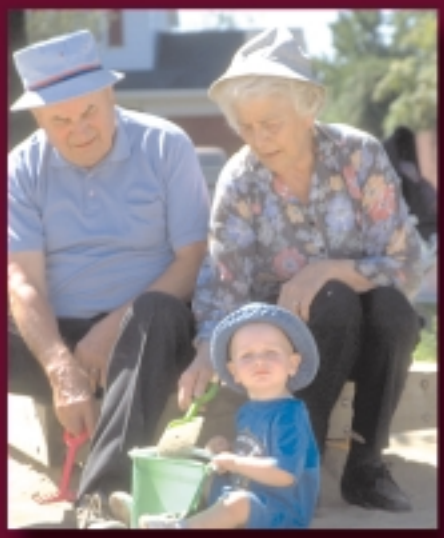
Health Canada Santé Canada

SHARING THE LEARNING

The Health Transition Fund



SYNTHESIS SERIES

Primary Health Care

Canada

Our mission is to help the people of Canada maintain and improve their health.

Health Canada

This publication may be provided in alternate formats upon request.

For further information or to obtain additional copies, please contact:

Publications
Health Canada
Ottawa, Ontario
K1A 0K9
Tel.: (613) 954-5995
Fax : (613) 941-5366

This document is available on the Health Canada web site: http://www.hc-sc.gc.ca

Cat. H13-6/2002-3
ISBN 0-662-66306-3

SHARING THE LEARNING

The Health Transition Fund

SYNTHESIS SERIES

Primary Health Care

Ann L. Mable & John Marriott
Marriott Mable

This report is one in a series of 10 syntheses of HTF project results covering the following topics: home care, pharmaceutical issues, primary health care, integrated service delivery, Aboriginal health, seniors' health, rural health/telehealth, mental health, and children's health. The tenth document is an overall analysis. All are available electronically on the HTF website (**www.hc-sc.gc.ca/htf-fass**), which also contains information on individual HTF projects.

Executive Summary

The Health Transition Fund (HTF), a joint effort between federal, provincial, and territorial governments, was created out of the 1997 federal budget to encourage and support evidence-based decision making in health care reform. Between 1997 and 2001, the HTF funded approximately 140 different pilot projects and/or evaluation studies across Canada. In order to communicate research evidence from the projects to decision-makers, experts were employed to synthesize the key process and outcome learnings in each of nine theme or focus areas: home care, pharmacare, primary care/primary health care, integrated service delivery, children's health, Aboriginal health, seniors' health, rural health/ telehealth, and mental health. This document summarizes the key learnings from 65 projects in the primary care/primary health care theme area. It has been prepared by Ann L. Mable and John Marriott of Marriott Mable.

Primary Health Care in Canada

Primary health care is typically the first point of entry to the Canadian health system. It is linked to and often provides a referring or coordinating function for other specialized health care sectors as well as community services. Primary care, the medical model of response to illness, is part of the broader concept of primary health care. Primary health care recognizes the broader determinants of health and includes coordinating, integrating, and expanding systems and services to provide more population health, sickness prevention, and health promotion, not necessarily just by doctors. It encourages the best use of all health providers to maximize the potential of all health resources. For the purpose of this paper, organizations that embrace these characteristics will be referred to as *primary health care organizations.*

The essential elements of primary health care organizations include citizen participation and choice, gatekeeping, physicians working in groups, multi-disciplinary and interdisciplinary teams of providers, rostering, capitation funding, comprehensive core services (including health promotion and sickness prevention, diagnosis and treatment, urgent care, 24-hours-a-day/seven-days-a-week coverage, and management of chronic illness), information systems (including electronic health records), an emphasis on quality, and the potential for vertical integration.

Sixty-five projects were reviewed for the Health Transition Fund (HTF) primary health care area. Four of these projects consolidated reporting on 25 primary health care model pilot project sites, for a total of 86 sites. Significant and relevant findings were examined under three themes: models and elements, capacity building, and relationship to the HTF evaluation framework. Findings relating to working in groups and multidisciplinary teams are addressed from a health human resources perspective. A number of provinces had some success in blending most or all of the essential elements of pilot primary health care models, attempting to maximize the potential that the interaction of all the elements can have over time. British Columbia and Ontario were the most successful in combining most of the elements in one form or another. Nova Scotia wanted to test blended capitation funding, but it elected, as Newfoundland did, to work with physicians on pre-existing alternative payment plans. An Alberta mobile primary health care team and the Eskasoni First Nation's primary health care organization in Nova Scotia also achieved success with some essential elements.

Experience with the elements of pilot primary health care models varied. The British Columbia government established initial rosters by examining patient billing records to ease the administrative burden on the providers. In Ontario, patients and

the new organizations benefited from discussions as part of a formal sign-up. Citizen participation enriched patient–provider relationships, which were evaluated through satisfaction surveys, and capitation funding resulted in three approaches. In British Columbia, the age–gender adjusted capitation funding formula included an additional adjustment for ill patients. One approach in Ontario is similar to that of British Columbia, whereas another uses capitation to define a billing cap against which physicians bill fee-for-service. Although the latter approach eases physicians' entry into the new model, it may provide fewer incentives for them to spend more quality time with their patients. All projects emphasized the importance of management and clinical information systems, including the establishment of a common electronic health record. Initiatives were committed to this direction with varying degrees of achievement. Information on a larger scale was the focus of one study that exposed serious problems with attempts to link provincial and territorial health insurance data necessary to the national, provincial/territorial, and regional evaluation of primary health care.

A number of projects focused on providing additional information, approaches, and tools to reinforce or build capacity for application in primary health care. The development of guidelines for prostate cancer in Quebec demonstrated some success in reducing laboratory testing. An evaluation of primary health care in Alberta produced useful indicators and a manual for evaluating information technology. A focus on populations supported cross-sectoral collaboration and linkages to support functional integration. A number of initiatives developed and/or evaluated programs for populations with chronic diseases. One diabetes project in Alberta succeeded in reducing the number of participants whose blood sugar was out of control from 64 to 22 per cent. A project in Nova Scotia that integrated mental health professionals at the primary health care site decreased waiting times by five to seven weeks and reduced emergency visits. A number of projects focused on populations at risk. One project was able to increase immunization in an Aboriginal population through improved communication with families. Pharmacists were able to work in partnership with physicians and seniors to improve compliance and to assess and make recommendations on the appropriateness of prescriptions. Other initiatives improved services for the mentally ill, victims of violence, and those in the farming environment. The new primary health care models and various aspects of the capacity building initiatives generally provided evidence and support for the six elements of the HTF evaluation framework: access, quality, integration, health outcomes/impact, cost-effectiveness, and transferability.

The roles of health human resources are evolving. The commitment to physician groups and multidisciplinary teams demonstrates the influence of primary health care reform on this evolution. Many questions are raised about the changing scope of practice, evolving working relationships, and potential new roles. Some projects applaud nurses as the first line of care in rural and remote environments and as evolving team members in primary health care organizations. Nurse practitioners (NPs) are receiving tribute from patients, physicians, and governments, which are amending laws to permit NP prescribing. Within the new primary health care organizations, physicians are moving from solo to group practices, which represent safer, more supportive and collegial environments that promote higher quality for providers' professional and personal lives. These potential benefits are equally valid for multidisciplinary teams. A number of projects explored, developed, and/or implemented collaborative working relationships with generally satisfactory results. Although the experiences with

providers other than nurses or physicians were promising, much remains to be done to maximize their potential roles and benefits in primary health care.

Many projects demonstrated the possibilities of population health approaches at the core of primary health care. The British Columbia pilots used a population-based approach to gathering information to support planning and evaluation of services. Many projects developed guidelines or programs for defined populations. A number of these initiatives were collaborative efforts involving primary care providers, providers in other health sectors, and, in some cases, staff in sectors outside of health, such as the school system.

A number of implications for policy and practice form the basis of the following recommendations:

- *Pilots or implementation:* The new primary health care models are based on sound organizational principles and experience; therefore, they should be implemented.
- *One model or many:* Federal, provincial, and territorial governments should consider a policy that accepts pre-existing as well as new models as either an interim or permanent approach within a primary health care framework.
- *Guidelines for implementing models:* Federal, provincial, and territorial governments, along with health professionals and others, should develop guidelines for implementing new models, including options for phased approaches and streamlined approaches for those able to move quickly.
- *Computers, information systems, and telehealth:* Federal, provincial, and territorial governments should consider a further study of information system requirements, including electronic health records, to develop viable options for selection.
- *Administrative simplicity:* Governments need to pay attention to efficient and timely program administration, particularly for the providers and staff of the new organizations.
- *Collaborative practice:* Systemic and other obstacles, including jurisdictional, regulatory, and funding issues, need to be addressed.
- *Joint education of providers:* Federal, provincial, and territorial governments should support recommendations in this area.
- *Nursing:* Federal, provincial, and territorial governments and other stakeholders should establish initiatives to develop national standards regarding terminology and scope of practice for nurses and other non-physician health providers.
- *Other providers:* Federal, provincial, and territorial governments should develop national standards related to the roles and contributions of primary health care organizations.
- *Continuing education support:* Federal, provincial, and territorial governments should explore ways to support developing and implementing innovative approaches.
- *Clinical practice guidelines and program development:* Research granting bodies and other funding agencies should continue their support for development in this area.

- *Public education:* Federal, provincial, and territorial governments should develop public education initiatives on all aspects of primary health care reform and models.
- *Success stories:* Federal, provincial, and territorial governments should work with initiatives and organizations to disseminate information about success stories.
- *Emergency versus urgent services:* A task force that includes representatives from the health professions and universities should examine policy and practice regarding urgent versus emergency care.
- *Information links and data standards:* Federal, provincial, and territorial governments should examine the incompatibility of provincial and territorial codes for physicians and hospital discharges and other data needed to evaluate primary health care in Canada.

The recent renewal of attention to primary health care is timely. The experiences of the HTF initiatives reinforce how potential benefits for health providers, health organizations, governments, and other stakeholders make the opportunity costs too high to disregard. Most important, the potential benefits of achieving and maintaining good health make this a national priority. It is through these experiences that progress in primary health care may be achieved.

Preface

In recent years, Canada's health care system has been closely scrutinized with a view to quality improvement and cost-effectiveness. Fiscal pressures and changing demographics are resulting in initiatives to explore how the efficiency of the health care system can be increased while ensuring that high-quality services are affordable and accessible. Within this context, there has been a need for more research-based evidence about which approaches and models of health care have been working and which have not. In response to this requirement for evidence, and on the recommendation of the National Forum on Health, the Health Transition Fund (HTF) was created out of the 1997 federal budget to encourage and support evidence-based decision making in health care reform.

A joint effort between federal, provincial and territorial governments, the HTF funded 141 pilot projects and/or evaluation studies across Canada between 1997 and 2001, for a total cost of $150 million. Of that, $120 million supported provincial and territorial projects and the remaining $30 million funded national-level initiatives. The HTF targeted initiatives in four priority areas: home care, pharmaceutical issues, primary health care, and integrated service delivery. Various other focus areas emerged under the umbrella of the original four themes, including Aboriginal health, rural health/telehealth, seniors' health, mental health, and children's health.

The HTF projects were completed by the spring of 2001. In order to communicate the evidence generated by the projects to decision-makers, experts were employed to synthesize the key process and outcome learnings in each theme area. This document summarizes the key learnings in the primary health care theme area. It has been prepared by Ann L. Mable and John Marriott of Marriott Mable.

Unique Nature of the HTF Projects

The HTF was quite different from other organizations that fund health-related research in this country, such as the Canadian Institutes for Health Research and its predecessor the Medical Research Council.

- It was a time-limited fund, which meant that projects had to be conceived, funded, implemented, and evaluated all in four years – a very short time in the context of system reform.
- It was policy-driven; policy-makers were involved in the project selection process, and wanted to focus on some of the outstanding issues in the four theme areas in the hope that results would provide evidence or guidance about future policy and program directions.

In order to encourage projects to address issues and produce results that would be relevant to decision-makers, the HTF developed an evaluation framework consisting of six elements (access, quality, integration, health outcomes, cost-effectiveness, and transferability). Each project was required to have an evaluation plan addressing as many of these elements as were relevant. In addition, all HTF projects were required to include a dissemination plan (for which funding was provided) in order to ensure that results were effectively communicated to those best able to make use of them. In addition to these individual dissemination plans, the HTF Secretariat is implementing a national dissemination strategy, of which these synthesis documents are one element. This emphasis on evaluation (systematic learning from the experience of the pilot initiatives) and dissemination (active sharing of results) was unique on this scale.

Most national projects were selected by an intergovernmental committee following an open call for proposals, while provincial/territorial initiatives were brought forward by each individual jurisdiction for bilateral approval with the federal government.

At both levels, applications came not just from academics in universities, or researchers in hospital settings, but also from non-traditional groups such as Aboriginal organizations, community groups, and isolated health regions. Groups that had rarely, if ever, thought in terms of research, evidence, evaluation, and dissemination began doing so, and these developments bode well for improved understanding and collaboration among governments, provider organizations, and researchers. The role of federal, provincial, and territorial governments in the selection process ensured that the projects delved into the issues that were of high concern in each jurisdiction. By the same token, there was considerable scope in the range of project topics, and the body of projects was not (and was never intended to be) a definitive examination of each theme.

This unique focus and selection process imparts specific features to the HTF body of projects. The projects that were funded represent good ideas that were put forward; they do not represent a comprehensive picture of all the issues and potential solutions in each of the theme areas. The relatively short time frame meant that many researchers struggled to complete their work on time and the results are preliminary or incomplete; some pilot projects might take a number of years to truly show whether they made a difference. This must be left to others to carry forward and further investigate. Perhaps the greatest value in the large body of HTF projects comes from the lessons we can learn about change management from the researchers' struggles and challenges as they undertook to implement and evaluate new approaches to longstanding health care issues.

Acknowledgements

The authors would like to thank Hollander Analytical Services Ltd. for its assistance in the preparation of this document. The HTF synthesis series was commissioned by Health Canada and managed by Hollander Analytical Services Ltd. The views expressed herein do not necessarily represent the official policy of federal, provincial or territorial governments.

Table of Contents

List of Tables

1. Setting the Context

1.1 Background: Expanding Perspectives

Primary health care is typically the first point of entry to the Canadian health system. It is linked to and often provides a referring or coordinating function for other specialized care sectors in that system. Increasingly, primary health care sites also provide connections to community services. The current focus on primary health care presents opportunities to renew and refine it, as well as a departure point for a reform of the larger health care system, both within and beyond its traditional borders.

Present thinking about primary health care has been influenced by a number of factors, including changes in terms and perspectives in response to emerging health and health system issues. The lessons learned over time are being articulated in new principles, organizational structures, and strategies. In the current environment, there is some discussion about clarifying or differentiating the terms and practices of primary care from those of primary health care. The problem is that these terms are often used interchangeably. This is partly due to distinctions between earlier health system practices, which encompassed a traditional primary care perspective, and more recent *systemic* thinking, which has broadened in scope and is known as primary health care.

Historically, primary care has tended to represent the traditional medical model of response to illness and associated responsibilities: "Primary Medical Care consists of the first-contact assessment of a patient and the provision of continuing care for a wide range of health concerns. Primary medical care includes the diagnosis, treatment and management of health problems; prevention and health promotion; and ongoing support, with family and community intervention where needed" (Canadian Medical Association, 1994). Within this model, service in Canada is provided mostly by a private-practice solo physician or group of physicians – general practitioners (GPs) and/or family physicians (FPs) – who have typically been paid on a fee-for-service basis. Primary care is usually about GPs and/or FPs and their contacts with patients. Its reform is often associated with considering various models of how medical doctors work (e.g., moving to group practices) and how they are paid for seeing patients, moving away from the fee-for-service system to other models (e.g., capitation, salary, or combinations thereof).

Recently there has been a growing appreciation of population health, as well as a broader definition and a growing importance of primary *health* care within a larger health system. Population health encompasses the determinants of health status – the elements that are known to influence the health of individuals, populations, and communities and that include a variety of factors: working conditions, physical environment, education, income, employment, coping skills, social support networks, personal lifestyle and health practice, and last but certainly not least, the impact of the health care system as it responds to health needs (National Forum on Health, 1997; Marriott & Mable, 1999; Health Canada, 2001).

The World Health Organization (WHO) captured this more expansive direction in the Declaration of Alma-Ata (World Health Organization, 1978), which refers to the curative or illness-response capacity of traditional primary care and goes beyond this in listing a number of principles and elements of primary health care. In summary, primary health care encompasses diagnosis and therapy, but it is broader in scope. It includes coordinating, integrating, and expanding systems and services to provide more population health and public health services, not necessarily only those provided by doctors. It

encourages the best use of all health providers to maximize the potential of all health resources in the system. In this paper, organizations that embrace these characteristics are referred to as *primary health care organizations.*

1.2 Systemic Influences and Present Priorities

The expanding perspectives on primary health care are influenced by various international and Canadian initiatives that seek to identify and respond to *systemic* policy, program, and organizational issues. In Canada, the Federal/Provincial/Territorial Advisory Committee on Health Services (FPT) conducted regional and national consultations in 1996 with government, professional, academic, Aboriginal, and other citizen and stakeholder representatives. Participants identified a number of patient and provider issues in the primary health care system, including:

- the fragmentation of care and services;
- the lack of emphasis on health;
- barriers to access;
- the need for public education and awareness; and
- poor information sharing, collection, and management.

Other widely identified fundamental systemic concerns include:

- the accountability of both patients and providers;
- the unequal distribution of resources;
- the misalignment of incentives, especially fee-for-service remuneration that rewards episodic care;
- systemic inflexibility in situations where support is needed to nurture innovation in approaches or organizational refinement in keeping with local needs and circumstances; and
- inadequate attention being paid to some providers, especially in rural and remote areas, and to groups such as First Nations.

From these issues, several priorities have emerged.

In response to systemic issues and goals, provincial and national initiatives explored important characteristics of primary health care reform to identify their essential elements and to determine which approaches might work and which should be changed. The 1996 FPT consultation identified several attributes of primary health care, including:

- flexibility;
- an emphasis on health;
- client-centredness;
- patient choice of provider, coordination, and information;
- interdisciplinary team care; and
- accountability for citizens, providers, and government.

In 1997, the National Forum on Health supported moving toward a more integrated health system with primary care as a foundation, with key elements that include the realignment of funding to patients rather than services and a remuneration methodology that promotes a continuum of preventive and treatment services, encourages the use of multidisciplinary teams of providers, and is not based on volume of services provided by physicians (National Forum on Health, 1997).

Many countries, including Canada, are introducing a variety of initiatives that focus on the design, implementation, and refinement of organizational models of primary health care reform that incorporate many of the proposed essential elements of primary health care (Marriott & Mable, 2000):

Patient Focus

- **Citizens' participation** in their care and in planning, and an increased role in governance.
- **Citizens' choice** of primary health care provider and/or organization, reinforced by international experience.

Enhanced Provider Interaction

- **Gatekeeping** which involves restricting access to specialist or hospital care that requires a referral from a primary care physician, except in emergencies. (Direct access to providers other than physicians is not necessarily constrained by gatekeeping.)
- **Physicians working in groups** within one setting or "networked" to enhance the quality of care (e.g., for rural or remote areas) and safety for the physician.
- **Multidisciplinary and interdisciplinary teams**, including nurse practitioners, dieticians, and other providers.

Critical Underpinnings

- **Rostering**, or the explicit identification of individuals who have chosen the physician, other provider, and/or primary health care organization for their services.
- **Capitation** funding for all or a large percentage of remuneration, based on the number, age, sex, and other features of the patient population.
- **Comprehensive core services** which include health promotion and sickness prevention, diagnosis and treatment, urgent care, "24/7" access, and the management of chronic illness.
- **Information** including electronic health records, decision support systems, and management support linkages for information sharing and transfer.

Orientation and Direction

- **Quality** which includes the review and upgrading of practice, information, and professional supports, as well as responsiveness to the public.
- **Support for growth toward a vertically integrated health organization** through enhanced linkages and coordination, as well as additional responsibility and funding for health services beyond primary health care.

A renewed primary health care vision presents challenges for policy-makers and decision-makers in terms of change and transition. How can Canada maximize the potential of *all* its health care professionals and sites? What is the "right" balance between systemic/organizational/operational flexibility and compliance with fundamental principles, elements, and standards? How can a "system" of resources that varies widely by province be streamlined to most effectively operate within its means, support all health professionals, and be responsive to all Canadians? Can reforms move judiciously out of the present scheme into pilots or operational units that are *allowed* to be revised over time (as is the case with current elements of the health care system)? How quickly must innovations prove themselves, and how can new models be appreciated from a perspective of long-term viability? Despite immediate pressures and the sometimes weighty requirements of reform, there is a need for stability and hope, especially for those who work within the system and are served by it. Vision and leadership are required to motivate and support those willing to proceed. These are only a few of the challenges to be addressed.

Building on the work of the National Forum on Health, the HTF projects are an important foundation upon which to construct a better health system. The projects' priorities are to improve the organization and funding of services, to enhance access and outcomes for citizens, and upgrade levels of quality and cost-

effectiveness in ways that promote system improvement across the country. Chief among these priorities is the improvement of working environments for all health human resources. The HTF projects represent a rich set of first-hand experiences across a wide range of approaches, strategies, interventions, and explorations, at various levels. Upcoming sections of the paper provide an overview of the HTF primary health care projects, discuss significant relevant findings with a particular focus on health human resources, and examine implications for policy and practice, summing up with recommendations and conclusions.

2. Overview of the Health Transition Fund Studies

Sixty-five HTF project reports were reviewed for the primary health care area (see Appendix A). Four of them consolidated reports on 25 pilot project sites (seven in British Columbia, three in Newfoundland, four in Nova Scotia, and 11 in Ontario), for a total of 86 sites. Although other projects had implications for primary health care, they had other predominant foci, such as Aboriginal health, integrated service delivery, or rural health, and thus were not reviewed for this report.

Table 1 summarizes the number and locations of the projects. Eight of the projects (12 per cent of the total) were designated national rather than provincial because they explored approaches pertinent to more than one provincial setting.

For the purpose of this synthesis, the HTF projects were grouped for discussion on the basis of the principal nature of the initiative and were then considered in terms of major themes (see Table 2).

Table 1: Number and Location of HTF Projects

Project Locations	Number Reviewed	Per cent of Total
National Projects	8	12%
Atlantic Provinces (NF, NS, PE)	4	6%
Central Provinces (ON, QC)	18	28%
Western Provinces (AB, BC, SK)	35	54%
Total	**65**	**100%**

Table 2: Major Types of HTF Initiatives

Organizational or operational reform (26)

- New models of primary health care with all or most elements (7)
- Community health centres (5)
- Focus on one or more elements (14)

Capacity building – develop, test, and evaluate (39)

- Guidelines and other tools (7)
- Education initiatives to sustain and improve provider capacity (5)
- Responses to populations identified by disease (7) or by risk (10)
- Citizen participation/community development (3)
- Research to advance primary health (7)

Although many of the projects considered similar topics, such as expanded roles for nurses, alternative physician compensation, or the use of technology/telehealth, they were as diverse in approach as in the number of sites. The national initiatives included a new model of primary care for the Eskasoni First Nation, the testing of nursing practice models, the use of telecentres for education, and a significant exploration of non-financial barriers to "medically necessary"

services. The provinces took various approaches to primary health care: British Columbia, Ontario, Nova Scotia, and Newfoundland attempted organizational reform pilots that tried different ways of paying physicians and delivering services to patients. The HTF gave them the opportunity to test options, explore new methods, and see how providers and patients responded to the changes.

Alberta implemented an "umbrella" initiative consisting of 27 projects and a comprehensive evaluation of their goals, outcomes, and implications for primary health care advances. It pursued seven explicit strategies:

- rural/remote access;
- illness prevention and health promotion through community development;
- early intervention and education;
- system restructuring;
- integrated service delivery;
- quality improvement; and
- community health centre models.

The subjects included lactation support, immunization promotion, "healthy start" projects for infants, palliative care programs, and Aboriginal outreach. Alberta coordinated the projects and then did its own evaluation, in addition to doing external evaluations of all projects. All of these projects were initiatives for new or expanded service delivery, often with a strong "population health" or public health focus.

Although not all of the projects achieved all of their goals, they did have something to teach about the successes and challenges of undertaking primary health care initiatives. The next section highlights significant relevant findings and includes descriptions of selected projects.

3. Significant/Relevant Findings

As attempts to address issues relating to priorities of primary health care, the HTF initiatives provide valuable input on a wide range of first-hand experiences. The projects' major themes are presented under three headings. *Models and Elements: Organizational or Operational Reform* surveys strategies for organizational or operational reform; *Capacity Building for Primary Health Care* follows efforts to improve the capabilities of providers to serve particular population groups; and *Relationship to the HTF Evaluation Framework* reviews selected findings using the HTF evaluation framework. The implications for health human resources are addressed in Section 4.

3.1 Models and Elements: Organizational or Operational Reform

Literature and experience suggest that issues of fragmentation, prevention, and promotion in the health system and the best use of health resources can be addressed by primary health care organizations that incorporate the essential elements summarized in Section 1.2. Given the interactive nature of the elements, their combining greatly enhances their potential benefits and outcomes. For example, an explicit patient list or roster can be the basis for capitation (per-person) funding and provides foundational data for a common electronic health record base as well as a larger population-specific data pool. It can then be linked to information on encounters between patients and providers (e.g., time, diagnosis, treatment – often through a "shadow billing" system) and clinical outcomes for individuals or population groups and be attributed to uniquely identified primary health care providers and organizations. Local data can be aggregated on a regional, provincial, or national level to provide a basis for planning and research.

Those implementing a new primary health care model face new service delivery approaches (i.e., multidisciplinary teams), and working relationships and methods to establish the broader programs and services included in an expanded perspective of health. Implementing new clinical and management information systems with new funding approaches and incentives requires sensitivity and responsiveness to the more explicitly identified population served. Providers must understand the vision and see the potential benefits.

Nearly half the HTF projects surveyed explored combinations of the key elements through organizational or operational reform. The following sections address the extent to which the initiatives attempted to incorporate essential elements in new models. The discussion then reviews selected findings regarding: citizen choice and rostering, citizen participation, capitation funding, and information systems. Various implications of core services, potential for integration, and quality are addressed in Section 3.3.

3.1.1 Combining the Elements

Some of the HTF initiatives incorporated elements of primary health care in ways not allowed by traditional structures and practices. A number of provinces demonstrated success in blending all or most of the essential elements in pilot primary health care models and attempted to maximize the interaction of the elements. More extensive model explorations at multiple sites were "pilot" (301) initiatives, including those in British Columbia (BC301), Ontario (ON301), Newfoundland (NF301), and Nova Scotia (NS301). The models that successfully combined most of the elements in one form or another were the British Columbia and Ontario projects. Rather than addressing rosters or capitation funding, the Newfoundland and Nova Scotia projects stayed with existing alternative payment plans for physicians.

In addition to these pilots, *A Tri-Partite Approach to Developing a New Model of Primary Care for Eskasoni First Nation* (NA305) moved from a solo fee-for-service practice to a non–fee-for-service collaborative physicians' group and multidisciplinary primary care initiative, and Alberta's mobile *Remote Primary Health Care System (Rural)* (AB301-23) organized essential elements in an innovative way to bring services to remote communities.

The capitation project in Quebec (*Capitation Project in the Haut Saint-Laurent RCM*, QC431) created the experience of a primary care-based, vertically integrated organization. Its integrated network of services included *centres locaux des services communautaires* (CLSCs, local community service centres), hospitals, and fee-for-service physicians and others in 20 clinical programs for primary care, geriatrics/frail elderly, mental health, and cardiovascular care. The first phase achieved clinical and informational integration by pooling resources to create the effect of a single flow of funds and brought institutions, providers, and administrators to work together as though they were a single organization. This phase established commitments to move toward administrative and financial integration and a single cash flow based on capitation funding. A number of initiatives in Alberta took place at community health centres (CHCs) that have been at the forefront of alternatively funded physicians (generally salary) and multidisciplinary/interdisciplinary teams, since before medicare in some cases. They differ from new primary health care models in tending to serve populations in catchment areas without explicit rosters or per capita funding.

3.1.2 Patient Choice and Rostering

The right of a patient to choose a provider has been a cornerstone of Canada's health system. Active choice or explicit identification with a health provider or organization is the basis of the relationship through which a patient accesses the larger health system. In the present fee-for-service environment, this

relationship is usually not documented for purposes other than for billings to government. An integrated primary health care context would formalize the relationship by keeping track of important patient information, starting with a roster of who patients are, that can become a base on which to build an aggregated information system.

Although this approach can involve a significant "front end" effort to establish and manage the roster, including learning to use new information technologies, it has many benefits. When meaningful socio-demographic groupings and health needs are identified and documented, a database can aggregate the information on all rostered patients and be a valuable resource in a primary health care environment. It enables health providers, health organizations, and governments to tailor their services to patients' needs and to base per-person funding more explicitly on those served, support planning and research, and track important administrative and cost information. The presence of a well-managed roster can thus improve the quality, effectiveness, and efficiency of services.

The pilots in Ontario (*Primary Care Reform Implementation and Evaluation*, ON301) and British Columbia (*Primary Care Demonstration Project*, BC301) show that rosters can also be approached by alternative means, each conveying different implications and trade-offs. In both, new rosters formed the basis for per capita and other funding and information systems. Patients could change providers, who had the responsibility for "managing" the roster. There were notable differences in approaches. ON301 used a traditional process and had patients sign enrolment and consent forms. The high rate of patients rostered at the time of project evaluation (84 per cent) may have been helped by prior health service organization (HSO) relationships that gave patients the confidence to "follow" physicians into the new primary health care models. The benefits of an explicit sign-up include a transparent process requiring "up front" communication with patients and thus clearer relationships with providers. Explicit sign-up also provides opportunities to discuss and formalize the responsibilities of patients and providers and to have patients authorize the sharing of their Ministry of Health information with those gathering information about them.

The process can, however, be limited by the funding model or other parameters. In one of the two funding options in ON301, a group of physicians who were on a "capitation-defined cap" but still billing fee-for-service against that had less incentive to roster than did those on blended capitation (i.e., their billing environment had not materially changed). Ontario limited the number of patients to be rostered per physician at 2,200 but approved an additional 800 per physician if a nurse practitioner was hired.

By contrast, BC301 employed a "virtual rostering" approach and placed no limit on the size of the roster. A patient's choice of provider was determined by examining three years of participating physicians' claims records and establishing a roster of patients from this. The process built upon existing physician–patient relationships to reduce the time and expense of a formal sign-up of patients. Lost, however, was the opportunity for direct communications with patients and for establishing the responsibility of both parties at the outset in a more personal way. That absence of "up-front" communication may result in the new organization seeming less transparent, explicit, or understandable to the rostered patients.

In an additional potential example of rostering, a Quebec initiative, *Capitation Project in the Haut Saint-Laurent RCM* (QC431), prepared to assume responsibility for all health services for its population, including specialty services. The initiative did not formally roster the approximately 25,000 people served by its proposed integrated primary health care model, but its intention to achieve capitation funding implies (and will require) some form of explicit identification of the population.

3.1.3 Citizen Participation

While it is not always easy to do, engaging the public in their own care or in the planning or decision-making associated with health organizations is important to all concerned. It opens direct channels of communication that raise the quality and responsiveness of services. Health care has traditionally been hampered by imbalances in information and expertise between patients and providers. By contrast, a primary health care environment seeks to improve health through involvement and empowerment of patients and communities to help themselves. The opportunity for input gives citizens a sense of ownership and control of their health options. Public feedback on organizational and provider performance keeps them in tune with those served. For example, the BC301 projects used patient surveys to determine patients' satisfaction with new services and gathered valuable information despite initial problems with implementation.

Educational programs also help patients to learn more about their health needs and the appropriate use of health services. Support for self-care and for developing and maintaining a healthy lifestyle can instill confidence, enhance understanding, and potentially reduce ill health and its cost to the system. In keeping with these goals, nurses in the BC301 projects initiated group education sessions and individual counselling for a variety of conditions, including diabetes and asthma.

Involving citizens at the community level in a process to define and shape services is a more extensive form of empowerment. In Quebec, *Citizen Participation in the Emergence of Alternative Solutions to Meet Primary Health Services Needs in "Healthy Towns and Villages" Communities* (QC432) brought together volunteers, municipal employees, and health providers to set priorities for primary health care programs. It proposed a number of services that reflect local needs in various communities. Although it faced challenges, the project was a worthy attempt to reach beyond old limits to involve communities in decision-making. This also occurred in *Evaluation of the Healthy Okotoks Project* (AB301-12), where a diverse coalition of community organizations came together to promote, develop, and support a "healthy community" initiative.

3.1.4 Funding

One objective of health system and primary health care reform is to change the basis of physician payment. Although there is some Canadian experience with salary, alternative payment, and capitation, most physicians are still "fee-for-service." In addition, the reform context can be complex and time-consuming, and fee-for-service does not typically incorporate payment for time spent on clinical efforts in other settings (e.g., schools, which inhibited the potential of the COPE program [AB301-9] in Alberta) or on non-clinical areas of reform (i.e., administration, management).

The goal of reform is to move from payment based on the volume of services to an approach that is fundamentally patient-focused, supports the provision of a continuum of preventive and treatment services, and is a more flexible environment that includes the use of multidisciplinary teams. Such changes influence better care for patients and promote a more balanced practice environment for providers. (In a 1999 *CMA Journal* membership survey, 70 per cent of physicians indicated that they would like an alternative to fee-for-service.)

A funding approach that incorporates per person or capitation funding as an integral component has a number of benefits:

- It is linked to the patient list and the needs of patients rather than to the provider.
- It provides "reasonable" funding in terms of its relationship to the anticipated cost of care for the rostered population's profile of need.

- It allocates resources on the basis of the population's observable characteristics and is not heavily affected by gaming or political manipulation.
- It represents a "fairer" share of financial resources vis-à-vis others in the system.
- It introduces predictability for both the organization and governments.
- It is responsive to (or adjusts to) changes in the size and demographic composition of the population and relative levels of illness, where this is factored into the formula. Changes in population characteristics result in changes in "cash flow" to the organization.

Although the theory and merits of new funding models have been examined for some time in Canada, the opportunity to actually implement changes to physician payment methods is of major significance. Given the interest of physicians in new remuneration approaches, there is now an opportunity for more comprehensive reform, to explore optional approaches to funding with capitation as an integral component, and to move it from marginal to more widespread use in the health system. Some HTF initiatives addressed alternative ways to blend and adjust capitation-based funding and considered the implications of these changes.

The Ontario and British Columbia pilots both implemented blended funding approaches that included capitation funding based on roster members' age and sex, with some variations. ON301 implemented two alternative approaches:

- "Global capitation," which provided a cash flow that included access to additional fees to support preventive care, home care support, and medical education; the incentives embedded in this approach promote transparency of the process as well as better awareness and understanding by providers of financial linkages to the patient roster.
- "Reformed fee-for-service," where capitation was used to define a funding "cap" or maximum total funding for the group, against which physicians continued to bill fee-for-service. The cap was not enforced for the first 18 months after signing.

The two approaches have different implications. Allowing the "reformed" group to maintain a fee-for-service environment would facilitate their transition into an alternative "capitation" model. At the same time, they might be more likely to maintain their stronger commitment to fee-for-service, not fully appreciating the reform potential of capitation funding and inhibiting progress. The linkage between funding and the organization and rostering of individuals might have less of an influence. This group could have less incentive to develop the roster. Because they were not dealing directly with the implications (e.g., cash flow) of capitation funding and were essentially still practising as before, they may be less likely to alter their relationships with patients, for example, to spend more quality time with them.

In British Columbia's *Primary Care Demonstration Project* (BC301), the capitation funding represents the majority of practice income. As in Ontario, the capitation is adjusted for age and sex, but with a major difference: the formula is adjusted in accordance with the Johns Hopkins Adjusted Clinical Group (ACG) case-mix adjustment system, which assigns patients to illness categories that have specific payment rates, with higher rates for patients with a higher illness burden. The additional adjustment factors increased the financial "sensitivity" of the cash flow to account for the time and effort spent on patients with greater needs (e.g., as a population becomes more ill, the funding flow adjusts to compensate). The funding was more explicit, transparent, and predictable for providers. A one-year assessment of payments indicated that rates increased as patients became more

ill (confirming the cash flow sensitivity). The BC301 initiatives also addressed another area of concern about providing capitation funding only for primary care: there might be an incentive for providers to increase their incomes and reduce their workload by offloading to specialists, with added implications for increased costs in specialty areas. However, a preliminary assessment of referral rates before and after the start of capitation funding found no evidence of increased referrals of patients to specialists.

Not all initiatives moved to blended capitation, however. *Strengthening Primary Care in Nova Scotia*, for example, hoped to test blended capitation in its primary care models (NS301), but physicians preferred to stay with pre-existing alternative payment funding contracts, which removed overhead responsibility and specified hours of services, including in-hospital and home visits.

3.1.5 Information Systems and Technology

Information systems are a significant element in boosting the capacity of primary health care organizations to provide more appropriate services. Benefits to patients and providers include enhanced access and linkages to other providers and resources (e.g., consultation, education, timely access to diagnostic results). In addition, good data aggregated appropriately in a regional or provincial database would support planning at the national, provincial/territorial, regional, and primary care organization levels. Well-developed and well-maintained information systems for primary health care and other services may improve administration (e.g., scheduling, accounting, patient encounters, billing information) and planning and provide clinical tools and decision support capacity. An effective electronic health record is at the core of an effective information system to enhance quality and safety in terms of the potential for accessible, timely, and complete information to guide assessment and decision-making by providers.

Canadian information systems are generally assumed to contain potentially valuable information for better research on primary health care, but one national project, *Socio-Economic Differences in the Use of Health Care: Why Are There Non-Financial Barriers to "Medically Necessary" Services?* (NA369), provided keen insights into their problematic state. What began as a study of socio-economic differences in access to health care in Canada produced an interim report with significant implications. The initial study was delayed due to substantial difficulties in obtaining access to information across the country. Gaining the required approvals involved different rules and protocols in different provinces, and the initiative documented an absence of policies and protocols for information sharing among the federal and provincial governments. Furthermore, the incompatibility of coding used in different jurisdictions for physician claims, hospital discharges, and other data posed a major barrier to interprovincial and national health services research. This project's findings expose a significant national issue in need of attention.

All the 301 pilot projects commented on the difficulties of selecting, implementing, and using new technology. Addressing information systems (hardware and software) was also a common issue: ON301 experienced delays in developing some components of its system, and in BC301, good progress is being made with scheduling, shadow billing for encounters, and financial management. The development of electronic health records is also an issue: pilot sites in Nova Scotia's *Strengthening Primary Care* project (NS301) have developed advanced information systems that include an electronic patient record and a practice management system that tracks all the providers' methodologies.

The use of telehealth applications such as video conferencing to link rural providers with specialists, other programs, and education opportunities was assessed by rural primary health care providers.

Newfoundland's *Primary Health Care Enhancement Project* (NF301) reviewed access to information that was useful in its practice. The initiative's connection with a medical school opened the opportunity to provide education to medical students at rural sites and for the providers at the sites to contribute to the educational process as "off-site" faculty members. This project may improve the recruitment and retention of physicians in rural areas and, if successful, could be extended to other health providers.

3.2 Capacity Building for Primary Health Care

Projects in this group focused on initiatives that reinforce and build capacity in primary health care. A number of them worked on clinical practice and other guidelines, methodologies, programs, and educational supports for providers that enhance the standards and quality of service planning, evaluation, and delivery of primary health care. Programs that respond to identified populations (by age, gender, risk, disease, cultural group, or other indicator) often provided a continuum of services via linkages between primary health care organizations and providers on one hand, and between specialists, hospitals, and others including community agencies outside the primary health care sector on the other hand. This can encourage the development of a vertically integrated organization.

3.2.1 Guidelines and Other Tools

The development of guidelines and other tools benefits both new and existing approaches to primary health care. Quebec's *Development and Application of Guidelines for Optimizing Medical Practices* project (QC303) demonstrated some success in reducing laboratory testing subsequent to implementing a prostate cancer guideline. Attempts to develop other guidelines exposed a number of areas in need of improvement, including problems with accessing data and the need for professional consensus in guideline development. The project reported that the absence of a patient-centred culture and the corresponding predominance of a culture of professional independence contributed to low physician response. It also observed that the absence of a formal organizational structure for primary care complicated the use of any approach designed to fit organizations supported by clear leadership and decision-making processes and able to ensure accountability and the necessary resources. An Alberta initiative, *Enhancing Primary Care of Palliative Cancer Patients* (AB301-4), also experienced some initial difficulties with physicians' involvement, but they were nonetheless able to use the guidelines to determine problems with sedation. The use of other tools, such as standardized consultation notes, brochures, and communications initiatives, improved the providers' capacity to identify the expectations of providers, patients, and their families.

Another Alberta project, *Evaluation of a Primary Health Care Clinic According to Primary Health Care Parameters of First Contact, Longitudinality, Comprehensiveness and Coordination* (AB301-5), provided useful tools through an evaluation of primary health care. Its challenges included the need for more timely and accurate data, which resulted in observations that cost information on family practice "does not exist." In spite of concerns from both doctors and nurses about the time required to complete the project, the initiative produced a number of useful results, including a "first-class" literature review of primary care indicators; a list of 50 indicators for evaluating family practice in the areas of access, quality, and integration; and a manual suitable for primary health care organizations seeking to implement an information technology evaluation system.

3.2.2 Populations with Chronic Disease

An approach to care based on identifying and addressing population groups by the category of their illness provides a framework for thinking about "all"

individual and group needs. It expands thinking about needs both within and beyond primary health care. Usually, target populations are those with chronic or long-term illnesses or those who may be at risk of these illnesses. The benefits of this approach include initiatives geared to individuals with elevated cholesterol, diabetes, and mental illness. When faced with the lack of an incentive within fee-for-service to reward physicians to provide patient education, Alberta's *Misericordia Health-Lifestyle Improvement Education Centre* project (AB301-15) established an educational centre to deliver health information to patients with elevated cholesterol. It resulted in an improved knowledge of diet and exercise and a reduction in cholesterol, often without medication.

The benefits of providing access to educational programs for diabetics can be seen in two projects. Quebec's *Integrated Population Approach Care Model for Patients Suffering from a Chronic Illness* project (QC433) focused on diabetes education for patients (in several languages) and for providers and promoted multidisciplinary teams. Despite some physician resistance to using tools and participating in continuing education, patients who took part in the program reported improved knowledge and better lifestyle six months after the program. *A Program Evaluation of Diabetes Centres in the Capital Health Region*, which evaluated seven diabetes centres in Alberta (AB301-25), demonstrated the benefits of educational and other programs, in spite of some problems with waiting times to access the program, resulting in a desire for more services closer to home. Among those who participated, the number of clients whose blood sugar was out of control decreased from 64 to 22 per cent after the program. Both projects indicated a need for additional independent evaluation to determine the most appropriate content and delivery of educational programs.

A number of findings emerge from responses to the needs of those suffering from mental illness. Issues of access and problems of being marginalized and treated outside the primary health care setting were addressed in two projects: one in Alberta, *Shared Mental Health Care in Primary Care Practice* (AB301-10) and one in Nova Scotia, *Enhancing the Care of People with Mental Illness in the Community* (NS421). These projects integrated the services of mental health professionals (nurses, psychologists, psychiatrists) with the direct services of primary care physicians at the primary health care site. In both projects, the capacity of family physicians to deal with mental health issues improved and patients appreciated the ability to access services within primary health care settings, which removed a "mental illness" stigma. The NS421 project was thus able to decrease waiting times by five to seven weeks, reduce emergency visits, and provide consultations with specialists for patients on-site. Predictably, they had high patient satisfaction ratings. Alberta's *8th and 8th Health Centre Proposal* (AB301-3) reviewed the needs of the mentally ill and, in response, established an urgent care service. The program's overall success was hampered by the need to deal with immediate urgent care, which overwhelmed some providers' capacity to maintain a primary health care approach to practice.

Continuing medical education for physicians provided benefits in the area of mental illness. Two continuing medical education projects in Ontario and Prince Edward Island (*Mental Disorders in Primary Care*, ON321, and *Enhancement of an Integrated Model of Prenatal Assessment and Care*, PE321) improved diagnosis, treatment, and communication with patients. Physicians also became more aware of the other services available. An Alberta project (AB301-9) evaluated COPE (Community Outreach in Pediatrics/Psychiatry and Education Program), a school-based program that brought pediatricians and psychiatrists into the school environment and demonstrated an earlier, more accurate, and comprehensive diagnosis of mental illness and reduced waiting times from one year to two weeks.

Follow-up and urgent care remained a problem, but the early intervention and co-operation between the educational and health systems are noteworthy. A number of major Canadian and U.S. school boards are looking at these results.

3.2.3 Populations at Risk

Initiatives in this area deal with populations that have a perceived risk of illness that in turn defines their needs and influences the response. This risk can be perceived in a variety of ways:

- disadvantages associated with minority language or race;
- low income;
- the vulnerability of children and women;
- social violence;
- an insufficient understanding of health, environmental, or occupational hazards; and
- the impact of provider practice.

Families living in poverty and with other social risk factors are known to also have a higher risk of disease and other health problems.

3.2.3.1 Families/Mothers/Children

Two Alberta projects, *Healthy Families Primary Health Care Services to High Risk Families* (AB301-14) and *Healthy Families Project* (AB301-21), offered support from "family visitors" who brought education and assistance in parenting and child care and information on how to identify and access required services. Recipients improved their understanding of parenting and their capacity to access necessary services, and as a result, their visits to emergency departments decreased. The *Neonatal Transitional Care Program Evaluation* (NA1017) focused on the mother–child relationship and increased the mothers' knowledge of parenting and dealing with illness, using community services, and accessing physician services. Similarly, personal communication was at the core of a response to low immunization rates among a culturally diverse, 50 per cent Aboriginal population in the Keeweetinok Lakes region in Alberta (AB301-20), where parents' lack of knowledge and access to clinics were the main factors in low compliance rates. The personal communication initiative raised immunization rates from 66.5 per cent to 86.8 per cent between 1998 and 1999.

3.2.3.2 Violence

Implementation of a Protocol for the Systematic Identification of Female Victims of Violence at Quebec CLSCs (QC304), which developed guidelines, screening protocols, and training sessions aimed at identifying women who are victims of domestic violence, received widespread and enthusiastic support from CLSCs beyond the initial target group in Quebec. One of the project's objectives was to educate and influence the attitudes of primary health care providers. By the end of the sessions, 93 per cent of them felt better able to use the protocol and 96 per cent indicated an improved ability to identify domestic violence. In one departure from traditional approaches in Saskatchewan (*Project Proposal for an Integrated Service Delivery Model with Adult Survivors of Childhood Sexual Abuse* [SK327]), victims of childhood sexual abuse used alternative therapies such as aroma massage therapy and Reiki, a therapy based on stimulating meridian points to release energy. They were enthusiastic about these therapies, reporting less pain, better eating and sleeping, and fewer feelings of vulnerability, isolation, and guilt. Many of them continued more traditional treatment as well.

3.2.3.3 Drugs and Seniors

Alberta's *Primary Health Care Collectives: Improving the Quality of Medication Use in the Community* (AB301-27) initiative took a multidisciplinary approach to assist patients at risk of non-compliance or with drug-prescribing problems. A team including a physician, a pharmacist, and a home care nurse manager worked with high-risk elders taking five or

more drugs. Some early results suggested better compliance with medication regimes and fewer visits to physicians and hospitals. Another Ontario initiative, the *Seniors Medication Assessment Research Trial* (ON221), demonstrated the potential of including pharmacists in expanded roles as team members by linking family physicians with pharmacists who were trained to provide advice about prescriptions to physicians. Pharmacists identified drug-related problems in 86 per cent of patients. The two most common problems were that patients were not receiving a required drug or were taking an unnecessary drug. Family physicians agreed to implement approximately 84 per cent of the pharmacists' recommendations.

3.2.3.4 Farming Environment

Farmers have a very high risk of accidents and problems with their lungs and skin. Since they live in rural and remote areas, they often live far from care. Saskatchewan's *Agriculture Health and Safety Program* (SK325) brought a nurse to them, offering screenings for lung infection tests, hearing tests, back and joint assessments, stress assessments, and health education. Providing services on the farm site meant that nurses could not only work with farmers, but also gain access to members of their extended families. The program resulted in a number of referrals to specialists for further care. In addition, customized health education resulted in 75 per cent of farmers indicating that they had changed their work practices to reduce risks.

3.2.3.5 Emergency Rooms and Primary Care Services

A profile of the use of emergency departments in Alberta, *Evaluation of Urban Patients' Choice of an Emergency Department as Their First Contact with Primary Health Care Services* (AB301-6), determined that people using emergency departments for primary health care rarely did so just for convenience. Rather, worry and a sense of urgency spurred their decision. It was also determined that many patients did attempt to contact one or more providers before going to the emergency department. This point highlights the potential benefit of new models committed to 24-hours-a-day/seven-days-a-week access to health services and multidisciplinary and interdisciplinary teams.

3.3 Relationship to the HTF Evaluation Framework

The following findings of the primary health care projects illustrate six dimensions of the national HTF evaluation framework: access, quality, integration, health outcomes, cost-effectiveness, and transferability.

3.3.1 Access

The new primary health care pilots present a number of improvements in terms of accessibility. Their commitment to providing service 24 hours a day, seven days a week, greatly helps the public, particularly during evenings and weekends, which have presented problems in the past. In addition, these organizations provide telephone access and advice to individuals seeking information for self-care and, if required, travel directions to appointments and emergency attention if required. Group practice for physicians has resulted in improved on-call services, and multidisciplinary settings are improving access to more providers. For those who are homebound, some primary health care organizations are providing home visits by nurses. Other innovations bring services closer to home: through mobile multidisciplinary primary health care services in Alberta, and through nurse visits to farms in the Saskatchewan farm safety program. People seeking the services of specialists have reduced waiting times because of initiatives that integrate specialists with primary care providers, such as mental health programs in primary health care settings and school programs in Alberta. All of these projects also improved the continuity of care.

3.3.2 Quality

Patients' or clients' perception of quality is often affected by their access to services. One form of improved access that also benefits the provider is shared responsibility for care, which allows physicians to spend more time with patients. Another example is the improved access of patients and clients to a fuller range of primary health care services, including health promotion, chronic disease management, and nurses available to provide information to patients. The movement toward group practice and multi-disciplinary and interdisciplinary teams presents greater opportunities for physicians, nurses, and other providers to discuss their cases and information needs with colleagues. Shared electronic health records and information systems provide improved access to patient and decision support information. For example, some Ontario physicians have programmed preventive reminders in their computers. Improved information coupled with a population-based approach also allows better understanding of the health status of the populations served, to be applied to planning in the primary health care organization. Finally, financial and other support for continuing education helps all providers to maintain standards and upgrade capacity.

3.3.3 Integration

Integration can be functional (enhancing linkages for collaboration and coordination) or organizational (creating vertically integrated organizations that incorporate responsibility for providers and services across the continuum). The primary health care organization pilots offer many examples of building linkages and collaboration for functional integration with the rest of the health system and community programs. For example, new protocols, care maps, pathways, and program approaches link primary health care providers with specialist physicians and providers in hospitals and other care settings. A number of primary health care organizations are also pursuing ways to provide links to community, secondary, and acute services. Medical and multi-disciplinary staff meetings further facilitate information sharing by bringing various providers together.

Vertical integration is being enhanced by arrangements to bring together primary health care providers and mental health specialists at primary health care sites. In Quebec, one initiative is moving toward forming a primary health care-based, vertically integrated organization, funded through capitation, to serve an initial population of approximately 25,000, a viable entry population for roster-based, capitation-funded organizations with the flexibility to either directly provide or contract for services not covered by local providers and institutions. This initiative contrasts with an integrated delivery system (IDS) type of provider integration structure that requires an entry population of between 200,000 and 400,000 (S. Shortell, personal communication, 1999; Marriott & Mable, 2000).

3.3.4 Health Outcomes

It is too early to comment substantially on the health outcomes of most initiatives. However, there is early anecdotal evidence of improved compliance and healthier choices by citizens that should lead to improved health status. There is also a clear potential for health promotion and sickness prevention initiatives and chronic disease management programs to improve health status over time.

3.3.5 Cost-Effectiveness

The primary health care models were not implemented merely to create savings through cost cuts or to result in cheaper services, but to improve the quality, efficiency, and effectiveness of care. Although some projects were able to introduce such mechanisms as shadow billing to monitor progress, most indicated that time, resources, planning, or other constraints on project implementation reduced their capacity to develop, monitor, or report cost data.

(The British Columbia pilots are intentionally revenue-neutral; their blended capitation funding is based on average provincial patient primary health care costs.) Shadow billing and improved information systems should provide a better assessment of costs in future. Generally, costs are expected to decline in the long term.

3.3.6 Transferability

Pilot models based upon earlier experiences in Canada and other countries have proven acceptable to physicians, other providers, and clients who choose to participate in them. They blend capitation funding approaches, forms of rostering, linkages of key elements, and data such as patient encounters and shadow billing in refined information systems that can also incorporate management, planning, and decision support tools. These models are not experimental but are founded on sound organizational, financial, and operational principles and have enormous potential for tailoring services to diverse populations in a variety of settings. In addition to this, capacity building exercises subjected to rigorous evaluation can provide considerable information for dissemination and uptake by other providers and organizations in primary health care.

4. Health Human Resources

The HTF projects show how health professionals' roles can evolve with changes in primary health care. Rather than hierarchical structures of the past, or physicians working in isolation, they demonstrate new trends and options. An important part of the transition is nurses working in new roles, both with and without expanded scopes of practice. Nurse practitioners are taking on new partnerships with physicians, and physicians are changing the ways in which they practise and are paid, working in groups and multi-disciplinary teams in new forms of collaboration.

The nurse practitioner is taking new partnerships with physicians, and many of the projects include an array of providers, including pharmacists, social workers, physiotherapists, speech pathologists, and dieticians. Some other providers are operating in expanded roles. This section highlights the HTF project approaches and their contributions to the advancement of primary health care reform. The projects' findings are discussed under four major headings, which focus on the new roles and expanding scope of *nurse*s, changes in practice and compensation for *physicians*, the development of *collaborative practic*e, and the roles of *other provider*s.

4.1 Nurses

Historically, nurses have worked in hospitals and as support staff to physicians in offices and other traditional primary care settings. Over time, some nurses have moved into public health, education, and an increasing participation in community health centres and home care. Their evolving roles and standards have influenced the health industry, producing "scopes of practice" to support nurses operating in different roles and settings. As nurses' roles diversify, their increased activities open new options for primary health care while increasing

pressure to formalize and clarify the scope of these roles. With the increased responsibilities come new issues. Working outside of their traditional roles may mean working beyond their capability for some nurses, who need reinforcement of skills and experience in new settings and in working in new capacities with other health professionals.

There may be legal implications for nurses who care for rural or isolated populations and provide a full array of services in the absence of physicians. There are also "political" implications when nurses work with other care providers and are perceived by some providers to be "on their turf." New scopes of practice need professional acceptance and legal underpinnings. Nurses provide substantial benefits to the system when they are effectively deployed, particularly when they can increase a population's access to services. In new models and settings for primary health care, nurses in HTF initiatives demonstrated versatility in a variety of roles, services, and populations.

4.1.1 Nurses in Different Roles

A better understanding of the needs of diverse populations can increase clients' access and influence health outcomes by building bridges between communities and services. Nurses working on their own in Alberta's *Health for All* initiatives (AB301-18) in four Metis settlements in the Lakeland Regional Health Authority demonstrated how their presence in a community can help to overcome barriers posed by historically problematic relationships. As direct service providers, nurses are also links to other services and are influential in increasing awareness, involvement, compliance, and trust between providers and communities. Similarly, nurses in Saskatchewan's *Transition to an Integrated Primary Health Services Model* initiative (SK330) were instrumental in reviewing services, identifying gaps, and gaining a better understanding of First Nations populations that were not responsive to medical advice. Their work helped to facilitate shifts to improved preventive care.

Transferability of skills is important to nurses, whose options and mobility in diverse settings are expanding access to and permitting a better use of system resources. As indicated by the *Evaluation of Nursing Practice Models in Primary Health Care Settings* initiative (NA321), the enlarged nursing roles usually associated with northern or remote sites are found in other settings as well. The integration of the services of nurse practitioners in the inner city was evaluated by the CUPS (Calgary Urban Project Society) CHC initiative (AB301-7) to look at whether the skills and knowledge of nurse practitioners who are traditionally trained to work in isolated rural settings can be transferred to underserviced inner city populations in downtown Calgary. The project successfully proved that nurse practitioners "significantly increased access to care."

In addition, nurses increase access by "bringing services home" to families (mothers and children) at risk. Community health nurses in two Alberta "healthy families" programs (AB301-14 and AB301-21) became valuable links to public health and other services by providing intensive home visits, education, and skill development to improve families' confidence in dealing with community services. While it was felt that there was not enough time to demonstrate potential benefits, there were nonetheless "many successes" in building family relationships and supports and in reducing infant emergency visits. The projects demonstrate the importance of social support as a determinant of health and are being continued.

4.1.2 Expanding Scope of Practice

Nurses are doing more of what doctors do, either as substitutes or in providing complementary services, particularly in rural areas. Nova Scotia showed initiative in this area by amending its Pharmacy Act to support nurse practitioner (NP) prescribing, which requires explicit legal recognition of a nurse's right to diagnose and prescribe drugs and allows pharmacists

to fill an NP's prescriptions. The *Strengthening Primary Care in Nova Scotia* project (NS301) built on this theme by introducing NPs and advanced information systems that integrated electronic patient records and practice management data and pursued the goal of NP shadow billing to monitor costs. Although questions remain about the employment status of nurses (e.g., union and liability implications) and a lengthy process to amend the Pharmacy Act delayed NP prescribing (when it was finally in place, the drug list was out of date), the Nova Scotia initiative is nonetheless breaking new ground for nurses in primary health care.

Nurses are expanding their roles by replacing, substituting for, and supplementing physicians' services in other rural settings, as well as increasing the array of and access to available services. This was illustrated by a "major innovation" in a new rural health centre in Alberta's *Primary Health Care Project for Elnora Area* (AB301-22). An NP functioned as a clinician by providing replacement or supplementary services – including diagnosis and treatment – in primary care delivery, as well as providing extended nursing practice and continuing education. New to a pre-existing team, the NP played a major role in providing three additional services: ambulatory care, emergency response management, and injury prevention. The project indicated that there was no trouble differentiating between illnesses or injuries requiring a physician and those requiring an NP. Although there were concerns about team practice ("the NP remained the focus"), the NP's services were used, accepted, and much of patient satisfaction was related to the work of the NP.

An expanded nursing role demonstrates that problems associated with providing health services to a dispersed population can be overcome through a mobile primary care strategy. Notable benefits were provided to the high-risk farming community in Saskatchewan's *Agriculture Health and Safety Program* (SK325), where mobile primary care services to farmers reduced occupational injury and disease. A registered nurse provided a specific diagnostic, screening, and education program in a mobile health and safety unit, making referrals as needed. The service was well received by farmers, three-quarters of whom said the program led to changes in work practices that reduced their health risks and improved their health, and 91 per cent felt this primary care approach was more effective than other approaches to agriculture health and safety. The support for expanded roles for nurses illustrates other issues. *Putting in Place an Information-Technologies-Supported Training Program Aimed at Nursing Staff for Delivery of Health Services in Isolated Communities* (QC323) was an innovative approach that provided continuing education to nurses in isolated settings through video conferencing to expand their work skills in the absence of physicians and to enhance interdisciplinary collaboration. This approach was suspended, however, when the Collège des Medecins du Québec insisted that protocols for nurses who perform certain techniques must be agreed upon by the professional bodies concerned.

To increase understanding of this important area, the *Evaluation of Nursing Practice Models in Primary Health Care Settings* initiative (NA321) investigated how registered nurses in expanded or extended roles are helped or hindered in their delivery of primary health care services. The project reported "very satisfied" patients and found that "expanded practice" nursing can increase patient access to services in remote areas, increase the availability of comprehensive health care services, and improve the quality of care and health outcomes. It also provided valuable profiles of relevant policies and legislation within each province and territory, of structures employing nurses in these expanded roles, and of the perceptions of physicians, patients, and registered nurses themselves toward expanded roles. The projects' problems included the great inconsistency and variation across the country in the terms of practice for nurses in

expanded roles, as well as in the legislation, scope of practice, and educational requirements that govern them. In addition, physicians were concerned about their decreased incomes and "compromises" in the continuity of care.

Although expanding the role of nurses has great potential benefits for the system, several areas require attention: new scopes of practice, professional acceptance across groups, new legislative support for scope of practice (e.g., government involvement), support for and within new settings (i.e., primary health care organizations and programs), and particular support for those working alone in rural and remote areas (particularly given present thinking about *any* provider working in isolation).

4.2 Physicians

There is much discussion in the professional literature about solo practice as being less safe, offering little or no shared responsibility for cases or discussion of them with colleagues in a collegial environment, and increasing burnout among physicians with no "backup" support. The new trend is for doctors to move from working alone to working in groups and to explore alternative payment mechanisms. The HTF initiatives include new models based on group practice, multidisciplinary environments, and collaboration in a variety of ways with other health providers.

A notable feature of the pilots in British Columbia, Ontario, Nova Scotia, and Newfoundland (BC301, ON301, NS301, and NF301) is that they *required* physicians to work in groups (all in one site in British Columbia, Nova Scotia, and Newfoundland, and networked in Ontario) and to move toward multi-disciplinary teams. The new models replaced working in isolation with an environment that has a potential for work sharing, information exchange, and collegial support, enhancing the quality and safety of physicians and patients alike. This process will take time. In Ontario (ON301), some physicians were reluctant to work in coordinated teams that improve on-call services and extended hours. In British Columbia (BC301), physicians noted that the transition time for bringing physicians who work in isolation to work in groups can take up to six months.

One of the objectives of primary health care reform is to move away from fee-for-service payments to physicians. Fee-for-service practice rewards the volume of services provided, thus encouraging practices that are potentially adverse to patient-focused care and to illness prevention and health promotion. This was illustrated by Alberta's COPE initiative (AB301-9), in which a fee-for-service funding structure actively discouraged physicians from working in school-based settings that might be perceived as a challenge to their existing practice. Moving from fee-for-service to alternative mechanisms such as per capita funding means that physicians can spend more time with patients, working for community services, or on administrative and other tasks – such as reform – without losing income. In addition, the incentives change, particularly with capitation funding, so that the focus is on individuals and groups served, their characteristics (such as age, gender, and illnesses), and their needs. Physicians will not lose money if they spend extra time with patients when they are compensated through capitation or by salary.

The projects present a variety of alternative approaches. In the Ontario and British Columbia initiatives (ON301 and BC301), physicians working on new models as well as in community health centres are funded through blended formulae that include capitation and other funding streams such as fees for services not covered under capitation (e.g., hospital emergency coverage, obstetrics, surgical assists), and fee-for-service for non-enrolled patients. New codes govern preventive care management, preventive care bonuses, and targeted medical education. Physicians in the community health centres of Alberta are (and have been) on salary, and their alternative payment

plan contracts allow a different form of practice that includes counselling and telephone advice. *An Evaluation of the Alexandra Community Health Centre as a Model of Primary Health Care* (AB301-2) evaluated linkages between primary health care and social services, and its staff incorporated a shadow billing methodology to express in financial terms the amount and type of services provided.

New models in Nova Scotia (NS301), the Eskasoni First Nation (NA305), and Newfoundland (NF301) are funded on an alternative to fee-for-service basis (although this is not always described in detail in project reports). Owing to the relative success of new methods, physicians in the primary health care models indicated an interest in more information, education, and training on cash flow management and its distribution within organizations.

4.3 Collaborative Practice: Multidisciplinary Teams and Co-operative Care

Although experiences vary across the country, collaboration between physicians, nurses, and other caregivers is establishing new linkages, sometimes with other sectors. The list of potential benefits includes improved quality, better access, increased continuity of care, and best use of resources. The HTF projects focused on team building, education, and training. Finding time and the right medium to carry out these activities is an ongoing challenge for providers, as is overcoming the inconvenience and irritation of coping with changes in their own and other professions. Providers' willingness to overcome their reluctance and accept change is essential to progress in primary health care practice.

Initiatives in community health centres have for some time included multidisciplinary forms of operation. For them, an overriding theme is refining elements and approaches. The Calgary Urban Project Society or CUPS (AB301-7) evaluated a nurse practitioner's collaboration with physicians, dentists, chiropractors, and an orthotics technician in an interdisciplinary team at the clinic. The initiative was successful and produced new clinical practice guidelines for addressing ten non-acute conditions. Although the physicians were not initially clear on the role of the nurse practitioner, the project soon saw nurse practitioners facilitating communication among various providers, "significantly" increasing access to care, improving quality, and handling cases, thus allowing physicians to spend more time with patients who required their services; 95 per cent of patients were satisfied with the initiative. Since specialists are not paid for nurse practitioner referrals, Public Health Acts need to be amended to allow for the better use of nurse practitioners.

To explore whether and how collaborative practices might be improved through explicit training, the *Nurse Practitioner/Family Physician Collaboration Models of Care* project (NA342) tested and evaluated a two-part framework that supported nurse practitioners and general practitioners and developed post-graduate collaborative education for nurse practitioner students (experienced registered nurses) and family medicine residents (in their first year of residency). Nurse practitioners gained responsibility for curative activities, took on more complex care of patients, and referred fewer situations to family physicians – though the physicians did not change their referral patterns, which remained mostly referrals to each other. A high level of collaboration and satisfaction, as compared with control sites, was developed in the scope of practice, competence, control, and role distinction, leading to increased confidence in the role of nurse practitioners at intervention sites. The project also developed role guidelines for the "essential elements" of shared and separate experience, knowledge, and skills of providers and used information technology to support collaboration. The results confirmed that collaboration can be taught, learned, and supported, despite obstacles.

Other initiatives found innovative ways to develop and motivate teamwork and its applications, including using technology and bringing mobile services to communities and specialty services to primary care settings. Alberta's *Strengthening Multidisciplinary Primary Health Care Teams in Coordinated Disease Prevention and Management* evaluation and demonstration project (AB301-11) built a virtual team environment with an internet-based multi-disciplinary approach to the prevention and treatment of diabetes and osteoarthritis. Teams of community-based health care practitioners and family physicians developed care plans to be implemented in six primary health practices. The clear definition of team members' roles reduced overlap and facilitated delegation. Training needs in team decision-making and implementation skills were identified. On-line information tools were found useful in exposing the roots of disagreement and finding ways to collaborate. Although on-line activities complemented workshop-based activities, they did not replace them.

Another innovative approach to rural public access and awareness of services improved collaboration as well as decreased travel time and cost. Alberta's *Remote Primary Health Care System (Rural)* pilot project (AB301-23) provided a mobile multidisciplinary team of health professionals at three community "pods" on a weekly or semi-weekly basis, which enhanced access to services in small rural communities. The team included a physician, a nurse, pharmacists, a laboratory technician, a respiratory therapist, and a speech language pathologist, supported by a second ad hoc team providing other services in breast health, nutrition, diabetic education, and other areas. The population reported a high degree of satisfaction with their services and demonstrated more compliance with prescribed diets, drugs, and flu shots than did a control community. As a result, fewer residents left to use health services elsewhere.

4.4 Other Providers

The HTF initiatives include the distinguished contribution of other providers as well, demonstrating their value in new roles and settings. British Columbia's *Home Birth Demonstration Project* (BC404) is the first systematic examination of planned home births in a regulated setting in Canada. The province began regulating midwifery in January 1998, and midwives and their clients throughout the province were required to participate in the new initiative. Co-operation between midwives and other health care professionals during the two-year transition phase was excellent and resulted in the safe integration of midwife-assisted home births. Midwives were able to consult with or transfer care to physicians in 98 per cent of needed cases. Clients expressed overwhelming support for planned home births, and the project concluded that midwives were a "safe choice" for pregnant women.

Although most projects focus on establishing nurse practitioners in new models, pilots in British Columbia, Ontario, and other HTF initiatives are attempting different ways to optimize the services of a variety of providers (e.g., NS301, with social workers, speech language pathologists, and dieticians). Alberta's *8th and 8th Health Centre Proposal* in downtown Calgary (AB301-3) changed its approach to triage to let providers other than physicians be a potential first contact for clients. In Saskatchewan's *Enhanced Rural Rehabilitation* project (SK326), physiotherapy assistants worked with physiotherapists to serve seniors in rural areas and provided a lower-cost option for handling tasks like clerical work, patient education, and exercise therapies. The project showed that when they are properly trained and supervised, physiotherapy assistants enhance the availability and quality of rehabilitation services.

Health care professionals other than nurses and physicians are experiencing expanded scopes of practice as well and are tackling issues similar to those facing

nurses in new roles. Some of these implications have been recognized, for example, by Nova Scotia, where a revised Pharmacy Act supports nurse practitioner prescribing and acknowledges the need to reassess the roles of other providers. There is still more work to do in terms of examining the roles of other providers, both those in multidisciplinary primary health care teams and solo practitioners.

5. Population Health and Cross-Sectoral Implications

A population health approach is at the core of primary health care. It "aims to improve the health of the entire population and to reduce health inequities among population groups. In order to reach these objectives, it looks at and acts upon the broad range of factors and conditions (or 'determinants') that have a strong influence on our health" (Health Canada, 2001). It is about preventing disease and injury and promoting health as well as diagnosing and treating illness. Primary health care strives to address health in terms of the sometimes complex interrelationships between determinants, sometimes with cross-sectoral implications, an approach that requires a broad perspective and partnerships both within and outside the health care system.

The need for a comprehensive approach was asserted by *Innovative Project in the Quebec Region: Perinatal Clinics* (QC321): "the medical perspective is recognized as being important but is not sufficient on its own to meet the diversity of needs of pregnant women, their spouse and family. The stakes are in the organization of expertise because one person, even one institution, alone can not perform all functions and meet all needs."

Table 3: Determinants of Health

- Income and social factors
- Social support networks
- Education
- Employment, working and living conditions
- Social environments
- Physical environments
- Biology and genetic endowment
- Personal health practices
- Coping skills
- Child development
- Health services
- Gender

A broader appreciation of populations identified by age, gender, disease, risk, culture, language, or other factors encourages planners and health providers to move beyond viewing health primarily in terms of the individual and episodic care. The HTF projects exemplified a population health approach through strategies in a variety of settings including:

- multidisciplinary and collaborative approaches;
- a focus on the sources or causes of health problems;
- capacity building for populations and for primary health care providers to meet needs; and
- the empowerment of communities through building new knowledge about primary health care and linkages across other sectors.

A population-based approach to gathering information in British Columbia (BC301) informs the planning and evaluation of primary health care programs and services. It has given providers a better understanding of the health status of the people they serve as well as of their program and service needs. Capacity building projects include initiatives focused on specific population groups defined by disease or

risk. Some projects (AB301-15, ON428, QC301, QC302, QC325, QC433) looked at reorganizing services or modifying the behaviour of populations facing chronic diseases (e.g., asthma, cardiovascular illness, and diabetes). These projects included attempts to educate patients and providers in emergency settings and the referral of asthmatic children (sometimes by non-providers) to asthma teaching centres in Quebec (QC301, QC325).

Other projects looked at criteria for identifying populations at risk on the basis of poverty, lack of education, social violence, and other social influences on health (NA372, AB301-9, AB301-14, AB301-20, AB301-21, QC304, QC305, QC321, SK327). Some focused on mothers and children, such as Alberta's "healthy families" projects (AB301-14 and AB301-21), which partnered with community agencies such as child and family services, public health centres, and traditional healing societies. Projects such as AB301-14 are of interest to local, municipal and provincial agencies, and the National Crime Prevention Council, because of their potential to reduce family violence and youth crime.

HTF initiatives explored the interrelationships of health and other sectors in a range of projects concerned with rural communities, community development, and education. Rural environments are the interface of various sectoral implications and health issues, including distance from population centres, from extensive resources, and from particular economic and environmental conditions. A number of HTF initiatives explored a variety of approaches to the interface between primary health care and rural settings through direct work with specific communities (NA342, AB301-19, AB301-22, AB301-23, AB301-26, NF301, SK321, SK325). SK321 looked at the difficult state of the farm economy and its consequences for the health, well-being, and quality of life of women in diverse roles, and Saskatchewan's *Agriculture Health and Safety Program* (SK325) was launched to bring primary health care services to farmers. Those services would be of interest to provincial and federal agriculture and environment ministries, in that they were considered to be better than an occupational hazard approach.

Community development and citizen involvement projects attempted to influence primary health care in both rural and urban settings. The difficulties and progress of these efforts to promote citizen empowerment and participation and to influence healthy living and active social and physical environments should be of interest to government departments and ministries involved in culture, sports, and healthy community activities. At the same time, some initiatives in Alberta found it particularly challenging to take on both community development and citizen involvement in conjunction with primary health care (AB301-12, AB301-22, and AB301-24).

The school system appears to be a natural environment for cross-sectoral co-operation and programs of joint interest to health professionals and the education system. Alberta's school-based primary health care COPE initiative (AB301-9) sought to improve opportunities for the early diagnosis of, intervention in, and prevention of mental health problems in children. In general, a determinants-based population health approach enhances the potential of primary health care services and providers to have a greater impact on the health of those they serve. The HTF experiences provide a better understanding for governments and other stakeholders about various approaches to target populations and of the factors that influence them and the providers who serve them. This informs planning and administration as well as service options.

6. Implications for Policy and Practice

The first-hand experience gained through the HTF projects offers new insights and reinforces long-standing knowledge about aspects of primary health care: the benefits of group practices and multidisciplinary teams; the untapped potential of nurses; and the linkages between determinants, health promotion and disease, and injury prevention. The challenge facing decision-makers is to maximize the potential of these experiences. There is a need for more understanding and support from governments and other stake-holders to facilitate primary health care reform.

6.1 Pilots or Implementation?

This fundamental question needs to be answered now. Although pilots give a sense of "testing before proceeding," they also send a signal that the effort may only be temporary and reversible, with adverse affects on the initiatives. Also implied is that the approaches taken by the projects are new and unproven, which is not always the case. Models incorporating many of the elements of the "new" primary health care models have been in place with some physicians and other providers since the advent of medicare, albeit on a smaller scale than that of traditional fee-for-service practices. Elements of these models are the same as those incorporated in other countries' models of primary health care and in primary health care within integrated health organizations in other countries. They are based on sound principles of organizational design. The initiatives in British Columbia, Ontario, Nova Scotia, Newfoundland, and Alberta have reaffirmed that they work. Experience in other countries shows that decisive action is often required to move forward. Where this is true, refinement can and probably should be an ongoing exercise in support of the new operational models that should be available for the public and providers to pursue.

6.2 One Model or Many?

An additional question is whether the political will and system tolerance exist for more than one model of primary health care. The British Columbia evaluation concluded that its new model may not be the choice of all physicians and should be viewed as an option. Concern exists that diverse models may lead to unequal access. The reality is that Canada has experience with multiple concurrent models, including traditional fee-for-service practices, a history of models that are roster-based and capitation funded, group practices with multidisciplinary teams such as health service organizations (HSOs), and considerable experience with community health centres (CHCs). More extensive vertically integrated models that include a primary health care base have been explored in Canadian communities in the past decade but have been constrained by lack of mandate. The health system has already demonstrated its capacity and ability to support organizational variations and could continue to do this within an overarching theme of primary health care integration. Again, many other countries support a pluralistic system and a variety of model options for providers and the public.

6.3 Guidelines for Implementing Models

The projects raised a number of concerns about implementation processes, such as British Columbia physicians' observation about the time it can take to move from individual to group practice. When project and time requirements are not fully synchronized, the process can become overly complex and time lines unrealistic, and some HTF projects tried to do too much at once within the time allowed. Project experiences suggest a phased-in approach and better overall planning. Future initiatives would benefit

from guidelines to facilitate, support, and reinforce important goals and requirements of implementation.

6.4 Computers, Information Systems, and Telehealth

Attention to important "underpinnings" like the development of a common electronic health record and access to computers and other technology for services, information, and research is essential to successful primary health care. Computer systems and software for clinical and organizational management are a major incentive for physicians and other providers to participate in new model development and implementation. Systems need to be developed in a timely fashion with input from those who will work with them; they cannot simply be "layered" on top of an existing health care system without carefully planning how to integrate them. Cost funding structures must allow providers to use computer, video conferencing, and telehealth technologies to facilitate transitions. More study and information sharing at a national level would accelerate the development of viable options for implementing information technology in primary health care models.

6.5 Administrative Simplicity

Governments face real challenges in providing various forms of support. On the one hand they need to express clearly what is expected, and on the other they must ensure accountability from those engaged in projects. They are also expected to provide funding, expertise, information, and other supports. Effective program development and administration, however, begins at home. Some relationships between governments and new models have been reported to be cumbersome, inefficient, and complicated. Although support is essential to success, the existence of separate agendas and micromanagement can block progress. As highlighted by some projects, governments need to provide program administration that is not excessively time-consuming for providers and staff of the new organizations to interact with. And once government has funded a project, it must minimize all barriers to completion, especially when the barriers are in government procedures (e.g., difficulties in gathering population health data). This has particular implications for operational projects that promise to move beyond pilots to an accepted operational option. Other providers may not elect this future if they see administrative complexities ahead that are greater than the compensating benefits.

6.6 Collaborative Practice

Collaborative practice has a great potential to enhance the effectiveness of all providers' services and working environments. Project experience reinforced the conclusion that collaborative practice will facilitate the effective use of all health providers and ensure that the most comprehensive and integrated primary health care services are available to diverse population groups. Barriers to collaborative practice include jurisdictional issues, flawed regulatory and funding mechanisms, a lack of policy development in nursing and medical associations and regulatory bodies, and medical-legal issues that prevent practitioners from collaborating as much as possible. Some professional regulations need changes to broaden their scope, and there is a need for policy and health care system changes to identify reimbursement and other mechanisms to support all providers in collaborative practices.

6.7 Joint Education of Providers

The joint education of providers in collaborative practices is a good way to facilitate progress. Experiences have illustrated the benefits and potential of a coordinated educational approach between nursing and medicine and strongly support the recommendations of the Ontario Chairs of Family Medicine and the Council of Ontario University Programs of Nursing, which call for undergraduate, post-graduate, and continuing education opportunities in the classroom, and clinically for joint education on

collaboration in Canadian family medicine education programs.

6.8 Nursing

A focus on nursing would help to maximize the untapped potential of this provider group. It should begin by clarifying the confusion among the various terms and practices used across the country. Professional regulation changes that allow nurse practitioners to practise in a wider variety of settings are needed. With more attention being paid to expanded roles for nurses and the establishment of nurse practitioners, there is also a need to ensure that national standards evolve concerning the scope of practice and to share information on legislative requirements that support the new role (e.g., prescribing authority) so that professional portability is protected and a foundation for national analysis is laid.

6.9 Other Providers

The potential of other health providers in primary health care also needs focus. The projects have shown the benefits of some pharmacists functioning as educators, providing quality control in prescribing and acting as team members. Experiences with midwives continue to highlight their benefit to the system. Providers other than nurses and physicians present real opportunities to enhance the services and options that primary health care organizations can offer, yet persistent issues which impede progress must be clarified and addressed.

6.10 Continuing Education Support

Continuing education sustains and improves the quality and performance of providers. This should be recognized through funding and other supports to the providers who work in primary health care organizations. Continuing education is vitally important to maintain provider capacity and ensure the provision of up-to-date services to the public. Innovative approaches to knowledge transfer and a variety of techniques and technologies should be explored. This area should be supported by federal, provincial, and territorial governments, in concert with educational institutions and professional associations.

6.11 Clinical Practice Guidelines and Program Development

Important implications regarding practice guidelines were well summed up by one of the projects (QC303) as "one of the essential elements in the development of effective mechanisms of quality assurance. The production and introduction of guidelines are two inseparable steps and their planning must not be delegated to two different entities working in isolation. The investment in the production of a practice guideline whose plan for dissemination and introduction is not already established with the partners involved – at least in broad strokes – is a bad investment." As well, capacity building for health organizations, providers, and the public would benefit from guidelines that were well thought out and included the input of those to be affected by them.

6.12 Public Education

The public must be better prepared for transitions in primary health care. Changes should be articulated clearly and with confidence in their benefits. There is a need for better understanding of existing resources and options. Public education must include a better understanding of new models and settings, so both the public and decision-makers are confident in the quality of services regardless of where they are accessed. The public and other stakeholders also need to have reasonable expectations of the kinds of services possible in communities, and need the support to overcome any conflicts associated with "community empowerment," which some may consider the "dumping" of responsibility onto communities. At the same time, communities, once committed, can be powerful lobbyists, a fact that should be recognized

by those implementing policy change. Governments should participate in public education programs – and encourage partner colleges and universities, professional associations, and others to do so as well – to present the new directions and models, the lessons learned, the benefits of the change, and examples of success within Canada and other jurisdictions.

6.13 Success Stories

The opportunity to try new approaches inspires some people to take decisive steps to "revolutionize" care and make team practice arrangements between physicians and expanded-role nurses and other providers the norm in all practice settings. A number of initiatives examined aspects of moving beyond functional integration (enhanced co-operation and collaboration) to vertically integrated organizations for special populations (e.g., the mentally ill) and total populations, such as exists in Quebec's "full service" approach. Many success stories emerging at different levels should be examined in order to stimulate development.

6.14 Emergency versus Urgent Services

Urgent care services within primary health care settings in Alberta are much appreciated, particularly by those with mental illness. They have also reduced levels of hospitalization. Providing these services in primary health care settings presents a policy challenge in terms of differentiating between urgent and emergency care. There is a further need to create guidelines for providing these services in primary health care settings.

6.15 Information Links and Data Standards

National support is needed to investigate the state of information systems and sharing and to expand the capability for research. Several initiatives discussed data problems (accessing, availability, quality, etc.) that impeded clear judgments in practice and timely decisions when needed and blocked the capacity to do meaningful research. There is a strong desire for implementing practice-based evidence that is, as expressed in Alberta, the "best practice information that practitioners will use." One national study documented a number of difficulties: the different rules and protocols for obtaining approvals in different provinces; the absence of policies and protocols for information sharing among the federal and provincial governments; and the incompatibility of coding in different jurisdictions for physician claims, hospital discharges, and other data, which pose a major barrier to interprovincial and national health services research.

These inefficiencies require political and administrative will to be resolved. There is an urgent need to harmonize federal and provincial privacy and confidentiality legislation with relevant regulations and review procedures. The promotion of successful federal and provincial health services and population health research efforts will require federal/provincial/territorial partnerships and priority-setting mechanisms to coordinate expertise from the federal government, the provinces, and academic research centres.

6.16 Population-Specific Needs and Circumstances

The fact that particular population groups need focused attention has been known for some time. The HTF experience highlights groups with particular health issues or risks, those in rural settings, the inner city, and the First Nations in general, with important implications. Although it seems obvious that a primary health care approach based on the "needs" of a given population would take their needs into account, some populations are complex and simply not well enough understood or served to date.

7. Recommendations and Conclusion

The following recommendations relate to the implications discussed above.

7.1 Pilots or Implementation?

The next steps, in terms of continuing the pilots or moving to a framework of support for operational primary health care organizations, are not made clear in the project evaluation reports. If not already doing so, governments should move beyond the short-term implications of the primary health care organization pilots to a long-term commitment to *implementation* and ongoing refinement. This commitment could include innovations like mobile primary health care organizations (e.g., teams including physicians and other providers for isolated rural communities). Consideration should be given to supporting the development or expansion of primary health care organizations to encompass partial or comprehensive vertically integrated health organizations.

7.2 One Model or Many?

Provincial governments should consider adopting a policy of pluralism that accepts pre-existing as well as new models of primary health care. Ideally, this should be pursued within an overarching primary health care framework. There are examples of this as an ongoing approach in many countries and as an interim policy in others.

7.3 Guidelines and Support for Implementation

The federal, provincial, and territorial governments should work with providers associated with the HTF models to develop guidelines for implementing new models and phased approaches for whole models as well as sub-areas such as computer and software introduction. They should support providers who are able to accelerate and tolerate change. Governments should also consider providing training and transitional administrative funding and other supports, including:

- an initial guarantee of income for physicians during project implementation;
- training and consultation in organizing and managing a primary health care organization; and
- startup funding for:
- initial program planning time and other launch activities;
- capital funding for office renovations to accommodate a multidisciplinary team;
- clinical information and management systems including common electronic health records and systems; and
- patient information to facilitate access to the primary health care system.

Planning should encourage and facilitate linking sites and sharing information and ideas for implementation and practice that provides perspective, shares accomplishments, and gives a sense of what is realistic. This should be pursued within provinces as well as across the nation to link established and new sites.

7.4 Computers, Information Systems, and Telehealth

The federal, provincial, and territorial governments should consider further study of information systems with a focus on common electronic health record systems to develop viable options for primary health care organizations.

7.5 Administrative Simplicity

Governments should pay attention to program administration that is efficient and not excessively time-consuming for the providers and staff of new organizations to deal with. Once a government has funded a project, it must minimize all barriers to success, especially when those barriers exist in that government's own procedures. This is particularly important for initiatives that are to move from pilot to ongoing operations.

7.6 Collaborative Practice

Systemic and other obstacles that impede collaboration should be addressed. These obstacles include jurisdictional issues, regulatory and funding mechanisms, and a lack of policy development in nursing and medical associations and regulatory bodies. Many medical-legal issues hinder practitioners from working collaboratively. Some professional regulations must be changed to broaden the scope of practice. Policy and health care system changes are needed to identify reimbursement and other mechanisms that will support all providers in collaborative practices.

7.7 Joint Education of Providers

Governments and other stakeholders should support the implementation of recommendations by the Ontario Chairs of Family Medicine and the Council of Ontario University Programs of Nursing that call for undergraduate, post-graduate, and continuing education opportunities in the classroom, and clinically for joint education on collaboration in Canadian family medicine education programs.

7.8 Nursing

A federal/provincial/territorial initiative should develop national standards for terminology and scope of practice. It should include legislative requirements that support an expanded role for nurses and nurse practitioners.

7.9 Other Providers

A federal/provincial/territorial initiative should develop national standards related to the roles and contributions of other health providers in primary health care organizations.

7.10 Continuing Education Support

The federal, provincial, and territorial governments should explore ways to support, develop, and implement innovative ways to provide continuing education to health providers.

7.11 Clinical Practice Guidelines and Program Development

Research-granting bodies and other funding agencies should continue to support the development of clinical practice guidelines and programs for primary health care.

7.12 Public Education

The federal, provincial, and territorial governments should develop public education on all aspects of primary health care reform and provide support to those engaged in developing and implementing reforms, including the new models across Canada. The education packages should clearly indicate, to the general public as well as providers, the benefits of moving in this direction.

7.13 Success Stories

The federal, provincial, and territorial governments should work with those engaged in implementing new models to identify success stories and develop strategies that build on them (e.g., THAS in Ontario, nurse practitioner experiences).

7.14 Emergency versus Urgent Services

A task force with relevant professional representation should examine policies and practices regarding urgent care versus emergency care and their application in primary health care organizations.

7.15 Information Links and Data Standards

A federal/provincial/territorial initiative should be established to examine the incompatibility of codes for physician billing, hospital discharges, and other data vital to the evaluation of primary health care in Canada. It should establish policies and protocols for information sharing among the federal and provincial bodies. In addition, a research agenda based on the HTF projects should be developed. A task force should be established to address concerns about ethics reviews for evaluations and to develop a more streamlined approach.

7.16 Manage the Transition

Potential areas of resistance to change must be anticipated and met with understanding, education, and communication. Changes are needed in all fundamental legislative, financial, and administrative areas to allow all the nation's system resources to be complementary and to operate at their highest potential. Sensitivity is required to address particular circumstances and groups when opportunities for access to services are not being taken advantage of. Issues relating to organizational start-up, transition, and long-term sustainability must be considered in the context of the larger vision. Encouragement, incentives, and support are needed by those providers and leaders who are willing to take new directions in primary health care reform.

7.17 Conclusion

The recent renewal of attention to primary health care is timely. The experiences of the HTF initiatives reinforce how potential benefits for health providers, health organizations, governments, and other stakeholders make the opportunity costs too high to disregard. Most important, the potential benefits of achieving and maintaining good health make this a national priority. It is through these experiences that progress in primary health care may be achieved.

References

Canadian Medical Association. (1994). *Strengthening the foundation: The role of the physician in primary health care in Canada.* The Author.

Federal/Provincial/Territorial (FPT) Advisory Committee on Health Services. (1996). *What we heard: A national consultation on primary health care*. Ottawa: Communication Directorate, Health Canada.

Health Canada. (2001). *What is population health?* http://www.hc-sc.gc.ca/hppb/phdd/approach/index.html

Marriott, J., & Mable, A.L. (2000). *Opportunities and potential: A review of international literature on primary health care reform and models*. Ottawa: Health Canada.

Marriott, J., & Mable, A.L. (1999). *Incentives, accountability and policy barriers: Inputs to incorporate into a primary care pape*r. Unpublished report prepared for the Health Services Restructuring Commission in Ontario.

Marriott, J., & Mable, A.L. (1999). *The case in support of a national rural health strategy*. Unpublished report prepared for the Office of Rural Health, Health Canada, August.

National Forum on Health. (1997). *Canada health action: Building on the legacy – Final report of the National Forum on Health*. The Author.

World Health Organization (WHO). (1978). *Primary health care: Report of the international conference on primary health care* (Alma-Ata, USSR, 6-12 September). Geneva: The Author.

Appendix A: List of HTF Projects Relevant to Primary Health Care

This appendix provides summary information on the HTF projects which were reviewed in the preparation of this document. For further information, please refer to the HTF website (www.hc-sc.gc.ca/htf-fass).

(NA221) Benzodiazepine Use in the Elderly

Recipient: Association of Canadian Medical Colleges

Contribution: $618,455

This national project tested the feasibility of a Canada-wide drug utilization review as well as a continuing medical education (CME) component for primary care physicians concerning appropriate benzodiazepine prescribing. The inappropriate prescribing of benzodiazepines in the elderly has been well documented. All eight provinces with medical schools have adopted their own approach to the issue. Ontario and Quebec were able to identify physicians with potentially inappropriate patterns of prescribing and to tailor education efforts to these individuals on a confidential basis. Interventions in the provinces included seminars, the mailing of written material, and patient education handouts. Four provinces also used academic detailing. Two provinces used interactive small-group CME. The thrust of the initiative in all locations was non-coercive and educational. At the time of reporting, follow-up analysis had been completed only in Newfoundland and Ontario; Newfoundland showed no major change in group prescribing data, and Ontario showed a very modest decline in individual prescriptions to seniors.

(NA305) A Tri-Partite Approach to Developing a New Model of Primary Care for Eskasoni First Nation

Recipient: First Nations and Inuit Health Branch, Health Canada

Contribution: $465,133

This project designed, implemented, and evaluated a holistic model of health service delivery in Eskasoni, a First Nations community in Cape Breton, Nova Scotia. The project initiated the following elements: the continuing transfer of health care administration from the federal government to the local band; the change of physicians' services from a solo, fee-for-service model to the model of a multi-doctor, multidisciplinary clinic; the construction of a new health complex, housing services from both within and outside the community; the better utilization of physicians, hospitals, and prescription drugs; the integration of doctor-based services with community health programs; and the establishment of links with the regional health centre. The model made improvements in the efficiency and effectiveness of programs. Although not all the data were available at the time of evaluation, during the first year, visits to the emergency department declined by 40 per cent; visits to family doctors declined from a high of 11 per year to four per year; and the cost of prescribed medicines decreased 7 per cent despite a 10 per cent increase in population.

(NA321) Evaluation of Nursing Practice Models in Primary Health Care Settings

Recipient: The Centre for Nursing Studies, St. John's, Newfoundland

Contribution: $206,885

This national project investigated how registered nurses working in expanded and/or extended roles are helped or hindered in their delivery of primary care services. Researchers established terms and definitions, developed a profile of relevant policies and legislation in each province and territory, constructed a profile of the structures employing nurses in these roles, and gauged the perceptions of physicians, patients, and registered nurses toward such an expanded professional role. The project found great inconsistency and variation across the country in nursing practice, in legislation governing nursing practice, in the scope of practice boundaries, and in educational requirements. More restrictions on nurses' performance exist in places where there are more physicians. When fewer nurses with appropriate preparation are available to work in remote regions, educational expectations and standards decline. The physicians surveyed said that expanded nursing roles could increase patient access to services in remote areas, increase the availability of comprehensive health care services, and improve the quality of care and health outcomes. However, they expressed concern about decreased incomes, limited access to diagnostic services, impediments to physician recruitment and retention, and compromises to the

continuity of care for patients. Nurses raised concerns about restrictions imposed on the scope of practice, skill and knowledge limits, inadequate professional and public awareness, and strain and insecurity due to lack of support and resistance from physicians. The patients surveyed reported that they were "very satisfied" with the care provided by these nurses.

(NA342) Improving the Effectiveness of Primary Health Care Through Nurse Practitioner/Family Physician Collaborative Models of Care

Recipient: Sisters of Charity of Ottawa Health Services

Contribution: $745,695

This study systematically evaluated ways to improve "structured collaboration" between nurse practitioners and family physicians at two intervention and two control sites in rural and remote parts of Ontario. A learning module on collaborative practice was designed, pilot tested, and then introduced at the intervention sites. After completing the module, the participating health care providers (nurse practitioners and family physicians) selected five actions that could be undertaken in the study time frame to strengthen their own collaboration. The project found that changes occurred at the intervention site once an effort had been made to structure the collaboration. Whereas nurse practitioners assumed increased responsibility for curative activities, took on more complex care of patients, and referred fewer situations to family physicians, the physicians did not change their referral patterns – full collaboration, with a high level of two-way referral, was not achieved. Investigators believe that more time and experience is needed for that shift to occur. New, agreed-upon role guidelines were successfully adapted, and, at the comparison site, in-house referrals to physicians increased during the study period.

(NA366) Telecentres for Education and Community Health (TEACH)

Recipient: Memorial University of Newfoundland

Contribution: $199,000

This pilot project aimed to develop, implement, and evaluate a model for delivering primary health care and education in three rural Newfoundland communities by using communications technology. The project analyzed reports from three telehealth sites as well as evaluation forms completed by patients who had used video conferencing or other telehealth applications; researchers also consulted health professionals and technical staff and interviewed key parties, including health care providers. Clients rated telecentre facilities as good or excellent and said that they would use them again. Problems arose, however, with the cost of satellite equipment and the absence of a funding mechanism to compensate doctors for their telehealth work.

(NA369) Socio-Economic Differences in the Use of Health Care: Why Are There Non-Financial Barriers to Medically Necessary Services?

Recipient: Canadian Institute for Health Information, Toronto

Contribution: $213,044

While undertaking a study of socio-economic differences in access to health care in Canada, a team of university researchers from five provinces has revealed a deeply flawed and fractured system of provincial/federal health data keeping. The result is an examination of the barriers to assembling data for appropriate research purposes. Although a study examining inequitable access to prescription drugs, home care and long-term care is still expected, in this report the researchers outline a complex and time-consuming array of approvals, clearances, contractual arrangements, and policies that had to be cleared before the project could proceed. They encountered provincial diversity in legislation, policies, and procedures to ensure privacy and confidentiality of personal health information; little support for data sharing between provinces; and conflicting bureaucratic priorities. Data-keeping itself was problematic, with different coding systems in each province for physician claims, hospital discharge data, and other databases, creating a major barrier to interprovincial research on health services utilization and outcomes. The authors suggest that their organizational framework – a pan-Canadian network of researchers, analysts, provincial research centres, and federal agencies – could pave the way for future research. The study sheds light on the inefficiencies in data collection and data protection systems in Canada, which will require political and administrative will to resolve.

(NA372) Community Health in French: Models for Francophone and Acadian Communities in Canada

Recipient: Fédération des communautés francophones et acadienne du Canada, Ottawa

Contribution: $211,150

This project describes and analyzes the functioning of four centres that offer health services in French to minority francophone populations: one in each of Prince Edward Island, Ontario, Manitoba, and Alberta. The authors also examine the community links of each model and the impact of these services on the clientele. In general, they found that although community governance was weak, the clientele was highly satisfied with the services received. They conclude that no single model of health care for francophones outside Quebec can be recommended, given the diversity of political and demographic conditions. All of the centres were successful in maintaining and even increasing services in French to their communities; the multidisciplinary nature of the centres contributed to their success. The authors note, however, the vulnerability of these services in a minority situation and the importance of federal government support. They recommend further study of the health needs of minority francophones in order to better respond to the needs of this population.

(NA1017) Neonatal Transitional Care Program Evaluation

Recipient: Calgary Regional Health Authority

Contribution: $65,385

This project evaluated a randomized clinical trial investigating the impact of a post-hospitalization support program for infants weighing less than 2,000 grams at birth. The study enrolled 135 low birth-weight infants and randomly assigned them to the intervention/case group or control group, with a further stratification into low birth-weight and very low birth-weight (less than 1,500 grams). Program personnel followed intervention-group infants for four months after they left hospital, providing anticipatory guidance and teaching within the home environment; control group infants received the standard public health nurse follow-up. Investigators found that improved infant and family outcomes can be realized when continuing support is provided. In particular, the intervention group received breast milk more frequently and for longer periods of time. Also, they received vitamin supplementation more appropriately and visited their physicians more regularly, with fewer unscheduled visits. No weight differences existed between the two groups at six months after discharge.

(AB301) Alberta Primary Health Care Project

Recipient: Alberta Health and Wellness

Contribution: $11,112,759 – 27 Studies

This report is a meta-analysis of the 27 Alberta evaluation and demonstration programs. The projects addressed primary health care through six key strategies: rural/remote access, illness prevention and health promotion through community development, early intervention and education, system restructuring, integrated service delivery, quality improvement, and community health centre models. Findings from these projects contribute, in various degrees, to an understanding of the six national dimensions of primary health care. Some projects found that existing methods of payment to physicians discourage them from participating in interdisciplinary and multidisciplinary activity. Many projects exemplified successful integrated service delivery and resulted in improved continuity of care. Others revealed a need for greater information sharing among providers, clients, public agencies, and administrators. Yet others emphasized the importance and benefit of early intervention and public awareness strategies. Rural projects demonstrated successful alternative strategies for advancing primary health care such as telehealth, "settlement nurses," remote health teams, and immunization schedule monitoring. All projects completed individual reports and are accompanied by fact sheets and summaries.

(AB301-1) A Study to Support the Repositioning of Services and Practices in the Provision of Primary Health Care

This project set out to identify areas of fragmentation and duplication in the Calgary Regional Health Authority. Using a "whole systems" model, researchers examined the existing system from three perspectives: population, providers, and services. All services, including for profit, not-for-profit, government agencies, and regional health authority agencies, were studied, and game theory and systems model theory

were used to describe findings. This project includes examples of the challenges and implications of change to primary health care delivery in Calgary.

(AB301-2) An Evaluation of the Alexandra Community Health Centre as a Model of Primary Health Care

This Calgary project examined the Alexandra Community Health Centre (CHC) to determine the relationship between social services and primary health care. The CHC has been operating for 26 years and runs clinical services, psychological services, and a community development program. The project evaluated the centre with respect to quality, access, integration, health impact, cost-effectiveness, and transferability. An internal evaluation team collected data, and an independent evaluation team reviewed the findings in a primary care context. This project unfortunately faced major changes in key staff, variable levels of support, and the halting of the community development section of its service, thus significantly hampering the outcomes.

(AB301-3) 8th and 8th Health Centre Proposal for a Formative Evaluation

The operations at Calgary's 8th and 8th Health Centre, a downtown facility offering 24-hour urgent medical care as well as mental health, public health, continuing care services, and community liaison, were evaluated with the goals of improving the centre and, depending on the results, exploring the possibility of developing other similar centres in the region. The study found that the centre's services were used by a considerable number of individuals who neither work nor reside in the downtown core. The main reasons for visiting the centre included its location, convenience, clients' satisfaction with services and staff, short waiting times, and possibly the users' lack of a family physician. The study also suggested that when urgent care is incorporated into a health centre model, the continuity of care may be compromised.

(AB301-4) Enhancing Primary Care of Palliative Cancer Patients

This project aimed to improve the quality of care for palliative cancer patients in the Calgary Regional Health Authority. Researchers established clinical practice guidelines (CPG) for palliative sedation; facilitated the transition to palliative care by adopting standardized consultation notes for physicians; conducted an educational needs assessment of care providers, patients, and family members; and disseminated palliative care information in a brochure. The study found that families and patients wanted information on alternative and complementary cancer therapies. The assessment of the CPG on palliative sedation indicated high rates of inappropriate sedation and problems with managing delirium in patients. However, communication initiatives were well received by palliative care providers, who said it helped identify expectations of providers, patients, and families.

(AB301-5) Evaluation of a Primary Health Care Clinic According to the Primary Health Care Parameters of First Contact, Longitudinality, Comprehensiveness, and Coordination

This primary care project evaluated a community-based family practice clinic in Calgary. Researchers established care quality indicators, held workshops with physicians and nurses, staged focus groups with patients and community members, conducted an extensive literature review, and asked key stakeholders to rank primary care indicators such as accessibility, comprehensiveness, and the patient–physician relationship. The study found that a successful evaluation process includes an on-site project leader, the active involvement of clinic staff, and support from individuals skilled in methodology, literature review, and financial management. It has produced several useful tools, including a literature review of primary care indicators and a list of 50 indicators for evaluating family practice clinics in the areas of access, quality, and integration.

(AB301-6) Evaluation of Urban Patients' Choice of an Emergency Department as Their First Contact with Primary Health Care Services

The question of why so many people use emergency departments rather than other primary care services such as doctor's offices and walk-in clinics was the focus of this project. It sought to develop a transferable tool that could be used to measure people's perceptions about primary care access, to profile patients using emergency departments for primary care, and to identify barriers to the use of other primary care environments. Data were collected from patient surveys, a literature review, telephone interviews, community groups, and regional sources. Although the project did produce a demographic profile of the patient population, it has not yet developed a

transferable tool or identified barriers to alternative primary care. The study found that most patients try to contact a health professional or non-professional before going to the emergency department but are driven to use emergency departments by a sense of worry and urgency. Overall, it found that most patients arriving at the emergency department were not frequent users of the facility for primary care.

(AB301-7) Integrating the Services of the Nurse Practitioner in the Inner City: A Proposal for Evaluation of Enhanced Services at CUPS Community Health Centre

This project evaluated the integration of a nurse practitioner (NP) into a busy collaborative community health centre serving a socially and economically marginalized population in downtown Calgary. Nurses, physicians, dentists, chiropractors, and an orthotics technician formed the interdisciplinary team at the clinic, which provides care for about 13,000 client visits a year. Central to the project was the question of whether or not the skills and knowledge of a nurse practitioner, who is traditionally trained to work in isolated rural settings, could be transferred to an inner-city setting. The study found that the NP significantly increased access to care. The number of clients who had to be turned away decreased by 40 per cent and outreach to other settings increased. Also, because the NP was able to deal with patients who did not require the attention of a physician, physicians were able to spend more time with patients who needed their level of care.

(AB301-8) An Evaluation of the Airdrie Regional Community Health Centre

This project evaluated the first year of operation of the Airdrie Regional Health Centre (ARHC), looking at how the centre practised the principles of primary health care. ARHC's services include health promotion, education, counselling, disease/illness prevention, home care, speech assessment and treatment, and hearing assessments. Researchers discovered that ARHC did not meet public expectations of what a health centre should offer. The public wanted a 24-hour, walk-in clinic with nurse practitioner services to address minor emergencies. However, the regional health authority and inadequate public funding would not support such a vision. In addition, the organizational structure, including budgets and different geographic catchment areas for different programs, was a barrier to integrated service delivery. Other barriers existed at ARHC: organizational turmoil, funding obstacles, and a prolonged debate about the nature of primary health care.

(AB301-9) Enhance and Evaluate COPE (Community Outreach in Pediatrics/Psychiatry and Education Program): A School-Based Primary Care Initiative

This project looked at how to enhance and evaluate a school-based mental health program that identifies and diagnoses children with mental health problems. As well, the project investigated relationships between medical and school personnel and investigated the extent to which families were knowledgeable about their children's mental health. The project's ultimate goal was to reduce long-term social and health problems associated with the late identification of mental health problems. The study resulted in an earlier, more accurate, and more comprehensive diagnosis of children's emotional, behavioural, and learning difficulties. It also was found that the fee-for-service funding structure actively discourages physicians from working in school-based settings.

(AB301-10) Shared Mental Health Care in Primary Care Practice

This project sought to develop better links between family physicians and mental health providers (psychiatrists, psychologists, and nurses) by facilitating the delivery of mental health care in family physicians' offices. Mental health care was shared among three psychiatrists, 24 family physicians, three mental health nurses, and one psychologist. The study found that participating family physicians were more effective and confident in dealing with mental health issues and were better able to recognize, diagnose, and treat patients with mental health problems. They also spent more time counselling patients and seemed to prescribe psychotropic medications more appropriately. Patients also were satisfied, saying they appreciated the convenience, accessibility, and lack of mental health stigma when treated in their doctor's office.

(AB301-11) Strengthening Multidisciplinary Primary Health Care Teams in Coordinated Disease Prevention and Management

This project brought together community-based health care practitioners in order to better prevent and treat two chronic health conditions: diabetes and

osteoarthritis. The project had two phases. Phase one developed disease care plans based on evidence-based clinical guidelines by linking multidisciplinary groups via the Internet. Phase two implemented these care plans in six primary health practices. The study found that on-line information tools were most useful in exposing the roots of disagreement among team members. Members preferred face-to-face sessions for building consensus and reviewing care plans. Although on-line activities complemented workshop-based activities, it could not replace them; time and geographic restraints were challenges to this collaborative arrangement.

(AB301-12) Evaluation of the Healthy Okotoks Project

This project evaluated an existing community program, the Healthy Okotoks Coalition (HOC), which encourages citizen involvement and enhances the capacity of indigenous leadership to address local concerns. Researchers developed a set of outcomes and process measurement tools and tried to identify barriers, apply the findings to improve the processes, and develop a blueprint for evaluating future "Healthy Communities" projects. The study found that the HOC achieved 24 community changes that it believed had increased opportunities for healthy living, including a community garden, a skateboard park, increased awareness of fetal alcohol syndrome, and a youth curfew. However, the HOC did not extend itself into the community to the extent that members felt was necessary to be representative of community needs, particularly those of marginalized groups.

(AB301-14) Healthy Families Primary Health Care Services to High-Risk Families

This Capital Health Region project involved intensive home visits providing long-term services to families with their first child. It partnered with many community agencies, including public health centres, traditional healing societies, and child and family services to target families at risk of poor health outcomes for their children as a result of poverty or social factors. The project aimed to improve parenting by increasing parents' knowledge and use of community support and by assisting them in improving their personal development. It also sought to improve the child's health and development. The families involved expressed a high level of satisfaction with the services, as did staff and other stakeholders. The parents' knowledge of their children's development increased, and most parents said their relationship with their children improved because of the program. The study also noted a decrease in the number of infants being taken to emergency departments.

(AB301-15) Misericordia Health–Lifestyle Improvement Education Centre

This project sought to find a better way to provide health information to patients with elevated cholesterol than is available in the traditional fee-for-service system, which discourages family physicians from counselling their patients about healthy lifestyles. The project created an education centre, in which patients received risk-reduction information on cholesterol. Team members did pre- and post-assessments of participants' dietary knowledge and habits, fitness, and cholesterol levels. In addition, they interviewed both physicians and clients. The study found that both treatment and control group participants decreased their serum cholesterol and increased their frequency of physical activity. Support by family and friends was important in maintaining motivation. Family physicians who referred patients to the program reported that although they did not change their practice, they supported the program and would in the future refer patients if such a program were available.

(AB301-16) Evaluation of the Northeast Edmonton Community Health Centre

This project evaluated the Northeast Edmonton Community Health Centre (NECHC), which operates on primary health care principles. The services available at the centre include family health, child and adolescent health, mental health, women's health, seniors' health, lab and diagnostic imaging services, audiology, an asthma care centre, and emergency services. The project proposed an enhanced health care team to integrate services as a way to better serve clients. Over a period of 14 months, an internal evaluation team collected, analyzed, and interpreted data regarding utilization, client needs and services, referrals, emerging issues, and northeast quadrant trends. Researchers concluded that the NECHC's goals differ fundamentally from those of traditional hospitals, and thus the standards for defining success should reflect the long-term focus of the centre.

(AB301-18) Health for All (Métis Settlements and Lakeland Regional Health Authority)

This project set out to improve the overall health of residents in four Métis communities in east central Alberta by providing a "settlement nurse" to provide on-site, non-emergency programs and services. It took place in a context of long-standing mistrust and miscommunication on the part of both the Métis community and members of the regional health authority. A major challenge for this project was bridging cultural differences. A major success of the project was the establishment of a trusting relationship between the settlements and the Lakeland Regional Health Authority. The project also demonstrated the importance of the settlement nurse as a link to other services as well as a direct service provider. Although some community members reported that the settlement nurse helped them improve their health, health providers saw no changes in community knowledge as a result of health promotion efforts.

(AB301-19) Evaluation of the Usefulness of Telehealth in Providing Enhanced Primary Health Services to the Northern Geographically Remote Communities of Trout Lake, Peerless Lake, and Red Earth Creek

This project evaluated the effectiveness of an existing telehealth service in providing primary health care to three geographically remote communities. Telehealth services are thought to be useful because they may improve the quantity, continuity, availability, and accessibility of care in isolated communities. However, project staff and participants did not receive sufficient training in telehealth operations, and participants found there were not enough telehealth interactions to conclude whether or not this technology delivered quality care, was cost-effective, or increased access. Very little statistical or perceptual data was available to enable researchers to answer the original question of whether telehealth was useful or not. Project leaders concluded that "under the right conditions and guidance," telehealth might benefit the communities studied.

(AB301-20) What Are the Client Characteristics and Their Perceived Barriers for Non-Adherence to Immunization Schedules and What Impact Will an Immunization Refusal Strategy Have on Subsequent Adherence at Six (6) Months, Twelve (12) Months, and Eighteen (18) Months?

This project aimed to increase immunization rates in the Keeweetinok Lakes Regional Health Authority, a geographically large and culturally diverse region of 25,000 residents, almost 50 per cent of whom are Aboriginal. It hoped to increase immunization rates by inviting people who did not wish to update their child's immunizations either to sign a "refusal" form or to make an appointment for a subsequent immunization. It then followed up adherence at the 12-month, 18-month, and pre-school visit stage. Researchers found that parents' lack of knowledge about vaccines may be the most important single barrier to immunization. Lack of access to clinics was also a major factor. Other barriers to immunization included lack of child care and transportation problems. The project increased the region's immunization rates by about 20 per cent. The written refusal option was found not to be an effective strategy for dealing with under-immunization.

(AB301-21) Healthy Families Project

A home visiting program modelled on the United States' Healthy Families America program, this project provided long-term services to families with their first child. Participating families struggled with factors such as poverty, isolation, youth (many were teen parents), substance abuse, and violence. The goal of the project was to promote positive child–parent interaction, ensure healthy child development, support parents' functional development, and increase parents' knowledge of community supports. Participating families were linked with a "family visitor" who made weekly visits, providing parents with education, skill development, and links to community resources. Families rated the program excellent or good, and the program helped most families to use positive parenting strategies regularly. Overall, clients thought the program helped them become more confident in making community contact.

(AB301-22) Primary Health Care Project for Elnora Area

This project set out to develop, implement, and evaluate a primary health care model for rural areas that would incorporate community development principles. It hoped to provide Elnora area residents with affordable, accessible, effective and acceptable health care services through the introduction of a nurse practitioner (NP) at the rural health centre. The NP provided extended nursing practices such as prescribing medication, suturing, physical examinations, and ordering and interpreting lab work. The NP also maintained basic emergency supplies, equipment, and related drugs. On the whole, the project concentrated on "health care services" rather than on factors contributing to health. However, the services of the NP were used and accepted, and people had no trouble differentiating between an illness or injury that needed a physician's attention and one that could be seen by an NP. In addition, they had increased confidence in emergency response management.

(AB301-23) Remote Primary Health Care System

This pilot project provided residents in three targeted remote communities with a mobile team of health professionals that visited the towns weekly or semi-weekly. The core team consisted of a physician, nurse, pharmacist, laboratory technician, respiratory therapist, and speech language pathologist. A second team provided breast health services, nutritional services, diabetic education, community outreach, and a youth justice resource. The project's goal was to improve access to primary health care, improve community perception of health care services, and develop links with appropriate agencies. Strong and harmonious relationships were formed among mobile team members and between staff and community members. Residents reported high satisfaction with the services they received and did not confuse the mobile services with other health services. Also, there was significantly increased compliance with prescriptions for medications and flu shots.

(AB301-24) Primary Health Care and Brooks (Brooks Cares Project)

Recipient: Palliser Health Authority

Contribution: $103,861

Researchers sought to determine the primary health needs of a rapidly changing population in the Alberta town of Brooks, which experienced a surge of newcomers from diverse countries such as Iraq, Somalia, Bosnia and Cambodia. The project planned a "participatory action research" approach to help meet their needs, but the project was more theoretical than practical, did not reach its audience, and was terminated.

(AB301-25) A Program Evaluation of Diabetes Centres in the Capital Health Region

This project set out to examine the range of services that centres provide; the population that each centre serves; whether clients are satisfied, whether the centres are successful in teaching information about diabetes; and the problems that clients perceive to be barriers to accessing outpatient diabetes services. Team members developed an evaluative model for measuring the outcome of client participation from the perspective of clients, their families, and their physicians. The study found that clients were satisfied with the services and that the centres' education program resulted in improvements to their health and an increase in knowledge. Clients taking insulin showed no change in their knowledge. The proportion of clients who indicated that their blood sugar remained out of control after the education program decreased from 64 per cent to 22 per cent.

(AB301-26) Primary Health Services in Four Rural Communities

This project attempted to establish integrated primary health services in four rural communities in the East Central Regional Health Authority of Alberta. It focused on working with these communities in partnership to build an integrated and sustainable primary health system that could eventually be transferred across the region. Each community engaged in new activities as a result of this project, ranging from service inventories to information gathering to planned projects such as a community forum to address bullying at a local school. As the project continued, participants felt the region listened to those involved and recognized that each community

would approach the initiative in its own way. By the second phase, there was less concern about turf protection, and all respondents felt the project had established successful partnerships.

(AB301-27) Primary Health Care Collectives: Improving the Quality of Medication Use in the Community (Pharmacy)

This project attempted to improve the quality of medication use and medication management by patients and care providers alike. It hoped to achieve these goals by establishing community-based teams, called "collectives," comprised of a physician, a pharmacist, and a home care nurse. The project selected high-risk patients who were, on average, taking five medications, were about 66 years old, and self-reported their health status as poor. The project had mixed results. Patients did access home care services that were previously unavailable to them, and they significantly improved their compliance with medication regimes. In addition, data suggested a trend toward fewer physician and hospital visits, although this finding was not statistically significant. However, the patients' health status did not significantly improve.

(BC301) Primary Care Demonstration Project

Recipient: British Columbia Ministry of Health and Ministry Responsible for Seniors

Contribution: $9,471,197

This three-year project established a primary care model in British Columbia that adopted an integrated multidisciplinary group approach to primary care. The seven project sites provided 24-hour/7-day-a-week access to medical care and access to a full range of care, including illness and injury prevention and health promotion. Changes included funding physicians on a capitated or population-based model, establishing quality-assurance mechanisms, extending hours of service, enhancing computerized systems, and integrating medical services with community services. The project offers lessons on how best to implement the often difficult change to primary care, including the insight that a staged implementation approach should be undertaken and that reorganizing physicians into a group practice takes a minimum of six months. It found improved job satisfaction for health care professionals and noted their satisfaction with the blended population-based funding formula.

(BC404) Home Birth Demonstration Project

Recipient: British Columbia Ministry of Health and Ministry Responsible for Seniors

Contribution: $167,400

This project established the first systematic examination of planned home births in a regulated setting in Canada. When British Columbia began regulating midwifery in January 1998, midwives and their clients were required to participate in this project, which ran until October 2000. A multi-stakeholder advisory committee developed midwife protocols and a data collection system and then dealt with emerging issues and recommendations. An independent evaluation team identified negative situations and forwarded the cases to a panel of clinical experts, which identified practice and integration issues. In the study, data from 862 planned home births were evaluated and compared with 743 planned low-risk hospital births attended by a physician and 571 planned hospital births attended by a midwife. Researchers found that midwives are able to appropriately screen women, are cautious practitioners of home birth, and cooperated well with other health care workers. Planned home births compared favourably with – and sometimes outshone – hospital births with respect to postpartum hemorrhage rates, infections, and rates of inductions, episiotomies, and other interventions. However, some cases of obstetrical shock, and three of the four incidents of perinatal death, occurred during home births. The authors caution that the sample size was not large enough for valid statistical comparisons of risks.

(NF301) Primary Health Care Enhancement Project

Recipient: Department of Health and Community Services, Government of Newfoundland and Labrador

Contribution: $2,181,823

This project evaluated Newfoundland's Primary Health Care Enhancement Project (PHCEP) at three rural sites within the province. PHCEP, an initiative of the Province of Newfoundland and Labrador that was funded jointly by the HTF and the province, focused on three urgent rural health care issues: the recruitment and retention of health professionals, continuity of care, and the movement toward a primary health care model. Recruitment and retention problems were

tackled by multidisciplinary medical services and teaching units at each site. Continuity of care was addressed by establishing nurse practitioners. The third component was the use of video conferencing equipment for clinical consultations, the dissemination of health information, and the creation of professional development opportunities.

(NS301) Strengthening Primary Care in Nova Scotia

Recipient: Nova Scotia Department of Health

Contribution: $2,805,678

This project piloted and evaluated a new way of delivering primary health care services that addresses the access issues posed by a shortage of family doctors in rural and remote areas and the general lack of service coordination and collaboration among health care professionals. It set out simultaneously to introduce a new primary care provider (a nurse practitioner), advanced information systems, and alternative payment mechanisms for physicians. The pilot program is unfolding in four Nova Scotia communities: Caledonia, Pictou West, Springhill, and Halifax. To establish the new position of nurse practitioner, collaborative practice agreements between physicians and nurse practitioners were developed and approved, the Pharmacy Act was amended, and orientation, training, operational, and continuing education issues were addressed. During the start-up phase, the information system component developed and successfully implemented an integrated electronic patient record and practice management system, installed hardware and software, and pursued the goal of nurse practitioner shadow billing. Regarding alternative funding, none of the sites opted for the population-based (block) funding option, so alternative payment contracts for physicians (three of them predating the project) were featured. Still underway, the initiative will continue with support from the provincial Department of Health until December 2002, and the final evaluation report is to be published in 2003.

(NS421) Enhancing the Care of People with Mental Illnesses in the Community: A Model for Primary Care Service Integration in the Area of Mental Health

Recipient: The Nova Scotia Hospital

Contribution: $397,200

This project piloted a "Shared Care" model of mental health delivery to improve identification, early intervention, access to appropriate services, and outcomes. The Shared Care model deployed mental health workers and psychiatrists in primary care settings at four sites in Nova Scotia: an inner-city community health centre, an urban family medicine centre, a rural family practice, and a comparison site. Each intervention site had three FTE family physicians on salary and a receptionist, psychiatrist, and mental health worker. The comparison site had fee-for-service physicians. A total of 241 patients gave written consent to participate in the research. The evaluation found that patients at the intervention sites received improved access to appropriate mental health services: decreased waiting times, reduced visits to emergency, more referrals for mental health consultations at their own site, and high rates of patient satisfaction. The patients' mental health outcomes were improved, and there was improved collaboration and communication between health care providers.

(ON221) Randomized Trial Evaluating Expanded-Role of Pharmacists in Seniors Covered by a Provincial Drug Plan in Ontario – Seniors Medication Assessment Research Trial (SMART)

Recipient: McMaster University, Hamilton

Contribution: $677,860

The study evaluated a five-month program that linked family physicians with pharmacists trained to provide cognitive, clinical, patient-based care (known as "expanded role pharmacists" or ERPs) in an attempt to optimize drug therapy for seniors. The study used a "cluster randomized control trial design" that involved 889 senior patients, each using five or more medications, in 48 family practices in urban and rural Ontario. The SMART project twinned pharmacists with family physicians in the intervention group, provided access to medical records and patient interviews, facilitated recommendations on identified drug-related problems, and determined over the next five months which recommendations would be

implemented. The report notes that the experiment was successful, effective, and reproducible: drug-related problems were identified in 88 per cent of the patients in the intervention group; physicians agreed to implement 84.2 per cent of the recommendations they received; and after five months, 56.5 per cent of those changes had been implemented successfully. The study found no significant differences between the intervention and control groups in terms of mean number of daily medications or medication units, proportions of appropriate or inappropriate drug use, the proportion of patients reporting a problem with their medications, or quality of life. Both physicians and pharmacists said they would recommend the method of collaboration to colleagues.

(ON222) Partners for Appropriate Anti-Infective Community Therapy – Development of a Guideline Dissemination Infrastructure

Recipient: University of Toronto

Contribution: $150,000

This study looked at the feasibility of extending an education strategy called PACCT (Partners for Appropriate Anti-infective Community Therapy), which had proven effective in a 1996 pilot, to the whole province in order to combat antibiotic resistance. The project had six objectives: to establish a provincial network for disseminating evidence-based guidelines and educational materials; to empower family physicians to play a leadership role in improving the use of antibiotics; to contribute to decreasing regional and national bacterial resistance; to promote the appropriate use of anti-infectives; to improve patients' understanding and use of anti-infectives; and to provide an opportunity for enhanced physician-patient-pharmacist communication about drug-related issues. The project developed a provincial network of trained facilitators and supplied them with materials as well as program and evaluation support to give training to primary care providers in their communities. The project was not designed to measure changes in antibiotic prescribing and use. The report draws out the lessons learned and extends their application to suggest that this information dissemination approach could be extended to other primary care best-practice guidelines over a wide geographic area.

(ON301) Primary Care Reform Implementation and Evaluation

Recipient: Ontario Ministry of Health and Long Term Care

Contribution: $18,247,528

This project tested primary care reform at seven pilot sites across the province, one of the first steps in an Ontario government–Ontario Medical Association joint initiative to implement major province-wide primary health care reform. The goal of reform is to move away from individual physician care to networks of physicians (primary care networks) that enrol patients for the provision and coordination of primary care services. This evaluation report is a preliminary accounting of what has occurred up until the spring of 2001, by which time 11 networks had enrolled 218,398 patients and physician-patient ratios varied from 1:430 to 1:2,245. The key aspects of the primary care networks include population-based funding for services (either through "reformed fee-for-service" or through "global capitation" mechanisms); the enrolment of patients; a telephone triage system after hours; incentives for preventive interventions, and the use of information technology to better coordinate services. In this draft report, physicians felt that it was too early to notice much change in their practices, although most seemed satisfied with primary care reform steps. The short duration of the evaluation to date limits the ability to draw conclusions about cost-effectiveness. The government is committed to having 80 per cent of family doctors voluntarily join the "Ontario Family Health Networks" by 2004 and plans an investment of $250 million to establish these networks. The HTF contributed $18 million for the pilot projects; this is the final report of the first phase of evaluation.

(ON321) Mental Disorders in Primary Care

Recipient: Centre for Addiction and Mental Health, Toronto

Contribution: $195,294

This study investigated whether a special mental health training binder and workshop could improve primary care physicians' confidence and skill at recognizing, diagnosing, managing, and treating common mental health disorders. The training materials were developed by the World Health Organization Division of Mental Health and Programme of

Substance Abuse, and the study found that focus groups preferred the content over drug-company sponsored materials. A total of 2,548 physicians in three settings was selected to receive the materials: binders, pre-test questionnaires, and an invitation to the CME credit workshop. The study evaluated two groups of doctors: those who returned the pre-test questionnaire and attended the workshop, and those who received the materials and did the questionnaires but did not attend the workshop. Physicians in both groups reported an increased confidence and skill in recognizing and treating depression and anxiety, but there was no difference between those who simply read the binder and those who attended the workshop. For substance abuse, however, those who attended the workshop reported an increase in confidence, whereas those who simply read the binder did not.

(ON428) Coordinated Stroke Strategy

Recipient: Heart and Stroke Foundation of Ontario

Contribution: $750,000

This study evaluated a Coordinated Stroke Strategy demonstration project, which is integrating stroke care across "the continuum of care" from health promotion and risk factor management to pre-hospital and acute care through to rehabilitation and community reintegration. The study examined efforts to improve secondary prevention strategies in two pilot programs and tested the effectiveness of some marketing strategies for messages about the warning signs of stroke. Each demonstration region developed networks and mobilized stakeholders in its own way; the variations and resulting benefits or problems are laid out in this study. The project has also added knowledge about processes and protocols at successful stroke-prevention clinics.

(PE321) Enhancement of an Integrated Model of Prenatal Assessment and Care on Prince Edward Island

Recipient: Prince Edward Island Department of Health and Social Services

Contribution: $100,000

This project promoted interventions during pregnancy to prevent risks to the newborn, the mother, and the family. Researchers used an existing prenatal psychosocial assessment model and then held education sessions for 73 physicians on how to conduct enhanced assessments. Referrals were made to appropriate community services that agreed to inform physicians about their clients' outcome. Interventions included counselling on breastfeeding, mental health, nutrition, stress, and smoking cessation. After a three-month period, participating physicians reported that they were satisfied with the education sessions. Although there was little change in the number of referrals or in the ease of access to clients, physicians became more aware of services, and communication between doctors and patients improved.

(QC301) Populational and Organizational Impact of Introducing an Integrated Approach to Asthma Control in the Territory Served by the Hôtel-Dieu Hospital in Saint-Jérôme

Recipient: Régie régionale de la santé et des services sociaux des Laurentides

Contribution: $37,000

This pilot project set up an integrated approach to controlling asthma. It offered training to practitioners to increase their knowledge about asthma, build links among practitioners, and promote the referral of patients to the *Centre d'enseignement sur l'asthme* (CEA, an asthma teaching centre). The CEA aimed to improve patients' self-management of their disease. In general, patients and practitioners were satisfied with the activities of the project. The integrative aspects of the project were less successful. The study found that although the target audience may be found in the emergency department, this is not the best place to motivate patients for education in self-management.

(QC302) Reorganization of Heart Health Primary Care in the Quebec Region

Recipient: Centre hospitalier universitaire de Québec, Direction de la santé publique

Contribution: $801,094

This pilot project was designed to reorganize services to patients either suffering from cardiovascular illnesses or at risk of such diseases. The project covered the territories of four CLSCs located in the Quebec health region and included services from prevention to rehabilitation. The project succeeded in establishing a network in each CLSC territory of practitioners from the public, private, and community sectors. It did not, however, succeed in gaining the collaboration of doctors in private practice, either

in doing more preventive counselling or in referring their patients. The project evaluation shows that patients who participated improved both their physical activities and their diet after three months, and they were less likely to consult a physician or to be hospitalized during that period. Regional leadership was seen as crucial. Establishing norms and standards for community programs was problematic for the project coordinators but essential to ensure the quality of services. The lessons learned mostly relate to the challenges of implementation.

(QC303) Development and Application of Guidelines for Optimizing Medical Practices

Recipient: Centre hospitalier de l'université de Montréal (CHUM)

Contribution: $350,600

This demonstration project was designed to develop guidelines for practice. It used a process based on incorporating the best scientific evidence and on involving from the outset scientists, decision-makers, and clinicians at the regional and provincial levels. The purpose of the guidelines was to optimize medical practice by informing practitioners about relevant recent evidence. The four chosen treatment situations were screening for prostate cancer, pharmacological treatment for stable angina, prescription of medical imaging, and use of knee arthroscopy. The project produced guidelines on the use of a screen for prostate cancer, implementation and dissemination of which appear to have reduced the subsequent use of the laboratory test in Quebec. However, limited progress in the other areas did not permit the project to determine whether such guidelines can change medical practice or the best way to develop and implement guidelines. The authors set out the lessons learned from this project about the prerequisites for success: clear planning, the availability of tools for analysis, leadership from professional associations, and access to adequate data and financing.

(QC304) Implementation of a Protocol for the Systematic Identification of Female Victims of Violence at Quebec CLSCs

Recipient: Le CLSC St-Hubert

Contribution: $495,800

This pilot project developed and introduced a screening protocol and an accompanying guide to detecting conjugal violence for use in CLSCs in Quebec. Implementation of the protocol involved developing new attitudes among both managers and professionals who were involved in primary care, as well as training these groups in recognizing conjugal abuse. Evaluations indicated a high rate of use of the protocol, but a study of legal and ethical issues arising from its use remains to be done. Originally, 80 CLSCs were targeted, but in the end all 154 CLSCs in the province expressed interest in implementing the protocol. The authors suggest that the professional associations of the various categories of health workers should be involved in implementing the protocol.

(QC305) Supraregional Mother–Child Network

Recipient: L'Hôpital Sainte-Justine

Contribution: $2,278,514

This project established a "mother-child network" among hospitals in four health regions in Montréal and the surrounding area, reaching into rural areas north of the city, to lighten the burden on urban centres by shifting primary and secondary care to hospitals close to patients. The project used telemedicine technologies and telehealth training for practitioners. Clinical practice was reorganized to care for mothers and children in hospitals near their home, and the project developed coordination mechanisms to ensure a continuum of care during the transfer process. The evaluation of the project records some success, particularly at the level of operational coordination. The telemedicine aspect of the project also improved access to services in isolated areas where qualified doctors were rare. No estimate of cost-effectiveness could be done because of current data-collection practices. The authors note that one of the most intractable obstacles was that parents preferred to go to a hospital emergency department because they knew they could find pediatricians there. During the short time period of the study, access patterns did not change significantly.

(QC321) Innovative Project in the Quebec Region: Perinatal Clinics

Recipient: Centre hospitalier universitaire de Québec, Direction de la santé publique de Québec

Contribution: $96,905

This study of perinatal clinics in the region of Quebec City evaluated new initiatives designed to provide continuity of quality care to pregnant women and their families and to identify families at risk early in the women's pregnancy in order to refer them to other services. The evaluation aimed to provide meaningful feedback to managers and administrators on the implementation of this new approach. It also attempted to support practitioners who were adapting their practices to the clinics' goals. Survey results indicate that the clientele was generally satisfied with the services received and that practitioners supported the goals of this approach. The goal of reaching a large proportion of at-risk families was not attained, since this population rarely used the clinics' services. The researchers offer several conceptual categories for analyzing various approaches to service delivery. In addition, they emphasize that their results show the importance for managers of concentrating on the process of change as much as on the content.

(QC323) Putting in Place an Information-Technologies-Supported Training Program Aimed at Nursing Staff for Delivery of Health Services in Isolated Communities

Recipient: Centre de santé de la Basse Côte-Nord, Lourdes-de-Blanc-Sablon, Québec

Contribution: $748,213

This pilot project developed a continuing education curriculum for nurses in the isolated lower North Shore region of Quebec. Three 45-hour units were delivered through video conference technology. Originally, the project had hoped to teach nurses some advanced techniques because doctors were not likely to be available in these isolated settings. This goal had to be set aside when the Collège des médecins du Québec insisted that protocols related to nurses performing these techniques must be agreed upon by the professional bodies concerned. Alternative curricula were therefore developed and taught. The nurses acquired new knowledge and were generally satisfied with the courses, although a majority of participants reported that limited changes occurred in actual practice. They also asked for clinical supervision in addition to the video conference. The experience resulted in improved collaboration between doctors and nurses and in more positive attitudes to distance education.

(QC324) Promotion of Clinical Prevention

Recipient: Régie régionale de la santé et des services sociaux de la Montérégie

Contribution: $411,585

This project used methods borrowed from marketing and adult education to promote clinically proven prevention practices, both directly to family physicians in private practice and indirectly to their patients. The project sent representatives to doctors' offices in "academic detailing," a process copied from pharmaceutical companies. They learned about doctors' needs and offered them information and material that would be useful to their patients, as well as suggesting office systems to facilitate preventive practice. During these visits, representatives determined which doctors were potential opinion leaders who would continue to promote preventive practice among their colleagues. The project's report notes that such leadership was key to integrating prevention into practice, but it said that barriers existed on the part of doctors and patients. The project established a channel of communication with more doctors than was originally anticipated and created links between public health and doctors in private practice.

(QC325) Project for the Education of Asthmatics Who Visit Emergency Rooms or are Hospitalized

Recipient: Hôpital Laval

Contribution: $750,539

This pilot and evaluation project was carried out in ten hospitals in Quebec and introduced a preventive program designed to instruct asthma sufferers in self-management of their chronic disease. Referrals to Asthma Education Centres (CEAs) were made through the emergency departments, which also offered patients information on the proper use of medication. The project was designed to reduce the demand on emergency departments, and resulted in the number of referrals increasing from almost none to 19 per cent of asthma cases presenting at emergency. However, only 8 per cent of patients followed up with

appointments at the CEAs. The study found that the emergency department was a good place to target patients but not to deliver training. The researchers recommend specific mechanisms to integrate the delivery of preventive education in an emergency setting.

(QC431) Capitation Project in the Haut Saint-Laurent RCM

Recipient: Régie régionale de la santé et des services sociaux de la Montérégie

Contribution: $3,171,031

This extensive project was designed to integrate primary services in a rural *Municipalité régionale de comté* (MRC, a regional county municipality) in the Haut-Saint-Laurent region of Quebec. The purpose was to provide efficient, quality primary health care that was accessible to all of the region's 25,000 residents. Responsibility for coordination on a territorial basis was given to a planning forum under medical leadership. Changes included doctors being remunerated for time spent on organizational and management activities, nurses being hired to work in medical centres, and services being restructured across the MRC to increase *complementarité* (lack of duplication) among the different institutions and organizations. In addition, a communication system for transmitting clinical information between practitioners and institutions was developed, and seven databases were integrated into one. The preliminary results indicate an improvement in continuity; a lack of duplication among institutions, enabling more patients to be cared for in their region; and less use of hospital resources. Researchers note that information in the data bank will contribute to the efficient allocation of resources, in part by allowing managers to track individuals' use of services. Stable funding is currently being sought to continue the project.

(QC432) Citizen Participation in the Emergence of Alternative Solutions to Meet Primary Health Services Needs in "Healthy Towns and Villages" Communities

Recipient: Régie régionale de la santé et des services sociaux de l'Abitibi-Témiscamingue

Contribution: $108,831

This project described and evaluated a community development process for implementing primary care services in five small municipalities (with populations of 200 to 3,000) in Abitibi-Témiscamingue. The community development process, called *Villes et villages en santé* (VVS), brought together committees of citizen volunteers, elected municipal officials, municipal employees, and health service providers, particularly from the CLSC. These committees determined priorities and proposed innovative responses to local primary care needs. The principal lesson learned from the experience was that community development is a time-consuming exercise and that simultaneously starting up a VVS committee *and* achieving concrete primary care results proved challenging. The authors explore the challenges and conclude that these factors could in time be overcome.

(QC433) Integrated Population-Approach Care Model for Patients Suffering from a Chronic Illness (Diabetes)

Recipient: CLSC Côte-des-Neiges

Contribution: $961,214

This pilot project, based on the principles of disease management and population health, developed, implemented, and evaluated a strategy to improve services to diabetic patients in the Côte-des-Neiges neighbourhood of Montréal, an area that includes a wide range of cultural and socio-economic groups. The chosen strategy involved the systematic follow-up of patients, a coordination of services, the continuing education of medical personnel in exemplary clinical practices, the promotion of self-care by the patient, and a mobilization of community resources. The authors report increased use of multidisciplinary teams that centred on the family doctor. Patients improved their knowledge of their condition and their ability to manage their own care. The authors make recommendations for policy in the area of managing chronic diseases, notably concerning physician remuneration and strengthening networks

of family doctors, but they note that little evidence exists regarding the actual performance of integrated services. Their own evaluation concentrates on the process of implementation.

(SK321) Women's Diverse Roles in the Farm Economy and the Consequences for Their Health, Well-Being, and Quality of Life

Recipient: University of Regina

Contribution: $13,928

This study is a broad-brush look at issues affecting rural farm women in Saskatchewan. The researchers surveyed 717 farm women and interviewed informed professionals; they suggest that specific factors lead to the health care concerns unique to this group, such as stress, financial constraints, high workloads, isolation, and chemical use. The study embraced a wide range of issues, from farm women's concepts of feminism to leisure-time activities and exercise routines.

(SK325) Agriculture Health and Safety Program

Recipient: Midwest District Health

Contribution: $82,681

This project aimed to reduce the incidence of occupational injury and disease among farmers in the Midwest District of Saskatchewan. Almost half the area's working population reports farming as their primary job. The project employed a registered nurse to provide health screening and health education to 159 farmers by travelling around the district in a mobile health and safety unit. Participants were given lung-function tests, hearing tests, back and joint assessments, and stress assessments. The nurse also provided individualized education and referral to other health professionals when needed. Farmers were encouraged to identify their own health risks and to reduce those risks. This project was well received by participating farmers; many said that the program led to changes in their work practices that reduced risk and improved health. Almost all said that they would recommend the program to others, and nearly all felt the mobile approach to care was more effective than the traditional system. A significant number of participants were referred to specialists.

(SK326) Enhanced Rural Rehabilitation

Recipient: Assiniboine Valley Health District

Contribution: $177,513

This project hoped to improve rehabilitation services in the Assiniboine Health District by using three full-time physiotherapy assistants (PA) to work along with two full-time physiotherapists. Three PAs were hired at less cost than full-fledged physiotherapists to carry out a variety of tasks, including clerical work, patient education, and exercise therapies. An internal evaluation concluded that both the number of patients receiving treatment and the frequency of treatments increased while the length of time that patients spent in hospital decreased. Also, there were fewer back, shoulder, and neck injuries to health care workers, and the number of patient falls decreased. However, the study found that patients waited longer for physiotherapy services, possibly as a result of increased physician referrals based on their confidence that the system could accommodate them.

(SK327) Survivor Services Program: Pilot Project Proposal for an Integrated Service Delivery Model with Adult Survivors of Childhood Sexual Abuse

Recipient: Tamara's House Services for Sexual Abuse Survivors Inc.

Contribution: $151,000

In this project, Saskatoon's Tamara House, a non-profit, community-based, drop-in healing centre for female survivors of sexual abuse, conducted an evaluation of three non-conventional healing therapies: aroma-massage, a massage using oils and music; Reiki, the stimulation of meridian points to release energy blockages; and psychodramatic bodywork, an emotional-release therapy. Nearly half the participants also continued to receive therapeutic support from counsellors or self-help groups. Qualitative and quantitative data were collected from external evaluators, practitioners, and the participants. The women who participated in the study were enthusiastic about all three alternative therapies.

(SK330) Transition to an Integrated Primary Health Services Model

Recipient: University of Saskatchewan

Contribution: $318,726

This study set out to learn how to shift health delivery services in core communities from a conventional "bio-medical" model to one that emphasizes integrated services, prevention, acute care, home care, and pharmacare. A "high participation" pilot research project was implemented in downtown Regina and Saskatoon, where rates of chronic disease are climbing, emergency department use is high, and clients are often unresponsive to medical advice. People living in the target communities developed and administered a health-related survey, and this "transformative action research" methodology inspired a high level of response to the questionnaire: 94 per cent in Saskatoon and 57 per cent in Regina (where modifications by the health district made the project less community-driven). As well, clients identified gaps and overlaps in services provided by the formal system and by non-profit agencies in Saskatoon and established a monthly health forum to raise awareness about community concerns. The study already has had some practical impact: urban authorities quickly made physical improvements (e.g., installing better street lighting), but it was too early to determine a shift to health prevention.

(SK331) Monitoring the Impact of Family Health Benefits for Low-Income Families

Recipient: Saskatchewan Social Services

Contribution: $113,345

This study examined how both families on welfare and low-income working families used a provincial health benefits program, and how a change in the forms of coverage provided changed their use of health services. Family Health Benefits (FHB) is a Saskatchewan supplementary health plan designed to reduce the financial impact of children's health services on low-income families and thus to prevent potential health costs from deterring parents from becoming employed. Under FHB, working poor families receive several health benefits that had previously been available only to families on welfare. Three services – chiropractic, prescription drugs, and optometry – were examined. The study found that families on welfare used health services more than did new recipients of the FHB program designed for the working poor.

(SK334) Developmental Program Evaluation: Planned Parenthood Regina Sexual Health Centre

Recipient: University of Regina

Contribution: $166,665

This report evaluated the Planned Parenthood Sexual Health Centre in Regina, which has seen its annual number of clients quadruple in five years. Although the study found that the majority of physicians and counsellors (more than 80 per cent) in the region were aware of its existence, just over half of them knew about the full range of services it provided. The awareness among teens was much less: 31 per cent had "never heard of it," and 80 per cent did not know where it was. However, a survey found that the centre had established a positive image among its users that included a record of caring, confidential, and cost-effective service. The report's findings (e.g., by grade 12, 44 per cent of all students have had intercourse, and a majority of them were uninformed about the best way to prevent pregnancy and sexually transmitted diseases) makes it clear that there is a need for a continued focus on sexual health education.