York Region

Registered Nurse Prescribing in Public Health

Prepared by York Region Public Health on Behalf of the Ontario Association of Public Health Nursing Leaders

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Executive Summary:

This paper has been created in response to the Health Professions Regulatory Advisory Council's request on key stakeholder input regarding three proposed options for RN Prescribing Models; independent, supplementary and use of protocols/group directives.

What We Did

In November and December of 2015, a review of literature and an environmental scan on RN prescribing was completed. As part of the environmental scan, a survey was conducted with Chief Nursing Officers in the 36 Public Health Units (PHU) to gather information on which of the three RN prescribing models would be preferred for implementation at their PHU. The survey also asked participants about the advantages and challenges/barriers to implementing their preferred prescribing model.

What We Found Out

A total of 44% (16 out of 36) of Public Health Units consented to participate and completed the survey. Of those who completed the survey there was a 50/50 split in their first choice selected.
Of the Public Health Units surveyed:

- 43.8% selected the independent RN prescribing model as their first choice
- 43.8% selected the use of protocols/group directives RN prescribing model as their first choice
- 12.5 % preferred the supplementary RN prescribing model as their first choice

Advantages and Challenges/Barriers for Implementation:

Independent RN Prescribing Model:

- **Top Three Advantages:** Increased RN autonomy, enhanced service/access for clients and increased collaboration among the health care team, including with clients and stakeholders
- **Top Three Challenges/Barriers:** Regulatory/legislative requirements needed, education/training/ongoing competency considerations for RNs, and buy-in from other members of the healthcare team.

Use of Protocols/Group Directives RN Prescribing Model:

- **Top Three Advantages:** This model is currently being used in health units and it has demonstrated consistency in practice, is explicit and least likely to result in medical errors.
- **Top Three Challenges/Barriers:** Requires creation of more medical directives, need to frequently review and ensure directives are up-to-date, and requires more organizational commitment and buy-in to support increase in RN scope of practice.

Differences in ratings of the preferred prescribing models may be explained by local availability of primary care partners, the nature of programs at the particular Public Health Units, and the socio-political context as well as the rural versus urban geographic location of the PHU.

Consideration for Actions

Based on information gleaned from the literature and key stakeholder survey results, several factors must be considered as we move towards RN prescribing in Ontario Public Health Units.

- Implement continuous quality monitoring/improvement measures to decrease risk and legal liability issues. This could include clinical audits and continuing professional development/educational opportunities

- Ensure the needs of public, particularly local access to care and medications are met, including safety in delivery of care

- Secure legislative authority and verify that prescribing standards are in place, from both the College of Nurses of Ontario and the Public Health Unit's perspective

- Encourage nurses to meet the educational/practice requirements of prescribing according to regulatory bodies such as the College of Nurses of Ontario

- Consider financial impacts of RN prescribing on organizations and the healthcare system as a whole, such as training costs, time release costs, etc.

- Reflect on how RN prescribing impacts the critical social theoretical underpinnings of nursing practice (since currently prescribing is viewed under medicine's bio-medical theory model)

Introduction

This report provides information regarding Registered Nurse (RN) prescribing within the context of Public Health. The focus of this report will be on the three types of prescribing models proposed by the Ministry of Health and Long-term Care: independent prescribing; supplementary prescribing; and use of protocols/group directives. This report will include:

A. Prescribing model conceptual definitions
B. A review of the literature
C. An environmental scan of Public Health Units in Ontario with preferred RN prescribing model recommendations from key stakeholders
D. Considerations for implementing RN prescribing in Ontario Public Health Units

Conceptual Definitions

The following conceptual definitions derived from the literature review are used to describe the nurse prescribing models listed in this report.

1. Independent Prescribing: This is when the nurse is legally permitted and responsible for clinical assessment, establishment of diagnosis and decisions about the appropriateness of treatment or medication for a patient (Kroezen, Van Dijk, Groenewegan & Francke, 2011). Usually this form of prescribing is done with a limited formulary (a list containing a limited and defined number of medications that can be prescribed) or an open formulary (Gielen, Dekker,Francke, Mistiaen & Kroezen, 2014).
2. Supplementary Prescribing: This is when there is a voluntary partnership between an independent prescriber-a doctor and a supplementary prescriber-usually a nurse. Initial diagnosis of a patient's condition is performed by the independent prescriber; the nurse then may prescribe from an open or limited formulary and will consult/collaborate with the independent prescriber before issuing the prescription (Kroezen, Van Dijk, Groenewegen & Francke, 2011).
3. Use of Protocols/Group Directives: This is when there are written instructions for the supply and administration of named medicines in an identified population of patients with a specific condition. The nurse still uses their own assessment of patient needs, but they

are only allowed to supply and administer medications within the strict terms of a predetermined protocol formulary (Gielen, Dekker, Francke, Mistiaen & Kroezen, 2014).

Literature Review

A literature search was conducted using Google Scholar and CINHAL literature databases using the key words 'nurse prescribing' and 'nurse prescribing models'. 8 articles were deemed appropriate; however upon further investigation 4 articles discussed nurse prescribing at the Master's level or higher, and therefore were not included in the review. Studies or systematic reviews conducted after 2011 providing evidence on the clinical appropriateness, safety and quality of nurse prescribing were included in this review.

Three themes were identified from the literature:

1. RN prescribing models vary based on environmental context
2. There is evidence that implementing RN prescribing improves patient access to care and fosters enhanced nursing practice
3. There is preliminary evidence that RN prescribers have adequate educational preparation to prescribe medication appropriately and safely

RN prescribing has also been found to have a positive impact on patient outcomes and enhances autonomy and expands scope of practice for nurses. Though studies conducted thus far have been small, there is encouraging preliminary data that RN medication prescribing decisions are appropriate when compared to physicians. Appendix A provides a detailed comprehensive review of key themes identified in the literature.

Environmental Scan

An environmental scan of Public Health Units was conducted to determine which RN prescribing model key stakeholders preferred to be implemented.

An initial telephone consultation survey was completed with selected nursing practice leaders at three Public Health Units to discuss the advantages and challenges/barriers of implementing their top preferred RN prescribing models.

Subsequent to the telephone consultation survey, a FluidSurvey was developed and sent to Chief Nursing Officers (CNOs) at all 36 Public Health Units to solicit their input on the preferred RN prescribing model. Survey participants were asked to rank order their preferences for RN prescribing models, provide advantages and challenges/barriers to implementation, and indicate any factors that required further consideration prior to implementing the selected nurse prescribing model.

Methods

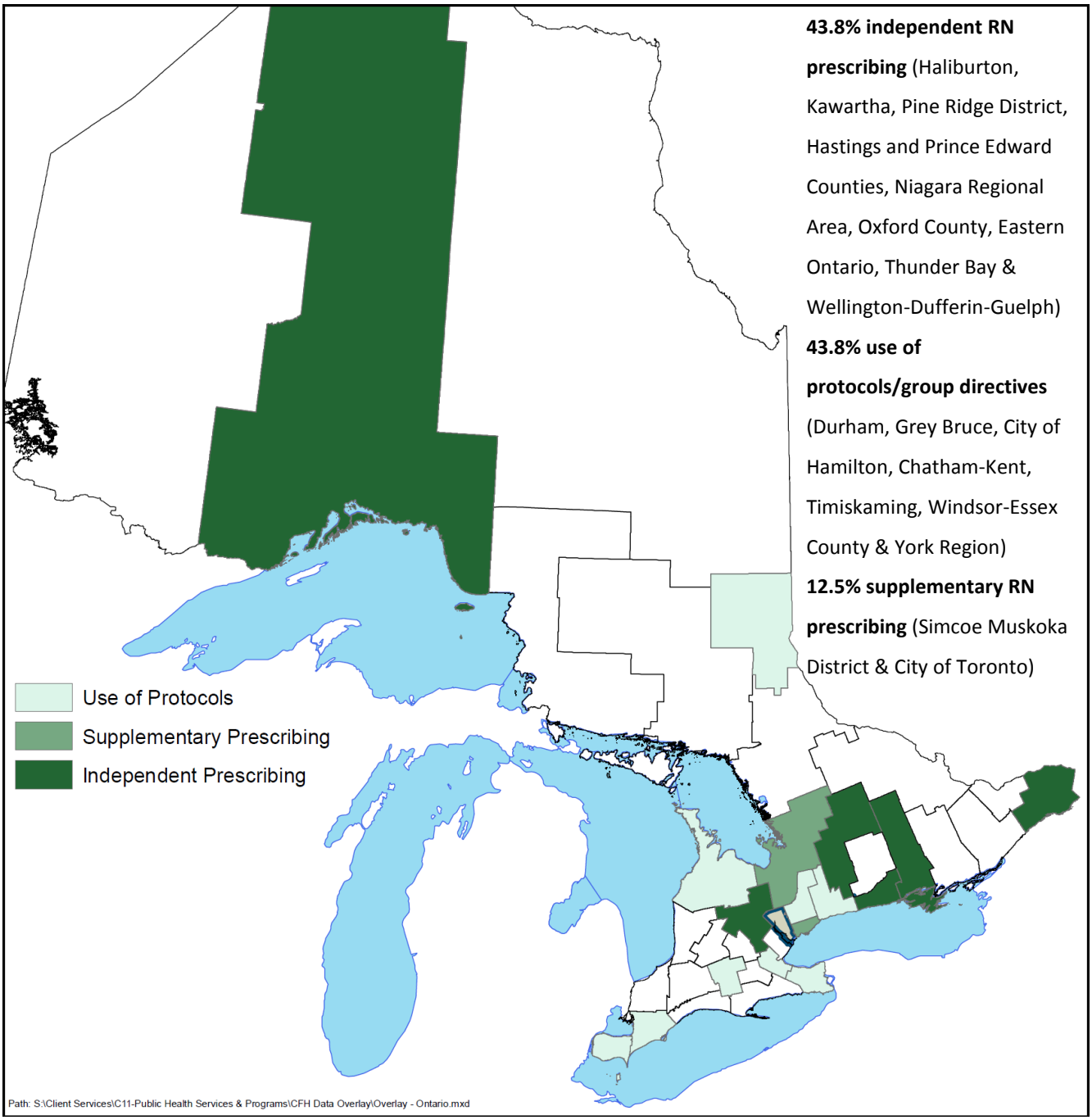
The initial telephone consultation survey was conducted by providing the nursing practice leaders with conceptual definitions of the three proposed RN prescribing models and asking them to review the *CNA Framework for Registered Nurse Prescribing in Canada* prior to the telephone consultation/survey. During the telephone consultation, the nursing practice leaders (NPLs), who are responsible for supporting CNOs in achieving their mandate, were asked questions related to their top two preferred models of RN prescribing for their particular Public Health Unit. A list of key stakeholder survey questions is provided in Appendix B.

Subsequent to the telephone consultations, Chief Nursing Officers were asked to complete an online survey via FluidSurvey. The same key stakeholder survey questions asked of the nursing practice leaders were asked of the CNOs.

Summary of Findings

The following map of Ontario provides information on the top two preferred RN prescribing models related to Public Health Units' geographic locations. 16 of 36 Public Health Units or 44% of Public Health Units completed the survey as of January 7th 2016.

A. Key Stakeholder's First Choice for RN Prescribing Model by Public Health Unit



The city of Toronto, York Region and Durham Region Public Health Unit surveys participated in telephone consultations with nursing practice leaders. All remaining surveys were completed by Public Health Unit CNOs. All respondents surveyed consented to share the findings in this report.

Based on information obtained from surveys, the following tables summarize the advantages, and challenges/barriers of implementing two of the RN prescribing models selected by the PHUs as their preferred choices.

A. Independent RN Prescribing Model: Advantages and Challenges/Barriers to Public Health Unit Implementation

Advantages	Challenges/Barriers
• Increases PHN independent scope of practice • Improves nurses' understanding of assessment, treatment and supportive care for clients • Enhances service, access and continuity of care for clients, particularly priority populations • Improves compliance for best practice treatment guidelines • Prevents delays in implementing treatment for STIs, prescription of oral contraceptives and TB medications • Reduces consultation needs with the MOH • Provides the opportunity to work collaboratively with primary care partners	• Increase/initiate training to ensure nurses have the knowledge, skill and confidence to diagnose and prescribe • Ensure continuous education is required and monitoring is in place(audits) • Foster a shift from a generalist model to a specialist model • Ensure maintenance of PHN competency etc. Lack of opportunity to do 1:1 work in public health, may be difficult to maintain competency skills • Develop a of a plan for capacity/support, policy and procedure and risk management • Dialogue and increase communication to other professionals (MD/NP) as to shift in roles Ensure buy-in/trust of clients and other members of the health care team • Initiate changes to the regulatory and legislative requirements needed • Mitigate possible reluctance on the part of the Ministry of Health for this model by leveraging opportunities cited.

B. Use of Protocols/Group Directives RN Prescribing Model: Advantages and Challenges/Barriers to Public Health Unit Implementation

Advantages	Challenges/Barriers
• Allows nurses to practice independently without relying on support from a physician • Already using medical directives in practice • Ensures consistency in clinical practice • This model is least likely to result in errors for the identified populations • Explicit and encompasses the direction from a physician	• Require creating and maintaining more medical directives • Ensure directives are up to date • Collaborate with the MOH • Need to review additional medications that may apply and provide appropriate education for the nurses around these changes • Nurses not practicing in the clinical situation full-time would not likely meet the threshold of clinical experience needing to prescribe

Conclusions from the Environmental Scan

Among surveyed Public Health Units, the independent RN prescribing model and the use of protocols/group directives model were the equally preferred model of RN prescribing. The survey data also validates that many Public Health Units are already practicing the use of protocols/group directives to support nursing practice. Differences in ratings of preferred prescribing model may be explained by local availability of primary care partners, nature of programs at particular Public Health Units, Public Health Unit socio-political context and rural versus urban geographic location of the PHU.

Registered Nurse Prescribing: Considerations for Implementation

Several key issues must be addressed before considering which RN prescribing model would be most appropriate for public health. These issues include risk of harm to patients, public need, professional body of knowledge, accredited educational institutions to train RNs regarding the proposed practice model, economic viability of the proposed practice model, relevance of the proposed model to the healthcare system and how it impacts other professions and the relevance of the proposed prescribing model on the nursing profession.

Based on information gleaned from the literature review, and data obtained from key stakeholder consultations/surveys, several key issues are discussed below.

Risk of Harm

Regardless of prescribing model implemented, the CNO and Public Health Unit employers/organizations must ensure continuous quality monitoring/improvement measures particularly quality and safety measures that are responsive to patient outcomes, such as clinical audits, continuing professional development, and best practices. In order to ensure risk of harm is well mitigated, medication formulary lists, protocols/group directives and/or and decision support tools must be updated and evaluated regularly with input from the appropriate individuals at timed intervals. To mitigate risk for harm with respect to medication/drug formularies, whether a limited or open prescribing model is implemented, the prescription of controlled substances should be considered as part of a final step in the implementation of preferred a prescribing model.

Public Need

Adopting an independent prescribing model versus a protocol-based prescribing model, would better enhance access to care for patients, particularly in rural areas underserviced by physicians. Considering Canada's aging population, and the complexity of medication management this cohort typically requires, an independent prescribing model may be better suited as specific protocol-based prescribing may be too cumbersome to respond to individual patient needs. It is also important to

note that accessibility to care could also be effected by the type of formulary used (restricted, limited or open) regardless of model, as this has a direct impact on what the nurse is permitted to prescribe.

Body of Knowledge

Current College of Nurses of Ontario (CNO) standards of practice regarding medication, directives and authorizing mechanisms delineate which controlled acts are authorized for RNs to perform. Current practice does not support RNs in the general class to diagnose patients with a medical condition, or prescribe a direct medication order for an individual patient independent of a physician/NP. The CNO standards support the use of medical directives; however a number of processes and organizational policies must be in place prior to implementation, including consultation with the medical authority and relevant senior administration, as directives typically apply to a very specific population (College of Nurses of Ontario, *Directives*, 2015). Though the Registered Nurses' Association of Ontario (RNAO) and the Canadian Nurses' Association (CNA) supports legislative change to enhance and broaden the scope of RN practice, additional legislative changes must occur if implementation of a RN independent prescribing model is desired (Registered Nurses' Association of Ontario, 2012; Canadian Nurses' Association, 2015).

Education and Accreditation

Currently, there are no educational institutions in Ontario offering additional training/courses for RNs in the general class to obtain the knowledge, skill and practice required for RN independent/ prescribing. In British Columbia however, they have developed a model of Certified Practice that allows nurses, who have completed a certain number of clinical hours and a course, the authority to dispense medications in specific situations and settings (Canadian Nurses' Association, 2015). Currently, Ontario does not have any such model.

Economic Impact

There are many factors regarding the economic impact of RN prescribing on nurses, employers, external organizations (such as the CNO, RNAO and CNA) and the healthcare system as a whole.

These factors include allocation of funds for developing, delivering and paying for RN prescribing education; how an increase in nurses will require this education and over what time span must they complete this education, must be considered. It is also important to factor in costs of CQI (developing a process for assessing/evaluating quality and patient outcomes) and releasing time or time lost for RNs and employers/external organizations implementing or providing support for this change in practice. Another important consideration is with respect to professional liability insurance/malpractice insurance requirements for RNs within the prescribing role. A positive impact on budgets may be experienced as Public Health Units may employ more nurses as opposed to physicians, resulting in an overall cost savings

Relevance to the Health Care System and Relationship to Other Healthcare Professionals

Overall, implementing an RN prescribing model will improve access to medications for Canadians and result in long-term cost savings for the healthcare system, though it may cause some confusion for patients and potentially conflict with other health care providers, particularly physicians. Previously the task of prescribing medicines has been within the domain of the medical profession but with the development and implementation of nurse prescribing, particularly a model such as independent prescribing, there may be perceived incursion on the medical profession's jurisdiction over prescribing (Kroezen et al., 2011, p. 2). However; all three prescribing models will require the RN prescriber to collaborate with the physician at times when patient complexity requires more advanced prescribing and/or medical knowledge.

Relevance to Profession

Traditionally, nurses are educated to practice holistically, using a critical social theory perspective. As prescribing has historically been part of the physician's role, and has been heavily influenced by the bio-medical practice model, there is potential that moving towards RN prescribing may have an impact on nursing's theoretical philosophy of practice. There must be a consideration of this prior to development and implementation of an RN prescribing model that meets the needs of the public, as it must complement the current nursing discipline and philosophy.

Conclusion

In conclusion, further consultation with other professional groups such as – family and hospital physicians, pharmacists, and HPRAC would be advantageous to further explore how other healthcare professionals (such as pharmacists in Alberta) have implemented prescribing as part of their practice. Additionally, HPRAC could consult with other countries/jurisdictions internationally, such as the UK, Ireland or Australia, to determine how they implemented RN prescribing and lessons learned from the process/change in practice.

Appendix A- Comprehensive Literature Review

Environmental Contextual Factors Impacting Nurse Prescribing

Environmental factors which impact nurse prescribing and prescribing model implemented include legal, educational and organizational conditions within specific geographic locations which vary country-country and in urban versus rural settings (Kroezen, Van Dijk, Groenewegen & Francke, 2011). Studies and systematic reviews indicate that nurse prescribing occurs in a variety of clinical specialty environments and across all age ranges and demographics occurring most often in primary care settings, followed by secondary care settings and lastly in acute care settings (Gielen, Dekker, Francke, Mistiaen & Kroezen, 2013).

Improved Access to Care

Evidence in the literature indicates that quicker and more efficient access to care requiring medication for patients was a key factor in the implementation of RN prescribing in the UK and Ireland (Kroezen et al., 2011). RN prescribing also helped reduce workloads of physicians and mitigate physician shortages in remote locations, ultimately improving access to and timeliness of care for patients being serviced (Kroezen et al., 2011). Across urban and rural areas, RN prescribing may also reduce the number of patient visits to hospital emergency departments; ultimately ensuring patients are accessing the right provider at the right time for the right patient.

Medication Appropriateness and Patient Safety

Preliminary evidence in studies and systematic reviews indicate that RN prescribers prescribe medication appropriately and safely. One study (Naughton, Drennan, Hyde, Allen, O'Boyle, Felle & Butler, 2012) implemented the Medication Appropriateness Index (the MAI) to evaluate drugs prescribed by RN prescribers based on drug indication, effectiveness, dosage, directions, practicality, drug-drug interaction, drug-disease interaction, unnecessary duplication, duration and expensiveness. It was determined that the majority of prescribing decisions were appropriate and similar to physician prescribing practice. Studies from the literature have been small, with results that are difficult to

generalize. As such, there are recommendations to complete larger studies, specifically randomized control trials, to verify these findings (Gielen et al., 2014).

Enhanced Nursing Practice

Systematic reviews found that implementation of RN prescribing enabled nurses to broaden their scope of practice, improve the use of nurses' knowledge and skills, increase nurse autonomy and overall yield a cost savings for health care systems (Gielen et al., 2013).

Education and Continuing Professional Development

One systematic review (Kroezen et al., 2011) noted that nurses interested in becoming an RN prescriber in Western European Anglo-Saxon countries are required to complete a prescribing course, which includes an academic and practice component prior to supplementary or independently prescribing practice. Eligibility to enroll in the prescribing course requires the nurse to have a certain level of academic education completed and clinical experience required-which varies according to country and practice setting. Some countries also require nurses arrange a Designated Medical Practitioner (DMP) to supervise the nurse's clinical assessment and decision making as part of taking the course. Once the nurse completes the course successfully, they are then permitted to begin prescribing. One study (Smith et al., 2014) noted nurse prescribers working as health visitors or district nurses in the community and/or in primary care had less access to DMPs to supervise their assessment and diagnosis skills as part of the requirements for prescribing. Furthermore, after this population successfully completed the prescribing course, and began prescribing practice, they reported less access to continuing professional development opportunities as a result of a lack of staff coverage, and lack of support (Smith et al., 2014). Studies and systematic reviews highlight the importance of continuing education and organizational support for RN prescribers, particularly in ensuring positive patient outcomes and safety requirements are met (Smith et al., 2014).

Appendix B- List of Survey Questions for Key Stakeholders

Please rank the following prescribing models in order of preference for implementation at your particular Public Health Unit, where 1 is the most desirable and 3 is the least desirable model:

Prescribing Model	Rank Order (1, 2, or 3)
Independent Prescribing	
Supplementary Prescribing	
Use of Protocols/Group Directives	

1. With regards to your top choice of prescribing model...

a) What are the advantages of implementing this model to public health nursing at your particular Public Health Unit?

b) What are the challenges or barriers of implementing this model related to public health nursing at your particular Public Health Unit?

2. With regards to your second choice of prescribing model...

a) What are the advantages of implementing this model to public health nursing at your particular Public Health Unit?

b) What are the challenges of implementing this model related to public health nursing at your particular Public Health Unit?

3. What other factors need to be considered in order to implement a prescribing model at your Public Health Unit?

4. What is the name of your Public Health Unit?

5. Please Provide Your Name & Contact Information

6. Do you authorize your approval for us to share your input and findings in a report that will be shared with the Ministry of Health and Long-term Care's Nursing Policy and Innovation Branch and/or the Health Professions Regulatory Advisory Council (HPRAC)? (Please note that we will also share the final report with the new Ontario Association of Public Health Nursing Leaders to promote distribution of the findings).

References

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,* 1048-1061.

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. doi: 10.1186/1472-6963-11-127.

Naughton, C., Drennan, J., Hyde, A., Allen, D., O'Boyle, K., Felle, P. & Butler, M. (2012). An evaluation of the appropriateness and safety of nurse and midwife prescribing in Ireland. *Journal of Advanced Nursing, 69* (7), 1478-1488. doi: 10.1111/jan.12004.

Smith, A., Latter, S. & Blenkinsopp, A. (2014). Safety and quality of nurse independent prescribing: A national study of experiences of education, continuing professional development clinical governance. *Journal of Advanced Nursing, 70* (11), 2506-2517. doi: 10.1111/jan.12392.

Canadian Nurses' Association (2015). *Framework for Registered Nurse Prescribing in Canada* (ISBN: 978-1-55119-427-1). Ottawa, ON: Canadian Nurses Association.

College of Nurses of Ontario (2015). *Authorizing Mechanisms*. Retrieved November 30th 2015 from: https://www.cno.org/globalassets/docs/prac/41075_authorizingmech.pdf.

College of Nurses of Ontario (2015). *Directives*. Retrieved November 30th 2015 from: https://www.cno.org/globalassets/docs/prac/41019_medicaldirectives.pdf.

College of Nurses of Ontario (2015). *Medication*. Retrieved November 30th 2015 from: http://www.cno.org/globalassets/docs/prac/41007_medication.pdf .

Health Workforce Australia (2013). *Health professionals prescribing pathway (HPPP) project final report* (ISBN: 978-1-925070-22-4). Adelaide, SA: Health Workforce Australia.

National Council for the Professional Development of Nursing and Midwifery (2005). *Review of Nurses and Midwives in the Prescribing and Administration of Medicinal Products Final Report*. Retrieved November 30th 2015 from: file:///C:/Users/overa/Downloads/Review%20of%20Nurses%20Midwives%20Prescribing%20Medicinal%20Products%20Final%20Report%20June%202005%20(1).pdf.

Registered Nurses' Association of Ontario (2012). *Primary solutions for primary care: Maximizing and expanding the role of the primary care nurse in Ontario*. Toronto, ON; Registered Nurses' Association of Ontario (RNAO).