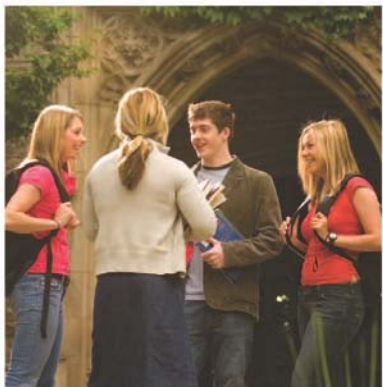




ADDRESSING THE INTEGRATION OF
CLINICAL NURSE SPECIALISTS AND
NURSE PRACTITIONERS IN ACUTE
HEALTHCARE SETTINGS IN CANADA



7 JULY 2011

EVIDENCE >> INSIGHT >> ACTION

Issue Brief:
**Addressing the Integration of Clinical Nurse Specialists and Nurse Practitioners in
Acute Healthcare Settings in Canada**

7 July 2011

McMaster Health Forum

For concerned citizens and influential thinkers and doers, the McMaster Health Forum strives to be a leading hub for improving health outcomes through collective problem solving. Operating at the regional/provincial level and at national levels, the Forum harnesses information, convenes stakeholders, and prepares action-oriented leaders to meet pressing health issues creatively. The Forum acts as an agent of change by empowering stakeholders to set agendas, take well-considered actions, and communicate the rationale for actions effectively.

Authors

Fadi El-Jardali, MPH PhD, Visiting Leader, McMaster Health Forum

John N. Lavis, MD PhD, Director, McMaster Health Forum, and Professor, McMaster University

Funding

The issue brief and the stakeholder dialogue it was prepared to inform were both funded by the Canadian Health Services Research Foundation, Canadian Institutes of Health Research, Canadian Nurses Association and Health Canada. The McMaster Health Forum receives both financial and in-kind support from McMaster University. The views expressed in the issue brief are the views of the authors and should not be taken to represent the views of the funders or the McMaster Health Forum.

Conflict of interest

The authors declare that they have no professional or commercial interests relevant to the issue brief. The funders played no role in the assessment, synthesis or presentation of the research evidence profiled in the issue brief.

Merit review

The issue brief was reviewed by a small number of researchers, policymakers and stakeholders in order to ensure its scientific rigour and system relevance.

Acknowledgements

The authors wish to thank Margherita Cina (Fellow, McMaster Health Forum) for her assistance with citation management, as well as Julie Baird (Lead, Operations, McMaster Health Forum) for assistance with scheduling key-informant interviews. We thank Ileana Ciurea (Managing Director, McMaster Health Forum) for project management and support. We are grateful to Steering Committee members, and especially to Alba DiCenso for her insightful comments and suggestions and for sharing relevant literature. We are also grateful to the merit reviewers who provided feedback on previous drafts of the brief, who included Vanessa Burkoski, Lynn Digney-Davis, Doris Grinspun, Sue Matthews and Sally Thorne.

Citation

El-Jardali F, Lavis JN. Issue Brief: Addressing the Integration of Clinical Nurse Specialists and Nurse Practitioners in Acute Healthcare Settings in Canada. Hamilton, Canada: McMaster Health Forum, 7 July 2011.

Product registration numbers

ISSN 1925-2269 (print)

ISSN 1925-2277 (online)

Table of Contents

KEY MESSAGES.....	5
REPORT.....	7
THE PROBLEM.....	10
Complexity of healthcare needs is increasing.....	10
Effective programs and services aren't getting to all patients.....	11
Current health system arrangements aren't ensuring comprehensive, high-quality acute healthcare.....	11
THREE ELEMENTS FOR ADDRESSING THE PROBLEM.....	15
Element 1 – Launch a multi-stakeholder strategic-planning initiative	17
Element 2 – Support consistency in standards, requirements and processes	18
Element 3 – Launch an information/education campaign	19
IMPLEMENTATION CONSIDERATIONS.....	21
REFERENCES.....	23
APPENDIX	27

KEY MESSAGES

What's the problem?

- The overall problem is the lack of full integration of nurse practitioners and clinical nurse specialists in acute healthcare settings where they can improve the breadth and quality of services available.
- Key features of the problem include:
 - complexity of healthcare needs is increasing, which places greater demands on all health professionals;
 - effective programs and services aren't getting to all patients, and the acute healthcare they do receive is often not as evidence-based as would be optimal; and
 - current health system arrangements aren't ensuring: 1) optimal quality in acute healthcare; 2) consistency within and across institutions in how advanced practice nurses are integrated into care delivery or protected when the focus turns from enhancing quality to containing costs; or 3) formalized educational and credentialing/regulatory standards, requirements and processes.

What do we know about three elements of an approach to addressing the problem?

- **Element 1:** Launch a multi-stakeholder strategic-planning initiative to address the integration of clinical nurse specialists and nurse practitioners in acute healthcare settings in Canada
 - This involves getting key stakeholders 'on the same page' and, on the strength of this agreement, securing dedicated funding for both types of positions and, for clinical nurse specialists, the necessary educational and credentialing/regulatory provisions and funding support for education.
 - We did not find any systematic reviews addressing this element.
 - Issues that might promote deliberation include that a similar process has been used to secure cross-stakeholder support and federal government funding for a major new cancer initiative, and that making a link between having clinical nurse specialists and the accreditation of magnet hospitals proved critically important in addressing the integration of clinical nurse specialists in the U.S.
- **Element 2:** Support consistency in educational and credentialing/regulatory standards, requirements and processes for clinical nurse specialists and nurse practitioners across the country
 - This involves bringing some order to the country's current patchwork of educational requirements for clinical nurse specialists and of educational and credentialing/regulatory standards for nurse practitioners, which hinder integration efforts within and across jurisdictions and limit their mobility.
 - We did not find any systematic reviews addressing this element.
 - Issues that might stimulate deliberation include that physician-focused educational and regulatory organizations have shown that significant consistency in standards can be achieved across Canada, consistency of regulatory standards for nurse practitioners has been achieved in some jurisdictions within and outside Canada, and amendments to chapter 7 of Canada's Agreement on Internal Trade has created an imperative either for action or for identifying advanced practice nurses as an exception.
- **Element 3:** Launch an information/education campaign at either the national level or in one or more jurisdictions to raise awareness within acute healthcare settings about how a number of innovations (one being the integration of advanced practice nursing) could better meet patient needs in these settings
 - This involves raising awareness of how a number of innovations (one being the integration of advanced practice nurses in acute healthcare settings) could better meet patient needs.
 - Traditional media can positively influence behaviours, however, no systematic reviews have addressed whether and how traditional and new media increase the awareness paid to an issue.

What implementation considerations need to be kept in mind?

- The biggest barriers to implementation of these elements are likely at the level of health system managers and policymakers, because advanced practice nurses remain a small and not particularly visible group within the highly competitive world of acute healthcare settings.
- Securing this issue on the standing agenda of a countrywide forum, and finding ways to support the voice of these two distinct types of advanced practice nurses are two cross-cutting implementation strategies worth considering.

REPORT

Clinical nurse specialists are defined as ‘registered nurses holding a master’s degree in nursing and having expertise in a clinical nursing specialty who promote excellence in nursing practice. They serve as role models and advocates for nurses by providing leadership in their roles as clinicians, researchers, consultants and educators. They assist in providing solutions for complex healthcare issues, and are leaders in the development of clinical guidelines and promoting the use of evidence and facilitating system change.’(2)

Nurse practitioners are ‘registered nurses with additional educational preparation and experience who possess and demonstrate the competencies to autonomously diagnose, order and interpret diagnostic tests, prescribe pharmaceuticals and perform specific procedures within their legislated scope of practice.’(3) In contrast to clinical nurse specialists, who typically spend less time in direct patient care and more time in the support of clinical excellence, nurse practitioners typically spend the majority of their time in the delivery of direct patient care (often to enable specialists to reach greater numbers of patients and/or to provide follow-up care more efficiently).

Clinical nurse specialists and nurse practitioners were the focus of a decision-support synthesis about advanced practice nursing completed in 2009.(1) Advanced practice nursing means ‘an advanced level of clinical nursing practice that maximizes the use of graduate educational preparation, in-depth nursing knowledge, and expertise in meeting the health needs of individuals, families, groups, communities and populations. It involves analyzing and synthesizing knowledge; understanding, interpreting and applying nursing theory and research; and developing and advancing nursing knowledge and the profession as a whole.’(4) While the term ‘advanced practice nursing’ can be used to mean many role categories, we use the term to mean both nurse practitioners and clinical nurse specialists.

The decision-support synthesis summarized the available research evidence to develop a better understanding of the roles of advanced practice nurses, the contexts in which they are currently being used, and the health system factors that influence their effective integration in the Canadian healthcare system.(1) The synthesis also presented key stakeholders’ recommendations about how to address the integration of advanced practice nursing in Canada.

Box 1: Background to the issue brief

This issue brief mobilizes both global and local research evidence about a problem, three elements of an approach for addressing the problem, and key implementation considerations. The issue brief builds on findings from a [decision-support synthesis](#).(1) Whenever possible, the issue brief also summarizes additional research evidence drawn from systematic reviews of the research literature, and occasionally from single research studies. A systematic review is a summary of studies addressing a clearly formulated question that uses systematic and explicit methods to identify, select and appraise research studies, and to synthesize data from the included studies. The issue brief does not contain recommendations.

The preparation of the issue brief involved five steps:

- 1) convening a Steering Committee comprised of representatives from key stakeholder groups and the McMaster Health Forum;
- 2) developing and refining the terms of reference for the issue brief, particularly the framing of the problem and three viable ways to address it, in consultation with the Steering Committee and a number of key informants, and with the aid of several conceptual frameworks that organize thinking about ways to approach the issue;
- 3) identifying, selecting, appraising and synthesizing relevant research evidence about the problem, options and implementation considerations;
- 4) drafting the issue brief in such a way as to present concisely and in accessible language global and local research evidence; and
- 5) finalizing the issue brief based on the input of several merit reviewers.

The three elements of an approach for addressing the problem were not designed to be mutually exclusive. They could be pursued simultaneously (as was the intention of the stakeholders who made them), or elements could be drawn from each option to create a new (fourth) element.

The issue brief was prepared to inform a stakeholder dialogue at which research evidence is one of many considerations. Participants’ views and experiences and the tacit knowledge they bring to the issues at hand are also important inputs to the dialogue. One goal of the stakeholder dialogue is to spark insights – insights that can only come about when all of those who will be involved in or affected by future decisions about the issue can work through it together. A second goal of the stakeholder dialogue is to generate action by those who participate in the dialogue and by those who review the dialogue summary and the video interviews with dialogue participants.

A number of stakeholders who read the decision-support synthesis described in appendix C as containing the ‘gold,’ by which they meant a summary of what has been learned over the past decades about the safety and effectiveness of advanced practice nursing (and for our purposes here, particularly in acute healthcare settings).

The appendix identified 32 randomized controlled trials that addressed clinical nurse specialists, of which 16 were from the U.S., 11 from the U.K., two from Canada, and three from other countries.(1) The overall conclusion from the synthesis is that clinical nurse specialists are safe, effective practitioners who can positively influence a range of outcomes (Table 1).

Table 1: Number of studies examining the safety and effectiveness of clinical nurse specialists in acute healthcare settings and demonstrating particular types of outcomes

Direction of effect	Patient-focused outcomes				Provider-focused outcomes	System-focused outcomes	
	Health Status	Quality of life	Quality of care	Patient satisfaction	Provider satisfaction	Cost	Length of stay
Improvement	15	5	2	4		9	5
Decline							
No difference	8	4		3	1	4	1

Source: (5), which draws on (1), Appendix C

The appendix also identified 18 randomized controlled trials that addressed nurse practitioners in acute healthcare settings, of which 10 were from the U.S., six from the U.K., one from Canada, and one from Australia.(1) The trials were typically designed to establish the equivalence of nurse practitioners to physicians (and not their superiority) in acute healthcare settings. The overall conclusion from the synthesis is that nurse practitioners are also safe, effective practitioners who can positively influence a range of outcomes (Table 2).

Table 2: Number of studies examining the safety and effectiveness of nurse practitioners in acute healthcare settings and demonstrating particular types of outcomes

Direction of effect	Patient-focused outcomes				Provider-focused outcomes	System-focused outcomes	
	Health Status	Quality of life	Quality of care	Patient satisfaction	Provider satisfaction	Cost	Length of stay
Improvement	5			5	1	2	2
Decline							1
No difference	7	1	7	2	1	2	2

Source: (5), which draws on (1), Appendix C

The purpose of this issue brief is to build on the decision-support synthesis by reviewing the research evidence about: 1) the ongoing challenges underlying the limited integration of advanced practice nurses in acute healthcare settings in Canada, despite these compelling findings (hereafter called the problem); 2) three elements of an approach for addressing the problem, and hence contributing to the greater integration of advanced practice nurses; and 3) key implementation considerations for moving any of the elements forward. While the principal focus is acute healthcare settings, many of the same considerations will be equally germane in long-term care, mental healthcare institutions and other settings where both clinical nurse specialists and nurse practitioners work. A companion issue brief complements this one by focusing on primary healthcare settings and the role of nurse practitioners in these settings.(6)

Key features of the health policy and system context for any efforts to address the integration of clinical nurse specialists and nurse practitioners in acute healthcare settings include:

- historically, most acute healthcare has been provided under the leadership of medical specialists working as private practitioners and receiving public (fee-for-service) payments for this work, but doing so in private, not-for-profit acute healthcare institutions that receive public payments for their operation (often global budgets);⁽⁷⁾
- clinical nurse specialists have typically had to define a role for themselves in these acute care settings, and defend that role when budgets are tight (as they are now);
- nurse practitioners typically work under medical directives, in particular acute care specialty areas, and hence can more often rely on medical specialists to help defend their role when budgets are tight (as they are now);
- recently we have also seen the emergence of the new role category of ‘physician assistants,’ who work under the direct authority of a physician (including in acute healthcare settings), and the new role of ‘nurse practitioner – anesthesia’ in Ontario, as well as the continued existence of roles such as clinical associates (who may be nurses or physicians) in several provinces;
- the policy community that has developed around acute healthcare has been (and remains) relatively heterogeneous, with physicians, nurses, managers and others all being engaged on key issues;⁽⁷⁾
- the general public is largely unaware of clinical nurse specialists and nurse practitioners in acute healthcare settings (and is likely to become confused by distinctions among physician assistants, registered practical nurses (in Ontario) and licensed practical nurses (in other provinces and territories), registered nurses, nurse practitioners and clinical nurse specialists), and medical associations typically do not voice opinions about clinical nurse specialists or about nurse practitioners in acute healthcare settings; and
- forums and events that could (but currently tend not to) give focus to clinical nurse specialist and nurse practitioner issues in acute healthcare settings include annual hospital budget-setting processes, annual meetings of educators, and provincial elections.

Two features of the broader health policy and system context in Canada also warrant mention because of how they complicate the landscape for addressing the integration of clinical nurse specialists and nurse practitioners in acute healthcare settings in Canada:

- the Canadian healthcare system is comprised of 13 publicly financed healthcare systems (10 provincial and three territorial); and

Box 2: Equity considerations

A problem may disproportionately affect some groups in society. The benefits, harms and costs of elements to address the problem may vary across groups. Implementation considerations may also vary across groups.

One way to identify groups warranting particular attention is to use “PROGRESS,” which is an acronym formed by the first letters of the following eight ways that can be used to describe groups[†]:

- place of residence (e.g., rural and remote populations);
- race/ethnicity/culture (e.g., First Nations and Inuit populations, immigrant populations, and linguistic minority populations);
- occupation or labour-market experiences more generally (e.g., those in “precarious work” arrangements);
- gender;
- religion;
- educational level (e.g., health literacy);
- socio-economic status (e.g., economically disadvantaged populations); and
- social capital/social exclusion.

The issue brief strives to address all citizens, but (where possible) it also examines whether and how existing data and research evidence give particular attention to individuals/patients in urban (often well-served) versus rural settings. Many other groups warrant serious consideration as well (e.g., Aboriginal Canadians in urban settings, homeless people, new immigrants and people of low socio-economic status or living with mental illness), and a similar approach could be adopted for any of them.

[†] The PROGRESS framework was developed by Tim Evans and Hilary Brown (Evans T, Brown H. Road traffic crashes: operationalizing equity in the context of health sector reform. *Injury Control and Safety Promotion* 2003;10(1-2): 11–12). It is being tested by the Cochrane Collaboration Health Equity Field as a means of evaluating the impact of interventions on health equity.

- each province has devolved decisions relating to the planning, funding and integration of healthcare to regional health authorities, and the number of regional health authorities and the types of decisions that each are allowed to make vary by province (although some provinces, such as Alberta and Prince Edward Island, have ‘re-centralized’ decision-making).

Accordingly large-scale integration efforts require either a nationally (or provincially) agreed vision and plan, or a time-consuming province-by-province or region-by-region effort that would tax the capacity of any health professional group, let alone those as small as clinical nurse specialists and nurse practitioners.

THE PROBLEM

The overall problem is the lack of full integration of advanced practice nurses (i.e., nurse practitioners and clinical nurse specialists) in acute healthcare settings where they can improve the breadth and quality of services available. Key features of the problem include: 1) complexity of healthcare needs is increasing, which places greater demands on all health professionals; 2) effective programs and services aren’t getting to all patients, and the acute healthcare they do receive is often not as evidence-based as would be optimal; and 3) current health system arrangements aren’t ensuring a) optimal quality in acute healthcare, b) consistency within and across institutions in how advanced practice nurses are integrated into care delivery or protected when the focus turns from enhancing quality to containing costs, or c) a formalized set of educational and credentialing/regulatory standards, requirements and processes.

Complexity of healthcare needs is increasing

The complexity of healthcare needs across medical conditions for all ages is increasing, which is one of several factors placing greater demands on acute care than ever before. According to the World Health Organization, the global disease burden has been shifting towards chronic and complex conditions for some time now.(8) Canadians’ healthcare needs are, accordingly, becoming increasingly complex, in part because of how they often require the management of several chronic conditions concurrently.(9)

While the increasing complexity of healthcare needs is only one of several factors placing greater demands on acute care than ever before, it is a litmus test for the sub-system because of how clinically advanced illnesses require more comprehensive and coordinated case management from a team of healthcare providers than was required before. Examples of other pressures on acute care systems include the growing population of older adults, the increasing number of individuals who suffer multiple co-morbid diseases requiring continuity of care, the growing pressure to adhere to evidence-based guidelines and quality standards, the growing demands for more holistic and comprehensive forms of care, including patient education, that help patients to live well with chronic and complex conditions, and the growing complexity of the other sub-systems that acute healthcare providers must assist their patients in navigating (e.g., primary care, mental healthcare, home care, complex continuing care, and long-term care).

People with clinically advanced illnesses who suffer multiple co-morbid diseases can account for a disproportionate share of overall health care costs. Failures in case management lead to increases in the length

Box 3: Mobilizing research evidence about the problem

The available research evidence about the problem was sought from a range of published and “grey” research literature sources. Published literature that provided a comparative dimension to an understanding of the problem was sought using three health services research “hedgies” in Medline, namely those for appropriateness, processes and outcomes of care (which increase the chances of us identifying administrative database studies and community surveys). Published literature that provided insights into alternative ways of framing the problem was sought using a fourth hedge in Medline, namely the one for qualitative research. Grey literature was sought by reviewing the websites of a number of Canadian and international organizations, such as Canadian Institute for Health Information, Canadian Medical Association, Canadian Nurses Association, Canadian Nurses Protective Society, Health Council of Canada, Health Evidence Network, Health Policy Monitor, Ontario Medical Association, and Organization for Economic Co-operation and Development. Priority was given to research evidence that was published more recently, that was locally applicable (in the sense of having been conducted in Canada), and that took equity considerations into account.

Additional documents were identified by reviewing the reference list of the decision-support synthesis,(1) as well as by contacting experts in jurisdictions where documents were difficult to identify (or obtain).

of hospital stay, re-hospitalizations and emergency room visits, which translate into high costs for healthcare systems. And the cost of healthcare in Canada is already high and will continue to rise in real terms.(9) Canada's total expenditures on healthcare is among the highest of the industrialized countries (i.e., 10.8 per cent of the gross domestic product for 2008, which is up from 8.9 per cent in 2000).(10)

Effective programs and services aren't getting to all patients

It can be very difficult to estimate the proportion of Canadians in acute healthcare settings who receive the full breadth of effective programs and services that are needed to manage complex chronic or acute illnesses, and that receive care that is safe and of optimal quality. However, there is some evidence suggesting that many programs and services, particularly those that are typically delivered by specialists but that could be delivered by nurse practitioners working in partnership with specialists, aren't getting to all patients in acute healthcare settings:

- only 13% of ischemic stroke patients eligible for thrombolysis (i.e., 'clot-busting drugs') received them within one hour of arriving in the emergency department in Ontario in 2009/10;(11) and
- only 79% of elderly patients who have had a heart attack filled a prescription for either of two recommended prescription drugs (a beta blocker or an angiotensin-converting enzyme inhibitor/angiotensin-receptor blocker) within 90 days of discharge in Ontario in 2009/10.(11)

Similarly, there is some evidence suggesting that care in Canadian acute healthcare settings is not as safe or of as optimal quality as might be desired (and that might be possible if clinical nurse specialists were practising to their full scope of practice across a range of acute healthcare settings):

- 7.5% of hospital admissions in Canada in 2000 were found to have had an adverse event, of which 36.9% were judged to be preventable;(12) and
- 12.6% of adult medical patients discharged from six hospitals in Toronto during 2007 were readmitted to hospital within 30 days (of whom 51.7% were identified using a validated algorithm as being at high risk of readmission), and 20.9% were readmitted within 90 days of discharge, which suggests that greater attention could be given to preparing for optimal post-discharge care for patients at high risk of readmission.(13)

Current health system arrangements aren't ensuring comprehensive, high-quality acute healthcare

A range of **delivery arrangements** aren't ensuring comprehensive, high-quality acute healthcare, some indicators of which are:

- 41% of Canadian adults reported in 2010 that they waited two months or more to see a specialist (at least some of whom would be based in acute healthcare settings), which was the highest percentage among the 11 high-income countries being studied;(14)
- roughly the same percentage (42%) of chronically ill Canadian adults reported in 2008 that they waited two months or longer to see a specialist (again, at least some of whom would be based in acute healthcare settings), which was the highest percentage among the eight high-income countries being studied;(15)
- 25% of Canadian adults reported in 2010 that they waited four months or more for elective surgery, which was also the highest percentage among the eleven high-income countries being studied;(14)
- 17% of chronically ill Canadian adults reported in 2008 that after being discharged from hospital, they were readmitted or went to an emergency room as a result of complications during their recovery, which was the second highest percentage among the eight high-income countries being studied; (15) and
- 50% of chronically ill Canadian adults who had been hospitalized in the preceding two years reported in 2008 that they had experienced one or more key gaps when discharged from an acute healthcare setting (not given clear instructions about symptoms to watch for and when to seek further care, not told who to contact for questions about their condition or treatment, not given a written plan for care after discharge, and no arrangements were made for follow-up visits with a doctor or other healthcare professional).(15)

Existing delivery arrangements aren't ensuring that nurse practitioners assist with providing more comprehensive acute healthcare, in part by working in healthcare teams with the specialists who are in short supply.(16) While only 22% of chronically ill Canadian adults reported in 2008 that a nurse was regularly involved in managing their condition, which was much lower than the 48% of chronically ill adults in the U.K. reporting regular nursing involvement,(15) the majority of these experiences would have been driven by experiences outside hospital. We are not aware of any data about the percentage of Canadian adults for whom a nurse practitioner was involved in their acute hospital care. Even when nurse practitioners are involved in acute healthcare, existing delivery arrangements (such as the medical directives under which they often work) typically restrict their role to a limited scope of practice.(1)

Existing delivery arrangements also aren't consistently ensuring that clinical nurse specialists assist with providing higher quality acute healthcare in Canada.(2) Their roles are often individually negotiated on a case-by-case basis.(17;18) In contrast, in the U.S. clinical nurse specialists have been reported in a survey of chief nurse executives to have been important in both obtaining and maintaining magnet hospital status, suggesting that their roles in the U.S. are being articulated on a more organization-wide basis.(19)

Existing **financial arrangements** contribute to challenges with comprehensiveness and quality in acute healthcare settings, in large part because clinical nurse specialists and nurse practitioners are typically paid out of hospital global budgets,(20) which means that they can easily be cut when the business case for their involvement in acute healthcare can't easily be made, and/or when the focus is on containing costs rather than achieving comprehensive, high-quality acute healthcare. In Canada, hospital budget cutbacks in the 1980s and 1990s led to the elimination of many of these positions.(1) Historically, the deployment of clinical nurse specialists has fluctuated between periods of increased hiring to improve nursing practice and periods of cutbacks in positions to address funding constraints.(2)The lack of stable funding in global hospital budgets for positions in acute care settings can lead to a decline in the number of clinical nurse specialists and nurse practitioners becoming licensed to practice (e.g., self-identified clinical nurse specialists in Canada declined from 2,624 in 2000 to 2,222 in 2008).(21;22) The continued loss in numbers is serious in light of the projection that by 2022 Canada will have a shortage of over 60,000 nurses,(21) with negative effects for patients and families in terms of timely access to safe, high quality nursing services.

Governance arrangements also contribute to the lack of full integration of clinical nurse specialists and nurse practitioners in acute healthcare settings where they can improve the breadth and quality of services available, particularly in terms of the lack of formalized educational requirements and standardized regulatory and credentialing mechanisms for clinical nurse specialists,(1;2;23) and the lack of consistency across the country in legislative provisions, scope of practice and autonomy of nurse practitioners working in acute healthcare settings.(24;25)

Beginning with education, the recommended education for clinical nurse specialists in Canada and internationally is a master's degree from a graduate nursing program.(4) However, and unlike for nurse practitioners, there is no formal clinical nurse specialist-specific education program in Canada.(26) The existing graduate education programs are 'generic' and have not been specifically designed to ensure competency in practice.(26) According to a review of 31 graduate nursing programs in Canada, only one program was found that offered a clinical nurse specialist-specific program, but enrolment to this program was closed due to lack of funding.(27) A second program offered an advanced practice leadership option to prepare clinical nurse specialists and clinical leaders, and a third program was exploring the possibility of developing a clinical nurse specialist stream. Another program offered two clinical nurse specialist-specific courses, and six programs offered general advanced practice courses that could be relevant to but were not specifically designed for clinical nurse specialists.(27) Canadian studies have recommended the need for consistent core curriculum standards for clinical nurse specialist programs in Canada.(4;22;28-30) One possible approach would be to standardize clinical nurse specialist education at the specialization level, with a requirement of 500 clinical hours for a master's degree,(31) as has been accepted as a requirement for clinical nurse specialists practising in the United States.(26)

The lack of consistency in educational programs can lead to limited visibility of clinical nurse specialist roles and to variability in practice. In Canada, the variability in clinical nurse specialist practice and the many role dimensions have led to role confusion and made evaluation of role outcomes challenging.(22;26;32;33) Inadequate healthcare team awareness of the clinical nurse specialist roles has been identified as a barrier to advanced practice nursing role integration.(34-37) In a systematic review identifying barriers and facilitators to advanced practice nursing role development and practice, role ambiguity was identified as the most important factor influencing role implementation.(38) The ambiguity was related to confusion among stakeholders about the objectives, scope of practice, responsibilities and anticipated outcomes of the roles.(38)

The lack of consistency in educational programs can translate into inconsistencies in core competencies across the country, challenges in communicating to patients and other healthcare providers what a clinical nurse specialist is and can do in different provinces and territories, and limitations to clinical nurse specialists' mobility. The implication of this lack of consistency in educational standards was made more significant, at least for nurse practitioners, by amendments to chapter 7 of Canada's Agreement on Internal Trade, which were passed in 2009.(39) The amendments now mean that it is legally prohibited to refuse a licence to any professional previously licensed in another province or territory on the basis of their educational qualifications, unless the jurisdiction has identified exceptions in writing.(39)

Turning now to regulation, there is a lack of standardized regulatory and credentialing mechanisms for clinical nurse specialists in Canada, and their title is not formally recognized.(2) Most jurisdictions in Canada do not have additional legislation or regulation for the clinical nurse specialist role.(2) As a result, nurses can identify themselves as a clinical nurse specialist even if they lack the required graduate education and expertise in a clinical specialty.(2;20) Advocating for title protection is complicated because the aspects of clinical nurse specialist practice typically covered by regulations does not extend beyond the scope of the registered nurse (even though many other aspects of their role do), and this means that the regulation that would enable title protection is not required.(2)

Turning now to the lack of consistency in legislative provisions, scope of practice and autonomy of nurse practitioners, only 10 of the 13 jurisdictions in Canada have provisions for nurse practitioners to practice in acute healthcare sectors.(24;25) In most jurisdictions, nurse practitioners in acute healthcare settings are authorized to perform the following functions: 1) diagnose a disease, disorder or condition; 2) order and interpret diagnostic and screening tests; and 3) prescribe medications.(25) The level of autonomy to perform these functions varies across jurisdictions and depends on the laws regulating practice in each jurisdiction.(25) In Quebec, for example, activities such as determining the initial diagnosis of disease and completing death certificates remain the exclusive domain of physicians.(40) In Ontario, the Regulated Health Professions Act, in conjunction with individual professional acts such as the Nursing Act, regulates which professions have the authority to perform 13 controlled acts. These controlled acts include activities considered potentially harmful if performed by an unqualified person.(40) Through these mechanisms, nurse practitioners have the authority to diagnose, order laboratory and diagnostic testing, and prescribe treatments. (41) However, the Public Hospitals Act (Regulation 965) restricts nurse practitioners' prescribing authority for medications to outpatients only.(42) Due to this regulation, nurse practitioners in Ontario who provide services to inpatients must continue to utilize medical directives to carry out these controlled acts.(42) The government is currently considering possible changes to these regulations.(43) Another legislative issue relates to patient admission and discharge privileges. In Alberta, British Columbia and Quebec, nurse practitioners lack patient admission and discharge privileges,(42;44-47) which limits the ability of nurse practitioners to provide coordinated and timely care to patients in acute healthcare settings.(48) In contrast, the Ontario government intends to amend the Public Hospitals Act to give nurse practitioners the legal power to discharge patients from hospitals as of July 1, 2011, and to admit patients to hospital by July 2012.

While not a regulatory issue per se, there is a governance dimension to the current lack of a human resource planning process that includes clinical nurse specialists and nurse practitioners that match population health needs to what types of healthcare providers are needed to provide the services that meet those needs.

Equity-related observations about the problem

A number of features of the lack of full integration of advanced practice nurses in acute healthcare settings (and the challenges that give rise to the lack of full integration) may play out very differently in urban (often well-served) versus rural settings. Moreover, even within urban settings, the problem may play out very differently among Aboriginal Canadians, homeless people, new immigrants and people of low socio-economic status living with mental illness. We found no data or research evidence that helped to identify whether particular features of the problem were more or less significant in urban versus rural settings.

THREE ELEMENTS FOR ADDRESSING THE PROBLEM

There is extensive research evidence on the challenges facing the acute healthcare sector and of integrating clinical nurse specialists and nurse practitioners within the sector. However, much less is known about what can be done to address these challenges.

Many approaches could be selected to address the integration of clinical nurse specialists and nurse practitioners in acute healthcare settings in Canada. While an issue brief normally presents three distinct approaches, the alternative adopted here is to focus on the elements of a single, unified approach that was previously endorsed by a broad-based group of key stakeholders. Their discussions were informed by synthesized research evidence and documented as part of the aforementioned decision-support synthesis.(1)

The three elements include: 1) launch a multi-stakeholder strategic-planning initiative to address the integration of clinical nurse specialists and nurse practitioners in acute healthcare settings in Canada; 2) support consistency in educational and credentialing/regulatory standards, requirements and processes for clinical nurse specialists and nurse practitioners across the country; and 3) launch an information/education campaign to raise awareness of how a number of innovations (one being the integration of advanced practice nursing) could better meet patient needs in acute healthcare settings. The focus in this section is on what is known about these elements and their strengths and weaknesses. In the next section the focus turns to the barriers to adopting and implementing these elements and to possible implementation strategies to address the barriers.

The eight recommendations that informed the description of these three elements focused on how to address the lack of full integration of advanced practice nursing in Canada (Table 3).(1) (The final recommendation – recommendation 9 in Table 2 -- is not captured by any of the three elements.) The recommendations, all of which were deemed necessary by the participating stakeholders, were not categorized for clinical nurse specialists and nurse practitioners separately, or for acute healthcare and primary healthcare settings separately. However, the three elements that are described in the sub-sections that follow have been operationalized for clinical nurse specialists and nurse practitioners in acute healthcare settings. The aggregation and categorization of these elements, their advantages and disadvantages, as well as their prioritization and sequencing, could all be the focus of deliberation.

Box 4: Mobilizing research evidence about elements of an approach for addressing the problem

The available research evidence about elements for addressing the problem was sought primarily from a continuously updated database containing more than 1,300 systematic reviews of delivery, financial and governance arrangements within health systems: Health Systems Evidence (www.healthsystemsevidence.org). The reviews were identified by searching the database for reviews addressing features of the elements (first with clinical nurse specialist, nurse practitioner and advanced practice nursing as keywords to identify any ‘near perfect’ matches). In order to identify evidence about costs and/or cost-effectiveness, the NHS Economic Evaluation Database (available through the Cochrane Library) was also searched using a similar approach.

The authors’ conclusions were extracted from the reviews whenever possible. Some reviews may contain no studies despite an exhaustive search (i.e., they were “empty” reviews), while others may conclude that there was substantial uncertainty about the option based on the identified studies. Neither was the case here. Where relevant, caveats were introduced about these authors’ conclusions based on assessments of the reviews’ quality, the local applicability of the reviews’ findings, equity considerations and relevancy to the issue.

Being aware of what is not known can be as important as being aware of what is known. When faced with an empty review, substantial uncertainty, or concerns about quality and local applicability or lack of attention to equity considerations, primary research could be commissioned or an option could be pursued and a monitoring and evaluation plan designed as part of its implementation. When faced with a review that was published many years ago, an updating of the review could be commissioned if time allows.

Table 3: Stakeholder recommendations about how to address the integration of advanced practice nursing, including clinical nurse specialists and nurse practitioners in acute healthcare settings, in Canada

For the nursing community (and partners):
1. Create a vision statement that clearly articulates the value-added role of advanced practice nursing across settings.
For senior decision-makers (policy and practice):
2. Establish a pan-Canadian multidisciplinary task force involving key stakeholder groups to facilitate the implementation of advanced practice nursing roles.
3. Consider advanced practice nursing as part of health human resources planning, based strategically on population healthcare needs.
4. Standardize advanced practice nursing regulatory and educational standards, requirements and processes across the country.
5. Develop a communications strategy to disseminate to a wide readership the positive contributions of advanced practice nursing.
6. Protect funding support for advanced practice nursing positions and education, to ensure stability and sustainability.
For educators:
7. (As above) Standardize advanced practice nursing regulatory and educational standards, requirements and processes across the country.
8. Include, in all undergraduate and post-graduate health professional training programs, components that address interprofessionalism.
For researchers and research funders:
9. Conduct further research on: the “value-added” of advanced practice nursing roles (as opposed to a replacement model), their impact on healthcare costs, and the clinical nurse specialist role.

Source: (1)

Element 1 – Launch a multi-stakeholder strategic-planning initiative

This option involves launching a multi-stakeholder strategic-planning initiative to address the integration of clinical nurse specialists and nurse practitioners in acute healthcare settings in Canada. The option combines four of the stakeholder recommendations articulated in the decision-support synthesis:

- 1) create a vision statement that clearly articulates the value-added role of advanced practice nursing across settings (recommendation 1);
- 2) establish a pan-Canadian multidisciplinary task force involving key stakeholder groups to facilitate the implementation of advanced practice nursing roles (recommendation 2);
- 3) consider advanced practice nursing as part of health human resources planning, based strategically on population healthcare needs (recommendation 3); and
- 4) protect funding support for advanced practice nursing positions and education, to ensure stability and sustainability (recommendation 6).

The rationale for this element is that getting key stakeholders ‘on the same page’ and, on the strength of this agreement, securing dedicated funding to integrate or retain clinical nurse specialists and nurse practitioners in acute healthcare settings in Canada, and securing, for clinical nurse specialists, the necessary educational and credentialing/regulatory provisions and funding support for education, are both essential steps towards improving the quality of acute healthcare in Canada. The process for getting key stakeholders ‘on the same page’ could include a government-appointed task force, a stakeholder-driven task force or a researcher-driven strategic-planning process. The necessary educational and regulatory provisions would need to focus on educational requirements and credentialing for clinical nurse specialists, and on educational and regulatory standards for nurse practitioners, which are the focus of the next sub-section. The funding support would be needed for education in general, as well as enhancing interprofessional training opportunities, formalizing collaborative practice models, and considering them as part of health human resource planning. This type of initiative would need to provide a clear path and timeline for implementation, and ensure that each participating stakeholder organization takes responsibility for its contribution to the initiative.

We did not find any systematic reviews addressing this element. Accordingly we cannot present summaries of synthesized research evidence about each of the:

- benefits of the element;
- potential harms associated with the element;
- costs and/or cost-effectiveness of the element in relation to the status quo;
- uncertainty regarding benefits and potential harms (to inform monitoring and evaluation if the element were pursued);
- key components of the element if it was tried elsewhere; and
- stakeholders’ views about and experiences with the element.

In the absence of any systematic reviews, deliberations about this element would need to draw on the tacit knowledge, views and experiences of policymakers and stakeholders. If time allowed, a focused systematic review could be conducted.

In order to promote deliberation, we review here several key points that were identified in our review of the research literature we identified in our search. First, at the federal level, a similar process to this has been used to secure cross-stakeholder support and federal government funding for a major new cancer initiative (Canadian Partnership Against Cancer) and a major new mental health initiative (Mental Health Commission of Canada). Second, the strategic-planning initiative for at least the first of these two initiatives involved finding a common vision around which many diverse stakeholders could rally. In this case, the vision might be strengthening or improving the quality of acute healthcare rather than (only) addressing the integration of two particular healthcare providers in acute healthcare settings. Third, in the U.S., making a link between having clinical nurse specialists and the accreditation of magnet hospitals proved critically important.

Element 2 – Support consistency in standards, requirements and processes

This element involves supporting consistency in educational and credentialing/regulatory standards, requirements and processes for clinical nurse specialists and nurse practitioners across the country. The element combines three of the stakeholder recommendations articulated in the decision-support synthesis:

- 1) standardize advanced practice nursing regulatory and educational standards, requirements and processes across the country (recommendations 4 and 7); and
- 2) include, in all undergraduate and post-graduate health professional training programs, components that address interprofessionalism (recommendation 8).

The rationale for this element is that bringing some order to the country's current patchwork of educational requirements and credentialing standards for clinical nurse specialists and of educational and regulatory standards for nurse practitioners, which hinder integration efforts within and across provinces and territories (and which significantly limits their mobility), is an essential step towards improving the quality of acute healthcare in Canada. Enhancing interprofessionalism can also be seen as an essential step. The process for getting greater consistency would presumably involve convening provincial and territorial educational and regulatory organizations from across the country, and these organizations voluntarily working together to enhance consistency.

As an example of the challenges that will be encountered with any process, consider that bringing order to educational requirements for clinical nurse specialists alone could require: 1) establishing standards both in general and at the specialization level (e.g., a master's degree with or without a minimum of 500 clinical hours of experience as is required in the U.S.);(26;31) 2) developing core curriculum requirements;(4;22;28-30) and 3) supporting the establishment of clinical nurse specialist-specific graduate education in Canada.(2;27). As described earlier, according to a review of 31 graduate nursing programs in Canada: 1) only one program offered a clinical nurse specialist-specific program, but enrolment to this program was closed due to lack of funding;(27) 2) a second program offered an advanced practice leadership option to prepare clinical nurse specialists and clinical leaders; 3) a third program was exploring the possibility of developing a clinical nurse specialist stream; 4) a fourth program offered two clinical nurse specialist-specific courses; and 5) six programs offered general advanced practice nursing courses that could be relevant to, but were not specifically designed for, clinical nurse specialists.(27)

We did not find any systematic reviews addressing this element. Accordingly, we cannot present summaries of synthesized research evidence about the benefits, harms and costs (or cost-effectiveness) of the element, the uncertainty regarding benefits and potential harms (to inform monitoring and evaluation if the element were pursued), key components of the element if it was tried elsewhere, or stakeholders' views about and experiences with the element. In the absence of any systematic reviews, deliberations about this element would need to draw on the tacit knowledge, views and experiences of policymakers and stakeholders. If time allowed, a focused systematic review could be conducted.

In order to promote deliberation, we note here several key points that were identified in our review of the research literature we identified in our search. First, physician-focused educational and regulatory organizations have shown that significant consistency in standards can be achieved across Canada. Second, consistency in educational standards (for nurse practitioners at least) has been achieved in Australia and the United States, where a master's degree is now required by nurse practitioners,(49) and consistency in regulatory standards has been achieved (again at least for nurse practitioners) in some jurisdictions outside Canada, such as Australia in the context of a legislative effort targeted at 10 professions.(49) Third, amendments to chapter 7 of Canada's Agreement on Internal Trade, which were passed in 2009,(39) now mean that it is legally prohibited to refuse a licence to any professional previously licensed in another province or territory on the basis of their educational qualifications, unless the jurisdiction has identified exceptions in writing.(39) This development suggests the need for a pan-Canadian framework for the assessment and recognition of qualifications and certifications for all health professions (not just the nurse practitioners who are likely affected by these amendments in a way that would not be the case for clinical

nurse specialists, who would all have a master's level nursing degree and who do not require a specific license to practice in that role), and a commitment by governments to align their systems, and set out a shared vision, guiding principles, unified methods of qualification and certification, and desired outcomes.(39)

Element 3 – Launch an information/education campaign

This element involves launching an information/education campaign at either the national level or in one or more provinces and territories to raise awareness about how a number of innovations (one being the integration of advanced practice nursing) could better meet patient needs in acute healthcare settings (e.g., by providing more comprehensive care or higher quality care). The element grows directly from one of the stakeholder recommendations articulated in the decision-support synthesis, namely to develop a communications strategy to disseminate to a wide readership the positive contributions of advanced practice nursing. The campaign could focus on raising awareness about: 1) the value-added role of each of clinical nurse specialists and nurse practitioners in acute healthcare settings as the recommendation suggested; 2) the roles that these two types of advanced practice nurses have been found to play with equal safety and effectiveness to other healthcare professionals; or 3) how a number of innovations (one being the integration of advanced practice nurses in acute healthcare settings) could better meet patient needs. The second and especially the third areas of focus would permit a collaborative approach to the planning, funding and implementation of the campaign that involves a number of health professions, not just advanced practice nurses.

The campaign could be targeted at each of the general public, health professionals and health system decision-makers, however, targeting health professionals and managers (and to a lesser extent board members) in acute healthcare settings (and regional health authorities) and policymakers involved in the stewardship of the acute healthcare sector, may represent a better use of resources by focusing on those who have the capacity to make decisions about how healthcare is organized in acute healthcare settings. Regardless of the target audiences, the campaign would need to clearly articulate the unique contributions of clinical nurse specialists, nurse practitioners and other key health professionals in providing comprehensive and high quality care in acute healthcare settings.

The rationale for this element is that many Canadians' acute healthcare needs are not being met (or are not being met optimally) and that many Canadians within and beyond acute healthcare settings are not aware that clinical nurse specialists and nurse practitioners can add significant value at acceptable cost. Moreover, many Canadians are likely not aware of how other roles, such as physician assistants, may involve work that is only done in a direct reporting relationship with physicians. Health professionals (such as physicians) and health system decision-makers (such as hospital and regional health authority managers and provincial and territorial government policymakers) may be similarly unaware of how innovations such as the integration of clinical nurse specialists in acute healthcare could meet the needs of Canadians.

An information/education campaign could include

- traditional media for public engagement, such as print, radio and television; and/or
- 'new media' for public engagement, such as mass-short-messages (MSNs) and other mobile phone-based strategies, as well as online petitions and other internet-based approaches, and efforts to directly engage government officials and other stakeholder organizations.

We did not identify any systematic reviews assessing whether and how traditional media increase the attention paid to an issue by the public, professionals and policymakers. However, there are systematic reviews about the effects of traditional media on individual health-related behaviours. This was referred to in a previous issue brief prepared by the McMaster Health Forum about engaging health system decision-makers in supporting comprehensive chronic pain management.(50) The issue brief noted one high-quality but old review which found that mass media campaigns and unplanned mass media coverage can have a positive

influence on the utilization of health services.(51) In another high-quality but more recent review, all of the 35 included studies concluded that mass media interventions were effective in the promotion of voluntary counselling and testing for HIV.(52)

No reviews were found that evaluate whether and how new media increase the attention paid to an issue. However, a previous issue brief prepared by the McMaster Health Forum about engaging civil society in supporting research use in healthcare systems, outlined how new media offers the potential to actively influence healthcare system policymaking.(53)

A summary of the key findings from the synthesized research evidence is provided in Table 4. For those who want to know more about the systematic reviews contained in Table 4 (or obtain citations for the reviews), a fuller description of the systematic reviews is provided in Appendix 1.

Table 4: Summary of key findings from systematic reviews relevant to element 3 –Launch an information/education campaign

Category of finding	Summary of key findings
Benefits	<ul style="list-style-type: none"> • Traditional media <ul style="list-style-type: none"> ○ A high-quality but old review found that all of the studies (which were of variable quality) apart from one concluded that planned mass media campaigns and unplanned mass media coverage can have a positive influence on the utilization of health services.(51) ○ A high-quality review found that all of the studies concluded that mass media interventions were effective in the promotion of voluntary counselling and testing for HIV.(52)
Potential harms	<ul style="list-style-type: none"> • Not addressed by any identified systematic reviews
Costs and/or cost-effectiveness in relation to the status quo	<ul style="list-style-type: none"> • Not addressed by any identified systematic reviews
Uncertainty regarding benefits and potential harms (so monitoring and evaluation could be warranted if the option were pursued)	<ul style="list-style-type: none"> • Uncertainty because no systematic reviews were identified <ul style="list-style-type: none"> ○ New media <ul style="list-style-type: none"> ○ No reviews were identified that addressed this element of the option ○ Directly engaging government officials <ul style="list-style-type: none"> ○ No reviews were identified that addressed this element of the option • Uncertainty because no studies were identified despite an exhaustive search as part of a systematic review <ul style="list-style-type: none"> ○ Not applicable (i.e., no empty reviews were identified) • No clear message from studies included in a systematic review <ul style="list-style-type: none"> ○ Not applicable (i.e., no reviews were identified that identified a lack of clear message)
Key elements of the policy option if it was tried elsewhere	<ul style="list-style-type: none"> • Not addressed by any identified systematic reviews
Stakeholders' views and experience	<ul style="list-style-type: none"> • Not addressed by any identified systematic reviews

IMPLEMENTATION CONSIDERATIONS

In considering what challenges may be faced in trying to pursue one or more of the elements – or which may surface later – it is helpful to consider these difficulties in relation to several groups: patients, professionals, organizations and systems. A list of potential challenges is provided in Table 5.

The biggest barriers to implementation of these elements are likely at the level of health system managers and policymakers because advanced practice nurses remain a small and largely invisible group within the highly competitive world of acute healthcare settings. Patients are likely to pay attention only to element 3 and even then only in a limited way. Groups or associations representing clinical nurse specialists and nurse practitioners do not at this time represent a large enough force within nursing associations (if the former are embedded within the latter), or a significant enough force to capture the attention of large physician associations, other stakeholders and policymakers (if the former are independent). Provincial and territorial educational and regulatory organizations, as well as provincial and territorial governments, may resist (or at least not support) a push for greater consistency across provinces and territories and for doing things differently (with the attendant transition costs) in a time of fiscal restraint.

Table 5: Potential barriers to implementing the elements

Levels	Element 1 – Launch a multi-stakeholder strategic-planning initiative to address the integration of clinical nurse specialists and nurse practitioners in acute healthcare settings in Canada	Element 2 – Support consistency in educational and credentialing/regulatory standards, requirements and processes for clinical nurse specialists and nurse practitioners across the country	Element 3 – Launch an information/education campaign to raise awareness of how a number of innovations (one being the integration of advanced practice nursing) could better meet patient needs in acute healthcare settings
Patient	Not applicable – such a change would likely not be visible to patients	Not applicable – such a change would likely not be visible to patients	Difficulty in framing messages about patient care models in ways that would be understandable to patients Competition among advocacy campaigns for the attention of patients and professionals
Professional	Professional associations (outside nursing) may not have a clear mandate to commit to the initiative Professionals and their associations may not have or dedicate the time, skills and resources required to contribute meaningfully	Professional associations (outside nursing) may not have a clear mandate to commit to the effort Professionals and their associations may not have or dedicate the time, skills and resources required to contribute meaningfully	Professional associations (outside nursing) may not be willing to commit resources to a campaign that does not benefit them directly
Organization	Groups or associations representing clinical nurse specialists and nurse practitioners have only a nascent ability to represent themselves collectively in a highly competitive environment Acute healthcare organizations remain subject to cyclical pressures to cut costs and advanced practice nursing can be perceived by some as a non-	Groups or associations representing clinical nurse specialists and nurse practitioners have only a nascent ability to represent themselves collectively in a highly competitive environment Educational and regulatory organizations are primarily province-/territory-focused and rely on committed individuals to champion efforts to ensure	Groups or associations representing clinical nurse specialists and nurse practitioners have only a nascent ability to represent themselves collectively in a highly competitive environment

McMaster Health Forum

	essential function (or at least a less visible function that can be reduced or cut more easily)	greater consistency across the country	
System	<p>Existing country-wide forums (e.g., Federal, Provincial and Territorial Advisory Committees, Health Accord negotiations) do not have the mandate or resources to sponsor such an initiative</p> <p>Existing province-/territory-specific planning forums (e.g., joint management committees) and funding mechanisms (e.g., provincial/territorial health insurance plans) give a greater voice and more resources to physicians compared to clinical nurse specialists, nurse practitioners and other professionals working in acute healthcare settings</p>	<p>Existing country-wide forums (e.g., educational associations) do not have the mandate or resources to sponsor such an effort</p> <p>Provincial and territorial governments may resist efforts to increase consistency in an area of provincial/territorial jurisdiction</p>	<p>Existing country-wide forums (e.g., Health Council of Canada) do not have the mandate or resources to sponsor such a campaign</p> <p>Provincial and territorial governments may resist efforts to increase the pressure on them to do things differently (given this can often cost more money in at least the short run)</p>

Many implementation strategies could be considered for any given element (i.e., the columns) or group (i.e., the rows). However, given that all three elements were seen as essential by the stakeholders participating in the decision-support synthesis, identifying ‘cross-cutting’ implementation strategies could be an important first step. Securing this issue on the standing agenda of a country-wide forum (possibly using the lens of interprofessional teams) and finding ways to support the voice of these two distinct types of advanced practice nurses are two cross-cutting implementation strategies worth considering.

REFERENCES

1. DiCenso A, Bryant-Lukosius D, Bourgeault I, Martin-Misener R, Donald F, Abelson J. *Clinical Nurse Specialists and Nurse Practitioners in Canada: A Decision Support Synthesis*. Ottawa, Canada: Canadian Health Services Research Foundation; 2009.
2. Bryant-Lukosius D, Carter N, Kilpatrick K, Martin-Misener R, Donald F, Kaasalainen S et al. The clinical nurse specialist role in Canada. *Canadian Journal of Nursing Leadership* 2010;24(Special Issue):140-66.
3. Canadian Nurses Association. *Canadian Nurse Practitioner Core Competency Framework*. Ottawa, Canada: Canadian Nurses Association; 2009.
4. Canadian Nurses Association. *Advanced Nursing Practice: A National Framework*. Ottawa, Canada: Canadian Nurses Association; 2008.
5. DiCenso A. *Evaluation of the Impact of Advanced Practice Nurses*. Paris, France: Paper presented at the OECD Experts Meeting on Advanced Roles for Nurses, 12 February 2010.; 2010.
6. El-Jardali F, Lavis JN. *Issue Brief: Addressing the Integration of Nurse Practitioners in Primary Healthcare Settings in Canada*. Hamilton, Canada: McMaster Health Forum; 2011.
7. Hutchison B, Abelson J, Lavis JN. Primary care in Canada: So much innovation, so little change. *Health Affairs* 2001;20(3):116-31.
8. World Health Organization. *Innovation Care for Chronic Conditions*. Geneva, Switzerland: World Health Organization; 2003.
9. Canadian Academy of Health Sciences. *Transforming Care for Canadians with Chronic Health Conditions: Put People First, Expect the Best, Manage for Results*. Ottawa, Canada: Canadian Academy of Health Sciences; 2010.
10. Organization for Economic Cooperation and Development. *OECD Health Data 2010*. Paris, France: Organization for Economic Cooperation and Development.; 2011.
11. Health Quality Ontario. *Quality Monitor: 2011 Report on Ontario's Health System*. Toronto, Canada: Health Quality Ontario; 2011.
12. Baker RG, Norton PG, Flintoft V, Blais R, Brown A, Cox J et al. The Canadian Adverse Events Study: The incidence of adverse events among hospital patients in Canada. *CMAJ* 2004;170(11):1678-86.
13. Gruneir A, Dhalla I, van Walraven C, Fischer H, Camacho X, Rochon P. Unplanned readmissions after hospital discharge among patients identified as being at high risk for readmission using a validated predictive algorithm. *Open Medicine, North America* 2011; Available at: <http://www.openmedicine.ca/article/view/419/409>(Accessed 17 June 2011).
14. Schoen C, Osborn R, Squires D, Doty MM, Pierson R, Applebaum S. How health insurance design affects access to care and costs, by income, in eleven countries. *Health Affairs* 2010;29(12):1-12.
15. Schoen C, Osborn R, How SKH, Doty MM, Peugh J. In chronic condition: Experiences of patients with complex health care needs, in eight countries, 2008. *Health Affairs* 2008;28(1):1-16.

16. Barrett J, Curran V, Glynn L, Godwin M. CHSRF Synthesis: Interprofessional Collaboration and Quality Primary Healthcare. Ottawa, Canada: Canadian Health Services Research Foundation; 2007.
17. Hravnak MR, Kleinpell R, Magdic K, Guttendorf J. The acute care nurse practitioner. *Advanced Practice Nursing: An Integrated Approach* 2009.
18. Kilpatrick K, Harbman P, Carter N, Martin-Misener R, Bryant-Lukosius D, Donald F et al. The acute care nurse practitioner role in Canada. *Canadian Journal of Nursing Leadership* 2010;24(Special Issues):114-39.
19. Walker JA, Urden LD, Moody R. The role of the CNS in achieving and maintaining magnet status. *Journal of Nursing Administration* 2009;39(12):515-23.
20. DiCenso A. *Small Steps Toward Full Integration of APNs: Lessons Learned from the Canadian Experience*. Hamilton, Canada: CHSRF/CIHR Chair Program in Advanced Practice Nursing; 2011.
21. Canadian Institute for Health Information. *Regulated Nurses in Canada: Trends of Registered Nurses*. Ottawa, Canada: Canadian Institute for Health Information; 2010.
22. Canadian Nurses Association. *2005 Workforce Profile of Registered Nurses in Canada*. Ottawa, Canada: Canadian Nurses Association; 2006.
23. Dias MH, Chambers-Evans J, Reidy M. The consultation component of the clinical nurse specialist role. *Canadian Journal of Nursing Research* 2010;42(2):92-104.
24. Association of Registered Nurses of Prince Edward Island. *Standards of Practice for Nurse Practitioners*. Charlottetown, PEI: Association of Registered Nurse Practitioners; 2010.
25. Canadian Institute for Health Information, Canadian Nurses Association. *The Regulation and Supply of Nurse Practitioners in Canada: 2006 Update*. Ottawa, Canada: Canadian Institute for Health Information; 2006.
26. Kaasalainen S, Martin-Misener R, Kilpatrick K, Harbman P, Bryant-Lukosius D, Donald F et al. A historical overview of the development of advanced practice nursing roles in Canada. *Canadian Journal of Nursing Leadership* 2010;24(Special Issue):35-60.
27. Martin-Misener R, Reilly SM, Vollman AR. Defining the role of primary health care nurse practitioners in rural Nova Scotia. *Canadian Journal of Nursing Research* 2010;42(2):30-47.
28. Canadian Association of Schools of Nursing. *Report on the CASN/FNIHB Workshop on Primary Health Care/Nurse Practitioner Education*. Ottawa, Canada: Canadian Association of Schools of Nursing; 2004.
29. Martin-Misener R, Bryant-Lukosius D, Harbman P, Donald F, Kaasalainen S, Carter N et al. Education of advanced practice nurses in Canada. *Canadian Journal of Nursing Leadership* 2010;24(Special Issue):61-87.
30. Schreiber R, MacDonald M, Pauly B, Davidson H, Crickmore J, Moss L et al. Singing in different keys: Enactment of advanced nursing practice in British Columbia. *Canadian Journal of Nursing Leadership* 2005;18(2).
31. Gauthier P. Collège Boréal's Professor Invited by American Nurse Specialist. *Sudbury, Ontario: Sudbury Star*; 2009.

32. Donald F, Martin-Misener R, Bryant-Lukosius D, Kilpatrick K, Kaasalainen S, Carter N et al. The primary healthcare nurse practitioner role in Canada. *Canadian Journal of Nursing Leadership* 2010;24:88-113.
33. Sparacino P, Cartwright C. The Clinical Nurse Specialist. *Advanced Nursing Practice: An Integrative Approach*. Philadelphia, United States: W.B Saunders Co.; 2009. p. 349-79.
34. Canadian Nurse Practitioner Initiative. *Nurse Practitioners: The Time is Now. A Solution to Improving Access and Reducing Wait Times in Canada*. Ottawa, Canada: Health Canada; 2006.
35. Donald F, Bryant-Lukosius D, Martin-Misener R, Kaasalainen S, Kilpatrick K, Carter N et al. Clinical nurse specialists and nurse practitioners: Title confusion and lack of role clarity. *Canadian Journal of Nursing Leadership* 2010;24(Special Issue):189-210.
36. Hass J. Nurse practitioners now able to work across Canada. *Canadian Medical Association Journal* 2006;174(7):911-2.
37. Urquhart G, Roschkov S. Clinical nurse specialist or nurse practitioner? *Canadian Nurse* 2004;100(5):18-22.
38. Lloyd Jones M. Role development and effective practice in specialist and advanced practice roles in acute hospital settings: Systematic review and meta-synthesis. *Journal of Advanced Nursing* 2005;49(2):191-209.
39. Lenihan D. Foreign qualification recognition and Canada's intergovernmental landscape. *Policy Options* 2010;31(7):44-8.
40. Regulated Health Professions Act. Chapter 18, Office Consolidation. Toronto, Ontario: Queen's Printer for Ontario; 1991.
41. College of Nurses of Ontario. Practice Guidelines. Directives. Toronto, Ontario: College of Nurses of Ontario; 2009.
42. College of Nurses of Ontario. Registered Nurse in the Extended Class: Scope of Practice Review. Submission to the Health Professions Regulatory Advisory Council. Toronto, Canada: College of Nurses of Ontario; 2007.
43. Ontario Ministry of Health and Long-Term Care. Health Bulletins: Minister Considering Seeking Approval of Certain Regulation Proposals to Improve Access to Care for Ontarians. Toronto, Canada: Ontario Ministry of Health and Long-Term Care; 2009.
44. College and Association of Registered Nurses in Alberta. Health Professions Act: Standards for Registered Nurses in the Performance of Restricted Activities. Edmonton, Alberta: College and Association of Registered Nurses in Alberta; 2005.
45. College of Registered Nurses of British Columbia. Health Professions Act, Nurses (Registered) and Nurse Practitioner Regulation. Vancouver, Canada: College of Registered Nurses of British Columbia; 2008.
46. College of Registered Nurses of British Columbia. Scope of Practice of Nurse Practitioners (Adult). Standards, Limits and Conditions. Vancouver, Canada: College of Registered Nurses of British Columbia; 2009.

47. Gouvernement du Québec. Règlement sur les classes de spécialités de l'Ordre des infirmières et infirmiers du Québec pour l'exercice des activités visées à l'article 36.1 de la Loi sur les Infirmières et les Infirmiers. Québec: Éditeur officiel du Québec; 2011.
48. Hurlock-Chorosteski C, van Soeren MH, Goodwin S. The acute care nurse practitioner in Ontario: A workforce study. *Canadian Journal of Nursing Leadership* 2008;21(4):100-16.
49. Delamaire M-L, Lafortune G. Nurses in Advanced Roles: A Description and Evaluation of Experiences in 12 Developed Countries. Paris, France: OECD Publishing; 2010.
50. Wilson MG, Lavis JN. Issue Brief: Engaging Health System Decision-makers in Supporting Comprehensive Chronic Pain Management in Provincial and Territorial Healthcare Systems in Canada. Hamilton, Canada: McMaster Health Forum; 2011.
51. Grilli R, Ramsay C, Minozzi S. Mass media interventions: Effects on health service utilization. *Cochrane Database of Systematic Reviews* 2002;(1):Art. NO.: CD000389. DOI: 10.1002/14651858.CD000389.
52. Vidanapathirana J, Abramson MJ, Forbes A, Fairley C. Mass media interventions for promoting HIV testing. *Cochrane Database of Systematic Reviews* 2003;3:Art. No.: CD004775. DOI: 10.1002/14651858. CD004775.pub2.
53. Lavis JN, McCutchen B, Bopardikar A. Engaging Civil Society in Supporting Research Use in Health Systems. Hamilton, Canada: McMaster Health Forum; 2009.
54. Grilli R, Ramsay C, Minozzi S. Mass media interventions: Effects on health service utilisation. *Cochrane Database Syst Rev* 2002;(1):Art. No.: CD000389. DOI: 10.1002/14651858.CD000389.

APPENDIX

Appendix 1: Systematic reviews relevant to Element 3 – Launch an information/education campaign

Element	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with the prioritized group	Proportion of studies that focused on nurse practitioners
Traditional media campaign	Effects of mass media on the utilization of health services (54)	<ul style="list-style-type: none"> All of the studies (which were of variable quality) apart from one concluded that planned mass media campaigns and unplanned mass media coverage can have a positive influence on the utilization of health services. 	1999	8/11 (AMSTAR rating from www.rxforchange.ca)	0/20	0/20	0/20
	Effect of mass media interventions and the most effective form of mass media intervention at a general population level or in specific target populations, in relation to changes in HIV testing (52)	<ul style="list-style-type: none"> Mass media campaigns designed to raise awareness of HIV/AIDS have shown immediate and significant effects in the promotion of voluntary counselling and testing for HIV. No long-term effects were seen on mass media interventions for promotion of HIV testing. There was no significant impact of detecting seropositive status after mass media intervention for promoting HIV testing. These results were mainly based on multiple media interventions for the general public. Only one study was based on televised interventions and one study targeted blood transfusion recipients. The review was unable to compare the type of mass media interventions, characteristics of messages, or to assess cost effectiveness due to a lack of relevant studies. 	2004	11/11 (AMSTAR rating from the Ontario HIV Treatment Network)	1/35	0/35	0/35