



Registered Nurse Prescribing: Putting Patients First

Volume 2

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SECTION I

Registered Nurse Prescribing Referral: Criteria for Assessment of Prescribing Models

HPRAC's Criteria Document

Registered Nurse Prescribing Referral

Criteria for Assessment of Prescribing Models



Ontario

Health Professions Regulatory
Advisory Council
Conseil consultatif de
réglementation des professions
de la santé

Background Information

About HPRAC

The Health Professions Regulatory Advisory Council (HPRAC) was established under the *Regulated Health Professions Act, 1991* (RHPA), with a statutory duty to advise the Minister of Health and Long-Term Care on the regulation of health professions and professionals in Ontario. This duty includes providing advice on:

- Whether unregulated health professions should be regulated;
- Whether regulated health professions should no longer be regulated;
- Amendments to the RHPA;
- Amendments to a health profession's Act or a regulation under any of those Acts;
- Matters concerning the quality-assurance programs and patient-relations programs undertaken by health colleges; and
- Any matter the Minister refers to HPRAC relating to the regulation of the health professions.

In providing its advice and preparing its recommendations, HPRAC is independent of the Minister of Health and Long-Term Care, the Ministry of Health and Long-Term Care, the regulated health colleges, regulated health professional and provider associations, and stakeholders that have an interest in issues on which it provides advice. This ensures that HPRAC is free from constraining alliances and conflict of interest and that it is able to carry out its activities in a fair and unbiased manner.

HPRAC presents its recommendations in a report to the Minister. Recommendations are advisory only and the Minister is not bound to accept HPRAC's advice. The report is confidential, although the Minister may choose to publicly release an HPRAC report. Any follow-up action is at the discretion of the Minister. Should the Minister choose to accept HPRAC's advice, the Ministry of Health and Long-Term Care is responsible for implementation based on the direction of the government.

In developing its advice to the Minister, HPRAC strives to ensure that its processes are thorough, timely and efficient, and built on a foundation of fairness, transparency and evidence-based decision-making. HPRAC undertakes research to support its conclusions, drawing on organizations and individuals with relevant expertise, in Ontario, other Canadian provinces and around the world, and adjusts its consultation process for each profession it considers.

The Registered Nurse Prescribing Referral

On November 4, 2015, the Minister of Health and Long-Term Care, the Hon. Dr. Eric Hoskins, directed HPRAC to conduct broad consultations with key partners within the nursing and health care community to assess the following three models for Registered Nurse (RN) prescribing:

- Independent Prescribing;
- Supplementary Prescribing; and
- Use of Protocols.

HPRAC has been requested to provide the Minister with the results of its consultation along with its recommendations related to which model is most appropriate for Ontario. The Minister has requested a summary of consultations and recommendation by March 31, 2016.

HPRAC's Criteria for the RN Prescribing Referral

HPRAC's recommendation(s) will be based on its assessment of which model of RN prescribing best meets the criteria listed below.

Risk of harm and public need are considered equally and are the criteria most heavily weighted by HRPAC when considering RN prescribing. The remaining criteria are ranked in order of importance and each criterion is carefully considered by HRPAC.

1. Risk of Harm

If the proposed model(s) of RN prescribing presents an increased risk of harm, methods to mitigation risk must be consistent with the education, training and competencies of members of the profession and provide assurance that patients or clients will be cared for within evidence-based best practices.

Public Need

A significant public need would be met as a result of the adoption of the proposed model(s) and puts patients first by increasing access to care.

2. Body of Knowledge

There is a systematic body of knowledge within the profession to perform the model(s) of RN prescribing and the adoption of the model(s) is broadly accepted within the profession.

3. Education and Accreditation

Members of the profession have, or will have, the knowledge, training, skills and experience necessary to carry out the duties and responsibilities involved in the proposed model(s) of RN prescribing. In addition, education programs are, or will be, appropriately accredited by an approved accreditation body.

4. Economic Impact

The potential economic impact resulting from the adopting of a model(s) of RN prescribing on the profession, the public and the health care system is understood.

5. Relevance to the Health Care System and Relationship to other Professions

The model(s) of RN prescribing is consistent with the evolution of the health care delivery system, and is conducive to integrated, team-based, collaborative care models.

6. Relevance to the Profession

The proposed model(s) of RN prescribing is rationally related to the practice of the profession, providing recognition and authority for existing competencies, and to the qualifications and competencies of members of the profession.

SECTION II

Registered Nurse Prescribing Referral: A Preliminary
Literature Review on Registered Nurse Prescribing

Registered Nurse Prescribing Literature Review

Registered Nurse Prescribing Referral

A Preliminary Literature Review on Registered Nurse Prescribing

December 2015

Please note that this Preliminary Literature Review is a summary of information from other sources, not a representation of the policy position or goals of the Ministry of Health and Long-Term Care. If material in the review is to be referenced, please cite the original, primary source, rather than the review itself.

SUMMARY OF MAIN FINDINGS**Registered Nurse Prescribing Models in Other Jurisdictions**

- Three models of registered nurse (RN) prescribing were identified in other jurisdictions:
 1. ***Independent Prescribing*** – In this model a nurse may prescribe medications, from a limited or pre-defined formulary, within a regulated scope of practice.
 - In **Ireland**, the parameters of prescriptive authority (e.g., scope of practice, approved medications) are defined within a written agreement made between the nurse, medical practitioner(s), and employer.
 - In **New Zealand**, nurse prescribing has been implemented for RNs practicing in diabetes care; the possibility of extending prescribing rights to other suitably qualified RNs is currently being explored.
 - In the **United Kingdom (UK)**, Nurse Independent Prescribers are allowed to prescribe any licensed or unlicensed drugs within their clinical competence area.
 - In the **United States (US)**, nurse prescribing is regulated at state level and some Advanced Practice Registered Nurses (APRNs) are allowed to prescribe independently.
 2. ***Supplementary Prescribing*** – This model involves a patient-specific partnership between a physician and RN, where after initial diagnosis by the physician and with the patient's agreement, a nurse may prescribe medication from a limited formulary.
 - In the **UK**, a patient-specific clinical management plan is developed by the nurse and physician, which lists medicines the nurse is able to prescribe.
 - In some **US** states certain APRNs may prescribe in a supplementary capacity; these nurses need a written agreement that specifies scope of practice and medical acts allowed with or without a general supervision requirement; or require direct supervision by a licensed physician.
 3. ***Use of Protocols*** – In this model, multi-disciplinary teams develop written instructions which allow RNs to supply and administer medications within the terms of the predetermined protocol.
 - In **Australia**, endorsed RNs working in rural and isolated areas use protocols (e.g., standing orders, health management protocols, drug therapy protocols).
 - In the **UK**, RNs also use protocols.

Supports in Place to Enable Registered Nurse Prescribing

- **Education:** In all jurisdictions reviewed, a registered nurse must complete a post-graduate program or course(s) in prescribing prior to becoming a nurse prescriber.
- **Experience:** In the UK, Ireland, and New Zealand (proposed), nurses must have a minimum of three years clinical/practice experience prior enrolling in a nurse prescriber program.
- **Legislation:** Legislative changes have been made to relevant laws and regulations in the UK, Ireland, Australia, and New Zealand to enable RNs to prescribe medications; legislative changes are currently ongoing in the US.

Evaluations of Registered Nurse Prescribing

- Literature evaluating RN prescribing models in other jurisdictions was limited.
- New Zealand, Ireland, and the UK have evaluated their prescribing schemes and found some evidence to suggest RN prescribing was safe.

Implementation Challenges

- One review and five studies identified the following challenges for the implementation of supplementary nurse prescribing in the UK: 1) difficulty using or implementing clinical management plans; 2) poor information technology infrastructure; 3) lack of awareness among doctors, patients, nurses and other healthcare professionals regarding supplementary nurse prescribing; and 4) lack of funding.

OBJECTIVES

The requestor's stated objective was to update the Planning Unit's preliminary literature review #344 on Registered Nurse Prescribing whose purpose was to explore information on registered nurse (RN) prescribing in other jurisdictions including Australia, Ireland, New Zealand, Sweden, the United Kingdom (UK) and the United States (US). Topics of interest included: 1) models of RN prescribing, 2) supports put in place to enable nurse prescribing (e.g., legislation, regulation, education and training, electronic decision making tools), and 3) evaluations of these models. This review focused on prescribing by RNs^a (including non-nurse practitioners,^b with advanced nursing degrees) only and did not include information on prescribing by other nursing professionals (i.e., registered practice nurses^c or nurse practitioners).

Studies which did not specify the type of nurse prescriber (e.g., RN, nurse practitioner) evaluated were excluded from this review.

A previous planning unit product (#216), [A Preliminary Literature Review on Mechanisms for Enabling Non-Physician/Non-Dental Prescribing](#), also includes some information on nurse prescribing in other jurisdictions, however it is not specific to RNs.

SEARCH METHODS FOR IDENTIFICATION OF STUDIES

Individual peer-reviewed articles and review articles were identified through the Ontario Ministry of Health and Long-Term Care's computerized library database, PubMed, and Google Scholar. Grey literature was identified through Google and relevant government websites. The search was limited to English sources and therefore may not capture the full extent of initiatives in non-English speaking countries.

The Medical Subject Heading (MeSH) terms "Nurses", "Nurse's Role", "Prescription Drugs", and "Drug Prescriptions" were used in combination with the following keywords to identify relevant articles and documents for this review: "registered nurse", "nurse", "prescri*", "prescriptive authority", "scope of practice", "supplementary", "independent", "group protocol", and "non-medical".

Dr. Joan E. Tranmer of Queen's University provided research suggestions for the first edition of this review. A total of 38 references were identified and cited in this review: two review articles, 13 papers from peer-reviewed journals, and 23 documents from the grey literature. The first version of this review took approximately nine days to complete by one person.

^a In Ontario, registered nurses (RNs) undertake a comprehensive education (i.e., four year bachelor's degree) and autonomously meet the nursing needs of clients, regardless of the complexity of their conditions ([Health Force Ontario, 2013](#)).

^b In Ontario, nurse practitioners are usually RNs who have taken on an advanced role after having additional education and experience. Nurse practitioners are able to autonomously diagnose, order, and interpret diagnostic tests, prescribe pharmaceuticals, and perform procedures within their legislated scope of practice ([Health Force Ontario, 2013](#)).

^c In Ontario, registered practical nurses study for a shorter period of time (i.e., two or three year diploma) and work with clients with less complex conditions ([Health Force Ontario, 2013](#)).

A scan of the literature was conducted in July 2014, to identify additional and updated information on supplementary prescribing and independent prescribing models. In particular, new literature was identified for Australia, New Zealand, Sweden, the UK (including Scotland) as well as the US and was used to update the following sections: Australia (Education), New Zealand (Legislation and Prescribing Model; Education; and Evaluation of Nurse Prescribing); Sweden; and the UK (Legislation; Prescribing Models; Education; Evaluation of Nurse Prescribing).^d A total of 21 additional references were included from this scan: one review article, three papers from peer-reviewed journals, and 17 documents from the grey literature. In total, the searching for relevant material and writing of this update took approximately five days by one person.

DESCRIPTION OF THE FINDINGS

1. Limitations of the Literature

Literature evaluating RN prescribing models or initiatives in other jurisdictions was limited. Of the studies identified, many were qualitative in nature and reflected the views and experiences of various stakeholders (e.g., nurses, doctors, patients, other healthcare professionals) with RN prescribing. No information was identified on electronic decision making tools for RN prescribers.

2. Australia

2.1 Legislation

In Australia, a national law (*The Health Practitioner Regulation National Law*) allows the Nursing and Midwifery Board of Australia to endorse a RN as qualified to obtain, supply, and administer certain medicines for nursing practice in a rural and isolated practice area.^{1,2,e} However, local legislation from individual states and territories determines the medicines a RN is authorized to use and under what circumstances.^{3,4}

2.2 Prescribing Models

Two models appear to be used by endorsed RNs to administer medications without a prescription from a physician:

- **Protocols** (e.g., Health Management Protocols; Drug Therapy Protocols)^{5,6,f} – Written instructions developed by a multidisciplinary team for the initiation or administration of a specific medicine in particular circumstances in a defined environment and approved by the relevant institutions with whom ultimate responsibility lies.⁷ For example:
 - New South Wales and Queensland use protocols to enable nurse prescribing.⁸ In Queensland, the Drug Therapy Protocol within the *Health (Drugs and Poisons) Regulation 1996* states the circumstances and conditions under which a rural and

^d The following sections were added to this updated review: UK (6.4.2. Evaluation of Nurse Prescribing in Scotland; and 6.6 Implementation Barriers of Independent Prescribing); US (7.1 Legislation; 7.2 Prescribing Model; and 7.3 Education); as well as Section 8 on International Evaluation of Nurse Prescribing.

^e The endorsement, known as the Scheduled Medicines [Rural and Isolated Practice] Endorsement, identifies RNs qualified to obtain, supply and administer schedule 2, 3, 4 & 8 medicines for nursing practice in a rural and isolated practice area ([Nursing and Midwifery Board of Australia, 2013](#)).

^f It is not prescribing in the true legal sense as it is through the use of health management and drug therapy protocols ([An Bord Altranais, 2009](#)).

isolated practice-endorsed RN (RIN) is authorized to administer or supply certain restricted and controlled drugs.⁹ Other RN drug therapy protocols include those of the Immunisation Program and Sexual Health Program.¹⁰

- Victoria has deemed that the health management protocols⁹ in the [Queensland Health Primary Clinical Care Manual \(PCCM\)](#) will be the clinical standard for the use and supply of medicines by endorsed nurses.¹¹
- **Standing Orders**^{12,13}— Standing orders provide a legal written instruction for the administration of medicines by an authorized person (e.g., RN) in situations where a prompt response using a standard procedure will improve consumer care and where a medicine is part of this procedure. Standing orders are developed by service providers (e.g., hospital committees) and are linked to their policies and procedures.^{14,15,16,17}
 - According to a 2010 report, RNs in all states and territories, except Northern Territory and Western Australia, may initiate medicines under standing orders.¹⁸
 - In Victoria, RNs (with or without endorsement) may administer some medications to patients as long as there is an agreed policy (i.e., a provider's standing orders or nurse-initiated drug policy^h) and the doctor is unable to be contacted.¹⁹

2.3 Education

To be eligible for endorsement, RNs must complete an approved program as determined by the Nursing and Midwifery Board of Australia.²⁰ A 2005 study of RNs in Queensland found that those who undertook a rural and isolated area endorsement program (i.e., RINs) were more confident in believing that they could explain to their clients how a medication works compared to those who did not complete the program. However, while RINs are more likely than non-RINs to provide a client with medication education on discharge, overall only 34% of nurses (RINs and non-RINs) 'always' provided this education.²¹

3. Ireland

3.1 Legislation

In Ireland, nurse prescribing was first introduced in 2007 following several legislative changes. This included changes to primary legislation (i.e., *The Irish Medicines Board [Miscellaneous Provisions] Act 2006*) and its associated regulations (i.e., *the Misuse of Drugs [Amendment] Regulations 2007*, *Medicinal Products [Prescription and Control of Supply] [Amendment] Regulations 2007*, *Nurse Rules 2007*).^{22,23} These new regulations attached the following conditions on nurse prescribers:

- A nurse prescriber must be employed by a health service provider in a hospital, nursing home, clinic or other health service setting (e.g., private home).
- A prescription must be issued in the usual course of providing a health service.
- The medicinal product is one that is given in the usual course of health services provided in the setting in which a nurse is employed.

⁹ In Queensland, health management protocols are the clinical care guidelines for the endorsed nurse that support and detail the clinical use, including administration and/or supply, of drugs listed in a drug therapy protocol ([An Bord Altranais, 2005](#)).

^h A nurse-initiated drug policy is the hospital policy that authorizes and guides RNs to administer certain medicines ([State Government of Victoria, 2012](#)).

The regulations also created a new classification of nurses (i.e., Registered Nurse Prescriber [RNP]), identified controlled drugs that can be prescribed by the RNP, and noted that employers may impose further restrictions prohibiting a nurse from prescribing.²⁴

3.2 Prescribing Model

In Ireland, a nurse's prescriptive authority is outlined in a document known as the Collaborative Practice Agreement (CPA), which is a written agreement between the nurse, registered medical practitioner(s), and the health service employer. The CPA defines the RNP's scope of practice and serves as a mechanism to ensure that communication and referral mechanisms have been established between the RNP and the medical practitioners regarding the care of their patients.^{25,26} The CPA also stipulates that a Drugs and Therapeutics Committee must approve the specific medication and/or categories of medication the RNP is able to prescribe.^{27,28} Accordingly, RNPs may independently prescribe within their field of clinical practice, from the formulary specified.²⁹

3.3 Education

To become a RNP, a RN must complete a post-graduate prescribing program recognized by the Irish Nursing Board (An Bord Altranais).^{30,i} Within this program, pharmacology, the legal and ethical aspects of prescribing, and clinical decision making constitute important topics of training.³¹ To enter the program, a nurse must:

- Have a minimum three years of clinical experience (within the past five years and with at least one year of full-time experience in a nurse's specific area of practice);
- Have competencies recognized at a Honours Bachelor Degree Level;
- Demonstrate continuous professional development; and
- Have a competent level of information technology literacy.^{32,33}

Following completion of a program, a nurse must apply to the Irish Nursing Board to become a RNP. The application includes the submission of an approved CPA Form.³⁴

3.4 Prescribing Supports

To support RNPs, the Irish Nursing Board has established practice standards and a decision making framework for nurse prescribing.³⁵ For further details see the Irish Nursing Board's [*Practice Standards and Guidelines for Nurses and Midwives with Prescriptive Authority*](#).

3.5 Evaluation of RN Prescribing

A 2009 national study evaluating the practice of independent nurse or midwife prescribing in Ireland across several domains (e.g., educational preparation, appropriateness and safety, patient satisfaction, nurses' and midwives' perceptions of outcomes, and health professionals' perceptions of outcomes) was identified.³⁶ It should be noted that this evaluation did not exclusively focus on RNs (i.e., staff nurses) as midwives and other classifications of nurses (e.g., advanced nurse practitioner; Clinical Nurse Specialists) were also included in the data and represented a majority of participants. Some key findings included:

- Overall, there was evidence of safe and appropriate prescribing practices by the nurse and midwife prescribers (e.g., an audit found that in 96% of cases there was agreement

ⁱ Education programs for nurse prescribing in Ireland, as well as independent and supplementary prescribing courses in the UK, are offered on a stand-alone basis (i.e., not part of a regular nursing curriculum) ([Kroezen et al., 2011](#)).

- between reviewers that the medication prescribed was effective for the presenting medical conditions; reviewers also agreed that 89% of medicine dosage and 92% of directions were written correctly).
- Almost all patient respondents were in favour of nurse or midwife prescribing. In addition, over 90% of patients/parents/guardians were in agreement that receiving a prescription from a nurse or midwife had reduced their waiting time for treatment.

4. New Zealand

4.1 Legislation and Prescribing Model

Until recently, only nurse practitioners whose qualifications were registered with the Nursing Council were eligible to prescribe medications in New Zealand.^{37,38} However, in 2011, new regulations were passed which allowed RNs practicing in diabetes health (i.e., Diabetes Nurse Specialist [DNS]) to prescribe 26 medicines commonly used to treat problems associated with diabetes. In particular, the *Medicines (Designated Prescriber—Registered Nurses Practising in Diabetes Health) Regulations 2011* made provision for the Nursing Council of New Zealand to authorize changes to scopes of practice for individual practitioners where it was satisfied that a RN has the appropriate qualifications to prescribe (i.e., within specialist diabetes care services).³⁹ In February 2014, the Nursing Council of New Zealand confirmed that the qualification and training for nurses who wish to apply for prescribing rights in diabetes health will remain the same as for nurses in the 2011 pilot and the 2012 roll out.^{40,41}

Following an evaluation of prescribing among DNSs, the Ministry of Health invited an application from the Nursing Council of New Zealand in February 2013 to extend the prescribing rights for suitably qualified RNs practicing in other healthcare fields as well. The Nursing Council of New Zealand undertook consultations on two proposals for RN prescribing. This included the creation of two proposed roles:

- **Community nurse prescribing** – includes nurses who have three years practice experience and who have taken a course in community nurse prescribing. These nurses would be able to diagnose and treat minor ailments and infections in normally healthy people and promote health and prevent disease by prescribing contraceptives, vaccines and other medicines.⁴² The Council further proposed a six day education program, including three days of prescribing under the supervision of a medical mentor.⁴³
- **Specialist nurse prescribing** – includes nurses with a minimum of three years practice experience and a postgraduate diploma in prescribing (with courses in pathophysiology, assessment of common conditions, pharmacology and prescribing). These nurses would be authorized to prescribe medicines for patients who have long term conditions (e.g., diabetes, chronic respiratory disease) within a collaborative interdisciplinary team.⁴⁴

In October 2013, the Nursing Council of New Zealand published an analysis of the 197 submissions^j that it received, and reported that there was strong overall support for the Council's proposals and the extension of nurse prescribing. However, the report also noted that there was less agreement and divergent views regarding some areas within both proposals, particularly the

^j Submissions were received from health care system stakeholders; a large proportion of submissions were received from individual nurses or groups of nurses ([Nursing Council of New Zealand, n.d.](#)). Individual submissions are available [here](#).

lists of prescription medicines, but also the proposed qualification and training for community nurse prescribing.⁴⁵

According to an analysis and summary of submissions for:

- **Community nurse prescribing**
 - 90.2% of submitters supported the community nurse prescribing proposal.
 - 91.0% of submitters agreed that community nurse prescribing will enable patients to receive more accessible, timely and convenient care.
 - Only 38.7% of submitters agreed with the proposed education and training for community nurse prescribing. The reasons given for not supporting the qualification and training were that it was insufficient and the list of medicines was too extensive.
- **Specialist nurse prescribing**
 - 93.6% of submitters agreed with the proposal that suitably qualified and experienced registered nurses should be able to prescribe from the specialist and community nurse prescribing lists of medicines.
 - 94.3% of submitters agreed that specialist nurse prescribing will enable patients to receive more accessible, timely, and convenient care.
 - 94.2% of submitters agreed that nurses with specialist nurse prescribing authority should be required to work in collaborative multidisciplinary teams.
 - 90.5% of submitters agreed with the proposed education and training for specialist nurse prescribing.
 - 62.3% of submitters agreed with the list of prescription medicines for specialist nurse prescribing.⁴⁶

For more detailed information on the findings of the consultation, see the Nursing Council of New Zealand's [Executive Summary: Analysis of Submissions](#).

As of October 2013, the Nursing Council of New Zealand had decided to establish an expert advisory group to assist with the development of a list of medicines for limited prescribers in relation to both proposals. In response to the feedback received, the Nursing Council of New Zealand will undertake further work on both proposals before they are finalized. It has also decided to work on the specialist nurse prescribing proposal before the community nursing proposal; however no specific timeframe was provided.⁴⁷

4.2 Education

Currently, the educational requirements for RN prescribing in diabetes care include two postgraduate qualifications with content that includes pathophysiology; clinical assessment and decision making; and pharmacology; as well as a six to 12 week supervised practicum, which requires that the applicant demonstrates knowledge to safely prescribe all specified diabetes medicines and knowledge of the regulatory framework for prescribing.^{48,49}

4.3 Evaluation of Nurse Prescribing

Following the 2011 changes allowing DNS prescribing, a demonstration project and evaluation was conducted to test the effectiveness and safety of this model, with the objective of informing

implementation and extension of the model elsewhere. Overall, the authors of this study concluded that DNS prescribing was safe, of good quality, and clinically appropriate. For example:

- No adverse events or hospitalizations for patients during the project were attributed to DNS prescribing.⁵⁰
- 96% of audited prescriptions complied with legal requirements.⁵¹
- Patients reported high satisfaction with DNS prescribing particularly related to convenience as it was noted that it saved them time and resulted in fewer delays in waiting for a prescription.⁵²
- Clinical audit findings supported all prescribing decisions made.⁵³
- Patient interviews suggested that DNS prescribing in the diabetes centres improved access to medicines by providing a more timely service.⁵⁴

5. Sweden

Since 1994, district nurses^k and nurses working with elderly in Sweden have been permitted to prescribe drugs from a limited formulary; these medications are also available as over-the-counter preparations.^{55,56,57} Following the completion of a postgraduate diploma in specialist nursing, district nurses become authorized to prescribe medication by taking an eight week course on pharmacology and drug treatment, which is included in the speciality course (i.e., the Primary Health Care Specialist Nursing program) for all district nurses.^{58,59,60} In 2000, the right to prescribe was extended to include other specialist nurses with a documented education in pharmacology and pathology, working in community health care or home nursing.⁶¹ No further details or evaluations were identified regarding nurse prescribing in Sweden.

6. United Kingdom

6.1 Legislation

In the UK, supplementary nurse prescribing was introduced in 2003 following amendments to the *Prescription Only Medicines (Human Use) Order 1997*.⁶² This legislation ensures that qualified nurses (i.e., supplementary prescribers) are able to prescribe and administer prescription only medications in accordance with CMPs related to individual patients.⁶³ These changes applied to all UK countries (i.e., England, Wales, Northern Ireland, Scotland),⁶⁴ which all use supplementary nurse prescribing.

In 2006, legislation came into effect which enabled all qualified Extended Formulary^l and Extended/Supplementary nurse prescribers^m to become Nurse Independent Prescribers.⁶⁵

New legislation came into force in April 2012 allowing nurse independent prescribers to prescribe any schedule 2-5 controlled drugsⁿ for any medical condition, within their clinical competence,

^k In Sweden, district nurses do not have independent medical authority and operate under the supervision of physicians in the primary care and home care sectors ([Esmail, 2013](#); [Anell et al., 2012](#)). Sufficient information was not available to determine how district nurses compare to RNs in Ontario.

^l Since May 2006, extended formulary nurse prescribers have been called nurse independent prescribers ([NMC, 2006](#)).

^m Since May 2006, extended/nurse prescribers have been called nurse independent/supplementary prescribers ([NMC, 2006](#)).

ⁿ Controlled Drugs are medicines that are controlled under the Misuse of Drugs Legislation and include addictive drugs with no therapeutic value (Schedule 1), opiates (Schedule 2), barbiturates (Schedule 3), benzodiazepines and steroids (Schedule 4) and preparations that contain low strength controlled drugs (Schedule 5) ([NHS, 2012](#)).

removing the previous limitations.^o However, these changes do not apply to the prescribing of cocaine, diamorphine or dipipanone^p for the treatment of addiction (this is restricted to Home Office licensed doctors).⁶⁶

6.2 Prescribing Models

Three models of RN prescribing were identified in the UK:

- **Independent Prescribing:** Nurse Independent Prescribers are specially trained nurses allowed to prescribe any licensed and unlicensed drugs within their clinical competence. In 2006, nurse prescribers were given full access to the British National Formulary and this has put nurses on a par with doctors in relation to prescribing capabilities. As of April 2012, nurse independent prescribers were able to prescribe controlled drugs within their competence and practice the mixing of medicines, including controlled drugs.
 - *Community Practitioner Nurse Prescribers* are a distinct group of independent prescribers. They consist of district nurses^q, health visitors^r and school nurses^s who are allowed to independently prescribe from a limited formulary called the Nursing Formulary for Community Practitioners which includes over-the-counter drugs, wound dressings and applications.⁶⁷
- **Supplementary Prescribing:** Supplementary prescribing is a voluntary partnership between an independent prescriber (e.g., doctor) and a supplementary prescriber (e.g., a RN) to implement an agreed patient-specific clinical management plan (CMP) with the patient's agreement.⁶⁸ In this model, a doctor provides an initial diagnosis and the supplementary prescriber may prescribe medications from a pre-specified list of medicines^t as outlined in the patient's CMP. Although these medicines must be within the supplementary prescriber's area of competence,⁶⁹ there is no specific formulary or list of medicines, nor are their legal restrictions on the clinical conditions which a supplementary prescriber may treat.⁷⁰ Thus, supplementary prescribers may prescribe from the entire British National Formulary, including all controlled drugs, provided they are listed in a CMP.⁷¹ The collaborating doctor shares the responsibility of prescribing and holds full responsibility for the assessment and diagnosis of a patient.⁷²
- **Patient Group Directions:** Patient Group Directions (PGDs) are another method through which nurses can prescribe. PGDs refer to written instructions, developed by a multidisciplinary team (e.g., doctors, pharmacists, nurses), for the supply and administration of named medicines in an identified clinical situation. PGDs are specifically

^o Previously, nurse independent prescribers were restricted to a specified range of controlled drugs for special medical conditions ([NPC, 2010](#)).

^p Diamorphine (i.e., heroin) and dipipanone are both opioids ([NHS, 2008](#)).

^q District nurses visit people in their own homes or in residential care homes, providing increasingly complex care for patients and supporting family members. District nurses also have a teaching and support role, working with patients to enable them to care for themselves or with family members, teaching them how to give care to their relatives. They are also accountable for their own patient caseloads. ([NHS, n.d.](#)).

^r Health visitors are registered nurses or midwives who undertake further training (post-registration) in health visiting ([NHS, n.d.](#)). They see parents and families in a variety of settings, including their homes, clinics, and general practitioner surgeries ([NHS, n.d.](#)).

^s School nurses provide a variety of services such as providing health and sex education within schools, carrying out developmental screening, undertaking health interviews and administering immunization programs. School nurses can be employed by the local health authority, community NHS providers, or by a school directly ([NHS, n.d.](#)).

^t This list is developed by the nurse and the doctor, following initial diagnosis ([Drennen et al., 2009](#)).

designed for a particular group of patients with a specific condition (i.e., not individual patients). Nurses are only able to supply and administer medications within the strict terms of the predetermined protocol.^{73,u}

6.3 Education

To become a nurse prescriber, a RN must complete a postgraduate program in prescribing recognized by the Nursing and Midwifery Council in the UK.^{74,75,76} This program is taught at an undergraduate level and includes training on, among other topics, consultation skills, decision making, clinical pharmacology, evidence based practice, and the legal, policy and ethical aspects of prescribing. To enter a nurse prescribing program, a nurse must:

- Have three years of clinical experience, with at least one year in the clinical field in which they intend to practice; and
- Arrange for a Designated Medical Practitioner who will supervise them during their practice period.^{77,78}

Once the program is completed, an individual must successfully register as a nurse prescriber with the Nursing and Midwifery Council. They are also responsible for maintaining and updating prescribing knowledge and competencies.⁷⁹

A 2007 information package of a nurse prescribing course at the University of Sheffield stated that supplementary prescribing may be the most appropriate mechanism for prescribing where a nurse is newly qualified as a prescriber or where a team approach to prescribing is clearly appropriate.⁸⁰ Further, according to a 2006 NMC document, it is not possible to prescribe as a supplementary prescriber without undertaking preparation to be a nurse independent prescriber first.⁸¹

With regard to prescribing under PGDs, no specific training is required for nurses using this method, although most clinical commissioning groups^v provide some in-house training.^{82,83} A PGD can, in principle, be drawn up for any medical condition, however it has been noted that it should be reserved for those situations where it offers 'an advantage for the patient without compromising patient safety'.⁸⁴

6.4 Evaluation of Nurse Prescribing in the UK

According to the Royal College of Nursing, the benefits of nurse prescribing (both independent and supplementary) in the UK have been consistently reported in the literature (mainly through qualitative and anecdotal surveys as well as questionnaires), with evidence showing improved patient care and satisfaction, increased access to medicines, reduction in waiting times and delivery of high quality care.⁸⁵ The Royal College of Nursing also notes that some evidence shows that nurse prescribing improves patient care by ensuring timely access to medicines and treatment, and increasing flexibility for patients who would otherwise need to wait to see a doctor.^{86,87,88,89} Other individual studies evaluating the impacts of nurse prescribing in the UK are highlighted below.

^u According to the Department of Health (2012), PGDs are not a form of prescribing per se.

^v Formerly Primary Care Trusts (PCTs). On April 1, 2013, PCTs were abolished and replaced with clinical commissioning groups ([NHS Choices, 2013](#)).

6.4.1. Evaluation of the Supplementary Nurse Prescribing Model

Two studies were identified that evaluated various aspects of supplementary nurse prescribing.

- **Safety:** A 2008 study found preliminary evidence regarding the safety of supplementary prescribing by nurses and pharmacists in England. In an audit of 77 consultations, no errors were identified, although three prescriptions were assessed as being inappropriate overall (two of these involved a nurse prescribing a branded rather than generic medicine, and the other involved a pharmacist prescribing a medicine that was considered more expensive than others in its class).⁹⁰
- **Clinical effectiveness and costs:** A 2010 study comparing the clinical effectiveness and costs of nurse supplementary prescribing and independent medical prescribing in mental health found that there were no significant differences between the two types of prescribing in terms of medication adherence, health status, side effects and satisfaction of overall care.
 - The total annual cost per patient was £803 higher (or £1713 higher including unpaid care from family or friends) for mental health nurse supplementary prescribers' patients, but these differences were not statistically significant. The authors noted that the cost difference between supplementary nurse prescribing and independent medical prescribing was the result of patients in the nurse prescribers' group being more likely to be admitted as psychiatric patients in the past 12 months. The authors noted that there was insufficient information to determine the reason for these differences in admittance rates.⁹¹

Several additional studies surveyed nurses regarding their opinions about supplementary prescribing using CMPs and found generally positive views:

- In one study, nurse prescribers viewed the CMPs as successful in improving efficiency (e.g., shared responsibilities with physician, rapid management of common problems) and prescribing practices (e.g., patient safety), and was also considered to be a robust framework for the ongoing review of each patient's management.⁹²
- Similarly, nurse prescribers in another study felt that the CMP was a useful tool to assure safety, provided the plan had been discussed, received full agreement from, and signed by a doctor.⁹³
- Nurses in a final study believed that supplementary prescribing resulted in quicker access to medicines and services for patients, and that time saved through supplementary prescribing allowed for nurses to spend more time with patients, which was deemed beneficial for continuity of care.⁹⁴

6.4.2. Evaluation of Nurse Prescribing in Scotland

A 2009 evaluation report found that the expansion of nurse prescribing has benefited patients, improved public health, and benefited health care professionals. These benefits include improved patient access to treatment, enhanced patient care, maintaining and improving patient experience, enhanced professional satisfaction and application of nurse skills, building inter-professional collaboration, enabling effective use of medical staff time, and maintaining public health standards.

- According to the study, nurse prescribing is considered safe. However, stakeholder groups, the health professionals themselves and their managers all identified the need for effective education, supervision, and auditing of nurse prescribing work. Further, evidence

- suggests that nurse prescribing has been both effective and efficient without a large surge in drug budgets, unnecessary prescribing, or threats to public health or patient safety.⁹⁵
- For further information on stakeholder perspectives of nurse prescribing, the impact of nurse prescribing on health service, and public health and patient safety in nurse prescribing, see the Scottish Government's [Evaluation of the Expansion of Nurse Prescribing in Scotland](#).

6.5 Implementation Barriers and Facilitators of Supplementary Prescribing

One literature review and five individual qualitative studies identified several barriers to and a few potential facilitators to the implementation of supplementary nurse prescribing in the UK.^{96,97,98,99,100,101} These include:

- **Practical issues:** Practical issues included difficulty accessing patients' medical records and lack of, or no access to, prescribing pads.^{102,103,104}
 - **Difficulties using or implementing CMPs:** Several Issues were highlighted regarding the use or implementation of the CMP. For example, setting up a CMP was noted as being too time-consuming^{105,106,107,108} and there were difficulties in finding a doctor to sign them.¹⁰⁹ In addition, a review article noted that participants in some studies believed that the CMP was less suitable for patients with co-morbidities or more complex presentations, and was frequently described as being restrictive in nature resulting in inflexible prescribing that inconvenienced patients.¹¹⁰
 - **Poor information technology (IT) infrastructure:** Poor IT infrastructure was noted as a barrier, in particular, software that could not accommodate supplementary prescribing (e.g., inability to print prescriptions).^{111,112,113,114,115}
 - In contrast, another study noted that access to appropriate IT and facilities (along with a pre-existing working relationship between a doctor and nurse prescriber) can make the supplementary prescribing process easier.¹¹⁶
- **Awareness regarding supplementary prescribing:** Three studies identified lack of awareness and understanding of the supplementary prescriber role among patients, peers, doctors and other healthcare professionals as a barrier to implementation.^{117,118,119}
 - In contrast, one study noted that the level of support, from both peers and employers, was a potential facilitator to implementation. In particular, a top-down approach, where an overall commitment to supplementary prescribing is embedded within an organization, was advocated as being important by key stakeholders (e.g., nurse supplementary prescribers, doctors, patient group representatives).¹²⁰
- **Funding:** One review article highlighted that lack of funding or strategy for supplementary prescribing in primary care was a barrier to implementation. This included local funding problems and failure to commission non-medical prescribing posts at a local level.¹²¹

6.6 Implementation Barriers of Independent Prescribing

A 2012 Royal College of Nursing report stated that 20% of nurse independent prescribers continue to prescribe under a supplementary capacity and that a few NHS hospitals require newly qualified nurse independent prescribers to practice under a supplementary prescriber capacity for six

months before they take on full prescribing responsibilities. Furthermore, some NHS trusts^w have local policies that restrict nurse prescribing based on settings (i.e., emergency department), or having to work within a trust's local formulary. The report also notes that there are ongoing issues regarding the limited availability of continued training and development resources for qualified nurse prescribers to refresh their knowledge and skills.¹²² However, no further details were provided on this barrier.

7. United States

In the United States (US), nurse prescribing is regulated at a state level.¹²³ A 2009 report notes that nurse prescribing is only permitted to be undertaken by those at the level of advanced practice registered nurses (APRN).^{124,x}

7.1 Legislation

There is no uniform model of regulation of APRNs across the US states. Each state independently determines the APRN legal scope of practice, the roles that are recognized, the criteria for entry-into advanced practice and the certification examinations accepted for entry-level competence assessment.¹²⁵ The National Council of State Boards of Nursing^y is currently in the process of campaigning for the adoption of a regulatory model for APRNs (i.e., Consensus Model for APRNs).^{126,127} The target date for full implementation of the APRN Consensus Model, including licensure, accreditation, certification, education and full prescriptive authority is 2015.^{128,129,130} No further details were identified regarding specific legislation related to nurse prescribers.

7.2 Prescribing Model

Within the APRN Consensus Model, APRNs are independent practitioners and licensed to practice as an APRN in one of the four APRN roles (i.e., nurse practitioners, clinical nurse specialists, nurse anesthetists, and nurse midwives).¹³¹

According to a 2014 document on the APRN Consensus Model, many US states and territories allow APRNs to independently prescribe drugs, but not all four roles are given the same prescribing authority in the different states (e.g., in Colorado, Hawaii, and Connecticut all four types of APRN may independently prescribe; whereas in Arizona, only nurse practitioners are allowed to independently prescribe).¹³² Depending on the state, APRNs are licensed to prescribe independently (e.g., Colorado, Hawaii, Connecticut) or in a supplementary capacity (i.e., not independently, as is the case in Delaware, Iowa, Indiana, and Missouri).^{133,134} APRNs who are 'Not Independent' prescribers need a written agreement that specifies scope of practice and medical acts allowed with or without a general supervision requirement by physician; or require direct supervision in the presence of a licensed physician with or without a written practice agreement.¹³⁵

^w As of April 1, 2013, NHS trusts were expected to become foundation trusts by 2014 ([NHS, 2013](#)).

^x Advanced Practice Registered Nurses include nurse practitioners, clinical nurse specialists, nurse anesthetists, and nurse midwives ([Nursingworld, 2014](#)).

^y The National Council of State Boards of Nursing (NCSBN) is an independent not-for-profit organization that acts as a collective voice of nursing regulation in the US and its territories. It aims to lessen the burden of state governments and brings together boards of nursing to act and counsel together on matters of interest ([NCSBN, 2014](#)).

7.3 Education

To qualify as APRN, a nurse needs to complete an accredited graduate-level education program (e.g., master's or doctoral) or post-graduate certificate (either post-master's or post-doctoral) in one of the four recognized APRN roles and needs to pass a national certification examination. APRN education must include at a minimum, three separate comprehensive graduate-level courses (the APRN Core) in: advanced physiology/pathophysiology; advanced health assessment; and advanced pharmacology.¹³⁶

8. International Evaluation of Nurse Prescribing

A 2014 systematic review on the effects of nurse prescribing^z compared to physician prescribing included 35 studies from the US, the UK, the Netherlands, Canada, Norway, and Colombia and concluded that the effects of nurse prescribing on medication and patient outcomes appear to be positive when compared to physician prescribing. However, the authors note that conclusions should remain tentative due to methodological weaknesses in this body of research. The authors found that:

- Twelve of thirteen studies showed no differences between nurse and doctor prescribing with regards to clinical outcomes (e.g., blood pressure levels, asthma control, health status).
- Three studies in primary care reported no differences between nurses and general practitioners in the number of referrals to secondary care, while two studies of patients with diabetes found that patients cared for by specialized nurses were more likely to be referred back to their general practitioner to continue treatment (compared to patients cared for by medical specialists).
- Eleven of 15 studies on the number of patients prescribed medications reported that the number of patients for whom a nurse prescribes medication is similar to the number of patients for whom a physician prescribed medication.
- Twelve of 13 studies suggested patients were generally more satisfied or equally satisfied with the care provided by a nurse compared to traditional care provided by a physician.
- Six of eight studies found that nurses generally spent more or equal amounts of time with patients compared to doctors.¹³⁷

Please take the time to complete an anonymous two-minute to inform us how this review met, or did not meet, your needs.

^z According to Gielen and colleagues (2014), 22 of the 35 studies involved independent nurse prescribing, two studies involved supplementary nurse prescribing, five studies described a mix of independent and supplementary prescribing, and six studies looked at prescribing based on group directions.

REFERENCES

All website links working as of July 2014

- ¹ Nursing and Midwifery Board of Australia. (2014). [Registration standard for endorsement for scheduled medicines registered nurses \(rural and isolated practice\)](#).
- ² Nursing and Midwifery Board of Australia. (2013). [Frequently asked questions, 6 June 2013, Registration as a nurse or midwife](#).
- ³ Australian Health Practitioner Regulation Agency. (2010). [Fact sheet: Endorsement of registration](#).
- ⁴ Nissen, L., Kyle, G., Stowasser, D., Lum, E., Jones, J., McLean, C. (2010). [Non-medical prescribing: An exploration of likely nature of, and contingencies for, developing a nationally consistent approach to prescribing by non-medical health professionals. Final Report](#).
- ⁵ Nursing and Midwifery Board of Australia. (2014). [Registration standard for endorsement for scheduled medicines registered nurses \(rural and isolated practice\)](#).
- ⁶ Nissen, L., Kyle, G., Stowasser, D., Lum, E., Jones, J., McLean, C. (2010). [Non-medical prescribing: An exploration of likely nature of, and contingencies for, developing a nationally consistent approach to prescribing by non-medical health professionals. Final Report](#).
- ⁷ The National Nursing and Nursing Education Taskforce. (2006). [National Nurse Prescribing Glossary \(NNPG\)](#).
- ⁸ Kroezen, M., van Dijk, L., Groenewegen, P.P., & Francke, A.L. (2011). [Nurse prescribing of medicines in Western European and Anglo-Saxon countries: A systematic review of the literature](#). *BMC Health Services Research*, 11: 127.
- ⁹ Queensland Government. (2014). [Health \(Drugs and Poisons\) Regulation 1996: Drug Therapy Protocol – Rural and Isolated Practice Area Endorsed Nurse](#).
- ¹⁰ Queensland Government. (2013). [Medicines and Poisons](#).
- ¹¹ State Government of Victoria. (2012). [Nurse Endorsement Policy Framework 2012](#).
- ¹² Nursing and Midwifery Board of Australia. (2014). [Registration standard for endorsement for scheduled medicines registered nurses \(rural and isolated practice\)](#).
- ¹³ Nissen, L., Kyle, G., Stowasser, D., Lum, E., Jones, J., McLean, C. (2010). [Non-medical prescribing: An exploration of likely nature of, and contingencies for, developing a nationally consistent approach to prescribing by non-medical health professionals. Final Report](#).
- ¹⁴ Australian Department of Health and Ageing. (2006). [Guiding principles for medication management in the community – July 2006: Guiding principle 11 – Standing orders](#).
- ¹⁵ State Government of Victoria. (2012). [Nurse Endorsement Policy Framework 2012](#).
- ¹⁶ Government of South Australia. (2012). [Standing orders for the administration of drugs of dependence in a health service facility](#).
- ¹⁷ Government of Queensland. (2013). [Statewide standing orders for the supply or administration of medication for public health response](#).
- ¹⁸ Nissen, L., Kyle, G., Stowasser, D., Lum, E., Jones, J., McLean, C. (2010). [Non-medical prescribing: An exploration of likely nature of, and contingencies for, developing a nationally consistent approach to prescribing by non-medical health professionals. Final Report](#).
- ¹⁹ State Government of Victoria. (2012). [Nurse Endorsement Policy Framework 2012](#).
- ²⁰ Nursing and Midwifery Board of Australia. (2014). [Registration standard for endorsement for scheduled medicines registered nurses \(rural and isolated practice\)](#).
- ²¹ Hegney, D., Plank, A., Watson, J., Raith, L., McKoen, C. (2005). Patient education and consumer medicine information: a study of provision by Queensland rural and remote area Registered Nurses. *Journal of Clinical Nursing*, 14(7), 855-62.
- ²² An Roinn Sláinte Agus Lenaí– Department of Health & Children, Health Service Executive, An Bord Altranais Nursing Board & National Council for the Professional Development of Nursing and Midwifery. (2007). [The introduction of nurse and midwife prescribing in Ireland: An Overview](#).
- ²³ Drennan, J., Naughton, C., Allen, D., Hyde, A., Felle, P., O'Boyle, K., Treacy, P., & Butler, M. (2009). [National independent evaluation of the nurse and midwife prescribing initiative](#).
- ²⁴ Drennan, J., Naughton, C., Allen, D., Hyde, A., Felle, P., O'Boyle, K., Treacy, P., & Butler, M. (2009). [National independent evaluation of the nurse and midwife prescribing initiative](#).
- ²⁵ An Bord Altranais. (2012). [Frequently Asked Questions about Prescriptive Authority](#).
- ²⁶ An Bord Altranais. (2012). [Collaborative Practice Agreement \(CPA\) for nurses and midwives with prescriptive authority, third edition](#).

- ²⁷ An Bord Altranais. (2009). [Evaluation of An Bord Altranais regulatory framework for prescriptive authority.](#)
- ²⁸ An Bord Altranais. (2012). [Collaborative Practice Agreement \(CPA\) for nurses and midwives with prescriptive authority, third edition.](#)
- ²⁹ Kroezen, M., van Dijk, L., Groenewegen, P.P., & Francke, A.L. (2011). [Nurse prescribing of medicines in Western European and Anglo-Saxon countries: A systematic review of the literature.](#) *BMC Health Services Research*, 11: 127.
- ³⁰ An Bord Altranais. (2012). [Frequently Asked Questions about Prescriptive Authority.](#)
- ³¹ Kroezen, M., van Dijk, L., Groenewegen, P.P., & Francke, A.L. (2011). [Nurse prescribing of medicines in Western European and Anglo-Saxon countries: A systematic review of the literature.](#) *BMC Health Services Research*, 11: 127.
- ³² An Bord Altranais. (2012). [Frequently Asked Questions about Prescriptive Authority.](#)
- ³³ An Bord Altranais. (2007). [Requirements and Standards for Education Programmes for Nurses and Midwives with Prescriptive Authority, First Edition.](#)
- ³⁴ An Bord Altranais. (2012). [Frequently Asked Questions about Prescriptive Authority.](#)
- ³⁵ An Bord Altranais. (2010). [Practice Standards and Guidelines for Nurses and Midwives with Prescriptive Authority.](#)
- ³⁶ Drennan, J., Naughton, C., Allen, D., Hyde, A., Felle, P., O'Boyle, K., Treacy, P., & Butler, M. (2009). [National independent evaluation of the nurse and midwife prescribing initiative.](#)
- ³⁷ Hoare, K.J., Mills, J., & Francis, K. (2012). The role of government policy in supporting nurse-led care in general practice in the United Kingdom, New Zealand and Australia: An adapted realist view. *Journal of Advanced Nursing*, 68(5), 963-980.
- ³⁸ Wilkinson, J. (2011). Extending the prescribing framework to nurses: Lessons from the past. *Collegian*, 18(4), 157-163.
- ³⁹ Wilkinson, J., Carryer, J., Adams, J., & Channing-Pearce, S. (2011). [Evaluation of the Diabetes Nurse Specialist Prescribing project.](#) *New Zealand Society for the Study of Diabetes.*
- ⁴⁰ Nursing Council of New Zealand. (2014). [Further extension of prescribing to registered nurses working in diabetes health.](#)
- ⁴¹ Reed, C. (2011). [Medicines \(Designated Prescriber - Registered Nurses Practising in Diabetes Health\) Notice 2011.](#) *Extract from the New Zealand Gazette*, 31/3/2011, No. 41, p.1006.
- ⁴² Nursing Council of New Zealand. (2013). [Consultation on two proposals for registered nurse prescribing: Community nurse prescribing, specialist nurse prescribing.](#) *Consultation document.*
- ⁴³ Nursing Council of New Zealand. (2013). [Consultation: Two proposals for registered nurse prescribing.](#)
- ⁴⁴ Nursing Council of New Zealand. (2013). [Consultation on two proposals for registered nurse prescribing: Community nurse prescribing, specialist nurse prescribing.](#) *Consultation document.*
- ⁴⁵ Nursing Council of New Zealand. (2013). [Consultation: Two proposals for registered nurse prescribing.](#)
- ⁴⁶ Nursing Council of New Zealand. (2013). [Consultation: Two proposals for registered nurse prescribing.](#)
- ⁴⁷ Nursing Council of New Zealand. (n.d.). [Analysis of submissions concerning registered nurse prescribing.](#)
- ⁴⁸ Wilkinson, J., Carryer, J., Adams, J., & Channing-Pearce, S. (2011). [Evaluation of the Diabetes Nurse Specialist Prescribing project.](#) *New Zealand Society for the Study of Diabetes.*
- ⁴⁹ Nursing Council of New Zealand. (2014). [Guideline: Prescribing Practicum for Diabetes Registered Nurse Prescribing.](#)
- ⁵⁰ Wilkinson, J., Carryer, J., Adams, J., & Channing-Pearce, S. (2011). [Evaluation of the Diabetes Nurse Specialist Prescribing project.](#) *New Zealand Society for the Study of Diabetes.*
- ⁵¹ Wilkinson, J., Carryer, J., Adams, J., & Channing-Pearce, S. (2011). [Evaluation of the Diabetes Nurse Specialist Prescribing project.](#) *New Zealand Society for the Study of Diabetes.*
- ⁵² Wilkinson, J., Carryer, J., Adams, J., & Channing-Pearce, S. (2011). [Evaluation of the Diabetes Nurse Specialist Prescribing project.](#) *New Zealand Society for the Study of Diabetes.*
- ⁵³ Wilkinson, J., Carryer, J., Adams, J. (2014). Evaluation of a diabetes nurse specialist prescribing project. *Journal of clinical nursing*. 23 (15-16): 2355-2366
- ⁵⁴ Wilkinson, J., Carryer, J., Adams, J. (2014). Evaluation of a diabetes nurse specialist prescribing project. *Journal of clinical nursing*. 23 (15-16): 2355-2366
- ⁵⁵ Kroezen, M., van Dijk, L., Groenewegen, P.P., & Francke, A.L. (2011). [Nurse prescribing of medicines in Western European and Anglo-Saxon countries: A systematic review of the literature.](#) *BMC Health Services Research*, 11: 127.
- ⁵⁶ Wilhelmsson, S., & Foldevi, M. (2003). Exploring views on Swedish district nurses' prescribing – A focus group study in primary health care. *Journal of Clinical Nursing*, 12(5), 643-650.
- ⁵⁷ Mardby, A.C.M., Jakobsson, A.G., Hedenrud, T.M. (2014). Beliefs about medicines among prescribing and non-prescribing nurses in Sweden. *Journal of Nursing Education and Practice*. 4(8) published online

- ⁵⁸ Kroezen, M., van Dijk, L., Groenewegen, P.P., & Francke, A.L. (2011). [Nurse prescribing of medicines in Western European and Anglo-Saxon countries: A systematic review of the literature](#). *BMC Health Services Research*, 11: 127.
- ⁵⁹ Wilhelmsson, S., & Foldevi, M. (2003). Exploring views on Swedish district nurses' prescribing – A focus group study in primary health care. *Journal of Clinical Nursing*, 12(5), 643-650.
- ⁶⁰ Mardby, A.C.M., Jakobsson, A.G., Hedenrud, T.M. (2014). Beliefs about medicines among prescribing and non-prescribing nurses in Sweden. *Journal of Nursing Education and Practice*. 4(8) published online
- ⁶¹ Mardby, A.C.M., Jakobsson, A.G., Hedenrud, T.M. (2014). Beliefs about medicines among prescribing and non-prescribing nurses in Sweden. *Journal of Nursing Education and Practice*. 4(8) published online
- ⁶² Medicines and Healthcare Products Regulatory Agency. (2010). [Supplementary Prescribing](#).
- ⁶³ United Kingdom Government. (2003). [The Prescription Medicines \(Human Use\) Amendment Order 2003: Explanatory Note](#).
- ⁶⁴ UK Government. (2003). [The Prescription Only Medicines \(Human Use\) Amendment Order 2003](#).
- ⁶⁵ Watterson, A., Turner, F., Coull, A.F., Murray, I., Boreham, N. (2009). [An evaluation of the expansion of Nurse Prescribing in Scotland](#). Scottish Government Social Research
- ⁶⁶ NHS. (2012). [Controlled Drugs](#). National Prescribing Centre.
- ⁶⁷ Royal College of Nursing. (2012). [RCN Fact Sheet Nurse Prescribing in the UK](#).
- ⁶⁸ Bissell, P., Cooper, R., Guillaume, L., Anderson, C., Avery, A., Hutchinson, A., et al., (2008). [An evaluation of supplementary prescribing in nursing and pharmacy](#). Final Report for the Department of Health.
- ⁶⁹ Courtenay, M., Carey, N., Burke, J. (2007). [Independent extended and supplementary nurse prescribing practice in the UK: A national questionnaire survey](#). *International Journal of Nursing Studies*, 44(7), 1093-1101.
- ⁷⁰ Medicines and Healthcare Products Regulatory Agency. (2010). [Supplementary Prescribing](#).
- ⁷¹ Kroezen, M., van Dijk, L., Groenewegen, P.P., & Francke, A.L. (2011). [Nurse prescribing of medicines in Western European and Anglo-Saxon countries: A systematic review of the literature](#). *BMC Health Services Research*, 11: 127.
- ⁷² Kroezen, M., van Dijk, L., Groenewegen, P.P., & Francke, A.L. (2011). [Nurse prescribing of medicines in Western European and Anglo-Saxon countries: A systematic review of the literature](#). *BMC Health Services Research*, 11: 127.
- ⁷³ Kroezen, M., van Dijk, L., Groenewegen, P.P., & Francke, A.L. (2011). [Nurse prescribing of medicines in Western European and Anglo-Saxon countries: A systematic review of the literature](#). *BMC Health Services Research*, 11: 127.
- ⁷⁴ Kroezen, M., van Dijk, L., Groenewegen, P.P., & Francke, A.L. (2011). [Nurse prescribing of medicines in Western European and Anglo-Saxon countries: A systematic review of the literature – Additional File 4 – Description of nurse prescribing in nine Western European and Anglo-Saxon countries according to core themes](#). *BMC Health Services Research*, 11: 127.
- ⁷⁵ Kroezen, M., van Dijk, L., Groenewegen, P.P., & Francke, A.L. (2011). [Nurse prescribing of medicines in Western European and Anglo-Saxon countries: A systematic review of the literature](#). *BMC Health Services Research*, 11: 127.
- ⁷⁶ Royal College of Nursing. (2012). [RCN Fact Sheet: Nurse Prescribing in the UK](#).
- ⁷⁷ Kroezen, M., van Dijk, L., Groenewegen, P.P., & Francke, A.L. (2011). [Nurse prescribing of medicines in Western European and Anglo-Saxon countries: A systematic review of the literature – Additional File 4 – Description of nurse prescribing in nine Western European and Anglo-Saxon countries according to core themes](#). *BMC Health Services Research*, 11: 127.
- ⁷⁸ Kroezen, M., van Dijk, L., Groenewegen, P.P., & Francke, A.L. (2011). [Nurse prescribing of medicines in Western European and Anglo-Saxon countries: A systematic review of the literature](#). *BMC Health Services Research*, 11: 127.
- ⁷⁹ Kroezen, M., van Dijk, L., Groenewegen, P.P., & Francke, A.L. (2011). [Nurse prescribing of medicines in Western European and Anglo-Saxon countries: A systematic review of the literature](#). *BMC Health Services Research*, 11: 127.
- ⁸⁰ The University of Sheffield. (2007). [SNM 3223 / 624 Nurse / Midwifery Independent / Supplementary Prescribing Course Information Pack](#).
- ⁸¹ Nursing & Midwife Council. (2006). [Standards of proficiency for nurse and midwife prescribers](#).
- ⁸² Kroezen, M., van Dijk, L., Groenewegen, P.P., & Francke, A.L. (2011). [Nurse prescribing of medicines in Western European and Anglo-Saxon countries: A systematic review of the literature](#). *BMC Health Services Research*, 11: 127.
- ⁸³ Kroezen, M., van Dijk, L., Groenewegen, P.P., & Francke, A.L. (2011). [Nurse prescribing of medicines in Western European and Anglo-Saxon countries: A systematic review of the literature – Additional File 4 – Description of nurse prescribing in nine Western European and Anglo-Saxon countries according to core themes](#). *BMC Health Services Research*, 11: 127.
- ⁸⁴ Kroezen, M., van Dijk, L., Groenewegen, P.P., & Francke, A.L. (2011). [Nurse prescribing of medicines in Western European and Anglo-Saxon countries: A systematic review of the literature](#). *BMC Health Services Research*, 11: 127.
- ⁸⁵ Royal College of Nursing. (2012). [RCN Fact Sheet Nurse Prescribing in the UK](#).
- ⁸⁶ Royal College of Nursing. (2012). [RCN Fact Sheet Nurse Prescribing in the UK](#).

- ⁸⁷ Carey, N., Stenner, K. (2011). Does non-medical prescribing make a difference to patients? *Nursing Times*; 107:26, 14-16. As cited in: Royal College of Nursing. (2012). [RCN Fact Sheet Nurse Prescribing in the UK](#).
- ⁸⁸ Drennan, J. et al (2009). [Independent evaluation of the nurse and midwife prescribing initiative](#). As cited in: Royal College of Nursing. (2012). [RCN Fact Sheet Nurse Prescribing in the UK](#).
- ⁸⁹ National Prescribing Centre (2010) [Non-medical prescribing by nurses, optometrists, pharmacists, physiotherapists, podiatrists and radiographers. A quick guide for commissioners](#) As cited in: Royal College of Nursing. (2012). [RCN Fact Sheet Nurse Prescribing in the UK](#).
- ⁹⁰ Bissell, P., Cooper, R., Guillaume, L., Anderson, C., Avery, A., Hutchinson, A., et al. (2008). [An Evaluation of Supplementary Prescribing in Nursing and Pharmacy](#). Final Report, Department of Health.
- ⁹¹ Norman, I.J., Coster, S., McCrone, P., Sibley, A., & Whittlesea, C. (2010). [A comparison of the clinical effectiveness and costs of mental health nurse supplementary prescribing and independent medical prescribing: A post-test control group study](#). *BMC Health Services Research*, 10:4.
- ⁹² Scrafton, J., McKinnon, J., & Kane, R. (2012). [Exploring nurses' experiences of prescribing in secondary care: Informing future education and practice](#). *Journal of Clinical Nursing*, 21(13-14), 2044-2053.
- ⁹³ Bradley, E., Hynam, B., Nolan, P. (2007). [Nurse prescribing: Reflections on safety in practice](#). *Social Science & Medicine*, 65(3), 599-609.
- ⁹⁴ Bissell, P., Cooper, R., Guillaume, L., Anderson, C., Avery, A., Hutchinson, A., et al. (2008). [An Evaluation of Supplementary Prescribing in Nursing and Pharmacy](#). Final Report, Department of Health.
- ⁹⁵ Watterson, A., Turner, F., Coull, A.F., Murray, I., Boreham, N. (2009). [An evaluation of the expansion of Nurse Prescribing in Scotland](#). Scottish Government Social Research
- ⁹⁶ Bissell, P., Cooper, R., Guillaume, L., Anderson, C., Avery, A., Hutchinson, A., et al. (2008). [An Evaluation of Supplementary Prescribing in Nursing and Pharmacy](#). Final Report, Department of Health.
- ⁹⁷ Cooper, R.J., Anderson, C., Avery, T., Bissell, P., Guillaume, L., Hutchinson, A., et al. (2008). [Nurse and pharmacist supplementary prescribing in the UK – A thematic review of the literature](#). *Health Policy*, 85(3), 277-292.
- ⁹⁸ Courtenay, M., & Carey, N. (2008). Nurse independent prescribing and nurse supplementary prescribing practice: A national survey. *Journal of Advanced Nursing*, 61(3), 291-299.
- ⁹⁹ Cooper, R., Anderson, C., Avery, T., Bissell, P., Guillaume, L., Hutchinson, A., et al. (2008). Stakeholders' views of UK nurse and pharmacist supplementary prescribing. *Journal of Health Services Research & Policy*, 13(4), 215-221.
- ¹⁰⁰ Stenner, K., Carey, N., & Courtenay, M. (2010). Implementing nurse prescribing: a case study in diabetes. *Journal of Advanced Nursing*, 66(3), 522-531.
- ¹⁰¹ Carey, N., & Courtenay, M. (2008). [Nurse supplementary prescribing for patients with diabetes: A national questionnaire survey](#). 17(16), 2185-2193.
- ¹⁰² Carey, N., & Courtenay, M. (2008). [Nurse supplementary prescribing for patients with diabetes: A national questionnaire survey](#). 17(16), 2185-2193.
- ¹⁰³ Bissell, P., Cooper, R., Guillaume, L., Anderson, C., Avery, A., Hutchinson, A., et al. (2008). [An Evaluation of Supplementary Prescribing in Nursing and Pharmacy](#). Final Report, Department of Health.
- ¹⁰⁴ Cooper, R.J., Anderson, C., Avery, T., Bissell, P., Guillaume, L., Hutchinson, A., et al. (2008). [Nurse and pharmacist supplementary prescribing in the UK – A thematic review of the literature](#). *Health Policy*, 85(3), 277-292.
- ¹⁰⁵ Cooper, R.J., Anderson, C., Avery, T., Bissell, P., Guillaume, L., Hutchinson, A., et al. (2008). [Nurse and pharmacist supplementary prescribing in the UK – A thematic review of the literature](#). *Health Policy*, 85(3), 277-292.
- ¹⁰⁶ Stenner, K., Carey, N., & Courtenay, M. (2010). Implementing nurse prescribing: a case study in diabetes. *Journal of Advanced Nursing*, 66(3), 522-531.
- ¹⁰⁷ Courtenay, M., Carey, N., Burke, J. (2007). [Independent extended and supplementary nurse prescribing practice in the UK: A national questionnaire survey](#). *International Journal of Nursing Studies*, 44(7), 1093-1101.
- ¹⁰⁸ Bissell, P., Cooper, R., Guillaume, L., Anderson, C., Avery, A., Hutchinson, A., et al. (2008). [An Evaluation of Supplementary Prescribing in Nursing and Pharmacy](#). Final Report, Department of Health.
- ¹⁰⁹ Bissell, P., Cooper, R., Guillaume, L., Anderson, C., Avery, A., Hutchinson, A., et al. (2008). [An Evaluation of Supplementary Prescribing in Nursing and Pharmacy](#). Final Report, Department of Health.
- ¹¹⁰ Cooper, R., Anderson, C., Avery, T., Bissell, P., Guillaume, L., Hutchinson, A., et al. (2008). Stakeholders' views of UK nurse and pharmacist supplementary prescribing. *Journal of Health Services Research & Policy*, 13(4), 215-221.
- ¹¹¹ Bissell, P., Cooper, R., Guillaume, L., Anderson, C., Avery, A., Hutchinson, A., et al. (2008). [An Evaluation of Supplementary Prescribing in Nursing and Pharmacy](#). Final Report, Department of Health.
- ¹¹² Cooper, R., Anderson, C., Avery, T., Bissell, P., Guillaume, L., Hutchinson, A., et al. (2008). Stakeholders' views of UK nurse and pharmacist supplementary prescribing. *Journal of Health Services Research & Policy*, 13(4), 215-221.

- ¹¹³ Courtenay, M., & Carey, N. (2008). Nurse independent prescribing and nurse supplementary prescribing practice: A national survey. *Journal of Advanced Nursing*, 61(3), 291-299.
- ¹¹⁴ Carey, N., & Courtenay, M. (2008). [Nurse supplementary prescribing for patients with diabetes: A national questionnaire survey](#). 17(16), 2185-2193.
- ¹¹⁵ Cooper, R.J., Anderson, C., Avery, T., Bissell, P., Guillaume, L., Hutchinson, A., et al. (2008). [Nurse and pharmacist supplementary prescribing in the UK – A thematic review of the literature](#). *Health Policy*, 85(3), 277-292.
- ¹¹⁶ Cooper, R., Anderson, C., Avery, T., Bissell, P., Guillaume, L., Hutchinson, A., et al. (2008). Stakeholders' views of UK nurse and pharmacist supplementary prescribing. *Journal of Health Services Research & Policy*, 13(4), 215-221.
- ¹¹⁷ Cooper, R.J., Anderson, C., Avery, T., Bissell, P., Guillaume, L., Hutchinson, A., et al. (2008). [Nurse and pharmacist supplementary prescribing in the UK – A thematic review of the literature](#). *Health Policy*, 85(3), 277-292.
- ¹¹⁸ Cooper, R., Anderson, C., Avery, T., Bissell, P., Guillaume, L., Hutchinson, A., et al. (2008). Stakeholders' views of UK nurse and pharmacist supplementary prescribing. *Journal of Health Services Research & Policy*, 13(4), 215-221.
- ¹¹⁹ Bissell, P., Cooper, R., Guillaume, L., Anderson, C., Avery, A., Hutchinson, A., et al. (2008). [An Evaluation of Supplementary Prescribing in Nursing and Pharmacy](#). Final Report, Department of Health.
- ¹²⁰ Cooper, R., Anderson, C., Avery, T., Bissell, P., Guillaume, L., Hutchinson, A., et al. (2008). Stakeholders' views of UK nurse and pharmacist supplementary prescribing. *Journal of Health Services Research & Policy*, 13(4), 215-221.
- ¹²¹ Cooper, R.J., Anderson, C., Avery, T., Bissell, P., Guillaume, L., Hutchinson, A., et al. (2008). [Nurse and pharmacist supplementary prescribing in the UK – A thematic review of the literature](#). *Health Policy*, 85(3), 277-292.
- ¹²² Royal College of Nursing. (2012). [RCN Fact Sheet Nurse Prescribing in the UK](#).
- ¹²³ Kroezen, M., van Dijk, L., Groenewegen, P.P., & Francke, A.L. (2011). [Nurse prescribing of medicines in Western European and Anglo-Saxon countries: A systematic review of the literature – Additional File 4 – Description of nurse prescribing in nine Western European and Anglo-Saxon countries according to core themes](#). *BMC Health Services Research*, 11: 127.
- ¹²⁴ Drennan, J., Naughton, C., Allen, D., Hyde, A., Felle, P., O'Boyle, K., Treacy, P., & Butler, M. (2009). [National independent evaluation of the nurse and midwife prescribing initiative](#).
- ¹²⁵ NCSBN. (2008). [Consensus Model for APRN Regulation: Licensure, Accreditation, Certification & Education](#).
- ¹²⁶ NCSBN. (2014). [APRN Campaign for Consensus: Moving Toward Uniformity in State Laws](#).
- ¹²⁷ Nursing World. (2010). [APRN Consensus Model Frequently-Asked Questions](#).
- ¹²⁸ Klein, T.A. (2012). Implementing Autonomous Clinical Nurse Specialist Prescriptive Authority. *Clinical Nurse Specialist*. 26(5), 254-262.
- ¹²⁹ NCSBN. (2008). [Consensus Model for APRN Regulation: Licensure, Accreditation, Certification & Education](#).
- ¹³⁰ Nursing World. (2010). [APRN Consensus Model Frequently-Asked Questions](#).
- ¹³¹ NCSBN. (2008). [Consensus Model for APRN Regulation: Licensure, Accreditation, Certification & Education](#).
- ¹³² NCSBN. (2014). [Major Components of the Consensus Model by State](#).
- ¹³³ NCSBN. (2014). [NCSBN's APRN Campaign for Consensus: State Progress toward Uniformity](#).
- ¹³⁴ NCSBN. (2014). [Major Components of the Consensus Model by State](#).
- ¹³⁵ NCSBN. (2014). [NCSBN's APRN Campaign for Consensus: State Progress toward Uniformity](#).
- ¹³⁶ NCSBN. (2008). [Consensus Model for APRN Regulation: Licensure, Accreditation, Certification & Education](#).
- ¹³⁷ Gielen, S.C., Dekker, J., Francke, A.L., Mistiaen, P., Kroezen, M. (2014). The effects of nurse prescribing: A systematic review. *International Journal of Nursing Studies*. 51(7):1048-1061.

SECTION III

Registered Nurse Prescribing Referral: A Preliminary Literature Review on the Effectiveness of Registered Nurse Prescribing

Registered Nurse Prescribing Effectiveness Literature Review

Registered Nurse Prescribing Referral

A Preliminary Literature Review on the Effectiveness of Registered Nurse Prescribing

December 2015

Please note that this Preliminary Literature Review is a summary of information from other sources, not a representation of the policy position or goals of the Ministry of Health and Long-Term Care. If material in the review is to be referenced, please cite the original, primary source, rather than the review itself.

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SUMMARY OF MAIN FINDINGS

- Very little information was identified which explicitly examined RN prescribing; most literature identified examined 'nurse' prescribing in general or considered nurses within the broader category of 'non-medical prescribers'.
- The quality of research literature on nurse prescribing is low. Further, little information was identified regarding the impact of nurse prescribing on patient outcomes.

Impact of Nurse Prescribing

- Limited research was identified that examined the impact of nurse prescribing on patient outcomes; some low quality evidence suggests that there may be few differences in patients' clinical outcomes (perceived or actual) when comparing nurse prescribing to physician prescribing.
- Nurses prescribe in comparable ways to physicians; they prescribe for equal proportions of patients and prescribe comparable types and doses of medicines.
- Nurse prescribing has been implemented in various clinical areas such as diabetes management, palliative care, treatment of skin conditions, and respiratory care.
- The evidence surrounding efficiency of nurse prescribing is weak; however, one UK study suggests that nurse prescribers spent more time with patients, at a substantially lower cost per episode, than physicians.
- Care provided by nurse prescribers is generally observed to be safe (e.g., in terms of clinical appropriateness of prescribing) and of good quality (e.g., similar to or better than that provided by physicians).
 - Two studies were identified which examined the appropriateness of prescriptions written by nurse prescribers and suggest that in general, medications prescribed were appropriate (e.g., based on clinical condition, correct medication prescribed, dosage correct); however, these studies also suggest that there are areas for improvement (e.g., acceptable duration of therapy).
 - It was noted that nurses tend to give patients a range of information about their medications, including advice on self-medication and self-management, and to check their understanding and commitment to the treatment; however there was room for improvement in instructions regarding side effects and risks of treatment options.

Perceptions of Nurse Prescribing

- The research literature appears to focus primarily on the perspectives of nurse prescribers:
 - Prescribing is seen by some nurses as a key component of core nursing practice and can contribute to job satisfaction, in relation to autonomy and ability to provide patient-centred care.
 - Many nurses feel confident about prescribing; however, some nurses also noted that they feel some anxiety related to their responsibilities and knowledge base for prescribing.
- There were mixed findings about physicians' perceptions of nurse prescribing; however, some positive perceptions were observed among physicians with greater exposure to and familiarity with nurse prescribing.
- The literature reports generally favourable attitudes among patients and the public regarding nurse prescribing; in some cases, nurse prescribing was seen by patients as having advantages over physician prescribing, such as ongoing care relationships, satisfaction with care (e.g., more holistic care), and accessibility of services.

OBJECTIVES

The requestor's stated objective was to examine the effectiveness of Registered Nurse (RN)^a prescribing. Particular topics of interest included information on the impact of RN prescribing on outcomes such as:

- Access to care (e.g., as related to wait times, access to health care or medicines);
- Patient safety (e.g., adverse events or hospitalization, adverse clinical outcomes);
- Patient satisfaction;
- Perceptions of RN prescribing by health professionals, patients, and members of the public; and
- Economic Impacts.

The literature review: [A Preliminary Literature Review on Registered Nurse Prescribing](#), provides an overview of RN prescribing in other jurisdictions (i.e., Australia, Ireland, New Zealand, Sweden, the United Kingdom [UK] and the United States [US]) including information on models used in these jurisdictions, supports put in place to enable nurse prescribing (e.g., legislation, regulation, education and training), as well as some limited research evaluating the RN prescribing models.

SEARCH METHODS

Individual peer-reviewed articles and review articles were identified through the Ontario Ministry of Health and Long-Term Care's computerized library database, Ontario Government Library Council databases, PubMed, and Google Scholar. Grey literature was identified through Google, relevant government websites, and the Policy Intelligence Repository which is available on the Ontario Ministry of Health and Long-Term Care's [Directory of Networks \(DoN\)](#). The search was limited to English sources and therefore may not capture the full extent of initiatives in non-English speaking countries. In order to ensure greatest relevance and maximize efficiency, search/review was focused between the publication years 2004 to present.

The Medical Subject Heading (MeSH) terms "Nurse" and "Inappropriate Prescribing" were used in combination with the following keywords to identify relevant articles and documents for this review: "nursing/nurse", "prescribing", "effectiveness" and "evaluation".

A total of 20 references were identified and cited in this review: seven review articles, nine papers from peer-reviewed journals, and four documents from the grey literature. In total, the searching for relevant material and writing of this review took approximately eight days to complete by one person.

^a In Ontario, registered nurses (RNs) undertake a comprehensive education (i.e., four year bachelor's degree) and autonomously meet the nursing needs of clients, regardless of the complexity of their conditions ([Health Force Ontario, 2013](#)).

DESCRIPTION OF THE FINDINGS

1. Background and Terminology

Bhanbro et al. (2011) noted that the key policy goals of extending prescribing authority to other health professionals, such as nurses, have been to improve patient access in primary care settings to safe, timely, and effective medicines and increasing the efficiency of health service delivery. Accordingly, nurse prescribing has been common practice in some jurisdictions for decades (e.g., the UK has increasingly permitted nurses to prescribe, starting with a limited formulary in the 1990s, and expanding this authority over time).¹

In general, there are three types of nurse prescribing models which are used in other jurisdictions. For the purpose of this review, these include:

- **Independent Prescribing** – In this model a nurse may prescribe medications, from a limited or pre-defined formulary, within a regulated scope of practice. Independent prescribing is used in Ireland, New Zealand, the UK,^b and the US.
- **Supplementary Prescribing** – This model involves a patient-specific partnership (known in the UK as a ‘clinical management plan’) between a physician and RN, where after initial diagnosis by the physician and with the patient’s agreement, a nurse may prescribe medication from a limited formulary. Supplementary Prescribing is used in the UK and some US states (i.e., Delaware, Iowa, Indiana, and Missouri).
- **Use of Protocols (also known as ‘Patient Group Directions’ in the UK)** – In this model, multi-disciplinary teams develop written instructions which allow RNs to supply and administer medications within the terms of the predetermined protocol. These are used in Australia and in the UK.

For further details on each of these models and their use in other jurisdictions, see Planning Unit Product #386 [A Preliminary Literature Review on Registered Nurse Prescribing](#).

The focus of this literature review will be primarily on the independent and supplementary forms of prescribing, as these are most frequently discussed in the evaluation literature.

2. Limitations

Little research literature was found that explicitly examined the effectiveness of RN prescribing. Instead, most of the research literature identified examined ‘nurse prescribing’ in general or in some cases, considered nurse prescribing within the context of ‘non-medical prescribers’ (NMPs).^c For the purpose of this review, information on ‘nurse prescribing’ was included; however, the findings presented here should be interpreted with caution. For example:

^b As of 2012, there were 19,000 nurse independent prescribers and 1,500 pharmacist independent prescribers in the UK in primary care, hospitals, community clinics, urgent care services, and patients’ homes (Latter, 2012).

^c The term NMP is used in UK-based literature to refer to authorization for non-physician health professionals to prescribe medication. Primarily, these non-physician health professionals are nurses and pharmacists, but may also include others, such as radiographers ([National Health Service - Hillingdon Hospitals, 2012](#)).

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- The literature on ‘nurse prescribing’ was not always clear on the level of nurse being described (e.g., nurse practitioner,^d registered practical nurse,^e or RN).
- In general, the literature examining NMPs does not always analyze data for nurse prescribers separate from data for other non-medical health professionals (e.g., pharmacists).

Accordingly, for the purpose of this review:

- Information and examples on prescribing by nurse practitioners were excluded.
- Among literature which described NMPs, only sources in which nurses formed the majority of the sample were included.
- Some literature was unclear regarding the classification of nurses studied, the proportion of the sample made up of nurses (i.e., in NMPs research), or whether conclusions drawn were specific to nurses (e.g., nurses and pharmacists in NMPs research). Some of these research studies have been included in this review, however, these limitations are highlighted below, when describing these studies.

Other limitations observed within the literature identified included:

- Very little information is available regarding the impact of nurse prescribing on patient outcomes. For example:
 - A 2011 systematic review on prescribing in primary care by nurses and professionals allied to medicine, suggests that there is very limited evidence available on NMP outcomes (e.g., patient safety and clinical outcomes).²
 - Similarly, a 2014 systematic review on the effects of nurse prescribing notes that while several reviews have been conducted on the legal and/or educational conditions under which nurse prescribing has been implemented in different countries, and other non-systematic reviews have investigated the advantages of nurse prescribing with respect to access and delivery of care and nurses’ knowledge and skills, few reviews have examined topics such as the effects of nurse prescribing on medication outcomes (i.e., indicators of safe, quality prescribing) and patient outcomes.³
- In general, the quality of research literature on nurse prescribing is low. For example:
 - A 2014 systematic review on nurse prescribing concluded that, due to methodological weaknesses in this body of research (e.g., heavy reliance on self-reported data), conclusions must remain tentative. In particular the authors suggested that more randomized controlled designs in the field of nurse prescribing are required to enable definitive conclusions about the effects of nurse prescribing. The authors also note that while previous reviews have found that nurse prescribing was evaluated positively, these reviews all lacked a comparative design that outline differences between nurse and physician prescribing.⁴

^d In Ontario, nurse practitioners are usually RNs who have taken on an advanced role after having additional education and experience. Nurse practitioners are able to autonomously diagnose, order, and interpret diagnostic tests, prescribe pharmaceuticals, and perform procedures within their legislated scope of practice ([Health Force Ontario, 2013](#)).

^e In Ontario, registered practical nurses study for a shorter period of time (i.e., two or three year diploma) and work with clients with less complex conditions ([Health Force Ontario, 2013](#)).

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- The majority of the literature identified focused on evaluation of nurse prescribing and related stakeholder experiences in the UK; a smaller proportion looked at nurse prescribing in other countries, including Ireland, Canada, United States and Australia.
- No information was identified on the economic impacts of nurse prescribing, aside from findings related to efficiency and cost considerations.

3. Impact of Nurse Prescribing

In terms of overall impact of nurse prescribing, three key themes were identified in the literature and are summarized in the sections below: 1) Clinical Outcomes and Effectiveness of Nurse Prescribing; 2) Efficiency and Cost Considerations; and 3) Safety and Quality.

3.1. Clinical Outcomes and Effectiveness of Nurse Prescribing

As discussed in [Section 1 \(Limitations\)](#) above, researchers have noted that high quality research related to the impact of nurse prescribing on patient outcomes is quite limited. The information in this section will look at patient clinical outcomes identified in the literature.

A 2014 systematic review of 35 studies examined the effects of nurse prescribing compared to prescribing by physicians.^f Among the studies reviewed by the authors, 22 involved independent nurse prescribing, two involved supplementary nurse prescribing, five examined a mix of the two types of prescribing, while six described prescribing based on 'group directions'. Within their discussion of results, however, the authors did not attribute results to the specific models of nurse prescribing, which included prescribing by nurses and nurse practitioners. According to the authors, there appear to be few differences between nurse and physician prescribing on patient health outcomes:

- Eight of the 13 studies reporting on clinical outcomes found no differences between nurse prescribing and physician prescribing.^g
 - Examples of clinical outcomes that were similar included: diabetic control (i.e., blood sugar control), blood pressure, asthma control, and patients' rating of their health status or improvement after two weeks.
- However, some studies reported mixed findings with regard to the clinical outcomes of patients receiving prescriptions from nurses or physicians. For example:
 - **Sore throat:** A UK study found that patients' perceptions of being back to normal health and the median number of days for sore throats to settle were more favourable for patients receiving prescriptions from nurses compared to general practitioners (GPs).⁵
 - **Diabetes and hypertension:** A Canadian study found that patients with diabetes and hypertension receiving prescriptions from nurses had a larger drop in diastolic blood pressure than patients receiving prescriptions from physicians.⁶
 - **Diabetes:** Three Dutch studies showed mixed findings related to cholesterol control for patients with diabetes.^h In particular, one study found no difference

^f The authors of this systematic review do not specify the category of nurse examined within the individual studies included in their review. In examining the reference list for the systematic review, it appears that at least 14 studies cited are specific to nurse practitioners. No other information was provided.

^g It should be noted that based on an examination of the reference list, four of the eight studies that drew this conclusion were investigating prescribing by nurse practitioners. No further details were provided.

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between nurse and physician prescribing in patient's cholesterol/HDL ratio, one study found that the cholesterol/HDL ratio improved more for patients being treated by medical specialists, whereas another study found that cholesterol/HDL ratio improved for patients treated by a nurse specialized in diabetes.⁷

A number of individual studies have also identified clinical areas in which nurse prescribing has been successfully implemented. For example:

- **Palliative care:** Creedon and O'Regan (2010) identify a number of benefits of nurse prescribing in palliative care settings, including facilitating access to pain medication in a timelier manner combined with overall nursing assessment skills, responsiveness, and interdisciplinary teamwork.⁸ No further information was provided.ⁱ
- **Treatment of skin conditions:** Carey et al. (2013), through a survey of 186 nurses, identified that nurse prescribers' involvement in medication management activities has important implications in terms of improving access to services (with nurses providing services in a number of primary care settings), efficiency (e.g., better use of time for physicians as nurses provide a wider range of care), and system cost-savings (e.g., given the large number of people who seek medical care for skin-related conditions). No further details were provided.
 - According to the authors, to maximize nurse prescribers' contribution to dermatological care, improved provision of specialist dermatology training is required; this will support nurses practicing to their full scope of practice. The authors note that nearly a quarter of participants in the study sample had never undertaken any specialist dermatology training.⁹
- **Respiratory care:** Carey et al. (2014) identified that prescribing enabled nurses to overcome existing problems in service provision to improve access, efficiency, and patient convenience, reducing hospital admissions and length of stay.^j Prescribing by nurses in respiratory care was thought (by 40 nurses interviewed) to encourage self-management, improve patients' adherence to their medication regime, and help manage expectations to reduce inappropriate service use, through more patient centred care.¹⁰
- **Mental health care:** Norman et al. (2010) identified that there were no significant differences between patients in the nurse supplementary prescribers' group and the independent prescribers' (consultant psychiatrists) group in terms of medication adherence, health status, side effects, and satisfaction with overall care.¹¹

3.2. Efficiency and Cost Considerations

The literature identified in this review considered the efficiency of nurse prescribing in terms of appropriate use of human resources, time, and costs. For example:

- **Prescription Costs:** A 2012 study conducted by Latter et al. concluded that prescribing decisions by nurses would benefit from due consideration of drug cost; this is based on the finding that 16% of prescribing decisions were deemed 'inappropriate' in this regard (i.e., prescribers did not consider prescribing less expensive alternatives of equal utility).¹²

^h As measured by cholesterol/high density lipoprotein (HDL) ratio. This is the ratio between HDL (also known as 'good cholesterol') and total cholesterol (including low density lipoprotein [LDL] or 'bad cholesterol'). This ratio may be used to help identify heart disease risk ([Mayo Clinic, 2012](#)).

ⁱ Quantitative findings were not provided in this article.

^j No further information was provided to quantify these findings.

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- However, another study cited by Latter and Courtenay (2004) suggests that some nurses do prescribe less expensive products where therapeutic value of the drug was comparable.¹³
- **Length of Consultation Time:** A 2008 evaluation of supplementary prescribing by nurses and pharmacists in the UK suggest while that supplementary prescribing is cost-effective, in the case of nurses it is also twice as time-consuming per patient as physician consultations,^k which according to the authors may have an impact upon overall patient waiting lists.
 - However, the authors also note that nurses used consultations as opportunities to undertake examinations, conduct health checks, measure blood pressure, take blood samples and conduct medicine use reviews, making direct comparisons with physicians difficult.
 - Further, the authors state that cost and time estimates for nurse and physician prescribing are difficult to compare, since the costs reported in this research consider all areas of supplementary care provided by nurses, whereas the cost measurements of physician prescribing consider primary care only.¹⁴
- **Service Delivery Improvements:** According to Jones et al. (2010), prescribing by hospital-based nurses was found to benefit patients in acute care settings through service delivery improvement (i.e., making better use of physician time) and enabling nurses to make better use of their full scope of practice. The case study looked at a hospital in England in which nine nurses had undertaken preparation for prescribing, of whom seven were actively prescribing.
 - No differences were found in how nurses and doctors performed prescribing roles, but there was a statistically significant difference in patient satisfaction with how nurses provided medication-related information (66% of patients who had consulted a nurse were satisfied with the information provided) compared to doctors (7% of patients were satisfied with the information provided).^{15,l}

3.3. Safety and quality

According to Gielen et al. (2014), safety and quality is identified as a concern for policy makers in the literature, with respect to implementation of nurse prescribing and related care. They also suggest that further research is necessary to directly compare nurse prescribing with that of physicians.¹⁶ Among literature identified on the safety and quality of nurse prescribing, some information was found that compared nurse and physician prescribing practices (e.g., total medication prescribed, number of patients prescribed to, provision of information) and the appropriateness of prescriptions.

^k Bissell et al. (2008) identified that the supplementary prescribing consultations cost £6.50 (or CAD \$13.91) for nurses and took an average of 21 minutes, whereas physician consultations last 12 minutes and cost £34 (or CAD \$72.76) (In 2007, UK £1 = CAD \$2.14; [Bank of Canada, 2007](#)).

^l A total of 64 patients were given a standardized satisfaction survey; of these, 50 had seen a nurse and 14 had seen a doctor.

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In particular, a 2014 systematic review by Gielen et al. notes that prescribing patterns reported in the literature vary widely.^m For example,

- **Number of Patients Receiving Prescriptions:** Elevenⁿ out of 15^o studies found that the percentage of patients for whom a nurse prescribes medication is similar to that for physicians. Additionally, one study found that nurses prescribed to a lower percentage of their patients, two^p studies found that nurses prescribed to a higher percentage compared to physicians, whereas two^q studies had unclear findings (related to unreported significance levels).
 - Based on these findings, the authors concluded that nurse prescribing is of similar quality to physician prescribing, and worries about whether nurses have the competence to prescribe appear to be unfounded.¹⁷
- **Provision of Information to Patients:** All five studies^r reporting on provision of information to patients, found that nurses gave more or the same amount of information to patients as doctors. For example,
 - In one study, nurses were found to give more advice about home remedies for sore throats than GPs. In another study nurses were found to give more advice on self-medication and general self-management compared to physicians. In a third study, significantly more nurses than physicians said that they informed patients about contraceptive security and the risk of arterial thromboembolic disease,^s and offered follow-up when prescribing oral contraceptives for the first time.¹⁸

Additionally, the author of a 2008 literature review on the safety and quality of independent prescribing (Latter, 2008) states that a shared decision-making (or patient-centred) approach (i.e., between nurses and patients) is likely the most effective route in reviewing and discussing beliefs about medication. The author suggests that this will ensure that the patient understands and agrees with the treatment plan. In drawing this conclusion, Latter pulls from her earlier findings in a 2005 observational study by her and her colleagues, which examined nurse prescribers' practice,

^m The authors of this systematic review do not specify the category of nurse examined within the individual studies included in their review. In examining the reference list for the systematic review, it appears that at least 14 studies cited are specific to nurse practitioners. No other information was provided.

ⁿ It should be noted that based on an examination of the reference list, five of these 11 studies cited investigated prescribing by nurse practitioners. No further details were provided.

^o It should be noted that based on an examination of the reference list, six of these 15 studies cited investigated prescribing by nurse practitioners. No further details were provided.

^p It should be noted that based on an examination of the reference list, one of these two studies investigated prescribing by nurse practitioners. No further details were provided.

^q It should be noted that based on an examination of the reference list, one of these two studies investigated prescribing by nurse practitioners. No further details were provided.

^r It should be noted that based on an examination of the reference list, out of the five studies investigated, two looked exclusively at nurse practitioners. No further details were provided.

^s Arterial thromboembolic disease is blockage of arteries; it is known to be a risk for women taking certain oral contraceptive medications. ([Science Daily, 2012](#)).

to describe and evaluate the competencies that nurses were using during patient consultations.^t This 2005 study of 118 nurses found that:

- Nurses regularly gave patients a range of information about medication when prescribing (e.g., providing clear instructions for medication regarding dose, use, duration) (89% of interactions observed);^u
- Nurses regularly checked the patient's understanding and commitment to the treatment (73% of interactions observed);
- However, there was room for improvement in areas such as giving clear instructions regarding side effects and what actions to take (48% of interactions observed) and providing information about risks and benefits of treatment options (39% of interactions observed).¹⁹

3.3.1. Appropriateness of Nurse Prescribing

Two studies examined the appropriateness of nurse prescribing:

- Latter and colleagues' 2005 study found (based on a sub-sample of 10% or 12 observed consultations) that the majority of independent nurse prescribing consultations that were observed and assessed by a panel of seven medical prescribing experts using a standardized rating tool (i.e., a modified version of the Medication Appropriateness Index)^v were determined to be clinically appropriate based on a range of indicators, including: correct dosage (87% of consultations assessed); effectiveness of medication prescribed (83% of consultations assessed); and no apparent unnecessary duplication with other medications (96% of consultations assessed). However, some indicators were less consistently applied by nurse prescribers, such as:
 - Medication directions: 18% of consultations that were observed provided an incorrect direction and 12% of consultations that were observed provided directions that were not practical;
 - Acceptable duration of therapy: 12% of prescriptions were assessed as being for a duration that was not acceptable; and
 - Clinically significant interactions with other medications: 10% of prescriptions were assessed as having a clinically significant interaction with other medications a patient is taking.²⁰
- In a 2013 Irish study^w two reviewers examined RN prescribing practices and determined that 96-99% of medicines prescribed by nurses and midwives were indicated and effective for the diagnosed condition. Both reviewers also reported that for 90% or greater of the drugs prescribed: dosage was correct, directions were correct, prescribing was appropriate

^t A 2005 study by Latter et al., analyzed nurse prescribers' consultations with patients at 10 sites in England and evaluated independent extended nurse prescribing from the range of medicines available from the extended formulary at the time of the study (2003–2005) (Latter, 2008).

^u The authors observed 118 nurse prescribers' consultations over the 10 sites, and recorded them using a standardized observation tool.

^v The Medication Appropriateness Index (MAI) introduced by Hanlon et al. (1992) has been found to be a reliable, valid, standardized instrument for assessing multiple elements of drug therapy prescribing applicable to a variety of medications, clinical conditions, and settings (Hanlon et al., 1992 as cited in Castelino et al., 2010; Bregnhøj et al., 2005 as cited in Castelino et al., 2010).

^w In this study, the sample included 142 patients' records and 208 medications prescribed by 25 RN prescribers; two expert reviewers applied the modified Medication Appropriateness Index (eight criteria) to each drug prescribed (Naughton et al., 2013).

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based on clinically significant medication or clinical condition interactions, as well as unnecessary duplication of medication. The only criterion rated under 90% by one of the reviewers was acceptable duration of therapy.^x

- The authors caution, however, that there is an identified risk of inappropriate prescribing and potential medication errors, particularly in high-risk groups such as older adults, breastfeeding mothers, and people with complex medical conditions, not unlike the risk for physicians.
- The authors suggest that patient safety relies on the prescribing practitioner being aware of the potential risks, undertaking careful patient assessment and documentation, and initiating increased patient monitoring and education. Furthermore, they state that there is a need for ongoing education and evaluation of prescribing practice to minimize the risk of potential drug errors.²¹
- No further details were provided.

4. Perceptions of Nurse Prescribing

Some literature was identified that examined the perceptions of patients and health professionals (e.g., nurses) in relation to nurse prescribing. According to the authors of a 2011 systematic review, the acceptability of nurse prescribing considers questions of suitability and satisfaction from the perspective of both those receiving the intervention (i.e., the patients) and others providing or commissioning the service (i.e. other health professionals and managers); it therefore relates to perceptions of outcomes.²² In particular, the research literature appears to focus primarily on the perspectives of nurse prescribers. For example, Creedon and Regan (2009) noted that the literature on perceptions of nurse prescribing tends to be heavily based on 'self-perception' and less so on the perceptions of other stakeholders. Furthermore, they note that the views of nurse prescribers themselves are over-represented in the research literature, compared to the opinions of physicians or other health professionals.²³

4.1. Nurses' Perceptions of Prescribing

In the literature, nurses identify some concerns regarding their own preparedness for prescribing and also have mixed opinions related to confidence in their role. Some research also suggests that they do believe their ability to prescribe brings benefits to their patients, such as time savings and convenience, as well as enhanced job satisfaction and feelings of autonomy for themselves.

4.1.1. Perceived Benefits of Nurse Prescribing

A 2004 literature review by Latter and Courtenay examined the effectiveness of nurse prescribing and reviewed some literature on nurses' evaluation of their prescribing role. The authors suggest that nurses who prescribe are generally positive and satisfied with their role, although some concerns are highlighted by nurse prescribers related to the adequacy of their pharmacological knowledge. For example, among the studies included in the 2004 literature review:

- A 1997 study of 49 nurses reported that nurses identified time savings and convenience (i.e., patients not having to see a GP to arrange a prescription) as benefits of nurses' prescribing role. Nurses also reported an increased sense of satisfaction, status and autonomy, and believed that patients received better information about prescriptions from

^x Reviewer concordance was 87% or greater for all but one of the MAI criteria (duration of therapy acceptable was 76% concordance) (Naughton et al., 2013).

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- a nurse; however, there were also disadvantages identified by nurses, including initial anxiety about writing prescriptions (i.e., associated with completing the prescription correctly), assuming responsibility previously taken by the GP, and fear of an incorrect diagnosis.²⁴
- Twin studies (Otway 2001; Otway 2002) of 241 nurse prescribers in the National Health Service, found that the majority of prescribers considered prescribing to be a skill which is an essential part of core practice. The author noted that generally, nurse prescribers tended to describe prescribing in a very positive way; however some negative comments were also noted and related to nurses' frustrations associated with the limitations of the Nurse Prescribers' Formulary,^y a concern shared by patients. However, the author of these studies also notes that nurses' expressed concern over the adequacy of their knowledge base in pharmacology, together with a need for further training in pharmacology^{25, 26}
 - A 2001 study that surveyed 73 mental health nurses noted a number of potential improvements to care that were anticipated from nurse prescribing, including better client access to medication, improved compliance, prevention of relapse, and cost effectiveness.²⁷

Additionally, a 2009 literature review of nurse prescribing also identified some research that reported on nurses' perceived benefits of nurse prescribing. The authors identified four studies that reported nurse perceived advantages for patients including convenience, time saving, enhanced patient care, improvement in compliance with medications, and prevention of relapses. Benefits to nurses themselves were also identified by the authors, including improved collaboration between medical and nursing professionals, as well as increased autonomy, role satisfaction, clinical competence, and career progression.²⁸

4.1.2. Perceived Confidence of Nurse Prescribers

Two literature reviews were identified that described nurse's perceived confidence related to prescribing; however findings were mixed:

- A 2009 discussion paper by Creedon and Regan described findings from seven studies related to nurse prescribers' confidence in prescribing, all of which identified that the majority of respondents felt confident in their prescribing. The authors also noted that continuing professional development and specialist training were reported to increase confidence.²⁹
- Conversely, a 2008 review by Latter noted that, as a whole, the research suggests that nurses do not feel universally confident about their prescribing competence, but the reasons for this are not clear.³⁰

A 2008 literature review by Cooper et al. described research related to perspectives about nurse or pharmacist supplementary prescribers in the UK. In all, the review looked at 14 studies related specifically to nurse (mostly supplementary) prescribers from the perspectives of a variety of stakeholder groups. In the 14 studies reviewed by the authors, limited information was provided

^y Since the first pilot sites were established in the UK in 1994, district nurses and health visitors have been trained to prescribe from a limited formulary of products called the Nurse Prescribers' Formulary (Latter and Courtenay, 2004). In 2006, nurse prescribers were given full access to the British National Formulary, which has put nurses on par with doctors in relation to prescribing activities (RCN, 2012).

specific to the nurses' own perspectives of their prescribing practice; only one study was cited that considered nurses' confidence:

- In one 2006 study, most nurses who were trained in primary care 'independent extended and supplementary prescribing'^z (IESP) reported that they were confident in their prescribing, but only a minority actually practiced supplementary prescribing.³¹ No further details were provided.

4.1.3. Nurse Prescribing: Job Satisfaction, and Autonomy

A 2007 study by Bradley and Nolan on the impact of nurse prescribing in the UK reports that, based on the results of interviews with 45 nurse prescribers, prescribing has the potential to increase job satisfaction and autonomous working for nurses, with the result that they are more likely to involve patients in decision-making about their care. The authors suggest that prescribing has the potential to improve service-user care, enhance collaboration, and widen discussions about medication; however, the authors suggest that team members need to be prepared for the impact nurse prescribing could have on the dynamics of the multidisciplinary team.³²

4.2. Health Professionals' Perceptions of Nurse Prescribing

In the literature identified, mixed reactions were found among health professionals, in particular physicians, with regard to awareness of nurse prescribing, the safety of nurse prescribing, and concerns over erosion of traditional roles. According to several studies, the mixed perspectives were sometimes attributed to the level of experience and comfort in working with nurse prescribers.^{33,34, 35} In particular:

- A 2008 literature review by Cooper et al. noted that, in contrast to nurses' (and other supplementary prescribers) positive responses to supplementary prescribing, the views of other healthcare professionals (doctors in particular) revealed a more reserved opinion. An over-riding theme and concern that emerged in many studies was that doctors appeared to be generally unaware of supplementary prescribing and although broadly positive about supplementary prescribing, they had a number of reservations relating to nurse prescribing (e.g., the erosion of doctors' traditional roles, erosion of professional hierarchies, and patient safety). For example:
 - Commenting on nurse prescribing generally, one study reported that medical mentors generally held positive attitudes towards nurse prescribing and supervision of nurse prescribers, but that these individuals already had a positive working relationship with nurses prior to training. Doctors' experience of clinical management plans varied, and limited time for mentoring and a lack of remuneration were identified as problems.
 - Another study explored attitudes to nurse supplementary prescribers amongst various clinical team members^{aa} and reported that although there was overall support for nurse supplementary prescribing, there was a perception that supplementary prescribing simply formalized existing practices, that it might have

^z To qualify as a nurse prescriber (either Independent Prescriber or Supplementary Prescriber), nurses must undertake a recognised Nursing and Midwifery Council (NMC) accredited prescribing course through a UK university; these single, post-graduate programs are referred to as IESP. Upon successful completion, the qualification must be registered with the NMC. Since 2004, all nurses who complete the NMC qualification can prescribe independently and/or in a supplementary capacity (Royal College of Nursing, 2012; Cooper et al., 2008).

^{aa} The authors do not specify the categories of clinical team members whose attitudes were explored.

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a negative impact on the workload of other team members, and there appeared to be confusion about the role of supplementary prescriber nurses in a clinical team.³⁶ No further information was provided.

- In a 2004 literature review on the effectiveness of nurse prescribing, Latter and Courtenay cited a small scale study^{bb} on GPs' and 'practice nurses' views of the potential impact of extended nurse prescribing, which found that GPs had concerns about possible erosion of their role, and threats to their status and authority.³⁷
- A 2009 literature review by Creedon et al. found that out of eight studies related to the impact of nurse prescribing on interpersonal relationships between nurses and doctors/other professionals, four reported that nurse prescribing enhanced such relationships, two identified findings illustrating hierarchical relationships and poor communication between nurse prescribers and other medical professionals, and two were neutral.
 - The authors noted that among the two studies illustrating a potential negative impact on nurse-physician relationships, one of the two studies reported findings that drew upon interviews with GPs who lacked knowledge on the training of prescribers.³⁸ The authors did not provide any further details of the studies.
- A 2009 evaluation of the expansion of nurse prescribing in Scotland by Watterson et al. found that nurse prescribers' public health contributions were recognized by medical and nursing staff. The benefits to infection control and better treatment of conditions without the use of anti-microbial drugs or with more careful targeting of microbial drugs were also recognized. Nurses found that they had further and more expanded roles, for example in smoking cessation and sexual health areas.³⁹

4.3. Perceptions of Patients and Members of the Public on Nurse Prescribing

The literature identified in this review generally reported favourable attitudes among patients and the public regarding nurse prescribing; in some cases, nurse prescribing was seen by patients/the public as having advantages over physician prescribing.

4.3.1. General Perceptions of Patients and Members of the Public

Five literature reviews and one individual study found that patients' perception of nurse prescribing was positive, in general. For example:

- A 2009 national independent evaluation of Ireland's Nurse and Midwife Prescribing Initiative^{cc} by Drennan et al. found that approximately 100% of patients surveyed were in favour of nurses and midwives prescribing medications. Patients also reported,
 - That they felt nurse prescribing had reduced their waiting time for treatment;
 - High levels of satisfaction with the consultation with their nurse prescriber; and
 - High levels of intent to comply with the prescription provided by the nurse prescriber.⁴⁰
- In a 2011 literature review by Bhanbro et al., two studies reported on acceptability of nurse prescribing, from the perspective of patients. The studies found that non-medical prescribing was widely accepted and viewed positively by patients. For example,

^{bb} No further details were provided on the methodology of this research.

^{cc} This initiative was introduced under the Republic of Ireland's *Medicinal Products Regulations* in 2007, allowing for independent nurse and midwife prescribing (Naughton et al., 2013).

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- A UK-based qualitative study of 50 patients from caseloads of health visitors,^{dd} district nurses,^{ee} and a practice nurse^{ff} reported that 49 out of 50 study participants were in favour of nurse prescribing and happy with the consultation and information provided by the nurse prescribers.
- Similarly, another UK based study interviewed a sample of 148 patients selected from the caseloads of district nurses, health visitors, and practice nurses after a treatment episode involving a nurse prescriber. The majority of patients interviewed post-prescribing implementation were in favour of nurse prescribing^{gg} and 55% of patients interviewed had sought advice from a nurse prescriber in preference to the GP.⁴¹
- A 2014 systematic review by Gielen et al. found that patients were generally more satisfied or equally satisfied with the care provided by a nurse compared to traditional care provided by a physician.^{hh} Out of a total of 13ⁱⁱ relevant studies cited by the authors,
 - Seven^{jj} studies found that patients were more satisfied with care received from nurses than from physicians;
 - Four studies found satisfaction was the same for both.^{42, kk}
- A 2009 literature review by O'Connell et al. reported on nine studies related to patients' perspectives on nurse prescribing, eight from the UK and one from Australia. Findings were generally positive, with the majority of patients in favour of nurse prescribing; however, methodologies were quite diverse, making it difficult to draw conclusions. For example:
 - Two studies found that patients were, in some instances, more satisfied with nurses' consultations than doctors.
 - One study of the general public (i.e., people who had not yet experienced nurse prescribing), expressed confidence in nurse prescribing.
 - The remaining six studies were generally positive, in terms of patients' views of nurse prescribing.⁴³
- A 2008 review by Cooper et al. found that very little research had been done that explored the experiences and opinions of the actual supplementary prescribing patient, despite

^{dd} Health visitors are community-based nurses who work with parents and families in a variety of settings, including clients' homes, children's centres, health clinics and physician's offices ([National Health Service, n.d.](#)).

^{ee} District nurses provide direct care to patients and their family members in their homes or residential care settings ([National Health Service, n.d.](#)).

^{ff} Practice nurses (also known as general practice nurses) work in doctors' offices as part of a primary healthcare team. Prescribing may be carried out by senior practice nurses ([National Health Service, n.d.](#)).

^{gg} Sample size was not specified.

^{hh} The authors of this systematic review do not specify the category of nurse examined within the individual studies included in their review. In examining the reference list for the systematic review, it appears that at least 14 studies cited are specific to nurse practitioners. No other information was provided.

ⁱⁱ It should be noted that based on an examination of the reference list, five of these 13 studies cited investigated prescribing by nurse practitioners. No further details were provided.

^{jj} It should be noted that based on an examination of the reference list, two of these seven studies cited investigated prescribing by nurse practitioners. No further details were provided.

^{kk} Based on examination of the reference list, one of the four studies cited investigated prescribing by nurse practitioners; the remaining two studies (identifying less or mixed satisfaction findings) were specific to prescribing by nurse practitioners.

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supplementary prescribing being a three-way agreement between doctor, prescriber, and patient.

- The views of the public were identified in one nurse supplementary prescribing study involving a small convenience sample of the general public who had not experienced supplementary prescribing. In this study, it was reported that the majority of participants would have confidence in a nurse prescribing for them. General concerns (rather than nurse-specific ones) that were cited included whether the correct medicine and dose had been prescribed and what side effects and interactions may occur.⁴⁴ No further details were provided.
- A 2004 review of the literature by Latter and Courtenay found that patients are generally satisfied with nurse prescribing.
 - Aspects that patients considered to be positive included the length of the relationship and regularity of contact with the nurse, accessibility and approachability, the nurse's style of consultation and information provision, and the expertise of nurses in certain areas such as skin and wound care. Other advantages identified by patients included convenience and speed of access to prescriptions.
 - In some cases, patients felt that nurses were in a better position to prescribe items from the Nurse Prescribers' Formulary than physicians because they knew the patient or the products better.¹¹
 - According to one study within Latter and Courtenay's (2004) review, the quality of the relationship between the nurse and patient was viewed positively according to patients' prescribing evaluation; aspects of this quality included the nurse providing reassurance, continuity of care, information and health promotion details, and being approachable.
 - Other benefits identified by patients included the provision of timely, convenient, practical, and successful treatment, as well as nurses' expertise in certain types of care.
 - Patients in this study also commented that nurse prescribing made more effective use of doctors' and nurses' time, and noted that nurses' awareness of their own professional limitations was a positive aspect of nurse prescribing.⁴⁵

4.3.2. Patient Perception of Nurse Prescribing by Clinical Specialty

Some limited information was identified that reported on patients' experience and views of nurse prescribing in specific areas of clinical practice (e.g., dermatology, psychiatry). For example:

- **Dermatology:** A 2010 study by Courtenay et al. reported on the views of patients who had attended the clinics of seven dermatology specialist nurse prescribers. These patients reported that they believed that nurse prescribing improved access to, and efficiency of, dermatology services. Their reports placed emphasis on the value of telephone contact with nurses and the ability to access services locally.
 - According to the authors, information exchange and involvement in treatment decisions ensured that treatment plans were appropriate and motivated

¹¹ It should be noted, as pointed out by the authors, that the studies cited drew upon interviews with high users of nursing services, and therefore the findings may not be applicable outside this population (Latter and Courtenay, 2004).

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adherence. Similarly, nurses' specialist knowledge, interactive and caring consultation style, and continuity of care improved confidence in the nurse and treatment concordance.⁴⁶

- **Psychiatry:** In a 2008 literature review on nurse supplementary prescribing in the UK, Cooper et al. identified a 2005 qualitative study involving service users, nurses, and psychiatrists involved in patients' care. The authors of the study identified that service users reported the opinion that nurse supplementary prescribing was beneficial because mental health nurse prescribers listened, gave information on medication, and allowed focus on collaboration and treatment options.⁴⁷

4.3.3. Patient Perception of Health Care Access Related to Nurse Prescribing

Limited information was identified regarding the impact of nurse prescribing on access to health care services. In particular, four studies included in a 2011 systematic review by Bhanbro et al. considered nurse prescribing in primary care from an access perspective, and suggest that, from the patient's perspective, nurse prescribing increased access to health care services. For example:

- A 2010 UK-based qualitative study, which interviewed 41 patients from caseloads of seven nurse prescribers, reported that patients thought that their access to medicine had improved during non-routine/non-emergency appointments.
- A 1998 UK study, which interviewed 305 patients selected from the caseloads of nurse prescribers, reported that patients appreciated the accessibility of nurses, resulting in no delay in starting medication.⁴⁸

Please take the time to complete an anonymous two-minute [Literature Review Survey](#) to inform us how this review met, or did not meet, your needs.

REFERENCES

All website links working as of May 2015.

- ¹ Royal College of Nursing. (2012). [RCN Fact Sheet Nurse Prescribing in the UK](#).
- ² Bhanbro, S., Drennan, V.M., Grant, R., and Harris, R. (2011). [Assessing the contribution of prescribing in primary care by nurses and professionals allied to medicine: a systematic review of the literature](#). *BMC Health Services Research*. 11(330):1-10.
- ³ Gielen, S.G., Dekker, J., Francke, A.L., Mistiaen, P., and, Kroezen, M. (2014). The effects of nurse prescribing: A systematic review. *International Journal of Nursing Studies*. 51:1048-1061.
- ⁴ Gielen, S.G., Dekker, J., Francke, A.L., Mistiaen, P., and, Kroezen, M. (2014). The effects of nurse prescribing: A systematic review. *International Journal of Nursing Studies*. 51:1048-1061.
- ⁵ Cox, C., Jones, M., (2000). An evaluation of the management of patients with sore throats by practice nurses and GPs. *British Journal of General Practice*. 50(460): 872–876. As cited in: Gielen, S.G., Dekker, J., Francke, A.L., Mistiaen, P., and, Kroezen, M. (2014). The effects of nurse prescribing: A systematic review. *International Journal of Nursing Studies*. 51: 1048-1061.
- ⁶ Tobe, S.W., Pylypchuk, G., Wentworth, J., Kiss, A., Szalai, J.P., et al., (2006). Effect of nurse-directed hypertension treatment among First Nations people with existing hypertension and diabetes mellitus: the Diabetes Risk Evaluation and Microalbuminuria (DREAM 3) randomized controlled trial. *Canadian Medical Association Journal*. 174: 1267–1271. As cited in: Gielen, S.G., Dekker, J., Francke, A.L., Mistiaen, P., and, Kroezen, M. (2014). The effects of nurse prescribing: A systematic review. *International Journal of Nursing Studies*. 51:1048-1061.
- ⁷ Gielen, S.G., Dekker, J., Francke, A.L., Mistiaen, P., and, Kroezen, M. (2014). The effects of nurse prescribing: A systematic review. *International Journal of Nursing Studies*. 51:1048-1061.
- ⁸ Creedon, R., and, O'Regan, P. 2010. [Palliative care, pain control and nurse prescribing](#). *Nurse Prescribing*. 8(6): 257-264.
- ⁹ Carey, N., Courtenay, M., and, Stenner, K. (2013). [The prescribing practices of nurses who care for patients with skin conditions: a questionnaire survey](#). *Journal of Clinical Nursing*. 22: 2064-2076.
- ¹⁰ Carey, N., Stenner, N., and, Courtenay, M. (2014). [An exploration of how nurse prescribing is being used for patients for respiratory conditions across the east of England](#). *BMC Health Services Research*. 14(27): 1-23.
- ¹¹ Norman, I.J., Coster, S., McCrone, P., Sibley, A., and Whittlesea, C. 2010. [A comparison of the clinical effectiveness and costs of mental health nurse supplementary prescribing and independent medical prescribing: a post-test control group study](#). *BMC Health Services Research*. 10(4): 1-9.
- ¹² Latter, S., Smith, A., Blenkinsopp, A., Nicholls, P., Little, P., and, Chapman, S. (2012). [Are nurse and pharmacist independent prescribers making clinically appropriate prescribing decisions? An analysis of consultations](#). *Journal of Health Services Research and Policy*. 17(3). Pg. 149-156.
- ¹³ Luker K., Austin L., Ferguson B., and, Smith K. (1997) Nurse prescribing: the views of nurses and other health care professionals. *British Journal of Community Health Nursing* 2: 69–74. As cited in: Latter, S., and, Courtenay, M. (2004). [Effectiveness of nurse prescribing: a review of the literature](#). *Journal of Clinical Nursing*. 13: 26-32.
- ¹⁴ Bissell, P., Cooper, R., Guillaume, L., Anderson, C., Avery, A., Hutchinson, A., James, V., Lymn, J., Marsden, E., Murphy, E., Ratcliffe, Ward, P., and, Woolsley, I. (2008). [An Evaluation of Supplementary Prescribing in Nursing and Pharmacy](#). UK Department of Health.
- ¹⁵ Jones, K., Edwards, M., and, While, A. (2010). [Nurse prescribing roles in acute care: an evaluative case study](#). *Journal of Advanced Nursing*. 67(1). Pg. 117-126.
- ¹⁶ Gielen, S.G., Dekker, J., Francke, A.L., Mistiaen, P., and, Kroezen, M. (2014). The effects of nurse prescribing: A systematic review. *International Journal of Nursing Studies*. 51:1048-1061.
- ¹⁷ Gielen, S.G., Dekker, J., Francke, A.L., Mistiaen, P., and, Kroezen, M. (2014). The effects of nurse prescribing: A systematic review. *International Journal of Nursing Studies*. 51:1048-1061.
- ¹⁸ Gielen, S.G., Dekker, J., Francke, A.L., Mistiaen, P., and, Kroezen, M. (2014). The effects of nurse prescribing: A systematic review. *International Journal of Nursing Studies*. 51:1048-1061.
- ¹⁹ Latter, S. (2008). [Safety and quality in independent prescribing: an evidence review](#). *Nurse Prescribing*. 6(2): 59-66.
- ²⁰ Latter, S., Maben, J., Myall, M., Courtenay, M., Young, A., Dunn, N. (2005). An evaluation of extended formulary independent nurse prescribing. Final Report. School of Nursing and Midwifery, University of Southampton as cited in Latter, S. (2008). [Safety and quality in independent prescribing: an evidence review](#). *Nurse Prescribing*. 6(2): 59-66.

- 21 Naughton, C., Drennan, J., Hyde, A., Allen, D., O'Boyle, K., Felle, P., and, Butler, M. (2013) [An evaluation of the appropriateness and safety of nurse and midwife prescribing in Ireland](#). *Journal of Advanced Nursing* 69(7), 1478–1488.
- 22 Bhanbro, S., Drennan, V.M., Grant, R., and Harris, R. (2011). [Assessing the contribution of prescribing in primary care by nurses and professionals allied to medicine: a systematic review of the literature](#). *BMC Health Services Research*. 11(330):1-10.
- 23 Creedon, R., O'Connell, E., McCarthy, G., and, Lehane, B. 2009. [An evaluation of nurse prescribing. Part 1: a literature review](#). *British Journal of Nursing*. 18(21): 1322-1327.
- 24 Luker K., Austin L., Ferguson B. and Smith K. (1997) Nurse prescribing: the views of nurses and other health care professionals. *British Journal of Community Health Nursing* 2: 69–74. As cited in: Latter, S., and, Courtenay, M. (2004). [Effectiveness of nurse prescribing: a review of the literature](#). *Journal of Clinical Nursing*. 13: 26-32.
- 25 Otway C. (2001) Informal peer support: a key to success for nurse prescribers. *British Journal of Community Nursing* 6: 586–591. As cited in: Latter, S., and, Courtenay, M. (2004). [Effectiveness of nurse prescribing: a review of the literature](#). *Journal of Clinical Nursing*. 13: 26-32.
- 26 Otway C. (2002) The development needs of nurse prescribers. *Nursing Standard* 16: 33–38. As cited in: Latter, S., and, Courtenay, M. (2004). [Effectiveness of nurse prescribing: a review of the literature](#). *Journal of Clinical Nursing*. 13: 26-32.
- 27 Nolan P., Sayeed Haque M., Badger F., Dyke R. & Khan I. (2001) Mental health nurses' perceptions of prescribing. *Journal of Advanced Nursing* 36: 527–534. As cited in: Latter, S., and, Courtenay, M. (2004). [Effectiveness of nurse prescribing: a review of the literature](#). *Journal of Clinical Nursing*. 13: 26-32.
- 28 O'Connell, E., Creedon, R., McCarthy, G., and, Lehane, B. 2009. [An evaluation of nurse prescribing. Part 2: a literature review](#). *British Journal of Nursing*. 18(22): 1398-1402.
- 29 Creedon, R., O'Connell, E., McCarthy, G., and, Lehane, B. 2009. [An evaluation of nurse prescribing. Part 1: a literature review](#). *British Journal of Nursing*. 18(21): 1322-1327.
- 30 Latter, S. (2008). [Safety and quality in independent prescribing: an evidence review](#). *Nurse Prescribing*. 6(2): 59-66.
- 31 Cooper, R.J., Anderson, C., Avery, T., Bissell, P., Guillaume, L., Hutchinson, A., James, V., Lymn, J., McIntosh, A., Murphy, E., Ratcliffe, J., Read, S., and, Ward, P. (2008). [Nurse and pharmacist supplementary prescribing in the UK – A thematic review of the literature](#). *Health Policy*. 85: 277-292.
- 32 Bradley, E., and, Nolan, Peter. (2007). [Impact of nurse prescribing: a qualitative study](#). *Journal of Advanced Nursing*. 59(2): 120-128.
- 33 Cooper, R.J., Anderson, C., Avery, T., Bissell, P., Guillaume, L., Hutchinson, A., James, V., Lymn, J., McIntosh, A., Murphy, E., Ratcliffe, J., Read, S., and, Ward, P. (2008). [Nurse and pharmacist supplementary prescribing in the UK – A thematic review of the literature](#). *Health Policy*. 85: 277-292.
- 34 Creedon, R., O'Connell, E., McCarthy, G., and, Lehane, B. 2009. [An evaluation of nurse prescribing. Part 1: a literature review](#). *British Journal of Nursing*. 18(21): 1322-1327.
- 35 Latter, S., and, Courtenay, M. (2004). [Effectiveness of nurse prescribing: a review of the literature](#). *Journal of clinical Nursing*. 13: 26-32.
- 36 Cooper, R.J., Anderson, C., Avery, T., Bissell, P., Guillaume, L., Hutchinson, A., James, V., Lymn, J., McIntosh, A., Murphy, E., Ratcliffe, J., Read, S., and, Ward, P. (2008). [Nurse and pharmacist supplementary prescribing in the UK – A thematic review of the literature](#). *Health Policy*. 85: 277-292.
- 37 Latter, S., and, Courtenay, M. (2004). [Effectiveness of nurse prescribing: a review of the literature](#). *Journal of clinical Nursing*. 13: 26-32.
- 38 Creedon, R., O'Connell, E., McCarthy, G., and, Lehane, B. 2009. [An evaluation of nurse prescribing. Part 1: a literature review](#). *British Journal of Nursing*. 18(21): 1322-1327.
- 39 Watterson, A., Turner, F., Coull, A., and Murray, I. (2009). [An Evaluation of the Expansion of Nurse Prescribing in Scotland](#). Scottish Government.
- 40 Drennan, J., Naughton, C., Allen, D., Hyde, A., Felle, P., O'Boyle, K., Treacy, P., and, Butler, M. (2009). [National Independent Evaluation of the Nurse and Midwife Prescribing Initiative](#). University College Dublin.
- 41 Bhanbro, S., Drennan, V.M., Grant, R., and Harris, R. (2011). [Assessing the contribution of prescribing in primary care by nurses and professionals allied to medicine: a systematic review of the literature](#). *BMC Health Services Research*. 11(330):1-10.

-
- ⁴² Gielen, S.G., Dekker, J., Francke, A.L., Mistiaen, P., and, Kroezen, M. (2014). The effects of nurse prescribing: A systematic review. *International Journal of Nursing Studies*. 51:1048-1061.
- ⁴³ O'Connell, E., Creedon, R., McCarthy, G., and, Lehane, B. 2009. [An evaluation of nurse prescribing. Part 2: a literature review](#). *British Journal of Nursing*. 18(22): 1398-1402.
- ⁴⁴ Cooper, R.J., Anderson, C., Avery, T., Bissell, P., Guillaume, L., Hutchinson, A., James, V., Lymn, J., McIntosh, A., Murphy, E., Ratcliffe, J., Read, S., and, Ward, P. 2008. [Nurse and pharmacist supplementary prescribing in the UK – A thematic review of the literature](#). *Health Policy*. 85: 277-292.
- ⁴⁵ Brooks N., Otway C., Rashid C., Kilty E. and, Maggs C. (2001) The patients' view: the benefits and limitations of nurse prescribing. *British Journal of Community Nursing* 6: 342–348. As cited in: Latter, S., and, Courtenay, M. (2004). [Effectiveness of nurse prescribing: a review of the literature](#). *Journal of clinical Nursing*. 13: 26-32.
- ⁴⁶ Courtenay, M., Carey, N., Stenner, K., Lawton, S., and, Peters, J. 2010. [Patients' views of nurse prescribing: effects on care, concordance and medicine taking](#). *British Journal of Dermatology*. 164: 396-401.
- ⁴⁷ Cooper, R.J., Anderson, C., Avery, T., Bissell, P., Guillaume, L., Hutchinson, A., James, V., Lymn, J., McIntosh, A., Murphy, E., Ratcliffe, J., Read, S., and, Ward, P. 2008. [Nurse and pharmacist supplementary prescribing in the UK – A thematic review of the literature](#). *Health Policy*. 85: 277-292.
- ⁴⁸ Bhanbro, S., Drennan, V.M., Grant, R., and Harris, R. (2011). [Assessing the contribution of prescribing in primary care by nurses and professionals allied to medicine: a systematic review of the literature](#). *BMC Health Services Research*. 11(330):1-10.

SECTION IV

Registered Nurse Prescribing Referral: Rapid Response
on Key Patient Care Access Challenges in Ontario

***Patient Care Access Challenges in Ontario Literature
Review***

Registered Nurse Prescribing Referral

Rapid Response on Key Patient Care Access Challenges in Ontario

February 2016

Please note that this Preliminary Literature Review is a summary of information from other sources, not a representation of the policy position or goals of the Ministry of Health and Long-Term Care. If material in the review is to be referenced, please cite the original, primary source, rather than the review itself.

Rapid Response on Key Patient Care Access Challenges in Ontario

The following document presents some findings from the research literature, grey literature, and relevant websites on topics pertaining to key challenges faced by patients in accessing health care services in Ontario. While key access challenges specifically related to registered nurses (RNs) and/or RN prescribing were of interest, findings pertaining to any type of health care access issue faced by patients in general were also included in this rapid response.

The findings presented here reflect the limited information identified and summarized by one person in four working days, and may not represent consensus positions or the most updated literature. As such, the findings should be interpreted with caution.

Summary of Main Findings

- The identified literature provided evidence that Ontario patients experienced persistent challenges and inequalities in access to health care, including in the following three areas:
 - **Accessing Primary Health Care:** Patients experience the following challenges in accessing primary health care in Ontario: 1) access to a regular doctor or place of primary care; 2) access to coordinated, patient-centred primary care; and 3) access to primary care in remote and rural locations.
 - **Wait Times for Primary and Secondary Health Care:** According to a 2014 report by the Commonwealth Fund, Ontario (and Canada in general) ranks near-to-last on most measures of timeliness of care, including same- or next-day access to primary care, emergency department wait times, and access to specialists.
 - A 2011 report by the Ontario Medical Association noted that immigrants face a systemic barrier to accessing both primary and specialized health care due to the three-month waiting period before they qualify for coverage under the Ontario Health Insurance Plan.
 - **Out-of-Pocket Costs:** A 2013 Commonwealth Fund survey reported that 22% of Ontario patients are not confident that they would be able to afford the care they need in the event that they become seriously ill. The identified research literature suggested that substantial cost-related barriers faced by patients include those related to accessing prescription drugs, having chronic diseases or serious illnesses (e.g., cancer), and living in remote and/or rural areas.

Limitations

Limited literature was identified pertaining to the challenges faced by patients accessing health care services specifically in Ontario, as well as literature specific to RNs and/or RN prescribing.

Description of Findings

A 2014 report by the Health Council of Canada (HCC)^a examined the findings of the 2013 Commonwealth Fund International Health Policy Survey of the general public.^b The survey explored Canadian patients'

^a Created by the 2003 *First Ministers' Accord on Health Care Renewal*, the HCC was an independent national agency that reported on the progress of health care renewal. The HCC provided a system-wide perspective on health care reform in Canada, and disseminated information on innovative practices across the country ([Health Council of Canada, n.d.](#)).

^b The 2013 Commonwealth Fund International Health Policy Survey of the general public reflects the perceptions of a random sample of the general public (aged 18 years and older) in 11 countries: Australia, Canada, France, Germany, Netherlands, New

views on and experiences with health care in Canada, and provided comparative data at the provincial level.^c According to the survey, most Ontarians gave high ratings to the medical care they received in the past 12 months from their doctor or clinic, with 74% of respondents rating it as “very good” or “excellent.”¹ Similarly, a 2013 report by the Environics Institute^d noted that Ontarian’s confidence in Canada’s health system is the highest in the country at 58% — up 8% since 2010.²

However, the HCC report on the 2013 Commonwealth Fund Survey and other identified literature also highlighted several key challenges that patients face when trying to access health care services in Ontario, including: 1) accessing primary health care; 2) wait times for primary and secondary health care; and 3) out-of-pocket costs.

1. Challenges in Accessing Primary Health Care

The identified literature reported on the following challenges that patients experience in accessing primary health care in Ontario: 1) access to a regular doctor or place of primary care in Ontario; 2) access to coordinated, patient-centred primary care; and 3) access to primary care in remote and rural locations.

1.1 Access to a Regular Doctor or Place of Primary Care

According to a 2014 report by the Commonwealth Fund that compared international health care systems, an average 7% of Canadians did not have a regular doctor or clinic where they go for care.³ A 2015 Ontario Medical Association (OMA)^e policy paper reported that 9% of Ontarians did not have a regular place to obtain primary health care and that 13% of Ontario patients reported difficulty with accessing such care.⁴

The 2013 Commonwealth Fund Survey found that an average of 58% of Ontarians found it difficult to access medical care in the evenings, on weekends, or holidays without going to the hospital emergency department.⁵ The 2015 OMA policy report further noted that 15% of Ontarians reported that their wait time for primary health care was unacceptable.⁶

1.2 Access to Coordinated, Patient-Centred Primary Care

According to a 2015 OMA policy report, formal collaborative interdisciplinary family health care services [i.e., Family Health Teams (FHTs) and Community Health Centres (CHCs)] provided care to three million Ontario patients in 2015. However, the report noted that Ontario offers uneven care through an inequitable approach to organizing primary care services. Patients connected to formal collaborative interdisciplinary family health care organizations received facilitated access to the programs, services, and supports they required, with little or no cost to the patient, by virtue of their proximity to a CHC or their physician’s practice arrangement. Patients who were not affiliated with a FHT or CHC still typically received necessary primary

Zealand, Norway, Sweden, Switzerland, United Kingdom, and United States. Participants were interviewed by telephone between March and June 2013. The Commonwealth Fund sponsored the survey, along with four Canadian partners (and organizations in other countries) who contributed to expanding the sample size: the Commissaire à la santé et au bien-être (Quebec Health and Welfare Commissioner), the Health Council of Canada, the Health Quality Council of Alberta, and Health Quality Ontario ([Health Council of Canada, n.d.](#)) ([Canadian Health Care Matters, 2014](#)).

^c A total of 5,412 Canadian respondents were surveyed in the 2013 Commonwealth Fund Survey. Alberta, Ontario, and Quebec paid for expanded sample sizes for their provinces; the territories were excluded due to small sample sizes ([Canadian Health Care Matters, 2014](#)).

^d The Environics Institute is a not-for-profit Ontario corporation established to promote public opinion and social research on issues of public policy and social change ([The Environics Institute, n.d.](#)).

^e The OMA is an organization that represents the political, clinical, and economic interests of the Ontario’s medical profession. Its membership includes practicing physicians, medical residents, and students enrolled in Ontario faculties of medicine ([Ontario Medical Association, n.d.](#)).

care services, but had variable access, may have received less navigation and care coordination, and may have had to pay for services out-of-pocket.⁷

The 2013 Commonwealth Fund Survey and other research literature highlighted the following four challenges for patients in accessing coordinated, patient-centred primary care in Ontario:

- **Face Time:** 46% of Ontario patients (n=1,543) felt that their doctor or medical staff did not spend enough time with them.⁸ A 2015 OMA policy paper further found that 35% of patients reported that they did not have enough time to discuss their medical concerns with their doctor.⁹
- **Conflicting Information:** 18% of Ontarians reported that they had received conflicting information from different doctors or health care professionals about their health care.¹⁰
- **Lack of Communication:** 32% of Ontarians reported that after a visit to a hospital emergency department their doctors or staff did not seem informed and up-to-date about the care they had received.¹¹
- **Knowledge of Patient Medical History:** 38% of Ontarians reported that, when they sought care or treatment, their regular doctor or medical staff did not know important information about their medical history. The 2014 HCC report by noted that the proportion of primary care doctors who know their patients' medical history has declined since 2007.¹²

1.3 Underserved Geographic Areas

A 2013 systematic review and qualitative meta-synthesis noted that Ontario faced many challenges in providing health care services to remote and rural populations, where approximately 15% of the Ontario population lives. Two of the twelve studies included in the review were conducted in Ontario; four in other Canadian jurisdictions; and the remainder in the US, Europe, Australia, and New Zealand. All studies, including the Ontario studies analyzed in the review, noted that shortages of local health care professionals contributed to being a barrier to patient access to primary care.¹³

2. Wait Times for Primary and Secondary Health Care

According to the 2014 report by the Commonwealth Fund that compared international health care systems, Canada ranks last or near-to-last on most measures of timeliness of care.¹⁴ In particular, the literature identified patient challenges with: 1) access to their doctors for same-day, next-day, evening, and weekend appointments; 2) long wait times for emergency care; 3) difficulty getting speciality tests; 4) receiving treatment after diagnosis; 5) wait times to see a specialist; and 6) wait times for elective surgery.^{15,16,17}

As reviewed below, information was identified about patient wait times for accessing primary care physicians, emergency department care, and specialists, as well as access barriers and wait times faced by Ontarian immigrants.

2.1 Wait Times for Accessing Primary Care Physicians

The 2013 Commonwealth Fund Survey reported that an average of 41% of Canadians said they could receive an appointment on the same or next day with a doctor or nurse when they were sick or needed medical attention. This was the lowest reported percentage among the 11 high-income countries included in the study. The same study reported that the average was 42% among Ontarians. Moreover, the survey found that when Ontario patients called their regular doctor's office with a medical concern during regular practice hours, 65% received an answer the same day.¹⁸

2.2 Wait Times for the Emergency Department

The 2014 HCC report noted that Ontario patients waited longer for emergency department care compared with other high-income countries. Specifically, the report found that in 2013, 23% of Ontarians waited four or more hours before being treated at the hospital emergency department the last time they visited.¹⁹

2.3 Wait Times for Ontario Specialists

A 2013 study that analyzed Ontario data from the Canadian Community Health Survey^f found that wait time was the most frequently cited challenge experienced by patients when accessing specialist care within the previous 12 months (67.1%). In this study, “wait time” referred to time spent waiting in the specialist’s office (12.7%), time spent waiting to secure an appointment with a specialist (77.9%), or both (9.4%).²⁰

2.4 Wait Times Faced by Immigrants in Ontario

As highlighted in a 2011 OMA policy report, thousands of new Ontarians face an access barrier of a three-month waiting period from the date of their arrival before they qualify for coverage under the Ontario Health Insurance Plan (OHIP). While the Interim Federal Health Program covers emergency and essential care for refugee claimants, new legal immigrants are encouraged to buy private insurance prior to arriving in Canada to cover the wait period. However, the report noted that this type of insurance is often either not purchased, unavailable, or the coverage is insufficient.²¹

The 2013 study analyzing the Canadian Community Health Survey data found that, in general, immigrants in Ontario were much more likely to report difficulties and longer wait times in accessing specialist care in comparison with the Canadian-born Ontario population. Specifically, 69.2% of newcomers to Canada (i.e., those living in the country for less than 10 years) and 72.1% of longer-term immigrants reported difficulties with wait times, while 64.3% of their Canadian-born counter-parts reported the same difficulties related to wait times.²²

3. Out-of-Pocket Costs

The 2013 Commonwealth Fund Survey found that 22% of Ontarians are “not very” or “not at all” confident that they would be able to afford the care they need in the event that they become seriously ill.²³ As reviewed below, the literature identified substantial cost-related barriers faced by Ontario patients, including those related to accessing prescription drugs, having chronic diseases or serious illnesses (e.g., cancer), and living in remote and/or rural areas.

3.1 Cost-Related Challenges in Accessing Prescription Medication

Cost as a barrier to accessing prescription drugs in Ontario and Canada in general is well documented in the literature.^{24,25,26,27} According to the literature, outpatient prescription medications fall outside the scope of the [Canada Health Act \(1984\)](#), and as a result, drug financing in Canada is a “patchwork” that includes: 1) provincially, territorially, and federally administered plans for specific populations; 2) private health care plans; and 2) out-of-pocket payments that depend on whether and to what extent one has access to a public or private insurance plan.^{28,29,30} The 2013 Commonwealth Fund Survey reported that Canadians are among the highest users of prescription drugs compared with other countries,³¹ and according to a 2015

^f The Canadian Community Health Survey collects information annually on health status, health care use, and determinants of health. It relies upon a large sample of respondents and is designed to provide reliable estimates at the regional level ([Canadian Community Health Survey, n.d.](#)).

report published by the Wellesley Institute⁹ in Toronto (Ontario), 22% of prescription drugs were paid for out-of-pocket by patients in 2014.³²

According to a 2012 Canadian study, costs related to the variability in insurance coverage for prescription medications appeared to be a key factor that negatively impacted adherence to prescription drugs in Ontario.³³ The 2013 Commonwealth Fund Survey noted that 55% of Ontarians took one or more medications and 35% reported taking two or more on an ongoing basis;³⁴ however, the 2015 Wellesley Institute report found that one-third of working Ontarians do not have employer-provided benefits and Ontario does not offer coverage for people with low incomes.³⁵ The province does, however, provide mixed population-based coverage for seniors (aged 65 years and older) and for those on social assistance. In addition, Ontario offers catastrophic coverage to those whose drug costs exceed 4% of net family income.³⁶ Nevertheless, the 2013 the Commonwealth Fund Survey found that 11% of Ontarian patients did not fill a prescription or they skipped a dose due to cost within the previous 12 months.³⁷ This statistic was higher than the national average of 8%; internationally only the US ranked higher at 21%.³⁸

3.1.1 Cost-Related Barriers in Accessing Cancer Drugs

A 2014 Ontario study analyzed the financial challenges to patients, survivors, families, employers, insurance plans, and the health care system as a whole with respect to cancer patients. The study noted that there are disruptions in income-earning power, increasingly costly co-payments (according to the study, approximately 75% of private plans have co-payments of 20%) and supportive care costs that deplete savings.³⁹

According to a 2014 study, the [Canada Health Act \(1984\)](#) provides for government reimbursement for intravenous cancer drugs because they are administered in a hospital or medical setting. In most provinces, patients must personally pay some or all of the cost of medications that are taken at home, even if they are considered essential as part of internationally accepted treatment protocols. Canada's western provinces, Quebec, and the northern territories cover the reimbursement of oral cancer drugs for all in need, while Ontario and the Atlantic provinces do not.⁴⁰ Blue Cross has determined that, when take-home medicines are only partially covered by private insurance or not reimbursed at all, one in six cancer patients with high out-of-pocket costs abandon their medication.⁴¹

3.2 **Cost-Related Barriers Faced by Rural Populations**

A 2007 study assessed the monthly out-of-pocket costs of cancer patients within the general population (n=282) of Ontario by analyzing the results of a survey conducted between October 2001 and April 2003. Travel costs were found to be the most problematic for patients compared to all other out-of-pocket expenses (e.g., parking/fares, medical devices, prescription drugs, accommodation, home care) at that time.^h The mean monthly travel costs among survey respondents was \$372, with a range of \$0–\$6,180.⁴²

Six studies were identified that reported on the cost-related barriers faced by rural populations in Ontario:

- A 2013 Canadian Cancer Society Action Plan proposal indicated that rural and northern Ontario families experienced much higher out-of-pocket costs in terms of travel, accommodation,

⁹ The Wellesley Institute is a Toronto-based non-profit and non-partisan research and policy institute. The institute focuses on developing research, policy, and community mobilization to advance population health ([Wellesley Institute, n.d.](#)).

^h Out-of-pocket mean monthly costs for all those other than travel costs totalled an average CAD \$213 and were as follows: parking/fares (\$47); devices (\$46); prescription drugs (\$45); accommodation (\$43); complementary and alternative medicine (\$29); vitamins (\$25); homemaking (\$14); family care (\$12); home care (\$2); and other (\$8). Imputed travel mileage costs were \$372.

subsistence, family care, and lost wages than urban families in the province. In one instance, a rural family paid CAD \$25,000 out-of-pocket to access the same treatment over a six-month period for which an urban family would have paid CAD \$2,000.⁴³

- A 2005 study found that sometimes appointments for health care services in urban centres were not scheduled in a way that considered the significant travel time involved for rural patients, which required them to make multiple trips or arrange overnight accommodation to make an early-morning appointment.⁴⁴
- Three studies noted that transportation and associated costs (e.g., gas, parking) is a commonly reported burden to many patients.^{45,46,47}

4. References

All website links working as of December 2015.

- ¹ Health Council of Canada. (2014). Where you live matters: Canadian views on health care quality. Results from the 2013 Commonwealth Fund International Health Policy Survey of the General Public. *Canadian Health Care Matters, Bulletin 8*. Toronto, ON: Health Council of Canada; 2014. Last accessed December 10, 2015.
- ² The Environics Institute for Survey Research. (2013). Focus Canada 2012: What Canadians think about their health care system. January 2013. Last accessed December 17, 2015.
- ³ Health Council of Canada (2014). Where you live matters: Canadian views on health care quality. Results from the 2013 Commonwealth Fund International Health Policy Survey of the General Public. *Canadian Health Care Matters, Bulletin 8*. Toronto, ON: Health Council of Canada; 2014. Last accessed January 4, 2016.
- ⁴ Ontario Medical Association (OMA) (2015). An Integrated Health Network Approach to Address Priority Populations in Family Practice in Ontario. OMA Policy Paper. June, 2015. Last accessed December 22, 2015.
- ⁵ Health Council of Canada (2014). Where you live matters: Canadian views on health care quality. Results from the 2013 Commonwealth Fund International Health Policy Survey of the General Public. *Canadian Health Care Matters, Bulletin 8*. Toronto, ON: Health Council of Canada; 2014. Last accessed January 4, 2016.
- ⁶ Ontario Medical Association (OMA) (2015). An Integrated Health Network Approach to Address Priority Populations in Family Practice in Ontario. OMA Policy Paper. June, 2015. Last accessed December 22, 2015.
- ⁷ Ontario Medical Association (OMA) (2015). An Integrated Health Network Approach to Address Priority Populations in Family Practice in Ontario. OMA Policy Paper. June, 2015. Last accessed December 22, 2015.
- ⁸ Health Council of Canada (2014). Where you live matters: Canadian views on health care quality. Results from the 2013 Commonwealth Fund International Health Policy Survey of the General Public. *Canadian Health Care Matters, Bulletin 8*. Toronto, ON: Health Council of Canada; 2014. Last accessed January 4, 2016.
- ⁹ Ontario Medical Association (OMA) (2015). An Integrated Health Network Approach to Address Priority Populations in Family Practice in Ontario. OMA Policy Paper. June, 2015. Last accessed December 22, 2015.
- ¹⁰ Health Council of Canada (2014). Where you live matters: Canadian views on health care quality. Results from the 2013 Commonwealth Fund International Health Policy Survey of the General Public. *Canadian Health Care Matters, Bulletin 8*. Last accessed January 4, 2016.
- ¹¹ Health Council of Canada (2014). Where you live matters: Canadian views on health care quality. Results from the 2013 Commonwealth Fund International Health Policy Survey of the General Public. *Canadian Health Care Matters, Bulletin 8*. Last accessed January 4, 2016.
- ¹² Health Council of Canada (2014). Where you live matters: Canadian views on health care quality. Results from the 2013 Commonwealth Fund International Health Policy Survey of the General Public. *Canadian Health Care Matters, Bulletin 8*. Last accessed January 4, 2016.
- ¹³ Brundisini, F., Giacomini, M., DeJean, D., Vanstone, M., Winsor, S., & Smith, A. (2013). Chronic disease patients' experiences with accessing health care in rural and remote areas: a systematic review and qualitative meta-synthesis. *Ontario health technology assessment series*, 13(15), 1. Last accessed January 4, 2016.
- ¹⁴ Davis, K., Stremikis, K., Squires., & Schoen, C. (2014). Update 2014 Mirror, Mirror on the Wall: How the Performance of the U.S. Health Care System Compares Internationally. The Commonwealth Fund, 2014. Last accessed January 4, 2016.
- ¹⁵ Health Council of Canada. (2014). Where you live matters: Canadian views on health care quality. Results from the 2013 Commonwealth Fund International Health Policy Survey of the General Public. *Canadian Health Care Matters, Bulletin 8*. Toronto, ON: Health Council of Canada; 2014. Last accessed January 4, 2016.
- ¹⁶ Harrington, D. W., Wilson, K., Rosenberg, M., & Bell, S. (2013). Access granted! barriers endure: determinants of difficulties accessing specialist care when required in Ontario, Canada. *BMC health services research*, 13(1), 146. Last accessed January 4, 2016.
- ¹⁷ Davis, K., Stremikis, K., Squires., & Schoen, C. (2014). Update 2014 Mirror, Mirror on the Wall: How the Performance of the U.S. Health Care System Compares Internationally. The Commonwealth Fund, 2014. Last accessed January 4, 2016.
- ¹⁸ Health Council of Canada. (2014). Where you live matters: Canadian views on health care quality. Results from the 2013 Commonwealth Fund International Health Policy Survey of the General Public. *Canadian Health Care Matters, Bulletin 8*. Toronto, ON: Health Council of Canada; 2014. Last accessed January 4, 2016.
- ¹⁹ Health Council of Canada (2014). Where you live matters: Canadian views on health care quality. Results from the 2013 Commonwealth Fund International Health Policy Survey of the General Public. *Canadian Health Care Matters, Bulletin 8*. Toronto, ON: Health Council of Canada; 2014. Last accessed January 4, 2016.

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- ²⁰ Harrington, D. W., Wilson, K., Rosenberg, M., & Bell, S. (2013). Access granted! barriers endure: determinants of difficulties accessing specialist care when required in Ontario, Canada. *BMC health services research*, 13(1), 146. Last accessed January 4, 2016.
- ²¹ Ontario Medical Association (OMA) (2011). Reviewing the OHIP Three-Month Wait: an unreasonable barrier to accessing health care. OMA Policy Paper. April 2011. Last accessed January 4, 2016.
- ²² Harrington, D. W., Wilson, K., Rosenberg, M., & Bell, S. (2013). Access granted! barriers endure: determinants of difficulties accessing specialist care when required in Ontario, Canada. *BMC health services research*, 13(1), 146. Last accessed January 4, 2016.
- ²³ Health Council of Canada (2014). Where you live matters: Canadian views on health care quality. Results from the 2013 Commonwealth Fund International Health Policy Survey of the General Public. *Canadian Health Care Matters, Bulletin 8*. Toronto, ON: Health Council of Canada; 2014. Last accessed January 4, 2016.
- ²⁴ Kapur, V., & Basu, K. (2005). Drug coverage in Canada: who is at risk? *Health Policy*, 71(2), 181-193. As cited in: Law, M.R., Cheng L., Dhalla I.A., Heard, D., & Morgan, S.G. (2012). The effect of cost on adherence to prescription medications in Canada. *Canadian Medical Association Journal*, 184(3). 297-302 Last accessed January 4, 2016.
- ²⁵ Law, M.R., Cheng L., Dhalla I.A., Heard, D., & Morgan, S.G. (2012). The effect of cost on adherence to prescription medications in Canada. *Canadian Medical Association Journal*, 184(3). 297-302 Last accessed January 4, 2016.
- ²⁶ Barnes, S., & Anderson, L. (2015). Low Earnings, Unfilled Prescriptions: Employer-Provided Health Benefit Coverage in Canada. Wellesley Institute. Last accessed January 4, 2016.
- ²⁷ Health Council of Canada (2014). Where you live matters: Canadian views on health care quality. Results from the 2013 Commonwealth Fund International Health Policy Survey of the General Public. *Canadian Health Care Matters, Bulletin 8*. Toronto, ON: Health Council of Canada; 2014. Last accessed January 4, 2016.
- ²⁸ Kapur, V., & Basu, K. (2005). Drug coverage in Canada: who is at risk?. *Health Policy*, 71(2), 181-193. As cited in: Law, M.R., Cheng L., Dhalla I.A., Heard, D., & Morgan, S.G. (2012). The effect of cost on adherence to prescription medications in Canada. *Canadian Medical Association Journal*, 184(3). 297-302. Last accessed January 4, 2016.
- ²⁹ Barnes, S., & Anderson, L. (2015). Low Earnings, Unfilled Prescriptions: Employer-Provided Health Benefit Coverage in Canada. Wellesley Institute. Last accessed January 4, 2016.
- ³⁰ ³⁰ Parliament of Canada (2009). Catastrophic Drug Coverage in Canada. Ottawa, ON. Last accessed January 4, 2016.
- ³¹ Health Council of Canada (2014). Where you live matters: Canadian views on health care quality. Results from the 2013 Commonwealth Fund International Health Policy Survey of the General Public. *Canadian Health Care Matters, Bulletin 8*. Toronto, ON: Health Council of Canada; 2014. Last accessed January 4, 2016.
- ³² Barnes, S., & Anderson, L. (2015). Low Earnings, Unfilled Prescriptions: Employer-Provided Health Benefit Coverage in Canada. Wellesley Institute, 2015. Last accessed January 4, 2016.
- ³³ Law, M.R., Cheng L., Dhalla I.A., Heard, D., & Morgan, S.G. (2012). The effect of cost on adherence to prescription medications in Canada. *Canadian Medical Association Journal*, 184(3). 297-302. Last accessed January 4, 2016.
- ³⁴ Health Council of Canada (2014). Where you live matters: Canadian views on health care quality. Results from the 2013 Commonwealth Fund International Health Policy Survey of the General Public. *Canadian Health Care Matters, Bulletin 8*. Toronto, ON: Health Council of Canada; 2014. Last accessed January 4, 2016.
- ³⁵ Barnes, S., & Anderson, L. (2015). Low Earnings, Unfilled Prescriptions: Employer-Provided Health Benefit Coverage in Canada. Wellesley Institute. Last accessed January 4, 2016.
- ³⁶ Parliament of Canada (2009). Catastrophic Drug Coverage in Canada. Ottawa, ON. Last accessed January 4, 2016.
- ³⁷ Health Council of Canada (2014). Where you live matters: Canadian views on health care quality. Results from the 2013 Commonwealth Fund International Health Policy Survey of the General Public. *Canadian Health Care Matters, Bulletin 8*. Toronto, ON: Health Council of Canada; 2014. Last accessed January 4, 2016.
- ³⁸ Health Council of Canada (2014). Where you live matters: Canadian views on health care quality. Results from the 2013 Commonwealth Fund International Health Policy Survey of the General Public. *Canadian Health Care Matters, Bulletin 8*. Toronto, ON: Health Council of Canada; 2014. Last accessed January 4, 2016.
- ³⁹ Taylor, D. W. (2014). Benefits outweigh costs in universal healthcare: business case for reimbursement of take-home cancer medicines in Ontario and Atlantic Canada. *American Journal of Medicine and Medical Sciences*, 4(4), 126-138. Last accessed January 4, 2016.
- ⁴⁰ Taylor, D. W. (2014). Benefits outweigh costs in universal healthcare: business case for reimbursement of take-home cancer medicines in Ontario and Atlantic Canada. *American Journal of Medicine and Medical Sciences*, 4(4), 126-138. Last accessed January 4, 2016.
- ⁴¹ C.I. Starner, P.P. Gleeson, B. W. Gunderson, Oral Oncology Prescription Abandonment Association with High Out-of-Pocket Member Expense, *Journal of Managed Care Pharmacy* 16 (2), 161-162. As cited in: Taylor, D. W. (2014). Benefits outweigh

costs in universal healthcare: business case for reimbursement of take-home cancer medicines in Ontario and Atlantic Canada. *American Journal of Medicine and Medical Sciences*, 4(4), 126-138. Last accessed January 4, 2016.

⁴² Longo, C. J., Deber, R., Fitch, M., Williams, A. P., & D'Souza, D. (2007). Abstract only. An examination of cancer patients' monthly 'out-of-pocket costs in Ontario, Canada. *European journal of cancer care*, 16(6), 500-507. Last accessed December 17, 2015.

⁴³ Canadian Cancer Society (Manitoba Division), Canadian Cancer Action Network, *Five year action plan to address the Financial Hardship of Cancer in Canada: A Call for Action*, November 2013, 17-18. As cited in: Taylor, D. W. (2014). Benefits outweigh costs in universal healthcare: business case for reimbursement of take-home cancer medicines in Ontario and Atlantic Canada. *American Journal of Medicine and Medical Sciences*, 4(4), 126-138. Last accessed January 4, 2016.

⁴⁴ Caldwell P, Arthur HM, Rideout E. (2005). Lives of rural women after myocardial infarction. *Canadian Journal of Nursing Research*, 37(1):54-67. As cited in: Brundisini, F., Giacomini, M., DeJean, D., Vanstone, M., Winsor, S., & Smith, A. (2013). Chronic disease patients' experiences with accessing health care in rural and remote areas: a systematic review and qualitative meta-synthesis. *Ontario health technology assessment series*, 13(15), 1. Last accessed January 4, 2016.

⁴⁵ King, K. M., Thomlinson, E., Sanguins, J., & LeBlanc, P. (2006). Men and women managing coronary artery disease risk: Urban-rural contrasts. *Social science & medicine*, 62(5), 1091-1102. As cited in: Brundisini, F., Giacomini, M., DeJean, D., Vanstone, M., Winsor, S., & Smith, A. (2013). Chronic disease patients' experiences with accessing health care in rural and remote areas: a systematic review and qualitative meta-synthesis. *Ontario health technology assessment series*, 13(15), 1. Last accessed January 4, 2016.

⁴⁶ Tessaro I, Smith SL, Rye S. Knowledge and perceptions of diabetes in an Appalachian population. *Prev Chronic Dis*. 2005;2(2). As cited in: Brundisini, F., Giacomini, M., DeJean, D., Vanstone, M., Winsor, S., & Smith, A. (2013). Chronic disease patients' experiences with accessing health care in rural and remote areas: a systematic review and qualitative meta-synthesis. *Ontario health technology assessment series*, 13(15), 1. Last accessed January 4, 2016.

⁴⁷ Caldwell P, Arthur HM, Rideout E. Lives of rural women after myocardial infarction. *Canadian Journal of Nursing Research*, 37(1):54-67. As cited in: Brundisini, F., Giacomini, M., DeJean, D., Vanstone, M., Winsor, S., & Smith, A. (2013). Chronic disease patients' experiences with accessing health care in rural and remote areas: a systematic review and qualitative meta-synthesis. *Ontario health technology assessment series*, 13(15), 1. Last accessed January 4, 2016.

SECTION V

Survey: RN Prescribing - MIXED

Mixed Consultation Survey

Registered Nurse (RN) Prescribing Referral Survey

The Minister of Health and Long-Term Care has asked the Health Professions Regulatory Advisory Council (HPRAC) to conduct an assessment of three models of RN drug prescribing and provide recommendations on the most suitable model for Ontario.

Many organizations and individuals have extensive experience and interest in health care, health professions regulation and serving the public interest. HPRAC wants to ensure that this experience and interest are fully reflected in its recommendation-making process for RN prescribing.

HPRAC is seeking input on the most appropriate model of RN prescribing for Ontario. For the purposes of this survey, the three different models of RN prescribing that will be used and are defined below:

Independent prescribing: In this model a nurse may prescribe medications, under their own authority, without restrictions or from a limited or pre-defined formulary within a regulated scope of practice. Independent prescribers are allowed to prescribe any licensed or unlicensed drugs that are within their clinical competency area. As an independent prescriber the RN would be fully responsible for the assessment of the patient's needs and prescription of medication.

As an independent prescriber, a RN would be similar to a physician in terms of ability to prescribe. However, an RN would not have access to prescribing controlled drugs and substances.

Use of protocols: In this model written instructions allow RNs to supply and administer medications within the terms of a predetermined protocol. The use of protocols is used for the supply and administration of named medicines in an identified clinical situation. RNs are only able to supply and administer medications within the strict terms of the predetermined protocol. A RN under this model is responsible for the acceptance of the protocol but the prescribing physician or regulated health professional with prescribing authority* is responsible for the assessment of the patient's needs and prescription of any medication.

Through the use of protocols, a RN would be able to prescribe specific medications under specific circumstances, similar to how RNs currently prescribe through the use of an order or a medical directive.

Supplementary prescribing: Supplementary prescribing is a hybrid of independent prescribing and use of protocols. This model involves a partnership between a RN, physician and patient, where after an initial assessment of the patient's needs by the physician a nurse may prescribe medication. In this model a patient-specific clinical management plan (CMP) is developed by the nurse and physician that allows the nurse to prescribe within a limited or pre-defined formulary or by class of drugs within their clinical competency area. The collaborating physician shares the responsibility of prescribing and holds full responsibility for the assessment of a patient. There are no restrictions on the type of patient condition or patient population that a CMP could be developed for between a physician and RN.

As a supplementary prescriber a RN, working within a previously established CMP, would be permitted to prescribe for a variety of patient clinical conditions as long as they are within the RN's clinical competency.

*Please note: for the purposes of the models outlined above physician and regulated health professional with prescribing authority includes nurse practitioners or any other appropriate non-physician prescriber.

The feedback collected in the survey will be publicly posted according to HPRAC's access to information guidelines. To view the guidelines, please visit this website: <http://hprac.org/en/privacy.asp>.

SECTION 1: Respondent Information

I am responding *

- ☐ As an individual
 - ☐ On behalf of an organization
-

Organization Name *

Your name (optional)

Email address (optional)

Geographical Location (choose one) *

- ☐ Ontario
 - ☐ Alberta
 - ☐ British Columbia
 - ☐ Manitoba
 - ☐ New Brunswick
 - ☐ Newfoundland and Labrador
 - ☐ Nova Scotia
 - ☐ Prince Edward Island
 - ☐ Quebec
 - ☐ Saskatchewan
 - ☐ Northwest Territories
 - ☐ Nunavut
 - ☐ Yukon
 - ☐ United States
 - ☐ International
-

Are you a member of a regulated health profession? *

- ☐ Yes
 - ☐ No
-

Which regulated health profession do you belong to? *

- ☐ Registered Practical Nurse
- ☐ Registered Nurse
- ☐ Nurse Practitioner
- ☐ Audiologist

- ☐ Chiropracist
 - ☐ Chiropractor
 - ☐ Dental Hygienist
 - ☐ Dental Technologist
 - ☐ Dentist
 - ☐ Denturist
 - ☐ Dietitian
 - ☐ Homeopath
 - ☐ Kinesiologist
 - ☐ Massage Therapist
 - ☐ Medical Laboratory Technologist
 - ☐ Medical Radiation Technologist
 - ☐ Midwife
 - ☐ Naturopath
 - ☐ Occupational Therapist
 - ☐ Optician
 - ☐ Optometrist
 - ☐ Pharmacist
 - ☐ Physician
 - ☐ Physiotherapist
 - ☐ Podiatrist
 - ☐ Psychologist
 - ☐ Psychotherapist
 - ☐ Respiratory Therapist
 - ☐ Speech Language Pathologist
 - ☐ Traditional Chinese Medicine and Acupuncturist
 - ☐ Other
-

Are you: *

- ☐ Currently practising
 - ☐ Retired
 - ☐ Other
-

In which of the following settings do you practice? (Check all that apply) *

- ☐ Hospital setting - Emergency room
- ☐ Hospital setting - Outpatient clinic
- ☐ Hospital setting - Acute care
- ☐ Hospital setting - Addiction and mental health
- ☐ Hospital setting - Complex continuing care
- ☐ Hospital setting - Rehabilitation
- ☐ Community setting - Community Care Access Centre
- ☐ Community setting - Community Health Centre

- ☐ Community setting - Community Mental Health Program
- ☐ Community setting - Home Care
- ☐ Community setting - Public Health Unit
- ☐ Community setting - Nurse Practitioner Led Clinic
- ☐ Community setting - Remote nursing station
- ☐ Community setting - Primary care physician office
- ☐ Community setting - Family Health Team
- ☐ Community setting - Long Term Care Home
- ☐ Community setting - Retirement home
- ☐ Other setting - College/university
- ☐ Other setting - Correctional facility
- ☐ Other setting - Commercial or industrial enterprise
- ☐ Other setting - School
- ☐ Other setting - Union
- ☐ Other

SECTION 2. Impact of RN Prescribing

A) Impact on Access to Care

Do you think that RN prescribing will result in more timely access to care? *

- ☐ Yes
- ☐ No

Please rank which model of RN prescribing would be 'Most likely'(1), 'Likely'(2), or Least likely'(3) to result in more timely access to care. To rank, enter the number (1-3) in the box next to the model. *

Independent prescribing

Supplementary prescribing

Use of protocols

Rank values must be between 1 and 3

Do you think that RN prescribing will result in more convenient access to care? *

- ☐ Yes
- ☐ No

Please identify which model of RN prescribing would be 'Most likely'(1), 'Likely'(2), or 'Least likely'(3) to result in more convenient access to care. To rank, enter the number (1-3) in the box next to the model. *

Independent prescribing

Supplementary prescribing

Use of protocols

Rank values must be between 1 and 3

Do you think that RN prescribing will result in fewer emergency room visits? *

- ☐ Yes
- ☐ No
-

Please rank which model of RN prescribing would be 'Most likely'(1), 'Likely'(2), or 'Least likely'(3) to result in fewer emergency room visits. To rank, enter the number (1-3) in the box next to the model. *

Independent prescribing

Supplementary prescribing

Use of protocols

Rank values must be between 1 and 3

Do you think that RN prescribing will result in better access to care in remote communities? *

- ☐ Yes
- ☐ No
-

Please rank which model of RN prescribing would be 'Most likely'(1), 'Likely'(2), or 'Least likely'(3) to result in better access to care in remote communities. To rank, enter the number (1-3) in the box next to the model. *

Independent prescribing

Supplementary prescribing

Use of protocols

Rank values must be between 1 and 3

Do you think that RN prescribing will result in better access to care in rural communities? *

- ☐ Yes
- ☐ No
-

Please rank which model of RN prescribing would be 'Most likely'(1), 'Likely'(2), or 'Least likely'(3) to result in better access to care in rural communities. To rank, enter the number (1-3) in the box next to the model. *

Independent prescribing

Supplementary prescribing

Use of protocols

Rank values must be between 1 and 3

Do you think that RN prescribing will result in better access to care in fast growing communities? *

- ☐ Yes
- ☐ No

Please rank which model of RN prescribing would be 'Most likely'(1), 'Likely'(2), or 'Least likely'(3) to result in better access to care in fast growing communities. To rank, enter the number (1-3) in the box next to the model. *

Independent prescribing

Supplementary prescribing

Use of protocols

Rank values must be between 1 and 3

Thinking about the implementation of the different models of RN prescribing, are there other important changes to access to care that could occur?

B) Impact on Patients

Do you think that RN prescribing would result in patients having a better understanding of the medications prescribed to them? *

☐ Yes

☐ No

Please rank which model of RN prescribing would be 'Most likely'(1), 'Likely'(2), or 'Least likely'(3) to result in patients having a better understanding of the medications prescribed to them?. To rank, enter the number (1-3) in the box next to the model. *

Independent prescribing

Supplementary prescribing

Use of protocols

Rank values must be between 1 and 3

Do you think that RN prescribing would result in patients being more compliant with instructions for medications use? *

☐ Yes

☐ No

Please rank which model of RN prescribing would be 'Most likely'(1), 'Likely'(2), or 'Least likely'(3) to result in patient compliance with instructions for medication use. To rank, enter the number (1-3) in the box next to the model. *

Independent prescribing

Supplementary prescribing

Use of protocols

Rank values must be between 1 and 3

Overall, do you think that RN prescribing would improve patient satisfaction? *

- ☐ Yes
- ☐ No
-

Please rank which model of RN prescribing would be 'Most likely'(1), 'Likely'(2), or 'Least likely'(3) to improve patient satisfaction. To rank, enter the number (1-3) in the box next to the model. *

Independent prescribing

Supplementary prescribing

Use of protocols

Rank values must be between 1 and 3

Overall, do you think that RN prescribing would improve patient well-being? *

- ☐ Yes
- ☐ No
-

Please rank which model of RN prescribing would be 'Most likely'(1), 'Likely'(2), or 'Least likely'(3) to improve patient well-being. To rank, enter the number (1-3) in the box next to the model.

Independent prescribing

Supplementary prescribing

Use of protocols

C) Health system impact

Do you think that RN prescribing would facilitate collaborative care (e.g., team based, integrated, etc.)? *

- ☐ Yes
- ☐ No
-

Please rank which model of RN prescribing would be 'Most likely'(1), 'Likely'(2), or 'Least likely'(3) to facilitate collaborative care (e.g., team based, integrated, etc.). To rank, enter the number (1-3) in the box next to the model. *

Independent prescribing

Supplementary prescribing

Use of protocols

Rank values must be between 1 and 3

For each model of RN prescribing please indicate what you think the impact would be on health care

system costs?

	Cost Decrease	Cost Increase	No Cost Change
Independent prescribing *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supplementary prescribing *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use of protocols *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Thinking about the different models of RN prescribing, are there other potential impacts on the healthcare system that are not mentioned above?

D) Risk of Harm & Readiness to Prescribe

For each model of RN prescribing please indicate what you think could be the impact on risk of harm to patients?

	Increased Risk of Harm	Decreased Risk of Harm	No Change in Risk of Harm
Independent prescribing *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supplementary prescribing *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use of protocols *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How might any increase in the risk of harm to patients be mitigated? (Check all that apply).

	Independent prescribing	Supplementary prescribing	Use of protocols
Further education and training of RNs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Regulatory oversight to enforce prescribing standards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Establishment of clear practice boundaries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On-going competency assessment (Quality Assurance Assessment)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do not permit prescribing of narcotics or controlled drugs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Allow prescribing only in settings where collaborative care (e.g., team, integrated, etc.) is taking place	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Thinking about the different models of RN prescribing, are there specific concerns related to risk of harm which have not been addressed above? What strategies could be put into place to minimize this risk?

Please rank which model of RN prescribing currently ‘Best matches’ (1), ‘Matches’ (2), ‘Least matches’ (3) RNs professional skills. To rank, enter the number (1-3) in the box next to the model. *

Independent prescribing

Supplementary prescribing

Use of protocols

Rank values must be between 1 and 3

Please rank which model of RN prescribing currently ‘Best matches’ (1), ‘Matches’ (2), Least matches’ (3) RNs professional knowledge. To rank, enter the number (1-3) in the box next to the model. *

Independent prescribing

Supplementary prescribing

Use of protocols

Rank values must be between 1 and 3

Please rank which model of RN prescribing currently ‘Best matches’ (1), ‘Matches’ (2), ‘Least matches’ (3) RNs professional education. To rank, enter the number (1-3) in the box next to the model. *

Independent prescribing

Supplementary prescribing

Use of protocols

Rank values must be between 1 and 3

Thinking about the professional skills of RNs, are there any other considerations about education, training and experience that are not mentioned above?

Thinking about the different health care settings where nurses practice, please indicate which model you consider most suitable for each setting (check all that apply).

	Independent prescribing	Supplementary prescribing	Use of protocols	Nurses prescribing not appropriate for this setting
Hospital setting - Emergency room *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hospital setting - Outpatient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

clinic *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hospital setting - Acute care *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hospital setting - Addiction and mental health *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hospital setting - Complex continuing care *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hospital setting - Rehabilitation *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community setting - Community Care Access Centre *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community setting - Community Health Centre *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community setting - Community Mental Health Program *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community setting - Home Care *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community setting - Public Health Unit *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community setting - Nurse Practitioner Led Clinic *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community setting - Remote nursing station *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community setting - Primary care physician office *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community setting - Family Health Team *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community setting - Long Term Care Home *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community setting - Retirement home *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other setting - College/university *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other setting - Correctional facility *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other setting - Commercial or industrial enterprise *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other setting - School *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other setting - Union *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Thinking about the different health care settings where nurses practice, is there a setting which would most benefit from RN prescribing?

Please provide any additional comments related to the three different models of RN prescribing that have not been covered elsewhere in this survey.

If available, please provide any evidence or references to support responses provided in the survey.

Access to Information

Comments submitted will be considered by HPRAC and will help it to determine appropriate recommendations to make to the Minister of Health and Long-Term Care. To ensure transparency and encourage open dialogue, the feedback received by HPRAC may be posted on its website in accordance with its Privacy Statement, which is available at: www.hprac.org/en/privacy.asp

Please note that unless requested and otherwise agreed to by HPRAC, any information or comments received from organizations will be considered public information and may be used and disclosed by HPRAC. HPRAC may disclose materials or comments, or summaries of them, to other interested parties (during and after the consultation period).

An individual who makes a submission and who indicates an affiliation with an organization in his or her submission will be considered to have made his or her submission on behalf of the affiliated organization. HPRAC will not disclose any personal information contained in the submission of an individual who does not specify an organizational affiliation in his or her submission without the individual's consent unless required to do so by law. However, HPRAC may use and disclose the content of the individual's submission to assist it in fulfilling its statutory mandate. HPRAC reserves the right to refuse to post a submission, in whole or in part, that, in its sole discretion, is unrelated to the issue under consultation and is abusive, obscene, harassing, threatening or includes defamatory comments. If you have any questions about the collection of this information, you can contact HPRAC at 416-326-1550.

SECTION VI

Survey: RN Prescribing – CLOSED

Closed Consultation Survey

Registered Nurse (RN) Prescribing Referral Survey

The Minister of Health and Long-Term Care has asked the Health Professions Regulatory Advisory Council (HPRAC) to conduct an assessment of three models of RN drug prescribing and provide recommendations on the most suitable model for Ontario. Consistent with the Patients First: Action Plan for Health Care this is to be done in the context of which model will best increase access to health care services.

Many organizations and individuals have extensive experience and interest in health care, health professions regulation and serving the public interest. HPRAC wants to ensure that this experience and interest are fully reflected in its recommendation-making process for RN prescribing.

HPRAC is seeking input on the most appropriate model of RN prescribing for Ontario. For the purposes of this survey, the three different models of RN prescribing that will be used and are defined below:

Independent prescribing: In this model a nurse may prescribe medications, under their own authority, without restrictions or from a limited or pre-defined formulary within a regulated scope of practice. Independent prescribers are allowed to prescribe any licensed or unlicensed drugs that are within their clinical competency area. As an independent prescriber the RN would be fully responsible for the assessment of the patient's needs and prescription of medication.

As an independent prescriber, a RN would be similar to a physician in terms of ability to prescribe. However, an RN would not have access to prescribing controlled drugs and substances.

Use of protocols: In this model written instructions allow RNs to supply and administer medications within the terms of a predetermined protocol. The use of protocols is used for the supply and administration of named medicines in an identified clinical situation. RNs are only able to supply and administer medications within the strict terms of the predetermined protocol. A RN under this model is responsible for the acceptance of the protocol but the prescribing physician or regulated health professional with prescribing authority* is responsible for the assessment of the patient's needs and prescription of any medication.

Through the use of protocols, a RN would be able to prescribe specific medications under specific circumstances, similar to how RNs currently prescribe through the use of an order or a medical directive.

Supplementary prescribing: Supplementary prescribing is a hybrid of independent prescribing and use of protocols. This model involves a partnership between a RN, physician and patient, where after an initial assessment of the patient's needs by the physician a nurse may prescribe medication. In this model a patient-specific clinical management plan (CMP) is developed by the nurse and physician that allows the nurse to prescribe within a limited or pre-defined formulary or by class of drugs within their clinical competency area. The collaborating physician shares the responsibility of prescribing and holds full responsibility for the assessment of a patient. There are no restrictions on the type of patient condition or patient population that a CMP could be developed for between a physician and RN.

As a supplementary prescriber a RN, working within a previously established CMP, would be permitted to prescribe for a variety of patient clinical conditions as long as they are within the RN's clinical competency.

*Please note: for the purposes of the models outlined above physician and regulated health professional with prescribing authority includes nurse practitioners or any other appropriate non-physician prescriber.

The feedback collected in the survey will be publicly posted according to HPRAC's access to information guidelines. To view the guidelines, please visit this website: <http://hprac.org/en/privacy.asp>.

SECTION 1: Respondent Information

I am responding *

- ☐ As an individual
 - ☐ On behalf of an organization
-

Organization Name *

Your name (optional)

Email address (optional)

Geographical Location (choose one) *

- ☐ Ontario
 - ☐ Alberta
 - ☐ British Columbia
 - ☐ Manitoba
 - ☐ New Brunswick
 - ☐ Newfoundland and Labrador
 - ☐ Nova Scotia
 - ☐ Prince Edward Island
 - ☐ Quebec
 - ☐ Saskatchewan
 - ☐ Northwest Territories
 - ☐ Nunavut
 - ☐ Yukon
 - ☐ United States
 - ☐ International
-

Are you a member of a regulated health profession? *

- ☐ Yes
 - ☐ No
-

Which regulated health profession do you belong to? *

- ☐ Registered Practical Nurse
- ☐ Registered Nurse
- ☐ Nurse Practitioner

- ☐ Audiologist
 - ☐ Chiropodist
 - ☐ Chiropractor
 - ☐ Dental Hygienist
 - ☐ Dental Technologist
 - ☐ Dentist
 - ☐ Denturist
 - ☐ Dietitian
 - ☐ Homeopath
 - ☐ Kinesiologist
 - ☐ Massage Therapist
 - ☐ Medical Laboratory Technologist
 - ☐ Medical Radiation Technologist
 - ☐ Midwife
 - ☐ Naturopath
 - ☐ Occupational Therapist
 - ☐ Optician
 - ☐ Optometrist
 - ☐ Pharmacist
 - ☐ Physician
 - ☐ Physiotherapist
 - ☐ Podiatrist
 - ☐ Psychologist
 - ☐ Psychotherapist
 - ☐ Respiratory Therapist
 - ☐ Speech Language Pathologist
 - ☐ Traditional Chinese Medicine and Acupuncturist
 - ☐ Other
-

Are you: *

- ☐ Currently practising
 - ☐ Retired
 - ☐ Other
-

In which of the following settings do you practice? (Check all that apply) *

- ☐ Hospital setting - Emergency room
- ☐ Hospital setting - Outpatient clinic
- ☐ Hospital setting - Acute care
- ☐ Hospital setting - Addiction and mental health
- ☐ Hospital setting - Complex continuing care
- ☐ Hospital setting - Rehabilitation
- ☐ [Community setting - Community Care Access Centre](#)

- ☐ Community setting - Community Health Centre
- ☐ Community setting - Community Mental Health Program
- ☐ Community setting - Home Care
- ☐ Community setting - Public Health Unit
- ☐ Community setting - Nurse Practitioner Led Clinic
- ☐ Community setting - Remote nursing station
- ☐ Community setting - Primary care physician office
- ☐ Community setting - Family Health Team
- ☐ Community setting - Long Term Care Home
- ☐ Community setting - Retirement home
- ☐ Other setting - College/university
- ☐ Other setting - Correctional facility
- ☐ Other setting - Commercial or industrial enterprise
- ☐ Other setting - School
- ☐ Other setting - Union
- ☐ Other

SECTION 2. Impact of RN Prescribing

A) Impact on Access to Care

Do you think that RN prescribing will result in more timely access to care? *

- ☐ Yes
- ☐ No

Please rank which model of RN prescribing would be 'Most likely'(1), 'Likely'(2), or Least likely'(3) to result in more timely access to care. To rank, enter the number (1-3) in the box next to the model. *

Independent prescribing

Supplementary prescribing

Use of protocols

Rank values must be between 1 and 3

Do you think that RN prescribing will result in more convenient access to care? *

- ☐ Yes
- ☐ No

Please identify which model of RN prescribing would be 'Most likely'(1), 'Likely'(2), or 'Least likely'(3) to result in more convenient access to care. To rank, enter the number (1-3) in the box next to the model. *

Independent prescribing

Supplementary prescribing

Use of protocols

Rank values must be between 1 and 3

Do you think that RN prescribing will result in fewer emergency room visits? *

- ☐ Yes
- ☐ No
-

Please rank which model of RN prescribing would be 'Most likely'(1), 'Likely'(2), or 'Least likely'(3) to result in fewer emergency room visits. To rank, enter the number (1-3) in the box next to the model. *

Independent prescribing

Supplementary prescribing

Use of protocols

Rank values must be between 1 and 3

Do you think that RN prescribing will result in better access to care in remote communities? *

- ☐ Yes
- ☐ No
-

Please rank which model of RN prescribing would be 'Most likely'(1), 'Likely'(2), or 'Least likely'(3) to result in better access to care in remote communities. To rank, enter the number (1-3) in the box next to the model. *

Independent prescribing

Supplementary prescribing

Use of protocols

Rank values must be between 1 and 3

Do you think that RN prescribing will result in better access to care in rural communities? *

- ☐ Yes
- ☐ No
-

Please rank which model of RN prescribing would be 'Most likely'(1), 'Likely'(2), or 'Least likely'(3) to result in better access to care in rural communities. To rank, enter the number (1-3) in the box next to the model. *

Independent prescribing

Supplementary prescribing

Use of protocols

Rank values must be between 1 and 3

Do you think that RN prescribing will result in better access to care in fast growing communities? *

- ☐ Yes

☐ No

Please rank which model of RN prescribing would be 'Most likely'(1), 'Likely'(2), or 'Least likely'(3) to result in better access to care in fast growing communities. To rank, enter the number (1-3) in the box next to the model. *

Independent prescribing

Supplementary prescribing

Use of protocols

Rank values must be between 1 and 3

B) Impact on Patients

Do you think that RN prescribing would result in patients having a better understanding of the medications prescribed to them? *

☐ Yes

☐ No

Please rank which model of RN prescribing would be 'Most likely'(1), 'Likely'(2), or 'Least likely'(3) to result in patients having a better understanding of the medications prescribed to them?. To rank, enter the number (1-3) in the box next to the model. *

Independent prescribing

Supplementary prescribing

Use of protocols

Rank values must be between 1 and 3

Do you think that RN prescribing would result in patients being more compliant with instructions for medications use? *

☐ Yes

☐ No

Please rank which model of RN prescribing would be 'Most likely'(1), 'Likely'(2), or 'Least likely'(3) to result in patient compliance with instructions for medication use. To rank, enter the number (1-3) in the box next to the model. *

Independent prescribing

Supplementary prescribing

Use of protocols

Rank values must be between 1 and 3

Overall, do you think that RN prescribing would improve patient satisfaction? *

☐ Yes

☐ No

Please rank which model of RN prescribing would be 'Most likely'(1), 'Likely'(2), or 'Least likely'(3) to improve patient satisfaction. To rank, enter the number (1-3) in the box next to the model. *

Independent prescribing

Supplementary prescribing

Use of protocols

Rank values must be between 1 and 3

Overall, do you think that RN prescribing would improve patient well-being? *

- ☐ Yes
- ☐ No

Please rank which model of RN prescribing would be 'Most likely'(1), 'Likely'(2), or 'Least likely'(3) to improve patient well-being. To rank, enter the number (1-3) in the box next to the model.

Independent prescribing

Supplementary prescribing

Use of protocols

C) Health system impact

Do you think that RN prescribing would facilitate collaborative care (e.g., team based, integrated, etc.)? *

- ☐ Yes
- ☐ No

Please rank which model of RN prescribing would be 'Most likely'(1), 'Likely'(2), or 'Least likely'(3) to facilitate collaborative care (e.g., team based, integrated, etc.). To rank, enter the number (1-3) in the box next to the model. *

Independent prescribing

Supplementary prescribing

Use of protocols

Rank values must be between 1 and 3

For each model of RN prescribing please indicate what you think the impact would be on health care system costs?

	Cost Decrease	Cost Increase	No Cost Change
Independent prescribing *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supplementary prescribing *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use of protocols *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

D) Risk of Harm & Readiness to Prescribe

For each model of RN prescribing please indicate what you think could be the impact on risk of harm to patients?

	Increased Risk of Harm	Decreased Risk of Harm	No Change in Risk of Harm
Independent prescribing *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supplementary prescribing *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use of protocols *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How might any increase in the risk of harm to patients be mitigated? (Check all that apply).

	Independent prescribing	Supplementary prescribing	Use of protocols
Further education and training of RNs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Regulatory oversight to enforce prescribing standards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Establishment of clear practice boundaries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On-going competency assessment (Quality Assurance Assessment)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do not permit prescribing of narcotics or controlled drugs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Allow prescribing only in settings where collaborative care (e.g., team, integrated, etc.) is taking place	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please rank which model of RN prescribing currently 'Best matches' (1), 'Matches' (2), 'Least matches' (3) RNs professional skills. To rank, enter the number (1-3) in the box next to the model. *

Independent prescribing

Supplementary prescribing

Use of protocols

Rank values must be between 1 and 3

Please rank which model of RN prescribing currently 'Best matches' (1), 'Matches' (2), 'Least matches' (3) RNs professional knowledge. To rank, enter the number (1-3) in the box next to the model. *

Independent prescribing

Supplementary prescribing

Use of protocols

Rank values must be between 1 and 3

Please rank which model of RN prescribing currently 'Best matches' (1), 'Matches' (2), 'Least matches' (3) RNs professional education. To rank, enter the number (1-3) in the box next to the model. *

Independent prescribing

Supplementary prescribing

Use of protocols

Rank values must be between 1 and 3

Thinking about the different health care settings where nurses practice, please indicate which model you consider most suitable for each setting (check all that apply).

	Independent prescribing	Supplementary prescribing	Use of protocols	Nurses prescribing not appropriate for this setting
Hospital setting - Emergency room *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hospital setting - Outpatient clinic *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hospital setting - Acute care *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hospital setting - Addiction and mental health *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hospital setting - Complex continuing care *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hospital setting - Rehabilitation *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community setting - Community Care Access Centre *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community setting - Community Health Centre *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community setting - Community Mental Health Program *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community setting - Home Care *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community setting - Public Health Unit *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community setting - Nurse Practitioner Led Clinic *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community setting - Remote nursing station *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community setting - Primary care physician office *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community setting - Family Health Team *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community setting - Long Term Care Home *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community setting - Retirement home *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other setting - College/university *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other setting - Correctional facility *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other setting - Commercial or industrial enterprise *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other setting - School *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other setting - Union *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If available, please provide any evidence or references to support responses provided in the survey.

Access to Information

Comments submitted will be considered by HPRAC and will help it to determine appropriate recommendations to make to the Minister of Health and Long-Term Care. To ensure transparency and encourage open dialogue, the feedback received by HPRAC may be posted on its website in accordance with its Privacy Statement, which is available at: www.hprac.org/en/privacy.asp

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Health Professions Regulatory Advisory Council

56 Wellesley Street West
12th Floor
Toronto, Ontario, Canada M5S 2S3

Telephone: 416-326-1550

Toll-Free: 1-888-377-7746

Fax: 416-326-1549

Website: **www.hprac.org**

Twitter: <http://Twitter.com/HPRACOntario>

Email: **hpracwebmaster@ontario.ca**



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