasis on communicating outcomes appropriately is required.

**Table 7: Elements of the PCF that were not fully addressed by pharmacist professional standards.**

Element Number	Element Not Identified in Learning Outcomes	Comment
1.3	Generates and explores possible diagnoses	Partly covered in practice standards but: One performance criterion related to this element ( <i>1.3.1 – Synthesises information from the comprehensive assessment and develops provision and differential diagnoses</i> ) was only partly addressed, And: One performance criterion related to this element ( <i>1.3.2 – Develops a diagnostic strategy and performs relevant investigations</i> ) was not addressed
2.2	Identifies appropriate medicines options that can be incorporated into the person's treatment plan	Substantially covered in practice standards but: One performance criterion related to this element ( <i>2.2.5 – Considers the implications to the wider community of using a particular medicine to treat the person</i> ) was only partly addressed
3.2	Works in partnership with the person and other health professionals to select medicines and to tailor and implement a treatment plan	Substantially covered in practice standards but: One performance criterion related to this element ( <i>3.2.2 – Consults other health professionals about potential medicines and the treatment plan</i> ) was only partly addressed
4.1	Provides clear instructions to other health professionals who dispense, supply or administer medicines prescribed for the person	Partly covered in practice standards: Both the performance criteria for this element of the prescribing competencies framework were only partly addressed
5.2	Works in partnership with the person and other health professionals to address issues arising from the review	Substantially covered in practice standards but: One performance criterion related to this element ( <i>5.2.5 – Organises the next review</i> ) was only partly addressed
H2.5	Collaborates with other health professionals to achieve optimal health outcomes for the person	Substantially covered in practice standards but: One performance criterion related to this element ( <i>H2.5.2 – Confirms that their own understanding of information provided by other health professionals is correct</i> ) was not addressed And: One performance criterion related to this element ( <i>H2.5.4 - Provides clear verbal and written information to other health professionals by secure means when implementing new treatments with medicines or modifying existing treatment plans</i> ) was only partly addressed.

#### 4.4 Summary

Two elements of the PCF are not fully addressed by either the pharmacy undergraduate curriculum or professional standards. These are summarised in Table 8 below.

**Table 8: Elements of the PCF that were not fully addressed by either the undergraduate curriculum or pharmacist professional standards.**

Element Number	Element Not Identified in Learning Outcomes	Comment
4.1	Provides clear instructions to other health professionals who dispense, supply or administer medicines prescribed for the person	This is not addressed in the curriculum because it is not considered a component of current pharmacy practice. It is partly covered in professional standards but both of the performance criteria for this element were only partly addressed
5.2	Works in partnership with the person and other health professionals to address issues arising from the review	This is not addressed in the curriculum but it is substantially covered in professional standards however one performance criterion related to this element (5.2.5 – Organises the next review) was only partly addressed



## 5. Stakeholder Analysis

Extension of prescribing rights to pharmacists will have a significant impact on the landscape of healthcare delivery in acute, integrated and primary care settings. In addition to pharmacists themselves, the parties listed below can be considered stakeholders:

- Patients
- Other health professionals
- Peak pharmacy organisations
- Regulators
- Training organisations
- Funders
- Government

### 5.1 Pharmacists and Pharmacy Organisations

A 2011 review of pharmacist and client views about an expanded prescribing role for pharmacists in Australia (25) found strong support among the pharmacy profession. Unfortunately this work pre-dates development of the HPPP and therefore the terminology used does not align with contemporary language around prescribing models. The review found the prescribing model that was most strongly supported is one in which doctors retain a primary role in diagnosis. However interpretation of the commentary suggests that this translates to support for both (a) a structured prescribing arrangement, where pharmacists follow a protocol following initial diagnosis by a medical practitioner and (b) a supervised prescribing arrangement, where pharmacists (typically hospital pharmacists) work in collaboration with medical practitioners. The same review found some support for pharmacists to have an independent prescribing role but only in the therapeutic areas of pain management, a limited range of infections and asthma management.

The Pharmacy Guild of Australia (PGA) outlines a *Pharmacist Prescribing Continuum* in its 2010 roadmap outlining strategic directions for community pharmacy (26). The roadmap includes significant detail for 'protocol driven' pharmacist prescribing in its 'Community Pharmacy Roadmap Program Development Template'. However, similar to the views expressed above, the PGA indicates this model would be suitable only for disease states that can be clearly diagnosed by a medical practitioner, such as asthma, diabetes, hypertension and hypercholesterolaemia. It also suggests that pharmacists would require additional training/credentialing to undertake this role. The PGA *Pharmacist Prescribing Continuum* also outlines prescribing roles for pharmacists that are 'more independent' but does not elaborate on these because they are considered to be more suitable for independent, or hospital-based pharmacists.

The Pharmaceutical Society of Australia (PSA) has published 'Principles for a national framework for prescribing by non-medical health professionals' (27). This document also pre-dates the HPPP hence the language used does not directly align with the current terminology, as used in this report.

It is important to note that, for all the potential prescribing roles for pharmacists mentioned above, the concept of separation of tasks (between prescribing and supply/dispensing) is viewed as a fundamental safety principle that must be retained.

## 5.2 Patients and Carers

Patients are clearly major stakeholders in prescribing and their perspective will significantly impact the evolution of non-medical prescribing. The HPPP project (2) included research to ascertain the views of consumers regarding non-medical prescribing. The results included the following:

- 92% of respondents perceived a potential benefit of other (non-medical) health professionals prescribing, particularly in terms of better or more timely access to health care and potential improvements in efficiency for the health system
- 81% of respondents were supportive of health professionals other than doctors prescribing, providing appropriate safeguards were in place. These safeguards included (a) assurances of practitioner competence, and (b) communication among health professionals, particularly with general practitioners to ensure continuity of care.

While the HPPP project addressed generic non-medical prescribing, the previously mentioned 2011 review of pharmacist and client views (25) specifically addressed pharmacist prescribing. The review indicated that the literature on this subject (patient perceptions of pharmacist prescribing) is limited. It noted that studies in the UK found that patients who had experienced expanded pharmacist prescribing reported support and benefits from the role. In summary the review found that Australian consumers trust pharmacists to assume broader prescription roles, but only if a doctor has made the initial diagnosis. Similar to the review findings for pharmacist views, consumers indicated some support for independent prescribing by pharmacists, including diagnosis and prescribing, but only in limited specific therapeutic areas.

## 5.3 Other Health Professionals

Research and media commentary that explores the views of other health professionals (apart from the medical profession), towards pharmacist prescribing is extremely limited. This suggests that the majority of non-medical health professions are indifferent to a prescribing role for pharmacists.

In contrast there is a considerably more information available about the opinions of the medical profession. In Australia, the position taken by peak organisations representing the medical profession has historically been one of strong opposition to any expansion of non-medical prescribing.

In 2012, the Australian Medical Association (AMA) published the following statement: *Federal Council rejects all forms of non-medical practitioner (exclusive of dentists) prescribing outside of a consistent and sustainable medically delegated environment in the interests of patient safety.* (28) More recently (November 2014) the AMA expanded on this position stating: *The AMA supports prescribing by non-medical professionals, but only when carried out within strict collaborative care arrangements in partnership with doctors. Most prescribing by non-medical health practitioners currently occurs in public hospitals under strict protocols... The AMA maintains that only medical practitioners should have independent prescribing rights, and will continue to vigorously oppose any move away from this.* (29)

Although the Royal Australian College of General Practitioners (RACGP) first published a position paper on non-medical prescribing in 2009, the document has been removed from the RACGP

website and the RACGP now appears to support a more inclusive approach to expansion of non-medical prescribing than the AMA. This is reflected in the RACGP submission to the HPPP project March 2013, (30) which does not expressly oppose non-medical prescribing but instead references matters of safety, quality, competency/standards, scope of practice, and interprofessional collaboration in all prescribing endeavours. In August 2014, the Committee of Presidents of Medical Colleges issued a *Position Statement on Independent Prescribing* (31) which echoed the principles advocated by the RACGP.

These latter publications appear to better align with the views of individual medical practitioners as demonstrated in studies investigating non-medical prescribing models. Individual medical practitioners, especially those with first hand experience of pharmacist prescribing, typically reflect a more receptive attitude towards non-medical prescribing. Most published studies arise from the UK and relate to supplementary (non independent) prescribing models. However there is an increasing number of examples in Australia where pharmacist prescribing is occurring in collaboration with medical prescribers both in hospital settings and, to a lesser extent, in general practice settings (refer to *Section 6* of this report for more detail about the literature in this area).

It may be that, following the release and adoption of the HPPP and the PCF, together with increasing positive experiences with non-medical prescribing, medical practitioners do not feel as threatened and concerned as they did previously.

## **5.4 Regulators**

The regulation of health professionals, in terms of the activities they may legally/appropriately undertake, is determined through a combination of the roles of following entities:

- Jurisdictions and their respective legislation
- The Australian Health Practitioner Regulation Agency (AHPRA)
- Accreditation agencies

### **5.4.1 Jurisdictions and Legislation**

Although the legislation governing medicines and other therapeutic goods is enacted at both state/territory and commonwealth levels, it is the state level legislation that primarily impacts individual practitioners with respect to their prescriptive authority. While there are various harmonisation strategies that are intended to maintain consistency among the jurisdictions, the potential for variation exists. The regulation of nurse/midwife prescribing provides a case study to illustrate the subtleties and complexities of the legislative framework.

The Nursing and Midwifery Board of Australia (NMBA) may endorse registered nurses and registered midwives to prescribe. There are several categories of endorsement (e.g. nurse practitioner, rural and isolated practice registered nurse - RIPERN, eligible midwife prescribe scheduled medicines). However NMBA endorsement alone is not sufficient to permit an individual to prescribe since they are also subject to the jurisdictional legislation that applies in their place of work. For example an individual may have NMBA endorsement as a RIPERN but will only be able to prescribe when working in a rural/isolated setting; providing this is allowed under the jurisdictional legislation. In addition, the RIPERN will not be able to prescribe PBS-claimable items.

#### **5.4.2 The Australian Health Practitioner Regulation Agency**

AHPRA encompasses the national Registration Boards and the Registers of Practitioners and, where applicable, the endorsements placed on registered practitioners. Given that the current model for nurses, midwives, optometrists and podiatrists involves 'endorsement' to prescribe, it seems likely that a similar model will apply for pharmacist prescribers. The current process for prescribing endorsement by the registration board(s) is based on a submission by an individual and subsequent assessment of qualifications/competency to prescribe in accord with specified standards. A similar application process is likely to apply for pharmacists seeking endorsement to prescribe.

#### **5.4.3 Accreditation Agencies**

Accreditation agencies may focus on healthcare providers at the organisational level or at the individual practitioner level. For example the Quality Care Pharmacy Program (QCPP) is an initiative of the PGA which accredits community pharmacies. The Australian Association of Consultant Pharmacists (AACCP) and the Society of Hospital Pharmacists of Australia (SHPA) may accredit individuals to provide specific services, such as medication management reviews.

In some instances accreditation status may impact healthcare providers' access to certain funding streams such as health insurers. In the case of QCPP accreditation, this is not required for all types of reimbursement but is required to claim for certain medication management services (such as Home Medicines Review) that are funded by Medicare Australia. In addition, organisations that remunerate pharmacies may be more confident about the practice and services provided. Only pharmacists that have been accredited can provide claimable medication management services.

It is possible that, if pharmacist prescribing becomes a claimable benefit (and prescribed medicines are claimable benefits) from Medicare Australia, then eligibility may be linked to QCPP/AACP/SHPA accreditation.

#### **5.5 Training Organisations**

The Bachelor of Pharmacy (BPharm) degree, or corresponding postgraduate equivalent (MPharm), is the entry-level qualification for pharmacists and is the benchmark for registration as a pharmacist. Upon completion of the recognised BPharm or MPharm, graduates complete an approved intern training program and undertake 1,824 hours of supervised practice. At this point they are eligible for registration as a pharmacist. In contrast to many other health professions, the Pharmacy Board of Australia does not recognise or endorse additional qualifications, extended or advanced practice; the only type of registration available for the pharmacy workforce is general registration as a pharmacist.

As part of their undergraduate training, all pharmacy students must complete experiential placement hours (361 hours on average). The aim of experiential placements is to equip students with the skills necessary, particularly in areas of clinical assessment and treatment, to safely commence their period of internship/supervised practice prior to obtaining general registration. Another outcome of experiential placement is to expose students to a variety of practice settings

that may subsequently determine where they seek to complete their supervised training and/or where they decide to practice after registration.

As part of their personal career development and interests, many pharmacists have achieved formal qualifications and completed recognised training that may assist them in gaining employment as well as moving through salary progression scales, such as those used by public hospital employers. However there are no recognised career pathways and there are no formal barriers preventing pharmacists from moving among community, hospital and integrated care sectors; although most pharmacists choose to restrict their scope of practice based on their own assessment of competence. Pharmacists who choose to modify their scope of practice must demonstrate to the Board their competence to practise within the new scope, in addition to their recency of practice, as described in the Board Recency of Practice Registration Standard (6).

## 5.6 Funders

In Australia, there are essentially four ways in which the costs of medicines may be funded, as follows:

- Patients self fund their treatment
- Health insurance companies subsidise treatment costs
- State governments meet the cost – only for certain patient categories in public hospitals
- The Commonwealth government meets/subsidises the cost by way of the PBS

However, the costs of medicines *per se* cannot be considered in isolation because funders must also factor in the costs associated with the consultation and with any investigations (e.g. laboratory tests) that are needed to diagnose and/or monitor.

From a purely financial perspective, it seems likely that self funded patients will welcome the opportunity to access a prescribing pharmacist instead of a medical practitioner. This is because, even if a fee is payable for a consultation with a prescribing pharmacist, this is likely to be less than the consultation fees for medical practitioners. A 2011 study of customer attitudes (25) indicated that almost half of respondents were prepared to pay a fee for pharmacist prescribing services. The same study found that a community pharmacy, rather than the GP's office, was the preferred location for pharmacist prescribers.

Most health insurance companies already offer policies that subsidise '*alternative therapies*' and '*lifestyle interventions*' (e.g. massage, gym memberships) as well as allied health services. It remains to be seen whether consultations with prescribing pharmacists will be covered in this way. Currently the circumstances in which health insurance companies will meet the costs of medicines are limited to prescriptions from medical practitioners and it seems unlikely that the costs of medicines prescribed by pharmacists would be covered.

It is likely that expansion of the role of pharmacists working in public hospitals to include prescribing will be embraced. There are already a number public hospitals piloting this strategy and wider rollout is unlikely to have a negative financial impact.

In terms of funding, it is the position that is ultimately taken by Medicare Australia, through PBS and MBS funding arrangements, that will have the most significant impact.

### **5.6.1 Medicare Australia – PBS funding arrangements**

Various non-medical prescribers have already been given access to the PBS so it follows that the same should apply to pharmacist prescribers in order to ensure equity of access to medicines by consumers.

It could be argued that granting pharmacist prescribers access to PBS prescribing will increase PBS costs however with the 'price disclosure' program this may not be the case because an increasing number of prescriptions fall beneath the patient co-payment. Since pharmacists are more likely to be prescribing from the 'cheap end' of the Schedule rather than new, high-cost medicines, and, given their awareness of pricing and of items that can be purchased over the counter, in fact they may be better placed than other prescribers to achieve savings.

Medicare Australia has already established a precedent for funding of so called 'professional services' through PBS claiming channels. A limitation of this approach is that only 'Approved Pharmacies' can access PBS reimbursement. As long as this funding model persists, it means that pharmacist consultations, and prescribing, cannot be truly independent of the supply and dispensing role. One option is to make pharmacist professional services available through the Medical Benefits Scheme (MBS) in the same way that medical practitioners can access and offer 'bulk billing'.

### **5.6.2 Medicare Australia – MBS funding arrangements**

Medical practitioners and endorsed nurse practitioners are eligible to claim reimbursement through the MBS; whether for consultations (i.e. bulk billing) or for conducting laboratory tests (e.g. pathologists, radiologists).

Prescribing pharmacists will certainly need authority to order laboratory tests but whether or not these orders will be eligible for funding through the MBS or any other arrangements is questionable. Medicare Australia is already engaged in numerous strategies to reduce the number of laboratory tests since many are considered unnecessary. Extending reimbursement rights to pharmacists may well escalate costs, unless better mechanisms for sharing of results among health professionals are established.

## **5.7 Government**

Government and governance policy affects the ability of an individual practitioner to engage in prescribing at several levels. Ultimately, all levels of governance will need to be in alignment for an individual pharmacist to be able to deliver a prescribing service.

At a commonwealth level, the government is responsible for Medicare Australia. As the major funder of healthcare in Australia, decisions about pharmacist eligibility to prescribe/order benefits covered by Medicare Australia is a major factor. Through AHPRA, the Commonwealth is also responsible for regulation/registration of pharmacists, which will include endorsements to prescribe.

At a jurisdictional (state) level, the government is responsible for regulation of medicines and their management. While much of this regulation is based around the scheduling of medicines, which

links back to the Commonwealth, it is jurisdictional legislation that will ultimately determine the 'legality' of prescribing.

At a local level, through policies made by local hospital/health services or 'Medicare Local', individual practitioners may be subject to formulary provisions, credentialing procedures and other frameworks (e.g. employer role descriptions) that determine their ability to prescribe, what they can prescribe and the model in which they may prescribe.

## 6 Models of Service Delivery

### 6.1 Local and International Models

A review of local and international jurisdictions reflects an array of prescribing models and experiences. Some international approaches to pharmacist prescribing have been presented earlier in this report (refer Table 4 in *Section 3.6*) and some specific examples are included at Appendix C. While the approaches and models used overseas may not be directly transferable to the Australian environment, they can be used as a source of inspiration and comparison to assist with development of models here. A summary of the international literature and how it may align with the proposed models of prescribing for pharmacists in Australia is included at Appendix C.

Similarly, at a local level here in Australia, there are already numerous pharmacist prescribing models upon which to draw. Of particular note, is the well-established and strongly embedded ability for pharmacists to supply S2 and S3 medicines. While not generally recognised as prescribing *per se*, this practice is analogous to *Autonomous Prescribing* but from a limited formulary, and without 'separation of tasks' (between prescribing and supply/dispensing). Although not as widespread, the Australian landscape also offers examples of pharmacist prescribing, independent of supply. The majority of experience is in hospital-based settings, often involving pharmacist prescribing anticoagulation in accord with endorsed guidelines; effectively a *Structured Prescribing Arrangement*. Experience in community pharmacy settings is more limited and mostly involves close collaboration with a general practitioner. A recent report indicated 20 or 30 general practices in Australia may have a non-dispensing pharmacist as part of their team (32). Presumably, any prescribing by a pharmacist working in this setting would align with a *Supervised Prescribing* model.

### 6.2 Alignment with HPPP Models

Any models of service delivery involving pharmacist prescribing that are implemented in Australia must align with the HPPP prescribing models i.e. Autonomous vs Structured vs Supervised. It should be noted that the competencies outlined in the PCF are those required to safely operate in an *Autonomous Prescribing* model and may not necessarily apply to other prescribing models. To better understand the competencies required to operate in each prescribing model, the PCF competencies were mapped to each of the HPPP models. The results of this mapping exercise are presented in Appendix D.

In summary, the results in Appendix D show that all but one performance criterion of the PCF are considered essential for practitioners operating under a *Supervised Prescribing* model; as defined by the HPPP.

The exception is Performance Criterion 3.2.5 which states: *Obtains approval to use the medicines (where relevant)*. In a supervised prescribing arrangement, approval to use medicines would be expected to be obtained by the supervising medical practitioner.

All areas of the PCF have applicability for practitioners operating under a *Structured Prescribing Arrangement* but certain performance criteria within some areas/elements are not considered essential as follows:



- Area 2 – Element 2.2 – *Identifies appropriate medicines options that can be incorporated into the person’s treatment plan* – five out of the nine performance criteria are not considered essential (2.2.1, 2.2.2, 2.2.3, 2.2.4, 2.2.5)
- Area 3 – Element 3.1 – *Negotiates therapeutic goals with the person* – one out of the two performance criteria is not considered essential (3.1.1)
- Area 3 – Element 3.2 – *Works in partnership with the person and other health professionals to select medicines and to tailor and implement a treatment plan* – four out of the seven performance criteria are not considered essential (3.2.1, 3.2.3, 3.2.4, 3.2.5)
- Area 4 – Element 4.1 – *Provides clear instructions to other health professionals who dispense, supply, or administer medicines prescribed for the person* – one out of the two performance criteria is not considered essential (4.1.2)
- Area H1 – Element H1.3 - *Practices within the applicable frameworks of the healthcare setting and system* - one out of the three performance criteria is not considered essential (H1.3.3)
- Area H1 – Element H1.4 - *Practices quality use of medicines principles* - one out of the 4 performance criteria are not considered essential (H1.4.4)
- Area H1 – Element H1.6 - *Addresses the potential for bias in prescribing decisions* - is not considered essential

**NOTE:** All elements and criteria in Competency Area 1 - *Understands the person and their clinical needs* – and Area H2 – *Communicates: Communicates and collaborates effectively with the person and other health professionals* are considered essential.

In summary it is clear that the prescribing competences considered essential for a practitioner operating under a *Structured Prescribing Arrangement* are considerably less than for the other two prescribing models. This has implications for pharmacists in terms of influencing the models of prescribing that may be implemented in particular practice settings and for individual pharmacists.

### 6.3 Discussion

As outlined in *Section 4.4*, the existing pharmacy undergraduate curriculum, together with professional standards, addresses the majority of the competencies required for *Autonomous Prescribing*. Two of the elements of the PCF are not covered by either and need to be addressed for pharmacists to safely operate in both *Autonomous Prescribing* and *Supervised Prescribing* models (Elements 4.1 and 5.2).

Not all areas of the PCF are applicable for practitioners operating under a *Structured Prescribing Arrangement* and Element 4.1<sup>1</sup> is among those not considered necessary. Element 5.2<sup>2</sup> is applicable in a *Structured Prescribing Arrangement* and is not fully covered, with the area of insufficiency relating to the performance criterion that requires the practitioner to organise the next review/appointment. This result suggests that, with a minor refinement to practice, all pharmacists are well placed (in terms of prescribing competency) to prescribe under a *Structured*

<sup>1</sup> Element 4.1: Provides clear instructions to other health professionals who dispense, supply or administer medicines prescribed for the person

<sup>2</sup> Element 5.2: Works in partnership with the person and other health professionals to address issues arising from the review

*Prescribing Arrangement.* However, the structure of the prescribing arrangement, nature of applicable drug therapy protocol or other management plan and the relevant scope of practice need to be clearly defined for each prescriber and specific legislation, professional guidance and standards developed to support the process.

To participate in *Autonomous Prescribing* and *Supervised Prescribing* models, pharmacists will require additional training. While the majority of the PCF competencies are addressed, this is likely to occur in the context of professional practice, rather than the task of prescribing *per se*. In most practice settings specialised training will be required to prescribe under these models. For all potential models of prescribing, there is a clear need to ensure training and competence is commensurate with both the breadth (e.g. the number of potential disease states influencing the prescribing process; the complexity of the management strategies, including the pharmacotherapy) and the depth (e.g. the number and complexity of drugs considered applicable to the prescribing process) of the prescribing scope.

## **7 The Role of the Pharmacy Board of Australia**

It is prudent for the Pharmacy Board of Australia (PBA) to consider its role in pharmacist prescribing because, like other health practitioner registration boards, it will play a pivotal part in the process. Some aspects will be a continuation of existing responsibilities in terms of (a) setting/ratifying registration standards, (b) recognising graduates from accredited or approved programs of study as eligible for registration, and (c) requiring individuals to commit to continuing professional development. However a key initiative will be to develop a process for prescribing endorsement. This is likely to take the form of a registration standard for consideration and approval by the Ministerial Council.

Development of a registration standard around endorsement to prescribe will need to consider published research and include consultation with pharmacy professional organisations. In developing the standard, the PBA should acknowledge that registered pharmacists may undertake some aspects of prescribing within their existing scope of practice. However prescribing which requires more specialised clinical and pharmacological knowledge in conjunction with advanced clinical reasoning will require additional training. Training organisations, which may include professional organisations, will then need to develop education/training programs to address the approved registration standard.

It is important to note that recognition of advanced practice by the pharmacy profession remains a separate process to that of endorsement to prescribe medicines.

## 8 Conclusion

Given the pressures on the healthcare system and the international precedents that support safety, quality and access, to medicines, it is likely that prescribing rights of pharmacists will be expanded in Australia. Although not generally acknowledged as *prescribing*, all pharmacists already engage in *de facto* prescribing by virtue of the S2/S3 supply provisions.

The existing undergraduate curriculum and professional standards applicable to pharmacists indicate that pharmacists are well placed, in terms of their assumed prescribing competencies, to prescribe in each of the three HPPP prescribing models. However in most practice settings, specific, and sometimes specialised, training will be required to prescribe under these models. There are some gaps and issues that will need to be addressed. These may be mapped to the five key areas outlined by the HPPP as described below.

### 8.1 Gaps and Issues

#### 8.1.1 Education and Training Requirements

The mapping exercise identified some gaps in the current undergraduate curriculum, which were also not addressed by professional standards for pharmacists. Training organisations, which may include professional organisations will need to review their training programs to consider the PCF when designing curricula for undergraduate and postgraduate training. They will need to ensure that the training offered focusses on the task of prescribing per se, not only on the professional aspects of prescribing.

#### 8.1.2 Recognition from the National Registration Board

It is likely that PBA will adopt a similar model to other registration boards in terms of developing a registration standard around prescribing and annotating a pharmacists registration with an 'endorsement' to prescribe scheduled medicines, providing the practitioner submits evidence that they meet the standard. The registration standard will need to be developed in consultation with the pharmacy profession and will presumably reference the PCF.

#### 8.1.3 Authority to Prescribe

Relevant jurisdictional legislation will need to be reviewed and, where appropriate, updated, to recognise prescribing in the context of the three HPPP models of prescribing. Ideally the language used in the legislation will align with the HPPP terminology. For example, rather than referring to 'Supply in accord with a Drug Therapy Protocol', the legislation will refer to 'Prescribing in a Structured Prescribing Arrangement'.

#### 8.1.4 Scope of Practice and Models of Care

Local governance, through organisations such as hospital and health service providers, Medicare Locals and/or employers, will be the primary mechanism for managing scope of practice and ensuring appropriate models of care are in place. They may draw on experiences documented in the literature but will need to be cognisant of the limitations applicable to the Australian environment.

### **8.1.5 Maintaining and Enhancing Competence**

While the PBA is likely to be responsible for initial endorsement and ensuring pharmacists commit to ongoing professional development, there may be a role for professional bodies such as the AACP and SHPA in (re-)accrediting pharmacists to prescribe. Whether such accreditation is a dependency for endorsement, or is a requirement over and above endorsement, is a matter to be determined in collaboration with the profession.

## **8.2 Implementation Principles**

As outlined above, any expansion of pharmacist prescribing must be in the context of service delivery models that align with the HPPP models of prescribing.

All stakeholders see separation of the tasks of prescribing and dispensing/supply as an essential principle that must be upheld.

In addition the stakeholder analysis presented in this report indicated that for prescribing in community-based settings, there is a strong view among the pharmacy profession, the medical profession, and clients/patients themselves that the patient's general practitioner is directly involved. This may be through diagnosis and/or ongoing liaison about treatment and response.

For pharmacists working in hospital settings, it is most likely that prescribing roles will develop in specialised areas, e.g. anticoagulation, and therefore be associated with a clearly defined scope of practice.

## **8.3 Recommendations**

It is recommended that the Pharmacy Board of Australia:

- Collaborate with the pharmacy profession to develop a registration standard for endorsement to prescribe scheduled medicines. This registration standard should reference both the PCF prescribing competencies and the HPPP models of prescribing.
- Consider whether ongoing endorsement will be subject to accreditation/assessment by a third party such as a professional organisation (e.g. AACP, SHPA).

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## Appendix A

Full results from mapping of the NPS PCF competency '*elements*' against curriculum learning outcomes for Bachelor of Pharmacy, QUT are presented in the table below.

### \*Legend for Assessment Codes

Written Examination	Oral Examination	Viva Voce	Case Presentation	Written Research	Oral Research	Written Reflection	Clinical Performance Appraisal	Portfolio	Objective Structured Clinical Examination
WE	OE	V	CP	WR	OR	WREF	CPA	PF	OSCE

Mapping of NPS Competencies Required to Prescribe Medicines (Element Level) against the Bachelor of Pharmacy, QUT Curriculum Learning Outcomes			
Subject	Applicable Learning Outcomes	Assessment Methods	Code*
Competency Area 1 Assessment: Understands the person and their clinical needs			
Element 1.1 Establishes a therapeutic partnership with the person and a collaborative relationship with other health professionals			
CSB111 Foundations of Clinical Practice	4 –Demonstrate effective clinical communication skills (both written and oral)	<ul style="list-style-type: none"> <li>Written Examination 40% (LO 1,2,4,5) Ability to interpret information regarding the Australian health care system, the burden of disease, communication, relevant clinical practice guidelines, professional and legal frameworks using appropriate terminology and language</li> <li>Group Activity – inter-professionalism, role of health disciplines relating to a specific case; presented in video format 30% (LO 4,5,6)</li> </ul>	WE  OR
CSB420 Introduction to Pharmacy Practice	2 –Demonstrate an ability to dispense OTC and scheduled pharmaceutical products and <b>provide counselling</b> on their proper usage to patients.	<ul style="list-style-type: none"> <li>Written Examination 15% (LO 1-3) Mid-semester progress exam</li> <li>Written Examination 35% (LO 1-3) End-semester exam</li> <li>Practical Examination 50% (LO 2-4)</li> </ul>	WE WE OE
CSB440 Pharmacy Practice 2	2 -Demonstrate dispensing competence including eliciting, reviewing and assessing patient information, maintaining records and <b>patient counselling</b> .	<ul style="list-style-type: none"> <li>Written Examination (mid and end semester) 15% 35% (LO 1-4)</li> <li>Oral Examination (end semester) 50% (LO 1-4)</li> </ul>	WE (2) OE
CSB450 Pharmacy Practice 3	1 –Effectively provide <b>counselling</b> to patients who have been diagnosed with endocrine and CNS diseases on the management of their disease and the quality use of their prescribed medication.	<ul style="list-style-type: none"> <li>Written Examination (mid and end semester) 15%, 35% (LO 1,2,3)</li> <li>Oral Practical Examination 50% (LO 1,2,3)</li> </ul>	WE (2) OE
CSB460 Pharmacy Practice 4	2 –Effectively communicate advice to patients on their proper use of these drugs and their possible adverse effects	<ul style="list-style-type: none"> <li>Written Examination (mid and end semester) 15%, 35% (LO 1,2,3)</li> <li>Viva voce 50% (LO 1,2,3)</li> </ul>	WE (2) V
CSB470 Pharmacy Practice 5	2 -Competently provide practical advice on health issues to promote, maintain and support patient health care following the principles of quality use of medicines	<ul style="list-style-type: none"> <li>Written Theory Examinations (mid and end semester) 15%, 35% (LO 1,2,3)</li> <li>Oral Practical Examination (end semester) 50% (LO 1,2,3)</li> </ul>	WE (2) OE

Mapping of NPS Competencies Required to Prescribe Medicines (Element Level) against the Bachelor of Pharmacy, QUT Curriculum Learning Outcomes			
Subject	Applicable Learning Outcomes	Assessment Methods	Code*
CSB480 Pharmacy Practice 6	2 -Demonstrate an up to date knowledge of medications and diseases by effectively communicating this information with consumers, prescribers and other health practitioners	<ul style="list-style-type: none"> <li>Written Examination (mid and end semester) 15%, 35% (LO1, 2, 3)</li> <li>Oral Practical Examination (end semester) 50% (LO 1,2,3)</li> </ul>	WE (2) OE
<b>Element 1.2 Performs a comprehensive medicines assessment to obtain information to understand the person's clinical needs and context</b>			
CSB440 Pharmacy Practice 2	2 -Demonstrate dispensing competence including <b>eliciting, reviewing and assessing patient information</b> , maintaining records and <b>patient counselling</b> .	<ul style="list-style-type: none"> <li>Written Examination (mid and end semester) 15% 35% (LO 1-4)</li> <li>Oral Examination (end semester) 50% (LO 1-4)</li> </ul>	WE (2) OE
CSB111 Foundations of Clinical Practice	4 –Demonstrate effective clinical communication skills (both written and oral)	<ul style="list-style-type: none"> <li>Written Examination 40% (LO 1,2,4,5) Ability to interpret information regarding the Australian health care system, the burden of disease, communication, relevant clinical practice guidelines, professional and legal frameworks using appropriate terminology and language</li> <li>Group Activity – inter-professionalism, role of health disciplines relating to a specific case; presented in video format 30% (LO 4,5,6)</li> </ul>	WE  OR
<b>Element 1.3 Generates and explores possible diagnoses</b>			
CSB463 Pharmaco-therapeutics 1	<p>1 -Informatively and critically discuss the <b>diagnosis of infectious disease states</b>.</p> <p>2 -Integrate your knowledge of human infectious disease states and the microbial causative agents.</p> <p>3 -Discuss the <b>pathophysiology of infectious diseases</b> and their management.</p>	<ul style="list-style-type: none"> <li>Written Examination (end semester) 60% (LO 1,2,3,4)</li> <li>Assignment – involving literature review of diagnosis, management and clinical considerations of an infectious disease 30% (LO 2,3,4,5)</li> <li>Viva Voce 10% (LO 1-5)</li> </ul>	WE WR V
LQB301 Medical Microbiology and Infection Control	2 -Research and interpret the (a) <b>signs and symptoms of disease</b> ; (b) risks of transmission and (c) appropriate infection control procedures to employ for a specific microbial pathogen.	<ul style="list-style-type: none"> <li>Written Examination –SA 60%, MCQ 20% (LO 1,2)</li> <li>Information Brochure for other allied health professionals 20% (LO 2)</li> </ul>	WE (2) WR
LQB182 Cell and Molecular Biology	<p>1-Demonstrate an introductory understanding and be able to describe the structure and function of human cells and the important biomolecules that constitute cells</p> <p>2-Explain the dynamic nature of the molecular mechanisms that operate within and control the cell</p> <p>3-Understand the connections between cell structure and function, and solve problems in cell and molecular biology</p>	<ul style="list-style-type: none"> <li>Problem solving task 15% (LO 2 &amp; 3) Students are set genetics problems as a series of consecutive workshops using an online virtual genetics program and are required to analyse and solve the problems in a written submission</li> <li>Written Examination (MCQ and short essay) 60% (LO 1-3) covering content from all components of the unit</li> </ul>	WR  WE
LQB488 Medical Physiology 2	<p>1 -Understand the functional organisation and integration of each of the major organ systems of the human body.</p> <p>2 -Understands the mechanisms responsible for the maintenance of health, the <b>physiological basis of some disease</b> and of some therapeutic strategies.</p>	<ul style="list-style-type: none"> <li>Written Examination – MCQ and SA (mid and end semester) 20%, 40% (LO 1,2,3,4)</li> </ul>	WE (2)

Mapping of NPS Competencies Required to Prescribe Medicines (Element Level) against the Bachelor of Pharmacy, QUT Curriculum Learning Outcomes			
Subject	Applicable Learning Outcomes	Assessment Methods	Code*
LQB388 Medical Physiology 1	1 -Understand the functional organisation and integration of each of the major organ systems of the human body. 2 -Understands the mechanisms responsible for the maintenance of health, the <b>physiological basis of some disease</b> and of some therapeutic strategies.	<ul style="list-style-type: none"> <li>Written Examination – MCQ and SA (mid and end semester) 20%, 40% (LO 1-4)</li> </ul>	WE (2)
LQB381 Biochemistry	3 -Develop an insight into <b>biochemical concepts and applications in the diagnosis and treatment of disease</b> , and demonstrate competence in using equipment available in a contemporary biochemistry laboratory.	<ul style="list-style-type: none"> <li>Laboratory/Practical Workbook Review 30% (LO 2,3,4)</li> <li>Written Report 15% (LO 1-4)</li> <li>Written Examination (mid and end semester) MCQ mid semester; MCQ, SA, LA end semester 25%, 30% (LO 1-4)</li> </ul>	WR WR WE (2)
LQB281 Human Health and Disease Concepts	1 -Demonstrate broad and coherent theoretical and practical knowledge of <b>causes and pathological outcomes of human diseases</b> and immunological responses to disease.	<ul style="list-style-type: none"> <li>Written Case Study – relating to an ID with details of diagnosis, management and literature supporting treatment decisions 20% (LO 1,3,4)</li> <li>Laboratory/Practical participation and completion of worksheets 30% (LO 1,3,4,5)</li> <li>Written Examination – MCQ 50% (LO 1-4)</li> </ul>	CP WR WE
LSB250 Human Physiology	1 -Understand the fundamental principles of human physiology and gain an awareness of current topics in medical physiology. 2 -Be able to discern between the types of control exerted by the endocrine and nervous systems. 3 -Understand the basic electrical and molecular events associated with nerve cell communication and skeletal, smooth and cardiac muscle contraction. 4 -Be able to distinguish between the various divisions of the nervous system and their functions. 5 -Understand the physiology of all of the major body systems, including the cardiovascular, lymphatic, immune, respiratory, renal and digestive systems.	<ul style="list-style-type: none"> <li>Quiz – SA related to laboratory work 50% (LO 1-5)</li> <li>Online Literature Review Contribute to class encyclopaedia/text by researching a given topic 15% (LO 1-5)</li> <li>Written Examination – SA and LA 35% (LO 1-5)</li> </ul>	WE WR WE
CSB111 Foundations of Clinical Practice	5 –Describe the determinants of health including the physical, psychosocial and environmental factors that can influence health status 6-Apply research methods and skills to collect, organise and evaluate required information from relevant sources	<ul style="list-style-type: none"> <li>Group Activity – inter-professionalism, role of health disciplines relating to a specific case; presented in video format 30% (LO 4,5,6)</li> <li>Written Examination –MCQ 40% (LO 1,2,4,5)</li> </ul>	OR WE
<b>Competency Area 2 Treatment options: Understands the treatment options and how they support the person's clinical needs</b>			
<b>Element 2.1 Considers non-pharmacological treatment options suitable for treating the person and their condition</b>			
CSB486 Professional Placements 2	3 -Apply your knowledge of pharmacological and non-pharmacological health care products to solving practical clinical problems using evidence-based practice encountered in a real world pharmacy setting.	<ul style="list-style-type: none"> <li>Group QUM project (LO 1-4) 0%</li> <li>Log/workbook (reflective assessment of experiential placement and relationship to competency standards. Emphasis on EBM) (LO1-4) 0%</li> </ul>	WR WREF
CSB476	3 -Apply your knowledge of pharmacological and non-pharmacological health care products to	<ul style="list-style-type: none"> <li>Reflective Journal of experiential learning (over 4 week period). Pass/Fail (LO 1-4)</li> </ul>	WREF

## Mapping of NPS Competencies Required to Prescribe Medicines (Element Level) against the Bachelor of Pharmacy, QUT Curriculum Learning Outcomes

Subject	Applicable Learning Outcomes	Assessment Methods	Code*
Professional Placements 1	solving practical clinical problems encountered in a real world pharmacy setting.	<ul style="list-style-type: none"> <li>▪ Clinical Performance Assessment Pass/Fail</li> </ul>	CPA
CSB440 Pharmacy Practice 2	<p>1 -Develop an understanding of the clinical presentation, drug treatment, prevention, patient medication and lifestyle education for selected cardiovascular diseases, respiratory conditions, smoking cessation, topical inflammatory diseases, contraception and thyroid disorders.</p> <p>4 -Correctly calculate the therapeutic dose of a wide range of clinical scenarios and pharmaceutical formulations.</p>	<ul style="list-style-type: none"> <li>▪ Written Examination (mid and end semester) 15%, 35% (LO 1-4)</li> <li>▪ Oral Practical Examination (end semester) 50% (LO 1-4)</li> </ul>	WE (2) OE
CSB460 Pharmacy Practice 4	3 –Recognise and recommend appropriate treatment for common infectious diseases and wounds.	<ul style="list-style-type: none"> <li>▪ Written Examination (mid and end semester) 15%, 35% (LO 1,2,3)</li> <li>▪ Viva voce 50% (LO 1,2,3)</li> </ul>	WE (2) V
CSB470 Pharmacy Practice 5	2 -Competently provide practical advice on health issues to promote, maintain and support patient health care following the principles of quality use of medicines	<ul style="list-style-type: none"> <li>▪ Written Theory Examinations (mid and end semester) 15%, 35% (LO 1,2,3)</li> <li>▪ Oral Practical Examination (end semester) 50% (LO 1,2,3)</li> </ul>	WE (2) OE
LQB301 Medical Microbiology and Infection Control	2 -Research and interpret the (a) signs and symptoms of disease; (b) risks of transmission and; (c) appropriate infection control procedures to employ for a specific microbial pathogen	<ul style="list-style-type: none"> <li>▪ Written examination –SA 60% (LO1,2)</li> <li>▪ Written information brochure for allied health professionals 20% (LO 2)</li> </ul>	WE WR
LQB182 Cell and Molecular Biology	<p>1-Demonstrate an introductory understanding and be able to describe the structure and function of human cells and the important biomolecules that constitute cells</p> <p>2-Explain the dynamic nature of the molecular mechanisms that operate within and control the cell</p> <p>3-Understand the connections between cell structure and function, and solve problems in cell and molecular biology</p>	<ul style="list-style-type: none"> <li>▪ Problem solving task 15% (LO 2 &amp; 3) Students are set genetics problems as a series of consecutive workshops using an online virtual genetics program and are required to analyse and solve the problems in a written submission</li> <li>▪ Written Examination (MCQ and short essay) 60% (LO 1-3) covering content from all components of the unit</li> </ul>	WR WE
CSB111 Foundations of Clinical Practice	<p>5 –Describe the determinants of health including the physical, psychosocial and environmental factors that can influence health status</p> <p>6-Apply research methods and skills to collect, organise and evaluate required information from relevant sources</p>	<ul style="list-style-type: none"> <li>▪ Group Activity – inter-professionalism, role of health disciplines relating to a specific case; presented in video format 30% (LO 4,5,6)</li> <li>▪ Written Examination –MCQ 40% (LO 1,2,4,5)</li> </ul>	OR WE
LQB488 Medical Physiology 2	<p>1 -Understand the functional organisation and integration of each of the major organ systems of the human body.</p> <p>2 -Understands the mechanisms responsible for the maintenance of health, the <b>physiological basis of some disease</b> and of some therapeutic strategies.</p>	<ul style="list-style-type: none"> <li>▪ Written Examination – MCQ and SA (mid and end semester) 20%, 40% (LO 1,2,3,4)</li> </ul>	WE (2)
LQB388 Medical Physiology 1	<p>1 -Understand the functional organisation and integration of each of the major organ systems of the human body.</p> <p>2 -Understands the mechanisms responsible for the maintenance of health, the <b>physiological</b></p>	<ul style="list-style-type: none"> <li>▪ Written Examination – MCQ and SA (mid and end semester) 20%, 40% (LO 1-4)</li> </ul>	WE (2)

## Mapping of NPS Competencies Required to Prescribe Medicines (Element Level) against the Bachelor of Pharmacy, QUT Curriculum Learning Outcomes

Subject	Applicable Learning Outcomes	Assessment Methods	Code*
	<b>basis of some disease</b> and of some therapeutic strategies.		
LSB250 Human Physiology	1 -Understand the fundamental principles of human physiology and gain an awareness of current topics in medical physiology. 2 -Be able to discern between the types of control exerted by the endocrine and nervous systems. 3 -Understand the basic electrical and molecular events associated with nerve cell communication and skeletal, smooth and cardiac muscle contraction. 4 -Be able to distinguish between the various divisions of the nervous system and their functions. 5 -Understand the physiology of all of the major body systems, including the cardiovascular, lymphatic, immune, respiratory, renal and digestive systems.	<ul style="list-style-type: none"> <li>▪ Quiz – SA related to laboratory work 50% (LO 1-5)</li> <li>▪ Online Literature Review Contribute to class encyclopaedia/text by researching a given topic 15% (LO 1-5)</li> <li>▪ Written Examination – SA and LA 35% (LO 1-5)</li> </ul>	WE WR  WE
LQB281 Human Health and Disease Concepts	1 -Demonstrate broad and coherent theoretical and practical knowledge of <b>causes and pathological outcomes of human diseases</b> and immunological responses to disease.	<ul style="list-style-type: none"> <li>▪ Written Case Study – relating to an ID with details of diagnosis, management and literature supporting treatment decisions 20% (LO 1,3,4)</li> <li>▪ Laboratory/Practical participation and completion of worksheets 30% (LO 1,3,4,5)</li> <li>▪ Written Examination – MCQ 50% (LO 1-4)</li> </ul>	CP WR WE
LQB381 Biochemistry	2 –Compare and contrast the metabolism of cells and tissues in normal and pathological situations and evaluate the relationship between central biochemical foundations and major cellular processes. 3 -Develop an insight into <b>biochemical concepts and applications in the diagnosis and treatment of disease</b> , and demonstrate competence in using equipment available in a contemporary biochemistry laboratory.	<ul style="list-style-type: none"> <li>▪ Laboratory/Practical Workbook Review 30% (LO 2,3,4)</li> <li>▪ Written Report 15% (LO 1-4)</li> <li>▪ Written Examination (mid and end semester) MCQ mid semester; MCQ, SA, LA end semester 25%, 30% (LO 1-4)</li> </ul>	WR WR WE (2)
<b>Element 2.2 Identifies appropriate medicines options that can be incorporated into the person's treatment plan</b>			
CSB470 Pharmacy Practice 5	1 -Competently dispense/supply a range of medications following assessment of a range of case based clinical scenarios for a diverse range of diseases and disorders and <b>demonstrate knowledge of the efficacy and safety of recently released pharmaceutical drugs and be able to critically evaluate their therapeutic role compared to older medicines.</b> 3 -Display understanding of the principles of pharmacoepidemiology and evidence based medicine.	<ul style="list-style-type: none"> <li>▪ Written Theory Examinations (mid and end semester) 15%, 35% (LO 1,2,3)</li> <li>▪ Oral Practical Examination (end semester) 50% (LO 1,2,3)</li> </ul>	WE (2) OE
CSB473 Pharmaco-therapeutics 2	1 -Have an understanding of the pathological basis of selected cardiovascular, blood, thoracic, hepatic, endocrine disorders, toxinology and bone and joint disorders. 2 -Understand the evidence base upon which drugs are selected and used for the management of disease. Be able to <b>identify and critically interpret authoritative literature.</b> 3 -Understand the mechanisms through which drugs exert an effect and be able to predict	<ul style="list-style-type: none"> <li>▪ Written Examinations (mid and end of semester) 20%, 40% (LO 1-4)</li> <li>▪ Group written assignment (in-depth review of a pharmacotherapeutic solution, incorporating evidence based medicine to a clinical scenario) 40% (LO 1-4)</li> <li>▪ Viva Voce (end semester) – no weighting but required to pass.</li> </ul>	WE (2) WR V

Mapping of NPS Competencies Required to Prescribe Medicines (Element Level) against the Bachelor of Pharmacy, QUT Curriculum Learning Outcomes			
Subject	Applicable Learning Outcomes	Assessment Methods	Code*
	drug interactions and adverse and toxic effects. 4 -Understand the benefits and risks of administration of drugs.		
CSB486 Professional Placements 2	3 - Apply your knowledge of pharmacological and non-pharmacological health care products to solving practical clinical problems using evidence-based practice encountered in a real world pharmacy setting.	<ul style="list-style-type: none"> <li>▪ Group QUM project (LO 1-4) 0%</li> <li>▪ Log/workbook (reflective assessment of experiential placement and relationship to competency standards. Emphasis on EBM) (LO1-4) 0%</li> </ul>	WR WREF
CSB483 Pharmaco-therapeutics 3	1 -Relate the pathophysiology of neurological, oncological and renal disorders to an appropriate therapeutic regime for these conditions. 2 -Apply your knowledge of pharmacology in order to understand how the medications used can manage the above mentioned disorders.	<ul style="list-style-type: none"> <li>▪ Written Examination 40% (LO 1,2)</li> <li>▪ Viva Voce 30% (LO 1,2)</li> </ul>	WE V
CSB476 Professional Placements 1	3 -Apply your knowledge of pharmacological and non-pharmacological health care products to solving practical clinical problems encountered in a real world pharmacy setting.	<ul style="list-style-type: none"> <li>▪ Reflective Journal of experiential learning (over 4 week period). Pass/Fail (LO 1-4)</li> <li>▪ Clinical Performance Assessment Pass/Fail.</li> </ul>	WREF CPA
CSB463 Pharmaco-therapeutics 1	4 - <b>Describe the treatment of infectious diseases including quality use of medicines issues</b> and the role of the pharmacist in maximising health outcomes for the patient.	<ul style="list-style-type: none"> <li>▪ Written Examination (end semester) 60% (LO 1-4)</li> <li>▪ Assignment – involving literature review of diagnosis, management and clinical considerations of an infectious disease 30% (LO 2,3,4,5)</li> <li>▪ Viva voce 10% (LO 1-5)</li> </ul>	WE WR V
CSB462 Pharmaceutics 2	2 -Demonstrate an understanding of the physical processes involved in oral controlled release formulations and the influence of these products on patients dosage regimens.	<ul style="list-style-type: none"> <li>▪ Written Examination (mid and end semester) 20%,40% (LO 1-4)</li> </ul>	WE (2)
CSB461 Pharmacogenomics and Drug Metabolism	2 -Understand how the chemical structure of drugs influences metabolism, and the concepts of active metabolites and prodrugs 3 -Demonstrate knowledge of basic genetic principles and <b>how the genetic composition of a patient may affect drug metabolism and drug effectiveness.</b> 4 -Understand the <b>impact of pharmacogenomics on the choice and dosing</b> regimens of drugs and how this will affect the pharmacy profession in the future.	<ul style="list-style-type: none"> <li>▪ Written Examination –Long Answer (mid and end semester) 25%,35% (LO 1-4)</li> <li>▪ Written Report 40% (LO 1-4) Drug metabolism and pharmacogenomics of a group of drugs</li> </ul>	WE (2) WR
CSB460 Pharmacy Practice 4	3 -Recognise and recommend appropriate treatment for common infectious diseases and wounds.	<ul style="list-style-type: none"> <li>▪ Written Examination (mid and end semester) 15%, 35% (LO 1,2,3)</li> <li>▪ Viva voce 50% (LO 1,2,3)</li> </ul>	WE (2) V
CSB453 Pharmacology 3	1 -Competently discuss the physiological effects and molecular mechanisms of action of a wide range of drug classes that act on the central nervous system and their associated adverse effects and be able to critically discuss the results of clinical trials in terms of the efficacy and safety of drugs and the use of meta-analysis for comparison of multiple drugs. 2 -Demonstrate knowledge of the pharmacology of substance abuse and scientific basis of current therapeutic strategies used in the treatment of withdrawal syndromes. 3 -Understand the mechanism of action of endocrine drugs and the therapeutic use of these	<ul style="list-style-type: none"> <li>▪ Written Examination (mid and end semester) 40%,20% (LO 1-4)</li> <li>▪ Written Assignment (pharmacology and evidence base for the use of medicines studied) 40% (LO 1,2)</li> </ul>	WE (2) WR

## Mapping of NPS Competencies Required to Prescribe Medicines (Element Level) against the Bachelor of Pharmacy, QUT Curriculum Learning Outcomes

Subject	Applicable Learning Outcomes	Assessment Methods	Code*
	agents.		
CSB450 Pharmacy Practice 3	3-Display knowledge of the social, legal and ethical implications of drug addiction and be competent in providing counselling to patients and their families on suitable pharmacotherapies that are available to assist patients experiencing withdrawal.	<ul style="list-style-type: none"> <li>▪ Written Examination (mid and end semester) 15%, 35% (LO 1,2,3)</li> <li>▪ Oral Practical Examination 50% (LO 1,2,3)</li> </ul>	WE (2) OE
LQB488 Medical Physiology 2	2 -Understands the mechanisms responsible for the maintenance of health, the physiological basis of some disease and of <b>some therapeutic strategies</b> .	<ul style="list-style-type: none"> <li>▪ Written Examination – MCQ and SA (mid and end semester) 20%, 40% (LO 1,2,3,4)</li> </ul>	WE (2)
LQB388 Medical Physiology 1	1 -Understand the functional organisation and integration of each of the major organ systems of the human body. 2 -Understands the mechanisms responsible for the maintenance of health, the <b>physiological basis of some disease</b> and of some therapeutic strategies.	<ul style="list-style-type: none"> <li>▪ Written Examination – MCQ and SA (mid and end semester) 20%, 40% (LO 1-4)</li> </ul>	WE (2)
CSB443 Medicinal Chemistry and Pharmacology 2	1 -Demonstrate an understanding of why the chemical structures of drugs are changed to optimise their therapeutic effect while minimising adverse effects. 3 -Demonstrate knowledge of cardiovascular and respiratory diseases/complications including congestive heart failure, hypertension, angina, asthma and COPD and which drugs are used to treat these conditions. 4 -Clearly explain the action of drugs on the renal and endocrine systems.	<ul style="list-style-type: none"> <li>▪ Written Examination – MCQ and SA (mid and end semester) 20%, 40% (LO 1-4)</li> <li>▪ Written Report – Pharmacology of CVS and endocrine systems 40% (LO 3,4)</li> </ul>	WE (2) WR
CZB190 Chemistry for Health Sciences	1-Apply a sound knowledge of the general principles of organic and biological chemistry to solve problems relevant to human biology	<ul style="list-style-type: none"> <li>▪ Written examination 50% (LO 1 &amp; 2) covering content from all components of the unit</li> <li>▪ Progress Examination 20% (LO 1 &amp; 2) on theory and practical components covered up to that point</li> <li>▪ Report 30% (LO 1-3). Five 3-hour sessions of supervised practical work with preparation of written reports</li> </ul>	WE WE WR
CSB442 Pharmacokinetics	1 -Demonstrate an understanding of the pharmacokinetic parameters of drugs. 2 -Demonstrate the ability to calculate dosage regimen including initial and maintenance doses, based upon the individual patient characteristics and physiological conditions. 3 -Display an understanding of the pharmacokinetic behaviour of certain drugs that possess non-linear kinetics, long half-lives and narrow therapeutic indexes and be familiar with the clinical considerations involved in administering such drugs to patients. 4 -Adjust dosage regimens using clinical endpoints and the results of therapeutic drug monitoring.	<ul style="list-style-type: none"> <li>▪ Written Examinations (end and mid semester) 20%, 40% (LO 1-4)</li> <li>▪ Literature Review – written, regarding pharmacokinetics 40% (LO 1 and 3)</li> </ul>	WE (2) WR
CSB440 Pharmacy Practice 2	1 -Develop an understanding of the clinical presentation, drug treatment, prevention, patient medication and lifestyle education for selected cardiovascular diseases, respiratory conditions, smoking cessation, topical inflammatory diseases, contraception and thyroid disorders.	<ul style="list-style-type: none"> <li>▪ Written Examination (mid and end semester) 15%, 35% (LO 1-4)</li> <li>▪ Oral Practical Examination (end semester) 50% (LO 1-4)</li> </ul>	WE (2) OE

## Mapping of NPS Competencies Required to Prescribe Medicines (Element Level) against the Bachelor of Pharmacy, QUT Curriculum Learning Outcomes

Subject	Applicable Learning Outcomes	Assessment Methods	Code*
	4 -Correctly calculate the therapeutic dose of a wide range of clinical scenarios and pharmaceutical formulations.		
CSB433 Pharmaceutical Chemistry and Pharmacology 1	1 -Demonstrate knowledge of chemical nomenclature, the concepts of pH and ionisation of drugs and their relationship to the partitioning, absorption and efficacy of drugs; the relationship between the stereochemical structure of drugs and their pharmacological activity. 4 -Demonstrate knowledge of fundamental pharmacological principles and understand how this relates to the actions of drugs in biological systems. 5 -Clearly explain the different types of molecular targets in the human body that mediate the physiological and pharmacological effects of pharmaceutical compounds. 6 -Competently discuss the physiological effects of drugs which act on the autonomic nervous system.	<ul style="list-style-type: none"> <li>▪ Written Examination (mid and end semester) 20%, 40% (LO 1-6)</li> <li>▪ Practice Portfolio 40% (LO 1,2,3,7) Practice reports (3) based on experiments</li> </ul>	WE (2) WR
CSB430 Pharmacy Practice 1	1 -Competently discuss the proper <b>therapeutic use of a range of medications</b> used in the treatment of gastrointestinal disorders, obesity, inflammation, allergies and minor pain states and effectively communicate advice to patients on their proper use and possible adverse effects.	<ul style="list-style-type: none"> <li>▪ Written Examination (mid and end semester) 15%, 35% (LO 1,2,3)</li> <li>▪ Oral Examination (end semester) 50% (LO 1,2,3)</li> </ul>	WE (2) OE
LQB281 Human Health and Disease Concepts	2 -Demonstrate knowledge of the role of vaccination and antimicrobial drugs in the prevention and treatment of diseases.	<ul style="list-style-type: none"> <li>▪ Written Examination-MCQ (end semester) 50% (LO 1-4)</li> </ul>	WE
CSB111-Foundations of Clinical Practice	5 -Describe the determinants of health including the physical, psychosocial and environmental factors that can influence health status 6-Apply research methods and skills to collect, organise and evaluate required information from relevant sources	<ul style="list-style-type: none"> <li>▪ Group activity – inter-professionalism, role of health disciplines relating to a specific case; presented in video format 30% (LO 4, 5, 6)</li> <li>▪ Written Examination –MCQ 40% (LO 1,2,4,5)</li> </ul>	OR WE
LSB250 Human Physiology	2-Be able to discern between the types of control exerted by the endocrine and nervous systems 3-Understand the basic electrical and molecular events associated with nerve cell communication and skeletal, smooth and cardiac muscle contraction 4-Be able to distinguish between the various divisions of the nervous system and their functions 5-Understand the physiology of all of the major body systems, including the cardiovascular, lymphatic, immune, respiratory, renal and digestive systems	<ul style="list-style-type: none"> <li>▪ Quiz/Test 50% (LO 1-5) Weekly progress tests, worksheets and formative discussion/debate, based on the theoretical and practical material covered during the practical classes and lectures</li> <li>▪ Literature review 15% (LO 1-5). Contribution to the production of a class encyclopaedia or textbook of physiology</li> <li>▪ Written examination 35% (LO 1-5). Short answer and short essay questions</li> </ul>	WE WR WE
LQB301 Medical Microbiology and Infection Control	2 -Research and interpret the (a) signs and symptoms of disease; (b) risks of transmission and; (c) appropriate infection control procedures to employ for a specific microbial pathogen	<ul style="list-style-type: none"> <li>▪ Written examination –SA 60% (LO1,2)</li> <li>▪ Written information brochure for allied health professionals 20% (LO 2)</li> </ul>	WE WR



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Subject	Applicable Learning Outcomes	Assessment Methods	Code*
PUB561 Statistical Methods in Health	1 –Explain how statistical choices in analysis link directly to the study design that generated the data and the type of data. 3 –Discriminate the most appropriate descriptive and inferential statistics to use for the analysis of health data 4 –Analyse health data using statistical software and interpret the results	<ul style="list-style-type: none"> <li>▪ Quiz/Test 50% (LO 1,2,3)</li> <li>▪ Problem Solving Task – use of software to review a data set. 50% (LO 3,4)</li> </ul>	WE WR
LQB182 Cell and Molecular Biology	1-Demonstrate an introductory understanding and be able to describe the structure and function of human cells and the important biomolecules that constitute cells 2-Explain the dynamic nature of the molecular mechanisms that operate within and control the cell 3-Understand the connections between cell structure and function, and solve problems in cell and molecular biology	<ul style="list-style-type: none"> <li>▪ Problem solving task 15% (LO 2 &amp; 3) Students are set genetics problems as a series of consecutive workshops using an online virtual genetics program and are required to analyse and solve the problems in a written submission</li> <li>▪ Written Examination (MCQ and short essay) 60% (LO 1-3) covering content from all components of the unit</li> </ul>	WR  WE
LQB381 Biochemistry	2 –Compare and contrast the metabolism of cells and tissues in normal and pathological situations and evaluate the relationship between central biochemical foundations and major cellular processes. 3 -Develop an insight into <b>biochemical concepts and applications in the diagnosis and treatment of disease</b> , and demonstrate competence in using equipment available in a contemporary biochemistry laboratory.	<ul style="list-style-type: none"> <li>▪ Laboratory/Practical Workbook Review 30% (LO 2,3,4)</li> <li>▪ Written Report 15% (LO 1-4)</li> <li>▪ Written Examination (mid and end semester) MCQ mid semester; MCQ, SA, LA end semester 25%, 30% (LO 1-4)</li> </ul>	WR WR WE (2)
Competency Area 3 Shared decision making: Works in partnership with the person to develop and implement a treatment plan			
Element 3.1 Negotiates therapeutic goals with the person			
Unable to identify this element in learning outcomes			
Element 3.2 Works in partnership with the person and other health professionals to select medicines and to tailor and implement a treatment plan			
CSB470 Pharmacy Practice 5	2 -Competently provide practical advice on health issues to promote, maintain and support patient health care following the principles of quality use of medicines.	<ul style="list-style-type: none"> <li>▪ Written Theory Examinations (mid and end semester) 15%, 35% (LO 1,2,3)</li> <li>▪ Oral Practical Examination (end semester) 50% (LO 1,2,3)</li> </ul>	WE (2) OE
CSB480 Pharmacy Practice 6	2 -Demonstrate an up to date knowledge of medications and diseases by effectively communicating this information with consumers, prescribers and other health practitioners.	<ul style="list-style-type: none"> <li>▪ Written Examination (mid and end semester) 15%, 35% (LO1,2,3)</li> <li>▪ Oral Practical Examination (end semester) 50% (LO 1,2,3)</li> </ul>	WE (2) OE
CSB442 Pharmacokinetics	1 -Demonstrate an understanding of the pharmacokinetic parameters of drugs. 2 -Demonstrate the ability to <b>calculate dosage regimen</b> including initial and maintenance	<ul style="list-style-type: none"> <li>▪ Written Examinations (end and mid semester) 20%, 40% (LO 1-4)</li> <li>▪ Literature Review – written, regarding pharmacokinetics 40% (LO 1 and 3)</li> </ul>	WE (2) WR

### Mapping of NPS Competencies Required to Prescribe Medicines (Element Level) against the Bachelor of Pharmacy, QUT Curriculum Learning Outcomes

Subject	Applicable Learning Outcomes	Assessment Methods	Code*
	<p>doses, based upon the individual patient characteristics and physiological conditions.</p> <p>3 -Display an understanding of the pharmacokinetic behaviour of certain drugs that possess non-linear kinetics, long half-lives and narrow therapeutic indexes and be familiar with the clinical considerations involved in administering such drugs to patients.</p> <p>4-Adjust dosage regimens using clinical endpoints and the results of <b>therapeutic drug monitoring</b>.</p>		
CSB440 Pharmacy Practice 2	<p>1 -Develop an understanding of the clinical presentation, drug treatment, prevention, patient medication and lifestyle education for selected cardiovascular diseases, respiratory conditions, smoking cessation, topical inflammatory diseases, contraception and thyroid disorders.</p> <p>4 -Correctly calculate the therapeutic dose of a wide range of clinical scenarios and pharmaceutical formulations.</p>	<ul style="list-style-type: none"> <li>▪ Written Examination (mid and end semester) 15%, 35% (LO 1-4)</li> <li>▪ Oral Practical Examination (end semester) 50% (LO 1-4)</li> </ul>	WE (2) OE
CSB430 Pharmacy Practice 1	<p>4 -Correctly calculate the therapeutic dose of a wide range of pharmaceutical formulations.</p>	<ul style="list-style-type: none"> <li>▪ Written Examination (mid and end semester) 15%, 35% (LO 1-4)</li> <li>▪ Oral Practical Examination (end semester) 50% (LO 1-4)</li> </ul>	WE (2) OE
CSB420 Introduction to Pharmacy Practice	<p>2 -Demonstrate an ability to dispense OTC and scheduled pharmaceutical products and <b>provide counselling on their proper usage to patients</b>.</p>	<ul style="list-style-type: none"> <li>▪ Written Examination (mid and end semester) 15%, 35% (LO 1-3)</li> <li>▪ Oral Practical Examination (end semester) 50% (LO 2-4)</li> </ul>	WE (2) OE
CSB460 Pharmacy Practice 4	<p>2 -Effectively communicate advice to patients on their proper use of these drugs and their possible adverse effects</p> <p>3 -Recognise and recommend appropriate treatment for common infectious diseases and wounds.</p>	<ul style="list-style-type: none"> <li>▪ Written Examination (mid and end semester) 15%, 35% (LO 1,2,3)</li> <li>▪ Viva voce 50% (LO 1,2,3)</li> </ul>	WE (2) V
CSB450 Pharmacy Practice 3	<p>1 -Effectively provide <b>counselling</b> to patients who have been diagnosed with endocrine and CNS diseases on the management of their disease and the quality use of their prescribed medication.</p> <p>3 -Display knowledge of the social, legal and ethical implications of drug addiction and be competent in <b>providing counselling</b> to patients and their families on suitable pharmacotherapies that are available to assist patients experiencing withdrawal.</p>	<ul style="list-style-type: none"> <li>▪ Written Examination (mid and end semester) 15%, 35% (LO 1,2,3)</li> <li>▪ Oral Practical Examination 50% (LO 1,2,3)</li> </ul>	WE (2) OE
<b>Element 3.3 Develops a review plan tailored to the person's needs</b>			
Unable to identify this element in learning outcomes			

Mapping of NPS Competencies Required to Prescribe Medicines (Element Level) against the Bachelor of Pharmacy, QUT Curriculum Learning Outcomes			
Subject	Applicable Learning Outcomes	Assessment Methods	Code*
Competency Area 4 Co-ordination: Communicates the treatment plan clearly to other health professionals			
Element 4.1 Provides clear instructions to other health professionals who dispense, supply, or administer medicines prescribed for the person			
Unable to identify this element in learning outcomes			
Element 4.2 Provides information about medicines and the treatment plan with the person's consent to other health professionals who provide care to the person			
CSB480 Pharmacy Practice 6	2 -Demonstrate an up to date knowledge of medications and diseases by effectively communicating this information with consumers, prescribers and other health practitioners.	<ul style="list-style-type: none"> <li>▪ Written Examination (mid and end semester) 15%, 35% (LO1,2,3)</li> <li>▪ Oral Practical Examination (end semester) 50% (LO 1,2,3)</li> </ul>	WE (2) OE
CSB470 Pharmacy Practice 5	2 -Competently provide practical advice on health issues to promote, maintain and support patient health care following the principles of quality use of medicines.	<ul style="list-style-type: none"> <li>▪ Written Examination (mid and end semester) 15%, 35% (LO 1,2,3)</li> <li>▪ Oral Practical Examination (end semester) 50% (LO 1,2,3)</li> </ul>	WE (2) OE
CSB111 Foundations of Clinical Practice	4 –Demonstrate effective clinical communication skills (both written and oral)  <i>(Note: not specific to medicines)</i>	<ul style="list-style-type: none"> <li>▪ Written Examination 40% (LO 1,2,4,5) Ability to interpret information regarding the Australian health care system, the burden of disease, communication, relevant clinical practice guidelines, professional and legal frameworks using appropriate terminology and language</li> <li>▪ Group Activity – inter-professionalism, role of health disciplines relating to a specific case; presented in video format 30% (LO 4,5,6)</li> </ul>	WE  OR
LQB281 Human Health and Disease Concepts	4 –Locate, interpret and communicate knowledge in individual written tasks and in a collaborative context	<ul style="list-style-type: none"> <li>▪ Case Study 20% (LO 1,3,4) Written report - analyse, interpret and communicate information regarding a case study.</li> <li>▪ Laboratory/Practical 30% (LO 1,3,4,5) Completion of practical activities and worksheets</li> <li>▪ Written examination -MCQ 50% (LO 1,2,3,4)</li> </ul>	CP PRAC WE
Competency Area 5 Monitors and reviews: Monitors and reviews the person's response to treatment			
Element 5.1 Obtains information to assess the person's response to treatment			
CSB442 Pharmacokinetics	<p>1 -Demonstrate an understanding of the pharmacokinetic parameters of drugs.</p> <p>2 -Demonstrate the ability to calculate dosage regimen including initial and maintenance doses, based upon the individual patient characteristics and physiological conditions.</p> <p>3 -Display an understanding of the pharmacokinetic behaviour of certain drugs that possess non-linear kinetics, long half-lives and narrow therapeutic indexes and be familiar with the clinical considerations involved in administering such drugs to patients.</p> <p>4 -Adjust dosage regimens using clinical endpoints and the results of therapeutic drug monitoring.</p>	<ul style="list-style-type: none"> <li>▪ Written Examinations (end and mid semester) 20%, 40% (LO 1-4)</li> <li>▪ Literature Review – written, regarding pharmacokinetics 40% (LO 1 and 3)</li> </ul>	WE (2) WR

Mapping of NPS Competencies Required to Prescribe Medicines (Element Level) against the Bachelor of Pharmacy, QUT Curriculum Learning Outcomes			
Subject	Applicable Learning Outcomes	Assessment Methods	Code*
<b>Element 5.2 Works in partnership with the person and other health professionals to address issues arising from the review</b>			
Unable to identify this element in learning outcomes			
<b>Competency Area H1 Professional: Practices professionally</b>			
<b>Element H1.1 Practices within the applicable legislative and regulatory frameworks</b>			
CSB480 Pharmacy Practice 6	3-Consider and demonstrate appropriate knowledge of the social, cultural, legal and ethical requirements when supplying medications and health services.	<ul style="list-style-type: none"> <li>▪ Written Examination (mid and end semester) 15%, 35% (LO1,2,3)</li> <li>▪ Oral Practical Examination (end semester) 50% (LO 1,2,3)</li> </ul>	WE (2) OE
CSB475 Pharmacy Management 1	4 -Demonstrate knowledge of the income stream for pharmacy generated by the dispensing of scheduled pharmaceutical products that flows from the <b>Federal Government and the various Community Pharmacy Agreements</b> . Demonstrate knowledge of other income generating programs that are available to pharmacy outside of the Community Pharmacy Agreements e.g. private insurance agreements.	<ul style="list-style-type: none"> <li>▪ Written Theory Examination (end semester) 40% (LO 3,4)</li> </ul>	WE
CSB430 Pharmacy Practice 1	3 -Competently discuss a range of health acts, Pharmacy Practice legislation, Code of Ethics and the principles of QUM.	<ul style="list-style-type: none"> <li>▪ Written Examination (mid and end semester) 15%, 35% (LO 1-4)</li> <li>▪ Oral Practical Examination (end semester) 50% (LO 1-4)</li> </ul>	WE (2) OE
CSB450 Pharmacy Practice 3	2 –Legally dispense controlled drugs including strong opioids and other pharmacotherapies for the treatment of a variety of pain states with respect to the Queensland Drugs and Poisons Legislation	<ul style="list-style-type: none"> <li>▪ Written Examination (mid and end semester) 15%, 35% (LO 1,2,3)</li> <li>▪ Oral Practical Examination 50% (LO 1,2,3)</li> </ul>	WE (2) OE
<b>Element H1.2 Practices according to professional standards, codes of conduct, and within the health professional's own scope of practice</b>			
CSB430 Pharmacy Practice 1	3 -Competently discuss a range of health acts, Pharmacy Practice legislation, Code of Ethics and the principles of QUM.	<ul style="list-style-type: none"> <li>▪ Written Examination (mid and end semester) 15%, 35% (LO 1-4)</li> <li>▪ Oral Practical Examination (end semester) 50% (LO 1-4)</li> </ul>	WE (2) OE
CSB111 Foundations of Clinical Practice	2 -Determine the characteristics of the health professional within relevant scope of practice, governance and practice frameworks.	<ul style="list-style-type: none"> <li>▪ Written Examination 40% (LO 1,2,4,5) Ability to interpret information regarding the Australian health care system, the burden of disease, communication, relevant clinical practice guidelines, professional and legal frameworks using appropriate terminology and language</li> <li>▪ Reflective Journal 30% (LO 2,3) Observe and identify the characteristics and skills required of a health professional in on-campus or off-campus clinical settings either through WIL placement or through role play tasks</li> </ul>	WE WREF
CSB485 Pharmacy Management 2	2 –Understand the more advanced principles of IR management, including principles of recruiting, performance reviews, dismissal applicable to the pharmaceutical industry. 3 –Understand the principles relating to health service management in health care facilities and beyond	<ul style="list-style-type: none"> <li>▪ Written Examination 50% (LO 1-5)</li> <li>▪ Business Plan 30% (LO 1-5) Develop a business plan to determine the overall viability of the pharmacy, from conceptual and financial perspective</li> <li>▪ Written Examination 20% (LO 1-5)</li> </ul>	WE WR WE

## Mapping of NPS Competencies Required to Prescribe Medicines (Element Level) against the Bachelor of Pharmacy, QUT Curriculum Learning Outcomes

Subject	Applicable Learning Outcomes	Assessment Methods	Code*
	<p>4 –Identify and describe directions in health care delivery in Australia, current issues in the Australian health industry, the broad structure of healthcare in Australia and in some detail the key institutional elements of Australia’s healthcare.</p> <p>5 –Demonstrate knowledge of the impact of health care policy by both government and private health insurance bodies on the business practices of community and hospital pharmacies.</p>		
CSB480 Pharmacy Practice 6	3 -Consider and demonstrate appropriate knowledge of the social, cultural, legal and ethical requirements when supplying medications and health services.	<ul style="list-style-type: none"> <li>▪ Written Examination (mid and end semester) 15%, 35% (LO1,2, 3)</li> <li>▪ Oral Practical Examination (end semester) 50% (LO 1,2,3)</li> </ul>	WE (2) OE
CSB475 Pharmacy Management 1	<p>4 -Demonstrate knowledge of the income stream for pharmacy generated by the dispensing of scheduled pharmaceutical products that flows from the <b>Federal Government and the various Community Pharmacy Agreements</b>. Demonstrate knowledge of other income generating programs that are available to pharmacy outside of the Community Pharmacy Agreements e.g. private insurance agreements.</p> <p>2 –Display a familiarity with financial concepts and software and understand the process of producing and interpreting budgets, payrolls, BAS statements and other reports.</p> <p>3 –Understand the basic principles of HR management, inventory control and marketing strategies that are applicable to the pharmaceutical industry.</p>	<ul style="list-style-type: none"> <li>▪ Written Theory Examination (end and mid-semester) 20%, 40% (LO 1-4)</li> <li>▪ Written report 40% (LO 1,2) A review of the business practices used by the community or hospital pharmacy where the student performs their professional placement</li> </ul>	WE (2) WR
CSB450 Pharmacy Practice 3	3 –Display knowledge of the social, legal and ethical implications of drug addiction and be competent in providing counselling to patients and their families on suitable pharmacotherapies that are available to assist patients experiencing drug withdrawal.	<ul style="list-style-type: none"> <li>▪ Written Examination (mid and end semester) 15%, 35% (LO 1,2,3)</li> <li>▪ Oral Practical Examination 50% (LO 1,2,3)</li> </ul>	WE (2) OE
<b>Element H1.3 Practices within the applicable frameworks of the healthcare setting and system</b>			
CSB485 Pharmacy Management 2	<p>3 -Understand the principles relating to health service management in health care facilities and beyond.</p> <p>4 –Identify and describe directions in health care delivery in Australia, current issues in the Australian health industry, the broad structure of healthcare in Australia and in some detail the key institutional elements of Australia’s healthcare.</p> <p>5 –Demonstrate knowledge of the impact of health care policy by both government and private health insurance bodies on the business practices of community and hospital pharmacies.</p>	<ul style="list-style-type: none"> <li>▪ Written Examination 50% (LO 1-5)</li> <li>▪ Business Plan 30% (LO 1-5) Develop a business plan to determine the overall viability of the pharmacy, from conceptual and financial perspective</li> <li>▪ Written Examination 20% (LO 1-5)</li> </ul>	WE WR WE
CSB111 Foundations of Clinical Practice	1 -Describe the contemporary role of the health care professional within government, non-government and private sector organisations.	<ul style="list-style-type: none"> <li>▪ Written Examination 40% (LO 1,2,4,5) Ability to interpret information regarding the Australian health care system, the burden of disease, communication, relevant</li> </ul>	WE

## Mapping of NPS Competencies Required to Prescribe Medicines (Element Level) against the Bachelor of Pharmacy, QUT Curriculum Learning Outcomes

Subject	Applicable Learning Outcomes	Assessment Methods	Code*
	2 –Determine the characteristics of the health professional within relevant scope of practice, governance and practice frameworks	clinical practice guidelines, professional and legal frameworks using appropriate terminology and language <ul style="list-style-type: none"> <li>▪ Reflective Journal 30% (LO 2,3) Observe and identify the characteristics and skills required of a health professional in on-campus or off-campus clinical settings either through WIL placement or through role play tasks</li> </ul>	WREF
CSB480 Pharmacy Practice 6	3 -Consider and demonstrate appropriate knowledge of the social, cultural, legal and ethical requirements when supplying medications and health services.	<ul style="list-style-type: none"> <li>▪ Written Examination (mid and end semester) 15%, 35% (LO1,2, 3)</li> <li>▪ Oral Practical Examination (end semester) 50% (LO 1,2,3)</li> </ul>	WE (2) OE
<b>Element H1.4 Practices quality use of medicines principles</b>			
CSB470 Pharmacy Practice 5	1 -Competently dispense/supply a range of medications following assessment of a range of case based clinical scenarios for a diverse range of diseases and disorders and <b>demonstrate knowledge of the efficacy and safety of recently released pharmaceutical drugs and be able to critically evaluate their therapeutic role compared to older medicines.</b>  2 -Competently provide practical advice on health issues to promote, maintain and support patient health care following the principles of quality use of medicines.  3 -Display understanding of the principles of pharmacoepidemiology and evidence based medicine.	<ul style="list-style-type: none"> <li>▪ Written Theory Examinations (mid and end semester) 15%, 35% (LO 1,2,3)</li> <li>▪ Oral Practical Examination (end semester) 50% (LO 1,2,3)</li> </ul>	WE (2) OE
CSB473 Pharmaco-therapeutics 2	2 -Understand the evidence base upon which drugs are selected and used for the management of disease. Be able to identify and critically interpret authoritative literature.	<ul style="list-style-type: none"> <li>▪ Written Examinations (progress and end of semester) 20%, 40% (LO 1-4)</li> <li>▪ Group written assignment (in-depth review of a pharmacotherapeutic solution, incorporating evidence based medicine to a clinical scenario) 40% (LO 1-4)</li> <li>▪ Viva Voce (end semester) – no weighting but required to pass.</li> </ul>	WE (2) WR V
CSB486 Professional Placements 2	3 -Apply your knowledge of pharmacological and non-pharmacological health care products to solving practical clinical problems using evidence-based practice encountered in a real world pharmacy setting.	<ul style="list-style-type: none"> <li>▪ Group QUM project and preparation of conference abstract (LO 1-4) 0%</li> <li>▪ Log/workbook (reflective assessment of experiential placement and relationship to competency standards. Emphasis on EBM) (LO1-4) 0%</li> </ul>	WR WREF
CSB483 Pharmaco-therapeutics 3	3 -Critically evaluate pharmacological treatment regimes based on current clinical evidence.	<ul style="list-style-type: none"> <li>▪ Peer assessed assignment (critical appraisal of clinical trial; involves undertaking a peer review of 2 colleague's work) 30% (LO 3)</li> </ul>	WR
CSB480 Pharmacy Practice 6	3 -Consider and demonstrate appropriate knowledge of the social, cultural, legal and ethical requirements when supplying medications and health services.	<ul style="list-style-type: none"> <li>▪ Written Examination (mid and end semester) 15%, 35% (LO1,2,3)</li> <li>▪ Oral Practical Examination (end semester) 50% (LO 1,2,3)</li> </ul>	WE (2) OE

## Mapping of NPS Competencies Required to Prescribe Medicines (Element Level) against the Bachelor of Pharmacy, QUT Curriculum Learning Outcomes

Subject	Applicable Learning Outcomes	Assessment Methods	Code*
CSB463 Pharmaco-therapeutics 1	4 -Describe the treatment of infectious diseases including quality use of medicines issues and the role of the pharmacist in maximising health outcomes for the patient. 5 -Evaluate meta-analyses of clinical trials for the quality use of medicines and integrate their results into your professional decision-making processes.	<ul style="list-style-type: none"> <li>▪ Written Examination 60% (LO 1-4)</li> <li>▪ Assignment – involving literature review of diagnosis, management and clinical considerations of an infectious disease <b>with QUM focus</b> 30% (LO 2,3,4,5)</li> <li>▪ Viva voce 10% (LO 1-5)</li> </ul>	WE WR V
CSB461 Pharmacogenomics and Drug Metabolism	2 -Understand how the chemical structure of drugs influences metabolism, and the concepts of active metabolites and prodrugs 3 -Demonstrate knowledge of basic genetic principles and <b>how the genetic composition of a patient may affect drug metabolism and drug effectiveness.</b> 4 -Understand the <b>impact of pharmacogenomics on the choice and dosing</b> regimens of drugs and how this will affect the pharmacy profession in the future.	<ul style="list-style-type: none"> <li>▪ Written Examination (mid and end semester) 25%,35% (LO 1-4)</li> <li>▪ Written Report 40% (LO 1-4) Drug metabolism and pharmacogenomics of a group of drugs</li> </ul>	WE (2) WR
CSB460 Pharmacy Practice 4	3 -Recognise and recommend appropriate treatment for common infectious diseases and wounds.	<ul style="list-style-type: none"> <li>▪ Written Examination (mid and end semester) 15%, 35% (LO 1,2,3)</li> <li>▪ Viva voce 50% (LO 1,2,3)</li> </ul>	WE (2) V
CSB453 Pharmacology 3	1 -Competently discuss the physiological effects and molecular mechanisms of action of a wide range of drug classes that act on the central nervous system and their associated adverse effects and be able to critically discuss the results of clinical trials in terms of the efficacy and safety of drugs and the use of meta-analysis for comparison of multiple drugs. 2 -Demonstrate knowledge of the pharmacology of substance abuse and scientific basis of current therapeutic strategies used in the treatment of withdrawal syndromes. 3 -Understand the mechanism of action of endocrine drugs and the therapeutic use of these agents.	<ul style="list-style-type: none"> <li>▪ Written Examination (mid and end semester) 40%,20% (LO 1-4)</li> <li>▪ Assignment (pharmacology and evidence base for the use of medicines studied) 40% (LO 1,2)</li> </ul>	WE WR
CSB450 Pharmacy Practice 3	3 -Display knowledge of the social, legal and ethical implications of drug addiction and be competent in providing counselling to patients and their families on suitable pharmacotherapies that are available to assist patients experiencing drug withdrawal.	<ul style="list-style-type: none"> <li>▪ Written Examination (mid and end semester) 15%, 35% (LO 1,2,3)</li> <li>▪ Oral Practical Examination 50% (LO 1,2,3)</li> </ul>	WE OE
CSB443 Medicinal Chemistry and Pharmacology 2	1 -Demonstrate an understanding of why the chemical structures of drugs are changed to optimise their therapeutic effect while minimising adverse effects. 3 -Demonstrate knowledge of cardiovascular and respiratory diseases/complications including congestive heart failure, hypertension, angina, asthma and COPD and which drugs are used to treat these conditions. 4 -Clearly explain the action of drugs on the renal and endocrine systems.	<ul style="list-style-type: none"> <li>▪ Written Examination – MCQ and SA (mid and end semester) 20%, 40% (LO 1-4)</li> <li>▪ Written Report – Pharmacology of CVS and endocrine systems 40% (LO 3,4)</li> </ul>	WE WR
CSB442 Pharmacokinetics	1 -Demonstrate an understanding of the pharmacokinetic parameters of drugs. 2 -Demonstrate the ability to calculate dosage regimen including initial and maintenance doses, based upon the individual patient characteristics and physiological conditions. 3 -Display an understanding of the pharmacokinetic behaviour of certain drugs that possess	<ul style="list-style-type: none"> <li>▪ Written Examinations (end and mid semester) 20%, 40% (LO 1-4)</li> <li>▪ Literature Review – written, regarding pharmacokinetics 40% (LO 1 and 3)</li> </ul>	WE (2) WR

### Mapping of NPS Competencies Required to Prescribe Medicines (Element Level) against the Bachelor of Pharmacy, QUT Curriculum Learning Outcomes

Subject	Applicable Learning Outcomes	Assessment Methods	Code*
	non-linear kinetics, long half-lives and narrow therapeutic indexes and be familiar with the clinical considerations involved in administering such drugs to patients. 4 -Adjust dosage regimens using clinical endpoints and the results of therapeutic drug monitoring.		
CSB440 Pharmacy Practice 2	1 -Develop an understanding of the clinical presentation, drug treatment, prevention, patient medication and lifestyle education for selected cardiovascular diseases, respiratory conditions, smoking cessation, topical inflammatory diseases, contraception and thyroid disorders. 4 -Correctly calculate the therapeutic dose of a wide range of clinical scenarios and pharmaceutical formulations.	<ul style="list-style-type: none"> <li>▪ Written Examination (mid and end semester) 15%, 35% (LO 1-4)</li> <li>▪ Oral Practical Examination (end semester) 50% (LO 1-4)</li> </ul>	WE (2) OE
CSB433 Pharmaceutical Chemistry and Pharmacology 1	1 -Demonstrate knowledge of chemical nomenclature, the concepts of pH and ionisation of drugs and their relationship to the partitioning, absorption and efficacy of drugs; the relationship between the stereochemical structure of drugs and their pharmacological activity. 4 -Demonstrate knowledge of <b>fundamental pharmacological principles</b> and understand how this relates to the actions of drugs in biological systems. 5 -Clearly explain the different types of molecular targets in the human body that mediate the <b>physiological and pharmacological effects of pharmaceutical compounds</b> . 6 -Competently discuss the <b>physiological effects of drugs which act on the autonomic nervous system</b> . 7 -Display expertise in the searching and retrieving of scientific literature using conventional and electronic approaches.	<ul style="list-style-type: none"> <li>▪ Written Examination (mid and end semester) 20%, 40% (LO 1-6)</li> <li>▪ Practical Reports (x3) relating to analytical chemistry 40% (LO 1,2,3,7)</li> </ul>	WE (2) WR
CSB430 Pharmacy Practice 1	1 -Competently discuss the proper <b>therapeutic use of a range of medications</b> used in the treatment of gastrointestinal disorders, obesity, inflammation, allergies and minor pain states and effectively communicate advice to patients on their proper use and possible adverse effects. 3 -Competently discuss a range of health acts, Pharmacy Practice legislation, Code of Ethics and the <b>principles of QUM</b> .	<ul style="list-style-type: none"> <li>▪ Written Examination (mid and end semester) 15%, 35% (LO 1,2,3)</li> <li>▪ Oral Examination (end semester) 50% (LO 1,2,3)</li> </ul>	WE (2) OE
PUB561 Statistical Methods in Health	1 -Explain how statistical choices in analysis link directly to the study design that generated the data and the type of data. 3 -Discriminate the most appropriate descriptive and inferential statistics to use for the analysis of health data 4 -Analyse health data using statistical software and interpret the results	<ul style="list-style-type: none"> <li>▪ Quiz/Test 50% (LO 1,2,3)</li> <li>▪ Problem Solving Task – use of software to review a data set. 50% (LO 3,4)</li> </ul>	WE WR



Mapping of NPS Competencies Required to Prescribe Medicines (Element Level) against the Bachelor of Pharmacy, QUT Curriculum Learning Outcomes			
Subject	Applicable Learning Outcomes	Assessment Methods	Code*
CSB111 Foundations of Clinical Practice	6 -Apply research methods and skills to collect, organise and evaluate required information from relevant sources.	<ul style="list-style-type: none"> <li>Group Activity - inter-professionalism, role of health disciplines relating to a specific case; presented in video format 30% (LO 4,5,6)</li> </ul>	OR
CSB476 Professional Placements 1		<ul style="list-style-type: none"> <li>Group research project conducted during placement presented as Drug Use Evaluation Guidelines. Written and oral report presented. Pass/Fail</li> </ul>	WR OR
<b>Element H1.5 Demonstrates a commitment to continual quality improvement of the health professional's own prescribing</b>			
CSB111 Foundations of Clinical Practice	3 -Develop and apply foundation skills in reflective clinical practice	<ul style="list-style-type: none"> <li>Reflective Journal 30% (LO 2,3) Observe and identify the characteristics and skills required of a health professional in on-campus or off-campus clinical settings either through WIL placement or through role play tasks</li> </ul>	WREF
<b>Element H1.6 Addresses the potential for bias in prescribing decisions</b>			
Unable to identify this element in learning outcomes			
<b>Competency Area H2 Communicates: Communicates and collaborates effectively with the person and other health professionals</b>			
<b>Element H2.1 Obtains consent to provide clinical services to the person</b>			
Unable to identify this element in learning outcomes			
<b>Element H2.2 Acknowledges the person, their family, and carers as integral to care and collaborates to achieve optimal health outcomes</b>			
Unable to identify this element in learning outcomes			
<b>Element H2.3 Respects the person</b>			
CSB480 Pharmacy Practice 6	3 -Consider and demonstrate appropriate knowledge of the social, cultural, legal and ethical requirements when supplying medications and health services.	<ul style="list-style-type: none"> <li>Written Examination (mid and end semester) 15%, 35% (LO1,2,3)</li> <li>Oral Practical Examination (end semester) 50% (LO 1,2,3)</li> </ul>	WE (2) OE
<b>Element H2.4 Communicates effectively with the person using appropriate communication skills to enable the safe use of medicines</b>			
CSB480 Pharmacy Practice 6	2 -Demonstrate an up to date knowledge of medications and diseases by effectively communicating this information with consumers, prescribers and other health practitioners.	<ul style="list-style-type: none"> <li>Written Examination (mid and end semester) 15%, 35% (LO1,2,3)</li> <li>Oral Practical Examination (end semester) 50% (LO 1,2,3)</li> </ul>	WE (2) OE
CSB476 Professional Placements 1	1 -Properly dispense a range of pharmaceutical products and <b>provide effective counselling on their correct use to patients, their families and/or carers.</b>	<ul style="list-style-type: none"> <li>Reflective Journal of experiential learning (over 4 week period). Pass/Fail (LO 1-4)</li> <li>Clinical Performance Assessment Pass/Fail.</li> </ul>	WREF CPA
CSB470 Pharmacy Practice 5	2 -Competently provide practical advice on health issues to promote, maintain and support patient health care following the principles of quality use of medicines.	<ul style="list-style-type: none"> <li>Written Examination (mid and end semester) 15%, 35% (LO 1,2,3)</li> <li>Oral Practical Examination (end semester) 50% (LO 1,2,3)</li> </ul>	WE (2) OE

Mapping of NPS Competencies Required to Prescribe Medicines (Element Level) against the Bachelor of Pharmacy, QUT Curriculum Learning Outcomes			
Subject	Applicable Learning Outcomes	Assessment Methods	Code*
CSB460 Pharmacy Practice 4	2 -Effectively communicate advice to patients on their proper use of these drugs and their possible adverse effects.	<ul style="list-style-type: none"> <li>Written Examination (mid and end semester) 15%, 35% (LO 1,2,3)</li> <li>Viva voce 50% (LO 1,2,3)</li> </ul>	WE (2) V
CSB450 Pharmacy Practice 3	1 -Effectively provide counselling to patients who have been diagnosed with endocrine and CNS diseases on the management of their disease and the quality use of their prescribed medication.  3 -Display knowledge of the social, legal and ethical implications of drug addiction and be competent in providing counselling to patients and their families on suitable pharmacotherapies that are available to assist patients experiencing drug withdrawal.	<ul style="list-style-type: none"> <li>Written Examination (mid and end semester) 15%, 35% (LO 1,2,3)</li> <li>Oral Practical Examination 50% (LO 1,2,3)</li> </ul>	WE (2) OE
CSB420 Introduction to Pharmacy Practice	2 -Demonstrate an ability to dispense OTC and scheduled pharmaceutical products and provide counselling on their proper usage to patients.	<ul style="list-style-type: none"> <li>Written Examination (mid and end semester) 15%, 35% (LO 1-3)</li> <li>Oral Practical Examination (end semester) 50% (LO 2-4)</li> </ul>	WE (2) OE
CSB111 Foundations of Clinical Practice	4 -Demonstrate effective clinical communication skills (both written and oral)  <i>(Note: not specific to medicines)</i>	<ul style="list-style-type: none"> <li>Written Examination 40% (LO 1,2,4,5) Ability to interpret information regarding the Australian health care system, the burden of disease, communication, relevant clinical practice guidelines, professional and legal frameworks using appropriate terminology and language</li> <li>Group Activity – inter-professionalism, role of health disciplines relating to a specific case; presented in video format 30% (LO 4,5,6)</li> </ul>	WE  OR
<b>Element H2.5 Collaborates with other health professionals to achieve optimal health outcomes for the person</b>			
CSB480 Pharmacy Practice 6	2 -Demonstrate an up to date knowledge of medications and diseases by effectively communicating this information with consumers, prescribers and other health practitioners.	<ul style="list-style-type: none"> <li>Written Examination (mid and end semester) 15%, 35% (LO1,2,3)</li> <li>Oral Practical Examination (end semester) 50% (LO 1,2,3)</li> </ul>	WE (2) OE
CSB111 Foundations of Clinical Practice	4 -Demonstrate effective clinical communication skills (both written and oral)  <i>(Note: not specific to medicines)</i>	<ul style="list-style-type: none"> <li>Written Examination 40% (LO 1,2,4,5) Ability to interpret information regarding the Australian health care system, the burden of disease, communication, relevant clinical practice guidelines, professional and legal frameworks using appropriate terminology and language</li> <li>Group Activity – inter-professionalism, role of health disciplines relating to a specific case; presented in video format 30% (LO 4,5,6)</li> </ul>	WE  OR

## Appendix B

Full results from mapping of the NPS competencies required to prescribe medicines (element Level) against the National Competency Standards Framework for Pharmacists in Australia<sup>2</sup>, the Pharmacy Board of Australia Code of Conduct for Pharmacists<sup>3</sup> and the Pharmaceutical Society of Australia Code of Ethics for Pharmacists<sup>4</sup> are presented in the table below.

*NOTE: Competencies displayed in bold are not expected to be achieved at entry level.*

Mapping of NPS Competencies Required to Prescribe Medicines against Pharmacist Practice Standards		
Performance Criteria	Professional Competencies	Comments
<b>Competency Area 1 Assessment: Understands the person and their clinical needs</b>		
<b>Element 1.1 Establishes a therapeutic partnership with the person and a collaborative relationship with other health professionals</b>		
1.1.1 Uses appropriate communication strategies to establish a therapeutic partnership with the person	2.1.1.4 Recognises barriers to effective communication must be addressed 2.1.2.2 Recognises the special communication needs of consumers/ carers with different cultural and linguistic backgrounds 2.1.2.3 Responds, as far as practicable, to the needs of those from diverse cultural and linguistic backgrounds 2.1.3.1 Establish rapport, empathy 2.1.3.3 Ensures communication is appropriate to the audience 6.3.3.1 Encourages and supports consumers to enhance their health literacy	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Conduct.
<b>PBA Code of Conduct</b> 2.2 Good Care (g) Communicating effectively with patients or clients. 3.1: Relationships based on respect, trust and good communication will enable practitioners to work in partnership with patients or clients. 3.2 Partnership (a) Being courteous, respectful, compassionate and honest. 3.3 Effective Communication (a) Listening to patients or clients, asking for and respecting their views about their health and responding to their concerns and preferences (b) Awareness of health literacy issues and taking health literacy into account and/or adjusting their communication in response i) Making sure, whenever practical, that arrangements are made to meet the specific language, cultural and communication needs of patients or clients and being aware of how these needs affect understanding and j) Becoming familiar with, and using wherever necessary, qualified language interpreters or cultural interpreters to help meet the communication needs of patients or clients, including those who require assistance because of their English skills, or because they are speech or hearing impaired (wherever possible, practitioners should use trained translators and interpreters rather than family members or other staff) 3.8 Patients who may have additional needs (a) Paying particular attention to communication 4.2 Respect for colleagues and other practitioners (a) Communicating clearly, effectively, respectfully and promptly with colleagues and other practitioners caring for the patient or client.		
<b>Element 1.2 Performs a comprehensive medicines assessment to obtain information to understand the person's clinical needs and context</b>		
1.2.1 Conducts an assessment that is appropriate to both the health professional's scope of practice and the person's clinical context	1.2.1.2 Scope of practice; recognition of other HP scope of practice 6.1.1.1 Consultation technique 7.1.1.5 Medication History taking	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Conduct.
<b>PBA Code of Conduct</b> 2.1 Introduction (a) Assessing the patient or client, taking into account their history, views and an appropriate physical examination where relevant; the history includes relevant psychological, social and cultural aspects 3.3 Effective Communication (c) Encouraging patients or clients to tell a practitioner about their condition and how they are managing it, including any other health advice they have received, any prescription or other medications they have been prescribed and any other therapies they are using. 2.2 Good Care (a) Recognising and working within the limits of a practitioner's competence and scope of practice, which may change over time.		
1.2.2 Reviews and interprets information in the person's health records	4.2.1.1 Systematic approach to review of consumer health record# 6.1.1.2 Uses consumer medication record to confirm information 6.1.1.3 Obtains additional information from other sources as required 7.1.1.1 Reviews consumer medication records with consent <b># Written for the process of review of prescribed medicines; equally applies to the prescribing process</b>	Performance criterion identified completely in the Professional Standard.
1.2.3 Obtains relevant information from the person about their medicines, and their medical and clinical	4.2.1.1 Uses a systematic approach to access and review the consumer medication record or notes (includes review of allergies, adherence, adverse effects, drug interactions etc.)	Performance criterion identified completely in the Professional Standard. Reflected also

## Mapping of NPS Competencies Required to Prescribe Medicines against Pharmacist Practice Standards

Performance Criteria	Professional Competencies	Comments
history, including their co-existing conditions, treatments, alcohol and substance use, allergies and social context	4.2.1.2 Obtains essential additional information from the consumer# 4.2.1.3 Uses relevant sources of information to clarify/ confirm information# 4.2.2.2 Considers consumer, drug and dose form factors likely to impact on the efficacy or safety of treatment (includes review of medical conditions, allergies, age, weight) 6.1.1.1 Consultation technique 6.1.1.2 Uses consumer medication record to confirm information (includes ability to justify additional clinical information required to form an opinion about treatment options) 6.1.1.3 Obtains additional information from other sources as required 7.1.1.3 Obtains additional relevant information via consultation with consumer/ other HCP 7.1.1.4 Uses relevant information sources to clarify/ confirm information <b># Written for the process of review of prescribed medicines; equally applies to the prescribing process</b>	in the Code of Conduct.  (Note: alcohol and substance use not specifically noted, however the identification of factors relevant to the case is stated)
<b>PBA Code of Conduct 2.1</b> Introduction (a) Assessing the patient or client, taking into account their history, views and an appropriate physical examination where relevant; the history includes relevant psychological, social and cultural aspects. 3.3: Effective communication (c) Encouraging patients or clients to tell a practitioner about their condition and how they are managing it, including any other health advice they have received, any prescription or other medications they have been prescribed and any other therapies they are using.		
1.2.4 Assesses the person's risk factors for poor adherence; for example social isolation, physical impairment, cognitive impairment or disturbance, low English proficiency, low health literacy, financial disadvantage	4.2.2.4 Identifies factors likely to affect adherence 7.1.2.8 Identifies factors likely to adversely affect adherence	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Conduct.
<b>PBA Code of Conduct 3.3</b> Effective Communication (b) Awareness of health literacy issues and taking health literacy into account and/or adjusting their communication in response.		
1.2.5 Ascertains that sufficient information has been obtained about the person's co-existing conditions and current treatments to identify possible risks and contraindications for treatment	4.2.2.2 Considers consumer and drug details to determine impact on safety and efficacy# 4.2.2.3 Identifies drug related problems potentially associated with medicines# 6.1.1.3 Obtains additional information from other sources as required 6.2.1.1 Establishes whether medicines or health care products are suitable for intended use 6.1.2.2 Determines the goal of treatment and considers factors likely to impact on treatment options <b># Written for the process of review of prescribed medicines; equally applies to the prescribing process</b>	Performance criterion identified completely in the Professional Standard.
1.2.6 Performs clinical examinations that are within the health professional's own scope of practice and relevant to the person's problem and interprets the findings of these examinations	1.2.1.2 Scope of practice; recognition of other HP scope of practice 6.1.1.1 Consultation technique 6.1.2.1 Assess the presenting symptoms in the clinical context; consider need for referral	Performance criterion identified completely in the Professional Standard and reflects existing scope. Reflected also in the Code of Conduct.
<b>PBA Code of Conduct 2.1</b> Introduction (a) Assessing the patient or client, taking into account their history, views and <b>an appropriate physical examination where relevant</b> ; the history includes relevant psychological, social and cultural aspects. 2.2 Good care (a) recognising and working within the limits of a practitioner's competence and scope of practice, which may change over time.		
<b>Element 1.3 Generates and explores possible diagnoses</b>		
1.3.1 Synthesises information from the comprehensive assessment and develops provisional and differential diagnoses	6.1.2.1 Assess the presenting symptoms in the clinical context; consider need for referral	Performance criterion partly identified in the Professional Standard. - Diagnosis currently not identified as a significant component of pharmacist scope, aside from the context of minor ailments.

Mapping of NPS Competencies Required to Prescribe Medicines against Pharmacist Practice Standards		
Performance Criteria	Professional Competencies	Comments
		<ul style="list-style-type: none"> <li>- Diagnosis of minor ailments undertaken within current scope but not reflected in the competency standards specifically other than assessment of symptoms and identification of the need to refer the patient to another professional.</li> <li>- The Code of Conduct notes arranging investigations (refer 1.3.2 below).</li> </ul>
1.3.2 Develops a diagnostic strategy and performs relevant investigations		Unable to identify this performance criterion in the Professional Standard. The Code of Conduct notes arranging investigations without specifically discussing the diagnostic process.
<b>PBA Code of Conduct 2.1</b> Introduction (b) Formulating and implementing a suitable management plan (including providing treatment and advice and, where relevant, <b>arranging investigations</b> and liaising with other treating practitioners).		
1.3.3 Explains the clinical issues and their implications to the person	6.3.3.3 Delivers responsible, consistent, evidence-based advice to consumers (preventative health measures) 6.3.3.5 Supports and reinforces consumers' efforts at self-management of risk factors for disease 7.1.4.1 Provide medicines and health information to assist consumer understanding of disease and management	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Conduct.
<b>PBA Code of Conduct 3.3</b> Effective Communication (d) Informing patients or clients of the nature of and need for all aspects of their clinical care, including examination and investigations, and giving them adequate opportunity to question or refuse intervention and treatment (e) Discussing with patients or clients their condition and the available healthcare options, including their nature, purpose, possible positive and adverse consequences, limitations and reasonable alternatives wherever they exist.		
<b>Competency Area 2 Treatment options: Understands the treatment options and how they support the person's clinical needs</b>		
<b>Element 2.1 Considers non-pharmacological treatment options suitable for treating the person and their condition</b>		
2.1.1 Recognises when it is clinically appropriate not to intervene; for example, in cases where the signs and symptoms are likely to resolve without treatment	6.2.1.2 Assist customer to make informed choice re selection of medicines and/ or healthcare products 6.2.3.1 Explains reasons for advising against the use of medicines	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Conduct.
<b>PBA Code of Conduct 5.2</b> Wise use of healthcare resources (a) ensuring that the services provided are appropriate for the assessed needs of the patient or client and are not excessive, unnecessary or not reasonably required.		
2.1.2 Recognises when it is clinically appropriate to implement non-pharmacological treatments	6.1.2.3 Identifies possible medicinal and non-medicinal treatment strategies or options 6.2.1.2 Assist customer to make informed choice re selection of medicines and/ or healthcare products 6.2.3.1 Explains reasons for advising against the use of medicines 6.2.3.2 Recommends non-medicinal interventions or actions to assist management of symptoms/conditions	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Conduct.
<b>PBA Code of Conduct 2.1</b> Introduction (b) formulating and implementing a suitable management plan (including providing treatment and advice and, where relevant, arranging investigations and liaising with other treating practitioners).		
<b>Element 2.2 Identifies appropriate medicines options that can be incorporated into the person's treatment plan</b>		
2.2.1 Integrates knowledge of pharmacology, other biomedical sciences, clinical medicine, and therapeutics and identifies medicines suitable for	4.2.2.1 Understand therapeutic use/s or pharmacological rationale for use of medicines# 4.2.2.2 Considers consumer and drug details to determine impact on safety and efficacy# 4.2.2.3 Identifies drug related problems potentially associated with medicines#	Performance criterion identified completely in the Professional Standard.

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Performance Criteria	Professional Competencies	Comments
treating the condition	6.1.2.2 Determines the goal of treatment and considers factors likely to impact on treatment options 6.1.2.3 Identifies possible medicinal and non-medicinal treatment strategies or options 6.2.1.1 Establishes whether medicines or health care products are suitable for intended use 6.2.1.3 Recommends medicines or healthcare products that will satisfy the consumer's needs, are safe and suitable 7.1.2.4 Understands the pharmacological and/ or therapeutic basis for the use of medicines and goals of therapy 7.1.2.5 Evaluates the significance of laboratory tests and investigations to the current medication treatment <b># Written for the process of review of prescribed medicines; equally applies to the prescribing process</b>	
2.2.2 Obtains, interprets, and applies current evidence and information about medicines to inform decisions about incorporating medicines into the person's treatment plan	7.1.2.9 Applies evidence-based resources, treatment guidelines or protocols to assess medication regimen 7.1.2.6 Considers the appropriateness of medication in the context of consumer and drug factors 7.1.3.1 Assesses treatment options and formulates evidence-based recommendations for changes to medication (includes differentiation of therapy on the basis of cost, among other considerations) 8.1.3.3 Understands and interprets retrieved information	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Conduct.
<b>PBA Code of Conduct 2.2 Good Care (h) providing treatment options based on the best available information and not influenced by financial gain or incentives.</b>		
2.2.3 Identifies medicines options that are likely to provide therapeutically effective and safe treatment and tailors them for the person	4.2.2.1 Understand therapeutic use/s or pharmacological rationale for use of medicines# 6.1.2.2 Determines the goal of treatment and considers factors likely to impact on treatment options 6.1.2.3 Identifies possible medicinal and non-medicinal treatment strategies or options 6.2.1.1 Establishes whether medicines or health care products are suitable for intended use 6.2.1.3 Recommends medicines or healthcare products that will satisfy the consumer's needs, are safe and suitable 7.1.2.4 Understands the pharmacological and/or therapeutic basis for the use of medicines and the therapeutic goals to be achieved 7.1.3.1 Assesses treatment options and formulates evidence-based recommendations for changes to medication (includes differentiation of therapy on the basis of cost, among other considerations) <b># Written for the process of review of prescribed medicines; equally applies to the prescribing process</b>	Performance criterion identified completely in the Professional Standard.
2.2.4 Considers the cost and affordability of the medicines to the person	4.2.2.4 Identifies factors likely to adversely affect adherence to the intended treatment (including cost) 7.1.2.8 Identifies factors likely to adversely affect adherence to medication (including cost) 7.1.3.1 Assesses treatment options and formulates evidence-based recommendations for changes to medication (includes differentiation of therapy on the basis of cost, among other considerations) 7.1.3.2 Prioritise the care needs of the consumer, considering safety, benefit, cost or other criteria	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Conduct and Code of Ethics.
<b>PSA Code of Ethics Principle 4: A pharmacist acknowledges the professional roles in and responsibilities to the wider community 4.3 Consider the use of and access to health resources in a fair and equitable manner.</b>		
<b>PBA Code of Conduct 3.7 Culturally safe and sensitive practice (b) Acknowledging the social, economic, cultural, historic and behavioural factors influencing health, both at individual and population levels.</b>		
2.2.5 Considers the implications to the wider community of using a particular medicine to treat the person	6.3.1.1 Understands public health priorities and the basis of action for prevention and early detection initiatives	Performance criterion partly identified in the Professional Standard in the form of public health awareness. Cost to the community, potential for antibiotic resistance and other examples noted in PCF evidence guide not specifically addressed. Code of Conduct discusses the quality use

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Performance Criteria	Professional Competencies	Comments
		of medicines and pharmacist responsibilities in relation to this.
<b>PSA Code of Ethics Principle 4: A pharmacist acknowledges the professional roles in and responsibilities to the wider community</b> Pharmacists commit to responsible and accountable control and supply of therapeutic goods and to contribute to public health and enhancing the quality use of medicines in partnership with individuals and the wider community.		
2.2.6 Discusses the treatment options and medicines with the person, considering: the priorities for treating their current condition and co-existing conditions (if required); their readiness to address the current condition; their expectations of treatment	1.3.2.2 Partners with consumers in the delivery of professional services 6.1.2.2 Determines the goal of treatment and considers factors likely to impact on treatment options 6.2.1.2 Assist customer to make informed choice re selection of medicines and/ or healthcare products 6.2.1.3 Recommends medicines or healthcare products that will satisfy the consumer's needs, are safe and suitable 6.2.2.1 Assess consumer's need for information about the selected or recommended medicine/ healthcare product 6.2.3.2 Recommends non-medicinal interventions or actions to assist management of symptoms/ conditions 7.1.3.2 Prioritise the care needs of the consumer, considering safety, benefit, cost or other criteria 7.1.4.1 Provide medicines and health information to assist understanding of condition and/or treatment	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Conduct.
<b>PBA Code of Conduct 3.2 Partnership</b> (e) Encouraging and supporting patients or clients to be well-informed about their health and assisting patients or clients to make informed decisions about their healthcare activities and treatments by providing information and advice to the best of a practitioner's ability and according to the stated needs of patients or clients (f) Respecting the right of the patient or client to choose whether or not they participate in any treatment or accept advice 3.3 Effective Communication (e) Discussing with patients or clients their condition and the available healthcare options, including their nature, purpose, possible positive and adverse consequences, limitations and reasonable alternatives wherever they exist (g) Ensuring that patients or clients are informed of the material risks associated with any part of a proposed management plan.		
2.2.7 Supplements verbal information with written information about the condition and treatment options (where appropriate)	4.3.3.1 Liaise with consumer/ carer to clarify information needs 4.3.3.3 Provides advice on the medicine, dosing regimen, precautions, possible adverse effects 4.3.3.4 Reinforces and clarifies verbal advice with written consumer information and technical advice 6.2.2.2 Provides advice about selected/recommended treatment using written resources for clarification 7.1.4.1 Provide medicines and health information to assist understanding of condition and/or treatment	Performance criterion identified completely in the Professional Standard.
2.2.8 Allows the person time to make an informed decision about their treatment		Unable to identify this performance criterion in the Professional Standard, however the Code of Conduct specifically notes.
<b>PBA Code of Conduct 3.3 Effective Communication</b> (d) Informing patients or clients of the nature of and need for all aspects of their clinical care, including examinations and investigations and <b>giving them adequate opportunity to question or refuse intervention and treatment.</b>		
2.2.9 Refers the person for further assessment or treatment when the suitable treatment options are outside the health professional's own scope of practice	1.2.1.2 Understands scope of practice in relation to other healthcare professionals 1.2.1.4 Works within the limits of professional expertise 1.2.1.5 Accesses additional information and/ or expert advice and assistance when needed 6.1.2.1 Assesses the potential seriousness of the presenting complaint/ condition 6.1.2.5 Considers the need to involve other health professionals or services 6.1.3.3 Liaises and/ or collaborates with other health professionals to whom the consumer has been referred 6.1.3.3 Explains the need to seek advice/ assistance from other health professionals when self-care is inappropriate 6.1.3.2 Undertakes onward referral of consumers in a manner consistent with professional standards	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Conduct.
<b>PBA Code of Conduct: 2.1 Introduction</b> (d) Recognising the limits to a practitioner's own skills and competence and referring a patient or client to another practitioner when this is in the best interests of the patients or clients. 2.2 Good Care (a) Recognising and working within the limits of a practitioner's competence and scope of practice, which may change over time.		
Competency Area 3 Shared decision making: Works in partnership with the person to develop and implement a treatment plan		

## Mapping of NPS Competencies Required to Prescribe Medicines against Pharmacist Practice Standards

Performance Criteria	Professional Competencies	Comments
<b>Element 3.1 Negotiates therapeutic goals with the person</b>		
3.1.1 Negotiates therapeutic goals that enhance the person's self-management of their condition	1.3.2.2 Partners with consumers in the delivery of professional services 1.3.2.4 Encourages consumers to seek and use information relevant to their health needs 6.2.2.4 Works with the consumer/ carer to positively impact on the benefits derived from use of a recommended medicine or product. 6.3.3.5 Supports and reinforces consumers' efforts at self-management of their risk factors for disease 7.2.1.3 Works with the consumer/ carer to establish therapeutic goals and formulate medication management plan 7.2.3.1 Clarifies and reinforces consumers' understanding of the medical condition, monitoring and/ or medication	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Conduct.
<b>PBA Code of Conduct 2.2 Good Care (d) Practising patient/client-centred care, including encouraging patients or clients to take interest in, and responsibility for, the management of their health and supporting them in this. 3.2 Partnership (d) Encouraging and supporting patients or clients and, when relevant, their carer/s or family in caring for themselves and managing their health. (e) Encouraging and supporting patients or clients to be well-informed about their health and assisting patients or clients to make informed decisions about their healthcare activities and treatments by providing information and advice to the best of a practitioner's ability and according to the stated needs of patients or clients.</b>		
3.1.2 Ascertains that all parties have a common understanding of the therapeutic goals and how they will be measured	4.3.3.1 Liaises with the consumer/ carer to clarify their information needs 4.3.3.5 Checks that consumers understand why the medicines have been prescribed and how they are to be used 6.2.2.3 Ensures the consumer/ carer understands how the medicine or health product is to be used 7.1.4.1 Provides medicines and health information in a manner that assists consumer/ carer understanding of their medical condition and/ or medication treatment 7.2.1.3 Works with the consumer/ carer and other health professionals to establish therapeutic goals and formulate a medication management plan 7.2.3.1 Clarifies and reinforces consumers' understanding of the medical condition, required monitoring and/ or medication treatment	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Conduct.
<b>PBA Code of Conduct 3.3 Effective Communication (f) Endeavouring to confirm that a patient or client understands what a practitioner has said.</b>		
<b>Element 3.2 Works in partnership with the person and other health professionals to select medicines and to tailor and implement a treatment plan</b>		
3.2.1 Explores the person's opinions and preferences concerning medicines and the treatment plan	1.3.2.2 Partners with consumers in the delivery of professional services## 1.3.1.2 Respects the rights of the consumer to participate in decision-making, control their personal information and make choices about their health care## 1.3.1.4 Recognises and respects consumer values, beliefs, personal characteristics and cultural/ linguistic diversity ## 6.2.1.3 Recommends medicines or health care products that will satisfy the consumer's need, are suitable and safe <b>## Not specifically referenced to medicines and/ or treatment plan</b>	Performance criterion identified completely with a combination of Professional Standard and Codes of Conduct and Ethics.
<b>PSA Code of Ethics Principle 2: A pharmacist pays due respect for the autonomy and rights of consumers and encourages consumers to actively participate in decision-making 2.4 Respect the consumer's choice including the right to refuse treatment, care or advice, or to withdraw consent at any time 3.2 Partnership (e) Encouraging and supporting patients or clients to be well-informed about their health and assisting patients or clients to make informed decisions about their healthcare activities and treatments by providing information and advice to the best of a practitioner's ability and according to the stated needs of patients or clients (f) Respecting the right of the patient or client to choose whether or not they participate in any treatment or accept advice.</b>		
<b>PBA Code of Conduct 3.3 Effective Communication (a) Listening to patients or clients, asking for and respecting their views about their health and responding to concerns and preferences e) Discussing with patients or clients their condition and the available healthcare options, including their nature, purpose, possible positive and adverse consequences, limitations and reasonable alternatives wherever they exist.</b>		
3.2.2 Consults other health professionals about potential medicines and the treatment plan	1.2.1.5 Accesses additional information and/ or expert advice and assistance when needed ## 4.2.3.2 Initiates action, in consultation with prescribers and/ or consumers, to address issues impacting on adherence 6.1.2.5 Considers the need to involve other health professionals or services## 7.1.4.2 Initiates action, in consultation with prescribers, other health professionals/ facility personnel and/ or consumers/	Performance criterion partly identified in the Professional Standard. Reference made to involving other health professionals, especially in relation to managing identified adherence issues. However the



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Performance Criteria	Professional Competencies	Comments
	carers, to address issues impacting on adherence <b>## Not specifically referenced to medicines</b>	involvement of other health professionals in the choice of appropriate treatment is not specifically identified. Code of Conduct discusses consulting and taking advice from colleagues in general.
<b>PBA Code of Conduct</b> 2.1 Introduction (b) Formulating and implementing a suitable management plan (including providing treatment and advice and, where relevant, arranging investigations and liaising with other treating practitioners). 2.2 Good Care (k) Consulting and taking advice from colleagues when appropriate		
3.2.3 Reaches agreement with the person about medicines to be used to treat their condition	1.3.2.2 Partners with consumers in the delivery of professional services 2.1.4.1 Recognises circumstances where a negotiated outcome is required 6.2.1.3 Recommends medicines or health care products that will satisfy the consumer's need, are suitable and safe 7.2.1.3 Works with the consumer/ carer and other health professionals to establish therapeutic goals and formulate a medication management plan	Performance criterion identified completely in the Professional Standard.
3.2.4 Develops the treatment plan in partnership with the person	1.3.2.2 Partners with consumers in the delivery of professional services 2.1.4.1 Recognises circumstances where a negotiated outcome is required 6.2.1.3 Recommends medicines or health care products that will satisfy the consumer's need, are suitable and safe 7.2.1.3 Works with the consumer/ carer and other health professionals to establish therapeutic goals and formulate a medication management plan	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Conduct and Code of Ethics.
<b>PSA Code of Ethics Principle 2: A pharmacist pays due respect for the autonomy and rights of consumers and encourages consumers to actively participate in decision-making</b> 2.3 Through informed consent, encourage consumers to participate in shared decision-making and assist by providing information and advice relevant to the consumer's clinical needs in appropriate language and detail.		
<b>PBA Code of Conduct</b> 3.2 Partnership (e) Encouraging and supporting patients or clients to be well-informed about their health and assisting patients or clients to make informed decisions about their healthcare activities and treatments by providing information and advice to the best of a practitioner's ability and according to the stated needs of patients or clients (f) Respecting the right of the patient or client to choose whether or not they participate in any treatment or accept advice.		
3.2.5 Obtains approval to use the medicines (where relevant)	1.1.1.1 Understands the requirements of statute law, professional guidelines, codes and standards relevant to practice* 1.1.1.2 Apply legislative requirements directly applicable to the provision of pharmacy services* 1.1.1.3 Understands the obligations created by codes of conduct/ ethics for professional practice* 1.1.1.4 Interprets and applies the requirements imposed by guidelines and standards* <b>*Specific legislation, standards, guidelines and codes of practice for prescribing of scheduled 4,8 medicines not yet drafted</b>	Performance criterion identified completely in the Professional Standard. (Note: specific legislation pertaining to the prescribing of scheduled 4,8 medicines currently does not exist however use of OTC medicines requires understanding of relevant approvals/restrictions.
3.2.6 Stops or modifies the person's existing medicines and other management strategies if required	6.2.3.1 Explains reasons for advising against the use of medicines 7.1.2.10 Uses professional judgment to determine whether changes in the medication treatment regimen are warranted in the interests of improved safety or efficacy. Includes discontinuing use.	Performance criterion identified completely in the Professional Standard.
3.2.7 Ensures the person understands the treatment plan and how to use the medicine safely and effectively	4.3.3.1 Liaises with the consumer/ carer to clarify their information needs 4.3.3.5 Checks that consumers understand why the medicines have been prescribed and how they are to be used 6.2.2.3 Ensures the consumer/ carer understands how the medicine or health product is to be used 7.1.4.1 Provides medicines and health information in a manner that assists consumer/ carer understanding of their medical condition and/ or medication treatment 7.2.1.3 Works with the consumer/ carer and other health professionals to establish therapeutic goals and formulate a medication management plan 7.2.3.1 Clarifies and reinforces consumers' understanding of the medical condition, required monitoring and/ or medication	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Conduct and Code of Ethics.

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Performance Criteria	Professional Competencies	Comments
	treatment	
<p><b>PSA Code of Ethics Principle 2: A pharmacist pays due respect for the autonomy and rights of consumers and encourages consumers to actively participate in decision-making</b> Additional Guidance: Provision of information must be tailored to the consumer's needs and purpose and in non-judgmental language. <b>PSA Code of Ethics Principle 3: A pharmacist upholds the reputation and public trust of the profession</b> 3.3 Provide accurate, truthful, relevant and independent information in a form that is appropriate for and not misleading to consumers.</p> <p><b>PBA Code of Conduct 3.3 Effective Communication (f)</b> endeavouring to confirm that a patient or client understands what a practitioner has said</p>		
<b>Element 3.3 Develops a review plan tailored to the person's needs</b>		
3.3.1 Identifies the need for, and develops a review plan	6.2.2.5 Undertakes follow-up of consumers where indicated to monitor progress and/ or outcomes 7.2.1.1 Identifies consumers in need of follow-up 7.2.3.2 Participates in assessment of whether medication treatment is achieving therapeutic goals/ outcomes 7.2.3.3 Recommends therapeutic drug monitoring where indicated	Performance criterion identified completely in the Professional Standard.
<b>Competency Area 4 Co-ordination: Communicates the treatment plan clearly to other health professionals</b>		
<b>Element 4.1 Provides clear instructions to other health professionals who dispense, supply, or administer medicines prescribed for the person</b>		
4.1.1 Prepares prescriptions or medication orders that comply with relevant legislation, guidelines or codes of practice, and organisational policies and procedures	1.1.1.1 Understands the requirements of statute law, professional guidelines, codes and standards relevant to practice* 1.1.1.2 Apply legislative requirements directly applicable to the provision of pharmacy services* 1.1.1.3 Understands the obligations created by codes of conduct/ ethics for professional practice* 1.1.1.4 Interprets and applies the requirements imposed by guidelines and standards* <b>3.4.1.5 Ensures pharmacy services are designed to comply with relevant legislation**</b> <b>3.4.2.1 Ensures services are provided in accordance with professional standards and statutory requirements**</b> <i>*Specific legislation, standards, guidelines and codes of practice for prescribing of scheduled 4,8 medicines not yet drafted</i> <i>** Applies to a whole of pharmacy service; not just prescribing</i>	Performance criteria partly identified in Professional Standard.  (Note: specific legislation pertaining to the prescribing of scheduled 4,8 medicines currently does not exist)
4.1.2 Provides accurate and clear <b>verbal</b> medication orders that comply with relevant legislation, guidelines or codes of practice and organisational policies and procedures (where relevant)	1.1.1.1 Understands the requirements of statute law, professional guidelines, codes and standards relevant to practice* 1.1.1.2 Apply legislative requirements directly applicable to the provision of pharmacy services* 1.1.1.3 Understands the obligations created by codes of conduct/ethics for professional practice* 1.1.1.4 Interprets and applies the requirements imposed by guidelines and standards* <i>*Specific legislation, standards, guidelines and codes of practice for prescribing of scheduled 4,8 medicines not yet drafted</i>	Performance criteria partly identified in Professional Standard.  (Note: specific legislation pertaining to the prescribing of scheduled 4,8 medicines currently does not exist)
<b>Element 4.2 Provides information about medicines and the treatment plan with the person's consent to other health professionals who provide care to the person</b>		
4.2.1 Provides information for collaboration to members of inter-professional healthcare teams both within facilities and the community	2.3.2.4 Collaborates with other health care professionals to enable consumers to achieve the best health outcomes 6.1.3.3 Liaises and/ or collaborates with other health professionals to whom consumers have been referred	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Conduct and Code of Ethics.
<p><b>PSA Code of Ethics Principle 1: A pharmacist recognises the health and wellbeing of the consumer as their first priority</b> Additional guidance: As the consumer's health care management may extend over more than one health/pharmacy sector/provider, it is important that pharmacists consider their liaison role and appropriately facilitate continuity of care for the consumer.</p> <p><b>PBA Code of Conduct 3.3 Effective Communication (m)</b> Communicating appropriately with and providing relevant information to other stakeholders, including other treating practitioners, in accordance with applicable privacy requirements. 3.4 Confidentiality and Privacy (d) Sharing information appropriately about patients or clients for their healthcare while remaining consistent with privacy legislation and professional guidelines about confidentiality. 4.2 Respect for colleagues and other practitioners (a) Communicating clearly, effectively, respectfully and promptly with colleagues and other practitioners caring for the patient or client (b) Acknowledging and respecting the contribution of all practitioners involved in the care of the patient or client. 4.3 Delegation, referral and handover (c) Always communicating sufficient information about the patient or client and the treatment needed to enable the continuing care of the patient or client. 4.4 Teamwork (c) Communicating effectively with other team members 4.5 Co-ordinating care with other practitioners (a) Communicating all the relevant information in a timely way</p>		

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Performance Criteria	Professional Competencies	Comments
<b>Competency Area 5 Monitors and reviews: Monitors and reviews the person's response to treatment</b>		
<b>Element 5.1 Obtains information to assess the person's response to treatment</b>		
5.1.1 Observes the person to ascertain their response to treatment (where relevant)	7.1.2.3 Understands the pathophysiology and required monitoring of the consumer's medical condition 7.1.2.10 Uses professional judgment to determine whether changes in the medication treatment regimen are warranted in the interests of improved safety or efficacy 7.2.2.2 Investigates whether undesirable or unintended clinical effects may be related to medication treatment 7.2.3.2 Participates in assessment of whether medication treatment is achieving therapeutic goals/ outcomes	Performance criterion identified completely in the Professional Standard.
5.1.2 Discusses with the person and other health professionals, their: - Experience with implementing the treatment plan - Adherence, including any issues arising and possible ways to improve adherence - Perception or observation of the medicines' benefits and adverse effects - Assessment of whether the therapeutic goals have been achieved	7.1.2.6 Considers the appropriateness of the current medication in the context of consumer and drug factors 7.1.2.8 Identifies factors likely to adversely affect adherence to intended medication 7.2.2.2 Investigates whether undesirable or unintended clinical effects may be related to medication treatment 7.2.3.2 Participates in assessment of whether medication treatment is achieving therapeutic goals/ outcomes 7.2.3.6 Collaborates with the consumer/ carer and other health professionals to improve medication management, taking account of test/ investigation results, therapeutic goals and clinical progress or outcomes	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Conduct.
<b>PBA Code of Conduct</b> 3.4 Confidentiality and Privacy (d) Sharing information appropriately about patients or clients for their healthcare while remaining consistent with privacy legislation and professional guidelines about confidentiality 4.2 Respect for colleagues and other practitioners (a) Communicating clearly, effectively, respectfully and promptly with colleagues and other practitioners caring for the patient or client. 4.3 Delegation, referral and handover (c) Always communicating sufficient information about the patient or client and the treatment needed to enable the continuing care of the patient or client. 4.5 Co-ordinating care with other practitioners (a) Communicating all the relevant information in a timely way.		
5.1.3 Obtains additional information to assess whether the therapeutic goals have been achieved by examining the person, requesting investigations, and interpreting the findings (where relevant)	7.1.2.5 Evaluates the significance of laboratory tests and investigations to the current medication treatment 7.2.3.1 Clarifies and reinforces consumers' understanding of the medical condition, required monitoring and treatment 7.2.3.3 Recommends therapeutic drug monitoring (TDM) where indicated <b>7.2.3.4 Ensures TDM is performed appropriately</b> 7.2.3.6 Collaborates with the consumer/ carer and other health professionals to improve medication management, taking account of test/ investigation results, therapeutic goals and clinical progress or outcomes	Performance criterion identified completely in the Professional Standard.
5.1.4 Synthesises information provided by the person, other health professionals, and from clinical examinations and investigations to determine whether: - The therapeutic goals have been achieved - Treatment should be stopped, modified or continued - The person should be referred to another health professional	7.1.2.5 Evaluates the significance of laboratory tests and investigations to the current medication 7.1.2.6 Considers the appropriateness of the current medication in the context of consumer and drug factors 7.1.2.7 Identifies clinically significant potential or actual medication-related problems in the current medication 7.1.2.10 Uses professional judgment to determine whether changes in the medication are warranted in the interests of improved safety or efficacy 7.1.3.1 Assesses treatment options and formulates evidence-based recommendations for changes to medication 7.2.2.2 Investigates whether undesirable or unintended clinical effects may be related to medication 7.2.3.2 Participates in assessment of whether medication treatment is achieving therapeutic goals/ outcomes <b>7.2.3.5 Provides advice on dosing adjustments and further monitoring indicated by the results of TDM/ other tests</b> 7.2.3.6 Collaborates with the consumer/ carer and other health professionals to improve medication management, taking account of test/ investigation results, therapeutic goals and clinical progress or outcomes	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Ethics.
<b>PSA Code of Ethics Principle 4: A pharmacist acknowledges the professional roles in and responsibilities to the wider community</b> Additional Guidance: Timely reporting of suspected adverse events or reactions to therapeutic goods is also a		

## Mapping of NPS Competencies Required to Prescribe Medicines against Pharmacist Practice Standards

Performance Criteria	Professional Competencies	Comments
professional responsibility and expectation.		
<b>Element 5.2 Works in partnership with the person and other health professionals to address issues arising from the review</b>		
5.2.1 Discusses the findings of the review with the person	7.1.3.4 Communicates recommendations to the consumer/ carer, other health professionals as appropriate 7.2.3.6 Collaborates with the consumer/ carer and other health professionals to improve medication management, taking account of test/ investigation results, therapeutic goals and clinical progress or outcomes	Performance criterion identified completely in the Professional Standard.
5.2.2 Identifies if the person requires a comprehensive medicines review	<p><b>Comprehensive medicines review is undertaken as part of scope and recognised in the following competencies</b></p> <p>4.2.1.1 Uses a systematic approach to access and review the consumer medication record or notes</p> <p>4.2.1.2 Obtains additional essential medication related information from the consumer/ carer and/ or prescriber</p> <p>4.2.1.3 Uses relevant sources to clarify or confirm information or meet additional information needs</p> <p>4.2.2.1 Understands the therapeutic use/s or pharmacological rationale for use of prescribed medicines</p> <p>4.2.2.2 Considers consumer, drug and dosage form factors likely to impact on the efficacy or safety of treatment</p> <p>4.2.2.3 Identifies clinically significant potential or actual drug related problems</p> <p>4.2.2.4 Identifies factors likely to adversely affect adherence to the intended treatment</p> <p>4.2.2.5 Uses professional judgment to determine whether any changes in prescribed medicines are warranted</p> <p>4.2.3.1 Liaises with the prescriber regarding suggested changes in therapy to resolve or minimise issues</p> <p>4.2.3.2 Initiates action, in consultation with prescribers and/or consumers, to address issues impacting adherence</p> <p>4.2.3.3. Understands the need to accurately code and record clinical interventions consistent with professional standards or conventions</p> <p>6.1.1.2 Uses the consumer medication record where this is available to confirm health information relevant to the presenting condition/ symptoms</p> <p>6.1.1.3 Obtains additional required clinical information from other health professionals and/ or information sources</p> <p>6.1.2.2 Determines the goal of treatment and considers consumer, drug and dosage form factors likely to impact on treatment options</p> <p>6.1.2.4 Assesses the potential for inappropriate use or abuse of selected medicinal treatments</p> <p>6.2.1.1 Establishes whether selected medicines or health care products are suitable for intended use</p> <p>7.1.1.1 Accesses and reviews the consumer's medication records or notes with consumer consent</p> <p><b>7.1.1.2 Reviews specialised charts and treatment records and relevant laboratory tests/ investigations</b></p> <p>7.1.1.3 Obtains additional relevant clinical information through consultation with consumers and/ or carers or other health professionals (with consumer consent)</p> <p>7.1.1.4 Uses relevant information sources to clarify or confirm information or meet additional information needs</p> <p>7.1.1.5 Creates an accurate and complete medication history</p> <p>7.1.2.1 Understands the purpose of assessing current medication management</p> <p>7.1.2.2 Accesses or develops and uses tools and resources that assist the assessment of medication management</p> <p>7.1.2.3 Understands the pathophysiology and required monitoring of the consumer's medical conditions/ diseases</p> <p>7.1.2.4 Understands the pharmacological and/ or therapeutic basis for the use of medicines and the therapeutic goals to be achieved</p>	Performance criterion identified completely in the Professional Standard.

Mapping of NPS Competencies Required to Prescribe Medicines against Pharmacist Practice Standards		
Performance Criteria	Professional Competencies	Comments
	7.1.2.5 Evaluates the significance of laboratory tests and investigations to the current medication treatment regimen 7.1.2.6 Considers the appropriateness of the current medication treatment regimen in the context of consumer and drug factors 7.1.2.7 Identifies clinically significant potential or actual medication-related problems in the current treatment 7.1.2.8 Identifies factors likely to adversely affect adherence to intended medication 7.1.2.9 Applies evidence-based resources, treatment guidelines or protocols to assess the medication regimen 7.1.2.10 Uses professional judgment to determine whether changes in the medication are warranted 7.1.3.1 Assesses treatment options and formulates evidence-based recommendations for changes to medication management that, where appropriate, are informed by laboratory tests and investigations <b>7.1.3.3 Develops a report that formalises medication management recommendations and evidence base</b> 7.1.3.4 Communicates recommendations to the consumer/ carer, prescribers, other health professionals 7.1.3.5 Supports continuity of care through documentation of clinical interventions and recommendations 7.1.3.6 Evaluates the effectiveness of their medication management recommendations in achieving QUM	
5.2.3 Works in partnership with the person and other health professionals to modify the treatment plan to optimise the safety and effectiveness of treatment (where relevant)	1.3.2.2 Partners with consumers in the delivery of professional services 7.1.3.1 Assesses treatment options and formulates evidence-based recommendations for changes to medication management that are informed by laboratory tests or investigations 7.2.3.6 Collaborates with the consumer/ carer and other health professionals to improve medication management, taking account of test/ investigation results, therapeutic goals and clinical progress or outcomes	Performance criterion identified completely in the Professional Standard.
5.2.4 Reports issues arising from the review	<b>7.1.3.3 Develops a report that formalises medication management recommendations and the evidence base from which they were developed</b> 7.1.3.5 Supports continuity of care through documentation of clinical interventions and recommendations 7.2.2.3 Records and/ or reports suspected or confirmed ADRs, sensitivities or allergies	Performance criterion identified completely in the Professional Standard.
5.2.5 Organises the next review	6.2.2.5 Undertakes follow-up of consumers where indicated to monitor progress and/ or outcomes 7.2.1.1 Identifies consumers in need of follow-up 7.2.1.2 Seeks commitment from the consumer/ carer for planned monitoring and care	Performance criterion partly identified in the Professional Standard. The need to monitor therapy and follow-up patient outcomes is addressed in the competency standards without specifically discussing the need to arrange for the patient to return for the purpose of undergoing a follow-up assessment of the outcomes of therapy.
<b>Competency Area H1 Professional: Practices professionally</b>		
<b>Element H1.1 Practices within the applicable legislative and regulatory frameworks</b>		
H1.1.1 Demonstrates knowledge of, and complies with, legislation, regulations, and common law applicable to prescribing (as further defined by the knowledge subsection of this competency area)	1.1.1.1 Understands the requirements of statute law, professional guidelines, codes and standards relevant to practice* 1.1.1.2 Apply legislative requirements directly applicable to the provision of pharmacy services* 1.1.1.3 Understands the obligations created by codes of conduct/ ethics for professional practice* 1.1.1.4 Interprets and applies the requirements imposed by guidelines and standards* 1.1.1.5 Understands the issues relevant to maintaining workplace safety	Performance criteria reflected in the Professional Standard and in the Code of Conduct and Code of Ethics.  (Note: specific legislation pertaining to the prescribing of scheduled 4,8 medicines currently does not exist. Scope requires

Mapping of NPS Competencies Required to Prescribe Medicines against Pharmacist Practice Standards		
Performance Criteria	Professional Competencies	Comments
	1.1.1.6 Accepts shared responsibility for maintaining safe working environment 1.1.1.7 Considers the responsibility for maintaining a safe working environment <b>3.4.1.5 Ensures pharmacy services and/or the service environment are designed to comply with relevant legislation</b> <i>*Specific legislation, standards, guidelines and codes of practice for prescribing of scheduled 4,8 medicines not yet drafted</i>	pharmacists to be aware of the legislation applicable to prescribing even if not undertaking this task)
<b>PSA Code of Ethics Principle 3: A pharmacist upholds the reputation and public trust of the profession</b> 3.1 Demonstrate acceptable standards of professional and personal behaviour. <b>PBA Code of Conduct 9.2 Practitioner Health (d)</b> For practitioners who are able to prescribe, conforming to the legislation in the relevant states and territories in relation to self-prescribing.		
H1.1.2 Maintains accurate and complete records of: <ul style="list-style-type: none"> <li>- The consultation</li> <li>- Clinical examinations and investigation results</li> <li>- Risk factors for medicines misadventure</li> <li>- The person's decision to decline treatment (where relevant)</li> <li>- Changes to the person's medicines management plan, including the rationale behind these changes</li> <li>- The review plan, recommendations, and date for next review</li> <li>- Outcomes of treatment</li> </ul>	1.4.1.3 Ensures appropriate professional services documentation is completed for identifying and managing risks to consumers 4.3.2.2 Maintains accurate and up-to-date consumer medication records consistent with professional standards 6.2.5.1 Ensures primary health care services, including progress and/ or outcomes, are recorded accurately in the consumer medication record consistent with legislative requirements and professional standards and conventions <b>7.1.3.3 Develops a report that formalises medication management recommendations (including calculated doses and dosing frequency) and the evidence base from which they were developed</b> 7.2.4.1 Maintains current and accurate consumer medication histories and/ or medication management plans consistent with professional standards and conventions	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Conduct.
<b>PBA Code of Conduct 2.2 Good Care (e)</b> Maintaining adequate records. 8.4 Health Records (a) Keeping up-to-date, factual, objective and legible records that report relevant details of clinical history, clinical findings, investigations, information given to patients or clients, medication and other management in a form that can be understood by other health practitioners (d) Ensuring that records are sufficient to facilitate continuity of care		
<b>Element H1.2 Practices according to professional standards, codes of conduct, and within the health professional's own scope of practice</b>		
H1.2.1 Demonstrates knowledge of and compliance with: professional standards, codes of conduct and scope of practice statements or guidelines	1.1.1.1 Understands the requirements of relevant statute law, professional guidelines, codes and standards* 1.1.1.3 Understands the obligations created by codes of conduct/ ethics for professional practice* 1.1.1.4 Interprets and applies the requirements imposed by guidelines and standards* 1.2.1.2 Understands the scope of practice of a pharmacist in relation to that of other health professionals 2.3.3.2 Upholds professional practice standards and conventions within the healthcare team <b>3.4.2.1 Ensures services are provided in accordance with professional standards and statutory requirements</b> <i>*Specific legislation, standards, guidelines and codes of practice for prescribing of scheduled 4,8 medicines not yet drafted</i>	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Ethics and Code of Conduct. (Note: specific legislation pertaining to the prescribing of scheduled 4,8 medicines currently does not exist)
<b>PSA Code of Ethics Principle 3: A pharmacist upholds the reputation and public trust of the profession</b> 3.1 Demonstrate acceptable standards of professional and personal behaviour. <b>PBA Code of Conduct 1.1</b> Practitioners have a professional responsibility to be familiar with this code and to apply the guidance it contains. 1.2: Practitioners have a responsibility to recognise and work within the limits of their competence and scope of practice. 2.1 Introduction (d) Recognising the limits to a practitioner's own skills and competence and referring a patient or client to another practitioner when this is in the best interests of the patients or clients. 2.2 Good Care (a) Recognising and working within the limits of a practitioner's competence and scope of practice, which may change over time.		
H1.2.2 Practices within the limits of the health professional's own education, training and scope of practice	1.2.1.2 Understands the scope of practice of a pharmacist in relation to that of other health professionals 1.2.1.4 Works within the limits of professional expertise 1.2.1.5 Accesses additional information and/ or expert advice and assistance when needed 2.3.2.1 Accepts responsibility for fulfilling the role expected of a pharmacist within the team 2.5.2.2 Verifies the pharmacist's role and responsibilities within the organisation	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Conduct and Code of Ethics.

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Performance Criteria	Professional Competencies	Comments
	6.1.2.5 Considers the need to involve other health professionals or services 6.1.3.4 Acts to ensure consumers in need of emergency medical care are promptly directed to the most appropriate source of care 7.2.3.7 Uses onward referral to ensure consumers have access to required expertise	
<b>PSA Code of Ethics Principle 9: A pharmacist works collaboratively with other health professionals to optimise the health outcomes of consumers</b> 9.1 Exercise professional independence and judgement and be cognisant of own scope of professional practice when providing support and advice to other health professionals. <b>PBA Code of Conduct 1.2:</b> Practitioners have a responsibility to recognise and work within the limits of their competence and scope of practice. 2.1 Introduction (d) Recognising the limits to a practitioner's own skills and competence and referring a patient or client to another practitioner when this is in the best interests of the patients or clients. 2.2 Good Care (a) Recognising and working within the limits of a practitioner's competence and scope of practice, which may change over time.		
H1.2.3 Demonstrates respect for the scope of practice of other health professionals and their contribution within a collaborative care model, particularly that of the person's main healthcare provider	1.1.2.2 Considers the rights, responsibilities, duty of care and/ or legislative obligations applicable to other health professionals 1.2.1.2 Understands the scope of practice of a pharmacist in relation to that of other health professionals 1.2.1.5 Accesses additional information and/ or expert advice and assistance when needed 2.2.2.2 Uses a collaborative approach for addressing problems 2.3.1.3 Understands the role, responsibilities and expertise of the pharmacist in relation to that of other members of the health care team 2.3.1.4 Recognises and respects the professional rights, skills and contributions of other team members 2.3.2.4 Collaborates with other health care professionals to enable consumers to achieve the best health outcomes 2.3.2.2 Identifies opportunities for collaboration on common goals and interests 6.1.2.5 Considers the need to involve other health professionals or services 6.1.3.4 Acts to ensure consumers in need of emergency medical care are promptly directed to the most appropriate source of care 7.2.3.7 Uses onward referral to ensure consumers have access to required expertise	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Conduct and Code of Ethics.
<b>PSA Code of Ethics Principle 9: A pharmacist works collaboratively with other health professionals to optimise the health outcomes of consumers</b> 9.2 Respect and understand the expertise of other health professionals. <b>PBA Code of Conduct 4.2</b> Respect for colleagues and other practitioners (b) Acknowledging and respecting the contribution of all practitioners involved in the care of the patient or client.		
H1.2.4 Accepts responsibility and is accountable for the care provided to the person	1.1.2.1 Understands the pharmacist's duty of care to consumers and other clients of the service 1.2.1.3 Understands pharmacists are accountable for the services provided and associated outcomes 1.2.2.3 Accepts responsibility for assuring the quality of professional services provided 1.3.2.6 Accepts responsibility for advocating on behalf of consumers consistent with the professional role and expertise of a pharmacist 2.3.2.1 Accepts responsibility for fulfilling the role expected of a pharmacist within the team 2.5.1.2 Accepts responsibility for and can account for professional judgments, acts and omissions 2.5.1.4 Adopts a responsible attitude and professional image in the workplace	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Conduct and Code of Ethics.
<b>PSA Code of Ethics: Principle 1 – A pharmacist recognises the health and wellbeing of the consumer as their first priority</b> 1.1 Consider their duty of care to the consumer first and foremost; 1.4 Act to prevent harm to the consumer 1.5 Promote good health and wellbeing. <b>PSA Code of Ethics Principle 6: A pharmacist agrees to practise only under conditions which uphold the professional independence, judgement and integrity of themselves or others</b> 7.2 Behave in a manner which makes it clear that he or she is responsible and accountable for all decisions made and actions taken in professional practice. <b>PBA Code of Conduct 1.2</b> Practitioners have a duty to make the care of patients or clients their first concern and to practise safely and effectively 4.4 Working in a team does not alter a practitioner's personal accountability for professional conduct and the care provided		

Mapping of NPS Competencies Required to Prescribe Medicines against Pharmacist Practice Standards		
Performance Criteria	Professional Competencies	Comments
<b>Element H1.3 Practices within the applicable frameworks of the healthcare setting and system</b>		
H1.3.1 Demonstrates knowledge of and complies with national, state and territory, and facility policies and procedures in relation to prescribing	1.1.1.1 Understands the requirements of statute law, professional guidelines, codes and standards relevant to practice* 1.1.1.2 Apply legislative requirements directly applicable to the provision of pharmacy services* 1.1.1.5 Understands the issues relevant to maintaining workplace safety 1.1.1.6 Accepts shared responsibility for maintaining safe working environment 1.1.1.7 Considers the responsibility for maintaining a safe working environment 2.3.3.2 Upholds professional practice standards and conventions within the healthcare team* <b>3.4.1.5 Ensures pharmacy services and/ or the service environment are designed to comply with relevant legislation</b> <b>3.4.2.1 Ensures services are provided in accordance with professional standards and statutory requirements</b> <i>*Specific legislation, standards, guidelines and codes of practice for prescribing of scheduled 4,8 medicines not yet drafted</i>	Performance criteria reflected in the Professional Standard and in the Code of Ethics.  (Note: specific legislation and guidelines pertaining to the prescribing of scheduled 4,8 medicines currently does not exist)
PSA Code of Ethics Principle 3: A pharmacist upholds the reputation and public trust of the profession 3.1 Demonstrate acceptable standards of professional and personal behaviour.		
H1.3.2 Demonstrates appropriate professional judgement when interpreting and applying guidelines and protocols to the person's situation	1.1.1.4 Interprets and applies the requirements imposed by guidelines and standards 7.1.2.2 Accesses or develops and uses tools and resources that assist the assessment of medication management 7.1.2.5 Evaluates the significance of laboratory tests and investigations to the current medication management 7.1.2.9 Applies evidence-based resources, treatment guidelines or protocols to assess the medication management 7.1.2.10 Uses professional judgment to determine whether changes to medication management are required 8.1.3.3 Understands and interprets the retrieved information	Performance criterion identified completely in the Professional Standard.
H1.3.3 Contributes to the improvement of policies and procedures for the judicious, appropriate, safe and effective use of medicines	<b>3.4.1.3 Maintains a system of review of workplace practices in relation to established policies and procedures</b> <b>3.4.2.2 Promotes maintenance of, and improvement in, the quality of pharmacy services and service environment</b> <b>3.4.2.3 Plans and implements activities to maintain or improve the quality of pharmacy services</b> <b>3.4.2.4 Uses data and information gathered to implement changes to improve services</b> <b>7.3.3.4 Responds to findings of a review of medicine use (including working collaboratively to revise/ prepare policies, procedures or treatment protocols)</b>	Performance criterion identified in the Professional Standard however not applicable to the entry-level professional. Reflected also in the Code of Conduct.
PBA Code of Conduct 6.2 Risk Management (b) Participating in systems of quality assurance and improvement.		
<b>Element H1.4 Practices quality use of medicines principles</b>		
H1.4.1 Applies quality use of medicines principles when prescribing medicines	4.2.1.1 Uses a systematic approach to access and review the consumer medication record or notes 4.2.1.2 Obtains additional essential medication related information from the consumer/ carer and/ or prescriber 4.2.1.3 Uses relevant sources to clarify or confirm information or meet additional information needs 4.2.2.1 Understands the therapeutic use/s or pharmacological rationale for use of prescribed medicines 4.2.2.2 Considers consumer, drug and dosage form factors likely to impact on the efficacy or safety of treatment 4.2.2.3 Identifies clinically significant potential or actual drug related problems 4.2.2.4 Identifies factors likely to adversely affect adherence to the intended treatment 4.2.2.5 Uses professional judgment to determine whether any changes in prescribed medicines are warranted	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Ethics and Code of Conduct.



## Mapping of NPS Competencies Required to Prescribe Medicines against Pharmacist Practice Standards

Performance Criteria	Professional Competencies	Comments
	<p>4.2.3.1 Liaises with the prescriber regarding suggested changes in therapy to resolve or minimise issues</p> <p>4.2.3.2 Initiates action, in consultation with prescribers and/or consumers, to address issues impacting adherence</p> <p>4.2.3.3. Understands the need to accurately code and record clinical interventions consistent with professional standards or conventions</p> <p>6.1.1.2 Uses the consumer medication record where this is available to confirm health information relevant to the presenting condition/ symptoms</p> <p>6.1.1.3 Obtains additional required clinical information from other health professionals and/ or information sources</p> <p>6.1.2.2 Determines the goal of treatment and considers consumer, drug and dosage form factors likely to impact on treatment options</p> <p>6.1.2.4 Assesses the potential for inappropriate use or abuse of selected medicinal treatments</p> <p>6.2.1.1 Establishes whether selected medicines or health care products are suitable for intended use</p> <p>7.1.1.1 Accesses and reviews the consumer's medication records or notes with consumer consent</p> <p><b>7.1.1.2 Reviews specialised charts and treatment records and relevant laboratory tests/ investigations</b></p> <p>7.1.1.3 Obtains additional relevant clinical information through consultation with consumers and/ or carers or other health professionals (with consumer consent)</p> <p>7.1.1.4 Uses relevant information sources to clarify or confirm information or meet additional information needs</p> <p>7.1.1.5 Creates an accurate and complete medication history</p> <p>7.1.2.1 Understands the purpose of assessing current medication management</p> <p>7.1.2.2 Accesses or develops and uses tools and resources that assist the assessment of medication management</p> <p>7.1.2.3 Understands the pathophysiology and required monitoring of the consumer's medical conditions/ diseases</p> <p>7.1.2.4 Understands the pharmacological and/ or therapeutic basis for the use of medicines and the therapeutic goals to be achieved</p> <p>7.1.2.5 Evaluates the significance of laboratory tests and investigations to the current medication treatment regimen</p> <p>7.1.2.6 Considers the appropriateness of the current medication treatment regimen in the context of consumer and drug factors</p> <p>7.1.2.7 Identifies clinically significant potential or actual medication-related problems in the current treatment</p> <p>7.1.2.8 Identifies factors likely to adversely affect adherence to intended medication</p> <p>7.1.2.9 Applies evidence-based resources, treatment guidelines or protocols to assess the medication regimen</p> <p>7.1.2.10 Uses professional judgment to determine whether changes in the medication are warranted</p> <p>7.1.3.1 Assesses treatment options and formulates evidence-based recommendations for changes to medication management that, where appropriate, are informed by laboratory tests and investigations</p> <p><b>7.1.3.3 Develops a report that formalises medication management recommendations and evidence base</b></p> <p>7.1.3.4 Communicates recommendations to the consumer/ carer, prescribers, other health professionals</p> <p>7.1.3.5 Supports continuity of care through documentation of clinical interventions and recommendations</p> <p>7.1.3.6 Evaluates the effectiveness of their medication management recommendations in achieving QUM</p>	

## Mapping of NPS Competencies Required to Prescribe Medicines against Pharmacist Practice Standards

Performance Criteria	Professional Competencies	Comments
<p><b>PSA Code of Ethics Principle 4: A pharmacist acknowledges the professional roles in and responsibilities to the wider community</b> All aspects of pharmacy practice are underpinned by quality use of medicines principles and evidence-based practice. Additional Guidance: Pharmacists have a responsibility to contribute to the achievement of the objectives of Australia's National Medicines Policy, which include quality use of medicines.</p> <p><b>PBA Code of Conduct 2.2 Good Care (p)</b> Facilitating the quality use of therapeutic products based on the best available evidence and the patient or client's needs.</p>		
H1.4.2 Identifies common causes of medicines errors and adverse events, and implements strategies to reduce the risks of these occurring	<p>1.4.1.2 Understands the potential sources of error in professional service delivery and their likely consequences</p> <p>1.4.2.4 Acts promptly in the event of a medication incident to minimise harm and/ or prevent recurrence</p> <p>4.2.2.3 Identifies clinically significant potential/ actual drug related problems likely to be associated with use of the prescribed medicine</p> <p>4.3.1.8 Takes prompt action to minimise the impact of dispensing errors and reduce risk of recurrence</p> <p>4.3.3.3 Provides advice on the medicine, dosing regimen, precautions, possible adverse effects and storage requirements</p> <p>7.1.2.7 Identifies clinically significant potential or actual medication related problems in the current regimen</p> <p>7.1.2.10 Uses professional judgment to determine whether changes in the medication treatment regimen are warranted in the interests of improved safety or efficacy</p>	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Conduct.
<p><b>PBA Code of Conduct 6.2 Risk Management (c)</b> Participating in systems for surveillance and monitoring of adverse events and 'near misses', including reporting such events to the relevant authority d) If a practitioner has management responsibilities, making sure that systems are in place for raising concerns about risks to patients or clients e) Working in practice and within systems to reduce error and improve the safety of patients or clients and supporting colleagues who raise concerns about the safety of patients or clients.</p>		
H1.4.3 Demonstrates knowledge of the medicines commonly prescribed	<p>4.2.2.1 Understands the therapeutic use/s or pharmacological rationale for use of prescribed medicines#</p> <p>6.1.2.3 Identifies possible medicinal and non-medicinal treatment strategies or options</p> <p>6.2.1.3 Recommends medicines or health care products that will satisfy the consumer's need are safe and suitable</p> <p>7.1.3.1 Assesses treatment options and formulates evidence-based recommendations for changes to medication management that, where appropriate, are informed by laboratory tests and investigations</p> <p><b># Written for the process of review of prescribed medicines; equally applies to the prescribing process</b></p>	Performance criterion identified completely in the Professional Standard.
H1.4.4 Critically evaluates information about medicines and makes evidence-based decisions about medicines in the health professional's own practice	<p>7.1.2.9 Applies evidence-based resources, treatment guidelines or protocols to assess the medication management</p> <p>7.1.2.10 Uses professional judgment to determine whether changes to medication management are required</p> <p>8.1.3.1 Understands basic concepts and terminologies required to critically analyse clinical information</p> <p>8.1.3.2 Establishes the extent to which confidence may be placed in the content of clinical papers</p> <p>8.1.3.3 Understands and interprets retrieved information</p>	Performance criterion identified completely in the Professional Standard.
<p><b>Element H1.5 Demonstrates a commitment to continual quality improvement of the health professional's own prescribing</b></p>		
H1.5.1 Engages in ongoing professional development and education to improve prescribing practices	<p>1.5.1.1 Understands the concept of life-long learning for pharmacists</p> <p>1.5.1.3 Understands the expectations of the registering authority and professional associations in relation to maintenance of competence and ongoing professional development</p> <p>1.5.2.2 Accepts responsibility for achieving learning and professional development goals</p> <p>3.2.3.4 Contributes to the learning and professional development of colleagues</p> <p><b>Note: not specific to prescribing practice but reflective of existing scope</b></p>	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Conduct and Code of Ethics.
<p><b>PSA Code of Ethics Principle 6: A pharmacist maintains a contemporary knowledge of pharmacy practice and ensures health and competence to practice</b> 6.1 Recognise the importance of lifelong learning and self-development and their impact on professional competence, and commit to this concept in their current role, responsibility and scope of practice 6.2 Recognise the benefits of self-assessment, or appraisal or review by others, of professional performance and respond appropriately to the outcome.</p>		
<p><b>PBA Code of Conduct 2.2 Good Care (b)</b> Ensuring that practitioners maintain adequate knowledge and skills to provide safe and effective care (c) When moving into a new area of practice, ensuring that a practitioner has undertaken sufficient training and/or qualifications to achieve competency in that area (o) Evaluating practice and the decisions and actions in providing good care 7.1 Maintaining and developing knowledge, skills and professional behaviour are core aspects of good practice. This</p>		

## Mapping of NPS Competencies Required to Prescribe Medicines against Pharmacist Practice Standards

Performance Criteria	Professional Competencies	Comments
requires self-reflection and participation in relevant professional development, practice improvement and performance-appraisal processes to continually develop professional capabilities. These activities must continue through a practitioner's working life as science and technology develop and society changes 7.2 Continuing Professional Development (CPD) Good practice involves keeping knowledge and skills up to date to ensure that practitioners continue to work within their competence and scope of practice.		
<b>Element H1.6 Addresses the potential for bias in prescribing decisions</b>		
H1.6.1 Implements strategies to address influences that may bias prescribing decisions, including: <ul style="list-style-type: none"> <li>- Marketing influences</li> <li>- Possible personal, professional or financial gain</li> <li>- Conflicts of interest</li> <li>- The health professional's own beliefs, values, and experiences</li> </ul>		Unable to identify this performance criteria in the Professional Standard, however addressed in both the Code of Conduct and Code of Ethics.
<b>PSA Code of Ethics Principle 3: A pharmacist upholds the reputation and public trust of the profession</b> Additional Guidance: Consumers place a high level of trust in pharmacists and expect sound and objective advice. Pharmacists should ensure they and their staff are not susceptible to inappropriate marketing influence that may adversely impact on their primary obligation to provide the most appropriate product, care or advice to meet consumer needs. <b>PSA Code of Ethics Principle 6: A pharmacist agrees to practise only under conditions which uphold the professional independence, judgement and integrity of themselves or others</b> 7.1 <b>Exercise professional autonomy, objectivity and independence, and manage actual and potential situations of conflict of interest</b> 9.4 Establish good working relationships and promote agreed communication paths with other health professionals to enable the delivery of best possible outcomes Additional Guidance: A pharmacist must ensure no conflict of interest encroaches on the relationship with any other health care provider (e.g. sharing of financial gain from referral or sale of a product or medication).		
<b>PBA Code of Conduct 2.2 Good Care (h) Providing treatment options based on the best available information and not influenced by financial gain or incentives (m) Ensuring that the personal views of a practitioner do not affect the care of a patient or client adversely</b> 2.4 Decisions about access to care g) Not allowing moral or religious views to deny patients or clients access to healthcare, recognising that practitioners are free to decline to provide or participate in that care personally 3.7 Culturally safe and sensitive practice (c) Understanding that a practitioner's own culture and beliefs influence their interactions with patients or clients 8.11 Conflicts of Interest (a) <b>Recognising potential conflicts of interest that may arise</b> in relation to initiating or continuing a professional relationship with a patient or client (c) Informing patients or clients when a practitioner has an interest that could affect or could be perceived to affect patient or client care (d) Recognising that pharmaceutical and other marketing may influence practitioners and being aware of ways in which practice may be influenced (e) Not asking for or accepting any inducement, gift or hospitality from companies that sell or market drugs or other products that may affect or be seen to affect the way practitioners prescribe for, treat or refer patients or clients (f) Not asking for or accepting fees for meeting sales representatives (g) Not offering inducements to colleagues or entering into arrangements that could be perceived to provide inducements (h) <b>Not allowing any financial or commercial interest in a hospital, other healthcare organisation or company providing healthcare services or products to adversely affect the way in which patients or clients are treated.</b> When practitioners or their immediate family have such an interest and that interest could be perceived to influence the care provided, practitioners must inform their patients or clients.		
<b>Competency Area H2 Communicates: Communicates and collaborates effectively with the person and other health professionals</b>		
<b>Element H2.1 Obtains consent to provide clinical services to the person</b>		
H2.1.1 Adheres to legislative and workplace requirements for obtaining and recording consent for: <ul style="list-style-type: none"> <li>- Accessing health records</li> <li>- Obtaining information from, and providing information to, other health professionals</li> <li>- Conducting a clinical examination</li> <li>- Providing clinical services</li> <li>- The potential benefits and harms of treatment</li> <li>- The financial aspects of the treatment</li> </ul>	1.1.3.1 Considers the impact of privacy legislation on practice 1.1.4.1 Accepts the importance of gaining consumer consent 1.1.4.2 Understands the nature of consumer consent 1.1.4.3 Obtains consumer consent as required for professional services including those where personal health information will be collated and shared with other health professionals	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Conduct and Code of Ethics.
<b>PSA Code of Ethics Principle 2: A pharmacist pays due respect for the autonomy and rights of consumers and encourages consumers to actively participate in decision-making</b> 2.3 Through informed consent, encourage consumers to participate in shared decision-making and assist by providing information and advice relevant to the consumer's clinical needs in appropriate language and detail Additional Guidance: Informed consent is based on provision of sufficient information to enable the consumer to make an informed decision about the medication or service. Coercion or lack of transparency are unacceptable.		
<b>PBA Code of Conduct 3.3 Effective Communication (d) Informing patients or clients of the nature of and need for all aspects of their clinical care, including examination and investigations and giving them adequate opportunity to question or refuse intervention and treatment</b> 3.4 Confidentiality and Privacy (b) Seeking consent from patients or clients before disclosing information, where practicable (h) Complying with relevant legislation, policies and procedures relating to consent (i) Using consent		

## Mapping of NPS Competencies Required to Prescribe Medicines against Pharmacist Practice Standards

Performance Criteria	Professional Competencies	Comments
<p>processes, including formal documentation if required, for the release and exchange of health and medical information 3.5 Informed Consent (a) Providing information to patients or clients in a way they can understand before asking for their consent (b) Obtaining informed consent or other valid authority before undertaking any examination or investigation, providing treatment (this may not be possible in an emergency) or involving patients or clients in teaching or research, including providing information on material risks (c) When referring a patient or client for investigation or treatment, advising the patient or client that there may be additional costs, which they may wish to clarify before proceeding (d) When working with a patient or client whose capacity to give consent is or may be impaired or limited, obtaining the consent of people with legal authority to act on behalf of the patient or client and attempting to obtain the consent of the patient or client as far as practically possible (e) Being mindful of additional informed consent requirements when supplying or prescribing products not approved or made in Australia (f) Documenting consent appropriately, including considering the need for written consent for procedures which may result in serious injury or death.</p> <p><i>Fees and financial consent</i> (a) Patients or clients should be made aware of all the fees and charges involved in a course of treatment, preferably before the health service is provided (b) Discussion about fees should be in a manner appropriate to the professional relationship and should include discussion about the cost of all required services and general agreement about the level of treatment to be provided.</p>		
<h3>Element H2.2 Acknowledges the person, their family, and carers as integral to care and collaborates to achieve optimal health outcomes</h3>		
H2.2.1 Involves the person's family or carers in the consultation where appropriate	1.3.2.2 Partners with consumers in the delivery of professional services	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Conduct.
<p><b>PBA Code of Conduct</b> 2.3 Making decisions about health care is the shared responsibility of the treating practitioner and the patient or client who may wish to involve their family, carer(s) and/or others. Practitioners have the responsibility to create and foster conditions for this to occur. 3.2 Partnership (d) Encouraging and supporting patients or clients and, when relevant, their carer/s or family in caring for themselves and managing their health 3.6 Children and Young People (c) Recognise the role of parents or guardians and, when appropriate, encourage the child or young person to involve their parents or guardians in decisions about care 3.8 Patients who may have additional needs (c) Recognising that there may be a range of people involved in their care such as carers, family members or a guardian, and involving them when appropriate 3.9 Relatives, carers and partners (a) Being considerate to relatives, carers, partners and others close to the patient or client and respectful of their role in the care of the patient or client and (b) With appropriate consent, being responsive in providing information.</p>		
H2.2.2 Explores and responds appropriately to the person's concerns and expectations regarding: <ul style="list-style-type: none"> <li>- The consultation</li> <li>- Their health</li> <li>- Their own role and that of health professionals in managing their health</li> <li>- The health professional's scope of practice</li> <li>- The use of medicines and other treatments to maintain their health</li> </ul>	1.3.2.5 Responds to consumer comment and feedback about the services and advice provided 2.1.3.5 Explores the needs of consumers and communicates relevant information	Performance criterion identified completely with a combination of the Professional Standard and the Code of Conduct.
<p><b>PBA Code of Conduct</b> 3.3 Effective Communication (a) Listening to patients or clients, asking for and respecting their views about their health and responding to concerns and preferences (h) <b>Responding to questions</b> from patients or clients and keeping them informed about their clinical progress. 4.4 Teamwork (d) Informing patients or clients about the roles of team members 4.5 Coordinating care with other practitioners (b) Ensuring that it is clear to the patient or client, the family and colleagues who has ultimate responsibility for coordinating the care of the patient or client.</p>		
H2.2.3 Establishes a therapeutic partnership that accords with the preferences expressed by the person	1.3.1.3 Accepts and supports the consumer's rights to be informed and make autonomous decisions 1.3.2.2 Partners with consumers in the delivery of professional services 4.3.3.6 Works with the consumer/ carer to positively impact on adherence with prescribed treatment regimen 6.2.2.4 Works with the consumer/ carer to positively impact on the benefits derived from use of a recommended medicine or product 7.2.1.3 Works with the consumer/ carer and other members of the health care team to establish therapeutic goals and formulate a medication management plan consistent with professional standards and conventions	Performance criterion identified completely with a combination of the Professional Standard and the Code of Conduct. Professional Standard does not specifically discuss exploration of the preferences of the patient/ carer regarding therapy.
<p><b>PBA Code of Conduct</b> 3.3 Effective Communication (a) <b>Listening to patients or clients, asking for and respecting their views</b> about their health and responding to concerns and preferences (h) Responding to questions from patients or clients and keeping them informed about their clinical progress.</p>		
<h3>Element H2.3 Respects the person</h3>		
H2.3.1 Respects the person's values, beliefs, and	1.3.1.4 Recognises and respects the values, beliefs, personal characteristics and cultural and linguistic diversity of	Performance criterion identified completely

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Performance Criteria	Professional Competencies	Comments
experiences	<p>consumers</p> <p>1.3.2.1 Adopts a respectful and empathic attitude to consumers</p> <p>1.3.1.5 Understands the impact on practice of a culturally diverse consumer population</p> <p>6.2.1.3 Recommends medicines or health care products that will satisfy the consumer's need and which are suitable and safe</p>	in the Professional Standard. Reflected also in the Code of Conduct and Code of Ethics.
<b>PSA Code of Ethics Principle 2: A pharmacist pays due respect for the autonomy and rights of consumers and encourages consumers to actively participate in decision-making</b> 2.2 Recognise and respect consumer diversity, culture, beliefs, values and characteristics, and not discriminate on any grounds.		
<b>PBA Code of Conduct</b> 2.4 Decisions about access to care (a) Treating patients or clients with respect at all times (c) Upholding the duty to the patient or client and not discriminating on grounds irrelevant to healthcare, including race, religion, sex, disability or other grounds specified in anti-discrimination legislation 3.2 Partnership (a) Being courteous, respectful, compassionate and honest 3.3 Effective Communication (a) Listening to patients or clients, asking for and respecting their views about their health and responding to concerns and preferences 3.7 Culturally safe and sensitive practice (a) Having knowledge of, respect for and sensitivity towards the cultural needs and background of the community practitioners serve, including those of Aboriginal and/or Torres Strait Islander Australians and those from culturally and linguistically diverse backgrounds (b) Acknowledging the social, economic, cultural, historic and behavioural factors influencing health, both at individual and population levels (c) Understanding that a practitioner's own culture and beliefs influence their interactions with patients or clients (d) Adapting practice to improve engagement with patients or clients and healthcare outcomes.		
H2.3.2 Respects the person's privacy and confidentiality	<p>1.1.3.2 Understands the consumer's expectations and rights in relation to privacy and confidentiality</p> <p>1.1.3.3 Takes all reasonable steps to assure consumer privacy is maintained</p> <p>6.1.1.1 Undertakes consultation with the consumer/ carer in a manner that protects their privacy and confidentiality</p> <p>7.2.4.2 Maintains medication management records in a manner that ensures confidentiality and continuity of care</p>	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Conduct and Code of Ethics.
<b>PSA Code of Ethics Principle 2: A pharmacist pays due respect for the autonomy and rights of consumers and encourages consumers to actively participate in decision-making</b> 2.3 Ensure compliance with the consumer's right to privacy; 2.4 Ensure confidentiality of the consumer's information Additional Guidance: Protecting the consumer's right to privacy and confidentiality must occur not only in any interaction with the consumer but also in all communication between health practitioners regarding the consumer.		
<b>PBA Code of Conduct</b> 3.2 Partnership (c) Protecting the privacy and confidentiality of patients or clients, unless release of information is required by law or by public interest considerations 3.4 Confidentiality and Privacy (a) Treating information about patients or clients as confidential and applying appropriate security to electronic and hard copy information. (b) Seeking consent from patients or clients before disclosing information, where practicable (d) Sharing information appropriately about patients or clients for their healthcare while remaining consistent with privacy legislation and professional guidelines about confidentiality (f) Providing appropriate surroundings to enable private and confidential consultations and discussions to take place (g) Ensuring that all staff are aware of the need to respect the confidentiality and privacy of patients or clients and refrain from discussing patients or clients in a nonprofessional context (i) Using consent processes, including formal documentation if required, for the release and exchange of health and medical information j) Ensuring that use of social media and e-health is consistent with the practitioner's ethical and legal obligations to protect privacy.		
H2.3.3 Respects the person's healthcare decisions	<p>1.3.1.2 Respects the rights of consumers to participate in decision-making and make choices about their healthcare</p> <p>1.3.1.3 Accepts and supports the consumer's rights to be informed and make autonomous decisions</p> <p>7.2.1.2 Seeks commitment from the consumer/ carer for planned monitoring and care</p>	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Conduct and Code of Ethics.
<b>PSA Code of Ethics Principle 2: A pharmacist pays due respect for the autonomy and rights of consumers and encourages consumers to actively participate in decision-making</b> 2.4 Respect the consumer's choice including the right to refuse treatment, care or advice, or to withdraw consent at any time.		
<b>PBA Code of Conduct</b> 2.1 Introduction (e) Recognising and respecting the rights of patients or clients to make their own decisions 3.2 Partnership (f) Respecting the right of the patient or client to choose whether or not they participate in any treatment or accept advice. 3.3 Effective communication (a) Listening to patients or clients, asking for and respecting their views about their health and responding to their concerns and preferences.		
<b>Element H2.4 Communicates effectively with the person using appropriate communication skills to enable the safe use of medicines</b>		
H2.4.1 Assesses the person's preferred language, communication style, communication capabilities, and health literacy, and adjusts the health professional's own communication style to interact effectively with them	<p>2.1.1.4 Recognises barriers to effective communication must be addressed</p> <p>2.1.2.2 Recognises the special communication needs of consumers/ carers with different cultural and linguistic backgrounds</p> <p>2.1.2.3 Responds, as far as practicable, to the needs of those from diverse cultural and linguistic backgrounds</p> <p>2.1.3.3 Ensures communication is appropriate to the audience and the material</p> <p>6.3.3.1 Encourages and supports consumers to enhance their health literacy</p>	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Conduct.
<b>PBA Code of Conduct</b> 2.2 Good Care (b) Communicating effectively with patients or clients 3.3 Effective Communication (b) Awareness of health literacy issues and taking health literacy into account and/or adjusting their communication in response (i) Making sure, whenever practical, that arrangements are made to meet the specific language, cultural and communication needs of patients or clients and being aware of how these needs affect understanding (j) Becoming familiar with, and using wherever		

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Performance Criteria	Professional Competencies	Comments
necessary, qualified language interpreters or cultural interpreters to help meet the communication needs of patients or clients, including those who require assistance because of their English skills, or because they are speech or hearing impaired.3.7 Culturally safe and sensitive practice (d) Adapting practice to improve engagement with patients or clients and healthcare outcomes.		
H2.4.2 Considers the potential issue of perceived power differences between the health professional and the person	1.3.1.5 Understands the impact on practice of a culturally diverse consumer population 1.3.2.3 Adapts service delivery, as far as practicable, to satisfy the needs of the consumer (including elicit information about values, beliefs and culture which may impact on service provision) 2.1.2.3 Responds, as far as practicable, to the needs of those from diverse cultural and linguistic backgrounds 2.1.1.4 Recognises barriers to effective communication must be addressed	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Conduct.
<b>PBA Code of Conduct 3.2 Partnership (g) Recognising that there is a power imbalance in the practitioner-patient/client relationship</b> and not exploiting patients or clients physically, emotionally, sexually or financially		
H2.4.3 Provides clear and appropriate written and verbal information to the person to enable them to make informed choices and achieve optimal health outcomes	2.1.3.4 Express thoughts and ideas clearly, consistently and unambiguously 4.3.3.1 Liaise with the consumer/ carer to clarify their information needs 4.3.3.3 Provides advice on the medicine, dosing regimen, precautions, possible adverse effects 4.3.3.4 Reinforces and clarifies verbal advice by using written consumer information and technical demonstration 6.2.2.2 Provides advice about the medicine or health care product using written consumer information 7.1.4.1 Provide medicines and health information in a manner that assists consumer/ carer understanding of their medical condition and/ or medication treatment	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Conduct and Code of Ethics.
<p><b>PSA Code of Ethics Principle 1: A pharmacist recognises the health and wellbeing of the consumer as their first priority</b> 1.1 Utilise expert knowledge and provide care in a compassionate and professional manner</p> <p>Additional guidance: It is important to ensure consumers understand both risks and benefits associated with the chosen options of medication management and care. Clear directions and contacts should be provided for actions to be taken in the event of an adverse event or outcome <b>PSA Code of Ethics Principle 2: A pharmacist pays due respect for the autonomy and rights of consumers and encourages consumers to actively participate in decision-making</b> Additional Guidance: Provision of information must be tailored to the consumer's needs and purpose and in non-judgmental language. The consumer has a right to be offered and to acquire all relevant information regarding their medication. However there may be exceptions to this consumer right; any legislative requirements and professional privilege represent two examples. <b>PSA Code of Ethics Principle 3: A pharmacist upholds the reputation and public trust of the profession</b> 3.3 Provide accurate, truthful, relevant and independent information in a form that is appropriate for and not misleading to consumers.</p> <p><b>PBA Code of Conduct 3.2 Partnership (e)</b> Encouraging and supporting patients or clients to be well-informed about their health and assisting patients or clients to make informed decisions about their healthcare activities and treatments by providing information and advice to the best of a practitioner's ability and according to the stated needs of patients or clients 3.3 Effective Communication (d) Informing patients or clients of the nature of and need for all aspects of their clinical care, including examinations and investigations and giving them adequate opportunity to question or refuse intervention and treatment (e) Discussing with patients or clients their condition and the available healthcare options, including their nature, purpose, possible positive and adverse consequences, limitations and reasonable alternatives wherever they exist.</p>		
H2.4.4 Ascertains that the information provided has been received and understood correctly	2.1.3.6 Verifies that the information provided has been received and understood 4.3.3.5 Checks the consumer understands why the medicines have been prescribed and how they are to be used 6.3.3.4 Confirms consumers' understanding of risk factors and strategies for reducing the risk of disease	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Conduct.
<b>PBA Code of Conduct 3.3 Effective Communication (f)</b> Endeavouring to confirm that a patient or client understands what a practitioner has said.		
<b>Element H2.5 Collaborates with other health professionals to achieve optimal health outcomes for the person</b>		
H2.5.1 Engages in open, interactive discussions with other health professionals involved in caring for the person	2.1.1.2 Values the input of others 2.2.2.2 Uses a collaborative approach for addressing problems 6.1.2.5 Considers the need to involve other health professionals or services 6.1.3.3 Liaises and collaborates with other health professionals to whom consumers have been referred 7.1.3.4 Communicates recommendations to the consumer/ carer, prescribers, other health professionals	Performance criterion identified completely in the Professional Standard. Reflected also in the Code of Conduct and Code of Ethics.
<b>PSA Code of Ethics Principle 9: A pharmacist works collaboratively with other health professionals to optimise the health outcomes of consumers</b> 9.3 Consult and work cooperatively with other health professionals to achieve expected health		

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Performance Criteria	Professional Competencies	Comments
outcomes for the consumer 9.4 Establish good working relationships and promote agreed communication paths with other health professionals to enable the delivery of best possible outcomes. Additional Guidance: Working within your own scope of practice and recognising the expertise of others should also facilitate appropriate referral processes thereby enhancing the multidisciplinary approach to optimising health outcomes for consumers.		
<b>PBA Code of Conduct</b> 2.1 Introduction (b) Formulating and implementing a suitable management plan (including providing treatment and advice and, where relevant, arranging investigations and liaising with other treating practitioners). 2.2 Good Care (k) Consulting and taking advice from colleagues when appropriate 3.3 Effective Communication (m) Communicating appropriately with and providing relevant information to other stakeholders, including other treating practitioners, in accordance with applicable privacy requirements 4.2 Respect for colleagues and other practitioners (a) Communicating clearly, effectively, respectfully and promptly with colleagues and other practitioners caring for the patient or client 4.3 Delegation, referral and handover (c) Always communicating sufficient information about the patient or client and the treatment needed to enable the continuing care of the patient or client 4.4 Teamwork (c) Communicating effectively with other team members 4.5 Co-ordinating care with other practitioners (a) Communicating all the relevant information in a timely way.		
H2.5.2 Confirms that their own understanding of information provided by other health professionals is correct		Unable to identify this performance criterion in the Professional Standard or Codes of Practice/ Ethics.
H2.5.3 Responds appropriately to communication initiated by other health professionals	6.1.3.3 Liaises and collaborates with other health professionals to whom consumers have been referred	Performance criterion identified completely in the Professional Standard.
H2.5.4 Provides clear verbal and written information to other health professionals by secure means when implementing new treatments with medicines or modifying existing treatment plans	6.1.3.2 Undertakes onward referral of consumers in a manner consistent with professional standards 6.1.3.3 Liaises and collaborates with other health professionals to whom consumers have been referred 7.1.3.4 Communicates recommendations to the consumer/ carer, prescribers, other health professionals 7.2.3.2 Participates in assessment of whether medication treatment is achieving therapeutic goals/ outcomes	Performance criterion partly identified in the Professional Standard and Codes. However not specifically in relation to the initiation of therapy by the pharmacist (describes more recommendations made to adjust or optimise therapy commenced by another professional). Reflective of current practice.
<b>PSA Code of Ethics Principle 1: A pharmacist recognises the health and wellbeing of the consumer as their first priority</b> Additional guidance: As the consumer's health care management may extend over more than one health/pharmacy sector/provider, it is important that pharmacists consider their liaison role and appropriately facilitate continuity of care for the consumer. <b>PSA Code of Ethics Principle 9: A pharmacist works collaboratively with other health professionals to optimise the health outcomes of consumers</b> 9.4 Establish good working relationships and promote agreed communication paths with other health professionals to enable the delivery of best possible outcomes.		
<b>PBA Code of Conduct</b> 3.3 Effective Communication (m) Communicating appropriately with and providing relevant information to other stakeholders, including other treating practitioners, in accordance with applicable privacy requirements 3.4 Confidentiality and Privacy (a) Treating information about patients or clients as confidential and applying appropriate security to electronic and hard copy information (d) Sharing information appropriately about patients or clients for their healthcare while remaining consistent with privacy legislation and professional guidelines about confidentiality 4.2 Respect for colleagues and other practitioners (a) Communicating clearly, effectively, respectfully and promptly with colleagues and other practitioners caring for the patient or client 4.3 Delegation, referral and handover (c) Always communicating sufficient information about the patient or client and the treatment needed to enable the continuing care of the patient or client 4.4 Teamwork (c) Communicating effectively with other team members 4.5 Co-ordinating care with other practitioners (a) Communicating all the relevant information in a timely way 8.4 Health Records (g) Promptly facilitating the transfer of health information when requested by patients or clients.		

## Appendix C

The table below describes international literature as it may align with the proposed models of prescribing for pharmacists in Australia.

Examples of prescribing models that fit within existing training (Examples which reflect the HPPP model of <i>Prescribing via a Structured Prescribing Arrangement</i> )
<p><b>Prescribing characterised by:</b></p> <ul style="list-style-type: none"> <li>- Interventions for which pharmacists have an appropriate level of knowledge and skill <u>at the time of registration</u></li> <li>- Clear requirements and constraints placed on the prescribing process e.g. in the form of agreed evidence-based protocols and identification of aspects of care which remain outside of scope (and a plan for appropriate management of these patients)</li> </ul>
<p><b>Example 1: Therapeutic substitution</b></p> <ul style="list-style-type: none"> <li>▪ Inpatient conversion of therapy from one route to another according to an agreed protocol</li> <li>▪ Inpatient conversion of a member of a class of drugs to another within the same class, according to an agreed protocol</li> </ul>
<p>Literature Examples:</p> <ol style="list-style-type: none"> <li>1. Ho BP, Lau TTY, Balen RM, Naumann TL, Jewesson PJ. The impact of a pharmacist-managed dosage form conversion service on ciprofloxacin usage at a major Canadian teaching hospital: a pre and post intervention study. <i>BMC Health Serv Res</i> 2005;5: 48. In this study, conducted in Vancouver during 2002-4, pharmacists undertook autonomous conversion of IV to oral ciprofloxacin, according to an agreed protocol for hospital inpatients. This study formed part of a broader campaign to improve conversion of antibiotics from IV to oral therapy and rationalise use of antibiotics.</li> <li>2. Bell CM, Telio D, Goldberg AFG, Margulies A, Booth GL. Selective therapeutic interchange practices in Ontario acute care hospitals. <i>Can J Hosp Pharm</i> 2007; 60(5):315-8. This study reviewed the agents most commonly used within selected drug classes in the hospital system. A total of 166 hospitals responded to a survey distributed to all pharmacy directors in Ontario. Most hospitals (85%) used a therapeutic exchange program. Cardiovascular medicines were the most frequently included class of drugs, particularly statins, ACEIs and Angiotensin II receptor blockers. Proton pump inhibitors were also commonly used in the majority of hospitals. Atorvastatin, ramipril and losartan were the most commonly prescribed drugs within their respective classes.</li> </ol>
<p><b>Example 2: Medication optimisation</b></p> <ul style="list-style-type: none"> <li>▪ Anticoagulation management according to guidelines</li> <li>▪ Management of aminoglycoside therapy according to guidelines</li> <li>▪ Antiemetic prescribing according to protocol</li> </ul>
<p>Literature Examples:</p> <ol style="list-style-type: none"> <li>1. Boddy C. Pharmacist involvement with warfarin dosing for inpatients. <i>Pharmacy World and Science</i> 2001;23(1):31-5. This UK study investigated inpatient maintenance anticoagulation control achieved by pharmacist vs junior medical staff. Doses were prescribed according to accepted guidelines. The effect on the quality of patient care, number of INR requests and co-ordination between primary and secondary care were investigated.</li> <li>2. Burns N. Evaluation of warfarin dosing by pharmacists for elderly medical in-patients. <i>Pharmacy World and Science</i> 2004; 26(4):232-7. This UK study investigated inpatient warfarin dosing by pharmacists according to Trust guidelines. Dosing included both initiation of warfarin therapy and prescription of maintenance doses. The 'anticoagulant pharmacist' ordered INR tests independent of medical staff.</li> <li>3. Choe HM, Kim J, Choi KE, Mueller BA. Implementation of the first pharmacist managed ambulatory care anticoagulation clinic in South Korea. <i>Am J Health Syst Pharm</i> 2002;59:872-4. This South Korean study investigated 'limited prescribing privileges' to a pharmacist working in an ambulatory care anticoagulation clinic. Pharmacists provided counselling, ordered INR tests. Clinical judgment was used because no protocol for anticoagulation existed.</li> </ol>



<p>4. Shaw J, Harrison J, Harrison J. A community pharmacist-led anticoagulation management service: attitudes towards a new collaborative model of care in New Zealand. <i>Int J Pharm Prac</i>, 2014;22:397-406. This study involved fifteen community pharmacies using point of care INR measurement and immediate advice regarding dose adjustments according to an agreed protocol. Online decision support was used. The pharmacist was provided with guidance regarding when to involve the GP and how to manage INR measurements outside of the target range. Study participants quoted improved access, convenience and a preference for capillary testing as positive results from the study.</p> <p>5. Shah S, Dowell J, Greene S. Evaluation of clinical pharmacy services in a hematology/oncology outpatient setting. <i>Ann Pharmacother</i> 2006;40:1527-33. This study reviewed clinical pharmacy services provided in a Veterans Affairs Health Care setting in Texas, US during a twelve month period. A total of 423 patient visits were reviewed. Services provided included the provision of supportive care e.g. management of pain, constipation/diarrhoea, nausea/vomiting and anaemia. Pharmacists worked collaboratively with the clinic physician and added/discontinued/modified doses for medications. In addition, the pharmacist ordered laboratory tests and pharmacokinetic monitoring.</p>
<p><b>Example 3: Continuing supply/repeat prescribing/emergency prescribing</b></p> <ul style="list-style-type: none"> <li>▪ Refill clinic</li> <li>▪ Discharge prescribing</li> <li>▪ Prescribing in the peri-operative period</li> </ul>
<p>Literature Examples:</p> <p>1. Nguyen M, Zare M. Impact of a clinical pharmacist-managed medication refill clinic. <i>Journal of Primary Care &amp; Community Health</i> 2015,6(3):187-92. This US study investigated the impact of pharmacist-managed refill clinics on physician workload, using retrospective chart review. Requests for prescription refills were received by the medical centre pharmacy and reviewed by a clinical pharmacist according to a collaborative practice agreement. The clinical pharmacist reviewed the medical record, laboratory monitoring and adherence.</p>
<p>2. Rahman MH, Green CF, Armstrong DJ. An evaluation of pharmacist-written hospital discharge prescriptions on general surgical wards. <i>Int J Pharm Prac</i>.2005;13:179-85. In this study conducted on the general surgical ward of a teaching hospital, pharmacist-written discharge prescriptions were compared to those completed by a junior doctor. The study concluded that pharmacist-written discharges contained fewer errors and required less clarification when compared to those completed by the junior doctor.</p>
<p>3. Marotti SB, Kerridge RK, Grimer MD. A randomized controlled trial of pharmacist medication histories and supplementary prescribing on medication errors in postoperative medications. <i>Anaesth Intensive Care</i> 2011;39:1064-70. This Australian study investigated the impact of pharmacist prescribing in the perioperative period. The pharmacist took the medication history and prescribed medications to be administered post-operatively. Protocols governing use of therapy during the perioperative period were utilised. A significant reduction in missed doses was observed.</p>
<p>4. Perioperative medication management: expanding the role of the preadmission clinic pharmacist in a single centre, randomised controlled trial of collaborative prescribing. Hale AR, Coombes ID, Stokes J, McDougall D, Whitfield K, Maycock E, Nissen L. <i>BMJ Open</i> 2013;3:3003027. doi:10.1136/bmjopen-2013-003027. This Australian study investigated the frequency of omissions and prescribing errors associated with current practice compared to pharmacist generated inpatient medication chart and prescription of VTE prophylaxis according to an agreed protocol. A significant reduction in the omission of medications was observed. VTE prophylaxis was appropriately prescribed by the pharmacist.</p>
<p><b>OTC Prescribing for minor ailments (e.g. prescribing S2 and S3 medicines)</b></p> <ul style="list-style-type: none"> <li>▪ This represents independent, or autonomous, prescribing but sits within existing scope for Australian pharmacists and requires no additional training or education. Note that funding and access arrangements in countries outside of Australia mean that minor ailments are often treated by general practitioners.</li> </ul>
<p>Literature Examples:</p> <p>1. Baqir W, Learoyd T, Sim A, Todd A. Cost analysis of a community pharmacy ‘minor ailment scheme’ across three primary care trusts in the North East of England. <i>J Public Health</i>, February 2011:1-5. This study reviewed the cost implications of the minor ailment scheme implemented in the UK. This scheme aims to reduce the burden of</p>

patient care for self-limiting disease states on general practitioners by promoting care provided by community pharmacies. Essentially, the scheme describes many aspects of the process for patients to obtain over-the-counter medicines.

2. Mansell K, Bootsman N, Kuntz A, Taylor J. Evaluating pharmacist prescribing for minor ailments. *Int J Pharm Prac* 2015;23:95-101. This study evaluated the prescribing practices of pharmacists in Saskatchewan associated with treatment of minor ailments. Ailments treated included: cold sores, insect bites and seasonal allergies. Patients expressed clear satisfaction with service, quoting trust in the pharmacist and convenience as the most common reasons for choosing to visit the pharmacist over the physician.

**Examples of prescribing models that require further education and/or training and Board endorsement  
(Examples which reflect the HPPP models of *Prescribing under Supervision* and *Prescribing Autonomously*)**

**Prescribing characterised by:**

- Prescribing in the setting of increased clinical and pharmacological complexity
- The potential for the presence of significant co-morbidities and the need to understand and manage these in conjunction with the presenting complaint
- The need for a substantial depth of knowledge regarding both disease and pharmacological intervention
- Greater responsibility associated with the assessment of treatment effectiveness and ongoing care. Autonomous prescribers may be responsible for arranging follow-up appointments and ongoing management
- Comprehensive patient assessment will likely form part of the autonomous prescriber's role. For pharmacists, this will require specialised education and training

**Example 1: Chronic disease management (prescribing under supervision)**

- Hypertension management in primary care
- Chronic pain management
- Management of type II diabetes

These examples will generally rely on a medical practitioner making the initial diagnosis. The pharmacist manages the therapeutic treatment within a collaborative model.

Literature Examples

1. Hunt JS, Siemieniczuk J, Pape G, Rozenfeld Y, MacKay J, LeBlanc BH, Touchette D. A randomized controlled trial of team based care: impact of physician-pharmacist collaboration on uncontrolled hypertension. *J Gen Int Med* 2008;23(12):1996-72. This Oregon study investigated the impact of a team-based approach to management of uncontrolled hypertension compared to the 'usual' care model. Pharmacists prescribed under a physician-pharmacist collaborative model of care and were able to alter antihypertensive therapy doses, add new agents, switch medications and consolidate antihypertensive therapy. In addition, they reviewed lifestyle habits, assessed vital signs, screened for adverse events and identified barriers to adherence. Pharmacists had a post-baccalaureate doctor of pharmacy degree, 1-2 years of ambulatory medicine residency training and were Board certified in pharmacotherapy.
2. Dole EJ, Murawski MM, Adolphe AB, Aragon FD, Hochstadt B. Provision of pain management by a pharmacist with prescribing authority. *Am J Health Syst Pharm* 2007;64(1):85-9. This article describes the implementation of a 'pharmacist clinician' managed pain management clinic. Pharmacist clinicians are authorised to prescribe, modify and monitor drug therapy in accordance with a collaborative practice agreement with a supervising physician. In the state of New Mexico, pharmacists require advanced training in the areas of physical assessment and pharmacotherapy in order to be registered as a pharmacist clinician and must submit to the Board a written protocol which describes the pharmacist clinician's role.
3. Al Hamarneh YN, Charrois T, Lewanczuk R, Tsuyuki RT. Pharmacist intervention for glycaemic control in the community (the RxING study). *BMJ Open*;2013;3:e003154. doi:10.1136/bmjopen-2013-003154. This study was conducted in the community setting and involved recruitment of patients with poor glycaemic control (as evidenced by a point of care HbA1C between 7.5% and 11%). Pharmacists were responsible for institution of insulin therapy, dose titration and follow-up. In some instances, discontinuation of oral hypoglycaemic therapy was required.

**Example 2: Administration of immunisation (prescribing autonomously)**

- Represents an example of prescribing by administration
- Requires assessment of the patient, identification of the appropriateness of required vaccination, administration of the vaccination, monitoring in the immediate post-immunisation period and the management of any adverse effects. Communication with primary care provider is also required.

Literature Examples

1. Marra F, Kaczorowski J, Gastonguay L, Marra CA, Lynd LD, Kendall P. Pharmacy-based immunization in rural communities strategy (PhICS): A community cluster-randomized trial. *Can Pharm J (Ott)* 2014;147;33-44. This 2-year study investigated the impact of a community-based seasonal influenza immunization program for the elderly and at-risk patients. Pharmacists undertook additional training (accredited program) and provide evidence of CPR and first aid prior to being granted authority

to administer injections (provided by the College of Pharmacists of BC).

**Example 3: Independent chronic disease management (prescribing autonomously)**

- Management of chronic diseases
- Ability to diagnose
- Therapeutic management decisions not reliant on a collaborative agreement

Literature Examples

1. Bruhn H, Bond CM, Elliott AM, Hannaford PC, Lee AJ, McNamee P, Smith BH, Watson MC, Holland R, Wright D. Pharmacist-led management of chronic pain in primary care: results from a randomized controlled exploratory trial. *BMJ Open* 2013;3: e002361. doi:10.1136/bmjopen-2012-002361. This study compared pharmacist medication review with or without independent pharmacist prescribing with standard care for patients experiencing chronic pain.

## Appendix D

The table below presents the relationship between the PCF and the HPPP prescribing models.

Notes:	
✓	Indicates a performance criterion that is <b>considered essential</b> for that model of prescribing
✗	Indicates a performance criterion that is <b>not considered essential</b> for that model of prescribing
#	According to relevant legislation governing the prescribing process

Prescribing Competencies Framework Performance Criteria	HPPP Prescribing Models		
	Prescribing via a structured prescribing arrangement	Prescribing under supervision	Autonomous prescribing
Competency Area 1 Understands the person and their clinical needs			
<b>Element 1.1 Establishes a therapeutic partnership with the person and a collaborative relationship with other health professionals</b>			
1.1.1 Uses appropriate communication strategies to establish a therapeutic partnership with the person	✓	✓	✓
<b>Element 1.2 Performs a comprehensive medicines assessment to obtain information to understand the person's clinical needs and context</b>			
1.2.1 Conducts an assessment that is appropriate to both the health professional's scope of practice and the person's clinical context	✓	✓	✓
1.2.2 Reviews and interprets information in the person's health records	✓	✓	✓
1.2.3 Obtains relevant information from the person about their medicines, and their medical and clinical history, including their co-existing conditions, treatments, alcohol and substance use, allergies and social context	✓	✓	✓
1.2.4 Assesses the person's risk factors for poor adherence; for example social isolation, physical impairment, cognitive impairment or disturbance, low English proficiency, low health literacy, financial disadvantage.	✓	✓	✓
1.2.5 Ascertains that sufficient information has been obtained about the person's co-existing conditions and current treatments to identify possible risks and contraindications for treatment	✓	✓	✓
1.2.6 Performs clinical examinations that are within the health professional's own scope of practice and relevant to the person's problem and interprets the findings of these examinations	✓	✓	✓
<b>Element 1.3 Generates and explores possible diagnoses</b>			
1.3.1 Synthesises information from the comprehensive assessment and develops provisional and differential diagnoses	✓	✓	✓

Prescribing Competencies Framework Performance Criteria	HPPP Prescribing Models		
	Prescribing via a structured prescribing arrangement	Prescribing under supervision	Autonomous prescribing
1.3.2 Develops a diagnostic strategy and performs relevant investigations	✓	✓	✓
1.3.3 Explains the clinical issues and their implications to the person	✓	✓	✓
Competency Area 2 Treatment options: Understands the treatment options and how they support the person's clinical need			
<b>Element 2.1 Considers non-pharmacological treatment options suitable for treating the person and their condition</b>			
2.1.1 Recognises when it is clinically appropriate not to intervene; for example, in cases where the signs and symptoms are likely to resolve without treatment	✓	✓	✓
2.1.2 Recognises when it is clinically appropriate to implement non-pharmacological treatments	✓	✓	✓
<b>Element 2.2 Identifies appropriate medicines options that can be incorporated into the person's treatment plan</b>			
2.2.1 Integrates knowledge of pharmacology, other biomedical sciences, clinical medicine, and therapeutics and identifies medicines suitable for treating the condition	X	✓	✓
2.2.2 Obtains, interprets, and applies current evidence and information about medicines to inform decisions about incorporating medicines into the person's treatment plan	X	✓	✓
2.2.3 Identifies medicines options that are likely to provide therapeutically effective and safe treatment and tailors them for the person	X	✓	✓
2.2.4 Considers the cost and affordability of the medicines to the person	X	✓	✓
2.2.5 Considers the implications to the wider community of using a particular medicine to treat the person	X	✓	✓
2.2.6 Discusses the treatment options and medicines with the person, considering: the priorities for treating their current condition and co-existing conditions; their readiness to address the current condition; their expectations of treatment	✓	✓	✓
2.2.7 Supplements verbal information with written information about the condition and treatment options (where appropriate)	✓	✓	✓
2.2.8 Allows the person time to make an informed decision about their treatment	✓	✓	✓
2.2.9 Refers the person for further assessment or treatment when the suitable treatment options are outside the health professional's own scope of practice	✓	✓	✓

Prescribing Competencies Framework Performance Criteria	HPPP Prescribing Models		
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Competency Area 3 Shared decision making: Works in partnership with the person to develop and implement a treatment plan			
<b>Element 3.1 Negotiates therapeutic goals with the person</b>			
3.1.1 Negotiates therapeutic goals that enhance the person's self-management of their condition	X	✓	✓
3.1.2 Ascertains that all parties have a common understanding of the therapeutic goals and how they will be managed	✓	✓	✓
<b>Element 3.2 Works in partnership with the person and other health professionals to select medicines and to tailor and implement a treatment plan</b>			
3.2.1 Explores the person's opinions and preferences concerning medicines and the treatment plan	X	✓	✓
3.2.2 Consults other health professionals about potential medicines and the treatment plan	✓	✓	✓
3.2.3 Reaches agreement with the person about medicines to be used to treat their condition	X	✓	✓
3.2.4 Develops the treatment plan in partnership with the person	X	✓	✓
3.2.5 Obtains approval to use the medicines (where relevant)	X	X	✓
3.2.6 Stops or modifies the person's existing medicines and other management strategies if required	✓	✓	✓
3.2.7 Ensures the person understands the treatment plan and how to use the medicine safely and effectively	✓	✓	✓
<b>Element 3.3 Develops a review plan tailored to the person's needs</b>			
3.3.1 Identifies the need for, and develops a review plan	✓	✓	✓
Competency Area 4 Co-ordination: Communicates the treatment plan clearly to other health professionals			
<b>Element 4.1 Provides clear instructions to other health professionals who dispense, supply, or administer medicines prescribed for the person</b>			
4.1.1 Prepares prescriptions or medication orders that comply with relevant legislation, guidelines or codes of practice, and organisational policies and procedures	✓	✓	✓
4.1.2 Provides accurate and clear <b>verbal</b> medication orders that comply with relevant legislation, guidelines or codes of practice and organisational policies and procedures (where relevant)	X	✓#	✓#
<b>Element 4.2 Provides information about medicines and the treatment plan with the person's consent to other health professionals who provide care to the person</b>			
4.2.1 Provides information for collaboration to members of inter-professional healthcare teams both within facilities and the community	✓	✓	✓

Prescribing Competencies Framework Performance Criteria	HPPP Prescribing Models		
	Prescribing via a structured prescribing arrangement	Prescribing under supervision	Autonomous prescribing
Competency Area 5 Monitors and reviews: Monitors and reviews the person's response to treatment			
<b>Element 5.1 Obtains information to assess the person's response to treatment</b>			
5.1.1 Observes the person to ascertain their response to treatment (where relevant)	✓	✓	✓
5.1.2 Discusses with the person and other health professionals, their: <ul style="list-style-type: none"> <li>- experience with implementing the treatment plan</li> <li>- adherence, including any issues arising and possible ways to improve adherence</li> <li>- perception or observation of the medicines' benefits and adverse effects</li> <li>- assessment of whether the therapeutic goals have been achieved</li> </ul>	✓	✓	✓
5.1.3 Obtains additional information to assess whether the therapeutic goals have been achieved by examining the person, requesting investigations, and interpreting the findings (where relevant)	✓	✓	✓
5.1.4 Synthesises information provided by the person, other health professionals, and from clinical examinations and investigations to determine whether: <ul style="list-style-type: none"> <li>- the therapeutic goals have been achieved</li> <li>- treatment should be stopped, modified or continued</li> <li>- the person should be referred to another health professional</li> </ul>	✓	✓	✓
<b>Element 5.2 Works in partnership with the person and other health professionals to address issues arising from the review</b>			
5.2.1 Discusses the findings of the review with the person	✓	✓	✓
5.2.2 Identifies if the person requires a comprehensive medicines review	✓	✓	✓
5.2.3 Works in partnership with the person and other health professionals to modify the treatment plan to optimise the safety and effectiveness of treatment (where relevant)	✓	✓	✓
5.2.4 Reports issues arising from the review	✓	✓	✓
5.2.5 Organises the next review	✓	✓	✓
Competency Area H1 Professional: Practices professionally			
<b>Element H1.1 Practices within the applicable legislative and regulatory frameworks</b>			
H1.1.1 Demonstrates knowledge of, and complies with, legislation, regulations, and common law applicable to prescribing (as further defined by the knowledge subsection of this competency area)	✓	✓	✓



Prescribing Competencies Framework Performance Criteria	HPPP Prescribing Models		
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H1.1.2 Maintains accurate and complete records of: <ul style="list-style-type: none"> <li>- the consultation</li> <li>- clinical examinations and investigation results</li> <li>- risk factors for medicines misadventure</li> <li>- the person's decision to decline treatment (where relevant)</li> <li>- changes to the person's medicines management plan, including the rationale behind these changes</li> <li>- the review plan, recommendations, and date for next review</li> <li>- outcomes of treatment</li> </ul>	✓	✓	✓
<b>Element H1.2 Practices according to professional standards, codes of conduct, and within the health professional's own scope of practice</b>			
H1.2.1 Demonstrates knowledge of and compliance with: <ul style="list-style-type: none"> <li>- professional standards</li> <li>- codes of conduct</li> <li>- scope of practice statements or guidelines</li> </ul>	✓	✓	✓
H1.2.2 Practices within the limits of the health professional's own education, training and scope of practice	✓	✓	✓
H1.2.3 Demonstrates respect for the scope of practice of other health professionals and their contribution within a collaborative care model, particularly that of the person's main healthcare provider	✓	✓	✓
H1.2.4 Accepts responsibility and is accountable for the care provided to the person	✓	✓	✓
<b>Element H1.3 Practices within the applicable frameworks of the healthcare setting and system</b>			
H1.3.1 Demonstrates knowledge of and complies with national, state and territory, and facility policies and procedures in relation to prescribing	✓	✓	✓
H1.3.2 Demonstrates appropriate professional judgement when interpreting and applying guidelines and protocols to the person's situation	✓	✓	✓
H1.3.3 Contributes to the improvement of policies and procedures for the judicious, appropriate, safe and effective use of medicines	X	✓	✓
<b>Element H1.4 Practices quality use of medicines principles</b>			
H1.4.1 Applies quality use of medicines principles when prescribing medicines	✓	✓	✓
H1.4.2 Identifies common causes of medicines errors and adverse events, and implements strategies to reduce the risks of these occurring	✓	✓	✓

Prescribing Competencies Framework Performance Criteria	HPPP Prescribing Models		
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H1.4.3 Demonstrates knowledge of the medicines commonly prescribed	✓	✓	✓
H1.4.4 Critically evaluates information about medicines and makes evidence-based decisions about medicines in the health professional's own practice	X	✓	✓
<b>Element H1.5 Demonstrates a commitment to continual quality improvement of the health professional's own prescribing</b>			
H1.5.1 Engages in ongoing professional development and education to improve prescribing practices	✓	✓	✓
<b>Element H1.6 Addresses the potential for bias in prescribing decisions</b>			
H1.6.1 Implements strategies to address influences that may bias prescribing decisions, including: <ul style="list-style-type: none"> <li>- marketing influences</li> <li>- Possible personal, professional or financial gain</li> <li>- Conflicts of interest</li> <li>- The health professional's own beliefs, values, and experiences</li> </ul>	X	✓	✓
Competency Area H2 Communicates: Communicates and collaborates effectively with the person and other health professionals			
<b>Element H2.1 Obtains consent to provide clinical services to the person</b>			
H2.1.1 Adheres to legislative and workplace requirements for obtaining and recording consent for: <ul style="list-style-type: none"> <li>- accessing health records</li> <li>- obtaining information from, and providing information to, other health professionals</li> <li>- conducting a clinical examination</li> <li>- providing clinical services</li> <li>- the potential benefits and harms of treatment</li> <li>- the financial aspects of the treatment</li> </ul>	✓	✓	✓
<b>Element H2.2 Acknowledges the person, their family, and carers as integral to care and collaborates to achieve optimal health outcomes</b>			
H2.2.1 Involves the person's family or carers in the consultation where appropriate	✓	✓	✓
H2.2.2 Explores and responds appropriately to the person's concerns and expectations regarding: <ul style="list-style-type: none"> <li>- the consultation</li> <li>- their health</li> <li>- their own role and that of health professionals in managing their health</li> <li>- the health professional's scope of practice</li> <li>- the use of medicines and other treatments to maintain</li> </ul>	✓	✓	✓

Prescribing Competencies Framework Performance Criteria	HPPP Prescribing Models		
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their health			
H2.2.3 Establishes a therapeutic partnership that accords with the preferences expressed by the person	✓	✓	✓
<b>Element H2.3 Respects the person</b>			
H2.3.1 Respects the person's values, beliefs, and experiences	✓	✓	✓
H2.3.2 Respects the person's privacy and confidentiality	✓	✓	✓
H2.3.3 Respects the person's healthcare decisions	✓	✓	✓
<b>Element H2.4 Communicates effectively with the person using appropriate communication skills to enable the safe use of medicines</b>			
H2.4.1 Assesses the person's preferred language, communication style, communication capabilities, and health literacy, and adjusts the health professional's own communication style to interact effectively with them	✓	✓	✓
H2.4.2 Considers the potential issue of perceived power differences between the health professional and the person	✓	✓	✓
H2.4.3 Provides clear and appropriate written and verbal information to the person to enable them to make informed choices and achieve optimal health outcomes	✓	✓	✓
H2.4.4 Ascertains that the information provided has been received and understood correctly	✓	✓	✓
<b>Element H2.5 Collaborates with other health professionals to achieve optimal health outcomes for the person</b>			
H2.5.1 Engages in open, interactive discussions with other health professionals involved in caring for the person	✓	✓	✓
H2.5.2 Confirms that their own understanding of information provided by other health professionals is correct	✓	✓	✓
H2.5.3 Responds appropriately to communication initiated by other health professionals	✓	✓	✓
H2.5.4 Provides clear verbal and written information to other health professionals by secure means when implementing new treatments with medicines or modifying existing treatment plans	✓	✓	✓