Strengthening Primary Health Care through Primary Care and Public Health Collaboration
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http://fhs.mcmaster.ca/nursing/documents/knowledge_exchange_activities_and_training.pdf
KEY MESSAGES FOR DECISION-MAKERS

- Interest in collaboration between Primary care (PC) and Public Health (PH), and how it can improve the health of populations and quality and effectiveness of health care systems, has grown substantially over the past four years.
- Evidence supports the benefits of collaboration between PC and PH in the following areas: maternal-child programs; communicable disease prevention and control; health promotion and health protection; chronic disease prevention and management; youth health; women’s health; and working with vulnerable populations.
- Collaboration between PC and PH increases accessibility to health promotion and illness prevention programs and services, and decreases the cost of immunization programs through reduced wastage.
- Social ecological theory, upon which our conceptual framework for collaboration is based, would suggest that determinants of collaboration at one level of the framework can enhance or suppress determinants at another level (systems, organizational, interpersonal, and intrapersonal levels).
- When developing strategies to facilitate collaboration, we not only need to base strategies on factors from various levels of the framework, but we need to do this in an integrated way. The effectiveness of collaboration will be increased when actions are coordinated across the levels of influence in the ecological framework.
- For collaboration to be successful, it is important for PC and PH to have clearly articulated and well understood separate and shared mandates within the healthcare system.
- Collaboration between PC and PH is facilitated when the vision and goals are jointly determined and systematically communicated across all levels, from executive directors to senior managers to front-line practitioners.
- More formalized approaches, including policies, are needed to support and endorse collaboration between PC and PH, so that collaboration is a deliberate action rather than one that occurs on an ad hoc basis.
- Organizational cultures that have inclusive, transparent communication and decision-making processes can support collaboration.
- Collaboratively developed work plans that incorporate a mix of population and individual approaches can work synergistically to address local community health needs.
- Champions to initiate and sustain collaboration need to be identified and supported at system, organizational, and interpersonal levels.
- Specified financial, information, material, space and human resources need to be allocated, reallocated or shared to initiate as well as to maintain collaboration.
- Investments in shared information technologies across health sectors should include PC and PH particularly with respect to immunization, well-child care, and aspects of chronic disease prevention and management.
- Fee-for-service remuneration can deter healthcare providers such as family physicians and family practice nurses from participating in collaboration. Compensation models need to be considered that support PC physicians and nurses in collaborative work.
- Educational institutions and accreditation bodies can influence the preparation of professionals for collaboration between PC and PH.
- Ongoing evaluation of collaborations is important to ensure an effective continuous quality improvement process.
Executive Summary

A primary health care-based health system ensures universal coverage and access to services that are both equity-enhancing and acceptable to the population. It is widely believed that primary health care systems can be enhanced by building stronger collaborations between primary care (PC) and public health (PH) sectors.\(^1\) A recently released report from the Institute of Medicine in the U.S. states that "the integration of primary care and public health could enhance the capacity of both sectors to carry out their respective missions and link with other stakeholders to catalyze a collaborative, intersectoral movement toward improved population health".\(^2\) (p. 1)

The objectives of this four-and-a-half year program of research were to: explore structures and processes required to build successful collaborations between PC and PH; understand the nature of existing collaborations in Canada; and, examine roles that nurses and other providers played in collaborations. The research team represents academic researchers and decision-makers from British Columbia (BC), Ontario (ON) and Nova Scotia (NS), as well as national leaders in PC and PH. By gaining a stronger understanding of the nature of existing collaborations and the structures and processes that support and hinder their success, this program of research has begun to answer how to create and enhance future PC and PH collaborations.

Five distinct and consecutive research projects, noted in Table 1, formed this program of research. The projects varied in the main questions being addressed and in the research methods and data sources being used. The use of multiple methods and sources increased the rigour of the research as each successive project validated the previous study results, added new information, and identified gaps to be addressed in the next project.

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<th>Design</th>
<th>Sample</th>
<th>Approach</th>
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<td>1. What is known from the literature about: nature, structures and processes required to build successful collaborations between public health (PH) and primary care (PC); outcomes of PC and PH collaborations; and markers of successful collaboration</td>
<td>Scoping literature review (including papers between January 1988 to May 2008)</td>
<td>The search strategy yielded a total of 6,125 papers. Of these, 114 were included.</td>
<td>Established methods for a scoping literature review were used</td>
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<td>2. Gathering baseline information about the provincial contexts of PC and PH that could contribute, positively or negatively, to PC and PH collaboration</td>
<td>Three Provincial Environmental Scans: British Columbia (BC), Ontario (ON), and Nova Scotia (NS)</td>
<td>PC and PH sectors in the provinces of BC, ON and NS</td>
<td>Key informant consultations; published and grey literature searched</td>
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<tr>
<td>3. Canadian key informant perceptions of structures and processes that have influenced and/or could influence collaboration between PC and PH and the nature of existing collaborations</td>
<td>Interpretive Descriptive Study</td>
<td>74 PC and PH key informants (17 direct service providers, 14 senior program managers, 11 executive officers, 10 middle managers)</td>
<td>Interviews</td>
</tr>
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</table>
4. Identifying common viewpoints held by key stakeholders in Canada regarding PC and PH collaboration

| Q-Sort methodology | 25 researchers, policy-makers, directors and managers, and providers representing federal agencies and institutions from BC, ON and NS | Q-Sort activity: Participants sorted 44 statements informed by Study 3 according to their level of agreement |

5. Develop a stronger understanding of the nature of existing collaborations in depth and from multiple sources. Validate the factors influencing collaboration that were identified from the key informant interviews as well as potentially reveal new factors.

| Multiple case study | 10 case studies: 4 in ON including a pilot; 3 each in BC and NS | Interviews, Focus groups, Photovoice, Document analysis |

The culmination of this work has resulted in the development of an ecological framework that represents the nature of collaboration and factors that can influence the development and maintenance of successful collaborations. The nature of collaboration—which is found at the core of the framework—is the structure and context around which the collaboration is formed. It includes the organizational structure, the players, and the activities conducted in the collaboration, as well as the ways that players work together within the context of their environment. The ways of working together in a collaboration ranges on a continuum.

Himmelman's conceptualization of collaboration has captured the ways of working together in a collaboration, which includes: networking (exchanging information for mutual benefit); coordination (exchanging information and altering activities for mutual benefit and to achieve a common purpose); cooperation (exchanging information, altering activities, and sharing resources for mutual benefit and to achieve a common purpose); and collaboration (exchanging information, altering activities, sharing resources, and enhancing the capacity of another for mutual benefit and to achieve a common purpose). As Himmelman explains, none of these ways of working are more important than the other; rather, each strategy is more or less relevant, depending on the context of the work that needs to be done.

Results from our key informants indicated that all ways of working together can be found in collaborations, and they can evolve over time and as the needs which precipitated the development of a collaboration change or are met. The success of the collaboration at its core can be greatly influenced by the factors at the systemic, organizational, interpersonal and intrapersonal levels. Adding to the complexity of understanding successful PC/PH collaborations, these factors influence one another within and between levels. More analysis is currently being conducted to identify the relationships between these factors and their impact on the core and the success of the collaboration. Further, since collaborations evolve over time, a cross-cutting factor of research and evaluation of collaboration outcomes and processes has been added to the framework. Research and evaluation processes in a collaboration can help ensure that collaborations are maintained and adjusted as needed to be effective. The ecological framework can be found on page 41 in the report.
Overview of the Program of Research

A primary health care-based health system ensures universal coverage and access to services that are acceptable to the population and equity-enhancing. It is widely believed that primary health care systems can be enhanced by building stronger collaborations between public health (PH) and primary care (PC) sectors, which will lead to better integration of systems and ultimately improved health outcomes.

In this four-and-a-half-year program of research, we explored structures and processes required to build successful collaborations between PC and PH at the systemic, organizational and interactional levels. The research team represents academic researchers and decision-makers from British Columbia, Ontario and Nova Scotia, as well as national leaders in PC and PH. By gaining a better understanding of structures and processes that support and hinder the development and maintenance of successful collaborations, and the extent to which and in what settings they exist, this program of research begins to answer how to create and enhance collaborations between these sectors. Our program of research is also committed to supporting the training of health services and policy researchers through the active involvement of graduate students, as well as the development of training materials focused on collaboration.

We took a socio-ecological perspective in our approach, guided by an evolving framework by San-Martín-Rodríguez et al.\(^6\) that identifies three determinants for collaboration. These include: systemic determinants (outside the organization) in the environment where the collaboration takes place; organizational determinants (conditions within the organization); and interactional determinants (interpersonal interactions between team members).

Researchers from across BC, ON and NS representing PC and PH participated in five projects that made up our program of research. Our research objectives were to explore structures and processes required to build successful collaborations between PC and PH, to understand the nature of existing collaborations in Canada, and to examine roles that nurses and other providers played in collaborations.

Definition of Terms

In our program of research we differentiated the terms “primary healthcare” and “primary care,” as have others.\(^7\)^8 Primary healthcare is a broad term conceptualizing an approach to health policy and service provision to individuals and populations that includes health services provided by both PC and PH. Definitions of primary healthcare, primary care, public health, collaboration and partnership that were used to conceptualize this program of research can be found in Table 2.

<table>
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<th>Table 2: Definition of Terms</th>
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<td><strong>Primary Health care</strong></td>
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<td><em>As per the definition from the Alma Ata Declaration(^7), we defined Primary Health care as: “…essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self reliance and self-determination. It forms an integral part both of the country’s health system, of which it is the central function and main focus, and of the overall social and economic development of the community. It is the first level of contact of individuals, the family and community with the national health system bringing health care as close as possible to where people live and work, and constitutes the first element of a continuing health care process. Primary health care services are provided by adequately remunerated health personnel and are directed to the health of the community as a whole. To that end, special emphasis is given to preventive health care, including health education and nutrition, immunization, child development, antenatal care, and the treatment of common diseases.</em>&quot; (^8)</td>
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has been used to describe both a philosophical approach to care delivery and differentiates the types of health services delivered. It can encompass various social institutions, different sets of scientific and professional disciplines and technologies, and different forms of practice.” ⁹ (p.1)

Primary care
Primary care can be considered one of primary health care’s core services. We used Barbara Starfield’s definition of primary care.⁸ She defines the key features of primary care as being: “the first point entry to a health care system; the provider of person-focused (not disease-oriented) care over time; the deliverer of care for all but the most uncommon conditions; and the part of the system that integrates or co-ordinates care provided elsewhere or by others.”

Public health
Similar to primary care, public health can also be considered one of primary health care’s core services. As per the Public Health Agency of Canada, we defined public health as: “...an organized activity of society to promote, protect and improve, and when necessary, restore the health of individuals, specified groups, or the entire population. It is a combination of sciences, skills, and values that function through collective societal activities and involve programs, services, and institutions aimed at protecting and improving the health of all people. The term ‘public health’ can describe a concept, a social institution, a set of scientific and professional disciplines and technologies, and a form of practice. It is a way of thinking, a set of disciplines, an institution of society, and a manner of practice. It has increasing number and variety of specialized domains and demands of its practitioners [and] increasing array of skills and expertise”¹⁰ (p.13)

Collaboration
We used the Public Health Agency of Canada definition of collaboration: “a recognized relationship among different sectors or groups, which is formed to take action on an issue in a way that is more effective or sustainable than might be achieved by the public health sector acting alone.” ¹⁰ (p. 9)

Partnerships
As per the Public Health Agency of Canada core competency document, partnerships were defined as “... collaboration between individuals, groups, organizations, governments or sectors for the purpose of joint action to achieve a common goal. The concept of partnership implies that there is an informal understanding or a more formal agreement (possibly legally binding) among the parties regarding roles and responsibilities, as well as the nature of the goal and how it will be pursued.”¹⁰ (p.12)
Studies Within the Program of Research

Study 1: A scoping literature review of primary care and public health collaboration

Context:
Worldwide, health systems are struggling to determine the best ways for PC and PH to collaborate.\(^1\) Health Canada’s report “Canadian Public Health and Primary Health Care Workshop” stated that, since examples of successful collaborations between PC and PH exist, future research needs to document what has worked and lessons learned.\(^11\)

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<th>Purpose of the Literature Review:</th>
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<td>To determine what is known from existing primary studies, literature reviews and descriptive accounts about:</td>
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<td>• structures and processes required to build successful collaborations between PC and PH</td>
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<tr>
<td>• outcomes of collaborations between PC and PH, and</td>
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<tr>
<td>• markers of successful collaboration between PC and PH.</td>
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Implications
• Policy discussions should occur with governments to determine implications for building PC and PH collaborations with the aim of improving health outcomes.
• Collaboration appears to be one way of addressing the determinants of health. In the absence of solid evidence supporting any collaborative activities, the type of activities revealed in the review appear to be appropriate and are likely to have a positive impact on healthcare services and health outcomes.
• Important activities included in collaborations that should be considered include: population health needs assessments; promotion of evidence-based practice; educational initiatives; developing information systems for joint work; social marketing; community activities including community engagement; management functions and team activities to strength team work; and quality assurance.
• For those considering PC and PH collaborations, it is important to facilitate practitioners to “buy in” to collaboration. It must be perceived to be of benefit for each sector professionally and of benefit to the clientele that they serve.
• There is a need to develop a collaboration framework building on existing primary healthcare models and frameworks.

Approach
Our approach followed established methods for a scoping literature review.\(^2,3\) Consistent with these methods, we did not evaluate the methodological quality of studies. The search strategy involved: i) an electronic database search; ii) a web site search; iii) a hand search of relevant journals; iv) key informant contacts; and v) a search of reference lists of literature reviews on the topic. To ensure healthcare system comparability and applicability of research findings, we focused our literature review on papers that were about collaboration between PC and PH in North America, Europe, Australia, and New Zealand, and that were published between 1998 and May 2008. Data from all abstracted papers were coded using NVivo version 8 and themes were identified. The coding structure was based on the research questions, and developed by the lead investigator with a co-investigator in consultation with
the research team. Team meetings with co-investigators, decision-makers, research associates and project staff were held to obtain perspectives on emerging themes. A paper outlining the methods in much more detail has been published.12

**Results**
The combined search strategy yielded a total of 6,125 papers. Of these, 114 met the inclusion criteria. The number of papers on PC and PH collaboration has grown steadily since the mid- to late-1990s, with the largest growth having taken place since 2003. The majority of papers originated from the United Kingdom (n=43) and the United States (n=39). Canada ranked third (n=22). By far the most common type of paper was a descriptive report of collaboration (n=41). Thirty four papers were research studies, which most often reported on cross sectional surveys, mixed methods or qualitative methods. Program evaluations (n=25) were also often reported. Seven literature reviews were identified on this topic.

Below are highlights of the major findings. Further details are available from this scoping literature review in a publication.13

**Major precipitators of collaborations** included:
- Values and beliefs, such as belief in the value of collaboration, prevention, health promotion
- Nursing and medicine faculties’ desires to plan service initiatives
- Need to change and broaden medical and nursing education in response to changing health needs and professional roles
- Government mandated development of teams/partnerships, and healthcare systems reforms
- Trends to collaborate

**Key health issues being addressed by collaborations** included:
- Biomedical issues – commonly chronic diseases and communicable disease control including immunizations
- Behavioural issues – smoking cessation, screening and other preventive activities
- Socio-environmental issues – poverty, community development and disaster response planning
- Access to healthcare for underserved or vulnerable populations

**Activities carried out in collaborations** included: community engagement and development; joint health promotion; health education and prevention initiatives; provision of health services; sharing of information systems; social marketing and communication; development of evidence-based tools; advisory and steering committee functions; completion of needs assessments; quality assurance and program evaluations; support of teamwork and joint management activities; and the development and implementation of professional and academic educational initiatives.

**Major barriers for collaboration at a systems level** included policy, funding, power and control issues, and information infrastructure. Highlights included:
- Healthcare reform where national priorities take precedence over local priorities and where reform causes uncertainty with how PC and PH sectors would function within newly created structures and governance processes.
- A lack of stable funding, versus intermittent or one-off funding, for collaborative projects.
- Separate entrenched bureaucracies for PH and medical services.
- Lack of an information structure (e.g. integrated surveillance system) limiting the ability to adjust practice to the underlying risk of populations and to share and compare data.
Lack of population health needs assessments, relevant clinical data, and an evidence base for health promotion and cost-effective PH interventions, including effectiveness of collaborations.

**Major facilitators for collaboration at a systems level** included government involvement and fit, funding, and education and training. Highlights included:
- Government involvement including the “fit” of supports for collaboration between PC and PH, and the endorsement of the value and benefits of collaboration in the community.
- Relevant policy development (e.g. the reorganization of fiscal and structural resources).
- Technical, informational and financial support to teams for the purpose of promoting integration, such as adequate funds for administrative functions and project implementation.
- Sustained government funding.
- Pooling and sharing of resources and volunteer/in-kind contributions.
- Professional education emphasizing a “system-wide” approach for working collaboratively and training in public health work.

**Major barriers for collaboration at an organizational level** included lack of a common agenda, resource limitations, and a lack of knowledge and skills. Highlights included:
- Lack of a common agenda or vision as well as dominating and competing agendas.
- Divergent focus of sectors (e.g. individuals and short-term results in PC versus populations and long term outcomes in PH) and devaluing of key PH activities.
- Deterrents to buy-in from PC, including physician workload issues, lack of joint planning and challenges with multiple stakeholder engagement.
- Role confusion in PH, and overall lack of clarity and variation in PH roles between sites.
- Resource limitations, including human (resources for team building and change management), time (required for community mobilization or evaluation), and financial and space resources.
- Lack of knowledge and skills, including management capabilities to manage diverse teams, and deficiencies in expertise related to PH skills in PC.

**Major facilitators for collaboration at an organizational level** included leadership management and accountability issues, geographic proximity of partners, and protocol tool and information sharing. Highlights included:
- Leadership development of community-based committees or boards with diverse membership to facilitate joint planning.
- Involvement of multi professionals.
- Structures and processes that support team communication, autonomy, minimizing of competition, and opportunities for nurses and NPs to function at their full scope of practice.
- Contractual agreements, parallel reporting and common governance structures.
- Use of a standardized, shared system for collecting data and disseminating information, and linked electronic records to support effective interdisciplinary care.
- Shared protocols for multi-disciplinary, evidence-based practice and quality assurance; strategies, and processes of care.
- Disseminating information and evidence-based toolkits and decision support tools.

**Major barriers for collaboration at an interactional level** included attitudes and beliefs, and relationship challenges. Highlights included:
- Stereotypical views of PC and PH roles and a lack of trust or belief in the value of PH activities.
- Resistance to change and refusal to participate in planned activities.
• Lack of understanding of PH roles and interdisciplinary teamwork.
• Competing priorities and agendas.
• Poor rapport between PC and PH and communication issues.

Major facilitators for collaboration at an interactional level included role clarity, shared purpose, philosophy and identity, developing and maintaining good relationships, effective communication, and decision-making strategies. Highlights included:
• Clear roles and responsibilities for all partners.
• Better knowledge of each other’s roles, skills and agencies, which enhanced the speed and nature of decision-making among teams.
• Positive relationships including trust, tolerance and respect of partners.
• Effective team communication including regular staff meetings, involvement of the whole team, consensus-building and joint planning, and listening to community partners.

Markers of Successful Collaboration
Indications of successful collaboration were sparse and tended to be broad, such as new and sustained programs; improved access to health services; improved health-related outcomes; health-related knowledge, attitudes and/or behaviors; team work; and increased capacity and expertise.

Outcomes of Successful Collaboration between PC and PH
The benefits of successful collaboration differed for each partner. Healthcare system outcomes included improved population health and public health approach, funding and resource enhancements, health delivery improvements, improved healthcare delivery process, and new program development and innovation. Health professional outcomes included improvements with partnerships and team functioning, health professional development, and educational improvements. A wide range of health benefits for individuals and populations were also reported in the literature.

Some negative outcomes were also reported. These included anxiety related to skills mix required for nursing, fear of being marginalized in integrated teams, few gains in behavioral risk factor reduction, little opportunity for nurses to discuss patients with physicians, PH skills were spread too thin, and modest gains overall. Risks included the expense of supporting collaborations, the loss of time with patients as more time is needed to collaborate and the loss of critical mass of PH staff, and expertise with dispersion across Primary Care Trusts.

Future Research
Based on the results of the scoping literature review, it was evident that more research and program evaluation is vital to the development of the science of collaboration. Future research needs to:
• use rigorous designs to evaluate the effect and demonstrate the value of collaborations
• identify what models of collaboration work best for various health issues
• explore the collaboration among PC and PH nurses
• search for commonalities of barriers and facilitators of collaborations across similar types of collaborations, or across collaborations conducted for similar purposes
• investigate the risks and costs to collaboration
• develop indicators of successful collaboration.
Study 2: Three Provincial Environmental Scans

Context:
Three environmental scans related to PC and PH, which included information up to May 2009, were completed in BC, ON, and NS in order to get a baseline understanding of each province and also to assist the research team as well as decision-makers to learn about a sector in which they may not have much familiarity. The purpose of the environmental scans was to provide up-to-date information about the provincial context of PC and PH that could be contributing, either positively or negatively, to their integration and/or collaboration. The scans were also intended to help identify where collaboration may or may not make sense and where there were opportunities within existing provincial structures that could build collaboration. In each province, investigators reviewed the grey literature, including various service delivery plans (e.g., health authority, Health Ministry), reports, and websites. Interviews were conducted working with decision-maker partners. Data were examined for structures and processes that could either support or create barriers to PC and PH collaboration.

Implications:
• Common to all the environmental scans, registered nurses made up a significant proportion of the workforce in both PC and PH. Given nurses’ educational training related to teamwork with others and within nursing, together with the large numbers of nurses working in PC and PH, they are an obvious health human resource to be deployed to strengthen collaboration where it makes sense.
• Different PC and PH funding structures, and underfunding of resources for creating environments conducive to collaboration, are barriers.
• Interprofessional training where healthcare professionals learn to work with each other, and in particular, across sectors currently does not exist in BC, ON, or NS and needs to be strengthened.
• Directors and Managers in PC and PH are strongly encouraged to provide more clinical placement learning opportunities in their workplace settings for students from all health professions.
• Policy-makers need to look at ways to provide compensation for supporting education, particularly in PC settings.

Results:
BRITISH COLUMBIA: With the exception of some dual provider functions such as immunization, screening and treatment for sexually transmitted infections (STIs) or HIV, prenatal and well baby care, and chronic disease prevention, PC and PH were mainly delivered by different sectors of the healthcare system. There are structures in BC that can enhance collaboration between PC and PH:
• Health authority structures, and now Divisions of Family Practice, can promote or encourage integration between PC and PH. The Ministry of Health is actively encouraging integration of primary and community care as one of its “Key Results Areas.”
• Organizational structures already exist, such as community health centres, in which PC and PH functions are already integrated.
Challenges in BC that can create barriers to collaboration include:
• Differing funding structures, particularly fee-for-service remuneration, and variations in amounts that each health authority invests in PC and PH can create structural barriers to collaboration.
• Training of PC and PH professionals remains discipline-specific. There are no programs that create multiple and sustained opportunities for inter-professional training.

ONTARIO: Similar to BC, PC and PH in Ontario are delivered by different sectors of the healthcare system. Some dual provider functions exist, including immunization, screening and treatment for STIs or
HIV, prenatal and well-baby care, and lifestyle advice and counseling for smoking cessation, increased physical activity and improved diet. There are structures in Ontario that could enhance collaboration between PC and PH:

- The Ontario Public Health Standards provide the impetus for building local collaborations through the Foundation Standard, which promotes building partnerships and collaborations with other sectors.
- Some Community Health Centres and Family Health Teams have already built collaborations with PH. These types of models, along with nurse practitioner-led clinics, encourage interprofessional functioning and inter-organizational partnerships.
- Dietitians, with their extensive experience in training and practice in PC and PH, provide a good example of the opportunities and challenges and could make a valuable contribution to PC and PH collaboration.

Challenges in Ontario that inhibit collaboration:

- Within the provincial government, PC and PH are administered under the lead of different Assistant Deputy Ministers and under separate divisions and branches, with no formal linkages between them.
- Implementation of interprofessional training and practice among PC and PH remains poorly understood. There are no programs that create multiple and sustained opportunities for interprofessional training.
- Most physician remuneration models do not financially recognize the costs of building and maintaining collaborations. There are no funding mechanisms to hire coordinators to support building and maintaining collaborations.

NOVA SCOTIA: The environmental scan in NS revealed the same finding as BC and ON. PC and PH are delivered by different sectors of the healthcare system, with the exception of the aforementioned dual provider functions. Structures in NS that could enhance collaboration between PC and PH include:

- The establishment of the Department of Health Promotion and Protection provided a mechanism for greater emphases on prevention and health promotion, and recognition of the multiple sectors involved in this work. Moreover, there was a need for collaboration and coordination between the Primary Health Care Division in the NS Department of Health and Public Health Division in the Department of Health Promotion and Protection. Note that since the scans were completed, the Department of Health and the Department of Health Promotion and Protection merged into the Department of Health and Wellness in 2011.
- Community health centres in NS, as in other jurisdictions, are organizational structures that are promising for exploring collaboration.

Challenges in NS that inhibit collaboration:

- The concept of linkages between PH and other organizations is understandable and implementable (organization to organization). However, the same is not doable between the diffuse entity of PC and other organizations.
- PH is not considered a component of primary healthcare within the government structures of NS. Therefore, there is no structural link between PH and the PHC section in the NS Department of Health.
- There are misunderstandings of PC and PH roles among front-line staff and organizational and provincial leaders.

Common to all the environmental scans, registered nurses were found to work in both PC and PH. Given their training and numbers working in PC and PH, they could be a health human resource that could be deployed to strengthen collaboration where it makes the most sense. Different PC and PH funding structures and underfunding of resources for creating environments conducive to collaboration are
barriers. Finally, interprofessional training where health care professionals learn to work with each other and across sectors currently does not exist in BC, ON, or NS.

Future Research
As with any environmental scan, the information becomes outdated as new policy and programs are implemented. Future work could provide an update of how collaboration has changed within each province. More work is needed to examine where collaboration between PC and PH is successful and what structures could be changed if the goal was increased collaboration.

Study 3: Key Informant Interviews

Context:
The scoping literature review and environmental scans provided valuable information about PC and PH collaboration internationally and in Canada, although it was limited in providing any depth related to current collaborations in the provinces. This interpretive descriptive research study explored perceptions of key informants nationally and within BC, ON, and NS. Through face-to-face and telephone interviews, investigators explored their experiences and perceptions of the structures and processes required to build and maintain successful collaborations between PC and PH, as well as the nature of existing collaborations and roles of professionals in them. Open-ended questions were created based on a face-to-face meeting, teleconferences, and web conferencing with a core group including researchers and as many decision-makers as possible.

Research questions:
1. What do people generally hope to achieve from collaborations between PC and PH? What precipitates collaboration?
2. What factors foster and hinder collaborations between PC and PH?
3. What are markers of successful collaborations?
4. What roles could and do health care professionals play in building and maintaining collaborative relationships between PC and PH?
5. What successful collaborations currently exist between PC and PH?

Implications
• Supported by results from the scoping literature review, the health issues most often addressed in collaborations in all provinces included communicable disease control, chronic disease prevention and management, parent-child programming, youth and health promotion programs, and women’s health programs.
  - The above topics suggest where it makes sense to collaborate and where investment should be encouraged for appropriate resourcing.
  - More work is needed to study outcomes for collaborations in the above areas to validate perceptions.
• Common reasons for collaboration included providing better quality care; achieving improved methods of service delivery; reducing duplication of services; leveraging complementary approaches used in PC and PH; improving access to accurate information (e.g., updates on immunization schedules); and meeting identified community needs.
• Numerous factors acted as facilitators and barriers to collaboration at systems, organizational, interpersonal, and intrapersonal levels and relationships between these factors and within and between these levels. Therefore, the complexity of collaboration needs to be understood, along
with the importance of coordinating mandates, communication mechanisms, and resources across the various levels of aggregation.

- Nurses were found to be significant players in collaborations, where they shared information and knowledge and fulfilled many critical roles, including facilitators, communicators, informal and formal leaders, and change agents.
  - Nurses need to be supported by management and leadership to continue acting as leaders and change agents in collaborations.
- Some respondents saw physicians’ roles in collaboration as leaders, service providers and consultants in collaborations; however, almost a quarter of informants indicated that physicians play very limited roles in collaborations and some indicated that they showed little interest. This finding was related to a lack of vision and willingness to collaborate, as well as a lack of knowledge and experience in collaboration. Physicians also face challenges not being compensated for team work.
  - More work is needed to consider ways to incorporate team-oriented work in training programs, especially for physicians.
  - Alternative mechanisms for compensation are needed to support the work carried out by the teams, such as salaried positions.

**Approach**
Stratified purposive sampling was used to recruit participants who represented policy-makers, managers, and inter-professional providers. Participants were identified by the large research team, including decision-making partners representing a variety of PC and PH agencies and institutions as well as co-investigators from four universities. Following the development of an initial list, a snowball technique was used where key informants were asked about other potential informants. Eligibility criteria for participants included having experience in or being knowledgeable about PC and PH collaboration. Interviews were audio-recorded, transcribed, and cleaned of all identifying information. Data were coded using NVIVO version 8 and then 9. The coding framework was created based on investigators reading and re-reading the transcripts and arriving at consensus on final codes. All procedures were approved by the appropriate ethics boards (provincial and university boards).

**Results**
Sixty-nine in-depth interviews were conducted with a total of 74 participants. Of them, 58 were females and 16 were males. They represented professionals from three provinces [BC (n= 20; 27.0%), ON (n= 19 25.7%); NS (N= 21; 27.0%)]. The remaining 14 participants (18.9%) were professionals who were working in or knowledgeable about collaborations, and who were located in other provinces or were working at a national level. Participants also represented the primary care sector (n= 32; 43.2%) the public health sector (n=31; 41.9%), both sectors (n= 8; 10.8%) or neither sector (n= 3; 4.1%). Those who were representing neither sector were health services researchers or educators. Those who represented both were in positions where they were responsible for, or had had experience in, both sectors.

Participants ranged widely in the type of roles they played, the largest groups being direct service providers (n= 17) senior program managers (n= 14), executive officers (n= 11), and middle managers (n= 10).
By profession, most participants were physicians (n= 14; 18.9%), registered nurses (n= 14; 18.9%), public health nurses (n= 11; 14.8%), business administrators (n= 8; 9.6%), or nurse practitioners (n=7; 9.5%). Others included health promoters (n=3), social workers (n=3), dietitians (n=2), nutritionists (N=2), an epidemiologist, pharmacist, psychologist, public health dentist, and respiratory therapist (Figure 1).

**An Evolving Ecological Framework of PC and PH Collaboration**

The key informants provided extremely rich information about collaborations. Building on the scoping literature review and environmental scans, together with results from the key informant interviews, a draft ecological framework of collaboration was developed. The nature of collaboration—which is found at the core of the framework—is the structure and context around which the collaboration is formed. It includes the organizational structure, the players, the activities conducted in the collaboration, and the ways that players work together within the context of their environment.

The ways of working together in a collaboration ranges on a continuum. Himmelman’s conceptualization of collaboration has captured the ways of working together in a collaboration, which includes networking (exchanging information for mutual benefit); cooperation (exchanging information, altering activities, and sharing resources for mutual benefit and to achieve a common purpose); coordination (exchanging information and altering activities for mutual benefit and to achieve a common purpose); and collaboration (exchanging information, altering activities, sharing resources, and enhancing the capacity of another for mutual benefit and to achieve a common purpose). As Himmelman explains, none of these ways of working is more important than the other; rather, each strategy is more or less relevant, depending on the context of the work that needs to be done.

Results from our key informants indicated that all ways of working together can be found in collaborations; they can evolve and change over time and as the needs that were precipitators of collaboration are met or change. The core of the collaboration can be influenced positively or negatively by factors at the systemic, organizational, interpersonal and intrapersonal levels. These factors influence one another within and between levels. More analysis is currently being conducted to identify the relationships between factors and their impact on the core. Since collaborations evolve over time, a cross-cutting factor of research and evaluation measuring collaboration outcomes and processes has been added to the framework. Research and evaluation results can help to identify which structures and processes in collaborations need adjustment for quality improvement and to assess if the collaboration is meeting its goals. A diagram of a refined version of this ecological framework with the
core being reflected as successful collaboration can be found on page 41. Refinements occurred at the end of the program of research based on analysis of subsequent studies and discussions with decision-makers and practitioners in the field.

In the next section, high-level results that describe findings pertaining to the core of existing collaborations, as well as factors influencing them at each layer of the framework, are presented in a chart. In-depth papers on the core or nature of collaboration, as well as the factors influencing successful collaborations, are currently being prepared for peer-reviewed publications.

**What do people generally hope to achieve from collaborations between PC and PH?**
The top reasons for collaboration were seen as a strategy for providing better quality care; achieving improved methods of service delivery; reducing duplication of services; leveraging complementary approaches used in PC and PH; improving access to accurate information (e.g., updates on immunization schedules;) and meeting the needs identified by communities. Many held the belief that change cannot be achieved working alone. As noted by one PC nurse, "we do need to work together for that continuum, so that clients in the community are more effectively served." Similarly, a PH dentist noted, "[collaboration] shows you the potential, when you have what appears to be intractable problems, that can be overcome with a collective. This brings [together] the clinical, the social, and the preventive."

**What factors foster and hinder collaborations between PC and PH?**
Numerous factors were identified that acted as barriers and facilitators of collaboration at a systemic, organizational, interpersonal and intrapersonal levels. Although San-Martin and colleagues determined at three levels (systemic, organizational and interactional), our findings suggested that a fourth level should be included—the intrapersonal level—as it had an influence on collaboration success. Intrapersonal level factors are personal attributes of individuals that can act as a barrier or enabler of collaboration. We, therefore, chose to refer to interactional level determinants as interpersonal and intrapersonal to describe the factors found in our data. The factors were first derived based on results of this study involving interviews with key informants. These factors were later validated and refined based on a subsequent study (see Study 5) which explored 10 cases of collaboration. The final factors are presented in Table 3 by the level of influence and with key characteristics listed for each.

Each factor can be described by its characteristics. For example, one of the intrapersonal level factors, personal values, beliefs, and attitudes of individuals working in a collaboration, can act as a barrier or facilitator. An individual who demonstrates qualities of willingness to collaborate and responsiveness to the needs of patients and the community will be a facilitator. Conversely, a practitioner who may be used to working in solo practice and is unwilling to work within a team environment can present as a barrier to collaboration. For most factors, barriers and facilitators were identified. Barriers were typically the reverse quality of the facilitator, as was shown in the above example. In our framework, we have presented characteristics highlighting positive qualities with the hope that the framework will support building successful collaborations. The other intrapersonal factors were personal qualities, knowledge, and skills.

At the interpersonal level, there were five factors found to influence collaboration. For example, one factor was role clarity. Role clarity between providers was an essential factor enabling successful collaborations. This involves understanding each others' roles and reaching agreement on them; being flexible and adaptable in partners' roles that adjust to changing needs in a collaboration was also
helpful. Other factors included *effective communication, trusting and inclusive relationships, shared values, beliefs, and attitudes,* and *effective clinical decision processes.*

At the organizational level, there were seven factors; an example is *collaborative approaches to programs and services delivery.* This factor involved the implementation of a variety of collaborative approaches in working within collaborations including client-centred approaches, community engagement, interprofessional teamwork, and integrated or coordinated approaches to the provision of services by PC and PH. The other six factors included: *clear mandates, visions, and goals for collaboration; strategic coordination and communication mechanisms between partners; formal organizational leaders as collaborative champions; collaborative organizational culture; optimal use of resources; and optimal use of human resources.*

Similarly, there were seven systemic factors. *Governmental and regulatory policies and mandates for collaboration* was one example. This factor involved the expectation at a systems level that partnerships are essential. It also included the need for clear government policies mandating collaboration and consistency of standards related to PC and PH collaboration. It also included expectations and accountabilities for reporting on collaborations supported by the use of quality indicators. The other six factors included: *harmonized information and communication infrastructure; formal systems leaders as collaborative champions; effective decision-making frameworks; funding models and financial incentives supporting collaboration; targeted professional education; and, health services structures that promote collaboration.*

Socio-ecological theory, upon which our conceptual framework for collaboration is based, would suggest that determinants of collaboration at one level of the framework can enhance or suppress determinants at another level. This means that when developing strategies to facilitate collaboration, not only do we need to base strategies on factors from various levels of the framework, but we need to do this in an integrated way. The effectiveness of collaboration will be increased when actions are coordinated across the levels of influence in the ecological framework.
<table>
<thead>
<tr>
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<th>INTERPERSONAL</th>
<th>ORGANIZATIONAL</th>
<th>SYSTEMIC</th>
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<td>CLEAR MANDATES, VISION, AND GOALS FOR COLLABORATION</td>
<td>GOVERNMENTAL AND REGULATORY POLICIES AND MANDATES FOR COLLABORATION</td>
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<td>• Formal agreements</td>
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<td>FORMAL SYSTEMS LEADERS AS COLLABORATIVE CHAMPIONS</td>
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<td>COLLABORATIVE ORGANIZATIONAL CULTURE</td>
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PC = Primary Care; PH = Public Health

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What are markers of successful collaborations?
The main markers of collaboration success identified by key informants were: agreement on a common goal; collaborations that meet intended goals; improved quality of the partnership; patient and provider satisfaction; improved health outcomes; improved services; sharing of information and knowledge; growth in collaborative models of practice; improved communication; the existence of evaluation processes and markers; and full engagement of all partners.

What roles could and do nurses and other healthcare professionals play in building and maintaining collaborative relationships between PC and PH?
Nurses play an important and varied role in collaborations, which is not surprising given their high numbers in PC and PH and their skills working in teams. The most frequently reported role in collaborations includes sharing knowledge and information. As noted by one PH physician, “they are the primary individuals involved in collaboration. So they are the people on the ground providing the services. ... Obviously, where there is that more formal collaboration, information sharing, they tend to be the key individuals that would be involved.” Nurses are also the facilitators, communicators, informal and formal leaders, and change agents in collaborations. They act as links to physicians and are providers of PC and PH services, conducting home visits and involved in chronic disease management. They refer and follow up, in particular with vulnerable populations. As stated by one epidemiologist: “I think nurses, in particular, are the interface between the two systems. They are the ones who need to know what both systems offer and how to move in between them. And I think they already do that, and I think they already do it well. Maybe nobody has asked them how they do it, and maybe nobody has asked them what they could do to improve that transition between the two. I think they need to do that.”

Physicians also play critical roles in collaborations, including providing leadership and clinic roles, consultations and advocating for the public. As one business administrator noted, “at a professional level the models that have been successful have been the models where there’s been clear physician leadership and collegiality and it’s met a need for community.” Although some participants reported that while some physicians are involved in working team-oriented collaborations, others often struggle to find their role within the team approach. As one PC physician explained, “I think in terms of decision-making, it’s very challenging for docs who have been used to sort of coping on their own as solo cowboys. It’s very challenging to then understand team-based decision making.”

A perceived challenge faced by physicians is compensation for team work. A PH business administrator explains it this way. “It’s a much more team-oriented situation that allows physicians to be a little less focused on the individual and more on the population and community and in the case, the family and such. And [the physician can] be more interested in prevention and those types of things. The fee for service schedule now doesn’t recognize a lot of what they call schedule A—the clinically effective prevention maneuver.” Almost a quarter of informants indicated that physicians actually play very limited roles in collaborations and some indicated that they show limited interest. This finding appears to be related to a lack of physician vision and willingness to collaborate as well as a lack of knowledge and experience in collaboration. “I think they need a little practice in collaboration.”

Other health professionals were also identified as having important roles in collaborations. Apart from nurses and physicians, dietitians providing clinic and broader community services were the most frequently named professionals in collaborations. Dietitians were followed by epidemiologists, whose role was to provide health status and other data useful for collaborations. Less often mentioned were mental health and addictions professionals, community developers, social workers, pharmacists,
community workers, and home care support workers. Many informants mentioned the importance of having the right mix of professionals. As one PC physician noted, we need "each person using their skill set to contribute to the betterment of the whole. Because...there’s a shortage of family doctors and we’re trying to create models that complement or enhance the care or enhance the numbers of people that were able to provide care to them."

What successful collaborations currently exist between PC and PH?

**Forms of collaboration:**

There were many forms of PC and PH collaborations described by informants, with some differences by province. The most common collaborations noted by many informants were described in these ways:

- Interdisciplinary teams
- PH services offered in a PC setting
- PH as the initiators or facilitators of collaborations; whereas PC facilitating collaborations was noted much less often and only by BC informants and other informants from provinces other than NS or ON
- PH providing clinical information to PC physicians, nurse practitioners or nurses
- PC services offered in a PH setting was described less often that other forms of collaboration, and more often by BC respondents than others

Collaborations noted by some informants were described in these ways:

- PH collaborations with CHCs were noted most often by informants from ON, but not from BC
- PHNs working with PC nurses
- Integrated health networks were noted by most BC informants
- PC Family Health Teams were noted by ON informants; public health nurses were reported as integrated in family health teams by a small number of ON informants
- PC nurse practitioners working with PH was noted by a few BC and NS informants
- NPs hired in health units were reported by a few ON respondents
- Co-location of PH and PH in collaborations was identified most often in BC, followed by NS and rarely in ON

**Activities** reported by most respondents as being conducted in collaborations included service delivery, followed by joint research projects, initiatives or coalitions. Almost a third of informants reported PH being a resource to PC related to communicable disease or sexual health. Redesigning health services was reported less often, as was joint committee work, policy development, or building client connections for follow-up. Less often reported activities were education sessions provided by PH to PC, or participation in federal or provincial policy reviews or support group activities.

**Health issues** most often addressed in collaborations, as noted by respondents in all provinces, included communicable disease control, chronic disease prevention and management, parent child programming, youth and health promotion programs, and women's health programs. Less frequently noted were seniors, mental health and addictions, and tobacco-related initiatives; rarely mentioned were issues of physical activity and obesity, Aboriginal, or immigrant health. When asked where collaborations made the most sense, answers were aligned with the above list of health issues most often addressed in collaborations.

**Future research**

Future research is needed to further explore markers or indicators of successful collaborations. Collaboration outcome research should be focused on areas where collaboration is thought to make the most sense and is most often realized in practice (e.g., maternal child, chronic disease prevention and
management, and communicable disease management services and programs). Also, our sampling of key informants was limited in that we recruited few informants who had a good understanding of collaborations in the Territories, First Nations and French-speaking communities, thereby leaving a gap in our knowledge and pointing to an area for further study.

**Study 4: Q-Methodology: Viewpoints of Stakeholders about Primary Care and Public Health Collaboration**

**Context:**
Study 1 and study 3 indicated that improved collaboration between PC and PH health sectors can lead to a stronger understanding of the communities they serve, and to more responsive and comprehensive delivery of health services. The purpose of this study was to explore the viewpoints of stakeholders regarding PC and PH collaboration. To do this, we used Q-methodology to identify common viewpoints held by participants who attended a national meeting in Canada to discuss PC and PH collaboration.

There is very little known about major viewpoints held by policy-makers, managers and practitioners about building collaborative relationships between PC and PH in Canada. Understanding how stakeholders view collaboration can point to where conflicts between groups may exist, and what beliefs and attitudes may be barriers to or facilitators of PC and PH collaboration.

**Implications:**

- **PC and PH policy-makers, managers, practitioners and researchers** hold a common view that a lack of vision for collaboration—where people are not clear on the end result of collaboration—can be a significant barrier to collaboration.
  - It is imperative that the vision of any collaboration be determined and communicated across all levels, from executive directors to front-line staff.

- **PC and PH decision-makers, practitioners and researchers** all strongly disagreed that “politicians have research evidence to say that collaboration will save money so will put money behind it.”
  - Evidence related to the outcomes of collaborations must be disseminated effectively to relevant policy-makers and to provincial and federal health leaders.

Three common viewpoints were identified: *system-driven collaborators, cautious collaborators, and competent isolationists*. Implications are identified related to each viewpoint.

- **System-Driven Collaborators** held common views that system-level influences, such as provincial-level policies mandating PC and PH collaboration, and PC payment models that support salaried physicians as in Community Health Centres (CHCs), can have a significant impact on PC and PH collaboration.
  - Policy-makers need to develop policies mandating PC and PH collaboration.
  - Policy-makers need to encourage expansion of salaried physician payment models.

- **Cautious Collaborators**, who were all from ON, strongly agreed that although we need better awareness of what collaborations might be possible, would be beneficial, and that already exist, we need to be cautious. This group was concerned about the threat of a reduction of PHs already over-stretched resources working in population health approaches, by being swallowed up by the PC sector which is primarily focused on individual health. They did not feel that provincial mandates to collaborate will be helpful.
  - Managers in PC and PH are advised to collaboratively develop work plans where a mix of population and individual approaches can work synergistically to address local community needs. For example, PH could work to increase PC capacity related to chronic disease prevention, such as smoking cessation or obesity prevention.
A small group of Competent Isolationists held strong beliefs that PC and PH sectors need to clearly understand differences between their roles; each sector was viewed as having separate and distinct roles (population- and group-based versus individually based). This group believed that the multi-disciplinary professionals would not see value in collaboration, since they did not share educational programs, nor would collaboration work without stable funding. They did not believe there is evidence of long-term health benefits to be gained from collaboration.

- Managers and policy-makers should be aware that some stakeholders are skeptical about collaboration and will likely buy in only if evidence of collaboration effectiveness is demonstrated and if sustainable funding is provided for it.
- Educators must ensure that interprofessional learning goes beyond understanding the roles of various disciplines, but need to include understanding of the roles of professionals in various sectors, which are often ignored or minimally covered in health professional curricula.

**Approach**

The study was conducted in two phases: in Phase 1, development of an instrument, a Q-sort table (Figure 2); and a short demographic questionnaire to be used in Phase 2 for data collection. Q-methodology is used to identify unique viewpoints, as well as commonly shared views on a topic of interest. It is particularly useful in exploring human perceptions and interpersonal relationships. It has been described as a combination of qualitative and quantitative techniques that allows researchers to identify groups of participants with similar viewpoints, where the goal is usually to identify different patterns of thought rather than their numerical distribution among a larger population.

Phase I built on Study 1 and 3, where we conducted a scoping literature review and completed interviews with key informants who had experience with or knowledge of PC and PH collaborations. The findings, which were complementary, were then summarized in short statements. To have a representative sample of statements (called the Q-sample) to be used for Phase 2 of the project, 44 statements were carefully selected by a smaller team of researchers, which represented key ideas from all the emerging themes about collaboration between PC and PH.

After assembling the Q-sample, a grid or Q-sort table was developed with 44 cells equal to the number of statements in the Q-sample (see Figure 2). The Q-sort table consisted of 44 empty boxes in eight rows and 11 columns of differing lengths. Anchors of -5 (least agree or disagree) and +5 (most agree) were assigned to the extreme scores of the Q-sort table.
In Phase 2 we convened a national meeting and asked delegates who attended to complete the Q-sort. The participants included researchers, policy-makers, directors and managers, and practitioners (e.g., nurses, family physicians, dietitians) from federal agencies and institutions, as well as individuals from NS, ON and BC. Each consenting participant received a package including detailed instructions and an example of a completed Q-sort. Then, participants were asked to read the statements and place the number of the statement into the empty cell that corresponded with the amount of agreement the respondent had with each statement. The Q-sort table was constructed such that only two statements could be placed under -5 and +5, three statements under -4, -3, +3, and +4, four statements under -2 and +2, six statements under -1 and +1, and finally eight statements under the central column 0. Participants were also asked to complete a short demographic survey.

Next, using the PQ Method 2.11 program a by-person factor analysis of the Q-sorts was conducted to identify groups (factors) of participants with similar viewpoints. Each individual with a significant loading ($p \leq .05$) on one factor is counted as a member of the group loading on that factor.

**Results:**
The study consisted of a total of 25 participants 5 from British Columbia, 4 from Nova Scotia, and 15 from Ontario; 1 participant did not identify their home province. Participants included policy-makers, directors and managers, practitioners, and researchers. Three factors (salient viewpoints) emerged, which included 23 individuals. Two participants did not load significantly on any of these three factors and were excluded from further comparative analyses. Factors were named based on their distinguishing statements as a) **System-Driven Collaborators**, b) **Cautious Collaborators**, and c) **Competent Isolationists**.

**Factor 1: System-Driven Collaborators**
Fifteen respondents loaded on this factor: four from NS, eight from ON, and three from BC. This group strongly believed that there is the need for having a clear mandate from the top to enable PH, PC and the rest of the health system to work together. They also believed that people in different branches in the Ministry/Ministries have to really believe in collaboration, support it, and write policies to have organizations work together. In addition, they strongly supported the statement that “I think we
need models like community health centres which are globally funded (salaried physicians who work in a team setting with a range of health professionals – nurses, nutritionists, social workers). So the more we move into this kind of model, PC and PH collaborations might become richer.” On the other hand, they strongly disagreed that “differing mandates are a barrier to collaboration. PH can’t provide individual care because they are population health-based and group-based; for example, PH is working on healthy food policies and trying to work with schools.”

Factor 2: Cautious Collaborators
Five individuals loaded on this factor, all from ON. They strongly agreed that, “we need to have a better consciousness-raising about what collaborations might be possible and would be beneficial, and also reflect on the collaborations that we already have.” They also highly agreed that “There are turf protection issues. PH wants to make sure that they don’t get swallowed up by PC issues. They want to deal with issues at a population level as opposed to an individual health level” and “Everybody feels that they are at capacity and there’s no room for anything more such as working on a collaboration.” They strongly disagreed with having a clear mandate from the top to enable PC and PH collaboration. They also opposed the idea that for better communication there has to be availability of electronic communication mechanisms between PC and PH sectors (e.g. email listservs to share information about free mental health sessions in the community.)

Factor 3: Competent Isolationists
Only three individuals (one from each province) loaded significantly on this factor. They strongly believed that it is necessary for PC and PH sectors to spend time to make sure that both parties clearly understand the differences between their roles. They believed that physicians, nurses and social workers will not see the value in collaboration because they don’t share educational programs. They also believed different mandates are a barrier to collaboration, and that public health cannot provide individual care because they are population health-based and group-based. Also they believed that “Collaboration won’t work if people haven’t got the stable and sustainable funding to get it established, evaluated and carry it on.” On the other hand, they strongly disagreed that there is evidence about the benefits of collaboration related to long-term health benefits for individuals in the population.

Finally, there were several statements that all of the participants equally agreed or disagreed with. For example, they all believed that lack of vision in collaboration is a barrier and that people are not clear on the end results of collaboration. They all strongly disagreed that “politicians have research evidence to say that collaboration will save money so will put money behind it.”

Study 5: 10 Case Studies of Primary Care and Public Health Collaborations in British Columbia, Ontario and Nova Scotia

Context:
Although the key informant interviews in Study 3 helped us understand participants’ perceptions of past experiences and their views on collaborations, case studies helped us better understand current existing collaborations in greater depth using multiple sources embedded in current collaborations including front-line staff to directors. Case studies were also useful to help validate the results of the nature of collaboration as well as the factors influencing collaboration identified from the key informant interviews. They could also be helpful to potentially reveal new factors.
**Case Study Research Questions:**

1. Under what contexts are collaborations occurring? (setting; population served; history; systems drivers; goals; power; funding models; functions).
2. For what health issues does working together make sense?
   a. How do partners work together (i.e. cooperation, coordination, collaboration, integration) for various health issues?
3. What are the precipitators and motivators of collaboration?
4. What structures and processes lead to the development as well as help to maintain collaborations?
5. What roles do various players have in collaborations?
6. What are the intended outcomes (process as well as other outcomes- short-, intermediate-, and long-term outcomes) of collaborations and how well are these reached?
7. What risks are inherent in building and maintaining collaborations and how are these managed?
8. How, if at all, is the community engaged in the collaboration?

**Implications:**

- It is often a particular challenge for PC to work on collaborations due to the financial payment models, which do not compensate physicians to work to develop or maintain collaborations.
  - Policy-makers are encouraged to support salaried payment models in PC, which will permit time spent on development. PC nursing staff are well positioned and have the skills to work collaboratively at the intersection of PC and PH collaboration, and thus compensation models should be adjusted to support PC nurses in this work.
- Effective ongoing communication of the vision and goals for collaboration must be shared with partners at all levels, from senior managers to front-line practitioners. This can involve using a myriad of communication strategies such as regular structured meetings, emails, phone calls, joint training, and sharing of program documents. Determining communication flow and structures (distribution lists) were also helpful.
  - Directors and managers are encouraged to provide all staff with ongoing and regular communications about collaboration plans or changes (vision, work plans, changes in focus, evaluation results). Be sensitive to changes over time in the workforce involved in a collaboration by ensuring that new staff receive orientation to the vision and goals of the partnership. Find creative strategies—for example, lunch and learn—to communicate with PC staff physicians, who are more challenging to connect with due to busy schedules. Using strategies found to be effective in academic detailing may also be helpful.¹⁴
- Cross-sectoral planning, implementation and coordination functions were key strategies to maintaining strong successful collaborations.
  - Directors and managers are encouraged to co-create and design planning and coordination tools with all partners involving staff at all levels. For example, this can include co-creation of operational plans and work/action plans; establishing and maintaining teams and committees; establishing clear roles of team members; and developing and disseminating formalizing tools such as partnership agreements and terms of reference and or a project charter.
- Funding support from external sources to support collaborations was found to be a strong facilitator. Two areas most often needing more work were related to financial and other capital resources and partnership’s administration and management.
  - Specified financial and human resources need to be allocated or reallocated to initiate as well as maintain collaboration. Assignment of a collaboration coordinator may be helpful to support administration and management issues. Collaborations require a sufficient and
consistent staffing that can withstand changing workforce demands, evolving community needs, and required diversion of human resources. Sharing of people, information and material resources, as well as space resources, is highly encouraged.

- Although the majority of respondents felt that the benefits outweighed the drawbacks of collaboration, all cases identified some areas for improvement and were generally assessed to be in a work zone, where more effort was needed to maximize the partnership’s collaborative potential.
  - Ongoing evaluations of collaborations are highly encouraged to ensure a continuous quality improvement process. The case studies served as a positive intervention in a number of cases influencing partners to reflect on ways to improve their collaboration. The Partnership Self-Assessment Tool\textsuperscript{15} was a useful tool for this purpose and can be used by collaboration partners to track progress.

**Approach**

**Case Selection and Boundaries of the Case**

A descriptive multiple case study approach was used and the unit of analysis was the collaborative partnership that involved a PH and a PC organization/s. Eligibility criteria are listed in Table 4. Other agencies could also be involved in the collaboration and were included within the boundaries of the case where relevant. Each provincial team completed three case studies; ON conducted a fourth case study, which was a pilot. In order to increase the rigour of the research, we used multiple data sources and methods in our study; four data collection methods were used including focus groups, Photovoice, document analysis, and completion of a 67-item survey-Partnership Self-Assessment Tool.\textsuperscript{15} Manager, front-line professional, and support staff from PC and PH and other organizations, where relevant, were recruited to obtain information from all partners in the collaboration.

**Table 4: Eligibility Criteria for the case studies**

- The collaboration must include a PH and a PC organization that **continually work together to develop and modify strategies to achieve their service delivery goals**.
- Collaborations must have begun to act on their plans.
- Collaborations which involve multiple organizations in addition to PC and PH can be included.
- The collaboration must have been in existence for at least one year (since initial start up of the collaboration services).
- Cases providing services in the collaboration on a full or part time basis are eligible (e.g. a collaborative service offered either daily or twice a week).
- Collaborations which are working well or not very well could be included.
- The collaboration must have at least five active participants; this was required for the Partnership Self-Assessment Tool (PSAT)\textsuperscript{15} to be valid. (Note: Participants are defined as individuals working together in the partnership and have a good knowledge of the partnership; they can include managers, practitioners, support staff, and others.)

**Data Collection Tools**

**Partnership Self-Assessment Tool Questionnaire:** Collaboration is a process where individuals view problems differently and work together to achieve solutions collectively as a group.\textsuperscript{16} A high-functioning partnership is synergistic; it involves the effectiveness of leadership, administration and management, the efficiency of the partnership, and the sufficiency of the partnership’s resources. Partnership is key in public health, where multiple organizations work together to deliver complex population-based programming. Often, the effects of public health interventions are not seen within the population for
many years. The success of these interventions relies on the commitment of many organizations and sectors. The Partnership Self-Assessment Tool (PSAT) [http://partnershiptool.net/] was developed using the Partnership Synergy Framework16 to provide a measurement of the key indicators for successful collaboration and level of synergy. Eleven sections deal with the following topics: synergy, leadership, efficiency, administration and management, non-financial resources, financial and other capital resources, decision-making, benefits of participation, drawbacks of participation, benefits and drawbacks of participating in the partnership, and satisfaction with participation. Each section uses a Likert scale and/or yes and no questions. A Coordinator’s Guide is the main instructional resource for this tool. The National Collaborating Centre for Tools and Methods in Public Health has rated this tool as methodologically strong.15

**Focus group A:** PSAT results were presented to the participants in a focus group. They were asked: How does this score resonate with what you perceive about this collaboration? Why do you think your collaboration received this score? PC and PH participants were generally mixed in focus groups; directors and managers were separated where possible from front-line staff to encourage openness.

**Focus Group B:** Questions explored the processes and structures in the collaboration not covered in the other focus group. For example: If the collaboration has reached consensus on goals and how? Who was involved? How was the community involved in identifying goals? What impact did client/community members have on the development of goals? How were roles and scope of practice of various PC and PH players in the collaboration determined? Participants were grouped as in the first focus group where possible.

**Photovoice:** Photovoice was first developed in the early 1990s by Dr. Caroline Wang17 and is now used around the world. This process that gives *voice to photos* is a methodology often used in the field of education and community development, and combines photography with grassroots social action. Subjects are asked to represent their situation or point of view by taking photographs. Photovoice was intended to give insight into how participants conceptualized their circumstances. As a form of knowledge transfer, Photovoice attempts to bring the perspectives of those who live the experience, in this case the collaboration. The purpose of Photovoice in the case study was to assist in understanding collaboration structures and processes. Consent was requested for use of these photographs for: 1) inclusion of the data for the case study, 2) development a future online toolkit for collaboration, and 3) news, publicity and research dissemination purposes. Since it would be very challenging to protect the confidentiality of people or places captured in photographs, we could not ensure protection of confidentiality of the case (the collaboration).

**Content Analysis of Documents:** A variety of documents were collected from the collaboration for content analysis purposes. Documents can provide rich information about collaborations. For example, mission and vision statements can represent the aims of the collaboration; memoranda of understanding or other agreements can provide information about resource use; terms of reference can describe processes of decision-making in the collaboration; evaluation reports can provide data on outcomes of the collaboration; and logic models can describe the activities, inputs and outputs. Such documents were identified by the organizations, and analyzed with the focus groups and Photovoice captions using an interpretive descriptive approach.
Results

The Core of Collaboration

Our case studies validated our findings from the key informant interviews and the ecological framework of successful collaboration. Each case study is summarized in Appendix A, highlighting the nature of each collaboration, the precipitators, goals, factors influencing it, impacts and outcomes, community involvement, and the extent of research or evaluation activities.

Table 5 illustrates the wide variety of activities conducted in collaborations which included: community betterment/engagement; provider capacity-building; enabling access to care/services; health promotion; prevention and protection; harm reduction; health education; surveillance; joint program and service delivery; outreach; sharing of information; resources; acute/episodic care; and chronic disease management. A mix of activities was conducted in each case study, with no one case focusing on one area alone. Cases have been categorized into four main types according to the main focus of the collaboration. These include cases that focus on: 1) provider capacity-building; 2) regional vaccine/immunization management; 3) community-based health promotion programming; and, 4) increasing access to care through outreach programs and services. A high-level overview of each case follows to provide readers with a sense of the breadth and variety of existing collaborations.

Two cases related to provider capacity-building interventions in PC interprofessional teams. One involved a liaison PHN working closely with a nurse practitioner to provide training for comprehensive tobacco cessation in a PC practice located in a largely rural community with a number of satellite sites. The second involved a PHN secondment to a PC practice with multiple practice sites located in a large urban setting: it focused on building PC provider capacity related to an enhanced 18-month well-baby assessment.

Two cases that served regions were both focused on increasing immunization rates. The first involved the development and application of an electronic health record and appointment system to support the coordination of the H1N1 regional flu campaigns. A unique aspect of this case was that it was a large PC organization in a northern community that served most residents in the region. This environmental context was found to be a facilitator for coordination efforts in the collaboration, as most providers had previous relationships. The second case centred on PC and PH exchange of paper-based immunization records in a mixed urban-rural region. The principal staff members who supported this case were a PH “vaccine delivery driver” and the public health nurses in the communicable disease program. The driver delivered vaccines to participating PC practices, exchanged immunization records, and inspected for cold chain breaks in most PC practices in the region. Telephone consultations were provided to PC by public health nurses.

Three cases were related to the provision of community-based health promotion programming. The first was a geographically dispersed rural setting for the community health initiative, which involved a physician in a solo practice working with many community agencies including PH and others. This included researchers, a community-based steering committee, community members, local and regional governments, national and local NGOs, First Nations communities, and parks and recreation. The focus of the collaboration was providing supports for youth health, mental health, and food security, and addressing the social determinants of health. A community-based steering committee with community members and service providers was critical to supporting the collaboration. Two other rural community-based cases focused on improving access to health promotion and illness prevention for specific populations. In one case the emphasis was on adolescents and adult women living in rural and
remote communities. A unique feature of this case was the involvement of a non-governmental organization, which facilitated collaboration between PH, PC and other partners through leadership in program planning and implementation and by sharing space. The final community-based case focused on improving access to health promotion and illness prevention for children and youth and improving the efficiency of immunization services. In these cases a range of services were offered by family physicians, PHNs, nurse practitioners, registered and licensed/registered practical nurses, administrators, and managers as well as other professional and community members.

Three cases focused on increasing access to care through outreach programs and services. One urban outreach case was centred on improving immunization of a street-involved population against influenza and H1N1. In this collaboration, PHNs gained access to a marginalized population through the PC nurses, who are trusted in the community and work with the population every day. The partnership was driven by a core group of PC nurses, family and PH physicians, public health nurses, managers, and administrators who shared a passion for equity and social justice. A second urban outreach case focused on a communicable disease control case that also served a street-involved population. A coalition of community organizations supported this population with integrated PC and PH services. In the third case, the focus was urban child health promotion and family outreach, with the collaboration providing access to services for marginalized populations in a large urban centre. The collaboration was unique in that it involved a tertiary care centre with specialist services, and also had academics involved in a formal research study. PC nurse practitioners offered “one-stop-shop” services at various community locations (i.e. schools) to families with children, and referred to PH and other social and health services as needed.
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<tr>
<th>Major Focus of Collaboration</th>
<th>Cases Focusing on Provider Capacity Building</th>
<th>Cases Focusing on Regional Vaccine/Immunization Management</th>
<th>Cases Focusing on Community-based Health Promotion Programming</th>
<th>Cases Focusing on Increasing Access to Care through Outreach Programs and Services</th>
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<td>Community betterment/engagement</td>
<td>Enhanced 18 Month Well Baby</td>
<td>Comprehensive Tobacco Cessation</td>
<td>Regional E-Health for Immunization Management</td>
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Table 5: Overview of Case Studies: How Primary Care and Public Health Work Together

- + Minor focus
- ++ Moderate focus
- +++ Major focus
Precipitators of Collaborations
In general, there were many precipitators for collaboration. Often collaboration partners saw problems to be solved or issues to overcome, such as identifying barriers and gaps in services or addressing community needs. In other cases, partners had a common vision and saw solutions to problems. Partners also often perceived that working together could have greater potential impact. This could be related to using resources differently, solving community problems, or identifying ways that PH can reduce PC problems or vice versa. In some case, collaborators saw opportunities to increase effectiveness and or maximize efficiencies, since they often worked with same populations. For example, they were able to pool resources to improve immunization and vaccine wastage.

There were tipping points that enabled action on collaboration—for example, when funding was made available from provinces for new initiatives such as the establishment of innovative primary care delivery models or when changing directions in PH occurred. For example, a PH focus on equity, population health or working with community partners enabled collaborations with PC. Other examples of tipping points were Primary Health Care Transition funding and financial incentives for PC physicians, such as those for tobacco cessation interventions and flu immunizations. Collaborations were developed when factors aligned, when there was dedication to a cause, or when partners had previous working relationships.

Populations Served in Collaborations
Many populations have been served by partners in our case studies. All populations had issues related to accessing both PC and PH and were vulnerable due to multiple intersecting determinants of health including: lack of stable housing; living in poverty; being affected by racism, discrimination, and stigmatization; and suffering from mental health, trauma, or violence issues. Many different disciplines were involved, including public health nurses, nurse practitioners, family practice nurses, PC physicians, Medical officers of Health/Medical Health Officers, mental health workers, administrators/managers, occupational therapists, speech therapists, social workers, midwives, Information technology specialists, and others. It is important to note that clerks, receptionists, and other office and operations staff were also vital players.

Goals in Collaborations:
Many goals were identified for collaboration. These included improving access to services; addressing population needs and or gaps; improving work processes; providing client centred care to target populations; providing equitable treatment; providing health promotion, prevention and harm reduction programs; increasing efficiencies; improving information-sharing systems; advocating for or creating public policy; providing evidence-based care; and strengthening the collaboration/partnership itself. Agreements were reached regarding goals in response to community needs and by having many conversations and meetings, and by closely working together. Working together through strategic plans, participating in yearly goal-setting, prioritizing together, and working with steering committees also helped in goal development. In a few cases, goals were identified more organically. It was not unusual in some cases for the collaboration's goals to be unclear at first and later adjusted. It was also not uncommon for goals to evolve and collaborations to change over time. One participant described the evolution of their collaboration: “The partnership has changed very much over time. When it first started, it was really looking at the lack of mental health services in the community and looking at a way to show that there is actually a demand out here. That is how it first started. Then as it became successful in that, it morphed into looking at broader health issues in the community. From the beginning, it isn’t a program with staff, it isn’t an organization with staff and programs. It’s a
What Roles do Players Have in Collaborations?
Although the analysis of roles that various providers play has not yet been completed, initial impressions support results from the key informant interviews (Study 3); namely, that many health and social service providers, clerical staff, administrators and technical support staff work together to ensure collaboration success. Team approaches are key and roles in them are varied. It is therefore not surprising that role clarity was found to be a critical factor for successful collaboration.

Impacts and Outcomes of Collaborations
Crossing the Quality Chasm; a New Health System for the 21st Century has created a new framework for defining and evaluating healthcare quality. The report outlines six aims that can serve as core values for all healthcare services. Healthcare should be safe, effective, efficient, patient-centered, timely, and equitable. Collaborations were found to address many of these values to varying degrees.

Safer care was achieved through improvements in outbreak management and enhanced community capacity for harm reduction. Quality of services was increased and clients benefited directly from care received from services in collaborations. Enhanced sharing of information through information technology or manual systems was realized, as were improved models of service delivery and program expansion. Continuity, reliability and responsiveness of service were other positive results. There were improvements in work processes. For example, networks of supports were developed, access to resources was improved, and communication with partners was enhanced.

There were a few cases that increased efficiencies (such as through the development of a shared Electronic Health Record; or the delivery of needed vaccines to PC offices based on use). Increased trust in providers, as well as stronger relationships with clients and providers, were achieved in some cases, pointing to achievement of more person-centred care. Timeliness was seen through reduced waiting times for vaccinations. Increased access to marginalized populations and reduced health inequities were other critically important outcomes.

One of the primary outcomes common among many cases was increasing access to care. This was achieved through a variety of activities including referrals, implementation of new and more efficient services such as jointly delivered immunization programs, and improved reach and outreach to clients.

There were also positive impacts on partner organizations and individuals within them. For example, there were improved relationships among organizations and individuals, as well as increased valuing and recognition of the partnership and individuals in it. There were also a variety of spin-offs that occurred with other agencies as well as between PC and PH. Knowledge and skills of staff were increased, which included stronger understanding of partner roles and functions as well as evidence-informed practice. There were also a variety of economic benefits seen, such as cost-savings through better resource allocation, reduced vaccine wastage, leveraged partner IT systems, reduced workloads for some partners, and the development, sharing and use of various resources.

Drawbacks of Collaborations
Few drawbacks were identified from collaborations. In some cases, collaborations were felt to be one-sided, where some partners benefited more than others. It was difficult to evaluate the impact of some collaborations, particularly when they were focused on goals related to prevention. Participants commented that collaborations can divert resources from other services and that there can be added
workload for practitioners to participate in collaborations. Results from the partnership self-assessment tool indicate, however, that benefits were seen as outweighing drawbacks.

**Results of the Partnership Self-Assessment Tool** are illustrated in the Kiviat graphs found in Appendix B for each case. Elements included: the effectiveness of the partnership’s leadership; the efficiency of the partnership; the effectiveness of the partnership’s administration and management; and the sufficiency of the partnership’s resources. Generally, all of the cases were in the "work zone" for most elements. "Work zone" means that more effort is needed in the area to maximize the partnership’s collaborative potential. Scores ranged for each element as seen in Table 6.

<table>
<thead>
<tr>
<th>Table 6: Ranges of Scores for Partnership Self-Assessment Tool for Cases with Valid Responses (n=7)</th>
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<tbody>
<tr>
<td><strong>Range of Scores (1 lowest - 5 highest)</strong></td>
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<tr>
<td>N= 7; cases excluded if less than 65% RR</td>
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<tr>
<td>Overall Synergy (&quot;extent to which the partnership can do more than any of its individual participants&quot;).</td>
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<tr>
<td>Effectiveness of the partnership’s leadership</td>
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<tr>
<td>Efficiency of the partnership</td>
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<tr>
<td>Effectiveness of the partnership’s administration and management</td>
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<tr>
<td>Sufficiency of the partnership’s financial and other capital resources</td>
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<tr>
<td>Sufficiency of the partnership’s non-financial resources.</td>
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Note: A valid response requires 65% participation from participants in a collaboration.

In the majority of cases, elements of the partnership that seemed to be working less well were related to financial and other capital resources, and to partnership’s administration and management. This finding may be explained by the fact that most collaborations were working with no, or limited, funding supports other than in-kind contributions from partners. Two cases (comprehensive tobacco cessation and enhanced 18-month well-baby) that had staff in liaison or secondments scored high scores for financial and other capital resources. None of the cases had a collaboration coordinator; having one might have helped to increase partnership’s administration and management scores.

When asked about benefits versus drawbacks of collaboration, respondents in all cases felt that "benefits exceeded the drawbacks" or "greatly exceeded the drawbacks" (Figure 2); in two cases a few respondents felt that drawbacks greatly exceeded the benefits. The majority of respondents identified the following items as having the greatest benefit from collaboration (Table 7): development of valuable relationships; enhanced ability to meet the needs of my constituency or clients; ability to make a greater impact than I could have on my own; ability to make a contribution to the community; and enhanced ability to address important issues.

Two items that helped explain the drawbacks were (1) time diverted from other activities; and (2) frustration or aggravation (Table 8). Figures in Appendix C illustrate that most participants felt generally satisfied (completely or mostly) in their collaboration in relation to satisfaction in working together, with role, with influence, and with plans. One exception was the rural health promotion case, which had 20% of participants indicating that drawbacks exceeded benefits. This result was attributed to a high turnover of staff and PH providers, which constituted the majority of participants in the focus groups, being unsure of their role in the collaboration.
* See response rates in Table 7 by case

**Table 7: Benefits of Partnership (Percentage by Case)**

<table>
<thead>
<tr>
<th></th>
<th>Increasing access to care through outreach programs and services</th>
<th>Community-based Health Promotion Programming</th>
<th>Regional Vaccine Immunization Management</th>
<th>Provider Capacity Building</th>
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<tr>
<td></td>
<td>*Inner City Outreach (RR 36.4%)</td>
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<td>Street Health Outreach (RR 77.6%)</td>
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<td></td>
<td>*Rural Community Health Initiative (RR 94.2%)</td>
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<td></td>
<td>Rural Health Promotion (RR 100%)</td>
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<tr>
<td></td>
<td>*Vaccine Management (RR 53.3%)</td>
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<td>Regional eHealth (RR 88.9%)</td>
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<td>18 Month Well Baby (RR 65.7%)</td>
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<tr>
<td>* invalid results as response rate less than 65%</td>
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<tr>
<td>Enhanced ability to address important issues</td>
<td>92 100 82 86 78 82 75 88 88 88</td>
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<tr>
<td>Development of new skills</td>
<td>92 86 55 71 78 55 50 88 75 89</td>
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<tr>
<td>Heightened public profile</td>
<td>75 83 64 86 67 18 50 100 100 44</td>
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<tr>
<td>Increased utilization of my expertise or services</td>
<td>83 83 73 86 89 73 50 100 63 70</td>
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<tr>
<td>Acquisition of useful knowledge about services, programs, or people in the community</td>
<td>92 100 82 77 100 45 75 100 100 80</td>
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<tr>
<td>Enhanced ability to affect public policy</td>
<td>58 33 36 36 44 9 13 63 38 33</td>
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<tr>
<td>Development of valuable relationships</td>
<td>92 100 100 100 100 91 75 100 100 90</td>
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<tr>
<td>Enhanced ability to meet the needs of my constituency or clients</td>
<td>100 100 91 93 78 82 75 88 88 88 80</td>
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<tr>
<td>Ability to make a greater impact than I could have on my own</td>
<td>92 100 100 93 89 82 88 100 100 90</td>
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<tr>
<td>Ability to make a contribution to the community</td>
<td>75 100 91 93 100 73 88 88 75 100</td>
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<tr>
<td>Acquisition of additional financial support</td>
<td>33 0 27 29 44 18 0 38 63 22</td>
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### Table 8: Drawbacks of Partnership (Percentage by Case)

<table>
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<td>18 Month Well Baby (RR 66.7%)</td>
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</table>

Diversion of time and resources away from other priorities or obligations
- 67
- 27
- 0
- 64
- 67
- 55
- 38
- 63
- 50
- 60

Insufficient influence in partnership activities
- 50
- 45
- 0
- 14
- 11
- 64
- 25
- 25
- 0
- 38

Viewed negatively due to association with other partners or the partnership
- 8
- 9
- 0
- 14
- 0
- 9
- 14
- 25
- 0
- 0

Frustration or aggravation
- 58
- 45
- 17
- 64
- 33
- 40
- 38
- 50
- 13
- 50

Insufficient credit given to me for contributing to the accomplishments of the partnership
- 25
- 0
- 0
- 7
- 0
- 36
- 29
- 25
- 0
- 10

Conflict between my job and the partnership’s work
- 33
- 0
- 0
- 21
- 33
- 18
- 13
- 38
- 13
- 40

**Ecological Framework of Primary Care and Public Health Collaboration**

An ecological framework was developed that was informed by this program of research. Study 3 was particularly useful to develop a first version of the ecological framework, which identified the nature of collaborations and factors that influenced collaboration at four levels: systemic, organizational, interpersonal and intrapersonal.

Version 1 of the collaboration framework was presented at each of three think tanks held in BC, ON and NS. They were attended by over 200 stakeholders, including decision-makers on our team as well as invited guests. Guests included PC and PH front-line practitioners, managers, directors, provincial policy makers, researchers, and senior executives of relevant professional organizations and associations. Feedback was received on the framework and was later reviewed by the research team during a two-day team retreat. The result was a refined socio-ecological framework. The framework was revised from the first draft to guide users towards taking action to develop and maintain successful collaborations, which is in the centre or at the core of the collaboration. The final image of the framework can be found on page 41. Refer to the text boxes on page 23 which provide more detail about the characteristics of each factor.
An Ecological Framework for Building Successful Collaboration between Primary Care and Public Health

Authors: Ruta Valaitis, Marjorie MacDonald, Ruth Martin-Misener, Donna Meagher-Stewart, Linda O’Mara, Sabrina T. Wong, Paula Brauer, Michael Green, Karolak, Rachel Savage, Patrick Austin, Kristin MacLellan, Karen McNeil, Nancy Murray, Leena Wu.

Acknowledgements: S5 Strengthening Primary Health Care through Primary Care and Public Health Collaboration Team.

Note: Overall Project Lead, British Columbia co-lead, Nova Scotia co-lead, Ontario co-lead, Co-investigator authors, Overall Project Research Coordinator, Research Assistant authors. All co-leads contributed equally and are listed alphabetically. Co-investigators are listed alphabetically. Research staff are listed alphabetically. Names are listed at http://strengthenHHC.mcmaster.ca/index.php/project-teams. Assistance with French translation.
Future Research
Future research needs to focus on identifying indicators of successful collaborations as well as measuring process and outcomes of collaboration. Our case studies were selected based on our knowledge of them, and on the willingness and consent of PC and PH partners to participate in the research. Although the cases were varied in nature, they are not meant to report on the full spectrum of possible collaborations that exist. It would be useful, although methodologically challenging, to determine the extent of existing collaborations between primary care and public health in Canada and, in particular, in provinces and territories that were not explored in this program of research.
Reference List


