



## **GPSC Literature Review**

*What are the characteristics of an effective primary health care system for the future?*

### **Question 5:**

**What will full service family practice look like in the future?**

Prepared for the GPSC Workplan & Budget Working Group

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## Executive Summary

The overarching theme of this review is how an effective primary health care system will look in the future. This review is focused particularly on what a full service family practice will look like and several research questions guided this review. These questions focused on following the patient through the continuum of his or her care and what a full service practice should look like to best meet the needs of patients and physicians.

In the literature focused on patient continuum many articles noted that primary care physicians are central to the effective delivery of healthcare and that good primary care has been linked to better patient outcomes, health equity and health system efficiencies. Business models for delivering primary care noted that large practices do not necessarily deliver better patient care and that multi-specialty practices do not appear to gain any economies of scope. Participation in Patient Centered Medical Homes has led to reduced emergency department visits in the US. In Ontario, participation in Family Health Groups has resulted in significant increases in physician productivity.

Continuity of care is very important to the well-being of and highly valued by patients. Family physicians are at the center of continuity of care, but there is sometimes poor coordination between family physicians and specialists, or when a patient is admitted to hospital. Additional challenges in continuity were noted in rural areas.

Provision of specialized services through a Primary Care Network was associated with lower risks of hospital admissions or emergency department visits for some specific conditions such as diabetes and fostered opportunities for collaboration among health care professionals. Family physicians noted the importance of enhancing the palliative care curriculum to better prepare them for this aspect of their role in delivering primary care. While striving to provide the full continuum of care, paradoxically, many services are being truncated, particularly in the areas of emergency medicine and obstetric care, and especially in rural areas. Some physicians are becoming “mini-specialists” and in the UK, however the specialty of “General Practitioner with Special Interest” has been met with mixed reviews. Nevertheless, this new role may aid in reducing wait lists by providing secondary care in a primary care setting and improving career opportunities for general practitioners.

The role of the GP in the provision of health promotion and disease prevention focused on chronic disease, obesity and preventative care. Primary care is the ideal setting for initiating and continuing patient education, as patient contacts are usually highest and most consistent in this setting. A variety of roles such as prevention practitioners and nurses along with family physicians may deliver health promotion and disease prevention education, however many articles cited the lack of time to deliver education and support to maintain improvements. Primary health care is also the ideal setting for addressing social determinants of health inequities.

Recruitment and retention is a serious issue in many countries, particularly in rural settings. Many countries have initiated a number of strategies to help address this issue such as financial and personal incentives to physicians, however it is a very complex issue and reform has proved difficult. However, most studies pointed to the importance of residency programs in rural areas in increasing the likelihood of physicians in practicing in rural areas.

# What will full service family practice look like in the future?

## Introduction

Around the world, the healthcare delivery system has been undergoing a profound transformation, particularly within the primary healthcare practice, and primary care physicians have been at the forefront of many of these changes. This report explores the impact and the contribution General and Family Practitioners have on the future of healthcare delivery.

## Methodology

This section on primary care focused on “what does/will a full service family practice look like?” garnered many results in the peer-reviewed literature sourced through PubMed and other sources. A total of 490 article abstracts from the peer-reviewed literature and 8 from the grey-literature were provided. Of the 490 abstracts provided, a total of 198 full articles were requested for further inspection. Of these 198 articles a total of 93 were used in this section of the review.



## The Role of the General Practitioner

*Family medicine has been experiencing changes in how it fits within the healthcare system, particularly in its structure, purpose and responsibilities. The key findings of the role of the General Practitioner were:*

- *Family practice and primary care have been undergoing many changes around the world*
- *Primary care physicians are central to the effective delivery of healthcare*
- *Good primary care has been linked to better patient outcomes, health equity and health system efficiencies*
- *In order to stay relevant, General Practice physicians need to remain at the centre of patient care*

In their report, Lavergne et al (2014) noted that while primary care has been linked to better patient outcomes, concerns about access to high-quality, comprehensive primary care in Canada continue. While the supply of general practice physicians per capita has been relatively stable, doctors report that they are providing fewer hours of direct patient care. At the same time, the comprehensiveness of family practice appears to have declined as doctors abandon specific areas, such as obstetrics, anaesthesia or the provision of services in hospitals, homes and long-term care facilities.

Phillips et al (2014) reported that there is an urgent need to define a comprehensive, evidence-based role for the family physician. In their report they worked with members of seven family medicine organizations to develop a definition for the family physician's role in meeting the needs of individuals within the health care system. Family physicians were defined as personal doctors for people of all ages and health conditions. The authors noted that in order to meet this definition, family physicians will need to become managers of health services on a personal basis, and become team leaders, where services are delegated to health teams according to the patient's needs. Importantly, the family physician will need to be looking after people as people and not as a problem. As first contact for most health concerns, family physicians can directly address most health care needs. This doctor-patient interaction is based on personal relationships that require knowledge of the whole patient. Since whole-person care is generally unique to family medicine, it is central to findings of lower costs and improved outcomes. This makes family physicians ideal leaders of health care systems and partners for public health.

This finding was echoed by Boutellier and Zoller (2011) in their article. There is no other professional sector more specialized than medicine. In particular, because of their broad training, general practitioners are best suited to understand the findings of highly specialized colleagues and translate it to patients. In an era of technical change and readily available information, it is the generalist who can personalize medicine and appropriately explain and integrate all the various medical information to their patients. Ferrer et al (2005) added that primary care has an essential role in increasing the effectiveness and efficiency of other health care services. Primary care can improve the health care system through such services as managing and triaging undifferentiated symptoms, matching patient needs to health care resources, and enhancing the system's ability to adapt to new circumstances. Primary care is essential to the proper and integrative functioning of the whole system since it acts as a central hub in a patient's medical network and helps accomplish population level matching of health needs and services, so that health resources within a society can be deployed most effectively.

Klabunde et al (2009) also described how primary care physicians play an essential role in the healthcare system because they are often the initial point of contact for patients in obtaining screening or evaluating symptoms. Klabunde et al (2009) reviewed the role and involvement of the Primary care physician in caring for cancer patients. In their study, over 90% of primary care physicians acted in a co-management capacity, where he or she made referrals, coordinated care, and managed symptoms or comorbid conditions. A role in counseling cancer patients about treatment options and monitoring treatment progress and side effects was also reported.

In his article, Vass (2009) reported that General Practitioners (GPs) have a central role in treating and coordinating primary care services to older people. The core of general practice is 'personal doctoring'. Physicians should be ready to listen to their patients, be available and ready to talk and explain things. However, he noted that the challenge for family medicine is to develop an understanding of the associations between social risk factors on a population level and their clinical impact on individuals in terms of illness and morbidity. GPs, since they are at the heart of local health service, can influence decisions and planning with an effect on patient care, and act as advocates for quality in the healthcare system.

Harris and Harris (2006) had similar findings. In their Australian study, the authors noted that a strong primary medical care system is essential to the equity, efficiency and effectiveness of the health system as a whole. However, they found that general practice faced significant challenges in its capacity to fulfill its role and function. They described that there has been an under-valuing of generalists' skills, due in

part, to a failure of education, as well as the drive to greater specialization within health care. Issues facing general practice include financing, recognition, capacity to provide comprehensive care, and its integration with the rest of the health system. Addressing these challenges requires a better system of remuneration for quality in general practice care, strengthening of the role of the generalist within the health system, and the establishment of collaborative networks and integrated primary health care services.

Several studies found that general practice is facing serious challenges despite its importance in the healthcare system. Gillies et al (2009) reported that general practice in the UK is facing stark challenges and has undergone major changes. The regulation of the profession was under review and a system of relicensing, recertification, and revalidation was being introduced. However, he stressed that the general practice has important and unique advantages - trust, coordination, continuity, flexibility, universal coverage, and leadership - and needs to continue to be central to the development of primary care throughout the UK. He identified seven key roles for future GPs:

1. Chronic disease management
2. Prevention of ill-health
3. Teaching colleagues/self
4. Team working
5. Holistic/personal care
6. Continuity/coordinated care
7. Generalist

Bailey (2007) described in his article that while comprehensive medical services are highly valued by physicians and practitioners, the lack of support, including remuneration and infrastructure, has increased disillusionment amongst family physicians and has contributed to the increasing fragmentation of care. As a result some physicians have sought alternative means of continuing their comprehensive care practice by focusing their practice on narrower areas of care (sports medicine, maternity, elderly, the dying or hospital care). Nevertheless, Bailey stated that family physicians will need to work in teams - teams of family doctors and teams of family doctors working with other health care professionals in order to provide continuing comprehensive care to patients.

## Business Model for Delivering Primary Care

*Several models for delivering primary care have been identified in the literature. New models have been introduced and studied in several countries, including Canada, Australia, the Netherlands, Sweden, the United Kingdom and the United States. Each country has its own system of delivering healthcare, ranging from a universal single payer system, to wholly private, to several independent payer systems. This section explores several different types of business models.*

*The key findings for business models to deliver primary care were:*

- *Using business best practices, such as office productivity and new technology, can improve a practice's efficiency without compromising patient care*
- *Better patient scheduling can improve productivity and efficiency within GP practices*
- *Working closely with other clinical professionals can improve productivity and efficiency as well as improve patient and clinician satisfaction*

- *Increases in patient volume seen at a practice do not decrease quality of service or patient satisfaction*
- *Large practices are not necessarily more efficient than smaller practices*
- *Multi-specialty practices do not gain any economies of scope and are less efficient than single-specialty practices*
- *Participation in Patient Centred Medical Homes have significantly reduced emergency department visits for their patients in the United States*
- *Operational reforms in British Columbia have not had the desired effect on access, continuity and coordination of care*
- *The Family Health Groups in Ontario model significantly increases physician productivity relative to the Fee for Service (FFS) model, as measured by the number of services, patient visits, and distinct patients seen*
- *Salaried contracts did not adversely affect GP productivity and had little impact on other aspects of GP behaviour or the quality of care provided*

## Practice Efficiency and Productivity

One of the main themes in the literature related to business models is related to how primary care physicians can control costs and improve productivity through efficiency and best practices while still maintaining a high level of patient care. The different reviews examined improving efficiency by changing the office structure and procedures, changing patient appointment scheduling and intake, and increasing the size and scope of the practice.

Twiddy (2013) offered several recommendations in his article on transforming a practice by using business principles, such as improving office operations to increase efficiency and productivity. The author suggested that modernizing the office by replacing paper-based medical records with technology would eventually save staff time and provide the data-mining capability to better serve patients and insurers. He also proposed implementing the practice of continual improvement. By continuously making incremental improvements, it would enhance office efficiencies. For example, streamlining check-in procedures by using computerized tablets would give patients more time with the physician during the visit, and using a system of checklists would eliminate missed or duplicated steps. He cautioned that there might be some resistance from patients, staff and other physicians. However, the author stated that running a practice as a business does not have to compromise a practice's medical mission.

Anderson (2013) echoed Twiddy's article. He reported on the implementation of a new model where physicians worked closely with nurse practitioners (NPs), registered nurses (RNs) and medical assistants to improve productivity and efficiency. The model allowed clinical assistants to assume more responsibility for each patient encounter thereby allowing the physician to focus more on the patient and medical decision-making. By shifting many of the ancillary physician tasks to well-trained clinical assistants, the physician can focus on providing high-quality acute, chronic, and preventive care. His office began using electronic note taking and wireless devices to access information, reducing time wasted finding and filling out documents. As with Twiddy (2013), he implemented new processes to improve patient flow and efficiency during visits, such as improved intake. He also solicited feedback regarding problems and inefficiencies, which led to improved patient care, as well as improved nurse and patient satisfaction.

Another model to improve productivity was described by Cameron et al (2010). In their study, they noted that Canadian patients' access to same-day appointments with physicians was poorer than in the United States, the United Kingdom and Australia. The objective of their study was to examine open access (same-day scheduling) as an alternative scheduling system to determine if it decreased wait times for patients and improved practice efficiency. The goal of open access, aside from reducing wait times, is to allow primary care providers to deal with more urgent and non-urgent demands. It aims to decrease delays and improve physician access by limiting the proportion of pre-booked patients. The Dalhousie Family Medicine clinics, where the open access system was implemented, recorded a substantial and sustained reduction in third-next available appointment times, indicating improved patient access to same-day appointments. The authors stated that there was also a decline in no-show appointments and patient volumes were unaffected.

Implementation of a patient sorting system aimed at increasing access to a primary health care centre in Sweden was described by Thorn et al (2010). The primary health care centre under study had financial difficulties for several years, which resulted in difficulties in recruiting general practitioners. The structured patient sorting system was introduced in 2008 and was based on the Manchester Triage model (similar to the CTAS scale utilized in Canadian Emergency Departments). The system was adapted to the most common conditions seen in primary health care and all personnel participated regularly in interdisciplinary work-groups as part of the implementation process. The study found a total increased access rate of 27% to the primary health care centre after the introduction of the structured patient sorting system. The increased access rate was a result of a more efficient use of professional resources leading to a higher number of patient visits per person. The findings also indicated a more efficient use of the personnel, and patients were correctly sorted at check-in and treated by the proper medical professional. No decrease in patient satisfaction was reported.

Glenngard (2013) reviewed the impact that increasing productivity had on patient satisfaction. The study was conducted in Sweden following reforms to their primary care system. As part of these reforms, providers were made accountable to both citizens and county councils. The intention behind these changes was to expand patient choice of provider by increasing competition. The aim was to improve the efficiency, quality and responsiveness of providers in relation to their patients through market mechanisms. The notion was that choice would lead to an increased responsiveness towards individual demands. Competition was expected to deliver greater productivity by encouraging efficiency and raising quality. Glenngard analyzed productivity in terms of the number of visits in relations to patient satisfaction. While there was large variation among providers, the majority of providers were able to increase volume of services without having an adverse effect on the quality of service.

Wilkin et al (2003) examined the relationship between size and performance of primary care organisations in England and studied whether organizing family practices into larger units would increase efficiency and reduce costs. The authors stated that primary health care practices in most countries have traditionally been organised in small provider units of independent or semi-autonomous practitioners. However, pressure in the USA, Australia and New Zealand created a drive towards larger organisations. The international trend towards larger primary care organisations had been driven by the need to control costs and ensure common standards of service delivery and quality. The authors examined the English National Health Service (NHS), which has seen a steady growth in the size of general practices and the creation of primary care groups or teams. Despite these merger trends, the authors found there was little evidence of the effects of increased organizational size on the costs and performance of primary care organizations. No evidence was found that larger primary care groups and



primary care teams performed any better or worse than smaller organisations in key areas of activity such as primary care development and quality improvement. The authors added that the absence of a relationship between size and performance reported in their study was consistent with the findings of other UK and US research on primary care organisations. While mergers were driven by an attempt to manage costs and increase capacity, the authors concluded that increases in size do not generate the anticipated economies of scale, and the problem of insufficient capacity has not been improved by mergers.

Rosenman and Friesner (2004) conducted a survey of physician practices in the UK, which suggested that single specialty practices were more efficient than multispecialty practices, whether the single specialty practices focused on primary care or specialty care. The authors' research showed strong evidence of inefficiency of scope and that mixing specialty and primary care hurts efficiency when compared only to like-type practices. There was room for improving the efficiency of physician practices if large multispecialty practices were reorganized into single specialty practices, however. The authors remarked that the results clearly indicate that any move towards multispecialty practice or adding specialty care to primary care multispecialty practices will lower the efficiency of the medical practice. Practices with a larger proportion of charges from Medicare fee-for-service are shown to be statistically more efficient, however, the authors indicated that the greater efficiency in primary care practices does not necessarily imply that patient outcomes or the quality of care provided was better.

Reiter et al (2014) cautioned that the costs of transforming a practice are not trivial. The high opportunity costs and many nonfinancial benefits may not be valuable enough to offset costs of implementation in a resource-constrained environment. With that in mind, transformation programs should leverage professional benefits to help practices move toward patient-centered care and achieve the IHI Triple Aim of better health, better healthcare, and lower healthcare cost.

## Patient Centered Medical Home

Several articles from the United States focused on the implementation of the Patient Centered Medical Home as a model for efficiently delivering primary care while reducing admissions to hospitals and emergency departments. The Patient Centered Medical Home model was seen as a method to achieve the triple aim of reducing costs while increasing quality and patient experience in primary care. The Patient Centered Medical Home is a team-based approach to providing comprehensive primary care involving multiple levels of medical providers, such as medical assistants, nurses, physicians, physician extenders, social workers, pharmacists, and behavioral health providers. The Patient Centered Medical Home facilitates and relies on partnerships between individual patients, their personal physicians, health care team and where appropriate, the patient's family. (Valko, et al, 2012).

Raskas et al (2012) examined three Patient Centered Medical Home redesign pilot projects in New York State, New Hampshire and Colorado to determine the effectiveness of the model. The pilots in Colorado and New Hampshire layered incentive payments for care coordination and quality improvement on top of a traditional fee-for-service payment. The pilot in New York paid doctors an enhanced fee that was tied to achievement of quality levels. The pilot project in Colorado showed an 18% decrease in acute inpatient admissions per thousand over the study period, compared with an 18% increase in the control group. The study also showed a 15% decrease in total emergency department visits per thousand, compared with a 4% increase in the control group. The pilot projects demonstrated preliminary evidence of improvement in the quality and affordability of patient care. Fifield, et al (2013), Gilfillan, et al (2010) and Harbrecht and Latts (2010) had similar results in their studies. The results showed that

implementing features of the Patient Centered Medical Home resulted in significant improvements in both efficiency and quality outcomes with patient care. The authors in the three studies observed significant reductions in emergency department and hospital admissions particularly for patients with multiple chronic conditions and visits among high-risk elderly. Gilfillan observed that investing in the capabilities of primary care practices to serve as medical homes may increase healthcare value by improving the efficiency of care. Conrad, et al (2008) evaluated the transition from standard health management organization model, with managed care controls restricting enrollee access and choice, to the Patient Centered Medical Home model. Results were increased physician productivity, and decreased per patient costs. The results also showed an improvement in several dimensions of physician productivity and gains in clinical efficiency.

### Physician Payment Fee Structure

While physician remuneration is addressed extensively in a separate review, physician payment as it relates to productivity and efficiency was noted in several articles. Physician fee structure was seen as an important factor in increasing efficiency and patient care by several authors. The literature has focused in large part on three main methods of payment: salary, fee-for-service, and capitation, to influence physician behavior. Different methods of payment have been recently reformed in many countries to include incentives to improve desired healthcare outcomes, such as reaching preventive care targets, improving chronic disease management, and attaching patients with no family doctor (Kantarevic, et al 2011).

In British Columbia, Lavergne, et al (2014) reported that reforms in several provinces emphasize changing the structure and organization of primary care, encouraging physicians to move to allied health teams or community clinic models of practice. Changes from fee-for-service to salaried, capitation or blended models of payment often accompany these structural reforms. The authors reviewed the reforms in British Columbia and noted that none of the reforms introduced supported an expanded role for non-physician care providers. The BC approach was based on the principle that the doctor–patient relationship, and its long-term trust built over time, was critical to a successful primary healthcare system. Beginning in 2002, British Columbia introduced a number of programs to support family physicians in their existing practices, including a variety of incentive payments. At the time, the fee-for-service system was the predominant payment model in BC. In addition to incentive payments, the GPSC (BC General Practice Services Committee) implemented programs aimed at improving support for physicians in their existing practices through forming community-based networks and training on several practice topics. British Columbia’s approach to reform has been called “operational” rather than “structural” since it neither forced nor encouraged structural change through new systems of service or remuneration. The findings suggested that the reform efforts are not achieving their intended goals as access, continuity and coordination of care all fell over the study period. In addition, some measurements reflecting comprehensiveness of care declined, such as obstetrics and geriatric care.

Kantarevic et al (2011) studied the Family Health Group model introduced in Ontario in 2003. The Family Health Group model is an enhanced fee-for-service (FFS) model that includes payment incentives for improving patient access and quality of care, such as premiums for extended hours, bonuses for chronic disease management, and incentives for patient enrolment. The purpose of the study was to determine how physicians respond to payment incentives. Unlike Lavergne et al (2013), the results showed that the Family Health Group model significantly increased physician productivity relative to the FFS model, as measured by the number of services, patient visits, and distinct patients seen. Family Health Group

physicians also had lower referral rates and treated slightly more complex patients than the comparable FFS physicians.

Baron and Cassel (2008) argued that the fee-for-service reimbursement has undermined good primary care and that financing models have not yet caught up in the United States. Many of the most important aspects of primary care services, including care coordination and inter-visit care, remain unsupported by the FFS approach. The authors commented that for most small primary care practices, fee-for-service payment was inadequate to support teams and infrastructure, and the outcomes of good care coordination in terms of fewer office visits, hospitalizations, and redundant diagnostic tests. The current reimbursement system has had an effect on training as well, resulting in the lack of a physician workforce able to function optimally in a comprehensive, care-coordinating role.

In the UK, the majority of general practitioners are 'independent contractors' who supply general medical services to the National Health Service (NHS) under a standard national contract. Standard contract GPs are financially rewarded for increasing patient list size and provide specific services. In addition, GPs can also be employed on a salaried basis to provide 'personal medical services'. Salaried systems were intended to improve GP recruitment and retention, and the quality of care particularly in underserved areas. Gosden et al (2002) evaluated the impact of the introduction of salaried contracts in England on general practitioner behaviour and the quality of care. The authors conducted a controlled before-and-after study to assess workload, patient assessment and quality of care. In absence of financial incentives, the expectation was that salaried GPs would reduce patient list size and services. However, salaried contracts did not adversely affect GP productivity and had little impact on other aspects of GP behaviour or the quality of care provided. The authors remarked that GPs in salaried practices spent less time on office administration, but more working out-of-hours and in direct patient care, which allowed more patients to be seen.

## Longitudinal and Continuum of Care

*Most Canadians engage with the health care system through their regular family physician. The family physician is viewed as the chief steward of care over the life course and gatekeeper to specialist care.*

*Continuity of care has been defined as seeing the same healthcare provider over an extended period of time and has been recognized as a core component in many international definitions of primary healthcare. Continuity of care is generally recognized to have 3 elements:*

- *Continuity in information*
- *Continuity in management*
- *Continuity in the patient-physician relationship*

*Relationship continuity is the ongoing interaction of a patient with one physician, which results in increased knowledge of patient preferences, better communication, and improved trust.*

*The key findings related to the longitudinal and continuum of care section were:*

- *Continuity of Care is very important to the well-being of patients*
- *Family physicians are at the centre of the continuity of care and that relationship is highly valued by patients*

- *Understanding the community in which patients live and work can provide the context through which patient care can be improved*
- *There is sometimes poor coordination between the family physician and the specialist, including cancer treatment, and cardiac rehabilitation*
- *Continuity of care decreases when a patient is admitted to a hospital*
- *Rural patients are particularly susceptible to the loss of continuity of care*

## Continuity of Care and Primary Care

Wolinsky et al (2010) asked an important question regarding continuity of care of older adults: does continuity of care, a core component of the medical home, really make a difference? The authors examined whether older adults who had continuity of care with a primary care physician had lower mortality. Using secondary analyses, the review concluded that continuity of care was in fact associated with substantial reduction in long-term mortality. The results provided considerable evidence that continuity of care matters for the ultimate criterion—life or death of patients.

Phillips et al (2014) described longitudinal care as person-focused and not disease focused. The authors stated that continuity of care is associated with greater satisfaction, better compliance, and lower hospitalization and emergency room use. However, additional infrastructure is needed to better serve individuals and communities. Integration of primary care and public health also envisions a day when family physicians will be able to connect their data to public health and population data to better understand how to help patients and communities. The authors see family physicians as leaders in the health care system and partners in public health.

Kerr et al (2012) echoed the notion that continuity of care is a core quality of family medicine that improves physician and patient satisfaction and patient outcomes. While many family physicians in Canada still practise in comprehensive practices, there is an increasing number who have focused areas of practice (e.g., sports medicine, care of the elderly, palliative care, hospital care). However, in their qualitative study in Kingston, Ontario, and the authors found that the most important recent change in family medicine is the current trend toward group practices and working in multidisciplinary collaborative teams. Many of these physicians interviewed were in Family Health Teams. These interdisciplinary teams consist of doctors, nurses, dietitians, social workers, pharmacists, and other professionals seeking to provide comprehensive, accessible, and coordinated primary health care according to the needs of a particular community. Two aspects of continuity of care that emerged from the focus group discussions were continuity of care within the community and continuity of care with the health care team. Community continuity of care is how a physician understands the lives of his/her patients, and how this affects a patient's overall health. Understanding the community in which patients live and work can provide the context through which a patient's care can be improved. These new dimensions of continuity of care have important implications for how family medicine training programs should be designed to best prepare trainees for future practice.

O'Malley and Cunningham (2009), in their study assessed whether continuity of care and referral source were associated with better coordination of care from the patient perspective. Coordination between referring physicians and specialists is highly valued by patients and is associated with higher quality care. Yet, referring clinicians and specialists exchange information less frequently than necessary. This lack of coordination is associated with poorer patient outcomes, duplication of services and less efficiency, and lower physician and patient satisfaction. Among the respondents to a survey with a primary care

physician that had one or more specialist visits in the previous 12 months, 93% usually saw the same primary care physician for their primary care visits. Less than half of respondents (46%), however, reported that their primary care physician always seemed informed about care received from the specialists. The authors noted that coordination of care varied by patient characteristics and demographics. Persons over 65 years of age were more likely to rate their coordination highly. Nevertheless, the study found that the majority of patients reported poor coordination between their primary care physician and the specialist. The study demonstrated that coordination is better, from the patient perspective, when patients see the same primary care physician for most of their primary care visits and when specialist referrals are made by the same physician. More frequent visits and continuity between the patient to their primary care physician, and the use of that primary care physician as the referral source, would likely improve care coordination.

Jatrana et al (2011) also noted that continuity of care is associated with positive health outcomes, high quality care, high patient satisfaction and lowered health care costs. The authors' study found that continuity of care was high in New Zealand and that overall; the data supported the suggestion that people with high health needs have higher continuity of care (e.g. the elderly, those in the low income, and those with one or more chronic conditions). The authors proposed that continued incentives to develop and sustain affiliation with a primary care provider and continuity of care are important for maintaining the quality and cost-effectiveness of the primary health care system.

In contrast, Sharma, et al (2009) examined continuity of care across the transition from community to inpatient hospitalization. The authors found that patients experiencing continuity between outpatient and inpatient settings decreased substantially between 1996 and 2006. By 2006, only 39.8% received care from any physician they had seen at least once in an outpatient setting in the prior year, down from 50.5% in 1996. In addition, only 31.9% of hospitalized patients with an identifiable primary care physician received care from that primary care physician, down from 44.3% in 1996. Decreases in continuity of care occurred in all areas of the United States, in all types of hospitals, and for all diagnoses. In the US, there is a financial disincentive for outpatient physicians to follow their patients in the hospital if they are receiving hospitalist care since Medicare only allows one primary care physician to be reimbursed. Problems with information transfer at admission and unclear responsibility after discharge were also identified in the study.

### Continuity of Care in Rural Areas

Canada has a vast area with 9.98 million square kilometres in total. While urban areas exist in every province, there are also many small and rural communities across the country that face challenges with providing continuity of care to their patients. In addition, Canada like many countries is grappling with a shortage of family physicians for reasons, ranging from a growing lack of interest in family practice to changes in practice systems. Randall et al (2012) in their report noted that patients who do not have a family physician have been found to be at risk for reduced preventive care and screening. Physician shortage is particularly acute in rural areas. While 21% of Canadians live in rural areas, only 16% of family physicians practice in rural communities. Rural rates of physician turnover, often linked to isolation and high workload, can be 40-100% higher than in urban areas. As a consequence, rural Canadian patients are at particular risk of needing to transition from one physician to another, and risk loss of continuity of care. Canadians who lose their family physician have no guarantee of being referred to, or easily finding, a new regular physician in their rural communities. This problem is often triggered by turnover or retirement, which can leave an entire practice of patients unattached and looking for

new physicians at the same time. Continuity of care for rural patients could be adversely affected due to the separation time lag.

Oelke, et al (2009) also discussed the difficulties with continuity of care faced in rural areas. The authors noted that rural areas have unique challenges in terms of geographic distances, lack of communication between providers, animosity between communities and rural providers being regarded as second class by other providers. In order to address some of these issues, Primary Care Networks were created to deliver health services to specific geographical areas in Alberta. The objectives of the Primary Care Networks were to:

- Improve coordination of primary health services with other healthcare services including hospitals, long-term care and specialty care services;
- Foster a team approach to providing primary healthcare;
- Family physicians work in cooperation with Alberta Health Services to plan, coordinate and deliver care for patients

The authors examined the Calgary Rural Primary Care Network, which implemented a community-based model to deliver primary care services addressing local population needs. The authors found that rural providers tended to have higher caseloads and fewer resources than urban counterparts. However, the study also found the network to be patient-focused and community-needs-driven. Moreover, physicians involved had taken on a leadership role in delivering primary care within their community and there was a high level of inter-professional cooperation. While the Calgary Rural Primary Care Network was successful in creating an integrated system for planning and delivering services at the community level, the authors signalled that continued effort was required to ensure better integration across the continuum of care.

### Continuity of Care for Cancer Patients

Internationally, the role of primary care is increasingly being recognized as a vital component of oncological services. Emery et al (2014) in their review stated that a strong primary care component in cancer care has been shown to be more cost-effective than those that are predominantly led by hospital specialists. In many health systems, since GPs act as gatekeepers to hospital services, they ensure that patients flow appropriately and in a timely fashion from primary into hospital-based care. They are also central to reducing diagnostic delay, particularly with outpatient diagnostic services with long waiting times. In addition, several randomized controlled trials have shown primary care-led follow-up care to be equivalent to hospital-led care in terms of patient wellbeing. The process can contribute to the cost-effectiveness of overall care. In the future, primary care will need to have a greater role in cancer survivorship as cancer cases rise.

Aubin et al (2010) echoed the importance of continuity of care in treating cancer patients. Patients with cancer often have to consult many different clinical professionals from multiple settings, leading to fragmented care and a lack of continuity in care. For family physicians, this means that they may lose track of their patients with cancer when they are being followed by oncology teams during the treatment phase. The authors undertook a longitudinal study of patients with lung cancer to measure the involvement of their family physicians during different phases of their treatment. The study described three levels of patterns of care of family physician involvement:



1. Sequential, with virtually no family physician involvement and patients receiving most of their care from the oncology team
2. Parallel, with the family physician still involved but mainly for non-cancer problems
3. Shared, with involvement of both the family physician and the oncology team in cancer care

The study found that 88% of patients continued to see their family physician throughout their cancer journey, but predominantly after the end of treatment when their condition was stable. In addition, a large majority of patients reported being satisfied with the time their family physician gave for discussion (93%) and with his or her patience in responding to questions (93%), ability to make them at ease (96%), and ability to reassure them (88%). Nevertheless, the authors reported that at all phases of cancer, most patients would have liked their family physician to be more involved in all aspects of their care. Better communication and collaboration between family physicians and the oncology team are needed to facilitate shared care in cancer follow-up.

Kendall et al (2013) evaluated current models of post-treatment cancer care. The authors stated that care has a tendency to be based on traditional practice and clinician and patient preference rather than evidence of benefit. While best practice models have yet to be defined, the study found that patients highly valued proactive care led by their primary care physician.

### Continuity of Care and Hospitalization

With the increased use of hospital services, fewer primary care providers are treating their patients while they are hospitalized. This has created some concern about the discontinuity of care when patients are seen by hospital clinicians and are then moved to the outpatient care of their primary care physicians. In their study, MacMillan et al (2013) reported that approximately 31.9% of patients received any type of care from their primary care physicians during their hospital stay. The authors conducted a multicenter study of hospitalists and non-hospitalists at six different sites to evaluate the communication between hospitalists and the primary care physician, and medication discrepancies on hospital admissions. The report found that 42% of primary care physicians received discharge summaries within 2 weeks of discharge while 23% had no knowledge that their patients had even been admitted to the hospital. With this disconnect between hospitals and primary care physicians, there is potential for medication errors to occur on admission and discharge. In fact, the authors found that approximately half of hospitalized patients have at least one medication error on admission and that even more occur at discharge. Medication discrepancies occurred frequently at the most critical points in the transition of care. Medication errors were also higher and more likely to occur in patients 65 years of age and older and with Medicaid, Medicare, or no insurance. The evidence showed that there is a disconnect between the inpatient and outpatient settings. Patients not receiving appropriate and timely medical care or follow-up once discharged are another concern. Improving and increasing direct communication between outpatient offices and the inpatient healthcare team is likely to decrease medication discrepancies and increase continuity of care and follow-up.

Knight, et al (2009) investigated the relationship between continuity of family physician care and inpatient hospitalizations in elderly people with diabetes in Newfoundland and Labrador. The authors conducted a population-based retrospective cohort study using a sample of people 65 years old or older with newly diagnosed diabetes. The analysis showed that higher continuity of FP care was associated with a 27%-36% reduction in rates of hospitalization, as compared to low continuity. After adjusting for sex, age, number of chronic comorbidities and income, high continuity was associated with an 18%-25% reduction in hospitalizations, relative to low continuity. This study was consistent with previous studies

reporting that increased visits to the same family physician have potential to improve care and reduce hospitalization for the elderly.

## Continuity of Care for Other Specialties

Riley, et al (2009), in their qualitative study, reviewed the high rates of cardiovascular disease morbidity and mortality and long-term follow-up care with a primary care physician. The authors studied the information that needed to be transferred from the cardiac rehabilitation program to the primary care physician. The researchers found that there was currently no understanding of which data were transferred to primary care, nor which data the primary care physician desired. The primary care physicians reported that cardiac rehabilitation discharge data are useful for facilitating patient care, however, the physicians believed that information from cardiac rehabilitation programs differed significantly from preferred information. Only approximately 40% of primary care physicians received the cardiac rehabilitation discharge summary that was intended for them. The discharge summary was sent to the cardiologist who made the rehabilitation referral, however the primary care physician was also interested in receiving it. One of the reasons for this lack of information exchange was due to concerns for privacy. The authors suggested that patient consent should be required at the start of cardiac rehabilitation in order to ensure that all physicians receive discharge data. Continuity of cardiac care may be improved with proper and timely data sharing agreements between the primary care physician and the specialist.

## Provision of Specialized Services

### Primary Care Networks

*In September 2000, the first ministers of Canada agreed that “improvements to primary health care are crucial to the renewal of health services.” An increasing importance has been placed on the role of primary care within health systems. Primary care networks were established in order to increase access to primary care, increase emphasis on care for patients with chronic diseases and improve the coordination of primary health services with specialist care. The key findings in this section were:*

- *Care in a Primary Care Network was associated with lower risks of hospital admissions or emergency department visits for diabetes-specific issues*
- *There are opportunities for collaboration among health care professionals from primary care, community care and geriatric assessment teams in a Primary Care Network*

Primary care networks were implemented in Alberta, Canada in 2005 and are a potential strategy for improving care for patients with diabetes. Although Alberta’s primary care networks have some unique features, they are similar in their objectives of improving access and coordination of care. In their study for patients with diabetes, Manns et al (2012) compared those whose care was managed by physicians who were in a Primary Care Network versus those who were not. The authors found that patients in primary care networks had a lower rate of diabetes-specific ambulatory care sensitive conditions than patients who were not in a Primary Care Network. The authors concluded that patients whose diabetes was managed in a primary care network received better care and had better clinical outcomes than patients who were not, although the differences were very small.



Campbell et al (2012) also investigated the role of a Primary Care Network in treating diabetes. Previous studies in Alberta had shown that provision of care through a Primary Care Network was associated with better quality of care and better outcomes for people with diabetes, possibly because of greater utilization of chronic disease management programs. The authors' study measured whether this benefit was experienced by First Nations individuals and those in lower socio economic status (SES) groups. The results suggested that receiving care through a Primary Care Network was associated with lower rates of ambulatory care sensitive conditions-related hospital admissions and emergency department visits for all groups of interest. However, regardless of where care was provided, First Nations and low-SES patients had more than twice the adjusted rates of hospital admission and emergency department visits for diabetes-specific ambulatory care sensitive conditions than the general population. They were also less likely to receive guideline-recommended care, including measurement of HbA1c and retinal screening. Overall, care in a Primary Care Network was associated with lower risks of hospital admission and emergency department visits for diabetes-specific ambulatory care sensitive conditions, even within vulnerable groups. However differences in outcomes and quality-of-care indicators persisted for First Nations individuals and those of low SES, relative to the general population, irrespective of where care was provided.

In their study, Parmar et al (2014) assessed the current identification and management of patients with dementia in a primary care setting and determined the accuracy of identification of dementia by primary care physicians in Alberta. The authors used a retrospective chart review approach and found that only 59% of the patients diagnosed with dementia by a Geriatric Assessment Team had a documented diagnosis of dementia in their Primary Care Network charts. The authors concluded that dementia care remains a challenge in primary care. Within a primary care setting, there are opportunities for collaboration among health care professionals from primary care, community care and geriatric assessment teams. The authors go on to suggest that an integrated model of care is required in order to build capacity to meet the needs of an aging population.

Hepp et al (2014) examined organizational factors influencing the functioning of inter-professional teams in select primary care networks in Alberta. The study used an exploratory qualitative approach to collect information. Overall, interviewees expressed that their teams worked well to provide quality patient care. The organizational factors identified, both positive and negative, that influenced team functioning included:

- Supporting continuous quality improvement and having an atmosphere of encouragement and trust.
- Team centralization or co-location of team members in a Primary Care Network office facilitated collaboration, communication and relationship building
- Lack of a common EMR resulted in communication challenges between sites, which instead relied on fax, phone or e-mail
- Educational opportunities facilitated team functioning
- Employment model also affected team functioning and recruitment and retention of staff (union, non-union, part-time, different location)

## Palliative Care

Several articles addressed the issue of end-of-life care and the provision of palliative care services in the home. Key themes that emerged included:

- *The importance of enhancing the palliative care curriculum during medical training for primary care physicians*
- *Greater interaction with the family physician by palliative patients may result in lower odds of visiting an ED or having a hospital death*
- *In other countries general practitioners are central to the coordination and provision of end-of-life care, however there is more difficulty in understanding the disease trajectory of non-cancer patients.*

Lai and Catton (2004) cited a physician (Dr. Kuhl) who talked about the importance of listening to the stories dying people tell. The moment patients are most in need is the moment for which health care providers have the least amount of training and that the way in which doctors speak to patients can cause more suffering than the disease itself. Lai and Catton (2004) reported that a multidisciplinary approach is needed to address dying patients' issues and that end-of-life issues must be interdisciplinary. They also stressed better education and noted that medical training in palliative care is not uniform across Canada. Enhancing the palliative care curriculum by teaching future residents skills, would serve future primary care physicians well in their careers.

Almaawiy (2014) reported on the relationship between family physician continuity of care and the use of acute care services among palliative patients. Previous studies have shown that a majority of patients prefer to be cared for and die at home, rather than in hospital. Having an involved FP can lead to successfully caring for the patient at home by being better able to prevent clinical problems and providing immediate response to urgent issues; moreover, having a consistent FP who understands the patient and family needs, the changing disease trajectory, and family dynamics can improve the quality of care. The author speculated that this in turn could lead to a decrease in the use of hospital and emergency department resources, which are important factors to improve quality and efficiency in the health care system. Almaawiy found that more family physician visits per week were associated with lower odds of an emergency department visit in the last 2 weeks of life and hospital death, except for patients with greater than 4 visits per week, where they had increased odds of hospitalizations and hospital death.

Evans et al (2014) reported that in the Netherlands during the last year of life, many people receive care within primary practice, and general practitioners are central to the co-ordination and provision of this care. The authors noted that primary care is an appropriate setting for much palliative care, particularly for non-cancer patients. However, with non-cancer patients, GPs were less likely to know when to initiate palliative care, provide timely referrals to specialist services and discuss end-of-life issues and Advance Care Planning. The differences in care between cancer and non-cancer patients were often attributed to non-cancer patients' less predictable illness trajectories. In their report the authors noted that more cancer patients (81%) received palliative care (either from their GP or another palliative care service) than old-age/dementia (68%) and organ failure (47%) patients.

The particularly infrequent provision of palliative care to organ failure patients suggests that GPs have difficulty recognising that organ failure patients are at high risk of death, identifying their palliative care needs and referring them to other services. The results highlight the need to integrate palliative care with optimal disease management in primary practice and to initiate advance care planning early in the

chronic disease trajectory to enable all patients to live as well as possible with progressive illness and die with dignity and comfort (Evans et al, 2014).

### Truncation of Full-Service Care

*According to the literature reviewed, full-service care is being truncated particularly in the areas of Emergency Medicine and obstetric care. Key findings included:*

- *Family physicians are essential to the future of emergency care due to the shortage of Emergency Medicine trained physicians*
- *Many family physicians are becoming mini-specialists*
- *Many family physicians are no longer providing obstetrical care, despite the fact that patients prefer obstetric care provided by GPs for low risk obstetrics*

Gerard et al (2010) reported that growth in emergency medicine as a specialty has led to an unfounded bias against family physicians. In the United States, the field of Emergency Medicine (EM) has promoted new standards for employment and credentials that often exclude family physicians. However, data support the essential role of family physicians in the future of emergency care due to a workforce shortage of EM residency-trained physicians. The shortage is almost certain to continue and may never meet workforce demands. Therefore more cooperation between family medicine and emergency medicine is crucial. More combined family medicine/emergency medicine residency programs will provide additional training in emergency medicine for family physicians

Similar to Gerard, Ladouceur (2012) reported that family physicians are losing importance in the community and no longer provide comprehensive care. Physicians are specializing in different practices such as ambulatory care, emergency medicine and becoming mini-specialists. This has resulted in other professionals such as nurse practitioners, pharmacists and therapists taking over some aspects of primary care from family physicians.

Tong et al (2013), Kidd et al (2013) and Wieggers (2003) discussed the provision of maternity care by family physicians. Tong et al reported that family physicians provide access to maternity care for a disproportionate share of rural and urban underserved communities. Family physicians are trained to provide comprehensive, continuing health care to patients of all ages and with every disease entity. Despite this training, studies over the past 30 years have shown declining numbers of family physicians providing maternity care, in particular in rural areas where 20% of the US population lives and in urban underserved areas, where obstetrician/gynecologists are less likely to practice and family physicians have traditionally been considered an important source of maternity care.

Kidd et al (2013) reported that obstetrics as practiced by FPs in Canada is also declining. According to their report, in the 1970s, more than two-thirds of FPs in Canada were practising intra-partum obstetrics. However, a survey published in 2010 showed that number was down to 10.5%. One of the main reasons for this decline is changing lifestyle expectations by FPs. The decline means that the number of women who receive continuous and longitudinal care from primary care providers throughout pregnancy, delivery, and motherhood is dropping. Ironically, FPs that provide intra-partum care are reported to have greater job satisfaction, are less likely to be sued for their obstetric cases than for their non-obstetric cases, and are more likely to have younger patients and families in their practices. In a study conducted in St. John's NL where the problem of shrinking generalist obstetric care

is particularly acute, low-risk maternity patients' satisfaction with obstetric care provided by GPs in a group-care setting was equivalent to that with obstetric care provided by GPs working solo and greater than that with obstetric care provided by specialist, likely owing to the reduction of continuity of care. Patients found that group care by GPs was an acceptable means of receiving obstetric services in a low-risk setting. Therefore, a group practice model might provide an attractive means for FPs to keep obstetrics within the scope of primary care.

Wiegers (2003) also discussed the declining involvement of GPs in maternity care in Canada, the United States, the European Union, Australia and New Zealand. In the US, 46% of family physicians included obstetrics in their practices in 1978. By 1992, that number fell to only 24%. In a survey of European Union family physicians conducted in 1993/94, an average of 66% of respondents indicated that they were involved in antenatal care, while only 15% were involved in intra-partum care. In Australia, there has been much debate between GPs, obstetricians and midwives as to who should provide antenatal care. While only 11% of births in Victoria were attended by GPs in 1989, the percentage is much higher in the rural areas. In 1993/94, 62% of GPs in Australia practiced obstetrics. In New Zealand, between 1990 and 1996, GP involvement in maternity care still accounted for at least 50% of deliveries, but since then decreased rapidly and almost completely disappeared. GPs are still involved in maternity care only in the rural areas. A 1999 survey found that 21% of rural GPs still provided intra-partum care. The involvement of general practitioners in maternity care is strongly reduced and almost everywhere the same reasons are found: interference with lifestyle and interruption of office routine, fear of litigation and costs of malpractice insurance, insufficient training and insufficient numbers of cases to retain competency. In addition, there has been a changing attitude towards childbirth in western countries, particularly in urban areas. The perception of maternity care has changed from a normal, physiological life event to a potentially dangerous condition. This 'medicalization' of childbirth has diminished the role of GPs or family physicians in overall maternity care. A return to the 'humanization of childbirth' is required in order to shift the balance back from obstetrical care to primary care for low-risk pregnancies.

## Specialized GP Roles

*The United Kingdom has been in the forefront of the development of the General Practitioner with Special Interests role. The key findings in this section were:*

- *Opinions are divided amongst stakeholders on the potential contribution of General Practitioner w Special Interests*
- *General Practitioner with Special Interests may help reduce waiting lists by providing a clinical specialty beyond the general practice*
- *Specialization provides more career opportunities for GPs*

Moffat et al (2006) using a qualitative design surveyed patients, GPs, nurses, and other healthcare clinicians and professionals to explore their views regarding the General Practitioner with Special Interests for respiratory diseases. The authors found that there was some ambivalence within the different focus groups and interviews as to whether a GP could also be a specialist. Even the title 'GP with a Special Interest' was challenged by some of the responders. Patients viewed the new role as important but were concerned over GP workload. In addition, the majority of focus groups and interviews believed that a General Practitioner with Special Interests service should be a multidisciplinary team effort. Most thought that a General Practitioner with Special Interests working on

their own was unlikely to succeed. Opinions were divided on the potential contribution GPs could make to specialist care.

Nocon and Leese (2004) also examined the increasing emphasis on specialisation within primary care in the United Kingdom. In their discussion paper, the authors reviewed factors to be considered when creating General Practitioner with Special Interests systems. The three suggested functions of the General Practitioner with Special Interests were: deliver a clinical service beyond the normal scope of general practice, undertake advanced procedures, or develop services. General Practitioner with Special Interests were also mentioned in the context of reducing wait times for treatment by providing clinical services within a wide range of specialties. The authors summarized the policy reasons for the development of the General Practitioner with Special Interests as:

- Reducing wait times for treatment,
- Meeting needs in primary rather than secondary care,
- Enhancing the quality of primary care services,
- Enabling secondary care to concentrate its efforts and resources where its skills are most needed,
- Improving career opportunities for GPs

Specialisation also offers an incentive that might attract more family doctors to the practice. Other benefits are improved morale, recruiting and retaining of GPs as well as offering GPs the opportunity to develop new interests and gain expertise. While the GP specialization might help build a more integrated health service, the authors cautioned that it was not clear whether General Practitioner with Special Interests are cost-effective. Moreover, as with Moffat et al, some worry that General Practitioner with Special Interests might undermine the value of the generalist within the healthcare system.

Spurling and Jackson (2009) reported that Australia was also exploring the use of the General Practitioner with Special Interests model. Drivers for greater use of General Practitioner with Special Interests include advances in medical technologies which have become more widely available, pressure on health services demand due to the aging population and increasing wait lists and GP strength in holistic care. Benefits of the General Practitioner with Special Interests role are an increase in patient and community access and satisfaction, GP job satisfaction, decreased specialist waiting lists and increased recruitment and retention of GPs. Challenges include potential impact on the limited GP workforce, the loss of services in low socioeconomic areas, and the fragmentation of the health care system.

## Immunization and Wellness

There was a paucity of information with respect to immunization specifically as a specialized service, likely due to the fact that immunization is considered a routine part of general care. Manolakis (2010) performed three case studies on United States Department of Veteran Affairs (the largest integrated healthcare provider in the US) Kaiser Permanente Colorado (a non-profit healthcare provider) and Ukrop's Pharmacies (which offers healthcare screenings, medication therapy, and patient education programs in the community grocery-store setting) on the role of pharmacists within primary care. The authors reported that pharmacists can improve care, reduce costs and provide preventive medicine in the areas of immunizations, smoking cessation, polypharmacy assessment, and medication reconciliation. Pharmacists also have a crucial role in health information technology by providing more

efficient and improved medication safety system in terms of establishing file structures, clinical guidelines and prescribing templates.

## GPs Role in Health Promotion and Disease Prevention

Articles related to the provision of health promotion and disease prevention in primary care focused on three main areas, including chronic disease, obesity and preventative care. Key highlights include:

- *Chronic Disease – The introduction of a prevention practitioner may improve the implementation of chronic disease prevention and screening in a cost-effective manner.*
  - *Primary care is the ideal setting for initiating and continuing patient education for those with chronic kidney disease.*
  - *Lifestyle modification programs to prevent vascular disease are feasible in general practice but must be provided in a flexible format, such as being offered out of hours to facilitate uptake, with ongoing support and follow up to assist maintenance.*
- *Obesity – Primary care providers have a crucial role in identifying children at risk of unhealthy weight gain. With training and resources, nurses in primary practice can offer obesity prevention intervention to parents of young children. Health coaching, which puts the patient at the centre of care can easily be integrated into primary care.*
- *Preventive Care – Smoking rates in Australia have declined dramatically since the 1980s due to a multipronged approach including GPs delivering effective strategies to the public at large through clinical practice. As most people attend general practice, it is a potential setting for opportunistic preventive care and can be delivered either through a GP or nurse.*

### Chronic Disease

Manca et al (2014) reported that family practice is an ideal setting for most chronic disease prevention and screening and there are several evidence-based tools and strategies available to improve chronic disease prevention and screening, but they are inconsistently applied. The introduction of a novel role of a Prevention Practitioner within the primary care practice with skills in prevention and screening could appropriately address gaps in this area. The authors report on a study to determine whether chronic disease prevention and screening for diabetes, cancer (colon, cervical and breast), heart disease and their associated lifestyle risk factors could be improved in the family practice setting using: 1) a practice-level intervention, and/or 2) a Prevention Practitioner intervention through a prevention visit.

The prevention practitioners are interdisciplinary health care providers within the family practices and included: registered nurses, a licensed practical nurse, nurse practitioners, and a registered dietician. The trial involved 8 Canadian family practice settings. Participants included administrators, prevention practitioners, family physicians and clinic support personnel and other clinicians. In general, family physicians do not have time to address prevention and screening in their day-to-day practice, however in the study, the prevention practitioner was specifically trained to fulfill this role and introduce the intervention into the practices.

The analysis also highlighted a perceived lack of health care system support for chronic disease prevention and screening in the family practice setting and it is clear that a new approach is required. The trial demonstrated that a unique intervention through a PP could improve the implementation of clinically important chronic disease prevention and screening in a cost-effective manner. The prevention

practitioner facilitated chronic disease prevention and screening through on-going relationships with patients and practice team members. Key components included:

1. Approaching chronic disease prevention and screening in a comprehensive manner
2. An individualized and personalized approach at multiple levels
3. Integrated continuity that included linking the patients and practices to chronic disease prevention and screening resources
4. Adaptability to different practices and settings

Chronic Kidney Disease: Wright (2013) reported that patient education is promoted as an integral part of effective kidney disease management. Programs and tools are available for providers and patients to support patient chronic kidney disease education in primary care and nephrology. Patient education is broadly thought of as a set of strategies used to communicate information and motivate individuals to optimize health behavior with the goals of improving clinical outcomes and quality of life. Education may occur through various mechanisms, including individualized instruction, organizational efforts, policy directives, and even community-level programs. Because most patients who have chronic kidney disease are cared for by primary care providers, initiating or continuing patient chronic kidney disease education in the primary care setting is encouraged

The primary care setting offers a prime venue to manage many of the commonly associated comorbid conditions (hypertension, diabetes) and complications (cardiovascular disease) through one well-trained main provider. Challenges to providing patient education across practice settings include patients' lack of awareness of chronic kidney disease as a medical entity, physician perceptions of their own lack of skill and ability to educate patients, differences in how primary care and nephrology physicians perceive collaborative care, and shortage of staff and time to support educational efforts. In addition, there is little research available to guide evidence-based practices for implementing early patient chronic kidney disease education interventions across medical disciplines. Development and testing of patient education programs using early chronic kidney disease multidisciplinary care, educational websites, and phone-based applications are all areas of growing research. More work is needed to provide evidence and support physicians and other health professionals need to ensure a seamless patient education experience across the continuum of care (Wright, 2013).

Vascular Disease: Schutze et al (2012) reported that vascular disease is a leading cause of death and disability. While it is preventable, little is known about the feasibility or acceptability of implementing interventions to prevent vascular disease in Australian primary health care. Modifiable lifestyle risk factors for vascular disease include smoking, poor nutrition, excess alcohol, inadequate physical activity and excess weight. In their study, aimed at providing brief lifestyle intervention, Schutze et al reported that patients engaged with the advice and strategies provided in the program, which helped them make lifestyle changes. The authors concluded that lifestyle modification programs to prevent vascular disease are feasible in general practice but must be provided in a flexible format, such as being offered out of hours to facilitate uptake, with ongoing support and follow-up to assist maintenance.

The major barriers reported to greater implementation in general practice were time and competing priorities with other health issues, especially in older patients with existing chronic illness. Evidence suggests that long-term follow-up and support is required to maintain behaviour changes, particularly those pertaining to diet, physical activity and weight loss (Schutze et al, 2012).

## Obesity

Riggs et al (2014) reported on pediatric obesity treatment in school-aged children. The authors noted that years of clinical research have demonstrated the efficacy of family-based behavioral pediatric obesity treatment for school-aged children, however few models exist for implementation in health care settings. In general, treatment requires a behavioral skill set not typically found among most physicians, nurses, nutritionists, or other primary care personnel, outside of mental health providers. The authors reported on their study which involved children and parents in the Seattle Washington area and involved family based treatment in a primary care setting. Slightly more than half (54%) of parents reported praising their child for making healthy choices after treatment. Self-reported changes in parental behaviors (i.e., modeling) were more common for eating than for physical or sedentary activity (79% and 33% after treatment, respectively). The results suggested that change in child and parent BMI outcomes and child quality of life was promising despite the pilot's low intensity.

Denney-Wilson et al (2014) noted that approximately 20% of Australian pre-school children are overweight. Primary care providers have a crucial role in identifying children at risk of unhealthy weight gain and in offering advice and suggestions to parents. The authors report on the Healthy 4 Life pilot study aimed to develop and test the feasibility of a practice nurse-led brief intervention into a healthy child's check in general practice. In this study, nurses reported that the intervention fitted well with their current practice, although time constraints were a concern for some nurses and parents. The study found that the provision of a brief training workshop and resources can equip nurses in general practice to offer an obesity prevention intervention to parents of young children. Further research is required to examine the impact of such an intervention on parent and child behaviours and the sustainability of such practices for practice nurses.

Sherman et al (2013) report that obesity is one of the fastest-growing health concerns facing the United States. The current standard of care for the management of patients with obesity in primary care is often a general recommendation by the physician to lose weight through improved nutrition and increased physical activity. In addition, educational materials may be provided along with a referral to a dietician, nutritionist, or weight management program.

Health coaching as an obesity intervention has yet to be fully integrated into primary care practice but has proven to be effective in corporate wellness and behavioral weight loss programs. This approach puts the patient at the center of a highly collaborative team focusing on wellness and prevention while providing acute and chronic care. A major component of the partnership is the engagement of the patient in setting personal wellness goals and the use of health coaches. The authors suggest that health coaching will become increasingly integrated into primary care practice and offers the promise to provide effective tools for engaging patients in health outcomes across a broad range of chronic health issues. The challenge will be to create increased awareness and understanding within primary care of the health coaching model and create reimbursement mechanisms that support this approach (Sherman et al, 2013).

## Preventive Care

McManus (2013) reported that due to the significant increase in lifestyle diseases, early identification of risk factors for disease and the prevention of chronic conditions have become a part of everyday practice. One example of successful health promotion campaigns was the anti-smoking campaign in



Australia in the 1980s. As a direct result of the Quit Campaign, the prevalence of tobacco use in Australia reduced from 40% in adult males in 1983 to 15.9% in 2010 and a similar decrease was evident in adult females. The authors suggest that the campaign was successful due to a number of factors including:

- A comprehensive approach
- The provision of evidence-based education materials
- A graphic national media campaign and dedicated program staff
- The fight for change was led by the primary health sector
- High-profile GPs championed the cause
- The Australian Medical Association openly backed the campaign
- GPs delivered the effective strategies to the public at large through clinical practice.

Judd and Keleher (2013) demonstrated how practitioners can inform and influence improvements in health promotion practice by using a participatory action research (PAR) approach. This approach strengthened and supported the development of health promotion to inform 'better health' practices through respectful change processes based on research, practitioner-informed evidence, and capacity-building strategies.

Harris et al (2013) reported that despite being at high risk, disadvantaged patients may be less likely to receive preventive care in general practice. Their study aimed to explore self-reported preventive care received from general practitioners and the factors associated with this by healthy New South Wales (NSW) residents aged 45-74 years. The study found a gap between reported clinical assessments and preventive advice. There was evidence for inverse care for rural participants and smokers, who despite being at higher risk of health problems were less likely to report receiving preventive care. This suggests the need for greater effort to promote preventive care for these groups in Australian general practice. The authors conclude that as most people attend general practice, it is a potential setting for opportunistic preventive care.

Geense et al (2013) report that an unhealthy lifestyle plays an important role in the increasing prevalence of chronic diseases. Health promotion and disease prevention, such as the discouragement of smoking, alcohol abuse and obesity are necessary to reduce the personal and societal consequences. Several studies have shown that general practitioners (GPs) are capable of fulfilling these tasks because they have relatively many patient contacts, they are perceived to be the most reliable formal source of information and can identify patients who are at risk at an early stage.

In recent decades practice nurses have taken an increasing role in general practice as well as in providing lifestyle counselling to certain patients groups like diabetic. In their study Geense et al focused on health promotion activities Dutch GPs and practice nurses carry out in primary care and identify barriers and facilitators towards health promotion activities. All GPs reported that they actively ask patients with lifestyle related symptoms about their lifestyles and give advice as well. The advice provided includes information about the consequences of their unhealthy lifestyle and stimulates awareness of the problem

GPs and practice nurses mentioned 41 different barriers with respect to delivering health promotion activities in general practice, including patients not motivated to change, or willing to discuss their unhealthy lifestyles, especially regarding alcohol consumption. In addition, GPs and practice nurses experienced barriers related to their own practice - they stated they lack time in their consultations to

discuss lifestyle issues with their patients. Moreover, they mentioned there is a lack of cooperation with other disciplines. Other barriers included insufficient reimbursement, a lack of proven effectiveness of interventions and a lack of overview of health promoting programs. GPs and practice nurses all say they discuss lifestyle issues with their patients, but the health promotion activities organized in their practice vary.

## Social Determinants of Health

Rasanathan et al (2011) reported that concern about health inequities (unfair, avoidable and remediable differences between the health status of different groups of people) is not new. Health services that do not consciously address social determinants exacerbate health inequities. The Commission on Social Determinants of Health (CSDH) in 2009 defined SDH as 'the structural determinants and conditions of daily life responsible for a major part of health inequities between and within countries. Social determinants describe the broad and complex array of social, political, economic, environmental and cultural factors that strongly impact on health status and equity. A diverse range of countries including Brazil, Thailand, Chile, Venezuela and New Zealand, have attempted ambitious recent health system reform inspired by primary health care. Primary health care and SDH share much in common, most importantly, a central focus on health equity as a core value and focus for policy. They also share a strong focus on intersectoral action for health. Primary health care recognises that the health sector is not the only contributor to improving health. The authors conclude that a true primary health care approach is impossible without addressing SDH in the same way that concern for SDH moves towards primary health care in terms of policy.

Ferrer et al (2013) describe an emerging solution addressing the health of a disadvantaged, largely Latino population in San Antonio, Texas. The goal was to improve health outcomes and reduce costs due to preventable morbidity by attending not only to the well-being of individual patients but also to the social determinants of health in the community. The solution comprises a county health system, a family medicine residency program, a metropolitan public health department, and local nonprofit organizations and businesses. Population-based outcome metrics included reductions in hospitalizations, emergency department and urgent care visits, and the associated charges. The work thus far has led to several early conclusions including:

- Patients participating in the service indicate that they value the extra time and assistance
- The authors do not understand enough about patients' lives to be solving the right problems
- Working with partners led to meaningful changes

Social conditions powerfully influence child health and research suggests that conditions common among those in poverty, are associated with higher rates of behavioral, developmental, and learning problems. The impact of poverty on child health is emerging as a new morbidity due to the recognition that socioeconomic and health status lead to poor health outcomes in adults. Training physicians to identify and address these social determinants is currently lacking in medical education. The aim of the Klein et al (2011) study was to examine the effect of a new social determinants of health curriculum on pediatric interns' attitudes, knowledge, documentation, and clinical practice. The need to develop the skill to assess for social and environmental risks and engage families from a variety of economic and cultural backgrounds was identified as resident continuity clinics are highly likely to serve children from underserved backgrounds with poverty related issues. Ensuring that residents are prepared to practice

in socially complex environments and understand the negative effects of adverse social determinants on the health of low-income children is essential.

The new interdisciplinary social determinants of health curriculum developed for this study successfully improved resident comfort and knowledge of social determinants of health and community resources, and increased their EMR documentation of social questions and referrals to Child HeLP (medical-legal partnership). The educational intervention developed by the authors facilitated the residents addressing these issues by substantially diminishing knowledge barriers to screening. Additionally, it was found that the educational intervention increased interns' comfort and knowledge of social determinants of health and community resources.

The WHO in 1978 stated that equity of access to services and in health outcomes are key goals of primary health care. Freeman et al (2011) report that although equity is a central concern of Primary Health Care services, it is seldom explicitly evaluated. Health system responses to equity can range from perpetuating social inequities in health and unequal power relations, through to acting to reduce health inequities by, in part, reducing their causes. Equitable health care access is an important, though not exclusive, determinant of health equity. To tackle inequitable access, health services must improve the 'potential access' of those most in need to achieve 'realized access', where they actually use the service.

In their qualitative study using semi-structured interviews, Freeman noted that there were mixed perceptions of the extent to which services reached those with the greatest need and contributed to reducing health inequities. Structural, resource and local community factors were cited as enabling or limiting equity of access and opportunities to take action on the social determinants of health and health inequities. Many of the respondents were aware of the dilemmas their services faced in striving to reduce health inequities. Engagement strategies were seen as critical in translating potential access to realized access. Additionally, equitable health care access is only one part of the health equity goal. The PHC sector has great potential to contribute to inter-sectorial action on the social determinants of health inequities. Only by tackling the causes of health inequities as well as ensuring equitable health care will health inequities be reduced.

## Recruitment and Retention

*Many countries have had major difficulties in recruiting and retaining physicians to work as general practitioners. The issues and causes are complex and different strategies have been implemented to address this issue. The key themes were:*

- *Recruitment and retention is a serious issue in Canada, Australia and the United States, particularly in rural areas*
- *Patient care can suffer due to a reduction of continuity of care and patient satisfaction*
- *Financial and personal incentives can help recruit physicians in rural areas*
- *Physicians from a rural background would most likely practice in a rural setting*
- *Reform is difficult due to the complexity of the issue*

Heponiemi et al (2013), in their qualitative study, stated that many countries have had difficulties recruiting and retaining physicians to work as general practitioners. The increasing need to recruit and train new GPs due to high GP turnover has led to decreased productivity, is costly, and affects health outcomes. The authors pointed out that in the US, it has been estimated that the minimum cost of

turnover may represent a loss of over 5% of the total annual operating budget due to hiring and training costs and productivity loss. The high stress of GP's work may cause this attrition. For example, approximately 30–50% of GPs report high levels of psychological distress in the UK. As a result, patient care suffers because the reduction in both continuity of care and patient satisfaction.

Viscomi et al (2013) in their literature review observed that both Canada and Australia are facing severe shortages of primary health care workers, and these shortages are intensified in rural and remote communities. Viscomi reviewed the similarities between the two countries and explored the factors that serve to attract and retain family practitioners in underserved regions of Canada and Australia. There are several similarities between Canada and Australia. Both have low population densities with large geographical areas inhabited by relatively few people outside of urban centres. In addition, both countries are experiencing physician shortages and rural and remote communities are working hard to retain their current physicians. However, both countries have utilized different approaches to solving this shortage. For example, various Canadian provincial governments have return-of-service agreements allowing family physicians to work anywhere but in urban centres. The Australian approach, on the other hand, was to create the Rural Incentives Program, which offers financial incentives to undergraduate medical students to relocate in rural areas.

However, financial consideration was just one factor for medical students' decisions in practicing in a rural environment. Viscomi identified the following as other key issues when practitioners are deciding to begin or maintain a rural practice:

- Links to the academic community
- The rural environment
- Increased demand for procedural work
- Access to primary and secondary educational facilities
- Access to various social and recreational amenities
- The availability of diagnostic and treatment facilities
- Public and private remuneration offers
- Life before medical school (if student is from a rural or urban environment)

Strong evidence suggests that medical students are more likely to practice if they are from a rural background. However, enrolment pattern of Canadian medical students is of concern since only 6% of medical students come from rural regions while about 30% of Canada's population is classified as rural. Similar patterns were found in Australia, the author noted. However, good elective experiences in a rural setting can have a beneficial impression on students in choosing to set up a rural practice after graduation.

Poor retention must also be addressed to avoid problems inherent in frequent staff turnover if underserved communities are to continue to have an acceptable number of family practitioners. Physicians in rural areas have become vulnerable to burnout owing to the high workload and low level of collegial support. Social relationships are only one of many factors that can influence a practitioner's decision to leave rural and remote practice. Lack of support when dealing with emergencies, trauma, pressure to work full-time, a lot of on-call time, after-hours consultation were also negative factors. Positive retention factors were good patient relationships, clinical work that is challenging and varied, rural lifestyle, social and recreational experience, connection with community as well as financial incentives, such as paid vacations, childcare, and tuition repayment.

Gorsche and Woloschuk (2012) evaluated the Rural Physician Action Plan of Alberta program for the recruitment and retention of rural physicians. The Plan introduced an enrichment program in 2001 to improve rural physicians' access to skills training. The professional development initiatives were based on the notion that special skills training and upgrading is an important requirement for rural practice. Rural physicians who participated in training programs were 30% more likely to remain in rural practice 5 years later compared with their colleagues who did not participate in the enrichment program. The critical period for successful retention of rural physicians is the first 5 years of practice.

Odom et al (2010) and Savageau et al (2011) have also found that personal factors more likely to increase the likelihood of a physician choosing and practicing primary care in an underserved area. Personal reasons, such as background, quality of life, educational factors, and economic incentives influence a physician's practice location. Positive experiences working in rural areas as well as with minority and immigrant populations during training also increase a physician's likelihood of practicing in an underserved area.

The shortage of primary care physicians in rural areas, especially family physicians, has been a serious problem for decades in the United States as well, and has major implications in access to healthcare for a significant segment of the US population. Retention is a key component of the rural physician supply. In their longitudinal study, Rabinowitz et al (2013) compared the number of physicians who graduated between 1978 and 1986 and participated in the Physician Shortage Area Program at the medical school of Thomas Jefferson University versus those who did not participate. The goal of the Physician Shortage Area Program was to increase the retention of rural family physicians. The program recruited medical school applicants from rural areas, and during their medical education, the students would receive mentorship and career support, as well as residency in a rural area. The authors found that students who participated in the Physician Shortage Area Program were 8 times more likely to become rural physicians than those who did not. The study also showed that 70% of graduates were still practicing family medicine in the same rural areas by 2011. Although this study was limited as it only looked at a single medical school, the authors suggested that graduates of rural programs are not only likely to enter rural family medicine but to remain in rural practice for decades because of the impact of medical school rural programs.

Lorant et al (2011) conducted a face-to-face survey of stakeholders in Belgium to identify the political priorities for improving GP recruitment and retention. Medical schools play a key role in attracting students to become GPs. However, other factors such as remuneration, training and personal and work-life balance are also important factors for GP recruitment. Reforming general practice has been recognized by a variety of stakeholders and is viewed as important for overall recruitment and retention. However, the authors found that most respondents favoured a conservative approach over any radical or innovative changes. This incremental change approach has made it difficult to reform primary care. This may be due to the complexity of the issue itself, and the lack of consensus between powerful groups. Nevertheless, the study helps to understand why reforming primary care has been a difficult task until now in many countries.

## Appendix A: Acronyms Used in this Report

FFS – Fee for Service

GP - General Practitioner

GPSC - General Practice Services Committee

IHI – Institute for Healthcare Improvement

NHS – National Health Service

NP – Nurse Practitioner

RN – Registered Nurse

# Appendix B: Questions Guiding the Preparation of this Report

## RESEARCH QUESTIONS

1. What does/will full service family practice look like?

→ What is the role of GPs in the future? Including longitudinal practice and full service practice (length and breadth)?

→ Continuum: prevention - in-office core - in-hospital- residential core - palliative core

→ Business model for delivering primary care

- Longitudinal (patient continuum):
  - Involving family physicians in whole continuum of care, through all stages of life - community, hospital, residential - patient followed by one physician regardless of setting, for the lifetime of the patient, or for extended periods of time.
  - How do doctors follow their patients in their homes (i.e., non-face-to-face encounters in community care)?
- Full service practice (clinical content):
  - Examples: preventive health care, such as immunization and wellness; maternity care; minor surgical procedures; specialty services.
  - How is this handled in different jurisdictions?
  - Should they be doing specialized services such as end-of-life care if providing palliative care in home (community care) or residential care?
  - Is full service care being truncated, i.e., are family practitioners not providing some services now that they one did?
  - Are GPs taking on more specialized roles? What is the trend? GPs developing specialized skills, needing extra training (e.g., in Chilliwack, some GPs are providing specialized services in geriatrics)
  - Where are specialized services popping up? How does this change GP practice if they have a specialization?
- GPs role in health promotion and prevention; shifting from illness to wellness model; best practices for healthy behaviour change (to support physicians);
- How can primary care influence the social determinants of health? What influences health in the community, and where we may influence health (or not).
- Shared vision of family practice (reflect values)
- Defining/reconciling the terms General Practitioner and Family Physician
- Recruitment and retention: engaging new physicians/residents in family medicine; supporting family physicians; tracking family medicine residents
- Physician population: profile; expectations; new generation of physicians (e.g., work-life balance; preference for group practice over solo practice); provider satisfaction

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