



## Pharmacy Board of Australia: Public discussion paper on pharmacist prescribing

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### Responses to discussion paper questions about pharmacist prescribing

Your feedback is sought on the questions outlined in the Pharmacy Board of Australia 'Public discussion paper on pharmacist prescribing' published on 4 March 2019.

**Please provide your feedback as a Word document (or equivalent)<sup>1</sup> by close of business on Monday 15 April 2019.**

Some of these questions request details of evidence to support your views or views of your organisation. This discussion paper and other reports about prescribing published by the Board reference published information and evidence about pharmacist prescribing locally and overseas.

The Board is seeking further details about additional evidence (published or unpublished) that you may be aware of or believe should be considered. Evidence could include information about new initiatives in practice currently being developed or in progress; or relevant information about prescribing by other non-medical health professions that may provide further information or evidence to inform pharmacist prescribing. For example, evidence may include data demonstrating cost effective health outcomes or qualitative data demonstrating patient satisfaction with pharmacist prescribing.

#### Stakeholder Details

*If you wish to include background information about your organisation please provide this as a separate word document (not PDF).*

Organisation details
<b>Organisation name:</b> Queensland University of Technology
<b>Contact name:</b> Prof Greg Kyle
<b>E-mail address:</b> [REDACTED]

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<sup>1</sup> You are welcome to supply a PDF file of your feedback in addition to the word (or equivalent) file, however we request that you do supply a text or word file. As part of an effort to meet international website accessibility guidelines, AHPRA and National Boards are striving to publish documents in accessible formats (such as word), in addition to PDFs. More information about this is available at [www.ahpra.gov.au/About-AHPRA/Accessibility.aspx](http://www.ahpra.gov.au/About-AHPRA/Accessibility.aspx).

	Prescribing under a structured prescribing arrangement	Prescribing under supervision	Autonomous prescribing
<b>PUBLIC NEED</b>			
1	How would these models of prescribing by pharmacists fulfil a public need?	<ul style="list-style-type: none"> <li>Improved access: to medicines (including vaccinations), medicines and general health education, medicines and health monitoring.</li> <li>Improved efficiency in the use of limited health services resources e.g. reduced need to visit multiple health professionals.</li> <li>Improved preventative health e.g. early intervention associated with improved access highlighted above. This may include risk reduction, reduced incidence of vaccine-prevented illness, increased access to oral contraceptives.</li> </ul>	As for structured
<b>EVIDENCE (published or unpublished)</b>			
2	What is the evidence that these models of prescribing by pharmacists would be a safe and effective way of improving access to medicines for the community?	<ul style="list-style-type: none"> <li>There is little robust outcome-based evidence specifically relating to access to medicines.</li> <li>The safety and clinical appropriateness of pharmacist prescribing has been demonstrated by Latter <i>et al.</i> (Latter et al., 2012) and Weeks <i>et al.</i> (Weeks, George, Maclure, &amp; Stewart, 2016) however these studies were not specifically addressing access to medicines associated with the process.</li> <li>Patients have indicated that ease of access is an influential factor in their satisfaction with pharmacist-led services that include prescribing under various models. Al Harmarneh <i>et al.</i> (Al Harmarneh et al., 2018) reported that patients were satisfied with their experiences of a community-based intervention that included pharmacist prescribing aimed at reducing cardiovascular risk. Patients offered that, among other things, <i>ease of access</i> was a clear contributor to their satisfaction with the service. Pharmacist prescribing of hormonal contraceptives under a collaborative drug therapy agreement identified that patients appreciated the <i>accessibility of the pharmacy-based program</i>. (Gardner et al., 2008)</li> </ul>	As for structured

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3	<p>What is the evidence that these models of prescribing by pharmacists support the <i>Quality Use of Medicines (QUM)</i>, i.e. judicious, safe, appropriate and efficacious use? (For example, by minimising overuse of medicines, reducing adverse events, improving health outcomes and/or other elements outlined in QUM)</p>	<p><b>Australian context:</b></p> <p><i>Efficacious and appropriate use of medicines</i></p> <p>Marotti <i>et al.</i> conducted a randomised controlled trial (RCT) of pharmacist medication history taking with supplementary prescribing versus standard care in a peri-operative setting. The authors found reductions in the number of missed doses and medication errors with the pharmacist care model compared to usual care. (Marotti, Kerridge, &amp; Grimer, 2011)</p> <p>Hale <i>et al.</i> described a RCT of collaborative pharmacist prescribing in the pre-admission unit of a large teaching hospital. Pharmacist prescribing resulted in a significant reduction in prescribing errors and omissions compared to usual care with the appropriateness of prescribing VTE prophylaxis comparable to medical care. (A. R. Hale et al., 2013) A subsequent pilot study assessed the appropriateness of prescribing within this context and found a similar level of appropriateness between pharmacist and resident medical officer prescribing. (A. Hale et al., 2014)</p> <p>In 2016 Tong <i>et al.</i> published a RCT evaluating a 'partnered pharmacist charting model' in medical admissions. The authors found a significant reduction in prescribing error with the pharmacist care model versus usual care. (Tong et al., 2016) This model was extended to a multicentre trial across seven Victorian hospitals which demonstrated significant reduction in prescribing errors and reduced length of stay with the pharmacist prescribing model. (Tong et al., 2018)</p> <p><b>US Contexts - Collaborative model:</b></p> <p>Irons <i>et al.</i> showed significantly improved outcomes in the management of hypertension for patients managed under a collaborative agreement between pharmacists and a cardiologist. Pharmacists worked autonomously under an agreed model of care to achieve the improved outcomes. (Irons, Meyerrose, Laguardia, Hazel, &amp; Seifert, 2012)</p>	<p><b>UK context:</b></p> <p><i>Safety and appropriateness</i></p> <p>Latter <i>et al.</i> evaluated appropriateness of pharmacist independent prescribing in the UK. The authors concluded that generally pharmacists were making clinically appropriate prescribing decisions. (Latter et al., 2012)</p> <p><i>Economically viable</i></p> <p>A randomised controlled trial of pharmacist-led management of chronic pain in primary care demonstrated improvements in patient outcomes with pharmacist-led care compared to usual care. (Bruhn et al., 2013) A subsequent cost analysis suggested that pharmacist care was more costly although the authors concluded further studies were required. (Neilson et al., 2015)</p> <p><b>Canadian context:</b></p> <p><i>Efficacious and appropriate</i></p> <p>Tsuyuki <i>et al.</i> demonstrated a reduction in cardiovascular risk in patients receiving risk assessment, education and management (including prescribing) by community pharmacists in Alberta. (Tsuyuki, Al Hamarneh, Jones, &amp; Hemmelgarn, 2016) Tsuyuki <i>et al.</i> also found pharmacist prescribing resulted in a clinically important and statistically significant reduction in blood pressure. (Tsuyuki et al., 2015)</p> <p><i>Economically viable</i></p> <p>Economic modelling of the studies conducted by Tsuyuki <i>et al.</i> demonstrated pharmacist prescribing in the context of cardiovascular disease management was an '<i>economically dominant strategy when compared to usual care</i>', resulting in both improved health</p>

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				outcomes, (estimated to result in a reduction of 2 cardiovascular events for every 10 patients receiving the intervention when viewed over a 30 year period) and cost savings reaching an estimated value of more than \$6000 per individual. (Marra, Johnston, Santschi, & Tsuyuki, 2017)
4	Are there any gaps in the evidence for pharmacist prescribing under these models? If so, how could this evidence be obtained?	While there is evidence to support the use of models similar to this, a limited number of disease states have been studied.	This model has been extensively studied in multiple contexts.  In 2017 an umbrella review by Stewart et highlighted the lack of evidence relating to the cost effectiveness of non-medical prescribing. (Stewart et al., 2017)	This model has been studied in multiple contexts. Qualitative studies have focused on participant experiences. Further studies examining outcome data across multiple disease states is warranted.
<b>EDUCATION AND TRAINING</b>				
5	What education requirements (if any) would pharmacists with general registration need to complete to competently prescribe under each model? (i.e. postgraduate education)	<ul style="list-style-type: none"> <li>Covered in undergraduate programs.</li> <li>Evidence of competence relevant to the prescribing context required e.g. the ability to accurately take a blood pressure reading. This could be undertaken as part of the structured agreement e.g. annual check of blood pressure readings if this skill is essential.</li> </ul>	<ul style="list-style-type: none"> <li>Covered in undergraduate programs.</li> <li>Evidence of competence relevant to the prescribing context required e.g. the ability to accurately take a blood pressure reading. This could be undertaken as part of the prescribing agreement e.g. annual check of blood pressure readings if this skill is essential, review of patient indicators, patient satisfaction.</li> </ul>	<ul style="list-style-type: none"> <li>Postgraduate qualifications specifically addressing areas of practice currently not included in existing programs e.g. pathophysiology and diagnostics (including ordering of appropriate tests), patient assessment skills and clinical decision making.</li> </ul>
6	Are current undergraduate program providers	No Clinical governance, responsibilities, ethics of	No Clinical governance, responsibilities, ethics of prescribing, therapeutic decision making	No Clinical governance, responsibilities, ethics of prescribing, therapeutic decision making

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	addressing the competencies to prescribe under each model? If not, what are the gaps and how can they be addressed?	prescribing, therapeutic decision making	Ongoing monitoring and ordering monitoring tests, collaborative prescribing (including continuity of care)	Ongoing monitoring, collaborative prescribing (including continuity of care) Diagnosis and ordering diagnostic tests
7	Before being authorised to prescribe under each model, would a pharmacist need to accumulate a minimum period of supervised practice under the supervision of an authorised prescriber (e.g. during the internship, before gaining general registration or after gaining general registration)?	No	Possibly. Depending on prescribing context and skill requirements. This could be addressed in the prescribing agreement, if warranted.	Yes. A period of experiential learning would be required as part of the postgraduate training. Appropriate workplace-based assessment required as part of required training.
8	Before prescribing under each model, would a pharmacist need to have achieved a minimum period of practice experience as a	No	There should be a demonstration of ability rather than a demonstration of experience.  Tell me what you can do and I'll decide if you're ready to learn prescribe.	There should be a demonstration of ability rather than a demonstration of experience.  Tell me what you can do and I'll decide if you're ready to learn prescribe.

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	pharmacist with general registration? If so, for what period?			
9	Would pharmacists prescribing under each model need to meet different annual CPD requirements to pharmacists who do not prescribe?	No	Yes - additional points relevant to prescribing activities as per the HPPP and existing medical CPD model for prescribing competence	Yes - additional points relevant to prescribing activities as per the HPPP and existing medical CPD model for prescribing competence
<b>REGULATION</b>				
10	Would these models of prescribing by pharmacists require additional regulation by the Pharmacy Board or could it be adequately governed through relevant jurisdictional policy or legislation?	No	Not required if the Board determines that prescribing under supervision is within a pharmacist's scope of practice.	An endorsement for scheduled medicines in accordance with Section 94 of the National Law would be required for pharmacists to prescribe under this model.
11	What are the risks associated with each model of pharmacist prescribing and	This model poses minimal risk to the patient or the pharmacist (and in fact may already be occurring!) Increased risk of exposure to acute adverse drug reaction. Require	Increased liability.	Increased liability.

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	how could they be managed?	pharmacist to have current CPR certificate. Increased liability risk		
<b>OTHER</b>				
12	What factors would contribute to sustaining each model of pharmacist prescribing if introduced?	Legislative changes Appropriate liability cover PBS prescriber rights Better use of MyHealthRecord will enhance professional communication and interprofessional record keeping	Legislative changes Appropriate liability cover PBS prescriber rights Better use of MyHealthRecord will enhance professional communication and interprofessional record keeping	Legislative changes Appropriate liability cover PBS prescriber rights Better use of MyHealthRecord will enhance professional communication and interprofessional record keeping
13	Do you have any additional comments about these models of prescribing by pharmacists?	Unclear distinction between this model and prescribing under supervision.	Confusion with term collaborative prescribing in discussion paper. Collaborative prescribing is a term synonymous with prescribing under supervision/supplemental prescribing models (although fully understand need to work in collaborative relationships even if autonomously prescribing). <b>‘support for a pragmatic approach towards the implementation of prescribing through a structured prescribing arrangement and prescribing under supervision models first, followed by autonomous prescribing with strong support for ‘collaborative or team prescribing within the scope of practice of the pharmacist’.</b>	

## References

- Al Harmarneh, Y. N., Lamb, S., Donald, M., Hemmelgarn, B., King Shier, K., Jones, C. A., . . . Tsuyuki, R. T. (2018). Pharmacist prescribing and care improves cardiovascular risk, but what do patients think? A substudy of the Rx EACH study. *Can Pharm J (Ott)*, *151*(4), 223-227. doi:10.1177/1715163518779092
- Bruhn, H., Bond, C. M., Elliott, A. M., Hannaford, P. C., Lee, A. J., McNamee, P., . . . Wright, D. (2013). Pharmacist-led management of chronic pain in primary care: results from a randomised controlled exploratory trial. *BMJ Open*, *3*(4). doi:10.1136/bmjopen-2012-002361
- Gardner, J. S., Miller, L., Downing, D. F., Le, S., Blough, D., & Shotorbani, S. (2008). Pharmacist prescribing of hormonal contraceptives: results of the Direct Access study. *J Am Pharm Assoc.*, *48*(2), 212-221. doi:10.1331/JAPhA.2008.07138
- Hale, A., Martin, J., Coombes, I., McDougall, D., Coombes, J., & Nissen, L. (2014). A pilot study to assess the appropriateness of prescribing from a collaborative pharmacist prescribing study in a surgical pre admission clinic. *Journal of Pharmaceutical Care & Health Systems*, *1*(3), 1-6.
- Hale, A. R., Coombes, I. D., Stokes, J., McDougall, D., Whitfield, K., Maycock, E., & Nissen, L. (2013). Perioperative medication management: expanding the role of the preadmission clinic pharmacist in a single centre, randomised controlled trial of collaborative prescribing. *BMJ Open*, *3*, e003027. doi:10.1136/bmjopen-2013-003027.
- Irons, B. K., Meyerrose, G., Laguardia, S., Hazel, K., & Seifert, C. F. (2012). A collaborative cardiologist-pharmacist care model to improve hypertension management in patients with or at high risk for cardiovascular disease. *Pharmacy Practice*, *10*(1), 25-32.
- Latter, S., Smith, A., Blenkinsopp, A., Nicholls, P., Little, P., & Chapman, S. (2012). Are nurse and pharmacist independent prescribers making clinically appropriate prescribing decisions? An analysis of consultations. *J Health Serv Res Policy*, *17*(3), 149-156. doi:10.1258/jhsrp.2012.011090
- Marotti, S. B., Kerridge, R. K., & Grimer, M. D. (2011). A randomised controlled trial of pharmacist medication histories and supplementary prescribing on medication errors in postoperative medications. *Anaesth Intensive Care*, *39*(6), 1064-1070.
- Marra, C., Johnston, K., Santschi, V., & Tsuyuki, R. T. (2017). Cost-effectiveness of pharmacist care for managing hypertension in Canada. *Can Pharm J (Ott)*, *150*(3), 184-197. doi:10.1177/1715163517701109
- Neilson, A. R., Bruhn, H., Bond, C. M., Elliott, A. M., Smith, B. H., Hannaford, P. C., . . . McNamee, P. (2015). Pharmacist-led management of chronic pain in primary care: costs and benefits in a pilot randomised controlled trial. *BMJ Open*, *5*(4), e006874. doi:10.1136/bmjopen-2014-006874
- Poh, E. W., McArthur, A., Stephenson, M., & Roughead, E. E. (2018). Effects of pharmacist prescribing on patient outcomes in the hospital setting: a systematic review. *JBI Database System Rev Implement Rep*, *16*(9), 1823-1873. doi:10.11124/JBISRIR-2017-003697
- Stewart, D., Jebara, T., Cunningham, S., Awaisu, A., Pallivalapila, A., & MacLure, K. (2017). Future perspectives on nonmedical prescribing. *Ther Adv Drug Saf*, *8*(6), 183-197. doi:10.1177/2042098617693546
- Tong, E. Y., Mitra, B., Yip, G., Galbraith, K., Dooley, M. J., & Group, P. (2018). *Partnered pharmacist medication charting: multi-site evaluation demonstrating reduction in length of stay*. Paper presented at the Medicines Management 2018, the 44th SHPA National Conference.
- Tong, E. Y., Roman, C., Mitra, B., Yip, G., Gibbs, H., Newnham, H., . . . Dooley, M. J. (2016). Partnered pharmacist charting on admission in the General Medical and Emergency Short-stay Unit – a cluster-randomised controlled trial in patients with complex medication regimens. *Journal of Clinical Pharmacy and Therapeutics*, *41*(4), 414-418. doi:10.1111/jcpt.12405
- Tsuyuki, R. T., Al Harmarneh, Y. N., Jones, C. A., & Hemmelgarn, B. R. (2016). The Effectiveness of Pharmacist Interventions on Cardiovascular Risk: The Multicenter Randomized Controlled Rx EACH Trial. *J Am Coll Cardiol*, *67*(24), 2846-2854. doi:10.1016/j.jacc.2016.03.528
- Tsuyuki, R. T., Houle, S. K., Charrois, T. L., Kolber, M. R., Rosenthal, M. M., Lewanczuk, R., . . . Rx, A. I. (2015). Randomized Trial of the Effect of Pharmacist Prescribing on Improving Blood Pressure in the Community: The Alberta Clinical Trial in Optimizing Hypertension (Rx ACTION). *Circulation*, *132*(2), 93-100. doi:10.1161/CIRCULATIONAHA.115.015464
- Weeks, G., George, J., Maclure, K., & Stewart, D. (2016). Non-medical prescribing versus medical prescribing for acute and chronic disease management in primary and secondary care. *Cochrane Database of Systematic Reviews*. Issue 11. Art No.: CD011227. doi:10.1002/14651858.CD011227.pub2