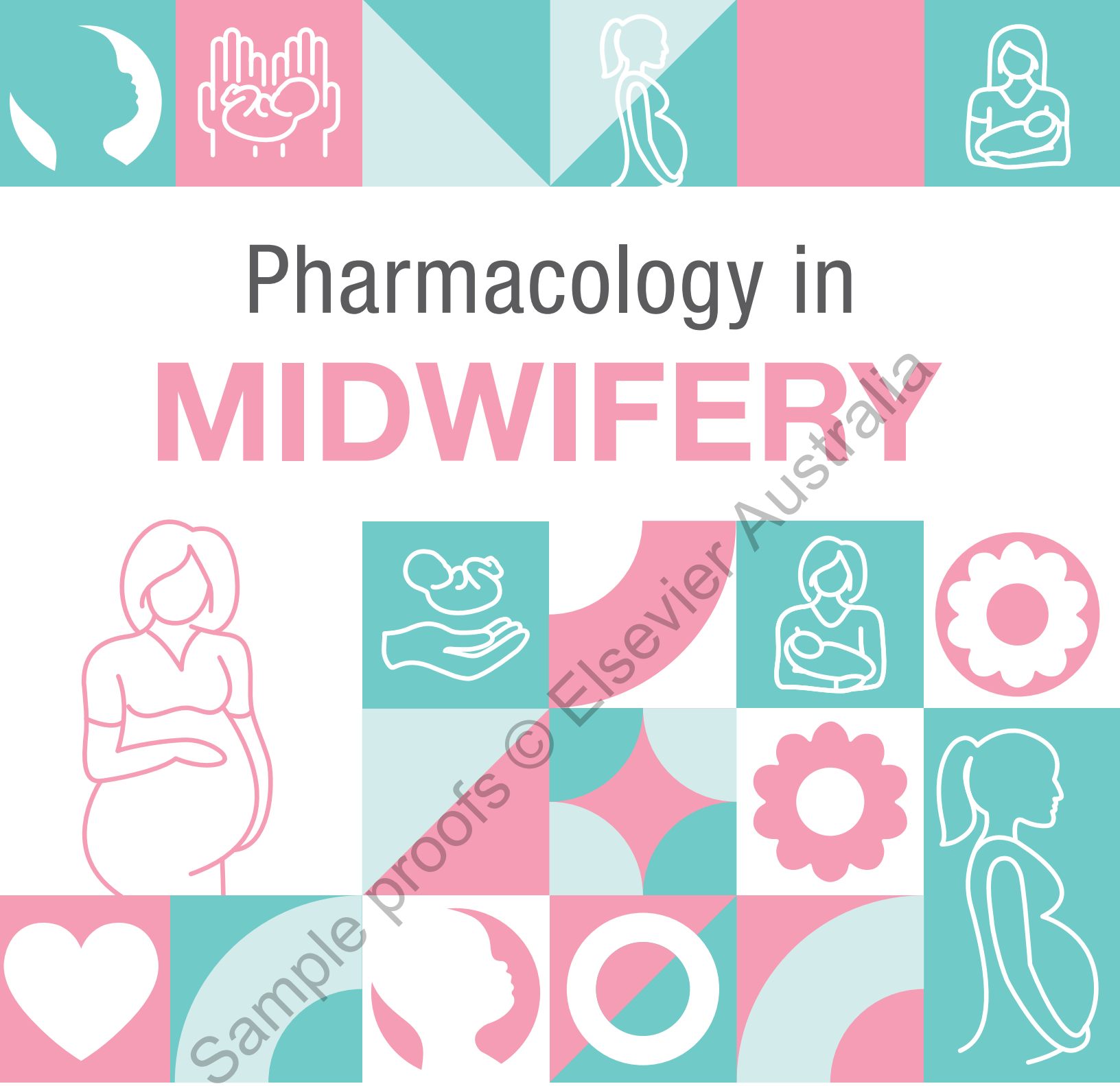
Pharmacology in MIDWIFERY



ROSLYN **DONNELLAN-FERNANDEZ** | MARYAM **BAZARGAN**
CLARE **DAVISON** | MICHELLE **GRAY** | KIRSTEN **SMALL**

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Australian College of Midwives

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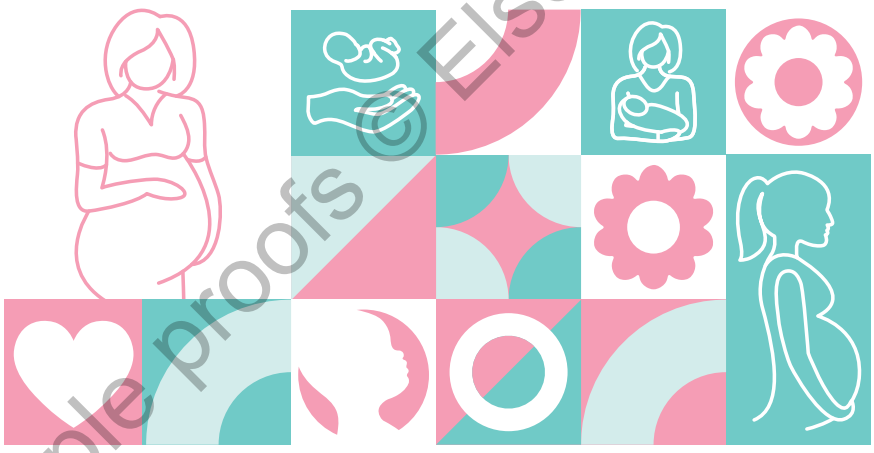

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Contents

About the authors

Dr Roslyn Donnellan-Fernandez BN, RN, RM, Grad Cert MID (Pharm), IBCLC MNg (Women's Health), PhD Community Midwife

Dr Roslyn Donnellan-Fernandez is a passionate senior midwifery leader and academic with 30 years of experience spanning such diverse contexts as clinical practice, education, policy development, regulation, maternity services implementation/change management, professional advocacy, and research. Roz is Director of the postgraduate Primary Maternity Care suite of programs at Griffith University, and has experience in teaching and curriculum development at three Australian universities. She is actively engaged in strategic, policy and funding initiatives aimed at scaling up 'continuity of midwifery' models so they can become the primary public health strategy, thereby providing access and equity for under-served groups. Roz's teaching and research are informed by critical emancipatory social theory, principles of lifelong learning, advocacy, and political and professional engagement that facilitate transformation of people, structures, and communities towards social justice, health equity, and gender equality. Two decades ago, Roz co-led implementation of the sustained public health midwifery group practice model in South Australia, later completing a PhD supported by a Midwifery Fellowship through the Women's & Children's Hospital Foundation: 'Midwifery Group Practice and Standard Hospital Care – a cost and resource study of women with complex pregnancy' (2016). Roz maintains clinical currency as well as Commonwealth Medicare (MBS) and Midwifery Prescribing (PBS) endorsement. Since 2018 she has reviewed, taught and co-developed curriculum to inform midwifery pharmacology and prescribing practice across the childbearing continuum, supporting comprehensive, high-quality care for women and their babies. She has published several book chapters, peer-reviewed journal articles, and contributed to the inaugural undergraduate textbook, *Midwifery Preparation for Practice*, including several revised editions. Roz presents regularly at national and international conferences and provides peer review for several high-impact journals. She is committed to developing and improving high-quality resources that support midwifery knowledge in pharmacology, and safe midwifery prescribing practice. Roz gratefully acknowledges the superb team who have worked diligently to make *Pharmacology for Midwifery* a reality.

Dr Maryam Bazargan RM, MSc Medical (Human) Physiology, PhD

Dr Maryam Bazargan is a Senior Lecturer in Midwifery at the University of Canberra's Faculty of Health, and holds a Bachelor of Midwifery, an MSc in Human Physiology, and a PhD in Pharmacology. Maryam is both a scientist and a midwife. Having completed her first midwifery degree (BSc/Midwifery) in 1996 in Iran, and with a strong interest in science, she commenced her master's degree in human physiology in 2003 and since then has contributed to numerous research projects in medical sciences in both Iran and Australia. Maryam has resided in Australia since 2008, and in 2015 completed her PhD, focusing on drug disposition between mother and fetus. Maryam has worked as a researcher at several universities and also at CSIRO in Adelaide. She completed a second midwifery degree in Australia to attain registration with AHPRA, and is a clinically active midwife while also being an academic. By combining her extensive knowledge of human physiology, pharmacology, and clinical midwifery, Maryam is able to provide a comprehensive and informed approach to her teaching and research.

Dr Clare Davison RM, RN, PG Diploma (Midwifery), MPhil, PhD

Dr Clare Davison is a clinician, academic and feminist researcher in midwifery, specialising in enabling midwives to work to their full scope of practice, and in supporting and promoting normal physiological birth. Clare is an experienced midwifery academic with a background in clinical midwifery. She has worked in higher education since 2013 and holds two higher degrees by research, having completed her Master of Philosophy in Midwifery in 2014, and PhD in 2019. She has extensive experience in teaching and developing curriculums in both undergraduate and postgraduate midwifery, women's reproductive health, public health and research. Clare's research interests are feminist qualitative research, women and midwives' qualitative research, the history of midwifery, midwives working to their full scope of practice, and supporting and promoting normal physiological birth.

Clare wrote the first prescribing course for midwives in Western Australia, and believes it is essential that midwives can work to their full scope of practice, and that all women should have access to midwifery-led care. She combines her academic work with working as an endorsed midwife in private practice, providing continuity of midwifery care to all risk women in the home and hospital setting.

Dr Michelle Gray SFHEA, RN, RM, BSC(Hons) Midwifery, PGDE, Master Professional Learning, PhD

Dr Michelle Gray is Associate Professor of Nursing and Midwifery Education at the University of Newcastle and has adjuncts at the University of the Sunshine Coast, University of Queensland, and Edith Cowan University, where she supervises ongoing higher degree by research students. Michelle is originally from the UK and has resided in Australia since 2006. She has been a nurse since 1990, a midwife since 1995, and an academic since 2007. Michelle is a Senior Fellow of the Higher Education Academy in England, has a master's degree in Education, and completed her PhD in Midwifery in 2016 for which she examined midwives' perspectives on the move to national registration standards in Australia in 2010. Michelle's research interests focus on midwifery practice and education and making learning engaging for students, such as through a case-based learning curriculum. Her research has included evaluating the use of electronic resources in midwifery education, such as Eportfolios and the use of 3D technology. Michelle has published several book chapters, and was lead editor of *Starting Life as a Midwife: An international review of transition from student to practitioner* (Springer Books, 2019) which examines the transition of new graduates to practice globally, covering 12 countries.

Dr Kirsten Small BMedSc, MBBS, MReproMed, GradDipHlthRes, PhD

Dr Kirsten Small is an obstetrically trained educator and researcher. Both her parents were retail pharmacists, and she grew up helping in their pharmacy and pinching jellybeans when she thought no one was watching. While she didn't recognise it at the time, learning all those drug names would prove useful in later life. After a successful clinical career as an obstetrician, gynaecologist, and fertility specialist, Kirsten moved into academia. She wrote the first course for midwives seeking endorsement for scheduled medicines in Australia, then went on to write and then teach a second course at Griffith University. Kirsten has recently launched an online education business where she continues to provide pharmacology updates for midwives. In addition to her role as an educator, Kirsten published the first research about midwifery prescribers in Australia and has provided expert advice to policy makers about midwifery prescribing. She remains committed to the strengthening of relationship based and woman-centred maternity care provision.

Foreword from Australian College of Midwives (ACM)

This first edition *Pharmacology in Midwifery* textbook is a thorough and comprehensive resource, with clearly laid-out chapters covering medication administration principles, clinical, ethical, and legal foundations, complementary and alternative therapies, and pharmacology across the childbearing continuum.

Governance, safety and quality, a midwife's role and scope of practice, and mental health are also addressed, making this a well-rounded contemporary resource within the Australian context of practice. Critical thinking scenarios enhance engagement and learning, and review exercises consolidate readers' understanding of the content. This textbook will be an invaluable resource for students as well as experienced midwives and is proudly endorsed by the Australian College of Midwives.

Alison Weatherstone
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Acknowledgements

The authors of *Pharmacology for Midwifery* wish to acknowledge and thank the authors of the sixth edition of the Elsevier text *Pharmacology for Health Professionals* – Kathleen Knights, Shaunagh Darroch, Andrew Rowland and Mary Bushell – along with contributors to previous editions, for giving their permission to draw on work from that text. This invaluable support provided the strong foundation that allowed us to create this inaugural pharmacology textbook for midwives practising in Australia and New Zealand.

We wish to thank Libby Houston and all staff and associates of Elsevier for the opportunity to undertake this project, including their guidance, confidence, and patience, especially when we wavered in meeting our ambitions and our deadlines. Shubham Dixit has effectively 'midwifed' a very busy team of people, keeping all authors coordinated, connected, and communicating as we advanced the work for this book. For this we thank him. We extend our sincere appreciation also to those who provided valuable critical review of our writing, informally and formally, including their suggestions for improvement. Claire Linsdell and Melinda McEvoy have provided ongoing valuable advice, guidance and editing to advance our chapters to their final stages – thank you.

To my esteemed and talented co-authors, Maryam, Clare, Michelle, and Kirsten, I am indebted for your commitment to embark on this journey, and thank you for your steadfastness, cooperative effort, and rigour in seeing it through.

Finally, to our readers, we apologise in advance for any errors and welcome your feedback and comments on this first edition so it can be improved and enhanced for the next edition. Our goal is to provide a customised, useful, and robust pharmacological resource for midwives who practise across the continuum of antenatal, intrapartum, and postpartum services, so you are well equipped to provide knowledgeable, safe, and quality care for women and their babies across a diversity of contexts, wherever you may work. We hope you enjoy this book and that it makes a positive contribution to your ongoing learning.

Roslyn Donnellan-Fernandez

About this resource

There is currently no other pharmacology textbook dedicated specifically to the Australian and New Zealand midwifery contexts of midwifery practice. This first edition of *Pharmacology for Midwifery* addresses this gap, serving as both an essential foundation pharmacology reference for midwifery students, and a resource for experienced midwife clinicians seeking to refresh or augment their pharmacological knowledge and develop their skills as prescribers.

Midwives require a customised text, with targeted pharmacological content, and knowledge relevant to the comprehensive care of women across the childbearing continuum. Here, both the foundational knowledge essential for safe medication management in midwifery practice, and complex key concepts on pharmacokinetics and pharmacodynamics, are provided in an accessible and easy-to-understand format. Ethical considerations, as well as professional practice standards, competencies, and regulations relevant to midwifery scope of practice in medication management (e.g. administration, supply, and prescribing) is related to the Australian and New Zealand contexts of practice.

There is a consistent focus on quality use of medicines and rational prescribing practice aligned to the National Prescribing Competencies Framework for health professionals, including real-world case studies to enhance applied knowledge. The book is clearly structured and presented in four parts: Part 1 Introduction to pharmacology; Part 2 Principles of pharmacology; Part 3 Pharmacology across the childbearing continuum; and Part 4 Pharmacology for special considerations. Foundational concepts are complemented by additional specialised content. The final chapter, Role of the midwife, focuses on the professional requirements and additional knowledge required for those developing their skills as midwife prescribers.

Hot topics include adverse drug reactions and interactions, and specific chapters cover pregnancy, labour and birth, the postpartum period, lactation and the newborn, and vaccination. In addition, other chapters focus on areas such as diabetes, thyroid, mental health, epilepsy, drugs of addiction and substance dependence.

To enhance learning, chapters begin with a case study that lays the foundation for applying the key physiological, biochemical, and pathological processes that underpin the subsequent discussions of pharmacology. The case studies and accompanying review questions provide interesting real-life scenarios where the midwife is required to apply critical thinking, clinical judgement, and decision making in the systematic assessment, planning, implementation, monitoring, and review of medication management in partnership with the woman, and collaboratively with other members of the healthcare team.

We consider that this integrated approach facilitates an understanding of the cellular and molecular aspects of drug action, the rationales for the clinical use of drugs in particular disease processes, and their therapeutic and adverse effects – including drug interactions. Throughout each chapter, snapshots of key information are provided in the Key Points boxes, and application to the clinical situation is enhanced through Clinical Focus boxes.

In some chapters the information is based on drug groups – detailing when they may be indicated for use in ongoing treatment of chronic health conditions, or discussing complexities experienced by childbearing women – whereas in others the flow of information starts with the relevant stage of the childbirth continuum and leads on to a discussion of the drug groups and complementary alternative medicines (CAMs) relevant to supporting healthy mothers and babies.

Drug Monographs throughout the text provide detailed information on commonly used drugs. It should be noted that specific pharmacokinetic data, drug dosage and formulation, individual adverse effects and drug interactions vary between drugs in the same group; current evidence-based drug information resources should always be consulted before administering any drug, and quality prescribing sources should always be consulted by authorised prescribers.

Case studies and review questions are supported by chapter content that is focused and related to the holistic midwifery assessment and clinical care that takes place during pregnancy, birth and the postpartum period, in partnership with the woman and her family.

This first edition of *Pharmacology for Midwifery* features:

- Key terms and abbreviations
- Critical thinking exercises
- Clinical case studies and review questions
- Key Points boxes that provide a snapshot of important information
- Drug Monographs using either the prototype of a drug group or the most commonly prescribed drug of a group, or drugs that have gained 'drug of first choice' status

- Tables containing detailed information of drug interactions occurring with major drug groups
- Clinical Focus boxes
- Information on the use of CAMs modalities and on interactions between drugs and these therapies
- Key resources, including online resources and additional online case studies.

With advances in drug development, drugs in clinical use continue to have a high rate of obsolescence. The facts learned for a particular drug may therefore become irrelevant when each year brings new drugs with differing modes of action. Similarly, new information on existing drugs may result in a review of current safety categorisation and/or changed recommendations for use and/or recall. With an emphasis on personalised or precision medicine, the challenge for midwives is to stay up to date with advances in the field of pharmacology and their impact on the quality use of medicines. We have used both a scientific and a practice-based clinical approach, founded on evidence-based medicine and always emphasising the clinical use and therapeutic/adverse effects of drugs. Information on the clinical use of drugs is based on data in the Australian Medicines Handbook, combined with current research.

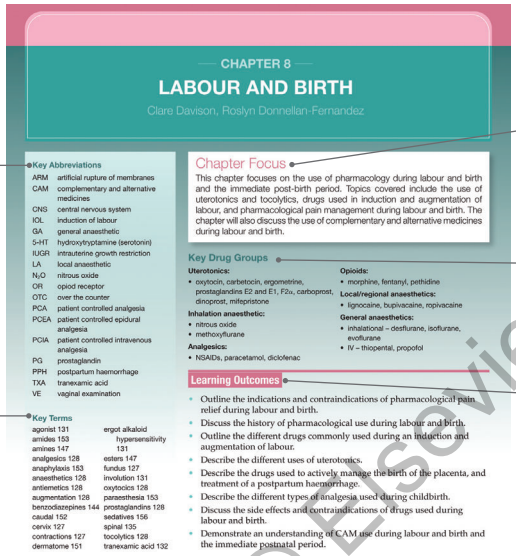
We are confident that this first edition will fulfil the needs of students, academics and clinicians in midwifery and related professions and will make the study of pharmacology relevant, logical, enjoyable, easy, practical and, above all, interesting.

Guide to text

Get the most out of your textbook by familiarising yourself with the key features of *Pharmacology in Midwifery*.

Chapter Opening Features

Chapters have been carefully structured to aid learning. Chapter openings are designed to help you focus and mentally organise content.



CHAPTER 8

LABOUR AND BIRTH

Clare Davison, Roslyn Donnellan-Fernandez

Key Abbreviations

ARM	artificial rupture of membranes
CAM	complementary and alternative medicines
CNS	central nervous system
IOL	induction of labour
GA	general anaesthetic
5-HT	hydroxytryptamine (serotonin)
IUGR	intrauterine growth restriction
LA	local anaesthetic
N_2O	nitrous oxide
OR	opiod receptor
OTC	over the counter
PCA	patient controlled analgesia
PCEA	patient controlled epidural analgesia
PCIA	patient controlled intravenous analgesia
PG	prostaglandin
PPH	postpartum haemorrhage
TXA	tranexamic acid
VE	vaginal examination

Chapter Focus

This chapter focuses on the use of pharmacology during labour and birth and the immediate post-birth period. Topics covered include the use of uterotonics and tocolytics, drugs used in induction and augmentation of labour, and pharmacological pain management during labour and birth. The chapter will also discuss the use of complementary and alternative medicines during labour and birth.

Key Drug Groups

Uterotonics:
- oxytocin, carbetocin, ergometrine, prostaglandins E2 and F1, $F2_{\alpha}$, carboprost, dinoprost, mifepristone

Inhalation anaesthetic:
- nitrous oxide
- methoxyflurane

Analgesics:
- NSAIDs, paracetamol, diclofenac

Opioids:
- morphine, fentanyl, pethidine

Local/regional anaesthetics:
- lignocaine, bupivacaine, ropivacaine

General anaesthetics:
- inhalational – desflurane, isoflurane, evoflurane
- IV – thiopental, propofol

Learning Outcomes

- Outline the indications and contraindications of pharmacological pain relief during labour and birth.
- Discuss the history of pharmacological use during labour and birth.
- Outline the different drugs commonly used during an induction and augmentation of labour.
- Describe the different uses of uterotonics.
- Describe the drugs used to actively manage the birth of the placenta, and treatment of a postpartum haemorrhage.
- Describe the different types of analgesia used during childbirth.
- Discuss the side effects and contraindications of drugs used during labour and birth.
- Demonstrate an understanding of CAM use during labour and birth and the immediate postnatal period.

Key Terms

agonist 131, amides 153, amines 147, analgesics 128, anaphylaxis 153, anaesthetics 128, antiemetics 128, augmentation 128, benzodiazepines 144, caudal 152, cervix 127, contractions 127, dermatome 151, ergot alkaloid, hypersensitivity 131, esters 147, fundus 127, involution 131, oxytocics 128, paraesthesia 153, prostaglandins 128, sedatives 156, spinal 135, tocolytics 128, tranexamic acid 132

KEY ABBREVIATIONS introduces the abbreviations and acronyms that will be used, and provides a quick reference point.

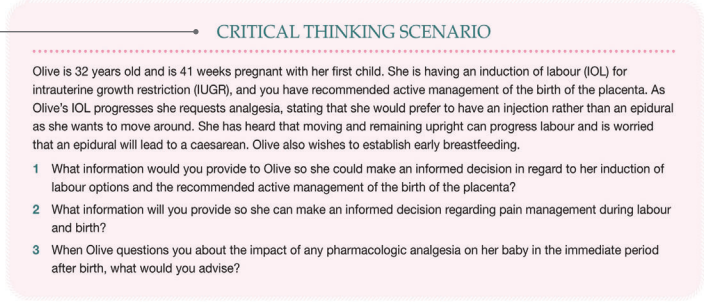
CHAPTER FOCUS highlights what you will learn in the chapter.

KEY DRUG GROUPS lists the drug groups addressed in that chapter.

KEY TERMS lists the essential terminology that is bold-faced in the text.

LEARNING OUTCOMES lists the outlines what you will learn or achieve by the end of the chapter.

CRITICAL THINKING SCENARIO for each chapter allows application of the key physiological, biochemical and pathological processes that underpin the pharmacological use of a particular drug.



CRITICAL THINKING SCENARIO

Olive is 32 years old and is 41 weeks pregnant with her first child. She is having an induction of labour (IOL) for intrauterine growth restriction (IUGR), and you have recommended active management of the birth of the placenta. As Olive's IOL progresses she requests analgesia, stating that she would prefer to have an injection rather than an epidural as she wants to move around. She has heard that moving and remaining upright can progress labour and is worried that an epidural will lead to a caesarean. Olive also wishes to establish early breastfeeding.

1. What information would you provide to Olive so she could make an informed decision in regard to her induction of labour options and the recommended active management of the birth of the placenta?
2. What information will you provide so she can make an informed decision regarding pain management during labour and birth?
3. When Olive questions you about the impact of any pharmacologic analgesia on her baby in the immediate period after birth, what would you advise?

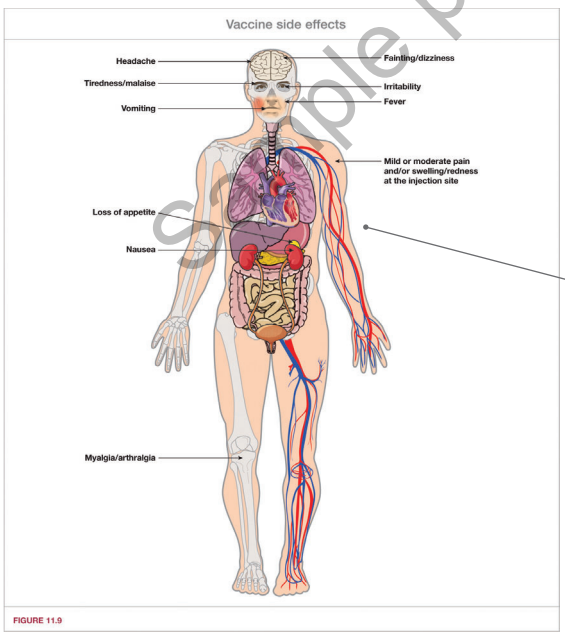
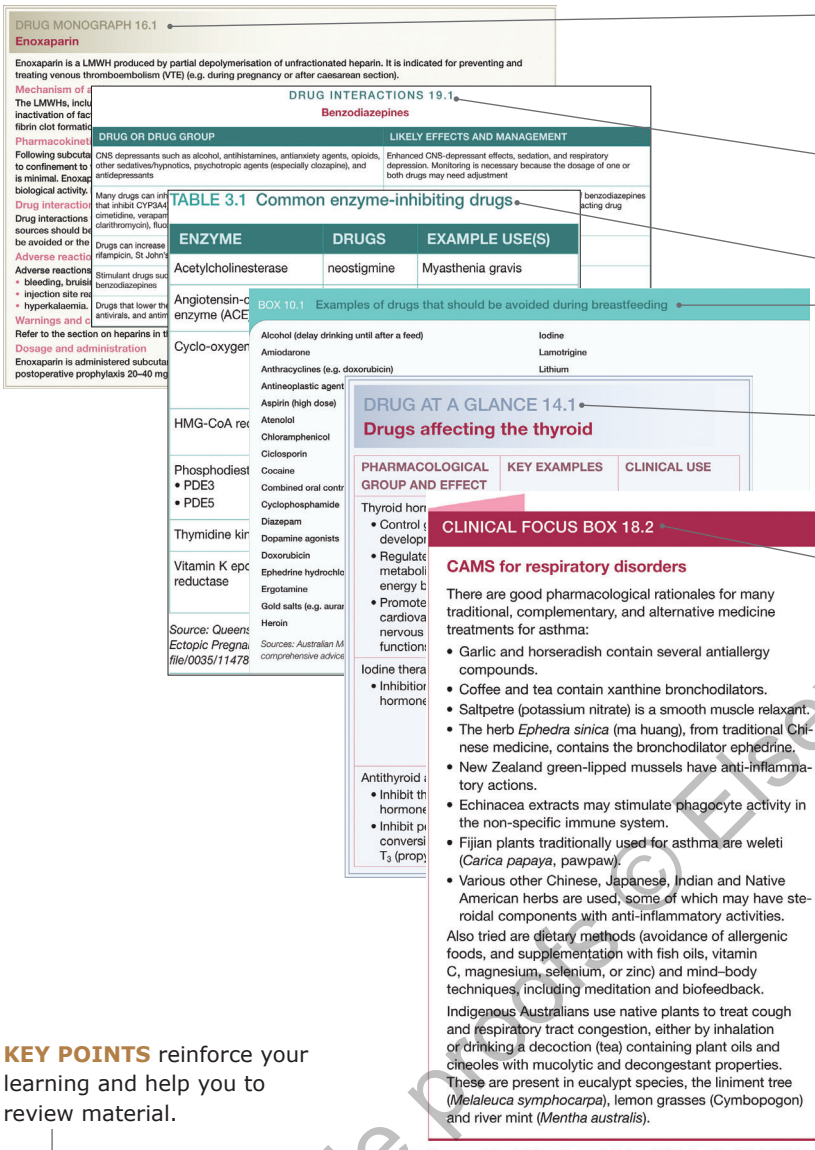


FIGURE 11.9

HUMANOID MODEL use selected organs, tissues, body parts etc. to explain pharmacological/ adverse effects of various drugs or drug groups.

Tables and Boxes


DRUG MONOGRAPH 16.1
Enoxaparin

Enoxaparin is a LMWH produced by partial depolymerisation of unfractionated heparin. It is indicated for preventing and treating venous thromboembolism (VTE) (e.g. during pregnancy or after caesarean section).

DRUG INTERACTIONS 19.1
Benzodiazepines

DRUG OR DRUG GROUP	LIKELY EFFECTS AND MANAGEMENT
CNS depressants such as alcohol, antihistamines, antianxiety agents, opioids, other sedatives/hypnotics, psychotropic agents (especially clozapine), and antidepressants	Enhanced CNS-depressant effects, sedation, and respiratory depression. Monitoring is necessary because the dosage of one or both drugs may need adjustment

TABLE 3.1 Common enzyme-inhibiting drugs

ENZYME	DRUGS	EXAMPLE USE(S)
Acetylcholinesterase	neostigmine	Myasthenia gravis

BOX 10.1 Examples of drugs that should be avoided during breastfeeding

Alcohol (delay drinking until after a feed)
Amiodarone
Anthracyclines (e.g. doxorubicin)
Antineoplastic agent
Aspirin (high dose)
Atenolol
Chloramphenicol
Ciclosporin
Cocaine
Combined oral contr
Cyclophosphamide
Diazepam
Dopamine agonists
Doxorubicin
Ephedrine hydrochlo
Ergotamine
Gold salts (e.g. aurar
Heroin
Iodine
Lamotrigine
Lithium

DRUG AT A GLANCE 14.1
Drugs affecting the thyroid

PHARMACOLOGICAL GROUP AND EFFECT	KEY EXAMPLES	CLINICAL USE

CLINICAL FOCUS BOX 18.2

CAMS for respiratory disorders

There are good pharmacological rationales for many traditional, complementary, and alternative medicine treatments for asthma:

- Garlic and horseradish contain several antiallergy compounds.
- Coffee and tea contain xanthine bronchodilators.
- Saltpetre (potassium nitrate) is a smooth muscle relaxant.
- The herb *Ephedra sinica* (ma huang), from traditional Chinese medicine, contains the bronchodilator ephedrine.
- New Zealand green-lipped mussels have anti-inflammatory actions.
- Echinacea extracts may stimulate phagocyte activity in the non-specific immune system.
- Fijian plants traditionally used for asthma are weleti (*Carica papaya*, pawpaw).
- Various other Chinese, Japanese, Indian and Native American herbs are used, some of which may have steroidal components with anti-inflammatory activities.

Also tried are dietary methods (avoidance of allergenic foods, and supplementation with fish oils, vitamin C, magnesium, selenium, or zinc) and mind–body techniques, including meditation and biofeedback.

Indigenous Australians use native plants to treat cough and respiratory tract congestion, either by inhalation or drinking a decoction (tea) containing plant oils and cineoles with mucolytic and decongestant properties. These are present in eucalypt species, the liniment tree (*Melaleuca symphocarpa*), lemon grasses (Cymbopogon) and river mint (*Mentha australis*).

Sources: Adapted from Braun & Cohen 2015; Cambie & Ash 1994.

DRUG MONOGRAPHS describe important aspects of either the prototype of a drug group or the most commonly prescribed drug of a group.

DRUG INTERACTIONS TABLES highlight drug interactions of clinical relevance.

TABLES AND BOXES provide additional information and summaries on a range of topics.

DRUGS AT A GLANCE TABLES summarise the main therapeutic groups and effects and give examples of key drugs and their clinical use.

CLINICAL FOCUS BOXES provide descriptions of items of special relevance to Australasia and details of evidence-based pharmacological management of common diseases and conditions.

KEY POINTS reinforce your learning and help you to review material.

KEY POINTS

Female infertility

- Infertility is defined as the absence of conception by a couple after more than 1 year of regular sexual intercourse without contraception.
- Effective treatment requires careful assessment of possible causes in both partners.
- Women who are actively trying to conceive may take pregnancy supplements and vitamins to increase their overall wellbeing.
- It is recommended that women take 400 or 500 micrograms of folic acid per day from 12 weeks prior to conceiving and continuing throughout the first trimester.

REVIEW EXERCISES are given for every chapter to help you master the material in manageable parts.

REVIEW EXERCISES

1 Alison is 8 weeks pregnant and due to hyperemesis is unable to swallow tablets. Alison is required to take her regular medication, drug A, with a bioavailability of 50%, and this must now be administered intravenously. Providing a short justification, estimate the intravenous dose of drug A that would be equivalent to a 100 mg oral dose of this drug.

2 Linda has been using the drug levothyroxine for the past 5 years. She is now 14 weeks pregnant. Discuss the range of factors that could be contributing to variability in her response to the drug.

3 Alex, 5 years old, has been brought to the emergency department of his local hospital with an aspirin digestion. He has accidentally digested aspirin tablets taken by his pregnant mother, who was prescribed them for preeclampsia prevention. A number of management measures have been instituted, including the administration of sodium bicarbonate. Explain why sodium bicarbonate has been administered.

REFERENCES is an up-to-date bibliography at the end of each chapter, with references relevant to all health professionals.

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ONLINE RESOURCES lists key websites where you can find additional information. Further web links are also supplied on the Evolve site for this text.

ONLINE RESOURCES

American Heart Association: https://www.heart.org/ (accessed 28 February 2022)

Cardiac Society of Australia and New Zealand: https://www.csanz.edu.au/ (accessed 28 February 2022)

European Society of Cardiology: https://www.escardio.org/ (accessed 28 February 2022)

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CHAPTER 22

ROLE OF THE MIDWIFE

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Key Abbreviations

ACM	Australian College of Midwives
ACSQHC	Australian Council for Safety and Quality in Healthcare
AHPRA	Australian Health Practitioner Regulation Agency
AMH	Australian Medicines Handbook
ANMAC	Australian Nursing and Midwifery Accreditation Council
CPD	continuing professional development
HPCAA	Health Practitioners Competence Assurance Act
HPPP	Health Professions Prescribing Pathway
Medsafe	New Zealand Medicines and Medical Devices Safety Authority
NMBA	Nursing and Midwifery Board of Australia
NZCOM	New Zealand College of Midwives
MBS	Medicare Benefits Schedule
NMP	National Medicines Policy
NPS	National Prescribing Service
PBAC	Pharmaceutical Benefits Advisory Committee
PBS	Pharmaceutical Benefits Scheme
Pharmac	(Te Pātaka Whaioranga)
PII	professional indemnity insurance
QUM	quality use of medicines
Te Tatau o te Whare Kahu	Midwifery Council (New Zealand)
TG	Therapeutic Guidelines
TGA	Therapeutic Goods Administration

Chapter Focus

This chapter focuses on the role and responsibilities of the midwife regarding pharmacological management, including authorised prescribing, when caring for women and their babies across the childbirth continuum. It provides an understanding of current midwifery contexts of practice specific to the Australian and New Zealand health systems, including the maternity models of care available to women within these countries. The regulatory environment and relevant legislation, and the professional standards, guidelines, competencies and decision making frameworks that support autonomous midwifery practice, prescribing and multi-disciplinary collaboration across a range of settings are covered. An overview of the safety and quality systems that support access to and quality use of medicines in Australia and New Zealand is provided. Requirements for continuing professional development are considered as well as future challenges and opportunities that impact midwives' role and responsibilities in pharmacology and prescribing practice when providing care for women and their babies.

Learning Outcomes

- Understand the role and responsibilities of the midwife related to pharmacologic management when caring for women and their babies across the childbirth continuum.
- Understand clinical assessment, medication review, and decision making in relation to midwife prescribing and medication management.
- Review principles of medication selection and prescription writing.
- Describe the governance in place (legislative and regulatory) for midwifery prescribing in Australia and New Zealand.
- Identify and describe the professional standards, guidelines, competencies, and decision making frameworks that support medication management (administration, supply, prescription) by midwives during their practice.
- Outline the systems that exist to support safe, quality use of medicines and universal access in Australia and New Zealand.
- Identify and discuss current and future challenges and opportunities that impact midwives' role and responsibilities in pharmacology and prescribing practice: educational and regulatory contexts; mutual recognition; cross-border practice; telehealth; electronic prescribing, and midwifery/maternity models of care.

Key Terms

CRITICAL THINKING SCENARIO

Bridie is an experienced midwife who has recently gained her Endorsement for Scheduled Medicines for Midwives with the Nursing and Midwifery Board of Australia. She is excited to be commencing employment within the midwifery group practice of a newly established, freestanding birthing unit in a major capital city where midwives provide continuity of care. Bridie is seeking professional support to develop her confidence in midwifery prescribing across the care continuum, as her previous context of practice was mainly focused on the provision of intrapartum care in a public tertiary hospital. She approaches her service manager for advice and assistance for access to support, resources, and professional development with prescribing practice.

1 What advice should Bridie's manager provide regarding assistance and ongoing professional support and/or professional development for a midwife prescriber?

2 What are the basis and parameters for establishing a mentoring relationship with another health professional for support for an autonomous prescriber? How should this be established and facilitated?

Introduction

Historically, midwives have possessed specialised knowledge of the effects and side effects of a vast range of pharmaceuticals and conventional medicines. Many have also remained skilled in herbal lore and folk remedies, including the effects, indications, and contraindications for use of these preparations by women and their babies during pregnancy, childbearing, and lactation. However, during the social shift to increased medical management of pregnancy and childbearing in the nineteenth and twentieth centuries there was a diminished focus on the importance of formalised pharmacologic knowledge for the broader profession of midwifery. Following this shift, midwives practised within institutional settings and enacted administration of prescribed drugs and treatments for women and their babies as 'ordered' by their medical colleagues. In some institutions and hospitals this extended to **dispensing** and 'supply' of medication on discharge. In contemporary times, the requirement for enhanced roles, extended scope of practice, and expansion of midwifery models of maternity care in diverse settings – including the provision of quality care for greater numbers of women experiencing complexities – provides renewed impetus for augmenting access to midwifery prescribing practice.

Midwives play a vital role in delivering comprehensive care to women and their families throughout pre-pregnancy, antenatal care, education and counselling, birth support and postnatal care. Midwives' practise in many settings including the home, community, public and private hospitals, birth centres, clinics or health units – including Māori, and Aboriginal Community Controlled Health Organisations – and are spread across metropolitan, regional, and rural areas. As autonomous practitioners, midwives work in partnership with women, and collaboratively with other health professionals, to develop comprehensive treatment plans for women and babies in their care. However, midwifery practice is broader than providing direct clinical care and may extend to any role where midwifery skills and knowledge apply. This includes working within clinical settings or community services, and non-clinically through research, professional development, regulatory and advisory roles. Having midwives with authority to prescribe the medicines associated with maternity care, including women's health,

sexual and reproductive health, and child and family healthcare, enables women to access a greater range of midwifery services. A broader range of midwifery services and models improves access to an expanded range of birthing options for women close to home, enables greater continuity of care in evidence-based, best practice models, and fully utilises the skills, knowledge, and scope of the midwifery workforce at start of life and across the first 2000 days (Sandall et al 2024; Chung et al 2022).

Scope of practice

Scope of practice refers to the range of roles, responsibilities, activities, and interventions that midwives are educated, trained, and authorised to perform within the context of their profession. Midwives' scope of practice is dependent on the area in which they practise. As well as maternity care, midwifery practice encompasses women's health, sexual and reproductive health, and child and family healthcare. Midwives use their knowledge to provide advice, assessment, health education, diagnostic review, emotional and wellbeing support, and manage referrals to other health professionals as required.

As per the Essential Competencies for Midwifery Practice (see Online resources; ICM 2019) all midwives, regardless of their context of practice, are required to demonstrate robust knowledge of the basic principles of pharmacology, pharmacokinetics and pharmacodynamics, including the impact on maternal, fetal and neonatal physiology for those who are healthy, as well as those who experience co-morbidities and chronic health challenges. Foundational knowledge and complex key concepts on pharmacokinetics and pharmacodynamics have been covered in previous chapters as applied across the childbearing continuum for women who are healthy and for those who experience complexities. This understanding is essential for both undergraduate midwifery students and for experienced midwives who are **authorised prescribers**. This knowledge encompasses understanding the role and responsibilities of the midwife related to comprehensive history taking and assessment; **medication review** and diagnostic investigations associated with pharmacologic management provided for the care of women and their babies across the continuum of pregnancy, birth, and the postpartum period; and includes preconception care, unplanned pregnancy, sexual healthcare, lactation, and contraception.

International prescribing context

Prescribing by nurses and midwives is now well established internationally in either independent or collaborative prescribing models and is legislated in the United States, Sweden, United Kingdom, Canada, Ireland, New Zealand and Australia (ANZCCNMO 2017). International examples of nurse and midwife models of prescribing have provided valuable guidance to inform the development of prescribing by nurses and midwives in Australia. Many of the prescribing models were developed to support health reform objectives, including improving safe access to medicines for the community and improving access to care for consumers. Evidence from evaluation of these models is that nurses and midwives who are educated to prescribe do so safely and effectively within their scope of practice (Casey et al 2020; Fong et al 2015; Hart 2013; Pritchard & Kendrick 2001; Smith et al 2014).

22.1 Governance of midwifery prescribing

In the last few decades midwifery practice in New Zealand and Australia has undergone many changes, including authorisation for midwife prescribing. In New Zealand, midwives have been authorised to prescribe since 1990 (*Nurses Amendment Act 1990*). It was not until after the 2009 Commonwealth Report: Improving Maternity Services in Australia that federal health reforms were enabled in 2010 through legislative amendments permitting midwives to access the Medicare Benefit Schedule (MBS) and Pharmaceutical Benefits Scheme (PBS). Prior to 2010, in Australia, responsibility for prescribing medications was limited to medical practitioners and dentists. However, during the past 15 years there has been a shift where non-medical professionals have assumed this role within their field of practice, including endorsed midwives.

Midwifery prescriptive authority in New Zealand

NZ midwifery prescriptive authority realised through the *Nurses Amendment Act 1990* included amendments to the *Misuse of Drugs Act 1975* and the *Medicines Act 1981*. The Medicines Amendment Regulations (2011) superseded the 1990 amendment to the Medicines Regulations (1984). The education of midwives in NZ to prescribe medicines is embedded in the four-year undergraduate Bachelor of Midwifery program. This enables all midwives to provide lead maternity care for childbearing women and prescribe autonomously within their scope of practice in accordance with the relevant **legislation**, the *Health Practitioners Competence Assurance Act 2003* (the HPCAA). There is no defined list of medicines that a NZ midwife may prescribe except for controlled drugs. At professional entry a midwife must demonstrate the ability to prescribe, supply and administer medicine, vaccines, and immunoglobulins safely within the midwife's scope of practice. Since the Misuse of Drugs Amendment Regulations in July 2014, this prescribing authority now includes the controlled

drugs morphine, fentanyl, and pethidine (see Online resources: NZCOM Consensus Statement: Midwife Prescribing 2014; Te Tatau o te Whare Kahu Midwifery Council 2023; Hunter & Davis 2023).

Midwifery prescriptive authority in Australia

In contrast, in Australia, prescriptive authority currently requires midwives to undertake an approved postgraduate program of study to become endorsed as an authorised prescriber (NMBA 2017; Hull et al 2023; Hull et al 2024). In November 2009, the *Health Legislation Amendment (Midwives and Nurse Practitioners) Act 2010* was introduced. Under Section 94 of the Health Practitioner Regulation National Law (the National Law) as in force in each state and territory, the Nursing and Midwifery Board of Australia (NMBA) has the power to endorse the registration of suitably qualified midwives to administer, obtain, possess, prescribe, supply, or use NMBA-approved Schedule 2, 3, 4 and 8 medicines for the management of women and their infants in the antenatal, intrapartum and postnatal periods (Medway et al 2021). In 2010, the Australian Health Workforce Ministerial Council approved the Registration Standard: Endorsement for Scheduled Medicines for Midwives, enabling endorsed midwives to prescribe medicines in accordance with the relevant state or territory poisons legislation.

In Australia, midwives who meet the criteria set out by the NMBA can apply to be endorsed for **scheduled medicines** (substances listed in the schedules of the Commonwealth Poisons Standard).

Midwives who hold the endorsement for scheduled medicines are considered by the NMBA to be qualified to:

- administer, obtain, possess, prescribe, or supply specified Schedule 2, 3, 4 and 8 medicines to the extent authorised under the relevant legislation that applies in the state or territory in which they practise
- use those medicines appropriately for the management of women and infants during the pregnancy, birth, and postnatal periods, and
- apply to Medicare Australia for a PBS prescriber number.

The endorsement means:

> '... that the midwife has met the requirements of the NMBA Registration Standard: Endorsement for scheduled medicines for midwives and is qualified to prescribe scheduled medicines and provide associated services required for midwifery practice in accordance with relevant state and territory legislation.'

(NMBA 2017).

In Australia, as the prescribing authority is dependent on variation in state and territory drug and poisons legislation (see Chapter 2, Table 2.1), it is important for midwives to be aware that the scope of midwifery prescribing also varies by state and territory (Hope et al 2016). Many Australian jurisdictions have implemented regulatory or legislative adjustments to enable endorsed midwives to prescribe within their scope of practice, thereby enabling them to practise in alignment with their qualifications; New South Wales, South Australia, Northern Territory, Western Australia; Australian Capital

TABLE 22.1 NPS prescribing competencies

THE PERSON-CENTRED PRESCRIBING PROCESS (COMPETENCY AREAS 1–5)
Competency Area 1: Understand the person and their needs
1.1 Ensure competence to assess the person's needs
1.2 Discuss with the person their medical and treatment history
1.3 Assess the person according to the clinical context and the health professional's scope of practice
1.4 Consider the person's cultural history and identity when gathering information to understand their needs
1.5 Review and interpret information in the person's health records to contribute to an understanding of their needs and current treatment
1.6 Explore with the person their adherence to prescribed medicines and the treatment plan
1.7 Make or review and understand the diagnosis and key clinical issues including those that are, or may be, medicine-related
1.8 Discuss with the person the clinical issues and implications for treatment
Competency Area 2: Understand the management options
2.1 Recognise when it is clinically appropriate not to prescribe medicines
2.2 Review current medicines and consider the possibility of a contribution to current health issues
2.3 Where treatment is indicated, consider both non-pharmacological and pharmacological options
2.4 Identify suitable medicine options
2.5 Obtain, interpret, and apply current reliable evidence and information about medicines to inform decision making
2.6 Consult other health professionals about potential medicines and the treatment plan, where appropriate
2.7 Tailor medicines for the person, considering relevant potential benefits, harms, medicine and person-specific factors
2.8 Consider the financial cost and affordability of the medicines to the person
2.9 Consider the implications to the wider community of prescribing a particular medicine
2.10 Refer the person for further assessment or treatment when the suitable treatment options are outside the health professional's scope of practice

TABLE 22.1 NPS prescribing competencies—cont'd

Competency Area 3: Agree on a plan for medicines
3.1 Explore the person's opinions and preferences concerning medicines and the treatment plan 3.2 Negotiate therapeutic goals that enhance self-management 3.3 Discuss the possible medicines options with the person and allow them time to make an informed decision 3.4 Explore and respond appropriately to the person's concerns and expectations about their health and the use of medicines to maintain their health 3.5 Develop the medicines plan in partnership with the person 3.6 Identify the need for, and develop with the person, a plan to review treatment
Competency Area 4: Prescribe medicines and communicate the agreed treatment decision
4.1 Ensure adequate and current knowledge of medicines prior to prescribing 4.2 Prescribe medicines compliant with relevant legislation, regulatory frameworks, guidelines, codes of practice, scope of practice and organisational policies and procedures 4.3 Where prescribing relies on electronic (e.g. telehealth) or telephone services (e.g. verbal prescription or medication order), ensure compliance with relevant legislation, guidelines and policies 4.4 Provide accurate and complete information to other health professionals in a timely manner when implementing new medicines or modifying existing medicines or treatment plans 4.5 Discuss and document the treatment plan with the person and ensure they understand both the plan and how to use the medicine/s safely and effectively
Competency Area 5: Review the outcomes of treatment
5.1 Explore with the person their response to treatment including adherence to the medicines and treatment plan 5.2 Gather objective information, using appropriate indicators, to assess the response to medicines, where appropriate 5.3 Synthesise information provided by the person, other health professionals and from the assessment, to determine the response to medicines 5.4 Stop or modify existing medicines and other treatments, where appropriate 5.5 Discuss with the person the benefits of a comprehensive medicines review, where appropriate 5.6 Work with the person and other health professionals to modify the treatment plan to optimise the safety and effectiveness of treatment, where appropriate 5.7 Discuss the findings of the review and recommendations with other health professionals, where appropriate
PROFESSIONAL PRACTICE THAT SUPPORTS PRESCRIBING (COMPETENCY AREAS 6 & 7)
Competency Area 6: Prescribe safely and effectively
6.1 Understand and prescribe medicines according to relevant legislation, regulatory frameworks and organisational requirements 6.2 Practise within the limits of the health professional's education, training and scope of practice as applied to prescribing 6.3 Understand common causes of incidents and error associated with prescribing and medicines use and implement strategies to reduce the risk of these occurring 6.4 Detect and report errors, incidents and adverse events involving medicines 6.5 Apply quality use of medicines principles when prescribing medicines 6.6 Critically evaluate information about medicines and make evidence-based decisions in the context of the person's needs
Competency Area 7: Prescribe professionally
7.1 Understand and comply with applicable professional standards, codes of conduct and guidelines relevant to prescribing 7.2 Demonstrate appropriate professional judgement when interpreting and applying prescribing guidelines and protocols to the person's situation 7.3 Maintain accurate and complete records of the interaction 7.4 Accept responsibility and accountability for prescribing decisions 7.5 Engage in ongoing professional development and education to improve prescribing practice 7.6 Ensure the person's needs take precedence over all considerations in all prescribing decisions 7.7 Demonstrate respect for other health professionals and their contributions within a collaborative care model

Source: Reproduced with permission from Prescribing Competencies Framework, developed by the Australian Commission on Safety and Quality in Health Care (ACSQHC). ACSQHC: Sydney 2021.

Territory; Queensland. In two states, Tasmania and Victoria (currently under review), midwife prescribing remains limited to a formulary of specified medicines. (See also Online resources: Unleashing the potential of our health workforce; Scope of practice review – Issues Paper 2: 2024). By June 2016 there were 250 midwives nationally who held the scheduled medicines endorsement (Small et al 2016[RD7]). As of March 2024, 1257 midwives held the scheduled medicines endorsement (3% of the midwifery workforce), contrasted with 32,491 'practising' midwives listed on the public register (NMBA 2024).

22.2 Educational preparation for prescribing

To ensure a sound knowledge base from which to prescribe medication, comprehensive preparatory education programs are required to support the safety, quality, and success of autonomous midwife prescribing. Courses in midwifery prescribing are designed to reflect the national approach to prescribing through the National Medicines Policy, the Health Workforce

Professionals Prescribing Pathway (HPPP) project and the National Prescribing Service (NPS MedicineWise) **Prescribing Competencies** Framework (see Online resources). Courses cover a range of topics such as legal and ethical frameworks; complete medical, obstetric and medication history; clinical assessment; pharmacology (including mechanisms of drug action, uses, potential side effects, drug interactions, and adverse effects); communication and shared decision making skills with women and their families; documentation, monitoring, consultation, collaboration, and referral (including emergency management); and follow-up. Midwifery prescribing courses aim to ensure that midwives are competent and confident in their ability to prescribe medications safely and effectively within their context of practice and practice setting.

Currently in Australia, postgraduate education accreditation standards ensure the attainment of competence to prescribe medicines in line with the National Prescribing Service Competencies (NPS MEDICINEWISE 2021) required to prescribe medicines (Australian Nursing and Midwifery Accreditation Council [ANMAC] Programs Leading to Endorsement for Scheduled Medicines for Midwives Accreditation Standards 2015). The midwifery prescribing framework that underpins midwifery prescribing curricula in Australia clearly articulates the role of the prescriber in the quality use of medicines as one of the central objectives of Australia's National Medicines Policy (see Online resources: Australian Government NMP 2022 and Box 22.1).

Additionally, the NMBA Registration Standard: Endorsement for Scheduled Medicines for Midwives covers:

- guidance specific to midwife practice; the Safety and Quality Guidelines for Privately Practising Midwives (2023)
- course accreditation standards for midwifery prescribing course
- accreditation standards for professional practice review programs
- guidelines for scope of practice decisions, and
- professional boundaries and professional ethics guidance.

For autonomous prescribing in Australia at professional entry level, a review of current undergraduate Bachelor of Midwifery and midwifery accreditation standards is required to support midwives to practise safely in the role of prescriber.

Australian requirements for endorsement for scheduled medicines as a midwife

When applying for endorsement for scheduled medicines as a midwife, a midwife must be able to demonstrate all of the following:

- *Current general registration* as a midwife in Australia with no conditions or undertakings relating to unsatisfactory professional performance or unprofessional conduct.
- Registration as a midwife that is *the equivalent of 3 years full-time clinical practice (5000 hours) in the past 6 years* that is either:
  - across the continuum of care, or
  - in a specified context of practice from the date when the complete application seeking endorsement for scheduled medicines is received by the NMBA.
- *Successful completion of an NMBA-approved program of study* leading to endorsement for scheduled medicines, or a program that is substantially equivalent to an NMBA-approved program of study leading to endorsement for scheduled medicines as determined by the NMBA.

For details of accredited courses visit the NMBA website.

BOX 22.1 Framework for autonomous midwife prescribing in Australia

MIDWIFE WITH SCHEDULED MEDICINES ENDORSEMENT – AUTONOMOUS PRESCRIBER	
Scope of prescribing	Able to independently diagnose and treat maternity related conditions within their scope of practice. Collaborates with other health practitioners as required
Education and experience	Postgraduate qualification in prescribing, including pathophysiology, assessment and based on the NPS prescribing competencies and QUM. Minimum 3 years (5000 hours)
Prescribing authority	Authorised prescriber in accordance with state and territory poisons legislation
Regulation	Endorsement by the NMBA. State and territory legislation and local policies

22.3 Legislation and regulations impacting prescribing and medication management

Legislation is a legal framework enacted by Acts of parliament to establish the legal obligations of members of society. The most relevant to midwifery practice are criminal law and civil law (common or tort). The midwife must be aware that lack of knowledge of legislation will not be considered a valid defence in the case of legal action. The midwife is responsible for ensuring that they have a working knowledge of the legislation relevant to the states in which they practise (see Chapter 2 for review and Box 22.2).

Criminal law

Under criminal law, an individual may be accused by government or other body of having broken a law (prosecution) and a trial takes place. If it is determined that the law has been breached fines or imprisonment may be ordered. Australian laws are made at both state and national levels.

Civil law

Civil law involves private individuals or businesses who may file a lawsuit against an individual or a business. Healthcare providers are more often involved in civil law cases than criminal. No fines or imprisonment generally result from these cases, but often 'damages' are paid to the injured party.

Three levels of legislation govern the midwife prescriber in Australia:

- international law
- Commonwealth law (Australian)
- state or territory law.

In New Zealand, both international law and NZ national law govern the midwife prescriber.

Commonwealth legislation

The Commonwealth legislation relevant to prescribing of medicines is the *National Health Act 1953* and the *Therapeutic Goods Act 1989*. The *National Health Act 1953* and the National Health (Pharmaceutical Benefits) Regulations specify who is authorised to prescribe different types of medicines under the PBS. The other main objects of these Acts is to promote and protect public health and safety by minimising:

1. accidental and deliberate poisonings by regulated substances; and
2. medicinal misadventures related to regulated substances; and
3. the diversion of regulated substances for abuse; and
4. the manufacture of regulated substances that are subject to abuse; and
5. harm from regulated therapeutic goods.

The objects of this Act also include ensuring that:

1. consumers of **prescription** medicines have adequate information and the understanding necessary to allow them to use the medicines safely and effectively; and
2. consumers of non-prescription medicines have adequate information and the understanding to allow them to select the most appropriate medicines for their condition and to use the medicines safely and effectively, considering the condition of their health.

State or territory legislation

As a federation, in Australia each state and territory has its own Drugs and Poisons Act, and the authority to prescribe by midwives is determined within the legislation of each state or territory. Legislation has been amended since the introduction of prescribing rights to include midwifery prescribing. It is important that as a midwife you are aware of the legislation for each state that you practise in, whether you are an authorised prescriber, or not. This is particularly relevant for midwives who engage in cross-border practice, whether in person or via virtual technologies or electronic means, for example telehealth services.

Regulation of midwifery prescribing

A **regulation** is a rule or directive made and maintained by an authority. In midwifery, regulations are set by such agencies as:

- The Australian Health Practitioners Agency (AHPRA)
- The Nursing and Midwifery Board of Australia (NMBA)
- The Australian Nursing and Midwifery Accreditation Council (ANMAC)
- Te Tatau o te Whare Kahu Midwifery Council (NZ).

Regulations may or may not be backed by legislation. In the case of regulations, failure to adhere may lead to loss of clinical privileges. The regulation of prescribing by midwives is shared between the NMBA, AHPRA and Commonwealth agencies (under Commonwealth legislation), and states/territories (prescribing authority under drugs and poisons legislation).

The NMBA Registration Standards define the requirements that applicants, registrants or students need to meet to be registered (see Online resources: NMBA).

Australian Midwifery Framework

The documents representing the current Australian Midwifery Framework that supports endorsed midwives

are listed below. The midwife must ensure they are familiar with each of these:

- NMBA **Midwife Standards for Practice** 2018
- NMBA Code of Conduct for Midwives 2018
- ICM Code of Ethics for Midwives in Australia 2018
- NMBA Decision-making Framework for Nursing and Midwifery 2020
- ACM National Midwifery Guidelines for Consultation and Referral 2021
- NMBA Safety and Quality Guidelines for Privately Practising Midwives 2023.

More information on the Registration Standard: Endorsement for scheduled medicines, can be found on the NMBA website; and for midwifery prescribing in New Zealand – including the scope of midwifery practice, and prescribing of controlled drugs – on theTe Tatau o te Whare Kahu Midwifery Council website (see Online resources).

Box 22.2 below provides summary information on key professional standards and legislation relevant to midwife prescribers in Australia and New Zealand. Recent mapping of drugs and poisons legislation undertaken by the Australian Government is reported in 'Unleashing the potential of our health workforce – Scope of practice review', Issues paper 2 (2024), Appendix A: Summary of review of legislation and regulation. This paper identifies how primary health practitioners, including midwives, are enabled (or hindered) from participating in four different domains of competency in respect of drugs and poisons in each state and territory of Australia: **supplying**, **prescribing**, **possessing**, and **administering** (see Online resources).

BOX 22.2 Key professional midwifery standards, guidelines and legislation underpinning prescribing in New Zealand and Australia: A summary

INTERNATIONAL CONFEDERATION FOR MIDWIVES (ICM)	
ICM International Definition and Scope of Practice of the Midwife https://internationalmidwives.org/resources/international-definition-of-the-midwife/ ICM Essential Competencies for Midwifery Practice 2019 https://internationalmidwives.org/resources/essential-competencies-for-midwifery-practice/ ICM Global Standards for Midwifery Education (Revised 2021) https://internationalmidwives.org/resources/global-standards-for-midwifery-education/	
New Zealand Midwifery Standards/Competencies/Guidelines	**Australia Midwifery Standards/Competencies/Guidelines**
Te Tatau o te Whare Kahu Midwifery Council Competencies for Entry to the Register of Midwives 2007	Nursing and Midwifery Board of Australia Midwife Standards for Practice 2018 Code of Conduct for Midwives (2018) International Code of Ethics for Midwives (ICM 2014)
New Zealand College of Midwives, Midwife Standards of Practice (nd)	NMBA Registration Standard: Endorsement for Scheduled Medicines for Midwives 2017
New Zealand College of Midwives, Consensus Statement: Midwife Prescribing 2014	NMBA Safety and Quality Guidelines for Privately Practising Midwives 2023 NMBA Decision Making Framework for Nursing and Midwifery 2020
New Zealand College of Midwives (NZCOM) Consensus Statement. Prescribing and Administration of Opioid Analgesia in Labour 2014	Australian College of Midwives National Midwifery Guidelines for Consultation and Referral 2021
New Zealand Legislation	**Australia Legislation**
Health Practitioners Competence Assurance Act 2003 *Medicines Act 1981* Medicines Regulations 1984 Medicine Standing Orders Regulations 2002 Medicines (Standing Order) Amendment Regulations 2016 Medicines (Designated Prescriber: Nurse Practitioners) Regulations 2016 Medicines (Designated Pharmacist Prescribers) Regulations 2013	*Commonwealth* *Health Practitioner Regulation National Law Act 2009* Section 94 – Endorsement of health practitioner's registration in relation to scheduled medicines *Therapeutic Goods Act 1989 (Cth)* Therapeutic Goods Regulations 1990 (Cth) *National Health Act 1953 (Cth)* The National Health (Collaborative Arrangements for Midwives) Instrument 2022

BOX 22.2 Key professional midwifery standards, guidelines and legislation underpinning prescribing in New Zealand and Australia: A summary—cont'd

New Zealand Legislation	Australia Legislation
Misuse of Drugs Regulations 1977 Misuse of Drugs Amendment Regulations 2014	Health Legislation Amendment (Removal of Requirement for a Collaborative Arrangement) Bill 2024 Australian Capital Territory *Medicines, Poisons and Therapeutic Goods Act 2008* *Drugs of Dependence Act 1989* Drugs of Dependence Regulations 2009 New South Wales *Poisons and Therapeutic Goods Act 1966* Poisons and Therapeutic Goods Regulations 2008 *[This legislation is currently due to be automatically repealed under the* Subordinate Legislation Act 1989 *on 1 September 2024]* Northern Territory *Medicines, Poisons and Therapeutic Goods Act 2012 (NT)* Medicines, Poisons and Therapeutic Goods Regulations 2014 Queensland *Medicines and Poisons Act 2019* Medicines and Poisons (Medicines) Regulation 2021 Medicines and Poisons (Poisons and Prohibited Substances) Regulation 2021 South Australia *Controlled Substances Act 1984* Controlled Substances (Poisons) Regulations 2011 Tasmania *Poisons Act 1971* Poisons Regulation 2018 Poisons (Midwifery Substances) Order 2011 Victoria *Drugs, Poisons and Controlled Substances Act 1981* Drugs, Poisons and Controlled Substances Regulations 2017 Western Australia *Medicines and Poisons Act 2014* Medicines and Poisons Regulations 2016

Case study 1

Meredith undertook her initial midwifery education in New Zealand where she practised as a lead maternity care provider for 15 years. Meredith moved to Australia 2 years ago. She is a skilled midwife with prescribing authorisation (a current **endorsed midwife** with NMBA) and concurrently engaged in several professional midwifery roles. In addition to her substantive role (part-time 0.5 FTE employment within a tertiary public hospital in Victoria), Meredith also provides back-up as the second midwife attendant at planned homebirths for a small group of privately practising midwives in Victoria. Meredith also provides holiday relief for midwives employed with an emergency retrieval service, flying in and out of South Australia, the Northern Territory and Queensland. The latter service, headquartered in Queensland, provides a virtual postnatal midwifery review for women in rural and remote communities in those regions. Meredith provides occasional telehealth consultations involving cross-border practice for this service as part of her locum midwifery relief.

Questions

1 Discuss the factors that impact Meredith's ability to exercise her authorisation as a midwife prescriber in her various professional midwifery roles across these three contexts of practice.

2 Identify the challenges that Meredith may encounter and suggest strategies to assist in managing them.

3 What impact do legislation, professional guidelines, and consultation and referral with other health providers have in relation to Meredith's practice within each of the three professional roles in which she is engaged?

22.4 Quality and safety

Medicine use is an ever-increasing part of healthcare, and although medicines have the potential to improve health, their use is not without risk. Awareness of risks and benefits of medicines is important for all health professionals. The task of prescribing requires the application of specific knowledge, skills, and attitudes of a unique person at a given point in time. It is also complicated by the increasing availability of medicines designed to treat similar conditions.

Quality use of medicines

Competent prescribing contributes to the quality use of medicines, a central component of the National Medicines Policy. Prescribers are in a pivotal position to support the optimal use of medicines through effective partnerships with consumers and a collaborative, multi-disciplinary approach to medicines use.

The National Prescribing Service lists the four stages for best practice prescribing as follows:

1. information gathering
2. clinical decision making
3. communication
4. monitoring and reviewing.

These four stages are informed by a person's needs, their expectation of the prescribed medication/treatment, specific collaborative care, and drug therapy protocols.

Prescribing practice: Ensuring quality and safety

Prescribing has been defined as an iterative process involving the steps of information gathering, clinical decision making, communication and evaluation which results in the initiation, continuation, or cessation of medications (Nissen et al 2010). A prescriber is defined as a health practitioner authorised to undertake prescribing within the scope of their practice. See Chapter 2 for a review of the principles of prescribing, including requirements for valid written and electronic prescriptions; accepted abbreviations; and links to exemplars including PBS prescriptions, non-PBS/private prescriptions, Authority Streamlined prescriptions, the National Inpatient Medication Chart, and Special Authority Medicines in NZ. (See also Online resources; [Australia] Australian Commission on Safety and Quality in Healthcare 2024, PBS, PBAC, TGA; [NZ] (Pharmac, Medsafe).

Health Profession Prescribing Pathway

In 2013, Australian health ministers approved the Health Professions Prescribing Pathway (HPPP) (HWA 2013). The HPPP was developed to provide a nationally recognised, consistent approach to prescribing by health professionals. The HPPP provides guidance that describes the steps required for a health professional to prescribe, and considers the principles underpinning prescribing practice; the requirements for health professions to prescribe; the models of health professional prescribing; and the roles of stakeholders involved in health professional prescribing. Independent or autonomous prescribing occurs when the healthcare practitioner has the legal authority to issue prescription medicines.

The five key principles underpinning the HPPP are:

- The health, wellbeing and safety of the person taking a medicine must always be maintained.
- Health professionals who prescribe are accountable for their actions.
- Health professionals authorised to prescribe undertake prescribing within their individual and professional scope of practice and maintain the level of professional competence and ethical standards (including the separation of commercial interests) expected of their profession.
- Health professionals who prescribe commit to the safe and effective use of medicines as described by the *National Medicines Policy* (see Chapter 2 and Online resources: DOHA 2022).
- Health professionals involved in prescribing work in partnership with the person taking a medicine, their carers, and other members of the healthcare team.

NPS MedicineWise Prescribing Competencies Framework

Another key prescribing framework was developed by the National Prescribing Service in 2012 for all health professionals practising in Australia; the Prescribing Competencies Framework was revised in 2021 (see Online resources: NPS MEDICINEWISE 2021). The framework underpins current education programs for midwifery prescribing in Australia and is utilised by endorsed midwives to enhance their prescribing practices and ensure safe and effective medication management that is nationally consistent with other regulated health professions.

The aim of the National Prescribing Service (NPS) is to provide national leadership and services to the health sector. It is a useful education and starting point for prescribing for all Australian health professionals. NPS MedicineWise resources aim to improve the health of Australians through safe and wise use of medicines to:

- improve the use of medicines and other health technologies to optimise health outcomes for Australians
- improve the health literacy of Australians
- reduce misuse of medicines and other health technologies
- improve the sustainability of the Pharmaceutical Benefits Scheme and Medical Benefits Scheme.

Since 2023, NPS MedicineWise resources have been administered by the Australian Commission for Safety and

Quality in Health Care (2023). The intention of the NPS MedicineWise Prescribing Competencies Framework is to promote quality use of medicines by defining competencies for prescribers. The framework enables health professionals to prescribe judiciously, appropriately, safely, and effectively. The second edition released in 2021 offers a framework for all professional groups. This is in line with new professional groups now having the prescribing right, such as midwives. The second edition of the framework describes competencies prescribers can rely on to contribute to safe, person-centred, and quality medicine use.

The NPS Prescribing Competencies Framework has seven competency areas:

1–5 Person-centred Prescribing Process

1 Understand the person and their needs
2 Understand the management options
3 Agree on a plan for medicines
4 Prescribe medicines and communicate the agreed treatment decision
5 Review the outcome of treatment

6–7 Professional Practice that Supports Prescribing

6 Prescribe safely and effectively
7 Prescribe professionally.

(See Figure 22.1 for the NPS Prescribing Competencies Framework. See Table 22.1 NPS Prescribing Competencies and Table 22.2 Guidelines for Achieving NPS Prescribing Competencies.)

Person-centred use of medicines

Like woman-centred care, the person-centred ideal of the prescribing process emphasises the importance of a

NPS National Prescribing Competencies Framework

The person requiring or receiving healthcare

The person-centred prescribing process (Competency Areas 1–5)

Professional practice that supports prescribing (Competency Areas 6 & 7)

The Prescribing Competencies Framework

General professional practice not specific to prescribing (Defined elsewhere)

The person-centred prescribing process	Professional practice that supports prescribing
Competency Area 1 Understand the person and their needs	Competency Area 6 Prescribe safely and effectively
Competency Area 2 Understand the management options	Competency Area 7 Prescribe professionally
Competency Area 3 Agree on a plan for medicines	
Competency Area 4 Prescribe medicines and communicate the agreed treatment decision	
Competency Area 5 Review the outcomes of treatment	

FIGURE 22.1

Source: Reproduced with permission from Prescribing Competencies Framework, developed by the Australian Commission on Safety and Quality in Health Care (ACSQHC). ACSQHC: Sydney 2021.

TABLE 22.2 Guidelines for achieving NPS prescribing competencies

THE PERSON-CENTRED PRESCRIBING PROCESS (COMPETENCY AREAS 1–5)
Competency Area 1: Understand the person and their needs
1.1 Ensure competence to assess the person's needs
How to achieve this competency • Consistent with the professional scope of practice, ensure your understanding of biomedical sciences (including anatomy, physiology, pathology, pathophysiology, microbiology, immunology, chemistry, biochemistry, clinical medicine) is adequate and current. • Understand and be competent in the consultation process, including where relevant: establishing the person's medical and treatment history; undertaking a physical examination; interpreting information in the person's health records; accurately diagnosing or understanding a diagnosis of illness according to the professional scope of practice.
1.2 Discuss with the person their medical and treatment history
How to achieve this competency • Integrate information obtained from the person and their health records with clinical knowledge and experience to refine and ask questions to determine the person's needs, with a focus on the priority issues for the person. • Recognise the limitations of the information gathered, and verify the information given, where possible and with the person's consent, with other health professionals, family or carers. • Recognise the risk of medicines errors at transitions of care (e.g. moving between wards or departments within a hospital or discharge from a hospital to the community) and conduct a medicines reconciliation. Reconcile the medicines history with the medical history, taking into consideration relevant social, cultural, and demographic details. Ensure the indications for current medicines are appropriate and understood by the person. • Consider medicines as a possible cause of presenting symptoms. • Verbally summarise the information for the person, where appropriate. • Ask the person for more information or to clarify information provided, where required. • Ascertain that sufficient information has been obtained about the person's co-existing conditions and current treatments to identify possible risks and contraindications for treatment.
1.3 Assess the person according to the clinical context and the health professional's scope of practice
How to achieve this competency • According to the health professional's scope of practice, and with the person's consent, review the medical history and examination findings to inform appropriate further investigations, if required. • Where required to further assess the person, perform an appropriate examination and arrange investigations, based on identified clinical issues and real and potential risks, according to the health professional's scope of practice and competence. • Evaluate the clinical relevance of investigations. • Refer the person for further assessment where outside the health professional's scope of practice.
1.4 Consider the person's cultural history and identity when gathering information to understand their needs
How to achieve this competency • Discuss with the person their cultural identity and the aspects of their culture that may impact their treatment preferences. • Acknowledge personal and system biases, including racism, assumptions, stereotypes and prejudices, and take steps to minimise the impact of these on prescribing practice. • Recognise the importance of the individual, family and community in decisions about treatment and medicines use. • Reflect on your prescribing practice and take steps to ensure you have the skills, knowledge and an appropriate attitude to incorporate cultural considerations in the prescribing process.
1.5 Review and interpret information in the person's health records to contribute to an understanding of their needs and current treatment
How to achieve this competency • Identify, review and interpret relevant material in hard copy or e-Health records. • Act cautiously in situations where there is concern that the information may be incomplete, inaccurate or biased. • Source relevant missing information, with the person's consent, and record details.
1.6 Explore with the person their adherence to prescribed medicines and the treatment plan
How to achieve this competency • Discuss with the person their views, beliefs, and perceptions of their current condition, health and wellbeing. • Explore the person's psychological behaviours, health literacy and motivation for consulting a health professional. • Use a non-judgemental approach to explore adherence to medicines and the treatment plan and understand barriers from the person's perspective, including possible cultural influences. • Consider the risk factors for poor adherence, including social isolation, physical impairment, cognitive impairment or disturbance, low English proficiency, low health literacy, financial disadvantage. • Recognise and respond to the potential misuse of medicines. • Where relevant, and with the person's permission, discuss the person's adherence to medicines and treatment with a member of their family and/or their carer to better understand important issues.

TABLE 22.2 Guidelines for achieving NPS prescribing competencies—cont'd

1.7 Make or review and understand the diagnosis and key clinical issues including those that are, or may be, medicine-related
How to achieve this competency • Evaluate the results of investigations in the context of the person's medical history and examination. • Establish a list of possible conditions and explore their likelihood. • Consider the possibility that the person's current medicines might be contributing to their presentation. • Consider the possibility of non-disclosure of relevant information (e.g. high-risk behaviours or non-adherence to prescribed medicines). • Understand the person's condition/s and the likely response to treatment, including medicines. • Revisit the history with the person where results appear inconsistent with the original history.
1.8 Discuss with the person the clinical issues and implications for treatment
How to achieve this competency • Understand and explain to the person the clinical relevance of the assessment findings, in the context of their co-existing conditions, medicines history, and current treatment plan, and the impact of these on prescribing decisions. • Include the person's family and/or carer in these discussions where relevant and with the person's permission. • Understand and explain to the person the likely natural progression of the condition with or without treatment. • Consider the person's response to the clinical issues and work to maintain an effective therapeutic partnership that recognises the basis of rational prescribing. • Refer clinical issues that are outside the health professional's scope of practice to other health professionals.
Competency Area 2: Understand the management options
2.1 Recognise when it is clinically appropriate not to prescribe medicines
How to achieve this competency • Understand and explain to the person the clinical reasoning, including relevant potential benefits and harms, supporting the decision not to prescribe medicines. • Where possible, confirm that the person understands the reason/s for not providing treatment.
2.2 Review current medicines and consider the possibility of a contribution to current health issues
How to achieve this competency • Consider whether existing medicines have achieved the agreed goals and modifications are indicated (e.g. dose adjustment, discontinuation). • Consider whether existing medicines may be causing adverse effects or may be ineffective and require modification (e.g. dose adjustment, discontinuation). • Where polypharmacy is identified, specifically review the need for all medicines and consider discontinuation where appropriate and within the health professional's scope of practice to do so (refer to Competency 5.4 for further recommendations about ceasing medicines). • Discuss potential modifications to medicines with the person.
2.3 Where treatment is indicated, consider both non-pharmacological and pharmacological options
How to achieve this competency • Understand the clinical reasoning and/or evidence supporting treatment decisions. • Identify non-pharmacological therapies and their relative outcome capacity in comparison with pharmacological interventions. • Consider the potential benefits and harms of incorporating non-pharmacological and/or pharmacological therapies or a combination thereof. • Discuss possible non-pharmacological options with the person in the context of other therapies and the person's preferences and goals.
2.4 Identify suitable medicine options
How to achieve this competency • Integrate knowledge of pharmacology, other biomedical sciences, clinical medicine, and therapeutics, and identify medicines suitable for treating the condition. • Understand the pharmacological basis supporting treatment decisions in the context of the person's current needs. • Understand and consider factors specific to the medicine/s identified as suitable for treating the person's condition (e.g. availability, indications, contraindications, potential adverse effects and interactions).
2.5 Obtain, interpret and apply current, reliable evidence and information about medicines to inform decision making
How to achieve this competency • Identify reliable information to inform decisions about medicines and other treatment options. • Critically assess the findings of relevant studies. Review available evidence to identify the safety, efficacy, comparative effectiveness, and cost-effectiveness of medicines. Consider the hierarchy of evidence when assessing relevance. • Apply study findings and medicines information in the context of relevant clinical considerations, the person's preferences, and their circumstances. • Use clinical decision support tools and memory aids to support prescribing decision making. When prescribing unfamiliar medicines, use reliable and current sources of information and seek advice where unsure. Carefully apply information to the person's situation to enhance the safety and quality of prescribing decisions.

Continued

TABLE 22.2 Guidelines for achieving NPS prescribing competencies—cont'd

2.6 Consult other health professionals about potential medicines and the treatment plan, where appropriate

How to achieve this competency
- With the person's consent, engage with other health professionals to further understand medicines and/or other treatments previously prescribed.
- Consult other health professionals for advice about medicines choices in the interests of safety and optimal prescribing outcomes, where appropriate.
- Where appropriate, consult other health professionals to understand non-pharmacological therapies that are outside personal scope of practice. Consider implications for medicines management, if any.

2.7 Tailor medicines for the person considering relevant potential benefits, harms, medicine and person-specific factors

How to achieve this competency
- Apply knowledge of the differences between medicines in the same class to the person's situation to identify medicines for which the comparison of potential benefits and harms is favourable and to eliminate those medicines that are not suitable.
- Consider the possibility of drug–drug, drug–disease and/or drug–food interactions and the potential implication of these for the choice of medicine.
- Consider person-specific factors relevant to the choice of medicine, dose, frequency, route of administration, formulation and/or duration of therapy (e.g. lifestyle, preferences, beliefs, cultural influences, health literacy, pregnancy, breast feeding, co-existing conditions, current medicines, allergies, intolerances, genomic information, the ability to swallow, relevant fears or phobias, the potential for medicines abuse or misuse).
- Calculate the correct dose for the person according to relevant person-specific factors such as age, weight, renal function. Check and document all calculations.
- Avoid medicines that have caused previous adverse events or that are unsuitable because of the person's allergies or intolerances.
- Implement appropriate medicines strategies in situations where the diagnosis is ambiguous (e.g. pre-emptive treatment, defined trial periods).
- Act cautiously in situations where there is limited or no evidence for using the medicine with the person's particular co-morbidities or characteristics (e.g. age).
- Understand the clinical reasoning underpinning decisions about medicines.

2.8 Consider the financial cost and affordability of the medicines to the person

How to achieve this competency
- Consider the person's eligibility to access subsidised medicines (e.g. the Pharmaceutical Benefits Scheme [PBS], the Repatriation Pharmaceutical Benefits Scheme [RPBS], and the Quality Use of Medicines Maximised For Aboriginal and Torres Strait Islander Peoples [QUMAX] programs).
- Select a more affordable medicine in preference to one that is less affordable when the two medicines are therapeutically equivalent (e.g. a generic brand where clinically applicable).

2.9 Consider the implications to the wider community of prescribing a particular medicine

How to achieve this competency
- Understand and consider the principles of antimicrobial stewardship and antimicrobial resistance.
- Understand why generic medicines are an acceptable alternative to original brand medicines.
- Select a more cost-effective medicine in preference to a less cost-effective option.

2.10 Refer the person for further assessment or treatment when the suitable treatment options are outside the health professional's scope of practice

How to achieve this competency
- Arrange referrals to other health professionals as needed.

Competency Area 3: Agree on a plan for medicines

Where relevant, and with the person's permission, include the person's family and/or carer in decisions about medicines and the treatment plan.

3.1 Explore the person's opinions and preferences about medicines and the treatment plan

How to achieve this competency
- Respect the person's values, beliefs, expectations, opinions, and decisions about their treatment preferences.
- Consider the person's preferences for generic brands of medicines.
- Discuss with the person their capacity to pay for medicines.

3.2 Negotiate therapeutic goals that enhance self-management

How to achieve this competency
- Facilitate interactive negotiations about the goals of medicines as part of the treatment plan.
- Respect the person's beliefs and preferences during goal negotiations.

TABLE 22.2 Guidelines for achieving NPS prescribing competencies—cont'd

3.3 Discuss the possible medicines options with the person and allow them time to make an informed decision
How to achieve this competency • Consider the person's priorities for treating their current and co-existing conditions, their readiness to address the current condition and their expectations of treatment. • Discuss relevant lifestyle changes that will be required to support the effectiveness of the medicine/s. • Provide sufficient necessary information about medicines options, including expected outcomes and possible side effects, in an appropriate format and language, to assist the person to make an informed choice about treatment. Ensure the person understands the information provided. • Recognise and take steps to minimise the influence of personal bias when providing information about medicines to the person. • Facilitate an interactive discussion and involve the person in the treatment decisions. • Support the person to make an informed decision by providing additional time and/or resources according to their health literacy. • Discuss the likely cost of the medicine options with the person and choose an option they agree to fund. • Review the person's understanding of the treatment options. • Discuss and work with the person to resolve discordant expectations or requests (e.g. the desire for a prescription where not warranted). • Consider the potential for medicine misuse and discuss alternatives with the person. Identify, discuss and manage drug-seeking behaviour on the part of the person, where appropriate. • Advise the person how they can access appropriate sources of medicines information in languages other than English, where appropriate. • Provide the person with information about consumer support organisations, where appropriate. • Use a consumer medicine information leaflet to help inform the person about medicines. • Supplement verbal information with written information about the condition and treatment options, where appropriate.
3.4 Explore and respond appropriately to the person's concerns and expectations about their health and the use of medicines to maintain their health
How to achieve this competency • Adopt a person-centred approach. • Demonstrate appropriate empathy. • Where applicable, explore and respond to the person's concerns and expectations about the consultation, their health, the role of health professionals and the person in managing their health, the health professional's scope of practice, and the role of medicines within the treatment plan.
3.5 Develop the medicines plan in partnership with the person
How to achieve this competency • Respect the person's decision about the selection of medicines as part of the treatment plan. • Respect the person's decisions about the use of medicines, including the decision to defer selection and initiation of medicines to a subsequent consultation, to obtain treatment from another health professional, or to not undergo treatment. • Respect existing decisions made by the person about advance care planning. • Establish a medicines management plan or add to a current one, making sure the person understands any changes made to previous plans. • Recommend a dose administration aid if required. • Consider the use of a medication management review where the person is taking multiple medicines regularly, has had significant changes to their medicines plan, has difficulty managing their medicines, or if it appears the person may not be adhering to their medicines plan.
3.6 Identify the need for and develop with the person a plan to review treatment
How to achieve this competency • Discuss the need for a review with the person and identify and resolve potential barriers. • Agree on the timing and details of the review with the person. • Negotiate a prescribing contract with the person for medicines prone to abuse (e.g. opioids, benzodiazepines). • Confirm the person's understanding of the review plan.
Competency Area 4: Prescribe medicines and communicate the agreed treatment decision
4.1 Ensure adequate and current knowledge of medicines prior to prescribing
How to achieve this competency • Ensure the prescribing of medicines is justified within the context of professional scope of practice and the clinical needs of the person. • Review the specifics of the medicine/s to be prescribed, including the likely effects, possible adverse effects, approved indications, dose, frequency, likely duration of therapy, contraindications, potential drug–drug, drug–food or drug–disease interactions and consider in the context of the person. • Consider prescribing medicines for unlicensed indications (i.e. 'off label') only when a licensed medicine is unavailable or inappropriate, adequate information is available to support use and the potential benefits and harms have been considered. • Consider current information about the availability and storage of medicines and the potential impact on prescribing decisions.

Continued

TABLE 22.2 Guidelines for achieving NPS prescribing competencies—cont'd

4.2 Prescribe medicines compliant with relevant legislation, regulatory frameworks, guidelines, codes of practice, scope of practice and organisational policies and procedures

How to achieve this competency

- Obtain approval to use medicines where appropriate. Comply with state, territory and federal legislative requirements, including restrictions required by the Pharmaceutical Benefits Scheme (PBS) and local approval processes.
- Adhere to legislative and regulatory requirements relevant to the profession and jurisdiction.
- Comply with local formularies, guidelines, restrictions, and protocols.
- Communicate appropriately, using unambiguous language, and/or symbolic representation.
- Use recommended terminology, abbreviations and symbols for prescribing medicines (e.g. use the active ingredient name of medicines, and the brand name if clinically necessary).
- Understand the concept of bioequivalence and its relevance to the prescription of generic or specific brand medicines. Be aware of situations where use of a consistent brand is preferred and consider in the context of the person.
- Prescribe using systems that support safe medicines use. Ensure competence to use prescribing systems and recognise the potential limitations of these systems (e.g. preferentially use electronic prescribing systems while maintaining competence to prescribe and/or order medicines using paper-based prescriptions/medication orders; use and understand the scope of computer decision support tools and automated medication alerts; complete the National Standard Medication Chart accurately and legibly, where appropriate).
- Where electronic medical records are used, ensure competence to use these systems.
- Ensure the prescription or medication order specifies the active ingredient name (and brand name where clinically appropriate), dose, route of administration and frequency of use. Where relevant, also include the duration of medicine use, the basis for dose calculations and the indication for the medicine.

4.3 Where prescribing relies on electronic (e.g. telehealth) or telephone services (e.g. verbal prescription or medication order), ensure compliance with relevant legislation, guidelines and policies

How to achieve this competency

- Understand the risks associated with prescribing medicines via electronic or telephone services and take steps to prevent or minimise.
- Communicate verbal medication orders appropriately using unambiguous language.
- Ascertain that the health professional receiving the verbal medication order has understood the instructions by asking them to repeat the instructions.
- Ensure that the verbal medication order is documented and signed for within legislative requirements and that this occurs as soon as practicable.
- Ensure that medicines prescribed under legislation applicable during emergencies are eligible and conform to all criteria, including requirements for documentation.

4.4 Provide accurate and complete information to other health professionals in a timely manner when implementing new medicines or modifying existing medicines or treatment plans

How to achieve this competency

- Provide an accurate and complete current list of the person's medicines for other health professionals, particularly the primary healthcare provider (usually their general practitioner), in support of maintaining continuity of care and when referring the person to another health professional. Include the details of, and reasons for, any changes made to the medicines.
- Provide information using secure means and an appropriate format that can be easily understood.
- Provide information about the person's history of allergies, intolerances and adverse drug reactions.

4.5 Discuss and document the treatment plan with the person and ensure they understand both the plan and how to use the medicine/s safely and effectively

How to achieve this competency

- Include the person's family and/or carer with their permission when discussing medicines and the treatment plan, where appropriate.
- Support the person's understanding of safe and effective prescribing, noting that sometimes no treatment is the better option.
- Summarise for, and discuss with, the person the rationale for the treatment plan and how to use and store medicine/s safely and the possible side effects of the medicine/s, using language they can understand.
- Discuss the ongoing monitoring of the medicine and ensure there are no barriers to achieving this.
- Discuss and provide reliable, clear and relevant information in an appropriate format to support the person's understanding of the medicine/s and their self-management of the condition (e.g. the consumer medicine information leaflet, information from appropriate organisations).
- Provide pictorial or graphical information where helpful.
- Use the active ingredient name of the medicine and ensure the person understands the difference between the active ingredient and brand name.
- Discuss how to access information in languages other than English, where appropriate. Use resources in languages other than English where available and appropriate.
- Tailor information about medicines to ensure it is appropriate for the person's health literacy, language literacy and cultural needs.
- Discuss and provide practical guidance about what to do and who to contact if the person experiences signs and symptoms indicating an adverse event, if no improvement is noted over a defined period of time or if the person has other concerns about their medicines or condition.
- Discuss and provide information about support services (e.g. services for people with chronic conditions).
- Check the person's understanding by asking them to explain their treatment plan and to explain or demonstrate how they are to use the medicine.
- Update the person's current medicines list and encourage them to carry it with them and show it to other health professionals providing treatment.
- Recommend a medicines alert device where appropriate.
- Encourage the person to share information with other healthcare professionals involved in their care.

TABLE 22.2 Guidelines for achieving NPS prescribing competencies—cont'd

Competency Area 5: Review the outcomes of treatment
5.1 Explore with the person their response to treatment, including adherence to the medicines and treatment plan
How to achieve this competency • Engage in interactive two-way communication with the person and, where relevant and permitted, their family and/or carer and other health professionals to review the outcomes of treatment. • Ask the person to demonstrate how they take or use the medicine to ensure they are undertaking this correctly, where appropriate. • Discuss with the person and/or family the person's experiences with the medicines, including perceived benefits, adverse effects, and adherence issues. • Integrate information with clinical knowledge and experience to assess the progress towards attaining the planned therapeutic goals.
5.2 Gather objective information, using appropriate indicators, to assess the response to medicines, where appropriate
How to achieve this competency • Gather observations at appropriate time intervals. • Obtain additional information to assess whether the therapeutic goals have been achieved by observing and examining the person, requesting investigations and interpreting the findings, where appropriate and according to the health professional's scope of practice. • Order and review therapeutic drug monitoring tests for medicines with a narrow therapeutic index.
5.3 Synthesise information provided by the person, other health professionals and from the assessment, to determine the response to medicines
How to achieve this competency • Use information to determine whether: agreed therapeutic goals have been achieved; treatment should be discontinued, modified or continued (e.g. where adverse effects have been identified; the person should be referred to another health professional). • Identify the key findings of the assessment (including history, examination and investigations) that indicate whether the therapeutic goals have, or have not been achieved. • Act on the results of the findings to optimise the therapeutic outcome. • Establish the clinical reasoning supporting the decision to discontinue, modify, or continue the treatment, and/or to refer the person to another health professional. • Detect and manage adverse events experienced by the person and report them to the relevant authorities. Detect and manage adverse drug interactions. • Report the abuse or misuse of medicines in accordance with relevant legislation and organisational policy and procedure.
5.4 Discontinue or modify existing medicines and other treatments, where appropriate
How to achieve this competency • Consider discontinuing medicines where appropriate (e.g. where an adverse event has occurred, the treatment goals have been achieved and the medicine is no longer needed; new evidence suggests an alternative medicine should be used; the person is receiving palliative care). • Adhere to protocols or guidelines for withdrawing medicines from a person's treatment plan. • Negotiate with other health professionals to modify or discontinue treatments they have implemented, where appropriate. • Discuss any changes to medicines and/or the treatment plan with the person and encourage them to return unwanted medicines to their community pharmacist for disposal. • Reconcile and update the person's medicines record and/or health record with any changes made to their medicines.
5.5 Discuss with the person the benefits of a medication management review, where appropriate
How to achieve this competency • Consider the use of a Home Medicines Review or Residential Medication Management Review where the person is taking multiple medicines regularly, has had significant changes to their medicines plan, has difficulty managing their medicines, or if it appears the person may not be adhering to their medicines plan. • Complete a medicines management plan following a review.
5.6 Work with the person and other health professionals to modify the treatment plan to optimise the safety and effectiveness of treatment, where appropriate
How to achieve this competency • Where appropriate, collaborate with and consider the input and expertise of other health professionals when deciding on changes to the treatment. • Consider the possibility of adverse events or other concerns (e.g. cost) impacting adherence. Where it is likely these concerns will result in self-cessation or poor adherence, modify, substitute or discontinue the medicine in consultation with the person and, where relevant, other health professionals. • Discuss with the person and ensure they understand the reasons for discontinuing, modifying, or continuing the treatment unchanged. • Provide the person with an updated list of their medicines. • Where an adverse event has occurred, discuss with the person the possible consequence of the adverse event (if any) and how to avoid medicines that have caused unwanted adverse events. Recommend a medicines alert device where appropriate. • Communicate the details of any adverse events with relevant other health professionals in a timely manner. • Where the expected outcomes of treatment have not been achieved as anticipated, consider referral to another health professional. Discuss with the person the reason/s for referral and provide all relevant information to the health professional in a timely manner to support their involvement.

Continued

TABLE 22.2 Guidelines for achieving NPS prescribing competencies—cont'd

5.7 Discuss the findings of the review and recommendations with other health professionals, where appropriate

How to achieve this competency
- Communicate, by secure means and in a timely manner, the details of the current treatment plan to other health professionals involved in the person's care.
- Inform other health professionals who provide clinical care for the person about changes to the treatment plan (e.g. dose alterations, medicines discontinued or initiated in response to the review) and whether the treatment plan appears to be achieving agreed goals.

PROFESSIONAL PRACTICE THAT SUPPORTS PRESCRIBING (COMPETENCY AREAS 6 & 7)

Competency Area 6: Prescribe safely and effectively

6.1 Understand and prescribe medicines according to relevant legislation, regulatory frameworks and organisational requirements

How to achieve this competency
- Achieve and maintain appropriate education, training and required endorsements (where applicable) prior to prescribing medicines.
- Implement procedures to address the medicolegal requirements that are relevant to the person, including those required for special or vulnerable populations.
- Comply with state, territory and federal legislative requirements, including restrictions with the Pharmaceutical Benefits Scheme (PBS) system, and local approval processes.
- Understand and comply with national, state and territory, and facility policies, procedures and standards relevant to prescribing (e.g. antimicrobial prescribing policy, shared care arrangements, national medicines management standards and guidelines).
- Prescribe according to required systems, including monitoring systems.

6.2 Practise within the limits of the health professional's education, training and scope of practice as applied to prescribing

How to achieve this competency
- Refer the person to other appropriate health professionals for further assessment or treatment when they require healthcare that is outside the health professional's education, training, and scope of practice.

6.3 Understand common causes of incidents and error associated with prescribing and medicines use and implement strategies to reduce the risk of these occurring

How to achieve this competency
- Conduct and document a comprehensive medicines assessment and understand the diagnosis prior to prescribing.
- Understand, maintain competence to use and recognise the limits of systems designed to improve prescribing.
- Confirm prescriptions and medication orders are accurate, particularly at points of transfer (e.g. between wards, between hospital and community).
- Ensure clear documentation is kept, including details of the person's allergies, intolerances and previous adverse drug reactions and any modifications made to the treatment plan.
- Report and learn from errors, incidents and near misses.
- Respectfully report, using appropriate methods, concerns about unsafe prescribing by colleagues.

6.4 Detect and report errors, incidents and adverse events involving medicines

How to achieve this competency
- Be aware of the systems that support the identification and reporting of incidents and errors associated with medicines, including those pertaining to the prescribing process.
- Report, using appropriate channels and according to legislative, professional and organisational requirements, the details of medicines misuse by persons receiving healthcare and/or colleagues and errors involving the prescribing process and/or medicines.
- Understand the importance of reporting potential as well as actual incidents and errors involving medicines, in order to improve prescribing practice.
- Detect and manage adverse events and report to the relevant authorities.
- Support other health professionals, particularly those who prescribe medicines for the person, and prevent prescribing errors by communicating complete and accurate information about prescribed medicines in a timely manner.

6.5 Apply quality use of medicines principles when prescribing medicines

How to achieve this competency
- Understand the principles of quality use of medicines as required. Further information is available here.
- Ensure medicines are prescribed judiciously, appropriately, safely and effectively and in accordance with the prescriber's authorisations and scope of practice.
- Contribute to quality health outcomes by committing to the fundamental tenets of quality medicines use, including:
  - recognising that medicines may not be the most appropriate management strategy
  - making wise medicines choices that align with the person's needs and preferences and medicine-specific factors
  - carefully monitoring the outcomes of medicines used
  - partnering with both the person and other healthcare professionals to optimise health outcomes.

TABLE 22.2 Guidelines for achieving NPS prescribing competencies—cont'd

6.6 Critically evaluate information about medicines and make evidence-based decisions in the context of the person's needs
How to achieve this competency • Critically assess evidence and information about the safety, efficacy, comparative effectiveness, and cost-effectiveness of medicines. • Apply study findings and medicines information in the context of relevant clinical considerations, the person's preferences, and their circumstances. • Use feedback from the person prescribed new medicine to contribute to information about the safety and effectiveness of that medicine.
Competency Area 7: Prescribe professionally
7.1 Understand and comply with applicable professional standards, codes of conduct and guidelines relevant to prescribing
How to achieve this competency • Adhere to relevant professional standards, codes of conduct and scope of practice statements or guidelines. • Adhere to legislative and workplace requirements for obtaining and recording consent to access health records; obtain information from, and provide information to, other health professionals; conduct clinical examinations.
7.2 Demonstrate appropriate professional judgement when interpreting and applying prescribing guidelines and protocols to the person's situation
How to achieve this competency • Identify prescribing guidelines and protocols that are relevant to the person and appropriate to the health professional's scope of practice. • Interpret relevant guidelines and protocols according to the person's specific needs and the context in which they are accessing healthcare.
7.3 Maintain accurate and complete records of the interaction
How to achieve this competency • Ensure records comply with legal, regulatory, and facility requirements and are completed in a timely manner. • Include details of the consultation, clinical examinations and investigations, risk factors for medicines misadventure, the person's decision to decline treatment (where relevant), changes to the person's medicines treatment plan including the rationale behind the changes, the review plan, recommendations and date for next review and the outcomes of the treatment. • Update the person's health record with details of changes to their medicines regimen or other relevant details, such as the occurrence of adverse events. Where available, and with the person's consent, include these details in the electronic health record. • Discuss with the person the potential benefits and harms of treatment, the benefits of communicating with other health professionals about medicines and the treatment plan, and the financial costs associated with medicines use. Where appropriate, record the person's consent in relation to these matters. • Where appropriate, record the person's request to withhold or withdraw consent for treatment. • Consider the need to obtain consent in consultation with a third party about medicines and the treatment plan (e.g. for involuntary people, children, young people).
7.4 Accept responsibility and accountability for prescribing decisions
How to achieve this competency • Audit adverse outcomes and respond appropriately. • Understand and comply with the legal, ethical and professional responsibilities associated with prescribing. • Understand the medicolegal risks associated with prescribing medicines and take appropriate professional precautions (e.g. professional indemnity insurance).
7.5 Engage in ongoing professional development and education to improve prescribing practice
How to achieve this competency • Meet the registration requirements for continuing professional development. • Use self-reflection to continually review prescribing practice and respond to feedback. • Use audit data to benchmark personal prescribing practice, identify development areas, and plan appropriate learning activities. • Continually update knowledge and skills required for medicines safety. • Use available resources to improve prescribing practice in accordance with learning plans.
7.6 Ensure the person's needs take precedence over all considerations in all prescribing decisions
How to achieve this competency • Maintain professional independence in prescribing decision making. Ensure prescribing decisions are made on the basis of providing safe and effective care. • Prescribing decisions should be made consistent with the best available evidence, clinical expertise and professional judgement in the context of the person's needs. Ensure decisions align with safe and rational medicines use and are made independent of influences that are not focused on the person's needs.

Continued

TABLE 22.2 Guidelines for achieving NPS prescribing competencies—cont'd

• Where the person, their family and/or carer are unable to contribute to decisions about the person's treatment, or this is inappropriate, the prescriber must make decisions based exclusively on what is in the best interests of the person. • Recognise and implement strategies to minimise influences that may bias prescribing decisions, including: marketing influences; possible personal, professional, or financial gain; the health professional's own beliefs, values, culture, experiences and expectations; the views of colleagues, the media or consumers. • Adhere to professional and facility codes of conduct for interacting with the pharmaceutical industry and participating in industry-funded education sessions and research trials. • Avoid conflicts of interest. Should real or perceived conflicts of interest be identified, declare and address these in order to minimise the impact on prescribing decisions. • Audit the health professional's own prescribing to evaluate the impact of both external and internal influences on their prescribing practice and implement strategies to address identified issues.
7.7 Demonstrate respect for other health professionals and their contribution within a collaborative care model
How to achieve this competency • Contribute to effective communication and collaboration between health professionals, particularly the person's primary healthcare provider (usually their general practitioner) and others who prescribe medicines for the person, to support optimal medicines use and management outcomes. • Provide advice to colleagues who also care for the person including those who provide and administer medicines. • Understand the scope of practice of other health professionals.

Source: Reproduced with permission from Prescribing Competencies Framework, developed by the Australian Commission on Safety and Quality in Health Care (ACSQHC). ACSQHC: Sydney 2021.

knowledge of the individual's needs and the person–prescriber partnership in achieving quality health outcomes through optimal medicine use. The person-centred approach of the framework also describes the essential collaboration between the prescriber and other health professionals. Collaboration with the person's primary healthcare provider is essential to the prescribing process and to achieving optimal health outcomes from the use of medicines.

National safety and quality standards: Medication management

Medicines are the most common treatment used in healthcare. The National Medicines Policy (2022) aims to improve health outcomes for all Australians through access to, and the wise use of, medicines to achieve optimal health outcomes and economic objectives. The policy's four central objectives are to provide:

1. timely access to medicines that Australians need, at a cost that the person, facility, and community that funds the health system, can afford
2. medicines that meet quality, safety, and efficacy standards
3. quality use of medicines (judicious, appropriate, safe, and effective use of medicines)
4. the maintenance of a responsible and viable medicines industry.

(see Online resources Australian Government: NMP 2022)

Although appropriate use of medicines contributes to significant improvements in health, medicines can also be associated with harm. Medicines are associated with a higher incidence of errors and adverse events than other healthcare interventions (ACSQHC 2017). Various resources and supports are available to ensure safety and quality in medication management (see Online resources ACSQHC: various), including quality databases and prescribing sources, for example Therapeutic Goods Administration, Prescribing medicines in pregnancy database; MEDSAFE (NZ); Australian Medicines Handbook; and Therapeutic Guidelines (see Online resources).

The Australian Commission on Safety and Quality in Health Care (ACSQHC) has developed eight national safety and quality healthcare standards outlining the level of care consumers can expect when receiving health services (ACSQHC 2017). The primary aims of the standards are to protect the public from harm and to improve the quality of health service provision. They provide a quality assurance mechanism that tests whether relevant systems are in place to ensure that expected standards of safety and quality are met. The aim of the National Medication Safety Standard–Standard Four, is to ensure that health professionals, including midwives, should possess necessary credentials encompassing education and training to practise within their scope of practice. Standard Four also ensures that health professionals prescribe, dispense, and administer safe and appropriate medicines and monitor medicine usage. Midwives should consider issues such as health literacy to ensure consumers have knowledge about medicine, its use, and risks (ACSQHC 2014).

Midwives are required to comply with these standards to ensure the safe administration and management of medications in their practice. (See Box 22.3.)

BOX 22.3 NSQHS standards: Medication Safety Standard

Leaders of a health service organisation describe, implement, and monitor systems to reduce the occurrence of medication incidents, and improve the safety and quality of medicines use. The workforce uses these systems.

Intention of this standard

To ensure clinicians are competent to safely prescribe, dispense and administer appropriate medicines and to monitor medicine use. To ensure consumers are informed about medicines and understand their individual medicine needs and risks.

Criteria

Clinical governance and quality improvement to support medication management

Organisation-wide systems are used to support and promote safety for procuring, supplying, storing, compounding, manufacturing, prescribing, dispensing, administering and monitoring the effects of medicines.

Documentation of patient information

A patient's best possible medication history is recorded when commencing an episode of care. The best possible medication history, and information relating to medicine allergies and adverse drug reactions are available to clinicians.

Continuity of medication management

A patient's medicines are reviewed, and information is provided to them about their medicines needs and risks. A medicines list is provided to the patient and the receiving clinician when handing over care.

Medication management processes

Health service organisations procure medicines for safety. Clinicians are supported to supply, store, compound, manufacture, prescribe, dispense, administer, monitor, and safely dispose of medicines.

Source: Reproduced with permission from National Safety and Quality Health Service Standards (second edition), developed by the Australian Commission on Safety and Quality in Health Care (ACSQHC). ACSQHC: Sydney 2017.

22.5 Role of the midwife in prescribing

Holistic midwifery care is provided in partnership with a childbearing woman and her baby. Comprehensive assessment before prescribing includes a medical, psychosocial, and obstetric health history. Midwives should also consider factors such as preexisting chronic health conditions, current prescription or non-prescription medication use, gestational age, and breastfeeding status. Consideration of the possibility of differing responses, and potential side effects for woman and baby, and the potential for interaction with other treatments or therapies need to be assessed before prescribing any medications. In many situations, a medication may not be the best treatment approach or solution.

Consultation, referral and collaboration

The Australian College of Midwives (ACM) National Midwifery Guidelines for Consultation and Referral (ACM 2021) was developed to assist midwives in their decision making in situations where consultation and referral with another health provider may be indicated. Consultation and referral including escalation of care for medication management and/or review/further diagnostic investigations ensures the delivery of high-standard maternity care using evidence-based practices. Collaborative models of care involving general practitioners, obstetricians, and other healthcare professionals ensure women and babies receive the level of care required for their individual circumstances. Midwives can manage their needs, and refer women and babies experiencing complications to appropriate clinicians for support and management as soon as they are identified.

In all situations, informed consent requires that women and their families must receive comprehensive information and support about any proposed treatment, including prescribed medicines. They are better positioned to actively participate in their care and report any concerns, reducing the risk of adverse events.

CLINICAL FOCUS BOX 22.1

Midwifery health history assessment and medication review

Safe and effective use of medications begins with the initial assessment of the woman. A full medical and medication history must be taken by the midwife with careful consideration of the following:

- Is there an actual need for medication?
- Is this the most appropriate drug for the desired outcome?
- What is the normal dosage, route, possible interactions, contraindications, and side effects of the chosen drug?
- Do the benefits of the drug outweigh the potential side effects?
- Does the woman have any known allergies?
- Has sufficient information been given to the woman for her to make an informed choice?
- Has the woman given informed consent?
- Is the prescription clear, legible, and indelible, and signed by the appropriate practitioner?
- Is the correct name of the medication prescribed, the method of administration, dosage, frequency, drug commencement and completion date included on the prescription?

- Has the weight of the woman/baby been recorded, and does this influence the drug dosage?
- Does administration ensure that therapeutic blood levels are maintained?
- Is the drug to be added to a solution? Is the solution correct?

Other questions related to recent medication history must also be considered to enable a full assessment:

- Did she take any medications including vitamins or over-the-counter supplements or medicines during the early stage of pregnancy before she knew she was pregnant?
- Are there any medications that she took long term that she stopped as she intended to get pregnant?
- Are there any medications that she has used within the last month?

The midwife has an important role in communicating the need for prescribed medication to women. The woman needs to make an informed decision, and it is part of the role of the midwife to assist her to do this without coercion or manipulation. It is also critical that quality prescribing sources are consulted. Reputable quality sources within the Australian context include the Australian Medicines Handbook (2024) also online, and the Therapeutic Guidelines.

Pharmaceutical Benefits Scheme prescribing by midwives

The Pharmaceutical Benefits Scheme is a national government scheme that subsidises the cost of essential medicines for Australian citizens (see Chapter 2). Information for midwives to become authorised PBS prescribers is available from *Services Australia* (see Online resources: https://www.servicesaustralia.gov.au/). Endorsed midwives can utilise the Australian Government's Medicare Benefits Schedule (**MBS**) and the PBS for select items, to help women and their families receive benefits for services and obtain subsidies for prescribed Schedule 2, 3, 4 or 8 medicines. At present, 31 items (20 different medicines) qualify for a PBS subsidy when prescribed by an **endorsed midwife** (a midwife whose registration is endorsed under section 94 of the Health Practitioner Regulation National Law as being qualified to prescribe scheduled medicines required for midwifery practice).

The medicines listed for prescribing by authorised midwives are identified by 'MW' in the PBS Schedule (see Online resources: https://www.pbs.gov.au/browse/midwife summarised in Box 22.4). Midwives must not write PBS prescriptions for other medicines.

BOX 22.4 PBS prescription medicines able to be prescribed by authorised midwives (Australia)

PRESCRIBER CODE	ITEM CODE	NAME, MANNER OF ADMINISTRATION AND FORM & STRENGTH	MAX QTY PACKS	MAX QTY UNITS	NO. OF REPEATS
MP MW NP	1884E	AMOXICILLIN amoxicillin 250 mg capsule, 20	1	20	0
MP MW NP	1889K	AMOXICILLIN amoxicillin 500 mg capsule, 20	1	20	0
MP MW NP	1891M	AMOXICILLIN + CLAVULANIC ACID amoxicillin 500 mg + clavulanic acid 125 mg tablet, 10	1	10	0
MP MW NP	1775K	BENZYLPENICILLIN benzylpenicillin 600 mg injection, 1 vial	10	10	1
MP MW NP	11963P	CEFALEXIN cefalexin 250 mg capsule, 20	2	40	0
MP MW NP	3058Y	CEFALEXIN cefalexin 250 mg capsule, 20	1	20	0
MP MW NP	11934D	CEFALEXIN cefalexin 500 mg capsule, 20	2	40	0
MP MW NP	3119E	CEFALEXIN cefalexin 500 mg capsule, 20	1	20	0
MP MW NP	11112W	CHLORAMPHENICOL chloramphenicol 0.5% eye drops, 10 mL	1	1	2

BOX 22.4 PBS prescription medicines able to be prescribed by authorised midwives (Australia)—cont'd

PRESCRIBER CODE	ITEM CODE	NAME, MANNER OF ADMINISTRATION AND FORM & STRENGTH	MAX QTY PACKS	MAX QTY UNITS	NO. OF REPEATS
MP MW NP	3138E	CLINDAMYCIN clindamycin 150 mg capsule, 24	2	48	1
MP MW NP	1302M	DICLOFENAC diclofenac sodium 100 mg suppository, 20	2	40	3
MP MW NP	8121K	DICLOXACILLIN dicloxacillin 250 mg capsule, 24	1	24	0
MP MW NP	8122L	DICLOXACILLIN dicloxacillin 500 mg capsule, 24	1	24	0
MP MW NP	8487Q	ETONOGESTREL etonogestrel 68 mg implant, 1	1	1	0
MP MW NP	1526H	FLUCLOXACILLIN flucloxacillin 250 mg capsule, 24	1	24	0
MP MW NP	1527J	FLUCLOXACILLIN flucloxacillin 500 mg capsule, 24	1	24	0
MP MW NP	1440T	FRAMYCETIN SULFATE framycetin sulfate 0.5% eye/ear drops, 8 mL	1	1	2
MP MW NP	3192B	IBUPROFEN ibuprofen 400 mg tablet, 30	1	30	0
MP MW NP	2913H	LEVONORGESTREL levonorgestrel 30 microgram tablet, 112 tablets [4 x 28]	1	4	2
MP MW NP	2530E	LINCOMYCIN lincomycin 600 mg/2 mL injection, 5 x 2 mL vials	1	5	0
MP MW NP	11380Y	LINCOMYCIN lincomycin 600 mg/2 mL injection, 5 x 2 mL ampoules	1	5	0
MP MW NP	1206L	METOCLOPRAMIDE metoclopramide hydrochloride 10 mg/2 mL injection, 10 x 2 mL ampoules	1	10	0
MP MW NP	1207M	METOCLOPRAMIDE metoclopramide hydrochloride 10 mg tablet, 25	1	25	0
MP MW NP	10211K	MIFEPRISTONE (&) MISOPROSTOL mifepristone 200 mg tablet [1] (&) misoprostol 200 microgram tablet [4], 1 pack	1	1	0
MP MW NP	1644M	MORPHINE morphine sulfate pentahydrate 10 mg/mL injection, 5 x 1 mL ampoules	1	5	0
MP MW NP	1645N	MORPHINE morphine sulfate pentahydrate 15 mg/mL injection, 5 x 1 mL ampoules	1	5	0
MP MW NP	1086T	MORPHINE morphine hydrochloride trihydrate 10 mg/mL injection, 5 x 1 mL ampoules	1	5	0

Continued

BOX 22.4 PBS prescription medicines able to be prescribed by authorised midwives (Australia)—cont'd

PRESCRIBER CODE	ITEM CODE	NAME, MANNER OF ADMINISTRATION AND FORM & STRENGTH	MAX QTY PACKS	MAX QTY UNITS	NO. OF REPEATS
MP MW NP	1693D	NITROFURANTOIN nitrofurantoin 100 mg capsule, 30	1	30	1
MP MW NP	1692C	NITROFURANTOIN nitrofurantoin 50 mg capsule, 30	1	30	1
MP MW NP	12598C	PROGESTERONE progesterone 200 mg pessary, 42	1	42	3
MP MW NP	12465C	PROGESTERONE progesterone 200 mg pessary, 15	3	45	3
MP MW NP	1978D	RANITIDINE ranitidine 150 mg tablet, 60	1	60	5

Source: PBS Browse by midwife items.

PBS prescribing by midwives is limited by state and territory prescribing rights. It is also contingent on a prescriber being an *authorised midwife* and having collaborative arrangements in place, as required by amendments to the *National Health Act 1953*. However, as of May 2024 the Health Legislation Amendment (Removal of Requirement for a Collaborative Arrangement) Bill 2024 was passed by Parliament on 16 May 2024. The Governor-General provided Royal Assent on 31 May 2024. The date of effect of the legislation amendment is 1 November 2024. Compliance with existing legislation and maintenance of collaborative arrangements is required until 1 November 2024. How the legislative change will impact ongoing PBS prescribing across a range of settings may be variable depending on jurisdictional and organisational policy in both public and private sector workplaces.

The Pharmaceutical Benefits Advisory Committee (PBAC) is responsible for making recommendations to the Minister for Health regarding medicines for prescribing by authorised midwives. Within the New Zealand context, the relevant agency is Pharmac, the government agency that decides which medicines are funded in Aotearoa NZ. (See Online resources.) Some medicines are included in more than one section of the schedule, and for more than one prescriber type. For a prescription to be eligible for subsidy, prescribers must ensure that they prescribe under the PBS only those medicines, and in accordance with the restrictions listed for their prescriber type. Listing details for the same product may differ between sections, and different PBS item codes apply for each prescriber type.

Midwife PBS prescriptions are identifiable by colour and include the indicator 'MW' on personalised forms and a tick box on non-personalised (blank) forms. Prescriptions must include the midwife's PBS prescriber number. For unrestricted and restricted PBS medicines, midwives/nurse practitioners can use the personalised or non-personalised PBS prescriber forms. For authority required and authority required (streamlined) PBS medicines, midwives can use the authority personalised or non-personalised PBS prescriber forms. Midwife PBS prescriptions may include repeats.

Regulation 49 applies for midwife prescribing. A midwife can direct that original and repeat supplies of pharmaceutical benefits be supplied at the one time if certain conditions are satisfied.

- *Authority prescriptions:* For authority required items, or for increased quantities or repeats, prior approval is required from Services Australia for each prescription. (Refer to Prescribing Medicines—Information for PBS prescribers and Supplying Medicines—What Pharmacists Need to Know, for more information on authority prescriptions.)
- *State and territory requirements:* Midwives may prescribe medicines as private prescriptions according to their state/territory prescribing accreditation. The medicines which can be prescribed differ between states and territories. It is the midwife's responsibility to ensure adherence to state/territory law for all prescriptions (PBS and private) and additionally to all PBS requirements for PBS prescriptions (Box 22.4).

For women to be eligible to access the PBS they must be a resident in Australia, have a Medicare card, and the medicine must be for personal use. Medicare funds the

PBS. The Pharmaceutical Benefits Advisory Committee (PBAC) is responsible for deciding which medicines are included on the PBS list. In general, medicines that are used to treat significant medical conditions, with proven effectiveness and that are cost effective, are included on the list.

The PBS Schedule lists all the medicines available to be dispensed to persons at a government-subsidised price. The schedule is part of the wider PBS, managed by the Department of Health and administered by Department of Human Services. This schedule is now online and updated monthly.

This online searchable version contains:

- all the drugs listed on the PBS
- information on conditions of use for the prescribing of PBS medicines
- detailed consumer information for medicines that have been prescribed
- what you can expect to pay for medicines.

Health practitioners with PBS authority or a PBS prescriber number are sometimes referred to as PBS authorised prescribers. When health professionals with PBS authority write a prescription for medicines on the PBS list for that health professional group, the PBS rebate applies. Midwives can prescribe items not listed on the PBS (provided they do not contravene state or territory specific regulations) but these will be treated as a private script and the cost of medication will be applied to the client.

Activity 1

Access these websites and then consider the following questions:

https://www.pbs.gov.au/info/healthpro/explanatory-notes/section1/Section_1_2_Explanatory_Notes#PBS-prescribers

https://www.pbs.gov.au/browse/midwife

1 What restrictions exist around writing prescriptions?
2 What are the minimum legal requirements needed for a prescription to be dispensed?
3 How many medications can be written on one script?

Case study 2

You are an endorsed midwife employed in a large private midwifery group practice with clinical privileging and visiting access at the local regional hospital. You are providing relief caseload care for a group of women for one of your midwifery colleagues who commenced annual leave yesterday. You attend the local hospital for a postnatal consultation with Tabitha who gave birth to her first baby, Sammy, 48 hours ago by unplanned, emergency caesarean section.

The prescriptions on the NIMC have all been entered and signed by your midwifery colleague. As you review Tabitha's and Sammy's medical records and National Inpatient Medication Charts you note several prescribing errors, including:

- the maximum daily dose for an analgesic order of a controlled substance has been exceeded (Tabitha's chart)
- a prescription order entered for an antibiotic that is contraindicated postnatally (Tabitha's chart)
- the incorrect dose for intramuscular paediatric phytomenadione (vitamin K) is prescribed on the infant medication chart for Sammy.

Questions

1 What is your first and immediate response in this situation in relation to ongoing provision of midwifery clinical care for Tabitha and Sammy, including your professional responsibility as a prescriber?
2 What, if anything, do you discuss with Tabitha; when and how?
3 Are there any professional or reporting requirements and/or obligations in this situation? If so, what are they and to whom should reports be made?
4 From a systems safety and quality perspective, are there any other actions you would consider to be appropriate in these circumstances? Provide a rationale for your response.

22.6 Additional professional obligations for midwives

Continuing professional development

To renew professional registration in Australia, a midwife must fulfil a minimum of 20 hours CPD. However, for endorsed midwives with scheduled medicines endorsement, an additional 10 hours of CPD is necessary. These extra hours should be focused on the context of practice, including prescribing and administration of medicines, diagnostic investigations, as well as consultation and referral (see Online resources; NMBA).

Te Tatau o te Whare Kahu Midwifery Council of New Zealand requires all midwives to undertake a professional Midwifery Standards Review every 3 years (see Online resources).

Professional indemnity insurance

Professional indemnity insurance (PII) is a requirement of all midwives providing private care. PII is designed to assist in paying for legal costs and potential damages. In

New Zealand PII is offered through the New Zealand College of Midwives (see Online resources). In Australia, since 2010, a Commonwealth Government-legislated Professional Indemnity Contribution Scheme has been in place for the midwifery profession, including a Commonwealth Run-off cover Support Payment Scheme (see Online resources). Currently, the only insurance product for midwives is provided by Medical Insurance Group Australia (MIGA). As per NMBA Registration Standards, midwives who provide private midwifery services must hold PII (see Online resources).

Complaints

As with all areas of healthcare, there are several avenues through which a consumer, healthcare professional or hospital can institute a complaint against a health practitioner. In the case of the midwife a complaint can be made:

- to the midwife directly
- to the hospital in which the incident occurred
- to a state health complaints agency
- to the state coroner in event of maternal or infant death
- to AHPRA
- to a legal firm dealing in civil law.

Hospitals have their own processes and policies for investigation of complaints, which vary between institutions. Each state has a government agency dedicated to handling complaints from the healthcare users. State agencies aim to mediate complaints but have no authority to punish but will refer complaints onto AHPRA.

Each state also has a coroner's office that is responsible for investigating reportable deaths. A reportable death is where there are suspicious circumstances; where a doctor is unable to complete a death certificate as the cause is unknown; and for deaths related to healthcare (excluding stillbirths). The purpose of the coronial inquest is to determine the cause of death, and the coroner may then refer the case on to higher authorities if they feel the level of care provided was of concern.

Case study 3

You are concluding a routine antenatal visit with a pregnant woman, Sharna, whom you know well. This is Sharna's third pregnancy and you also provided care for her during the births of the family's previous two children. Sharna is aware you are an endorsed prescriber and requests two prescription items from you before you leave today's appointment. The first prescription request is for thyroxine. Sharna advises she has run out of medication due to missing her regular review visit with her obstetric physician and endocrinologist this month while the children were on school holidays, and it is impossible to get a replacement appointment. Sharna further confides that her 16-year-old daughter, Elsie, has recently confirmed she has an unplanned pregnancy and has requested access to the medical abortion pill. It is a very stressful time as Elsie's final high school examinations are coming up in 4 months. Sharna describes Elsie as stressed and isolated, and refusing to see the family GP as she is embarrassed and concerned about confidentiality.

Questions

What are your responses to Sharna in relation to these two prescription requests? Provide rationale and explanation for your responses, including your ongoing plan to address both issues.

REFLECTIVE THINKING EXERCISES

1. Discuss the benefits and challenges of written prescriptions versus electronic prescribing for midwives and the people they provide care and services for.
2. Explain prescriber responsibilities for antimicrobial stewardship considering increasing bacterial resistance. What specific actions are required of midwife prescribers re antimicrobial stewardship and where are they likely to have most impact?
3. Midwifery prescribing capability is currently underutilised in the public health system. Provide examples of how this may currently disadvantage timely medication access for women and their babies. Propose some future strategies that may address current barriers.

CRITICAL THINKING EXERCISES

1. Explain the physiological changes that may occur during a complex pregnancy – choosing from any of the chapters in Part 4, Pharmacology for special considerations – including how these could affect pharmacokinetics.

2 Locate the legislation for 'drugs and poisons regulation' for your state or territory/jurisdiction of midwifery practice and write a summary of the implications of this legislation on your prescribing practice.

3 Describe the quality prescribing resources you would use to ensure evidence-based, safe prescribing practice, including your plan to meet your continuing professional development requirements.

4 As a midwife seeking to gain endorsement to enable you to work in private practice you have a requirement to meet the expectations set out in the NMBA Safety and Quality Guidelines for Privately Practising Midwives https://www.nursingmidwiferyboard.gov.au/Codes-Guidelines-Statements/FAQ/fact-sheet-safety-and-quality-guidelines-for-privately-practising-midwives.aspx. Read and make yourself familiar with these guidelines.

Activity 2

Access this website for information on the Pharmaceutical Benefits Scheme (PBS) : https://www.pbs.gov.au/info/about-the-pbs
Read the responses to the following questions you will find there:

- What is the PBS?
- Who is eligible for PBS?

When you have read all the information consider what you have learned about PBS. What aspects are relevant to your role of supporting women during the childbearing journey?
If you are an endorsed midwife, you are eligible for Medicare benefits for specified midwifery services you provide privately. You can also request certain pathology and diagnostic imaging services and refer clients to an obstetrician and a paediatrician for a clinical need. See the Services Australia website for further information: https://www.servicesaustralia.gov.au/medicare-services-for-eligible-midwives
Make sure you read the relevant MBS item descriptions and explanatory notes on the MBS online website: https://www.mbsonline.gov.au/

CONCLUSION

This chapter focused on the role and responsibilities of the midwife related to pharmacological management, including authorised prescribing; and providing care for women and their babies across pregnancy, birth and the postpartum period in Australia and New Zealand. Midwives are accountable for their own practice, to the woman and her baby, to the hospital if the woman and baby were admitted to hospital under the care of the midwife, to the profession, and to society. As with all aspects of care, practitioners should only undertake medication management activities they are legally entitled , competent, and educationally prepared to perform, and for which they are willing to be accountable.

Models of maternity care and midwifery practice are subject to change; impacted by legislation, regulation, professional practice standards, guidelines, frameworks, educational requirements, research, and public expectations for safety and quality. The role of midwives, and the scope and context of professional practice includes care provided across the continuum of childbearing in partnership with women and their families; and in diverse contexts and settings supported by collaborative relationships with a range of other healthcare professionals. Safety and quality use of medicine as a preventative health strategy and in the pharmacological treatment of women and their babies during midwifery care is paramount, as is access to essential medicines for emergency treatment. Midwives are required to develop and maintain evidence-based specialised knowledge in the pharmacokinetics and pharmacodynamics of prescription medicines used during pregnancy, childbearing, and lactation. This knowledge extends to medication administration, supply, and possession, as well as awareness of community use of non-prescription/OTC and complementary and alternative medicines, whether the midwife is an authorised prescriber or not.

Prescriptive authority as an *authorised prescriber* carries additional professional responsibilities for midwives. As stated in the introduction to this chapter, having midwives with authority to prescribe the medicines associated with maternity care – including women's health, sexual and reproductive health, and child and family healthcare – enables women to access a greater range of midwifery services. Developing your knowledge of pharmacology as a midwife and ensuring your knowledge is evidence-based and up to date is part of your professional responsibility in ensuring that you uphold high standards of safety in the provision of quality midwifery services to women and their families.

REVIEW QUESTIONS

1. Describe specific strategies used in your workplace and midwifery practice to reduce the risk of, identify, manage, and report adverse drug reactions.
2. Describe your approach to synthesising information provided by the woman, other healthcare professionals, and from clinical examinations and investigations to determine appropriate medication management. Provide an example of this from a clinical scenario in your recent midwifery practice. Did you use any quality prescribing sources and/or other evidence-based clinical guidelines or professional standards to inform your approach? How might this have impacted health outcomes for the woman and/or baby, and for you professionally?
3. Discuss the difference between active and passive monitoring of medication efficacy when used as treatment. How would you discuss this with a woman you are providing midwifery care for?
4. What guidance does the National Prescribing Competencies Framework for Health Professionals [NPS MEDICINE WISE 2021] https://www.nps.org.au/assets/NPS/pdf/NPS-MedicineWise_Prescribing_Competencies_Framework.pdf provide in this regard and which specific competencies may be useful here?
5. Select one competency area from Professional Practice that Supports Prescribing from the framework (Table 22.1). List the actions that will enable you to meet this competency in *your* midwifery prescribing practice and role.
6. How are *your* identified actions for Professional Practice that Supports Prescribing related to the national standards and guidelines for midwife practice in Australia and/or New Zealand?
7. Identify current differences between the Australian and New Zealand contexts of practice for midwives who are authorised to prescribe in each country. Describe how this may enhance or hinder midwifery role and models of maternity care provision in each setting, including timely access to assessment and treatment with prescription medicine for women and their babies. What needs to change? How should this be advanced?

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