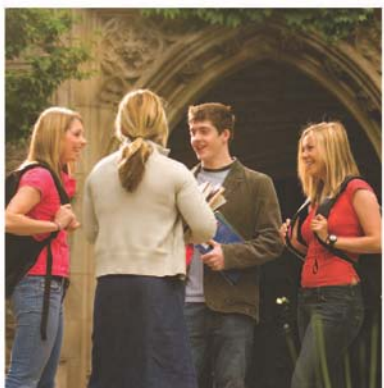




## ISSUE BRIEF



## ADDRESSING THE INTEGRATION OF NURSE PRACTITIONERS IN PRIMARY HEALTHCARE SETTINGS IN CANADA



6 JULY 2011

EVIDENCE >> INSIGHT >> ACTION



**Issue Brief:**  
**Addressing the Integration of Nurse Practitioners in Primary Healthcare Settings in Canada**

6 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.

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## KEY MESSAGES

### What's the problem?

- The overall problem is the lack of full integration of nurse practitioners in primary healthcare settings where they can improve the breadth and quality of services available. Key features of the problem include:
  - burden of chronic disease is growing, which places greater demands on primary healthcare;
  - effective programs and services aren't getting to all patients, and the primary healthcare they do receive is often not as proactive and coordinated as would be optimal; and
  - current health system arrangements aren't ensuring optimal access to primary healthcare, optimal primary healthcare team functioning or consistency across the country in how nurse practitioners are educated and regulated.

### 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 nurse practitioners in primary healthcare settings in Canada
  - This involves getting key stakeholders 'on the same page' and, on the strength of this agreement, securing dedicated funding to integrate nurse practitioners in primary healthcare settings in Canada.
  - 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 the re-negotiation of the Canada Health Accord provides a window of opportunity for such an initiative.
- **Element 2:** Support consistency in educational and regulatory standards, requirements and processes (particularly standards) for nurse practitioners across the country
  - This involves bringing some order to the country's current patchwork of educational and regulatory standards, which hinders efforts within and across provinces and territories to integrate nurse practitioners in primary healthcare settings, and which significantly limits nurse practitioners' 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 nurse practitioners as an exception.
- **Element 3:** Launch an information/education campaign at either the national level or in one or more provinces/territories to raise awareness about how a number of innovations (one being the integration of nurse practitioners in primary healthcare) could better meet patient needs in primary healthcare settings
  - This involves raising awareness that nurse practitioners can provide care in many clinical domains that is as safe and effective as the primary healthcare physicians that Canadians know so well, and that they can work in partnership with physicians.
  - 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 professionals because a large, generally well regarded and very well resourced professional group (physicians and their associations) has historically not supported, and in some cases has actively resisted, integrating nurse practitioners in primary healthcare settings, although this appears to be changing in some jurisdictions.
- Securing this issue on the standing agenda of a countrywide forum, and finding ways to support the maturation of associations representing primary healthcare organizations (and a voice for a broad range of primary healthcare providers, including nurse practitioners, in these associations), are two cross-cutting implementation strategies worth considering.





## REPORT

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.’<sup>(1)</sup> While they may work in many settings, our focus here is their work in primary healthcare settings.

The optimal definition and term for ‘primary healthcare’ is contested, despite there often being significant areas of agreement by those promoting particular definitions and terms. In the interests of pragmatism, we use the term ‘primary healthcare,’ which encompasses more than the healthcare that is typically connoted by the term ‘primary care.’ However, we recognize that much of what we discuss is focused on a more narrow interpretation of primary care.

Nurse practitioners were one of two types of advanced practice nurse that were the focus of a decision-support synthesis completed in 2009.<sup>(2)</sup> 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.’<sup>(3)</sup>

The decision-support synthesis summarized the available research evidence to develop a better understanding of the roles of advanced practice nurses (including nurse practitioners), the contexts in which they are currently being used, and the health system factors that influence their effective integration in the Canadian healthcare system.<sup>(2)</sup> The synthesis also presented key stakeholders’ recommendations about how to address the integration of advanced practice nursing (including nurse practitioners) in Canada.

A number of stakeholders who read the decision-support synthesis described 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, the safety and effectiveness of nurse practitioners in primary healthcare settings). The appendix, which replaced the long-outdated previous synthesis of the research literature about

### Box 1: Background to the issue brief

This issue 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.<sup>(2)</sup> 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.

the effectiveness of nurse practitioners,(4) identified 28 randomized controlled trials that addressed this issue, of which 15 were from the U.S., eight from the U.K., three from Canada, and two from the Netherlands.(2) The trials were typically designed to establish the equivalence of nurse practitioners to physicians (and not their superiority). The overall conclusion from the synthesis is that primary healthcare nurse practitioners 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 nurse practitioners in primary 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	7			6		2	1
Decline						1	
No difference	15	2	2	5	1	1	

Source: (5), which draws on (2), Appendix C

An OECD working paper that reviewed the development of advanced practice nurses in 12 countries (Australia, Belgium, Canada, Cyprus, Czech Republic, Finland, France, Ireland, Japan, Poland, U.K. and U.S.), with a particular focus on their roles in primary care, found that:

- using nurse practitioners can improve access to services and reduce waiting times;
- the transfer of certain tasks from physicians to nurse practitioners had no negative impact on patient safety or patient outcomes, and patient satisfaction either remained stable or increased (often because nurses tend to spend more time listening to patients' problems and providing them with advice); and
- substituting nurse practitioners for physicians for activities that were previously done by physicians is either cost neutral or cost-reducing (with the cost reductions often coming from lower salaries, lower average lengths of hospital stay or fewer hospital re-admissions for patients receiving follow-up care from a nurse practitioner after discharge), whereas having nurse practitioners deliver service/quality enhancements as supplementary activities can be cost increasing if nurse practitioners' lower salary levels are offset partly or entirely by other factors, such as longer consultation times, more patient referrals to other doctors or higher recall rates, and in some cases the ordering of more tests (and if the long-term cost savings that can accrue from enhanced health promotion, disease prevention and chronic disease management aren't taken into consideration).(6)

Moreover, experience from communities in British Columbia where primary healthcare practices were closed to new patients suggests that the transfer of certain tasks from physicians to nurse practitioners had no negative impact on physician income, and had a positive impact on physician satisfaction.(7) However, physician incomes and satisfaction could be reduced when practices are not 'full.'

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 nurse practitioners in primary 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 nurse practitioners; and 3) key implementation considerations for moving any of the elements forward. While the principal focus is primary healthcare settings, many of the same considerations will be equally germane in home care, mental healthcare, palliative care programs in communities, and in the primary healthcare dimension of care in long-term care and mental healthcare institutions. A companion issue brief complements this one by focusing on acute healthcare settings, and the role of clinical nurse specialists and nurse practitioners in these settings.(8)

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

- historically, most primary healthcare has been provided by solo physicians or small groups of primary healthcare physicians (i.e., general practitioners or family physicians) working in private practice with public (fee-for-service) payment, with nurse practitioners limited to working in practices where physicians were salaried (e.g., community health centres) or paid through capitation (e.g., health service organizations);<sup>(9)</sup>
- the policy community that has developed around primary healthcare has been (and remains) primarily dominated by physicians;<sup>(9)</sup>
- recently there has been significant growth in primary healthcare group practice and in alternative remuneration methods (e.g., Family Health Teams in Ontario), with opportunities to hire nurse practitioners, and in some cases for nurse practitioners to lead primary healthcare teams (e.g., nurse practitioner-led clinics in underserved communities);
- 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 primary healthcare settings), and the new role of nurse practitioners in anesthesia in Ontario, as well as the continued existence of roles such as clinical associates (who may be nurses or physicians) in several provinces (albeit typically in acute care settings), and extended-role nurses who may function as the sole front-line primary healthcare provider in some rural and remote communities (however, these nurses are not nurse practitioners per se and they carry out the assessment, diagnosis and treatment of patients with simple health problems, and may be in telephone contact with the doctor on duty to receive advice, with a possible transfer to the doctor in case of complex emergencies);
- the general public is largely unaware of nurse practitioners and their actual or potential role in primary healthcare (and is likely to become confused by distinctions among physician assistants, registered practical nurses (in Ontario)/licensed practical nurses (in other provinces and territories), registered nurses and nurse practitioners), and medical associations are often supportive of nurse practitioners when they are part of physician-led teams, but less supportive of initiatives such as nurse practitioner-led clinics;<sup>1</sup> and
- no forums exist that give nurse practitioners the same opportunities to influence primary healthcare policy

<sup>1</sup> Certain physician groups have been more supportive of nurse practitioners’ roles within the healthcare system at certain times. In 1978, the president of the College of Family Physicians of Canada, Dr. Hollister King, noted that “the family practice nurse was never intended to provide cheaper medical care for the citizens of our country, but rather comprehensive care that the Canadian public would soon learn to appreciate.”<sup>(10)</sup>

## 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<sup>†</sup>:

- 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 socioeconomic status or living with mental illness), and a similar approach could be adopted for any of them.

<sup>†</sup> 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.

development and implementation as physicians have with contract negotiations between provincial governments and medical associations (which typically take place on two, three or four year cycles), and decisions are sometimes made in these physician-focused forums that have significant impacts on nurse practitioners (e.g., creating incentives for preventive care that is delivered by nurse practitioners or other non-physician members of the primary healthcare team).

Other forums/events that could (but currently do not) give focus to nurse practitioner issues include provincial elections and federal/provincial/territorial negotiations of health accords (e.g., Canada Health Transfer negotiations to be concluded by 2014, which offer the potential to establish a new vision that could guide health policy developments for the decade to come). However, the challenge will remain that nurse practitioners will continue to be proportionately small in number compared to physicians and select other types of health professionals.

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 nurse practitioners in primary healthcare settings in Canada:

- the Canadian healthcare system is comprised of 13 publicly financed healthcare systems (10 provincial and three territorial); and
- 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 one as small as nurse practitioners.

## **THE PROBLEM**

The overarching problem is the lack of full integration of nurse practitioners in primary healthcare settings where they can improve the breadth and quality of services available. This problem can be understood by considering that: 1) the burden of chronic disease is growing, which is one of several factors placing greater demands on primary healthcare than ever before; 2) effective programs and services aren't getting to all patients, and the primary healthcare they do receive is often not as proactive and coordinated as would be optimal; and 3) current health system arrangements aren't ensuring optimal access to primary healthcare, optimal primary healthcare team functioning, or consistency across the country in how nurse practitioners are educated and regulated.

### **Burden of chronic diseases is growing**

The burden of chronic disease is growing, which is one of several factors placing greater demands on primary healthcare than ever before.(11) According to the World Health Organization, the global disease burden has been shifting towards chronic conditions for some time now.(12)

Many Canadians live with one or more chronic diseases, particularly as they age, and these chronic diseases constitute the leading causes of death in the country:

- 23% of Canadian adults in 2008 had diabetes, heart disease, stroke and/or high blood pressure;(13)
- 2% of those aged 20-29 years in 2005 had two or more chronic diseases, meaning (in this case) at least one of arthritis, cancer, chronic obstructive pulmonary disease (COPD), diabetes, heart disease, high blood pressure and mood disorders, and 11% had one chronic disease;(14;15)
- among those aged 80 years or more in 2005, 48% had two or more chronic diseases and 34% had one chronic disease;(14;15) and
- cancer, heart disease and stroke were the three leading causes of death and were together responsible for 58% of all deaths in 2005.(16)

The World Health Organization estimates that 89% of all deaths in Canada in 2005 were caused by chronic diseases.(17)

Canadians' primary healthcare needs are, accordingly, becoming increasingly complex, in part because of how they often require the management of several chronic conditions concurrently.(18) A Canadian study of 980 adults keeping appointments with primary healthcare practitioners in Québec found that 90% had more than one chronic condition, rising from 68% of women aged 16-44 years, to 95% of women aged 45-64 years, to 99% of women aged 65 and over.(19) In men, the comparable percentages were 72%, 89%, and 97%, respectively.(19)

Chronic diseases can have profound economic impacts.(18) Failures in prevention and management can translate into high costs for healthcare systems. Chronic diseases are responsible for a far greater share of healthcare budgets than are acute and urgent care: 67% of direct healthcare costs are spent on chronic

### **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 "hedges" 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,(2) as well as by contacting experts in jurisdictions where documents were difficult to identify (or obtain).

diseases.(20) And the cost of healthcare in Canada is already high and will continue to rise in real terms.(18) 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).(21) In addition to their impact on healthcare costs, chronic diseases have negative impacts on quality of life, and can lead to productivity losses for those with chronic conditions and their caregivers.(22;23) In British Columbia alone, three risk factors (smoking, physical inactivity and obesity) contributing to several chronic health conditions were estimated to cost the British Columbia economy \$3.8 billion in 2004.(24)

While the growing burden of chronic disease is only one of several factors placing greater demands on primary healthcare than ever before, it is a litmus test for the sub-system because of how it requires more proactive and coordinated care than was required for the previous distribution of acute versus chronic disease. Examples of other pressures on primary healthcare systems include the growing population of older adults, the growing demands for more holistic and comprehensive forms of care that help patients to live well with chronic conditions, and the growing complexity of the other sub-systems that primary healthcare providers must assist their patients in navigating (e.g., acute care, mental healthcare, home care, complex continuing care and long-term care).

### **Effective programs and services aren't getting to all patients**

Estimating the proportion of Canadians who are proactively offered effective programs and services when they have an indication or need for them, can be difficult. However, the evidence that does exist suggests that many programs and services, particularly chronic disease management programs and services, aren't getting to all patients, and the primary healthcare they do receive is often not as proactive and coordinated as would be optimal. In Canada in 2008, only 39% of adults with diabetes reported receiving all four commonly recommended clinical tests for adults with diabetes. This percentage is well below the percentages in the U.K. (67%), the Netherlands (59%), and New Zealand (55%).(25) In 2008 only 73% of Ontario adults with one or more select chronic conditions (diabetes, heart disease, stroke and high blood pressure) reported having their body weight measured in the past year. This percentage is lower than in Saskatchewan (75%), Quebec (80%) or Manitoba (80%) but higher than in other provinces.(13) Similarly, in Ontario only 35% of adults aged 50-74 reported having a fecal occult blood test within a two-year period preceding a 2009 survey, and 72% of adults aged 65 and over reported having a flu shot in the year preceding a 2009 survey, while only 67% of women aged 50-69 had a mammogram within a two-year period (based on 2008-2009 data) and 73% of women aged 20-69 had a Pap test within a three-year period (based on 2007-2009 data),(26) all of which suggest that effective disease prevention programs and services are also not getting to all patients.

More indirect evidence that there may be challenges in accessing and using effective programs and services in Canada is the significant use of emergency rooms for chronic diseases, such as diabetes, asthma and high blood pressure, that can be effectively managed in the community with appropriate screening, treatment, monitoring and follow-up.(27) For example, Ontarians with chronic disease who said they did not have a regular medical doctor were 1.2 times more likely to have visited an emergency department in the previous two years.(28) In a study comparing experiences of people with chronic disease across seven countries in 2007, Canadian adults with chronic disease were more likely to have visited an emergency room in the past two years (45%) than residents of the U.S. (44%), Australia (36%), U.K. (36%), New Zealand (34%), the Netherlands (24%), or Germany (23%).(29)

Chronic disease management requires collaborative and coordinated approaches to providing care. In 2007 only 40% of Canadians with chronic disease reported receiving reminders when they were due for preventive care or follow-up care for their condition, with this proportion dropping to 29% for those without a 'medical home' (defined as having a regular physician or place of care that is easy to contact, knows the patient's medical history, and helps co-ordinate care).(29) This proportion was lower than in any of six

comparator countries: U.S. (70%), the Netherlands (58%), U.K. (58%), Germany (57%), New Zealand (48%) and Australia (44%).(29)

### **Current health system arrangements aren't ensuring optimal access to primary healthcare**

A range of **delivery arrangements** aren't ensuring optimal access to any form of primary healthcare:

- only 91% of Canadian adults reported in 2008 that they had a regular place they usually go to if they are sick or need advice about their health, which suggests that many Canadians still do not have a regular primary healthcare provider;(13)
- 13% of Canadian adults who required routine or ongoing care in the preceding 12 months reported in 2008 they had difficulty getting it;(13)
- 33% of Canadian adults reported in 2010 that the last time they were sick or needed care, they had to wait six or more days for a doctor's appointment, which was the highest percentage among the 11 high-income countries being studied;(30)
- roughly the same percentage (34%) of chronically ill Canadian adults reported in 2008 that the last time they were sick or needed care, they had to wait six or more days for a doctor's appointment, which was the highest percentage among the eight high-income countries being studied;(25) and
- 65% of Canadian adults reported in 2010 that they found it somewhat or very difficult to obtain care after hours, which was the second highest percentage among the same group of countries (and almost exactly twice as high a percentage as in the Netherlands).(30)

Existing delivery arrangements also aren't consistently ensuring access to primary healthcare teams that include nurse practitioners as core members of the team, despite emerging evidence that interprofessional primary healthcare teams improve patient outcomes, provider outcomes and organizational outcomes.(31) Twenty-seven percent of Canadian adults with a regular doctor or place of care reported in 2008 that there was a nurse regularly involved in their care.(13) 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.(25)

Moreover, existing delivery arrangements also typically don't position primary healthcare teams led by nurse practitioners as a mechanism to improve access to primary healthcare, and none position them as a way to enhance choice within the healthcare system. Ontario is one notable exception in having established or signalled the intent to establish 26 nurse practitioner-led clinics to improve access to primary healthcare.(7) In these clinics a new model of care is implemented in which nurse practitioners work in collaboration with physicians and other members of an interprofessional team to provide comprehensive, accessible, coordinated primary healthcare services to a defined population in areas where there are high numbers of patients who do not have a regular primary healthcare provider.(32) Physicians remain very active in such clinics, but more often in an advisory and consulting role than as the primary front-line care provider. A second notable exception is Manitoba where the establishment of nurse practitioner-led quick-care clinics was announced as part of a strategy to improve access to primary healthcare, and where five clinics will be piloted in 2011.(33) We are not aware of any Canadian jurisdiction that has positioned nurse practitioner-led clinics as a way to enhance choice within the healthcare system.

Existing **financial arrangements** contribute to the sub-optimal access to and functioning of: 1) primary healthcare teams that include nurse practitioners as members of the team; and 2) nurse practitioner-led primary healthcare teams. Beginning with primary healthcare teams that include nurse practitioners as members of the team, a key challenge associated with existing financial arrangements in some jurisdictions is the lack of a stable funding pool to fund the teams in which they work (which could include team-based performance incentives), or to remunerate directly and support the nurse practitioners working in these teams.(2;33;34)



The lack of a stable funding pool can lead to a mismatch between the small number of funded positions available on the one hand,(35-37) and the larger number of nurse practitioners becoming licensed to practice (which increased from 943 in 2005 to 1,990 in 2009) on the other hand,(34;35) as well as to cumbersome processes that need to be followed by groups applying for a funded nurse practitioner position. Moreover, the lack of a stable funding pool creates significant uncertainty for current and future nurse practitioners.(2;36) The British Columbia government's decision to not renew the three-year demonstration projects that had introduced government-salaried nurse practitioners into fee-for service practices in the province,(37) despite promising interim evaluation results (in terms of increased patient access to care and high patient and provider satisfaction),(7;38) is an example of how nurse practitioners' fates can rise and fall in ways that physicians' fates tend not to.(37)

Flowing funding through physicians rather than to a team can lead to sub-optimal team dynamics. For physicians remunerated using a fee-for-service mechanism, which remains the predominant remuneration mechanism in Canada,(9) a government-paid nurse practitioner would reduce the volume of patients requiring medical services while also increasing the complexity of those who do need services, the net effect of which is likely to be a reduction in physicians' incomes and hence unhelpful competition within the practice.(36) For physicians paid using a blended remuneration mechanism, the potential for an income reduction may be lower,(39) however, the likelihood of truly collaborative teams could be low if one team member is perceived to be 'more equal' than the others, and can receive incentive payments for work performed by another team member, as is arguably the case with (for example) Ontario's Family Health Teams.(40) Some medical associations have argued that a move from a single practitioner or group physician model to an interprofessional care model would be difficult, time-consuming and expensive for physicians (and hence require significant one-time transition funding), and that physicians would be left with more complex and time-consuming care after the transition (and hence require a different form of post-transition funding).(41) Such associations sometimes express concern about entering into collaborative arrangements with nurse practitioners if such funding arrangements have not been negotiated and guaranteed,(42) which brings us back to the issue of the lack of a stable funding pool. More recently such associations have given greater emphasis to establishing funding arrangements that support and enable physician assistants to work across the spectrum of medical care, including primary healthcare,(43) than they have to establishing similar arrangements for nurse practitioners.

The Australian government has addressed in two ways the challenge of poorly designed financial arrangements for primary healthcare teams that include nurse practitioners as members of the team: 1) it introduced changes to the fee-for-service system in 2004 to allow nurses working in primary healthcare to effectively 'bill' for specific services they provide (e.g., conducting a health assessment, creating a chronic disease management plan in collaboration with a physician, and directly providing wound care, immunization or a Pap smear), which reduces the financial barrier that physicians face when hiring a nurse, and which enabled nurses to develop their own income stream and professional legitimacy within a practice; and 2) it broadened the remuneration system to include two types of pay-for-performance incentives – service incentive payments (e.g., for completing a cycle of care for asthma or diabetes) and practice incentive payments (e.g., for hiring a nurse, having an electronic medical record, and providing after-hours care) – that can directly or indirectly support nurses working in primary healthcare.(44) One evaluation found that the probability of a primary healthcare physician conducting an HbA1c test was between 15% and 20% higher for those receiving practice incentive payments compared to those who did not.(45)

Turning now to nurse practitioner-led primary healthcare teams, the principal challenge associated with existing financial arrangements is the lack of a stable funding pool. While the Ontario government has introduced nurse practitioner-led clinics to improve access to and continuity of care in areas where a large proportion of the population is without a regular provider,(36) and an early evaluation has been positive,(7) some physicians have opposed the clinics, noting that they promote an independent practice model that is inconsistent with the principles and philosophy of collaborative practice.(46) The stability of the funding pool therefore remains perennially in doubt, although perhaps no more so than for other longer-standing primary



healthcare alternatives, such as community health centres. The Manitoba government has just begun to experiment with nurse practitioner-led quick-care clinics.(33) No other provinces or territories have moved in the direction of nurse practitioner-led clinics.

**Governance arrangements** also contribute to the lack of full integration of nurse practitioners in primary healthcare settings where they can improve the breadth and quality of services available, particularly in terms of the lack of consistency across the country in how nurse practitioners are educated and regulated.(2;34;50) Beginning with the lack of consistency in educational requirements, only about two-fifths (42%) of Canadian nurse practitioners meet the standard of a master's level nursing degree that has been set by the Canadian Nurses Association and the International Council of Nurses,(3;38;51) and that has been recommended or required in most countries.(6) To function in primary healthcare settings, two provinces (Ontario and Saskatchewan) require nurse practitioners to have both a bachelor's level nursing degree and a post-baccalaureate certificate.(47) The minimum standard that has been achieved across the country has been having a bachelor's level nursing degree and a minimum of 700 clinical hours of experience.(2;48)

The lack of consistency also extends to curriculum standards.(3;34;37;39;53-55) A review of the curriculum of nurse practitioner programs across Canada identified some commonalities in the types of courses that were included, such as health assessment, pathophysiology and management of health and disease, including prescribing.(35) It did not assess differences or commonalities in the content or methods of appraisal used in these courses. The review reported inconsistencies among educational programs in the types of core graduate theoretical courses being offered, the balance between theory and clinical experience, and program length.(35)

The lack of consistency in educational requirements translates into inconsistencies in core competencies across the country, challenges in communicating to patients and other healthcare providers what a nurse practitioner is and can do in different provinces and territories, and limitations to nurse practitioner mobility. The implication of this lack of consistency in educational standards was made more significant by amendments to chapter 7 of Canada's Agreement on Internal Trade, which were passed in 2009.(49) 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.(49)

Turning now to the lack of consistency in regulation, over the last two decades provinces and territories have each developed their own legislation and regulations to establish and support the nurse practitioner role in primary healthcare settings, however, the details often vary across jurisdictions.(50) While all provinces and territories now protect the title 'nurse practitioner,' there is some variation in the regulated scope of practice of nurse practitioners across provinces and territories.(47) Moreover, although most provinces and territories require entry-level nurse practitioners to complete an examination to qualify for licensure and/or registration, the jurisdictions differ with respect to the nature of the examination, with nine of 13 provinces and territories using the Canadian Nurse Practitioner Examination and others using examinations approved by their province.(47) Australia is an example of a country that undertook the significant task of harmonizing the regulatory system for nurse practitioners across eight states and territories, albeit in the context of a larger effort focused on 10 professions and at the national level (which would not be possible in Canada given how healthcare is an area of provincial and territorial jurisdiction).(6)

While not a regulatory issue per se, there is a governance dimension to the current lack of a human resource planning process that includes nurse practitioners, and that matches population health needs to what types of healthcare providers are needed to provide the services that meet those needs. As pointed out earlier, there has frequently been a mismatch between the small number of funded positions available in Canada and the number of nurse practitioners becoming licensed. Moreover, increased medical school enrolment, efforts to enhance the attractiveness of primary healthcare to medical students choosing a residency program, and the emergence of physician assistants have further complicated the human resource planning landscape.

### **Equity-related observations about the problem**

A number of features of the lack of full integration of nurse practitioners in primary 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 socioeconomic status or 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 OF AN APPROACH TO ADDRESSING THE PROBLEM**

There is extensive research evidence on the challenges facing the primary healthcare sector and of integrating 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 nurse practitioners in primary 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.(2)

The three elements include: 1) launch a multi-stakeholder strategic planning initiative to address the integration of nurse practitioners in primary healthcare settings in Canada; 2) support consistency in educational and regulatory standards, requirements and processes for nurse practitioners across the country; and 3) launch an information/education campaign to raise awareness about how a number of innovations (one being the integration of nurse practitioners in primary healthcare) could better meet patient needs in primary 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 2).(2) (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 nurse practitioners and clinical nurse specialists separately, or for primary healthcare and acute care settings separately. However, the three elements that are described in the sub-sections that follow have been operationalized for nurse practitioners in primary 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](http://www.healthsystemsevidence.org)). The reviews were identified by searching the database for reviews addressing features of the elements (first with 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 2: Stakeholder recommendations about how to address the integration of advanced practice nursing, including nurse practitioners in primary healthcare settings, in Canada**

<b>For the nursing community (and partners):</b>
1. Create a vision statement that clearly articulates the value-added role of advanced practice nursing across settings.
<b>For senior decision-makers (policy and practice):</b>
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.
<b>For educators:</b>
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.
<b>For researchers and research funders:</b>
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: (2)

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

This option involves launching a multi-stakeholder strategic-planning initiative to address the integration of nurse practitioners in primary 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 nurse practitioners in primary healthcare settings in Canada, are both essential steps towards strengthening primary 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 dedicated funding could initially be a stable funding pool for nurse practitioner positions in primary healthcare, and later a stable funding pool for education, 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 to 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 primary healthcare or improving access to high-quality primary healthcare rather than (only) addressing the integration of a particular healthcare provider in primary healthcare settings. Third, the re-negotiation of the Canada Health Accord, which is due to expire in 2014, provides one key window of opportunity for this initiative.

## **Element 2 – Support consistency in standards, requirements and processes**

This element involves supporting consistency in educational and regulatory standards, requirements and processes (particularly standards) for 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 and regulatory standards, which hinders efforts within and across provinces and territories to integrate nurse practitioners in primary healthcare settings (and which significantly limits nurse practitioners' mobility), is an essential step towards strengthening primary healthcare in Canada. Enhancing interprofessionalism can also be seen as an essential step. The process for getting greater consistency would presumably involve convening provincial educational and regulatory organizations from across the country, and these organizations voluntarily working together to enhance consistency. The Canadian Association of Schools of Nursing has established a task force to move towards this goal and its work is being informed by the Canadian Nurse Practitioner Core Competency Framework.<sup>(1)</sup>

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 review 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 has been achieved in Australia and the U.S., where a master's degree is now required by nurse practitioners,<sup>(6)</sup> and consistency in regulatory standards for nurse practitioners has been achieved in some jurisdictions within and outside Canada, such as Australia, in the context of a legislative effort targeted at 10 professions.<sup>(6)</sup> Third, amendments to chapter 7 of Canada's Agreement on Internal Trade, which were passed in 2009,<sup>(49)</sup> 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.<sup>(49)</sup> 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 nurse practitioners), 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.<sup>(49)</sup>

### 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. 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 of the value-added role of nurse practitioners in primary healthcare settings as the recommendation suggested (and as the Canadian Nurses Association is planning), or it could focus on raising awareness of how a number of innovations (one being the integration of nurse practitioners in primary healthcare) could better meet patient needs by improving access to or quality of primary healthcare. The latter would permit a collaborative approach to the planning, funding and implementation of the campaign that involves a number of health professions and not just nurse practitioners. Either way the campaign could be targeted at the general public and at health professionals and health system decision-makers.

The rationale for this element is that many Canadians' primary healthcare needs are not being met (or are not being met optimally), and that many Canadians are not aware that nurse practitioners can provide care that is as safe and effective as the primary healthcare physicians that they know so well, and that they can work in partnership with physicians. 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 regional health authority managers and provincial government policymakers) may be similarly unaware of how innovations such as the integration of nurse practitioners in primary 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.<sup>(51)</sup> 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.<sup>(52)</sup> 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.<sup>(53)</sup>

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.<sup>(54)</sup>

A summary of the key findings from the synthesized research evidence is provided in Table 3. For those who want to know more about the systematic reviews contained in Table 3 (or obtain citations for the reviews), a fuller description of the systematic reviews is provided in Appendix 1.

**Table 3: 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"> <li>Traditional media                             <ul style="list-style-type: none"> <li>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.(52)</li> <li>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.(53)</li> </ul> </li> </ul>
Potential harms	<ul style="list-style-type: none"> <li>Not addressed by any identified systematic reviews</li> </ul>
Costs and/or cost-effectiveness in relation to the status quo	<ul style="list-style-type: none"> <li>Not addressed by any identified systematic reviews</li> </ul>
Uncertainty regarding benefits and potential harms (so monitoring and evaluation could be warranted if the option were pursued)	<ul style="list-style-type: none"> <li>Uncertainty because no systematic reviews were identified                             <ul style="list-style-type: none"> <li>New media                                     <ul style="list-style-type: none"> <li>No reviews were identified that addressed this element of the option</li> </ul> </li> <li>Directly engaging government officials                                     <ul style="list-style-type: none"> <li>No reviews were identified that addressed this element of the option</li> </ul> </li> </ul> </li> <li>Uncertainty because no studies were identified despite an exhaustive search as part of a systematic review                             <ul style="list-style-type: none"> <li>Not applicable (i.e., no empty reviews were identified)</li> </ul> </li> <li>No clear message from studies included in a systematic review                             <ul style="list-style-type: none"> <li>Not applicable (i.e., no reviews were identified that identified a lack of clear message)</li> </ul> </li> </ul>
Key elements of the policy option if it was tried elsewhere	<ul style="list-style-type: none"> <li>Not addressed by any identified systematic reviews</li> </ul>
Stakeholders' views and experience	<ul style="list-style-type: none"> <li>Not addressed by any identified systematic reviews</li> </ul>



## 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 4.

The biggest barriers are likely at the level of professionals because a large, generally well regarded and very well resourced professional group (physicians and their associations) has historically not supported, and in some cases has actively resisted, integrating nurse practitioners in primary healthcare settings, although this appears to be changing in some provinces (such as Ontario). Patients are likely to pay attention only to element 3, and any information/education campaign runs the risk that it will not engage (and may even alienate) those patients that perceive that they are currently well served by their primary healthcare physicians. Primary healthcare organizations do not at this time represent a countervailing force to professional associations. Provincial/territorial regulatory and educational organizations, as well as provincial/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 4: Potential barriers to implementing the elements**

Levels	<b>Element 1</b> – Launch a multi-stakeholder strategic-planning initiative to address the integration of nurse practitioners in primary healthcare settings in Canada	<b>Element 2</b> – Support consistency in educational and regulatory standards, requirements and processes for nurse practitioners across the country	<b>Element 3</b> – Launch an information/education campaign to raise awareness about how a number of innovations (one being the integration of nurse practitioners) could better meet patient needs in primary healthcare settings
<b>Patient</b>	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 in light of what patients are used to and for patients not well served through existing arrangements  Competition among advocacy campaigns for the attention of the broader public
<b>Professional</b>	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
<b>Organization</b>	Primary healthcare organizations have only a nascent ability to represent themselves collectively, contribute meaningfully to the initiative, and support its implementation	Primary healthcare organizations have only a nascent ability to represent themselves collectively, contribute meaningfully to the effort and support its implementation  Educational and regulatory organizations are primarily province-/territory-focused and rely on committed individuals to champion efforts to ensure greater consistency across the country	Primary healthcare organizations have only a nascent ability to represent themselves collectively and contribute meaningfully to planning, funding and implementation of a campaign

<b>System</b>	Existing countrywide forums (e.g., Federal, Provincial and Territorial Advisory Committees, Health Accord negotiations) do not have the mandate or resources to sponsor such an initiative  Existing province-/territory-specific planning forums (e.g., joint management committees) and funding mechanisms (e.g., provincial health insurance plans) give a greater voice and more resources to physicians compared to nurse practitioners and other primary healthcare providers	Existing countrywide forums (e.g., regulatory associations) do not have the mandate or resources to sponsor such an effort  Provincial governments may resist efforts to increase consistency in an area of provincial jurisdiction	Existing countrywide forums (e.g., Health Council of Canada) do not have the mandate or resources to sponsor such a campaign  Provincial 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)
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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 countrywide forum (possibly using the lens of interprofessional teams), and finding ways to support the maturation of associations representing primary healthcare organizations (and a voice for a broad range of primary healthcare providers in these associations, including nurse practitioners), are two such strategies worth considering.

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## 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(52)	<ul style="list-style-type: none"> <li>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.</li> </ul>	1999	8/11 (AMSTAR rating from <a href="http://www.rxfchange.ca">www.rxfchange.ca</a> )	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(53)	<ul style="list-style-type: none"> <li>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.</li> <li>No long-term effects were seen on mass media interventions for promotion of HIV testing.</li> <li>There was no significant impact of detecting seropositive status after mass media intervention for promoting HIV testing.</li> <li>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.</li> <li>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.</li> </ul>	2004	11/11 (AMSTAR rating from the Ontario HIV Treatment Network)	1/35	0/35	0/35