

The Prescribing Skills Assessment: a step towards safer prescribing

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Prescribing is a complex task that can involve multiple members of a healthcare team. It encompasses the gathering of information, clinical decision making, communication, review and legal requirements.

Medication errors cause serious harm to patients including death, at an estimated annual global cost of US\$42 billion.¹ These errors occur across communities^{1,2,3} and hospitals.^{1–6} In Australia, in 2016–17, 33% of adverse events during inpatient care were due to ‘adverse effects of drugs, medicaments and biological substances’.⁴

In 2017, the World Health Organization (WHO) launched ‘Medication Without Harm’ as its third Global Patient Safety Challenge.¹ It aims to reduce the rate of ‘severe, avoidable medication-related harm’ by 50% over five years. Australia is a partner in this initiative.

Medication errors are complex and involve multiple stakeholders.^{1,2,5–7} Prescribing errors involve underlying factors such as the knowledge and skills of the prescriber, in addition to supervision, patient factors, and prescribing system failures.^{5–7}

Despite regulatory support for medication safety, many current Australian medical graduates are not adequately prepared to prescribe safely. The Australian Medical Council stipulates that – ‘on entry to professional practice’ medical graduates should be able to ‘prescribe medications safely, effectively and economically using objective evidence’.⁸ Medication safety is also a requirement of the National Safety and Quality Health Service Standards.⁹ However, work presented at the 2016 National Intern Readiness Forum¹⁰ and in both the 2017 and 2018 Australian Medical Council / Medical Board of Australia surveys,^{11,12} reported that supervisors and interns have concerns that many are not sufficiently prepared to prescribe upon graduation.

Strategies to enhance the performance of new graduates are likely to have a significant impact on medication safety, given that junior doctors write the majority of prescriptions in hospitals. They have a current error rate of 7–10%.^{3,5} However, medical programs face significant challenges to ensure that graduates are prepared for prescribing. The teaching and assessment of clinical pharmacology and therapeutics has declined in many institutions. There are limited opportunities for hands-on experience, due to legal restrictions on student prescribing,

compounded recently by difficulties in accessing electronic prescribing systems. The NPS MedicineWise National Prescribing Curriculum provides excellent online teaching modules, but it is not an assessment tool. It is well known that assessment is a powerful driver for student learning.

In response to similar challenges, an online platform called the Prescribing Safety Assessment was developed by the British Pharmacological Society and the Medical Schools Council Assessment in the UK.^{3,7} This teaches and assesses multiple domains relevant to pharmacological therapy,^{3,7} raising the profile of clinical pharmacology and therapeutics in the curriculum. It provides students with a breadth of clinical scenarios in which to legally practise multiple facets of prescribing and medication reviews, with timely feedback. Before full registration as independent prescribers, UK medical graduates are required to demonstrate a basic level of knowledge and skills by passing the Prescribing Safety Assessment.

Since 2016, increasing numbers of medical schools in Australia have implemented an international version of the Prescribing Safety Assessment called the Prescribing Skills Assessment.¹³ This has also involved a collaboration with New Zealand medical schools. A cross-institutional, multidisciplinary group of nearly 50 doctors and pharmacists has regionalised this tool for the Australasian context. The Prescribing Skills Assessment is endorsed as a feasible and appropriate measure of prescribing competency for medical graduates by the Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists. It has the potential to be part of a range of approaches to the assessment of clinical pharmacology, therapeutics and prescribing, as outlined in the recent Assessment of Prescribing in Health (ASPRINH) Project,¹⁴ particularly taking into account its ability to accommodate large cohort sizes across multiple locations and institutions.

In scenarios from community and hospital-based contexts, candidates sitting the online Prescribing Skills Assessment (practice tests and the main two-hour assessment) are required to consider the results of clinical assessments and investigations to write prescriptions, and to identify inappropriate treatment choices, adverse drug reactions and interactions. They must decide on the most important

information to communicate to patients to maximise medication safety, in addition to considering how best to monitor the effect of treatment and if any adjustments to therapy are required. It provides experiential learning with feedback in key areas as outlined in WHO's Medication Without Harm strategy.¹ These are 'polypharmacy' and 'high-risk situations', particularly in the young, older people and those with comorbidities involving kidneys and liver.¹ The tool also gives experience in common areas of deficiency, such as dose selection,^{1,2,5,6} error-prone drugs,^{2,3,5,6,7} generic drug names,^{2,5} use of safe abbreviations^{2,3} and prescribing under time constraints for multiple patients.^{5,6}

The Australian Medicines Handbook has supported the Prescribing Skills Assessment by providing access for students doing the assessments. This linkage encourages the use of a formulary as an integral component of medication safety and counters the misconception that looking things up suggests a lack of competence,⁵ rather than a strategy to reduce errors.

During 2018, there were 31 summative assessments in nine Australian medical schools involving 2225 students. This equates to automated marking of 133,500 medicines safety-related assessment items, including 17,800 prescriptions. Every student had personal access to a similar number of items with automated feedback (in addition to marking) for their own personal study. This is a step towards addressing graduates' calls for more 'hands-on prescribing' in medical school.⁵

In 2019, 12 of the 22 medical schools across Australia and New Zealand are preparing to implement the Prescribing Skills Assessment. An additional two schools have joined this group, to create and standard-set exam items. The aspiration is to contribute to the global reduction in medication errors, through enhanced experiential training and documentation that graduates have achieved an acceptable standard. The current preparedness and performance of the candidates is under analysis, and the effect on medication errors and patient safety is a target for future research.

An educational intervention such as the Prescribing Skills Assessment needs to be accompanied by a suite of other undergraduate and postgraduate initiatives to improve prescribing safety. Examples include additional assessment tools,¹⁴ the ongoing use of standardised medication charts,² e-prescribing (with decision support),^{2,7} training in medication reconciliation,² interprofessional teamwork,^{2,7} patient-centred shared decision making,⁷ self-care and reflective practice. Training in patient advocacy including 'speaking up',¹⁵ and task prioritisation have important roles.

Finally, the rise of prescribing by non-medical healthcare professionals¹⁴ raises new challenges for co-ordination of patient-centred prescribing. These and other challenges offer future opportunities to adapt the Prescribing Skills Assessment to other disciplines,³ with linked interprofessional educational innovations. ◀

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