

The competent prescriber: 12 core competencies for safe prescribing

SUMMARY

Prescribing errors remain a significant cause of patient harm. Safe prescribing is not just about writing a prescription, but involves many cognitive and decision-making steps.

A set of national prescribing competencies for all prescribers (including non-medical) is needed to guide education and training curricula, assessment and credentialing of individual practitioners.

We have identified 12 core competencies for safe prescribing which embody the four stages of the prescribing process – information gathering, clinical decision making, communication, and monitoring and review.

These core competencies, along with their learning objectives and assessment methods, provide a useful starting point for teaching safe and effective prescribing.

that the range of errors was wide (2–514 of 1000 items prescribed and 4–82% of patients or charts reviewed).⁷

Education is one of the most effective methods to prevent medication errors.^{6,8,9} The World Health Organization Good Prescribing Guide was found to be useful in improving students' skills in multiple clinical settings.⁹ It could serve as a foundation for a targeted prescribing curriculum, although further development in both the teaching and assessment of prescribing is warranted.⁹ As an example, interactive case-based tutorials in therapeutic areas commonly associated with a high risk of patient harm were found to increase the ability of medical students to prescribe safely.¹⁰

Prescribing skills are usually learned during junior doctor training. For example, in general practice, registrars learn to prescribe mainly through their workplace experience.¹¹

Prevention of medication errors can be improved through focused teaching and training. A set of principles have been developed to guide training of both undergraduates and postgraduates in the UK.⁸ These include:

- protected time to update and reflect on prescribing, with feedback relevant to their area of practice
- supervision that allows discussion of problems, encouraging the seeking of advice
- feedback on identified prescribing errors in a blame-free learning environment.⁸

The four stages of prescribing

A four stage model of prescribing has been developed (Fig. 1).¹² This emphasises that prescribing is a staged process rather than a single event and is in line with UK prescribing competencies for new medical graduates.⁸ These stages are:

1. Information gathering

The prescriber should have the skills to gather the relevant patient information such as medical history, including current symptoms, current and recently ceased or changed medications, allergies, adverse drug reactions and diagnoses.

Elaine Lum

Research fellow¹
Senior pharmacist
manager²

Charles Mitchell

Director¹
Senior medical advisor²

Ian Coombes

Adjunct associate professor¹
Director of Pharmacy³

¹ Centre for Safe and Effective Prescribing
School of Pharmacy
The University of Queensland

² Medication Services
Queensland

Queensland Health
³ Royal Brisbane and Women's Hospital
Brisbane

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Introduction

With the expansion of prescribing rights to non-medical prescribers, there is a need for an agreed set of national prescribing competencies for all prescribers.^{1–3} NPS MedicineWise has recently launched a framework which can be used to guide education curricula, assessment, continuing professional development and credentialing of individual practitioners.⁴ Our paper adds to this body of work.

How do we grow a good prescriber?

What makes a good prescriber? Prescribing is often thought of as just the act of writing a prescription, but it is a high-risk intervention such that the privilege to prescribe should require demonstration of competence.⁵ It has been described as the process of deciding which medication to use and how to use it, while the prescription is the means by which these decisions are communicated.⁶ Safe prescribing must include cognitive and decision-making steps before the prescription is generated.⁶

A good prescriber is a safe one. Unfortunately, a systematic review of junior doctors' prescribing found

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2. Clinical decision making

Prescribers should be able to make clinical decisions. This includes making or reviewing a diagnosis, using pharmacological knowledge to select which medicine to use along with appropriate dosing for the individual patient. The prescriber should also consider non-drug treatments, and engage the patient in collaborative decision making to improve adherence and patient outcomes.¹³

The prescriber should be able to tailor their decision-making styles, for example directive or collaborative, and decide which is most appropriate for the patient at that point in time,¹³ always valuing the patient's views¹⁴.

3. Communication

The prescriber should be able to convey the prescribing decision in a safe and effective manner to both the patient and to other health professionals involved. The prescription should be legible, unambiguous and without error-prone abbreviations for pharmacists to dispense and patients or nurses to administer. A management plan should be clear and contain triggers for referral or action. Both verbal and written communication skills are important. For example, the patient and their carer should be informed about why they have been prescribed a medication, how to use it and the expected duration of treatment. Monitoring requirements, potential

adverse effects and contingency planning should also be discussed.

Electronic prescribing software with clinical decision support is now commonly used. Increasingly, electronic medicines management (including electronic inpatient medication charts) is being introduced. Along with the personally controlled electronic health record, these are powerful enablers of communication between prescribers, the healthcare team and the patient. Prescribers should become competent in using these tools.

4. Monitoring and review

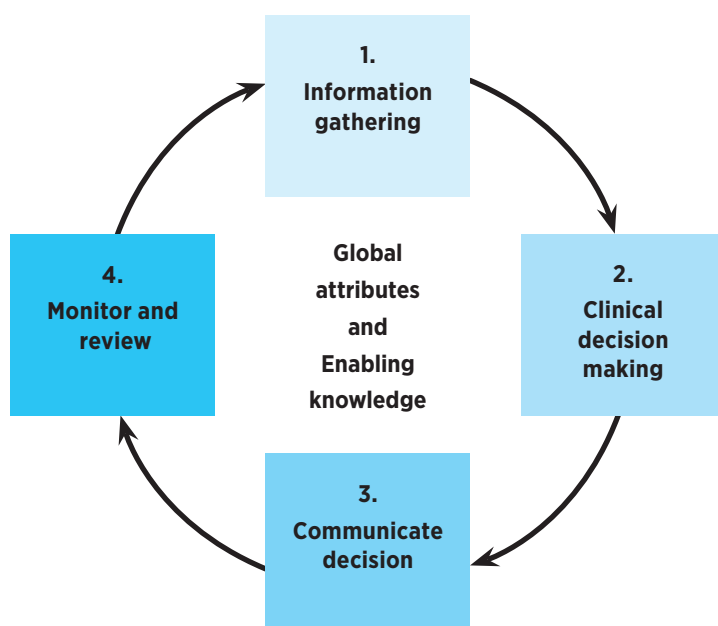
The prescriber should be able to review the therapeutic or adverse effects of the treatment to inform dose adjustments or a change in treatment.

12 core prescribing competencies

For ease of use in curriculum design, assessment, training and development, 12 core competencies were defined (Table). These were aligned against competencies from other organisations¹⁵⁻²⁰ and two underpinning elements were added:

- enabling or foundational knowledge such as clinical pharmacology – without this the prescriber will be unable to move through the prescribing cycle. Pharmacological knowledge is essential to appropriate prescribing, and has been identified by junior doctors as an area to be strengthened in their training.⁵
- global attributes such as the ability and willingness to self-reflect on prescribing practice, seeking and acting on constructive feedback, as well as timely referral.

Fig. 1 The four stage process of prescribing



Teaching and assessing prescribing competencies

For each core competency, learning objectives (criteria for meeting that competency) and how these are assessed have been outlined. Fig. 2 illustrates this using core competency four – assessing adherence to current and past medications and risk factors for non-adherence. These may be a useful adjunct to the Australian Curriculum Framework for Junior Doctors which currently does not set out criteria for assessing junior doctors' performance.²⁰

Methods

Adult learning principles should be used in teaching the core competencies, including self-evaluation and observation by peers or a mentor with structured advice, such as the agenda-led outcome-based feedback.²¹ This method empowers the learner, reduces defensiveness, and allows an opportunity for change in behaviour. It identifies what help the learner

Table 12 core competencies for safe prescribing

The four stages of prescribing *	12 core competencies
1. Information gathering <ul style="list-style-type: none"> skill of gathering relevant information to inform selection of treatment 	1. Take and/or review medical history 2. Take and/or review medication history and reconcile this with medical history 3. Undertake further physical examination/ investigations where appropriate 4. Assess adherence to current and past medication and risk factors for non-adherence
2. Decision making <ul style="list-style-type: none"> collaborative decision making with the patient/carer; selection of treatment 	5. Identify key health and/or medication related issues with the patient, including making or reviewing the diagnosis 6. Determine how well disease and symptoms are managed/controlled 7. Determine whether current symptoms are modifiable by symptomatic treatment or disease modifying treatment 8. Consider ideal therapy (drug and non-drug), taking into account actual and potential contraindications/concerns: drug-patient, drug-disease, drug-drug interactions 9. Select drug, form, route, dose, frequency, duration of treatment
3. Communicate decision <ul style="list-style-type: none"> safely and effectively communicate treatment decisions to other health professionals and the patient/carer in both the ambulatory and the inpatient setting 	10. Communicate prescribing decision in an ambulatory care setting 11. Communicate prescribing decision in an inpatient setting
4. Monitor and review <ul style="list-style-type: none"> review therapeutic and adverse impact of treatment 	12. Review control of symptoms and signs, adherence, patient's outcomes

* The four stages are underpinned by two extra elements – enabling knowledge, particularly clinical pharmacology, and global attributes such as self-reflection on prescribing

wants and enables them to achieve learning goals by encouraging self-assessment.

The skills, attitudes and behaviours needed for prescribing could be shown and learned through simulated scenarios. Assessment should comprise a variety of methods so as to include the most appropriate format for any particular criterion.²² For example, to best evaluate whether a prescriber has acquired skills in detecting non-adherent behaviour (core competency four), the prescriber should be directly observed interacting with a patient.

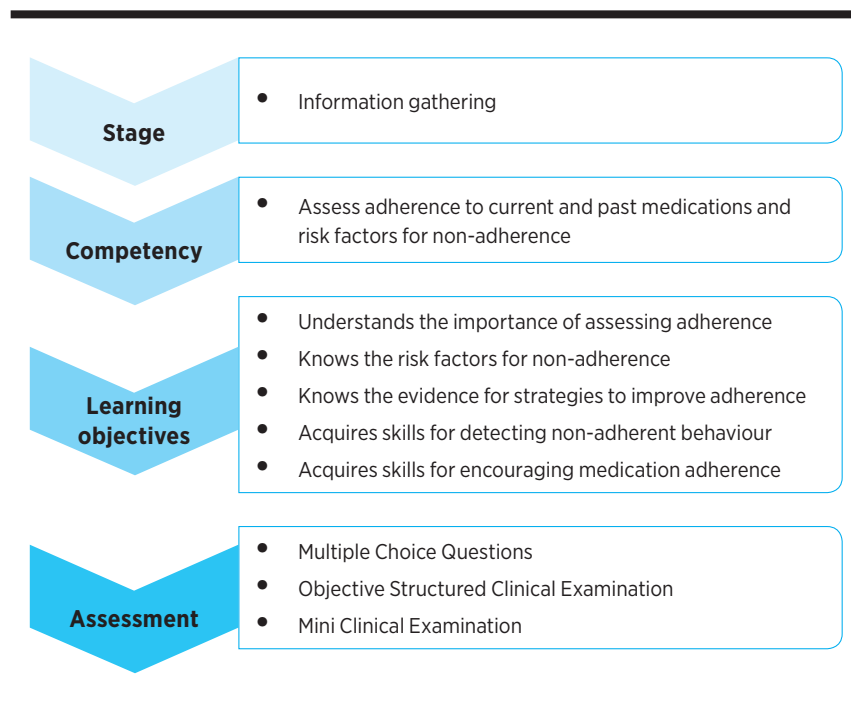
This is in line with Miller's Pyramid²³ which describes four levels for assessing clinical skills, competence and performance:

1. knows
2. knows how
3. shows
4. does.

Achievement of level four is assessed through direct observation. To demonstrate prescribing competence, assessing at 'shows' and 'does' levels becomes important although it is more resource intensive and challenging to coordinate. Currently, direct observation of procedural skill is required in order to be deemed competent in surgical procedures. This should equally apply to prescribing.

Multiple source feedback such as peer assessment or 360° feedback can be used to ascertain if

Fig. 2 An illustration of core competency 4 in the information gathering stage and its accompanying competency, learning objectives and assessment methods



communication is clear to other clinicians and to patients and carers. Other means of assessing prescribing competency could include clinical audits of prescribing. These may be structured self audits such as those developed by NPS MedicineWise* or targeted clinical audits coordinated within a healthcare facility. Timely feedback to prescribers to close the loop is essential.

A useful method for evaluating nurse prescribing combines practice-based observations with a structured competency checklist, analysis of written prescriptions and documentation of the prescribing episode in the medical record.²⁴

Registrars have expressed difficulty in judging the quality of their own prescribing.¹¹ The 12 core prescribing competencies and their accompanying criteria and assessments could serve as a formative tool for giving explicit feedback about the process and outcome of prescribing decisions. The competencies can also be used as a summative tool.

Credentialing as competent to prescribe

It has been recommended that qualification as a doctor, which includes a licence to prescribe, be

* <http://www.nps.org.au/health-professionals/professional-development/clinical-audits-for-gps>

contingent on passing an undergraduate prescribing examination. It has been suggested that clinicians should be reassessed to retain this privilege.²⁵

Conclusion

A perennial tension exists between higher education providers (for example medical schools) and employers (for example health facilities) as to where responsibility lies in producing a graduate who is 'fit for purpose'. When a prescribing error occurs during the early weeks of internship, which party has failed? Closer collaboration between teaching and training graduates is clearly warranted. This could be facilitated by adopting a set of national prescribing competencies and agreeing to adopt set criteria and a framework for assessment. The benefits of standardised prescribing competencies may not otherwise be realised. The 12 core competencies and their accompanying methods of assessment provide a useful starting point for this work, although feasibility of the proposed assessment methods needs broader discussion. ◀

Adjunct Associate Professor Coombes is a member of the Editorial Executive Committee of Australian Prescriber.

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