

Evaluation of effectiveness and relevance of Safe Medication Practice Tutorials as a course for pharmacist prescribers in New Zealand

IAN COOMBES^{1,2}, AMANDA WHEELER³, ANDREW HALE¹

¹Centre for Safe and Effective Prescribing, University of Queensland

²Medication Services Queensland, Queensland Health

³School of Human Services, Griffith Health, Griffith University, Queensland, Australia and Schools of Pharmacy and Nursing, University of Auckland, New Zealand.

Structured Abstract

Prescribing errors are associated with a significant risk of patient harm, and often caused by a lack of knowledge and skills on behalf of prescribers. The Safe Medication Practice Tutorials (SMPTs), which highlight error prone conditions and common errors within the healthcare system, were amended and presented in a one day workshop to experienced clinical pharmacists in New Zealand (n=14). Attendees were asked to provide feedback on the relevance of the tutorials as possible elements of a future course for pharmacist prescribing. There was an overwhelming agreement from attendees that all components of the course were relevant, with five sessions rated as essential; error awareness and prescribing safety; medication history taking; use of local medication charts and high risk scenarios; discharge prescribing; and feedback on errors.

The SMPTs should be considered as a component of future non-medical prescribing courses to increase the awareness of prescribing errors and improve safe prescribing practices.

Keywords: *non-medical prescribing, pharmacy, prescribing training, evaluation*

Introduction

In Australasia non-medical prescribing is currently very topical. Midwives, optometrists and nurse practitioners have been granted authority to prescribe within their scope of practice in New Zealand (Pharmaceutical Management Agency (Pharmac) 2009). In Australia, optometrists, podiatrists and nurse practitioners have been authorized to prescribe (Australian Government Medicare Australia 2009, My Sunshine Coast 2009); and pilot studies with pharmacists and underway (Nissen 2008, The Australian 2007, Hale et al. 2011).

Designated prescribing authority for pharmacists was proposed by the New Zealand Pharmacy Council in 2007 (Pharmacy Council of New Zealand 2007) as part of the comprehensive medicines management level of services. Feedback to the framework for advanced practitioners was positive, with collaborative practice as the preferred model whereby *“suitably qualified and experienced pharmacists in advanced clinical practice will work in close collaboration with other healthcare professionals to provide medicines related healthcare services which result in tangible health benefits for patients”* (Pharmacy Council of New Zealand 2009, Wheeler et al. in press). The healthcare services to be provided in this collaborative practice include; initiation, modification and monitoring of a patients medications; ordering, performing and interpreting laboratory and related

tests; assessing patients response to medicine therapy; counselling and education of patients on their medicines therapy and administering medicines therapy (Pharmacy Council of New Zealand 2009). In October 2010 an application for legislation change was made allowing for pharmacist designated prescribing authority. This would enable pharmacists registered in the Pharmacist Prescriber scope of practice to hold designated prescriber status under the Medicines Act 1981 (Pharmacy Council of New Zealand 2010a).

Proposed training programmes for pharmacist prescribers in New Zealand will include a period of study (900 hours) and a practicum component (300 hours) where undertaking a consumer prescribing consultation will be learned under the supervision of a designated medical practitioner (Pharmacy Council of New Zealand 2010a). The prescribing competency framework has been used to inform the initial qualification curriculum of Pharmacist Prescribers (Pharmacy Council of New Zealand 2010b) outlined in Figure 1. A four stage model of prescribing has been proposed following work investigating a series of prescribing errors by junior doctors in Australia and recommended as a framework for prescribing competencies (Morris and Coombes in press, Coombes et al. 2008) [Figure 2].

*Correspondence: Ian Coombes, Royal Brisbane & Women's Hospital, Herston Road, Brisbane, Australia, Email: ian_coombes@health.qld.gov.au

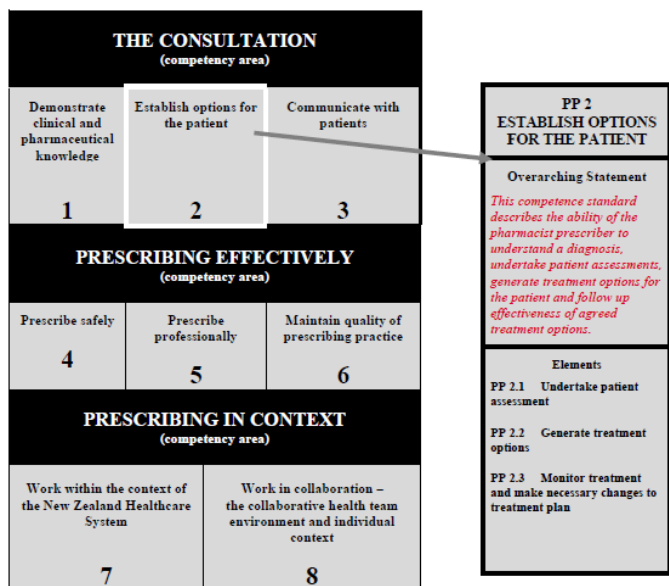


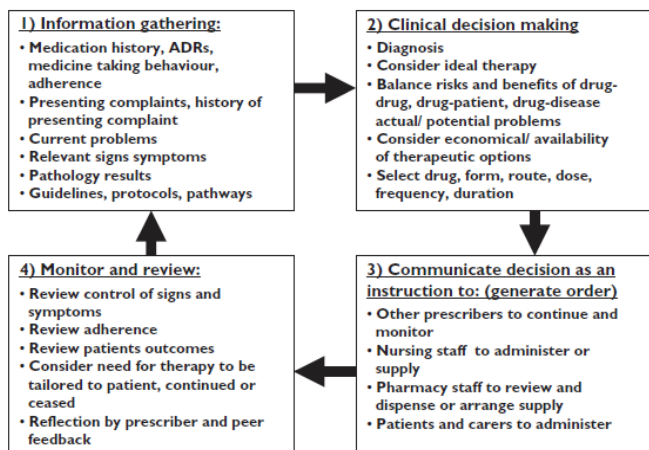
Figure 1: Basic Structure of the Competency Framework (Pharmacy Council of New Zealand 2010b)

Course description

The Safe Medication Practice Tutorials (SMPTs) were developed by the Safe Medication Practice Unit in Queensland, Australia to prepare medical students for prescribing. They consist of eight, interactive, problem-based tutorials lasting 90 minutes each (Coombes et al. 2007). The tutorials highlight error prone conditions within the healthcare system and common errors, particularly those associated with the use of high risk medications. At the end of the first year (2004) there was a significant improvement in final year medical students’ prescribing. Subsequently this multidisciplinary-led program is now a component of the medical curriculum and all medical students (University of Queensland) are expected to attend the course (Coombes et al. 2007).

The SMPTs were amended and presented in a one day workshop (7 hours) to a group of clinical pharmacists in New Zealand. Other attendees included representatives from academia, hospital pharmacy management and education and the NZ Pharmacy Council (n=14; 2 male, 12 female and all

Figure 2: Four Components of Prescribing (Coombes et al. in press)



had more than 5 years clinical experience). The workshop objectives were to: share findings of medical and non-medical prescribing research; explore the cognitive and mechanical components of safe prescribing; increase awareness of medication risks and errors; confirm history and reconciliation techniques; gain skills of safe prescribing; and gain an understanding and practice effective communication (graded assertiveness). The workshop was facilitated by two pharmacists from the Centre for Safe and Effective Prescribing (University of Queensland). Box 1 outlines the topics covered and the methods and activities used in the workshop. The content was very similar to the modular tutorials however the focus on specific pharmacotherapy, such as venous thromboembolism (VTE) prophylaxis, was reduced.

At the end of the program, attendees were asked to provide feedback on the relevance of the different components as possible elements of a future course for pharmacist prescribing.

Box 1.	
Topics covered	Methods utilized
Human error and incident analysis Medication history taking, confirmation and reconciliation General prescribing and ADRs Anticoagulation Graded assertiveness and effective communication Discharge medication; continuum of care	Raised error awareness, videos, cases, scenarios Prescribing scenarios, cases and problems Limited theory on therapeutics Role play – followed same patients Reviewing and utilizing each other’s work Deconstruction of process and errors Delivered key messages

The aim of this short report is to describe the evaluation of the delivery and perceived suitability of the SMPTs for pharmacist prescribers as preparation for a pilot of pharmacist prescribing in New Zealand.

Evaluation

The post-training evaluation questionnaire was developed to investigate alignment of the training with the proposed Pharmacist Prescriber competency framework (Pharmacy Council of New Zealand 2010b); “*The prescribing training increased my knowledge/ skills/ awareness or ability to...*” in areas of gathering relevant information, making clinical decisions, communicating clinical decisions safely and effectively (Figure 2). Information on the impact and relevance of the tutorials and general feedback of tutorials and comments was also collected. The questionnaire used attitudinal 6-point Likert scale responses and open-ended questions (questionnaire available from correspondence author on request). Participants completed a short pre-training questionnaire which included demographics and their overall beliefs about their competency to prescribe. Thirteen participants completed both pre- and post-training questionnaires.

When asked about their overall impression of the SMPTs,

nearly all participants (12/13) agreed that the tutorials were relevant and 11/13 agreed that they were pitched at the correct level. All attendees agreed or strongly agreed that the facilitators were confident with material, utilised the appropriate mediums to convey clear messages and that they felt engaged and able to ask questions (Figure 3A).

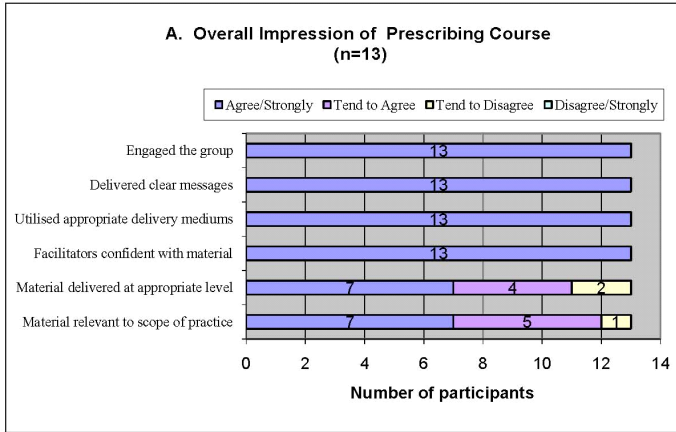


Figure 3: Prescribing Course Evaluation

Figure 3B (pre and post competency beliefs) shows that participants perceived a raised level of understanding of the complexity and risk in prescribing at discharge and for simple complaints. Post intervention they had a heightened awareness of risks in the prescribing process. The raising of risk awareness as a key objective appears to have been achieved.

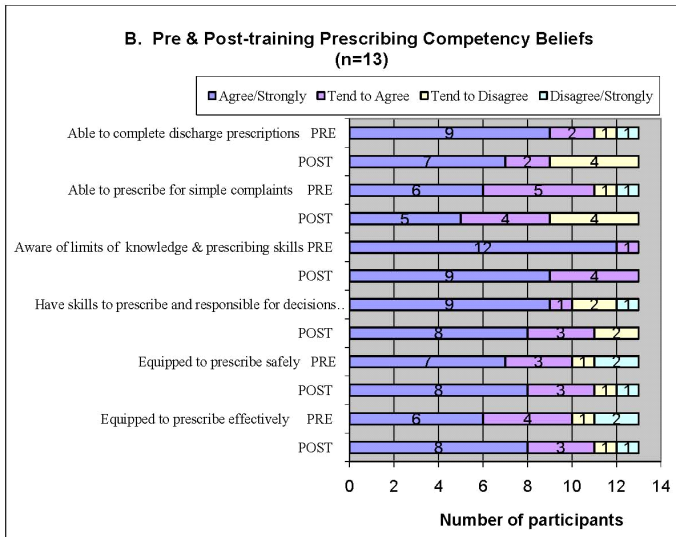


Figure 3: Prescribing Course Evaluation

With respect to the SMPTs as a process of enhancing the participants ability to gather appropriate information required for prescribing (medication history taking skills) 12/13 agreed positively. Almost all participants (11/13) agreed that they had an enhanced ability to assess a patient's current clinical status after the workshop. Nearly all (10/13) agreed that the SMPT increased their ability to make more informed drug and dose selections whilst three disagreed (Figure 3C). All attendees agreed that the SMPT would increase their ability to avoid common prescribing errors and 12 felt that

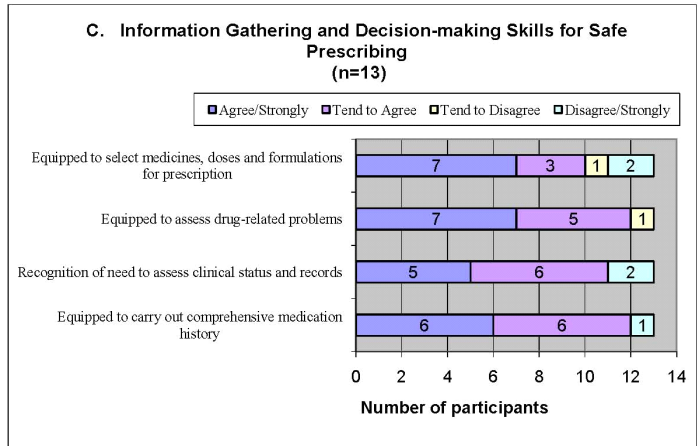


Figure 3: Prescribing Course Evaluation

they could prepare safer prescriptions after attending the SMPT (Figure 3D).

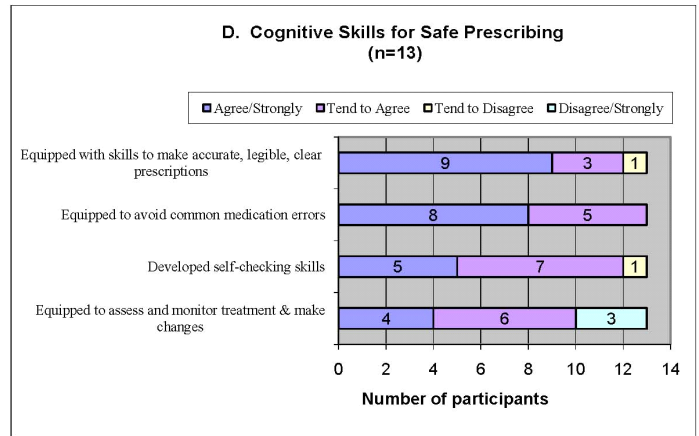


Figure 3: Prescribing Course Evaluation

When asked about their ability to communicate prescribing decisions to patients and other healthcare professionals they all agreed that the workshops equipped them to engage and communicate more effectively with their team and explain about previous adverse drug reactions more effectively. Almost all (11/13) stated that they would communicate more effectively with the patient about their prescribed treatment, and continuity of medicine supply (Figure 3E).

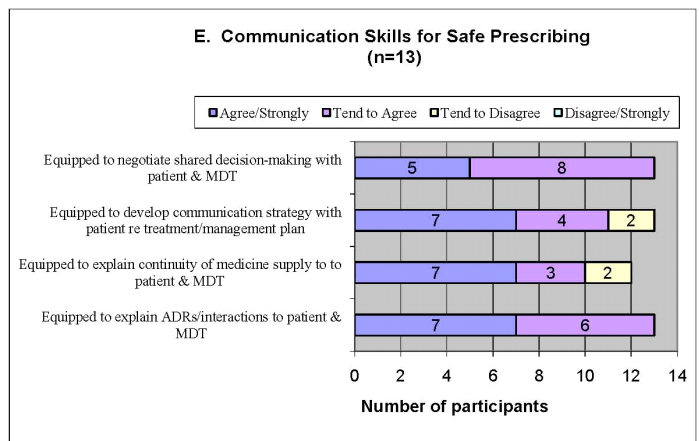


Figure 3: Prescribing Course Evaluation

Box 2 illustrates some of the comments from attendees about the value of SMPT and overall course content.

Box 2. Feedback from course participants

I think it was a fantastic workshop and I think that all its content should be part of any qualification for a prescriber!!

Principles based stuff very relevant. Some of specifics not relevant but highlighted important issues nevertheless.

Some stuff was revision rather than new but consolidation with revision in a supportive peer environment was very useful, thanks.

I didn't think I needed to do this beforehand but

Future plans/work/implementation

The participants' evaluation of the SMPTs showed the course as relevant and essential for any future prescribing courses, either medical or non-medical. The workshop raised attendee's awareness of risks and processes involved, and furnished them with new skills required to prescribe safely. Importantly, participants commented that the SMPTs highlighted the paradigm shift from reviewer to generator of prescribing decisions and prescriptions. The process needs to be a component of an advanced practitioners' development, and form part of a larger course on non-medical prescribing that will produce competent and fit-for-purpose prescribers.

In conclusion, any future plans for medical or non-medical prescribing courses, should strongly consider including components of prescribing; information gathering, clinical decision making and communication as part of a larger curriculum.

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