NURSE PRESCRIBING: THE NEW ZEALAND CONTEXT

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Abstract

The purpose of this study was to examine the introduction of nurse prescribing in New Zealand, especially with respect to the basis of concerns related to level of knowledge and skills required of practitioners for safe prescribing; and further to compare experiences in New Zealand with those in other countries where nurses are authorised to prescribe. It is argued that prescribing rights previously extended to Nurse Practitioners and now being extended to other groups of nurses, and also to other health professions, is a matter provoking concern with respect to patient safety and adequacy of educational preparation. Unlike in the UK where extending prescribing rights to nurses did not involve rigorous educational preparation, Nurse Practitioners in New Zealand now undergo a stringent process involving Masters degree preparation in biological sciences and pharmacology (similar to USA). However, despite differences between policy environments, in New Zealand, criticisms grouped into concern about knowledge, patient safety and the impacts on team work and the health system echoed that voiced in the UK. The view that the educational model to prepare medical practitioners to prescribe is the 'gold standard' is critiqued and alternative models supported for extending prescribing rights to nurses and other professions. The expectation now is that extended prescribing rights are unlikely to be reversed. As the first two professions to be granted prescriptive authority in New Zealand, experiences in preparing both midwives and nurses educationally are expected to influence the models of educational preparation for other professions. The focus of the debate needs to shift from arguing against extending prescribing authority (especially to nurses), to consideration of how practitioners can be best prepared for and supported in the role.

Key words

Nurse prescribing, authorised prescribing, Nurse Practitioner, patient safety, prescribing education

Introduction

In New Zealand as in other countries, extension of prescribing rights to nurses triggered strong and vocal opposition, particularly from the medical profession. For decades, only medical doctors, dentists and veterinarians had prescriptive authority. In 1989 in New Zealand this authority was extended to midwives but was limited to normal perinatal care. Later in 2002, Nurse Practitioners were also given the right to prescribe, subject to meeting rigorous conditions of approval ("Medicines (Designated Prescriber:

Lim, A. G., North, N., & Shaw, J. (2014). Nurse prescribing: The New Zealand context. *Nursing Praxis in New Zealand, 30*(2), 18-27

Nurse Practitioners) Regulations," 2005). Prescriptive authority for nurses was intended to be far wider than for midwives. This provoked concern for patient safety based on whether nurses were educationally prepared for a prescribing role (Moller & Begg, 2005). This caution was in spite of the prescriptive authority being restricted to nurses individually approved by the Nursing Council of New Zealand as Nurse Practitioners. The latter title referred to a newly gazetted advanced scope of practice available only to registered nurses with at least 5 years' experience in their specified clinical area, and who had completed a 2-year Master's degree in an approved clinical nursing programme that included a suite of prescribing papers (Lamond, Crow, & Chase, 1996; Lim, Honey, & Kilpatrick, 2007; Renouf, 2005).

This development entailed the setting up of mechanisms to oversee the extension of prescribing rights to other health professions. In 2001 a New Prescribers Advisory Committee was established to assess applications for extending limited independent prescribing authority to new groups of health practitioners, and to advise the Minister of Health. This committee was disestablished in July 2006, after which applications for extension of prescribing rights were made directly to the Ministry of Health which, upon receipt of an application, sets up a process to assess the appropriateness of the extension ("Health Practitioners Competence Assurance Act," 2003).

Further changes to legislation to extend prescriptive authority to other groups of nurses and health professions have recently been introduced in New Zealand. Amendments to the Medicines Act 1984 in 2011 gave diabetes nurses (Ministry of Health, 2011) and pharmacists (Ministry of Health, 2013a) designated prescriptive authorities. Additional amendments to the Medicines Act 1984 in December 2013 extended prescriptive authority to other health practitioners, for example delegated prescriptive authority to specialist nurses (Ministry of Health, 2013b). Educational preparation for a delegated and designated prescribing role (defined below) requires that the health practitioners are "...sufficiently knowledgeable to safely prescribe prescription medicines or prescription medicines of a specified class or description".

In view of the recent extension of limited prescribing rights to groups of nurses (and other health professions) in addition to Nurse Practitioners, this paper examines the introduction of nurse prescribing in New Zealand, outlining the basis of concerns related to the level of knowledge and skills required of practitioners for safe prescribing, and compares experiences in New Zealand with those in other countries where nurses are authorised to prescribe.

Extending prescribing rights to nurses in New Zealand: Experiences and criticisms

Prescriptive authority: Explaining the terminology used in New Zealand

Prescriptive authority refers to a practitioner's right to issue a medical prescription, an order (often in written form) by a qualified health care professional to a pharmacist or other therapist for a treatment to be provided for the patient. A prescription is, therefore, a legal written document that not only instructs in the preparation and provision of a medicine or device, but more importantly, includes the prescriber's responsibility for the clinical care of the patient and the outcomes to be achieved (Maxwell & Walley, 2003). Prescribing involves the application of biomedical knowledge, including pharmacology and therapeutics, and critical thinking to establish a safe, effective and appropriate outcome of treatment and deliberations regarding risk/benefit considerations (Naylor, 2004; Schwertz, Piano, Kleinpell, & Johnson, 1997). Approving prescriptive authority involves agencies being responsible for ensuring that the

prescriber understands and has the knowledge and skills to undergo a process of deliberation, and has a sound grounding in the biomedical sciences. The latter requirement has strongly influenced the philosophy and practice of health service provision and delivery, and is widely agreed as the necessary knowledge base for prescriptive authority (Aronson, Henderson, Webb, & Rawlins, 2006; Boshuizen & Schmidt, 2008; Bradbury-Jones, Irvine, & Sambrook, 2010; Brar, Boschma, & McCuaig, 2010; Bullock & Manias, 2002; Carr, 2004; Christensen, Jones, Higgs, & Edwards, 2008; Clarkson, 2001; Grindle & Dallat, 2000; Gwee, 2009).

In New Zealand prescriptive authority is outlined in the Medicines Act ("Medicines Act 1981," 1984) and in the Medicines Regulation of 1984 ("Medicines Regulation," 1984). Under this Act *Authorised Prescribers* can *prescribe all medicines* from Part 1A or Part 1 B of Schedule 1 of the Medicines Regulations. Only three health practitioners were *Authorised Prescribers* (doctors, dentists and midwives) until 1999 when the New Zealand government agreed to extend prescriptive authority to include Nurse Practitioners. However, Nurse Practitioners were considered differently to other practitioners. Then authority to prescribe came by virtue of training and preparation in prescribing which was acquired *after,* not as part of, undergraduate education. A new term was, therefore, introduced in the amendments to the Medicine Act 1984 for Nurse Practitioners. The term *Designated Prescriber* was coined, defined as: "...a person who, immediately before 1 November 2005, was authorised by the former regulations to prescribe within their scope of practice and a *specified prescription medicine* in Part 1A or Part 1B of Schedule 1 of the Medicines Regulations 1984 ("Medicines (Designated Prescriber: Nurse Practitioners) Regulations," 2005). In 2011, further amendments to the Medicines Act 1984 extended prescriptive authority *(Designated)* to other health professionals including some pharmacists and diabetes nurse specialists after undergoing the required educational preparation and training (Ministry of Health, 2011). In 2011, amendments to the Medicines Regulation 2011 required medical practitioners, dentists and midwives *(who were Authorised Prescribers*) to prescribe within their scope of practice for patients under their care, as defined by their responsible authorities established under the Health Practitioners Competence Assurance Act 2003.

In 2013, prompted by nursing leadership, amendments to the Medicines Act 1984 in 2013 further extended nurse prescribing rights. Following the successful implementation of prescribing roles to Nurse Practitioners in the previous decade and to diabetes nurses in 2011 (Ministry of Health, 2011), the Nursing Council of New Zealand launched a discussion document to determine the feasibility of extending prescriptive authority to other clinical nurse specialist and community nurse groups (Nursing Council of New Zealand, 2013). Strong support from many sectors and nursing organisations was evident in the submission that led to lobbying by the Nursing Council and other organisations to the government (Nursing Council of New Zealand, 2013). In December 2013, the New Zealand government agreed to extend prescriptive authority to other health practitioners as *Delegated Prescribers* under a *limited and more specified formulary* (Ministry of Health, 2013b). *Delegated Prescribers* are health practitioners to whom a delegated prescribing order has been issued by an Authorised Prescriber from their specified class or group. A *Delegated Prescribing Order* is a written instruction, issued in accordance with regulations by an Authorised Prescriber, authorising a health practitioner to prescribe specified prescription medicines. *Specified prescription medicines* means prescription medicines specified by the Director-General by notice in the *Gazette.*

To summarise the developments that have extended prescribing rights to increasing groups of nurses,

enabling legislation in 1999 gave prescribing rights to Nurse Practitioners, although at least another five years passed before the law was implemented and the first nurses applied for approval. Nurse Practitioners could prescribe as Designated, not Authorised, prescribers. For nursing the most important changes to the legislation in 2013 were first, the legal endorsement of Nurse Practitioners as *Authorised Prescribers,* some groups of nurses such as Diabetes Nurses being *Designated Prescribers,* and adding a new category of *Delegated Prescribers* that extended limited prescribing rights to additional groups of nurses (Ministry of Health, 2013b).

Educational preparation for prescribing

Physicians are educated and trained in the diagnosis and treatment of disease. Historically prescribing is an important skill required of a doctor in any speciality (Maxwell & Walley, 2003). Education for prescribing and prescribing practices, behaviours and decisions of doctors and their biomedical knowledge base, have been extensively studied (Naylor, 2004). Medical prescribing and its biomedical knowledge base are, therefore, frequently used as the point of reference in arguments against extending prescribing rights to other professions such as to nurses and pharmacists.

However, critics argue that the application of biomedical knowledge is a particular characteristic of non-expert reasoning, with medical experts predominantly using clinical (not biomedical) knowledge to represent and diagnose a patient problem (Patel, Evans, & Groen, 1989; Schmidt, Norman, & Boshuizen, 1990). While biomedical knowledge concerns itself with the pathological principles, mechanisms, or processes underlying the manifestations of disease, clinical knowledge refers to knowledge of how a disease may manifest itself in patients, and the expected complaints, the nature and variability of the signs and symptoms and the ways in which the disease can be managed. Views that biomedical knowledge and clinical knowledge are two distinct, yet influential, aspects of the prescriber's prescribing decisions are influential considerations on how medical students are prepared to prescribe (Pearson, 2003).

The major criticisms relating to nurse prescribing reflect concerns that in training and education, nurses do not gain the biomedical knowledge required to diagnose illness and treat disease: but such criticisms ignore the clinical knowledge of experienced nurses being educationally prepared to prescribe. Deficiencies in clinical reasoning capabilities are also ascribed to a lack of biological knowledge and medication-related issues in undergraduate nursing education (Hemingway & Davies, 2006; Latter, Rycroft-Malone, Yerrell, & Shaw, 2000). Critics warn that without attention to scientific education and biomedical knowledge in nurse training and education, nurses will lack the knowledge and skills necessary to make differential diagnoses and prescribe drugs (Jordan & Griffiths, 2004), potentially putting patients at risk.

The introduction of nurse prescribing in New Zealand

As for midwives, an expanded Nurse Practitioner role was introduced to improve access to health services and affordability for patients, and so justified as benefitting health consumers (Ministry of Health, 2000a). Following several years of debate and development on the role (Ministry of Health, 2001a, 2002; Nursing Council of New Zealand, 2001), the impetus to implement the prescriber role came from the New Zealand Health Strategy and associated Primary Health Care Strategy (Ministry of Health, 2000b, 2001b). This set out to shift the orientation of the health system from hospital and acute services to a population health focus, with an associated shift of care from hospitals to ambulatory and community-based settings. Nurses were identified as a key profession for the achievement of the strategies and associated focus on services aimed at keeping people well, ranging from promotion of health and screening

for disease to assessment, diagnosis, treatment and rehabilitation, so emphasising the increasing need for a highly skilled workforce (Ministry of Health, 2001b).

The granting of Nurse Practitioner status and prescribing authority to registered nurses was planned to be stringent. At least four years of clinical experience in a specific clinical area was a pre-requisite with completion of a 2-year clinical Masters degree designed to address the perceived deficiencies in nurses' knowledge (Ministry of Health, 2002) and to support a nursing preference for advanced education to provide the necessary knowledge base (Gardner, Dunn, Carryer, & Gardner, 2006). Before they may apply for prescriptive authority nurses must complete an educational and practical programme specific to pharmacology and therapeutics. The suite of prescribing courses has a strong focus on pharmacology, therapeutics and clinical decision-making (Nursing Council of New Zealand, 2005). Five schools of nursing have developed Masters programmes to prepare Nurse Practitioners for prescribing, each approved and regularly accredited by the Nursing Council. The Nursing Council also sets the competencies required for safe and effective prescribing, and monitors and audits each programme. Nonetheless, wide variation exists between institutions with regard to content delivery and assessments (Lim et al., 2007).

A global perspective on nurse prescribing

Nurses in the US have had prescriptive authority since at least the 1960s, when physician shortages and distribution threatened service delivery and nurses addressed the gap. Along with clinical nurse specialists, nurse midwives and nurse anaesthetists, nurse practitioners are but one of a number of advanced nursing roles considered under the umbrella title Advanced Practice Nurse (APN). Nurses in all 50 states now have prescriptive authority. Both pharmacology and science education for nurses is strongly supported at the undergraduate level (Hales & Dignam, 2002). Similarly in Canada, nurse practitioner education was first introduced in 1975, and regulation of advanced nursing practice is seen to be "…within the current scope of nursing practice" (Canadian Nurses Association, 1999).

In the UK rationale for extending prescribing rights to nurses and other health professions was similar to that of the US and Canada, but the introduction is both relatively recent and widespread. Enabling policy was made, it appears, for pragmatic reasons of cost reduction and improving access. The Cumberledge Report in 1986 first recommended extending prescriptive authority to other health professionals to improve access, reduce cost and allow greater flexibility of health care services and delivery. The necessary legislation was passed in 2001 (Department of Health & Social Security, 1986) with district nurses and health visitors being the first professions outside of medicine to be granted prescriptive authority (Otway, 2002). The move in the UK in 2002 to give legislative authority for nurses to prescribe was probably the greatest extension of prescribing rights anywhere in the world. The UK is also exceptional in that extending prescriptive authority to nurses was included in a broader initiative that involved other professions, including pharmacists and midwives (Latter, Maben, Myall, & Young, 2007).

By contrast with New Zealand, USA and Canada, in the UK a post-registration educational requirement is not required for district nurse and health visitor prescribing under patient group directives or formulary. However, for nurses who are prescribing from an extended formulary through a supplementary prescribing model, a 26 day course (completed over three to six months) in higher education is mandatory, and course outcomes and content are based on the 25 stated competencies stipulated by the Nursing and Midwifery Council of the UK (Jordan & Griffiths, 2004).

Initial responses to nurse prescribing in New Zealand

In spite of advanced educational preparation in pharmacology being stipulated, extending prescribing rights to nurses did not go unchallenged. While in New Zealand introduction of the Nurse Practitioner role was not of itself opposed, extending prescribing rights to Nurse Practitioners was contested. A survey of media commentary at the time is one indicator of professional and public opinion. An initial burst of comment *circa* 2000-2001 greeted the proposal for and subsequent implementation of nurse prescribing; and there was a second burst some five years later over slow progress in implementation. Excluding official media releases, comments by doctors were typically critical (Fallow, 2005), and were countered by nurses (Bickley, 2005). For their part, doctors raised concerns about patient safety and whether nurses had the necessary knowledge to examine, diagnose and prescribe (Clarkson, 2001; Johnston, 2005). Concerns about increased costs to the health system were also raised (St. John, 2001). Some medical critics suggested that if nurses wanted to prescribe they should complete medical training; others drew attention to the importance of teamwork and potential threat from confusion of roles, with fears expressed that patients would be both confused and (when fees were involved), likely to choose the cheaper option, nurses.

Relative silence in the media on the topic since about 2006 suggests that despite there being prescribing Nurse Practitioners "unleashed directly on an unsuspecting public" (Boswell, 2005), to date there had been no dire consequences. The criticisms, many of which echo those voiced in other countries, can be grouped into: concerns about knowledge; concerns about patients; and concerns about team work and the health system. For example, it was argued that, as nurses lack the educational and clinical preparation undertaken by doctors at undergraduate level and through clinical training, safety may be compromised (Moller & Begg, 2005). These concerns voiced in New Zealand echoed similar concerns in the UK, where a lack of specialist training and competence were the predominant issues raised (Chaston & Seccombe, 2009).

Other arguments sidestepped the issue of competence to prescribe, with one such concerning the effect of the changes on team work (Mackay, 2003). Some suggested that a blurring of roles could arise where two different prescribers may differ in prescribing decisions, potentially impacting on the team's dynamics (Moller & Begg, 2005). This view echoed concerns in the UK about balance of power (Baird, 2001). General practitioners felt they were still liable for the actions of the practice nurses, and were left to manage complex medical cases (Banning, 2004).

Criticisms about nurse prescribing need to be interpreted in the policy contexts of the country in which concerns are voiced, as those that have introduced nurse prescribing have developed different educational models to prepare practitioners for the role. Research findings regarding the adequacy of educational preparation and competence of nurse prescribers undertaken in one country, for example UK (Courtenay, 2008), do not necessarily apply to nurse prescribers in other countries. In contrast to the introduction of nurse prescribing in the USA and UK, in New Zealand implementation was accompanied by both rigorous educational preparation to remedy the agreed deficiencies in pharmaco-therapeutic knowledge, and a robust process of approving individual nurses to prescribe (Gardner et al., 2006; Ministry of Health, 2002). In spite of these differences, the introduction of prescriptive authority for nurses in New Zealand attracted similar criticisms to those expressed in other countries.

Discussion

Advocates of nurse prescribing (Hales & Dignam,

2002) claim that nurses have always attended to a crisis when doctors have been unavailable, including at times advising doctors on what to prescribe for the patient. Some studies have raised concerns related to lack of pharmacology knowledge and education in the undergraduate nursing curriculum (King, 2004; Latter & Courtenay, 2004). However, this is addressed through the requirements of Masters-level postgraduate clinical education covering pharmacology and pharmaco-therapeutics, diagnostic reasoning and evidence-based practice and research, partly assessed, monitored, evaluated and designed by doctors (Renouf, 2005).

Support for preparation of Nurse Practitioners at Masters degree level, where the principles of pharmacology and therapeutics are taught, is growing internationally as in New Zealand (American Academy of Nurse Practitioners, 1993; van Soeren, Andrusyszyn, Spence Laschinger, Goldenberg, & DiCenso, 2000). Evidence is needed regarding the relationship between curricula and approaches in postgraduate education and competent prescribing. Furthermore, in support of formal, higher education of nurses in preparation for prescribing, some educationalists are pointing to a need for ongoing post-registration support and continual clinical development in prescribing (Hemingway & Davies, 2006; Latter et al., 2007). New Zealand's response to concerns about nurse prescribing has been to address the preparation of nurses through focusing on pharmacology and therapeutics knowledge in a broader context of clinical reasoning. Educational preparation for a Nurse Practitioner role that includes prescribing is essential if nurses are to succeed in the extended and designated roles. In a social context where concerns about the adequacy of nurses' knowledge and skills persist, a burden is placed upon regulatory authorities and educational providers to ensure that the public is not exposed to risk from incompetent nurse prescribers, including authorised prescribers (e.g. nurse practitioners) and designated prescribers (e.g. diabetes nurse specialists).

As the first two health professions (other than the medical profession) to be granted prescriptive authority in New Zealand, it is to be expected that experiences in preparing both midwives and nurses educationally will influence the development of models of prescribing and approaches to educational preparation for other professions. While there is extensive literature on medical prescribing, to date research on prescribing by other professions, including nurses, is limited. Furthermore, views differ on the best way to prepare medical prescribers (Lamond et al., 1996; Maxwell & Walley, 2003; Naylor, 2004; Patel et al., 1989). To date the only two professions in New Zealand that are authorised to prescribe are midwives who (like doctors) are prepared at undergraduate level (though preparation is limited and focused on perinatal prescribing), and nurses whose preparation is at postgraduate level and more comprehensive. To date research is lacking to support the relative merits of each educational framework, and more importantly, the impact this may have on the dynamics of the interdisciplinary team. It may be that there is an argument, for example, for inter-professional education in prescribing for all health professionals. The question then arises should this be at undergraduate or postgraduate level or both? A further consideration is how continuing education and support for prescribing for prescribers in both medical and other health professions can be addressed. These are important questions facing New Zealand, as in other countries where prescribing rights are being extended to other health professions.

Conclusions

The extension of prescribing rights to nurses (and other health professions) in New Zealand, and other countries, is unlikely to be reversed. We argue that extending prescriptive authority to nurses, and to other professions, who are educationally prepared for the

role, need not bring with it the negative consequences feared by its critics. In New Zealand the absence to date of feared consequences most likely reflects policy requiring robust educational preparation of nurses for the new role. Our contention is that the focus of the debate needs to shift from arguing against extending prescribing rights, to how practitioners can be best prepared for the role, and more broadly to the health system, educational and regulatory contexts with respect to supporting prescriber competence. In this respect, an examination of how concerns have been addressed in extending prescriptive authority to nurses is equally relevant for other professions (e.g. pharmacists, podiatrists and physiotherapists) to inform their considerations on how best to meet the educational needs in prescribing when prescriptive authority is extended to these professions.

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