A Framework for Implementing Community Paramedic Programs in British Columbia

by Maureen Evashkevich
and Michael Fitzgerald

Ambulance Paramedics
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The opinions in this report, and any errors, are those of the authors, and do not necessarily reflect the views of the APBC.

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Foreword

Ambulance Paramedics of British Columbia (APBC) represents the 3,900+ paramedics and emergency dispatchers of the province of British Columbia, working in one of the largest ambulance services in the world. Our members provide pre-hospital medical care to 4.5 million people across a land mass over 944,000 square kilometers in size—larger than California, Oregon, and Washington combined. We respond by air, land, and sea to over 500,000 annual 911 calls throughout the province.

Although BC's health care system is one of the best in Canada, a number of issues have arisen in recent years that require innovative solutions. Many of our larger communities are facing serious paramedic response time delays and Emergency Department overcrowding, as a result of population increase that has outstripped available ambulance services. Metropolitan communities have also seen a sharp increase in ambulance call volumes, in part due to residents who don't need emergency medical care, but find it difficult to access more appropriate health care services. Smaller and rural communities are facing serious paramedic recruitment and retention problems, as low emergency call volumes make it difficult to justify the expense of full-time paramedic staffing. The withdrawal of locally-funded training has resulted in a steep decline in the number of paramedic applicants for rural communities and thus critical staffing shortages across the province, which leaves many communities facing long periods of time with reduced or no ambulance service.

In this time of fiscal health restraints where human and financial resources are stretched to the limit, innovative designs must be considered for the delivery of rural and urban health care. No two communities have the same ambulance and health care needs, so solutions must be found that are individually tailored. BC's paramedics are a key part of BC's health care team, and can be part of the solution to address BC's health care challenges.

Community paramedicine is an innovative approach to the delivery of health care services by paramedics that allows them to use their training and expertise in community-based, non-emergency care roles. Community Paramedic (CP) programs have been successfully implemented in other Canadian provinces and in countries such as the US, UK, New Zealand and Australia. For example, in Ontario there are over 48 CP programs in operation; this year the Ontario Ministry of Health and Long-Term Care announced the allocation of $6 million to support the expansion of such programs.

For a number of years, APBC's strategic priority has been the implementation of CP programs in BC, but for new programs such as these to be successful, they need the support and involvement of all stakeholders. To help achieve that support, APBC engaged consultants to research and write a foundation document that explains the full spectrum of CP programs and how they can fit into the BC health care landscape. I am pleased to offer this document to the BC community as a stimulus to discussion and engagement.

As strong patient advocates and the professional voice of paramedics in BC, APBC is excited to be part of the solution to our health care challenges. We look forward to working with the BC Ministry of Health and our health care partners as we move forwards in providing better health care to all BC residents.

Bronwyn Barter
President
Ambulance Paramedics of British Columbia

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About the Authors

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Summary

British Columbia has one of the best health care systems in Canada. However, like those in other jurisdictions in Canada and abroad, this system faces a number of challenges. To address these challenges, in recent years the Government of British Columbia has placed increasing emphasis on and commitment to the transformation of health care into a system that is patient-centred and community-based. This is an essential goal, given Canada's demographic shift over the past two decades towards an older, less-mobile population. However, the scope of such transformation is daunting, since it involves reconfiguring an entire system from one primarily designed to provide occasional acute care to one that can provide high quality ongoing care for residents faced with a range of health care challenges. This goes beyond organizational rearrangements to achieve costs savings, and needs to address and be responsive to the roles the variety of health care providers can play.

Health care systems are complex, and the introduction of new services and modalities is problematic unless the context is fully understood. In fact, health care systems are not so much unified systems as an agglomeration of a number of different subsystems. Therefore, initiatives to transform "the" health care system may encounter resistance from various elements of these subsystems.

Paramedics are an integral part of British Columbia's health care landscape, providing the essential out-of-hospital care residents rely on for timely and professional response to their acute care needs. But although out-of-hospital care is central to paramedic practice, their skills and expertise go well beyond the provision of care in such situations, and are in fact applicable to a range of health care services that can be delivered in the community or the home. The need for health care services to come to mobility-challenged patients rather than vice versa suggests there is an opportunity to leverage paramedic expertise in a new way, through Community Paramedic (CP) programs. CP programs are not new. In other jurisdictions, particularly the United States, some have been in place for a decade or more, providing ancillary health care services to residents of rural areas who would otherwise have to go without. Such services are highly targeted, because they aim to fill gaps in health care provision for specific populations. For this reason, they do not compete with health care providers already delivering such services in other areas. As ample evidence shows, CP programs can make a significant difference to the well-being of patients, while also positively affecting health care expenditures. However,

Health care systems are complex, and the introduction of new services and modalities is problematic unless the context is fully understood.

their contribution to the ongoing transformation of BC's health care system requires further detail.

Policy makers should pay attention to the contribution that Community Paramedic programs can make to the goal of providing high quality health service delivery in the home and the community.

The analysis of predominant health care concepts shows that there is divergence in the understanding of how health care is delivered, and who should be accountable. Dependency on family physicians or general practitioners has different outcomes with respect to the provision of primary health care, varying with regional geography. In seeking to promote the integration of primary and community care, policy makers should pay attention to the contribution that CP programs can make to the goal of providing high quality health service delivery in the home and the community, as an alternative to expensive hospital care.

British Columbia, like other Canadian provinces, faces a number of health care issues, which also involves the province's geographic diversity and its impacts on population distribution. A significant proportion of the population lives in rural areas; providing for their health care needs remains a challenge. As BC continues to effect integrated care, it is essential that it also take into account the contribution that paramedics, as "mobile integrated health" units, can make to the BC government's overall health care objectives. BC's health statistics are among Canada's best, but its health system is less effective when it comes to providing community and home care, as studies have shown. Furthermore, providing care for people with chronic disease(s) so as to avoid unnecessary hospitalization is a major concern across Canada.

CP programs represent a solution to some of BC's most pressing health care issues. The innovative character of these programs is a result of paramedics' unique combination of skills and field experience (e.g., assessment and treatment of patients in the home). This allows such programs to be targeted to address health care gaps and also to increase overall health care system effectiveness and efficiency, by assisting patients to receive the right care at the right time in the right place. However, successful implementation of CP programs has to take into account local community conditions such as existing health care facilities and organizations, available health human resources, current health care gaps, and the broader context such as distance from emergency departments (EDs), and speciality clinics.

Given these considerations, the Ambulance Paramedics of British Columbia recommends the following steps in implementing CP programs in BC:

Recommendation 1. That a community paramedic program implementation committee, comprising senior staff from the Ministry of Health, the PHSA, the regional Health Authorities, BCEHS, BCAS and APBC, be established.

Recommendation 2. That the APBC engage health care partners to develop leadership for the implementation of community paramedic programs across the province.

Recommendation 3. That an information campaign to promote awareness and understanding of paramedic practice and community paramedic programs be developed, targeting both the public and health care professions in general.

Recommendation 4. That the leaders for community paramedic program implementation, in concert with the implementation committee, develop or adapt an evaluation framework for such implementation.

Recommendation 5. That a collaborative team of community representatives, local officials, paramedics and other health care professionals undertake community assessments to determine health care needs and service delivery gaps, and use the community paramedic program implementation framework to design appropriate programs.

Recommendation 6. That the Ministry of Health provide sufficient and stable funding to support the implementation of community paramedic programs across the province.

Recommendation 7. That the Ministry of Health review resource allocations to ensure sufficient health human resources to implement community paramedic programs across the province.

Introduction

Transforming health care systems needs to address and be responsive to the roles that the variety of health care providers can play.

British Columbia has one of the best health care systems in Canada. However, similar to those in other jurisdictions in Canada and abroad, it faces a number of challenges. To address these challenges, in recent years the Government of British Columbia has placed increasing emphasis on and commitment to the transformation of health care into a system that is patient-centred and community-based.[1] This is an essential goal, given Canada's demographic shift over the past two decades towards an older, less-mobile population. However, the scope of such transformation is daunting, since it involves reconfiguring an entire system from one designed to provide occasional acute care to one that can provide high quality ongoing care for residents faced with a range of health care challenges. Canada's health care system(s) are essentially a product of the post-World War II era, and reflect the demographics of that time and, more importantly, its population health characteristics. These involved far lower incidence of chronic disease and conditions related to aging and age-related frailty, and relatively higher incidence of emergency and acute care situations.[2] Such a younger and healthier population had much less need for ongoing health care treatment, and greater need for episodic treatment. For this reason, the hospital became the primary locus of health care provision after World War II (a situation also enabled by advances in medicine, many of which resulted from medical treatment given to wounded soldiers). Transforming these systems goes beyond organizational rearrangements to achieve costs savings, and needs to address and be responsive to the roles that the variety of health care providers can play.

Canada's changing healthcare demographics have resulted in increasing performance and financial pressures on its health care system(s). Hospital and surgical wait times remain high, and health care expenditures account for a large percentage of provincial and territorial government budgets. At the same time, the *qualitative* dimension of health care provision has suffered, an aspect of the system that is reflected in the recently stated desire of politicians and government officials to put patients, rather than health care providers, at the centre of health care delivery.

Such changes have their counterpart in the situation facing health care professions, which need to find ways to re-orient their practice to respond to the demographic shift. This is particularly evident with paramedics, an allied

[1] British Columbia Ministry of Health, 2014a, pp. 24-26.

[2] Cohen et al., 2009, p. 10.

health care profession that not so long ago was considered simply to perform a transport function ("scoop and run"), rather than one that provided on-site assessment and treatment. The contemporary pre-hospital medical care system developed from services provided on an ad hoc basis by providers who had access to vehicles capable of transporting patients, such as funeral hearses. The modern system of Emergency Medical Services (EMS) in North America only began to appear in the mid-1960s. From then on, paramedic scopes of practice and their standards of training and education began to be codified and formalized, leading to today's highly professional paramedic services. However, up until the early 1990s, these services were solely focused on the provision of pre-hospital emergency response. Only in the last two decades has health care policy started to consider how paramedic skills and training could be used to address gaps in health care provision, initially in rural and remote communities with limited access to health care services, and more recently in urban environments where changing health care needs require different approaches.

Indeed, developments in paramedic practice and professionalism can be seen as a reflection and response to the evolution of the health care system as a whole. Paramedics are an integral part of British Columbia's health care landscape, providing the essential out-of-hospital care on which residents rely to ensure that their acute care needs are responded to in a timely and highly professional manner. But although out-of-hospital care is central to paramedic practice, their skills and expertise are in fact applicable to a range of health care services that can be delivered in the home or the community. The BC government's laudable aims of making the health care system more responsive and more appropriate to the needs of its aging population through better alignment of health care practice is fully in accord with the APBC's ideal of Community Paramedic (CP) programs, which draw on the conjunction of clinical skills and expertise in out-of hospital patient interaction to deliver a range of health care services in environments where no other health care provider is available to do so.

Developments in paramedic practice and professionalism can be seen as a reflection and response to the evolution of the health care system as a whole.

CP programs are not a new development, although they are more recent in Canada. In other jurisdictions, particularly the United States, some have been in place for a decade or more, to provide ancillary health care services to residents of rural areas who would otherwise have to go without. Such services are highly targeted, because they aim to fill gaps in health care provision for specific populations, rather than competing with health care providers already delivering similar services. Indeed, doing so would be contrary to the intent of community paramedicine, because paramedics are the responders to the 911 calls that often result from those very health care gaps. The essential consideration with CP programs is the following: Is transport to a hospital emergency department (ED) the optimal outcome for our patient, i.e., will our patient get the appropriate treatment for his/her health care needs? This is

Emergency department treatment is the most expensive form of primary care, and is often not the most appropriate.

a simple question when it concerns an emergency situation such as a severed limb or a multiple fracture. However, when it concerns an adverse medication interaction or a fall in the home, the situation is less clear cut. ED treatment is the most expensive form of primary care,[3] and is often not the most appropriate, since there is little if any continuity of care. In other words, patients who have had a fall in the home may be discharged from the ED without any arrangements for follow-up, simply because that is not the role of EDs.

Since the 1990s, EMS services in jurisdictions such as the UK, Australia, the US and Canada have been implementing programs that leverage paramedic skills and practices to improve the health outcomes of patients in their catchment areas. This has involved programs whereby paramedics make referrals for patients to appropriate community health agencies instead of just transporting them to the nearest ED; programs in which paramedics deliver health care services to patients areas to forestall unnecessary ED visits; and programs in which paramedics deliver health care services such as wellness checks and vital signs monitoring in situations where there are no other providers available to do so.

All of these programs are part of community paramedicine, an initiative that aims to leverage the combination of paramedics' clinical skills and their familiarity and expertise with delivering care outside of the hospital environment. However, the very fact that paramedic practice is closely aligned with emergency medicine and acute care (i.e., 911 call and response via transportation), problematizes the concept of community paramedicine. One of the aims of this document, then, is to outline how CP programs can contribute to the provision of the highest quality of health care to BC's residents in a way that supplements, but does not replace, health care provision by other providers.

Perhaps more important than any specific CP program and its potential contribution to health outcomes for a defined population is that the implementation of CP programs is part of the transformation of the health care landscape from its provider-centred focus to a patient-centred focus. Health care systems across Canada and in other jurisdictions are facing similar challenges, predominantly as a result of the demographic transition to a population that has a greater need for chronic care than acute care. It may well be the case that an aging population and its concomitant use of health care resources presents a fiscal challenge to governments, particularly if this is accompanied by an increasing dependency ratio and declining tax revenues.[4] But from a health care

[3] Canadian Institute of Health Information, 2011, pp. 30-31.

[4] Since 1950, the global dependency ratio for seniors has decreased by over a quarter, from 11.75 people of working age per person 65 and older to 8.5 in 2012. KPMG International, 2013, p. 11.

perspective, this is not the fundamental issue, which rather revolves around how best to deliver the level of care that BC's residents both expect and deserve. The APBC's position, as set out in this paper, is that Community Paramedic programs, while not a panacea, can and should be a component of the integrated health care that will facilitate the highest possible health care provision to BC's residents, and that their implementation would be a key component of the transformation of BC's health care system to a more integrated, patient-centred system, because it would both reflect such transformation and help bring it about.

The following sections present analyses of (i) health care system concepts; (ii) BC's health care context; (iii) paramedic practice; and (iv) CP programs, to outline the potential contribution that CP programs could make to addressing BC's health care challenges. The report concludes with a set of recommendations for implementing CP programs in BC.

Health Care Concepts

The aim of this section is to bring some clarity to the range of concepts and definitions encountered in discussions about health care and health systems, in the context of BC's health system and the direction of its evolution.

I. What is a Health (Care) System?

"In today's complex world, it can be difficult to say exactly what a health system is, what it consists of, and where it begins and ends."

Although it seems self-evident that a health care system (also referred to as "health system") has to do with the provision of health, it is less clear what this means in terms of the objectives of such a system, its components, and how these fit together. For example, is the objective to achieve an equal level of health for all individuals, to provide access to services according to need, to provide services according to the ability to pay for them (whether publicly or privately), or to seek to achieve the highest possible standard of health for the entire population? Do health care systems need to address social and environmental factors such as education, income level, pollution, food and water safety, and so on (collectively called the "social determinants of health"[5]). Who counts as a health care provider? Which institutions and organizations are part of the system? As the World Health Organization's (WHO) *World Health Report 2000* stated, "[i]n today's complex world, it can be difficult to say exactly what a health system is, what it consists of, and where it begins and ends."[6]

Existing health care systems are not, in fact, all that systematic.[7] This is partly due to the evolution and spread of knowledge and technology, which gives rise to new professions and new forms of service delivery. In developed countries, this is perhaps most evident in the way that hospitals' roles and status has changed over the last century, but can also be seen in the appearance of new medical specialities such as emergency medicine, and the proliferation of so-called "allied health" professions. Technological developments have altered treatment locations and modalities, such that what were once inpatient procedures at hospitals are now performed on a day surgery basis, often in offices, clinics and health centres rather than hospitals. Technological developments have also allowed for new, often expensive, diagnostic modalities to which it can be difficult to provide equitable access. Pharmaceutical developments

5 World Health Organization, 2011.

6 World Health Organization, 2000, p. 5.

7 Cohen et al. make this point particularly with respect to community care: "In many respects, the community health system is not a system at all. It grew over time as a disparate array of programs and services coordinated by no one." *Op. cit.*, 2009, p. 10.

have made treatment regimes routine for some conditions that were previously considered serious or critical. But such technological improvements and institutional changes affect different components of the 'system' in different ways, and can lead to dislocation rather than coordination.

The lack of health care systematicity is also partly due to successive government policies (or "reform agendas") that affect related aspects or components of the existing system in different, sometimes contradictory ways. For example, in the 1990s, as a response to fiscal constraints, Canadian jurisdictions consolidated and amalgamated hospitals. This not only affected the status of these institutions, which had been at the centre of health care since the 1950s (in both medical and policy terms), but also revealed that some of them had been providing a wide variety of care, such as physical therapy and nutritional advice, that they were no longer able to do.[8] The lack of such health care services has now prompted governments to focus policy attention on community care. As Cohen et al. noted, "[h]ealth care is a complex, adaptive system that operates at multiple levels simultaneously, which means (among other things) that change in one area may have unintended consequence on the system as a whole".[9]

Health care systems are difficult to understand, and can often seem to be contradictory or incoherent.

As Richard Freeman expresses it, "the parts do not necessarily cohere into a rationale whole…What we refer to as 'systems' are really no more than packages or clusters of typical characteristics."[10] As a result, health care systems are difficult to understand, and can often seem to be contradictory or incoherent. As integral aspects of human social existence, they are also "dynamic, continually adapting and readapting to the wider political, economic and social systems of which they are a part."[11] For these reasons, then, it can be difficult to determine what properly belongs to a health care system. Burau and Blank (2003) add that

> policies concerned with health care go well beyond medical care that is at the centre of health systems. As the cases of home care and public health demonstrate, many health-related services that are central to the well-being of individuals, communities and populations at large are not medically-based. Instead, they are located on the interface with social care, environmental services, health and safety in the work place, as well as economic, education and family policies, and even day-to-day care provided by women.[12]

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8 White and Marmor, 2009, p. 191.

9 Cohen et al., 2012, p. 15.

10 Freeman, 2000, p. 7.

11 *Ibid.*

12 Burau and Blank, 2003, pp. 16-17.

Nevertheless, there have been a number of attempts to define or characterize health care systems. One that is widely used is the WHO's broad functional definition as "all the activities whose primary purpose is to promote, restore or maintain health".[13] Hoffman et al. explain that "[t]hese activities are often grouped into six categories or "building blocks", namely 1) service delivery, 2) health workforce, 3) health information systems, 4) medical products, vaccines and technologies, 5) health systems financing and 6) leadership and governance."[14] Functional definitions such as this one can be summarized as comprising "subsystems of delivery, finance and regulation".[15] In other words, they include the systems by which health care is delivered (e.g., which professions, institutions and organizations are involved; their status as public or private providers; the tools and technology they use; and the operative information systems), the means whereby this is funded (e.g., public, private or some mix of the two, as in Canada), and how it is regulated (most often, one or more levels of government).

However, a more recent definition from the WHO also incorporates issues of equity and social justice:

> A health system is the sum total of all the organizations, institutions and resources whose primary purpose is to improve health. A health system needs staff, funds, information, supplies, transport, communications and overall guidance and direction. And it needs to provide services that are responsive and financially fair, while treating people decently.[16]

A similar definition can be found in the Tallinn Charter 2008, adopted by all member states of the WHO European Region:

> Within the political and institutional framework of each country, a health system is the ensemble of all public and private organizations, institutions and resources mandated to improve, maintain or restore health. Health systems encompass both personal and population services, as well as activities to influence the policies and actions of other sectors to address the social, environmental and economic determinants of health.[17]

Such definitions go beyond a descriptive taxonomy to include normative elements, i.e., standards by which particular systems can be measured to determine how well they perform *as* health care systems.

Health Canada provides a characterization of the basics of the Canadian health care system that is much narrower, focusing primarily on financial aspects:

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13 World Health Organization, 2000, p. 5.

14 Hoffman et al., 2012, p. 6.

15 Freeman, 2000, p. 1.

16 World Health Organization, 2005.

17 World Health Organization, 2008, p. 1.

> Canada's publicly funded health care system…universal coverage for medically necessary health care services provided on the basis of need, rather than the ability to pay.[18]

Further on, health care delivery is presented as involving "primary health care services, which are the first point of contact with the health care system", but which are "increasingly comprehensive", including a range of services from "prevention and treatment of common diseases and injuries" to "palliative and end-of-life care" and "rehabilitation services".[19] Beyond primary care, there are secondary services ("specialized care at a hospital, at a long-term care facility or in the community") and "supplementary" benefits and services, such as "prescription drugs outside hospitals" and "the services from other health professionals such as physiotherapists".[20] Provinces and territories deliver most health care services, but under the *Canada Health Act*, they are jointly funded with the federal government. However, federal funding only includes primary care, and secondary care provided by hospitals.

These unsystematic characteristics of the health care system have led policy researchers and policy-makers in recent years to advocate "integrated care" as a way of improving health care quality (in terms of both patient outcomes and patient experience) while at the same time containing health care costs through addressing the fragmentation of the system. Usually, the idea of integrated care involves closer coordination between primary care and other health care levels or sectors, such that it "provides seamless care pathways along and within each patient's continuum of care".[21] When the integration proposed includes community care, as in the BC Ministry of Health's Integrated Primary and Community Care (IPCC) strategy,[22] it involves relocating the delivery of a range of health care services out of hospitals and into the home or community, particularly with respect to care for those with chronic diseases and for the frail elderly, which together account for a significant portion of health care expenditures.[23] As described by the Ontario Medical Association,

Unsystematic characteristics of the health care system have led policy-makers to advocate "integrated care" as a way of improving health care quality.

> An appropriately integrated primary care system ensures that patients move seamlessly between providers and care locations including the home, family practice clinic, community, speciality care and hospital, long-term care or any other institutional setting.[24]

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18 Health Canada, 2011.

19 *Ibid.*

20 *Ibid.*

21 Canadian Nurses Association et al., 2013, p. 6.

22 British Columbia Ministry of Health, 2014a, p. 25; Fraser Health, 2012.

23 MacAdam, 2008; MacAdam, 2011.

24 Ontario Medical Association, 2013, p. 8.

However, the BC Ministry of Health takes a less broad approach: "Integrated primary and community care strategies are aimed at shifting the way health care is managed and delivered to provide the co-ordination and continuity of care required to meet the needs of targeted populations".[25]

CP programs are directly relevant to strategies of integrated care, as they can deliver health care services in the home and community.

CP programs are directly relevant to strategies of integrated care, as they can deliver health care services in the home and community, and are particularly appropriate for rural and remote communities.[26] However, the integration of such programs with primary care or community care can prove to be conceptually problematic since, for historical reasons, paramedicine is generally considered to be part of the acute care delivered by hospital EDs. Primary care in Canada, as will be discussed further below, is considered to be the "first point of contact with the health care system", yet is also considered to be the province of GPs or family physicians,[27] which is at odds with the reality that many patients use 911 and the ED for primary care, meaning that their first point of contact is actually EMS and the paramedics who respond to the 911 call.[28]

II. Levels/Types of Care

To clarify the significance of CP programs, a further set of concepts and definitions needs to be examined, which pertains to health care *services*, i.e., the kind of care that providers deliver and patients receive. Different distinctions are made with respect to kinds or types of care, depending on whether these are thought of in terms of the conditions being treated, the location/hierarchy of the care provided, or even the status of the health care provider. Given these differences, it is not surprising to find that these distinctions cut across one another, which can make it particularly difficult to determine exactly where a health care service or a health care provider fits.

One standard set of distinctions in health care is between "promotion, prevention, cure, rehabilitation and palliation efforts."[29] These refer respectively to efforts to promote healthy behaviour, to prevent the onset of diseases or adverse conditions, to cure diseases or adverse conditions, to provide rehabilitation from the effects of illness or even treatment, and to assist in the management of an ongoing (incurable) disease or condition. However, these distinctions do not address the difference in the acuity (or seriousness) of the condition being

[25] British Columbia Ministry of Health, 2014a, p. 25.

[26] In the U.S., CP programs are often referred to as "mobile integrated healthcare".

[27] White and Marmor, 2009, pp. 184-185.

[28] Okma and Decter, 2009, p. 218; Marchildon, 2013, p. xix.

[29] Hirshon et al., 2013, p. 386.

treated, since, for example, promotion efforts can range from advice about the benefits of regular physical activity to smoking cessation, cure can be as simple as the application of a topical ointment or as invasive as chemotherapy, and rehabilitation can address a minor injury or substance abuse. Furthermore, they tend towards a focus on diseases or conditions, rather than on patients.

Another set of distinctions, evident in Health Canada's characterization of the Canadian health care system, is between *levels* of care. For Health Canada, this comprises primary, secondary, and additional or supplementary care. As discussed above, these distinctions cut across the previously mentioned set, since primary care can include each of those. What distinguishes them, then, is the patient's *interaction* with the health care system, since primary care is "the first point of contact", whereas secondary care is the province of specialist practitioners (i.e., services requiring referral) and institutions (e.g., long-term care facilities).[30] Thus, they suggest a different, and more patient-centred way of understanding the health care system. However, this is somewhat misleading, since the distinctions being made have more to do with the health care *providers* (e.g., general practitioners or family physicians vs. specialists) than with patients. Even so, it is not clear how these distinctions relate to the wide range of existing health professions.

A third set of distinctions is, in a sense, *locational*, dividing up health care services into (i) primary care delivered by family doctors, (ii) acute care (e.g., hospitals and emergency services), and (iii) home and community care. Cohen et al. maintain that this is the make-up of Canada's health care system.[31] This set of distinctions is also problematic. On the one hand, it is unclear what the rationale is for assigning the role of primary care solely to family doctors. Even if "primary care" did have an unambiguous meaning, which is by no means clear,[32] it would seem problematic to assign this role to such a narrow group of health providers, whereas it would seem that almost all allied health professionals would fall under "home and community care", despite the fact that many physiotherapists, for example, work in hospitals. Furthermore, the idea that hospitals are the province of acute care seems at odds with the realities of such institutions, which still provide a range of non-acute (ambulatory) services. Finally, with these distinctions, it is unclear where chronic care is supposed to fit. Presumably it falls somewhere between primary care and home and

30 The terms "primary care" and "primary health care" are sometimes used synonymously, although the WHO's 1978 *Declaration of Alma-Ata International Conference in Primary Health Care*, signed by representatives of 135 countries, set out a much more expansive definition of primary health care that included public health aspects (education, nutrition, basic sanitation, etc.) and national and community development. In this document, the term "primary care" is used to refer to the narrower concept. World Health Organization, 1978.

31 Cohen et al., 2012, p. 5.

32 White and Marmor, 2009, pp. 180-200.

community care. As a characterization of "Canada's health care system", then, this appears to be more normative than descriptive.

A variation on the previous set of distinctions contrasts primary care with "curative medicine" and chronic care, but considers that "[p]rimary care normally encompasses visits to general practitioners (GPs), ambulatory care and health education efforts, and includes a strong health promotion/disease prevention element".[33] Despite this division, the authors note that "health care today is dominated by curative medicine" yet, at the same time,

> Even the term 'curative' is misleading because in many cases the patient is not cured, but is rather rescued or maintained, often in a state of health that is lower than it was before the person became ill. Instead of 'curing' the person, these interventions support or preserve a particular level of personal health by creating a continued dependence on further medical treatment or medications.[34]

The BC Ministry of Health provides yet another variation, which involves four levels of care: (i) prevention and public health (e.g., immunization against measles, food and water safety); (ii) primary care—the "[p]rincipal point of consultation and treatment for patients in the health care system and one that co-ordinates access to other specialists that the patient may need", which is "[m]ainly focused on health maintenance, minor illnesses, secondary prevention… and the treatment of longer term care for chronic conditions"; (iii) secondary care—"[t]he provision of a specialized consultation or medical service by a physician specialist or a hospital on referral by a primary care physician", which is "[m]ainly focused on tertiary prevention – preventive medicine that deals with the rehabilitation and return of a patient to a status of maximum health with a minimum risk of recurrence of a physical or mental disorder"; and (iv) tertiary care—"[t]reatment given in a health care centre that includes highly trained specialists and often advanced technology. Also referred to as acute care, it is often associated with a hospital and includes emergency, critical and intensive care medical services. It can also include tertiary prevention."[35] As with the other sets of distinctions, it is unclear how this accords with the reality of health care provision by allied health professions and EDs.

III. Institutions and Providers

Health care systems are made further complex by the range of institutions and health care providers they include, and the changes in roles these have undergone as systems have evolved. The change in status of hospitals is a case

[33] Blank and Burau, 2010, p. 18.

[34] *Ibid.*, p. 19.

[35] British Columbia Ministry of Health, 2014a, p. 16.

in point. As Blank and Burau note,

> Prior to World War II, health care was normally limited to performing public health and primary care functions, in part because its curative capacities were limited and frequently ineffective. Hospitals were primarily designed to protect the public health, often by quarantining patients rather than treating them, and largely served only persons who could not afford a private physician. Those with private resources would avoid hospitals like the plague because often plagues were found there.[36]

After World War II, curative medicine became much more effective and hospitals gravitated to the centre of health care.

As a result of medical and technological developments, after World War II curative medicine became much more effective and hospitals gravitated to the centre of health care. From the 1950s to the 1990s, Canada's health care systems were dominated by hospitals and, consequently, by a focus on acute care. In fact, the public financing of health care in Canada has its origins in the public financing of hospital services, first introduced in Saskatchewan in 1947, followed by BC in 1949 and Alberta in 1950. In 1957, the federal government passed the *Hospital Insurance and Diagnostic Services Act*, a precursor of the 1984 *Canada Health Act*, under which it agreed to share costs for these services with the provinces.[37] During the 1990s, however, as discussed above, fiscal constraints worked to change the status of hospitals. This change also had its roots in the effectiveness of the curative care that these institutions provided, as it helped bring about the demographic shift towards an aging population, which has a greater need for chronic or palliative care. As a result, health care policy across Canada's provincial governments is now focused on institutions that can provide care in the community, such as long-term facilities and nursing homes, as well as on finding mechanisms to provide care in the home.

Another layer of health care system complexity comes from the proliferation of different types of health care providers. Although physicians and nurses remain at the top of the hierarchy, they are now outnumbered by those who work in so-called "allied health professions". These professions tend to be defined negatively, as referring to those who are not doctors, nurses or dentists (and in some jurisdictions, other professions such as pharmacists). One organization describes allied health as

> an umbrella term used to describe individuals who are trained to work individually or with others to support individuals [to] achieve optimal health. Allied Health professions are distinct from medical, nursing or dental professionals. Their aim is to support diagnosis, recovery and quality of life.[38]

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36 Blank and Burau, 2010, p. 19.

37 Marchildon, 2013, p. xvi.

38 Australian Medicare Local Alliance, 2013, p. 20.

Although they provide a wide range of services necessary to support people living with chronic conditions and the frail elderly, to a large extent allied health professions do not enjoy the same status as the non-allied health professions. This makes integrating care a more difficult task.

Another complicating factor arises with the different payment systems for physicians and other health professionals. For the most part, physicians work as private providers, and negotiate directly with governments regarding their fee structure, predominantly on a fee-for-service basis, although there is increasing use of other payment forms, such as capitation, salary, or some blend of these with fee-for-service.[39] Physician payments are also the only payments to health care providers that are referenced in federal legislation, having been introduced in the *Medical Care Act 1966*, and then reiterated in the *Canada Health Act 1984*. Most other health care professionals, in contrast, are salaried and work in health organizations.[40] This disparity may result in mismatched incentives, which can act as barriers to integration, shared accountability, and interprofessional collaboration.[41]

IV. Integrated Care

In response to the factors mentioned above (i.e., the miscellany of sub-systems, the de-centering of the hospital, fiscal constraints, and the aging demographic), many health care policy researchers and policy decision-makers are now advocating a transformation of health care systems towards "integrated care" (sometimes called "continuity of care", "continuing care,"[42] "integrated delivery services",[43] or even "primary health care"[44]). However, this has proved difficult to define. A literature review conducted in 2009 found a large number of definitions and "numerous concepts of integration", often referring to different levels and types of interaction.[45] This review also found limited evidence of clear indicators to measure outcomes, and a scarcity of "empirical research on outcomes and impact of integrated health systems".[46] A later literature review suggested that "there is no one approach to integrating health care".[47]

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39 Thompson et al., 2012, p. 20.

40 Marchildon, 2013, p. 78

41 Cohen et al., 2012, p. 39; Office of the Auditor General of British Columbia, 2014, p. 28..

42 Hollander and Chappell, 2013, p. 4; Canadian Healthcare Association, 2011.

43 Kodner, 2009, p. 7; Lega, 2007.

44 See, for example, Cohen et al., 2009, p. 11; Khan et al., 2008, p. 5

45 Armitage et al., 2009, p. 4.

46 *Ibid.*

47 MacAdam, 2011, p. 2.

Although models of integrated care are highly context-dependent, and vary with jurisdiction, health care system and perspective of the policy actor, such that "[n]o shared definition of integrated care exists in Canada",[48] they show common characteristics, in particular a shift of emphasis from hospital-based acute care to community- or home-based chronic, rehabilitative and palliative care. Such models aim to reposition the hospital as a necessary component of the health care system, but one that should be accessed for a narrow range of services, and should not duplicate or play a part in the provision of alternate levels of care. Instead, the vast majority of health care in these models is to be provided by interprofessional teams working collaboratively. MacAdam suggests that "[p]rovinces have been more successful implementing clinical best practice features" (i.e., integration at the clinical level), but that "most provinces have yet to align their administrative structures, enablers and incentives to support a more effective integrated care system".[49]

BC's Ministry of Health defines integrated care along narrow lines by drawing a distinction between "collaborative care", in which "providers have independent services and care plans but have agreed to work together for the betterment of comprehensive client care", and "integrated care", which includes "those models of care where one care plan and a multi-disciplinary team is responsible for the overall care of an individual" and "often goes beyond the particular area of specialization to address numerous health and social needs".[50]

Integrated care involves a shift of perspective, from disease-and provider-centred care, to patient-centred care.

An intrinsic aspect of integrated care involves another shift of perspective, namely, from both disease-centred and provider-centred care, to patient-centred (or even "person-focussed") care. In the latter perspective, patients are neither treated as an agglomeration of organ systems in varying states of health requiring a variety of interventions (the "medicalized" view predominant in curative care), nor are they subordinated to health care providers' interests. Instead, patients are seen to be at the centre of their health concerns and participants in their health care. The role of integrated health care providers, then, is to facilitate patients' access to the health care they require from the most appropriate provider, in their communities or homes. As a result, it is argued, patients will enjoy a higher quality of health care at the same time as health care costs are contained, particularly through diversion away from expensive hospital-based care and the greater use of allied health professionals.

It is evident, then, that such models of integrated care are particularly conducive to CP programs, as paramedics are highly mobile, are specifically

48 MacAdam, 2008, p. 2.

49 MacAdam, 2011, p. 7.

50 British Columbia Ministry of Health, 2012, pp. 20-21.

trained to deliver health care in the home and community, and have a scope of practice that encompasses a range of appropriate clinical skills. In fact, in many of the U.S. states, CP programs are referred to as "mobile integrated healthcare".[51]

Transforming a system as complex as health care requires significant time and effort, in terms of governance, allocation of resources, and patient and provider expectations.

Despite the intuitive appeal of such models, however, there are significant difficulties with their realization. At the most basic level, transforming a system as complex as health care requires significant time and effort, in terms of governance and accountability structures, allocation of resources, and the re-orientation of patient and provider expectations. One step that provinces have taken in the last two decades to facilitate integration has been regionalization, in which small health delivery areas have been combined into a single, regional body, as for instance with BC's five regional Health Authorities and Ontario's 14 Local Health Integration Networks (LHINs).[52] However, this has had mixed success in terms of improving health care delivery overall. In Ontario, for example, the LHINs have little authority over hospital expenditures, whereas the coordination of services to patients is managed by 14 Community Care Access Centres (CCACs), one for each LHIN geographical region.

Nor is it evident that regionalization has been sufficient to address other barriers to integrated care. One such barrier, as mentioned previously, has to do with the differential status of physicians, nurses and allied health professionals. Another has to do with the current structure of Canadian health care systems, in which primary care is considered to be the domain of family physicians and general practitioners. Proposed models of integrated care preserve this exclusivity; as a result, it is arguable that such models remain provider-centred, despite claims to the contrary. This residual focus makes it more to difficult for health care providers to learn the new ways of working together and supporting patients that integrated health care requires.[53] As Cohen et al. point out,

> New models of care demand new roles for everyone—for providers who must work differently both with each other and with patients, and for citizens who must take on new roles both as individuals and as health care system advocates. Seeing patients as partners instead of as passive receivers of care is a difficult cultural transition for many health care professionals…[54]

On the other hand, to the extent that integrated care models focus primarily on chronic disease management, it would also seem that they are more disease-centred than patient-centred.

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51 See for example National Association of Emergency Medical Technicians, 2014.

52 Marchildon, 2013, pp. 30-31, 39.

53 Cohen et al., 2009, p. 7.

54 *Ibid.*, p. 33.

Furthermore, the primary care physician is intended to serve as both care coordinator and gatekeeper to the system, determining which types of services are appropriate for patients to access, and how and when such access will be effected.[55] However, it is unclear that the case management role is an efficient and effective use of physicians' time and training.[56] This, combined with the idea that the patient should in some sense be a full participant in her health care decisions, can result in a high degree of responsibility being placed on patients to coordinate their own care, which can be a daunting task for many. Although the desired outcome may be a "seamless continuum of care", the reality is that patients must often navigate the system and deal with different health care providers by themselves.

The reality is that patients must often navigate the system and deal with different health care providers by themselves.

In this regard, too, CP programs could enhance integrated care, by simultaneously delivering health care services in the home and assisting patients with health care system navigation. As will be discussed in a later section, several CP programs currently operating in Ontario provide just such a combined service.

Another challenge for models of integrated care lies in determining the appropriate range of activities to be integrated, and the type, level and form of that integration. Integration, as MacAdam points out, is an "elastic term".[57] In one respect, it refers to the degree of cooperation or interaction between different services, providers, etc., ranging from a loose "linkage" to full integration that "creates new programs or entities where resources from multiple systems are pooled".[58] In another respect, it refers to the *level* at which activities are integrated, ranging from the system level (i.e., planning, financing, service coverage, etc.) to the clinical level, which concerns the direct care and support provided to the patient community by health professionals (i.e., interprofessional *care*, rather than interprofessional collaboration). In between these two, MacAdam argues, lies "organizational integration", which "refers to the coordination and management of activities among acute, rehabilitation, community care and primary care provider agencies or individuals".[59] Finally, it may also refer to whether the integration proposed is *vertical* or *horizontal*, i.e., if it involves restructuring to bring different health care providers under the same organizational umbrella, or a mode of coordination of different organizations in terms of the care they provide across different care settings.[60] These different

55 Thomson et al., 2012, p. 20.

56 *Ibid.*, p. 36.

57 MacAdam, 2008, p. 2.

58 *Ibid.*; Cohen et al. point out that, "[i]n Canada, health service programs are integrated only at the linkage level, if at all." Cohen et al, 2009, p. 29.

59 MacAdam, 2008, p. 2. This sense of integration depends, of course, upon the taxonomy of health care delivery systems that, as has been mentioned, is by no means conceptually clear.

60 *Ibid.*

relationships and degrees of coordination mean that there can be impacts at different levels, often in ways that set up barriers to integrated care.

V. Conclusion

This examination of health care system concepts, different levels or types of health care delivery, and issues involved in integrating health care suggests that there are both conceptual and practical difficulties in integrating different parts of health care systems to enable patient-centred continuity of care. This is particularly evident in the somewhat anomalous position of paramedics in the health care system, since they are front-line health care providers in the out-of-hospital context, but are considered only to be part of the hospital-based acute care system.

British Columbia's Health Care Context

Demographic and Geographic Overview[61]

BC's geographic and demographic diversity is a factor in how its health care system performs, both overall and regionally.

British Columbia is home to 13 percent of Canada's population, and is the third-largest province, with a land area of over 920,000 km^2. In 2011, the population was 4.4 million, giving it an average population density of 4.8 persons per square kilometre, higher than the national average of 3.7. By

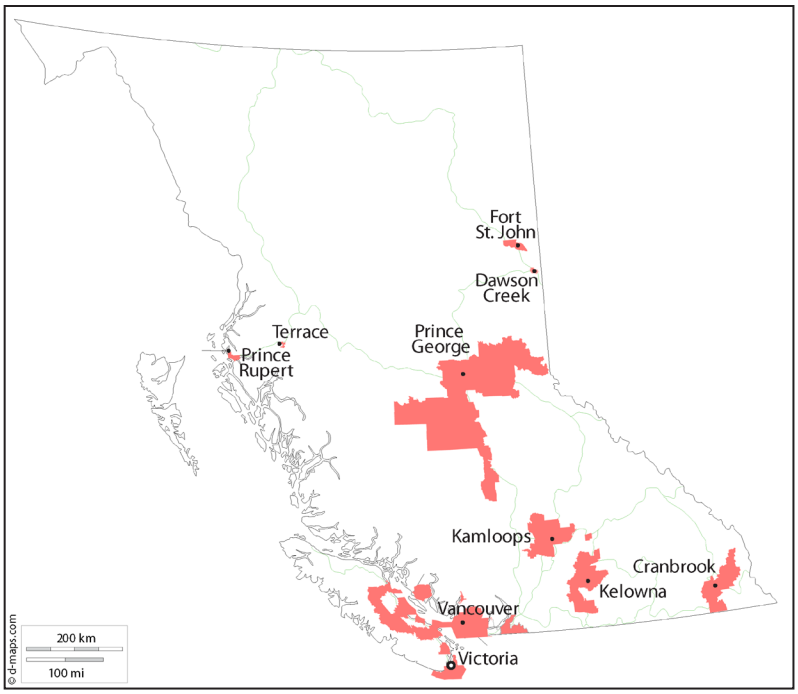


Figure 1. Distribution of Population in British Columbia
Census Metropolitan Areas and Census Agglomerations (2011)

2013, it was estimated the population had reached nearly 4.6 million, increasing at a rate somewhat lower than the national average of 1.2 percent.[62] As with other jurisdictions in Canada, however, the population is unevenly distributed, with more than 50 percent living in the metropolitan Vancouver area. In 2011, 86 percent of the population lived in urban areas, with only 14 percent living in rural areas.[63] Overall, 87.6 percent of BC's population lives in census

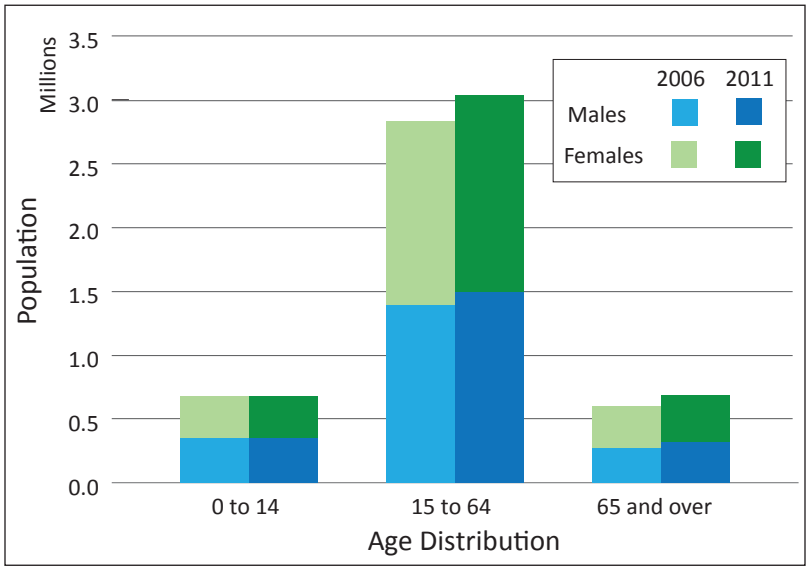
61 Statistics Canada, 2012.

62 Statistics Canada, 2013a.

63 Statistics Canada, 2011a.

metropolitan areas and census agglomerations (Figure 1).[64] In particular, BC's northern region is sparsely populated, with a total population of around 300,000. BC's uneven population distribution is a function of the province's topography, which in its coastal region comprises a large number of islands, many of which are uninhabited or only lightly inhabited and, inland from the coast, two major mountain ranges separated by plateaux and river valleys.[65]

BC's population increased by 7 percent between 2006 and 2011, giving it one of the fastest growing populations in Canada. However, this increase has also been accompanied by a shift in the age distribution towards the working age and 65-and-over populations (Figure 2), in line with the demographic change that has been taking place across Canada since 1971. The working age population (15 to 64) constitutes 69 percent of the total population, with the remaining 31 percent nearly evenly split between those younger and those older. Recent population projections indicate that by 2036, the percentage of the population aged 65 and above will have risen to 24 percent.[66] The current median age in BC is 41.9, slightly higher than in Canada as a whole, a gap that has remained fairly consistent over the past 40 years.



Source: Statistics Canada

Figure 2. Demographic change in British Columbia, 2006 to 2011

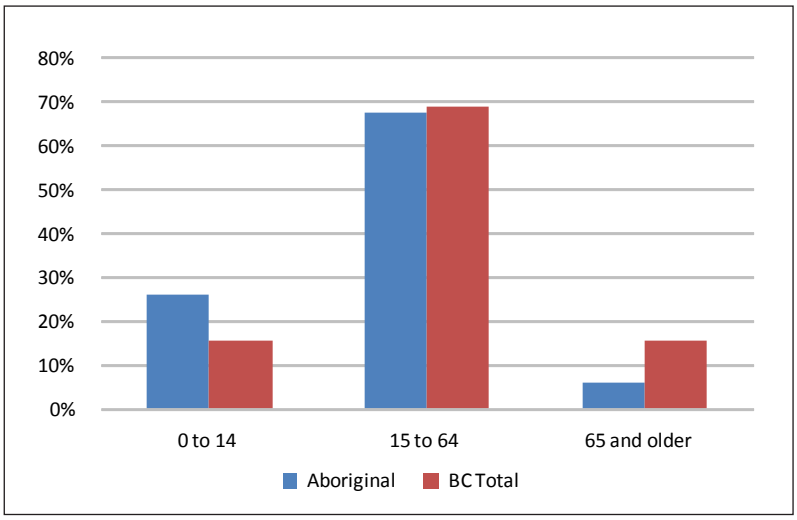
64 These are defined by Statistics Canada as follows: "A census metropolitan area (CMA) or a census agglomeration (CA) is formed by one or more adjacent municipalities centred on a population centre (known as the core). A CMA must have a total population of at least 100,000 of which 50,000 or more must live in the core. A CA must have a core population of at least 10,000." Statistics Canada, 2014.

65 Church and Ryder, 2010, pp. 17-45.

66 Statistics Canada, 2010; BC Stats, 2013, p. 3.

According to Statistics Canada's 2011 National Household Survey, Aboriginal people account for more than 5 percent of BC's population. However, this population has a significantly younger profile than that of the province as a whole, with more than 26 percent between the ages of 0 and 14, compared to only 6.2 percent who are 65 and older (Figure 3). The median age, correspondingly, is also much younger, at 28.9 years.[67]

BC's Aboriginal population has a significantly younger profile than that of the province as a whole.



Source: Statistics Canada

Figure 3. Aboriginal and Total Population Demographics in British Columbia, 2011

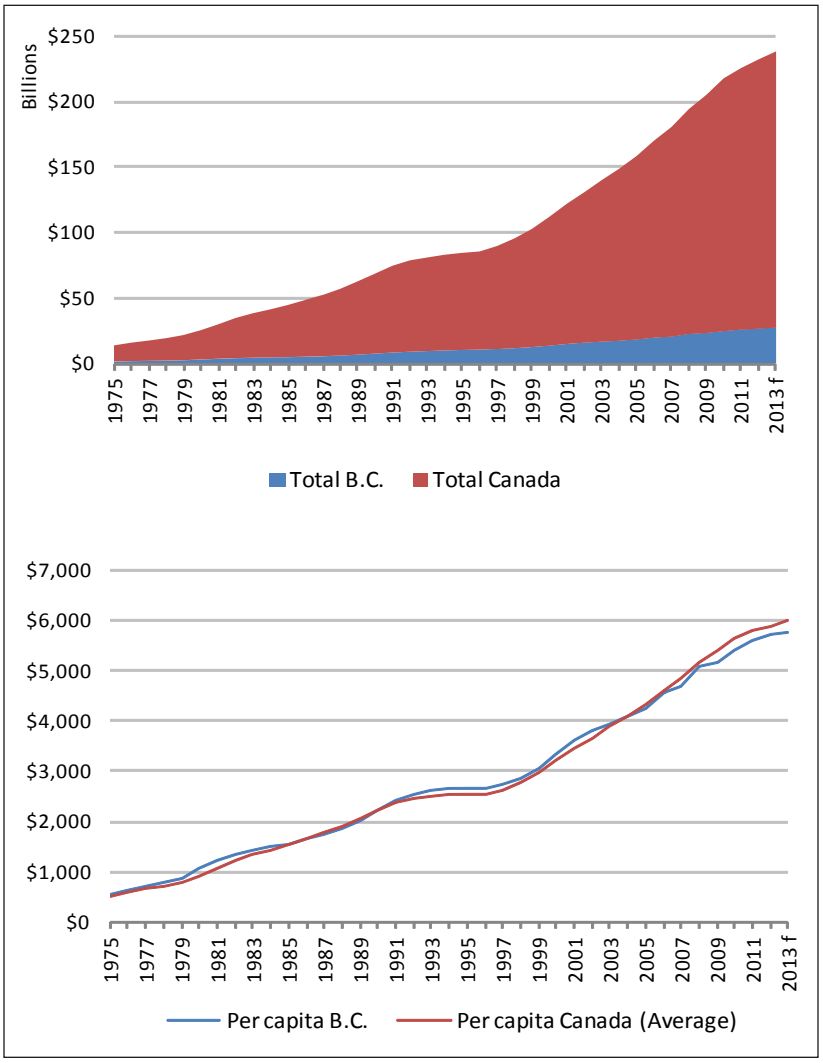
Health Care System: Expenditures and Funding

As with all other provinces in Canada, health care in BC is a mixed public-private system. Most health care *delivery* is the responsibility of the private sector (although aspects of this are regulated by the government), but almost 70 percent of health care *funding* is publicly provided, the sources for which are tax revenues, transfer payments from the federal government and, unlike other provinces, premiums for the public health insurance plan (in BC, called the Medical Services Plan). Private funding comes primarily from out-of-pocket payments (e.g., for prescription drugs and some services) and private health insurance premiums.

BC's public health care expenditures are forecast to reach $18.7 billion in 2013, and to account for 68.9 percent of total health care expenditures in the province, which are forecast to reach $27.1 billion.[68] This ratio is in line with the national average, and has been consistent over the last two decades. In per capita terms, BC's health care expenditures (public and private) were forecast to be $5,775 in 2013, and have increased in line with those of Canada

67 Statistics Canada, 2013b.

68 Canadian Institute for Health Information, 2013a, Table B.1.1.



Source: CIHI 2013

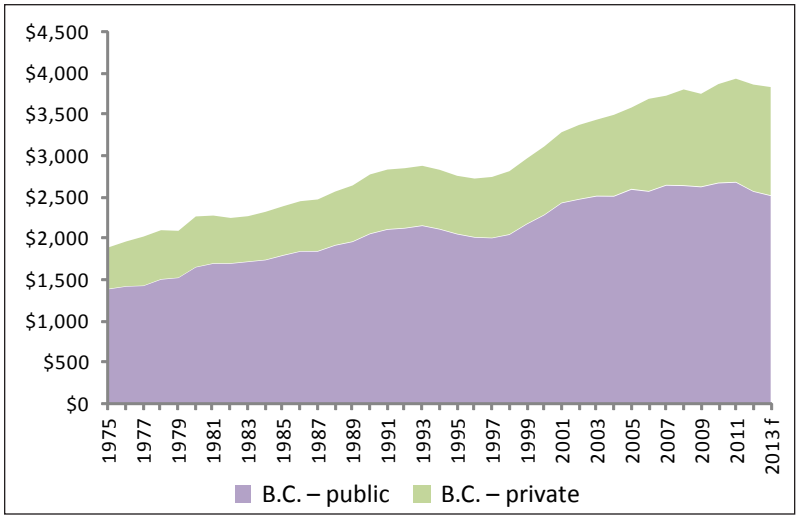
Figure 4. Total and Per Capita Health Care Expenditures in British Columbia and Canada, 1975 to 2013 (current dollars)

In 2012, health care expenditures accounted for 42 percent of the BC government's budget.

as a whole (Figure 4). BC's public per capita health care expenditures in 2013, however, were forecast at $3,978, among the lowest in Canada. Nevertheless, taking inflation into account, health care expenditures per capita have doubled since 1975, with private financing accounting for an increasing share of the total (Figure 5).

In recent years, as governments have introduced measures to contain costs and to increase efficiency, health care expenditures have been stable as a percentage of GDP and government budgets, although they have continued to grow in absolute terms. Yet they remain the largest single budget item. In 2012, they accounted for 42 percent of the BC government's budget, among

the highest in Canada,[69] a level which the government's 2014 budget indicated would continue for the near future.[70]



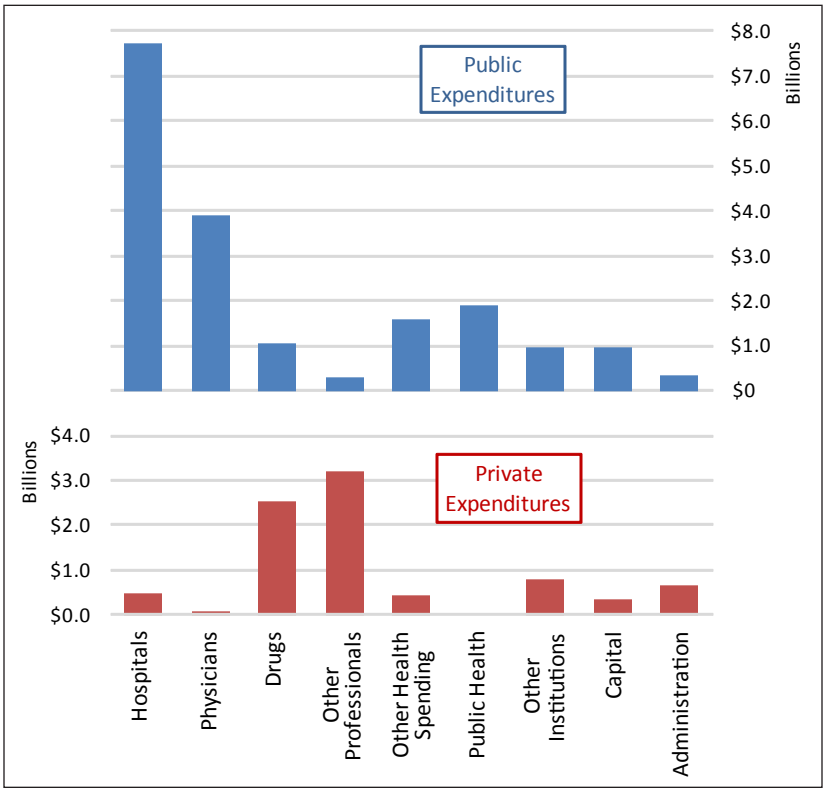
Source: CIHI 2013

Figure 5. Public and Private Per Capita Health Care Expenditures in British Columbia, 1975 to 2013 (constant dollars)

More significant than the overall level, however, is the composition of these expenditures. As has been the case for the last 40 years, the largest category of health care expenditure is for hospitals (Figure 6), despite having decreased by nearly a quarter since 1975, when it accounted for almost 40 percent of total health care expenditures. The second largest amount is for payments to physicians. Both of these are predominantly publicly funded, and together account for more than 60 percent of public health care expenditures, and 45 percent of total expenditures. The next two largest categories (drugs and other professionals) are predominantly privately funded, and together account for more than two thirds of all private health care expenditures, but only slightly more than a quarter of total expenditures.

69 Canadian Institute for Health Information, 2013b, p. 9.

70 British Columbia Ministry of Finance, 2014a; British Columbia Ministry of Finance, 2014b.



Source: CIHI 2013

Figure 6. Public and Private Health Care Expenditures in British Columbia by Use of Funds, 2013 (forecast)

British Columbia's Health Authorities

In 2003, the BC government amalgamated the province's 52 regional health authorities to introduce "a simpler, more accountable governance model for health service delivery."[71]

Most public sector health expenditures in BC are now channelled through Regional Services, which includes five Regional Health Authorities (Figure 7) and the Provincial Health Services Authority (PHSA), which is responsible for province-wide services including public health, emergency services and provincial agencies.[72] The health care services provided by the Health Authorities comprise acute care, residential home and community care, home care, corporate services, population health and wellness (prevention), and mental health and addictions. These services are provided by physicians and other health care practitioners. In 2011/12, according to the Office of the Auditor General of British Columbia, of the $15.5 billion of the Ministry of Health's total expenses, $10.5 billion, or

[71] British Columbia Ministry of Health Services, 2004.

[72] Health care services for the Nisga'a, a First Nation in northwestern B.C., are delivered by the Nisga'a Valley Health Authority, which is funded by the federal, provincial and Nisga'a Lisims governments.

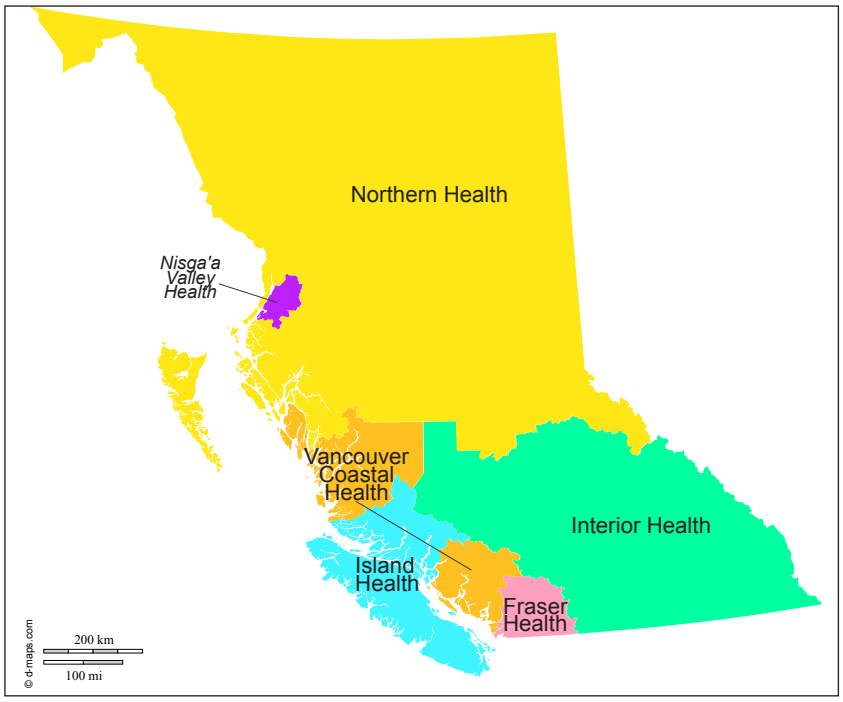
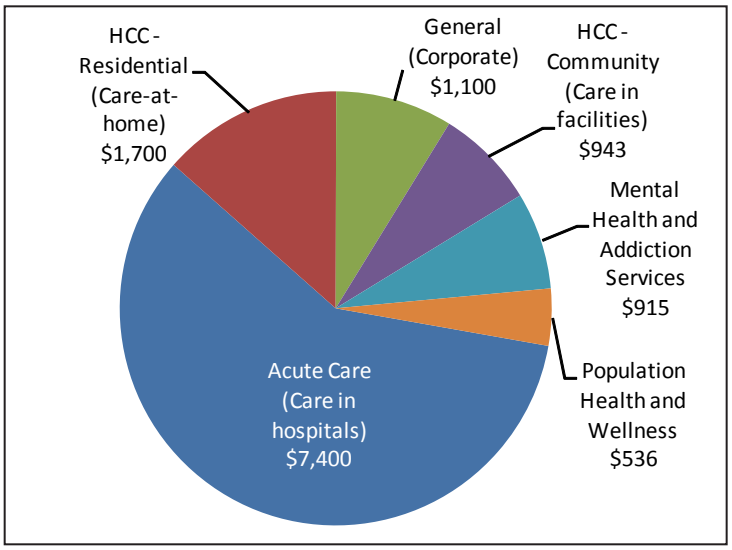


Figure 7. British Columbia's Regional Health Authorities

nearly 68 percent, was allocated to fund Regional Services.[73] With additional revenue from sources such as the Medical Services Plan, cost recovery, and contributions from other organizations, and excluding capital asset purchases



Source: Office of the Auditor General of British Columbia

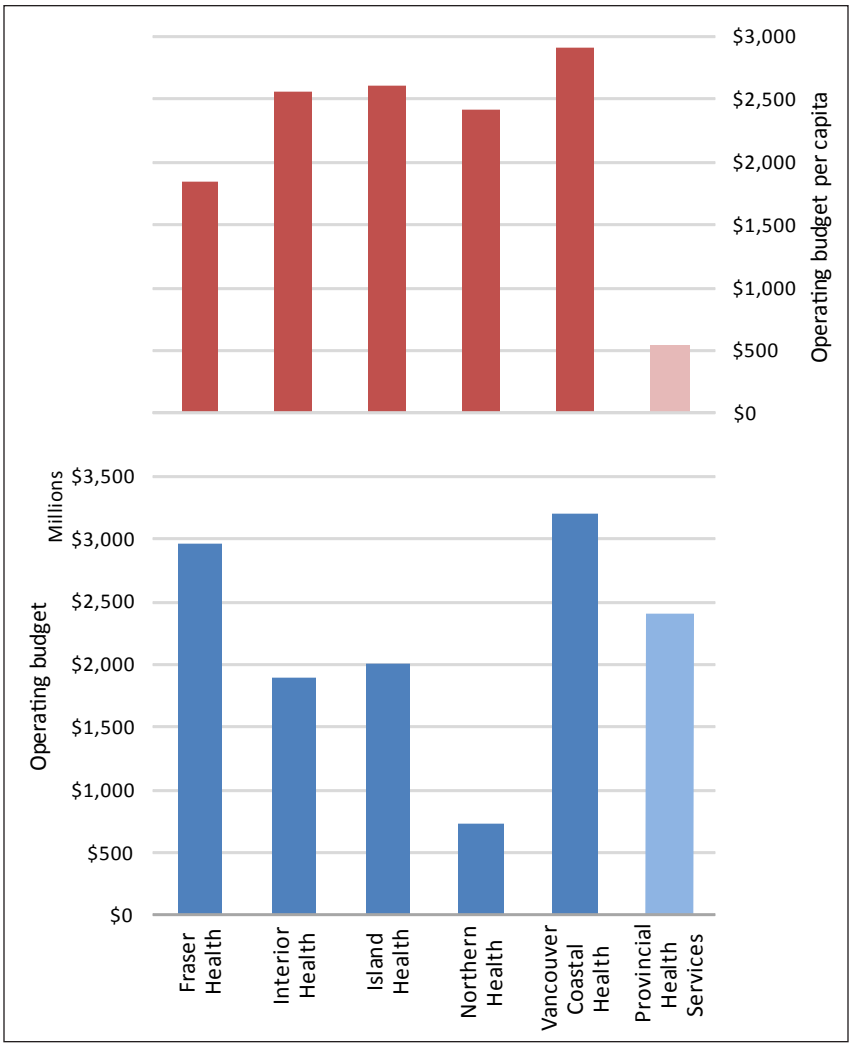
Figure 8. Allocation of Health Authority Expenditures, 2011/12
($ millions)

[73] Office of the Auditor General of British Columbia, 2013.

($622 million), total Health Authority expenditures amounted to $12.6 billion, the majority of which was allocated to acute health care (Figure 8).

Of the $10.5 billion provided by the Ministry of Health in 2011/12, $8.2 billion went to the Regional Health Services. $1.7 billion was allocated to the Provincial Health Services Authority, with smaller amounts going to specific expenditures such as Canadian Blood Services, out-of-province claims, and other services.

As outlined on the BC Ministry of Health website, the five Regional Health Authorities "provide a full range of services including public health, primary care, continuing care, hospital services, chronic disease management, mental



Sources: Health Authority websites

Figure 9. British Columbia Health Authorities Operating Budgets 2012-13

health and addictions, end-of-life care, and corporate services".[74] The Health Authorities vary widely in terms of size, population and operating budgets (Table 1), although in per capita terms their operating budgets are more even (Figure 9). Fraser Health in BC's lower mainland is the smallest in size but the most populous, whereas Interior Health and Northern Health have population densities of 3.1 and 0.5 persons per km^2, respectively. Northern Health, with the smallest population, has only four urban centres with populations over ten thousand, one of which (Prince George), accounts for nearly 30 percent of the region's population.

	SIze (km2)	Population served (millions)	Population aged 65 and over (%) (2010)	Staff	Staff per capita	Operating budget ($ bilion)
Fraser Health	15,600	1.60	14.2	22,000	14	$3.0
Interior Health	238,000	0.74	18.6	19,377	26	$1.9
Island Health	56,000	0.77	18.2	18,000	24	$2.0
Northern Health	592,000	0.30	11.1	7,000	23	$0.73
Vancouver Coastal Health	53,000	1.10	13.0	13,000	12	$3.2

Sources: BC Stats, HA websites, BCMA

Table 1. Regional Health Authorities: Area, Population and Budget, 2013

These geographic and demographic differences mean that the number and distribution of facilities and services vary widely among the Health Authorities. For example, in 2011 Interior Health had 22 hospitals and 11 health centres providing acute care, whereas Vancouver Island Health had 11 hospitals and 6 such health centres, despite their nearly equal populations,[75] yet the latter has more acute care beds (1,565 to Interior Health's 1,356).[76] Some Health Authorities (particularly Northern Health, Interior Health and Island Health) face challenges in the delivery of health services, particularly to residents of remote communities, as will be discussed below.

Geographic and demographic differences mean that the number and distribution of facilities and services vary widely between BC's regions.

The PHSA "operates provincial agencies including BC Children's Hospital and BC Transplant" and "is also responsible for specialized provincial health services like trauma and chest surgery, which are delivered in a number of locations across the province".[77] In 2013, the Emergency Health Services Commission (EHSC), responsible for three province-wide services (BC Ambulance Service, BC Patient Transfer Network and Trauma Services BC),

74 British Columbia Ministry of Health website, 2014b.

75 Barua and Esmail, 2011, pp. 68-68, 70-71.

76 Vancouver Island Health, 2014; Interior Health, 2014.

77 Provincial Health Services Authority, 2014.

became a division of the PHSA as BC Emergency Health Services,[78] to align the services EHSC provides more closely with the health care sector.

First Nations Health Authority

The First Nations Health Authority is intended to address the health disparities between First Nations people and others in BC.

In 2013, a seventh Health Authority, the First Nations Health Authority (FNHA), was introduced with responsibility for "the programs, services, and responsibilities formerly handled by Health Canada's First Nations Inuit Health Branch – Pacific Region".[79] Health Canada, the BC Government, and the First Nations Health Society together executed the British Columbia Tripartite Framework Agreement on First Nation Health Governance, and on October 1, 2013, Health Canada transferred its role in the design, management, and delivery of First Nations health programming in British Columbia to the FNHA. Some of the parties' specific commitments under the Agreement are:

i) planning, design, management and delivery of FN Health Programs by the FNHA;

ii) the building of a more integrated health system for First Nations under the new Health Governance Structure with the active participation of the governments of Canada and British Columbia; and

iii) performance and accountability requirements.

The FNHA is intended to address the health disparities between First Nations people and others in BC, and "to reform the way health care is delivered to BC First Nations to close these gaps and improve health and wellbeing", but "not replace the role or services of the Ministry of Health and Regional Health Authorities".[80] In concrete terms, it has taken over responsibility for the provision of federal health benefits for BC's Aboriginal people from Health Canada's First Nations and Inuit Health Branch.[81]

British Columbia's Health Workforce

According to the latest available data from the Canadian Institute of Health Information (CIHI) on the number of personnel in 27 selected health professions by registration, in 2011 there were 94,115 such professionals in

78 British Columbia Emergency Health Services, 2014.

79 First Nations Health Authority, 2014a.

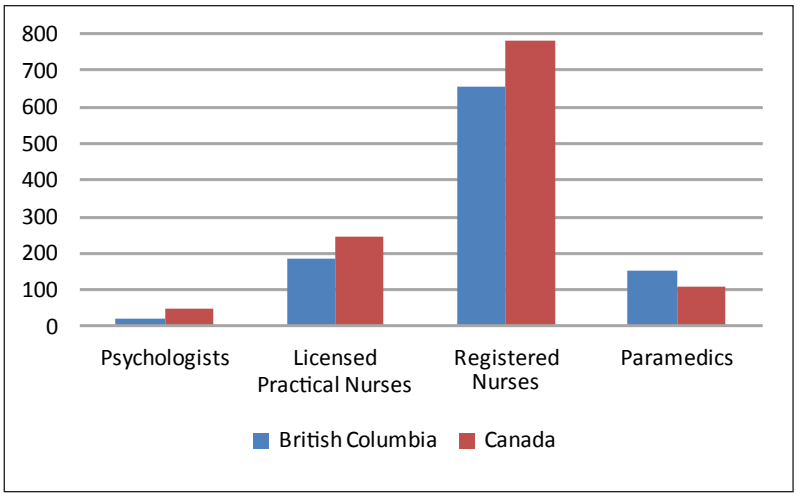
80 First Nations Health Authority, 2014b.

81 Health Canada, 2014b.

BC, accounting for 12.4 percent of the total in Canada.[82] Of these, over 10 percent were physicians and nearly 44 percent were nursing professionals. The remaining 46 percent were allied health professionals.

BC's per capita numbers were similar to those of Canada as a whole, with 2.1 physicians per 1,000 population, significantly lower than the OECD average of 3.2.[83] On this measure, Canada ranks 28 out of 34 OECD member countries. However, BC's topography has a significant effect on access to primary health care physicians, with limited access in areas outside the urban concentrations of population.[84]

There were 6.6 registered nurses per capita in BC, somewhat lower than for Canada as a whole. According to OECD data, on this measure Canada ranks 16 out of 34, just above the OECD average.[85] However, the number of psychologists per capita in BC was half that of Canada, and the numbers of licensed practical nurses and registered nurses per capita were 75 percent and 84 percent of those of Canada, respectively. On the other hand, BC has over 40 percent more paramedics than Canada as a whole (Figure 10).



Source: CIHI, 2011

Figure 10. Selected Health Profession Personnel per 100,000 Population, British Columbia and Canada, 2011

82 Data from Statistics Canada's 2011 National Household Survey, which includes health care personnel in 33 occupations, puts this figure at 143,545, or 13.3% of the total in Canada. However, this number includes 33,420 in "Assisting occupations in support of health services", many of which may not be considered health care professionals. For several reasons, the CIHI and Statistics Canada data are not comparable. Statistics Canada, 2011b.

83 Organization for Economic Co-operation and Development, 2013.

84 Crooks and Schuurman, 2012, pp. 6, 9.

85 *Ibid.*

A number of professions in BC saw a marked increase in numbers between 2004 and 2011, among them audiologists, dental hygienists, respiratory therapists, social workers, speech-language pathologists, midwives and licensed practical nurses. On the other hand, the number of physicians grew by only 2.6 percent a year in that period, and the number of registered nurses by only 1 percent, although these numbers are broadly in line with growth in Canada as a whole.

A recent concern is with the aging health workforce. The British Columbia Medical Association has reported that between 2001 and 2011, the percentage of BC physicians over the age of 55 increased from 27 to 40 percent. If present trends continue, BC may face a wave of physician retirements in the next ten years. And despite having more than doubled its medical education capacity since 2001, the province remained a net recruiter of physicians in 2011, relying on this to replace 25 percent of the doctors lost to attrition.[86]

Health Care System: Performance

On a number of measures BC's health system performs somewhat better than Canada as a whole.

According to CIHI, on a number of measures BC's health system performs somewhat better than Canada as a whole, particularly in terms of health promotion and disease prevention. On other measures, however, such as treatment wait times and hospital readmissions, BC fares worse.[87] Compared to other OECD countries, Canada's overall health performance is generally better than average, and performs well for care in the community and cancer care. For acute care outcomes, the results are mixed, and are poor for patient experience and patient safety.[88] In comparison with a group of peer OECD countries, both Canada and BC's performance on a number of indicators is high.[89] However, Canada's health care expenditures as a percentage of GDP places it among the top five OECD countries.

The Conference Board of Canada's 2013 report, *Paving the Road to Higher Performance: Benchmarking Provincial Health Systems*, concluded that BC was one of the top three provinces in Canada with respect to the overall performance of its health care system. However, this was primarily due to lifestyle factors and the health status of the population. In terms of health system resources (particularly nurses and hospital beds) and health care system performance (particularly screening and prevention services, and effectiveness), BC was one

86 British Columbia Medical Association, 2012, p. 8.

87 Canadian Institute for Health Information, 2014a.

88 Canadian Institute for Health Information, 2014b.

89 Canadian Institute for Health Information, 2014c.

of the worst performers, and scored low for appropriateness, patient-centredness and safety of care.[90]

Population Health Statistics

Analyses of BC's health care system need to take into account both overall population health statistics and more localized statistics for BC's different regions. This is of particular importance when considering how primary health care can best be integrated and the role that CP programs can play in such integration, as such programs are optimal when adapted to local circumstances and needs. BC's geographic and demographic diversity, as discussed above, is a factor in how its health care system performs, both overall and regionally.

In 2010, PHSA produced a report that detailed the health status of BC's population and provided both temporal and regional comparisons using a "compilation of 19 selected indicators measuring health behaviours, health conditions and well-being of British Columbians".[91] Although the data show that BC had the best indicators compared to other Canadian provinces, they also show that there are gender and regional inequalities in the province. In particular, "Northern Health Region had the highest rates not only in prevalence but also in the rate of increase for chronic conditions such as for hypertension, CVD and asthma".[92] Interior Health Region had the highest rates in the province for indicators related to aging and mental health, whereas Fraser Health Region "had both the highest diabetes rates and greatest rate of increase of diabetes".[93] Vancouver Coastal Region, on the other hand, "had the lowest age-standardized prevalence, compared to the provincial average, for all [six] selected chronic conditions".[94] The data did not, however, show any particular pattern of rural/urban inequalities.

Aboriginal people in BC, as in the rest of Canada, experience worse health than non-Aboriginal Canadians, due to the disparities they face in the socio-economic determinants of health—income, education, employment, food security and housing—and also the difficulties they have in accessing culturally appropriate health care, particularly on reserves in remote and rural areas.[95] The 2007 Provincial Health Officer's Annual Report stated that since 2001, of 57

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90 Conference Board of Canada, 2013, pp. iii, 63-64.

91 Provincial Health Services Authority, 2010, p. 4.

92 *Ibid.*, p. 61.

93 *Ibid.*

94 *Ibid.*, p. 51.

95 Harrison, 2013, pp. 1-2; National Collaborating Centre for Aboriginal Health, 2012, p. 9.

health indicators, only 18 had shown improvement, whereas 10 had worsened and 8 showed "increasing rates of chronic disease conditions".[96]

Government Priorities

A recent strategy document from BC's Ministry of Health acknowledges the challenges facing BC's health care system. In particular, it notes

> the continued need for a strategic and operational focus on improving health care interventions and services for a subset of seniors using a targeted population approach to better manage chronic conditions, avoid unnecessary emergency department visits and hospitalizations, and better plan for the impact of frailty on a senior's ability to continue to live safely in the community.[97]

This report indicates that the Ministry's priorities are to "[i]mplement a provincial system of primary and community care built around inter-professional teams and functions"[98] and "[e]xamine the role and functioning of the acute care system, focused on driving inter-professional teams and functions with better linkages to community health care".[99]

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96 British Columbia Office of the Provincial Health Officer, 2009, p. xxxi.

97 British Columbia Ministry of Health, 2014a, pg. 32.

98 *Ibid.*, p. 7.

99 *Ibid.*, p. 9.

British Columbia's Health Care Challenges

As is the case with other high-income countries, Canada's overall population is undergoing a demographic shift, with an increasing percentage of seniors and a decreasing percentage under the age of 15 (although there are regional differences due to factors such as the proportion of the Aboriginal population, which has a younger demographic). As a result of health care improvements over the last few decades, Canadians in general are living longer. Thus, the overall trend is towards an increasingly aged population that brings with it specific health impacts, which are compounded by social and environmental factors. In particular, the incidence of chronic disease is on the rise throughout Canada, and chronic disease management is an increasingly urgent health care system concern.

The incidence of chronic disease is on the rise throughout Canada, and chronic disease management is an increasingly urgent health care system concern.

BC's health statistics are among Canada's best, but its health system performs less well for community and home care. Coping with chronic disease to avoid unnecessary hospitalization is a major concern across Canada and for all mature economies (such as the OECD "peer group" discussed above). The primary consideration is that hospital-centric patient care leads to poorer outcomes in terms of quality of life. Avoidable visits to EDs and unnecessary hospital admissions exact a toll on patients and their family members, both in terms of stress and in terms of treatment, compared to health care provided in the community and home settings. A further consideration is that ED visits can be up to five times more costly than preventative interventions and treatment in the community.[100]

As studies have argued, in recent years BC's health care system has fallen short on its provision of home and community care for a number of reasons, including reductions in funding, insufficient system integration, and a leadership vacuum.[101] As well, the systemic transformation of health care delivery in response to the demographic shift, in a way that can enable the frail elderly and those coping with chronic disease to continue residing in their homes yet have access to the health care services they need, also involves a reorientation of the health care professions.

What is clear is that a hospital-centric acute care system is unsuitable for the present era's needs. Health care assistance and support needs to take place

[100] Canadian Institute for Health Information, 2011, pp. 30-31.

[101] Cohen et al., 2009.

earlier to avoid hospital admission, and in cases of discharge, to ensure that re-admission does not occur. In both cases, this is dependent on an understanding of patient needs and how best to address those needs in the patient's home and community. BC has not performed all that well in this regard, although different initiatives implemented by the various Health Authorities have shown promise.

Geography

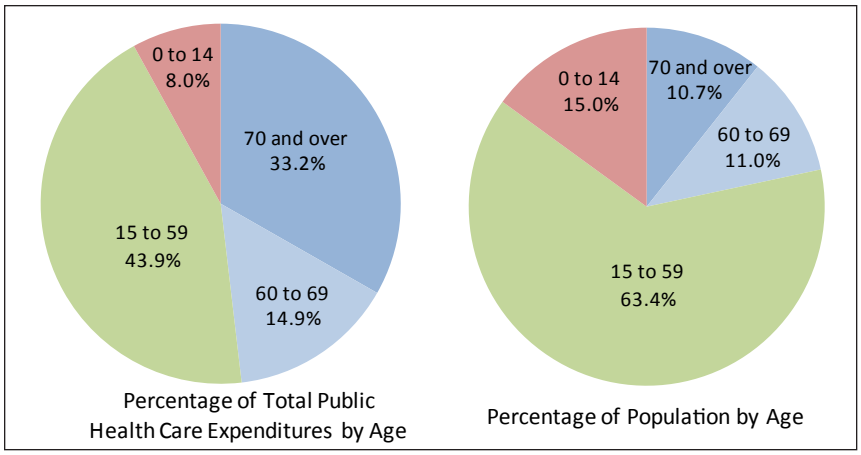
BC's geographic diversity also poses a challenge. For example, Northern Health is responsible for a huge geographic area with a sparse population (aside from a few urban areas), whereas Fraser Valley Health is responsible for a much smaller, highly urbanized region. Thus, Northern Health's challenges in health care delivery, and in particular, for home and community care, look very different from those of Fraser Valley Health. For the latter, most of the population are likely to live within a short distance of a variety of health care providers, Northern Health's population has far fewer, if any, choices. Other Health Authorities face equally diverse challenges. Interior Health's facilities are not evenly distributed, whereas Island Health has faced workforce retention problems.

Aging Population

As seniors age, their use of health resources increases significantly, due to the greater level of care they require both in coping with the impacts of chronic diseases and in managing activities of daily living. Those over the age of 60, who at present make up 22 percent of the population, account for nearly half of BC's total public health expenditures, and those over the age of 70 account for over 30 percent alone, although making up just under 11 percent of the population (Figure 11). Nevertheless, analyses indicate that aging was not the dominant factor driving health care cost increases between 2000 and 2011. For example, it is estimated to have contributed only 1.1 percentage points to the 6.5 percent annual average growth in expenditures on hospitals and only 0.6 percentage points to the 7.5 percent annual average growth of expenditures on physicians.[102]

However, if the percentage of those of working age continues to fall compared to those aged 65 and older, a consideration in the future will be the changing dependency ratio, i.e., the ratio of the number of people of working age to those younger and older. Those of working age provide much of the tax

[102] Canadian Institute for Health Information, 2013a, p. 57.



Sources: CIHI, Statistics Canada

Figure 11. B.C. Public Health Care Expenditures and Population by Age, 2011

revenue that supports health care delivery. This ratio is offset slightly by the decline in the percentage of those aged 0 to 14, but as the latter have a much lower per capita use of health resources, the implication is that providing health care for an aging population will put government budgets under increasing pressure.

Another implication of the projected demographic shift towards an increasingly aging population is its impact on health human resources, as older health professionals reach retirement age. Although this opens up positions for new entrants to health professions, a reduction in the workforce as a proportion of the population means that, without active strategies, it is possible that there will be a shortfall in the numbers of health professionals needed to cope with the health impacts of this shift itself. Finding ways to address such pressures is a significant challenge for health care systems in the future.

One avenue for doing so is to take steps to encourage a reduction in the use of hospitals, particularly the use of 911 and ED visits for health problems that could be treated in the community with appropriate support. It is estimated that such avoidable ED visits are up to three times as costly as treatment by a physician, and such costs can be further reduced when the required care is delivered by allied health professionals. Although the level of specific care provided by EDs in BC is generally very high, it is episodic and lacks the continuity required by aging patients coping with frailty and chronic diseases. Furthermore, it is hospital-centric, meaning that patients must travel to the hospital for treatment. This can be difficult for seniors with limited mobility, which contributes to more frequent use of 911 in non-emergency situations.

One way to address many, if not all, of these challenges is to shift both the location of health care and its orientation, as has been recently recognized by BC's Ministry of Health. Providing care in the home and community allows different health professions to deliver care in a collaborative way, which places patients at the centre and involves them in managing their own health care. Such interprofessional care allows for the appropriate mix of skills from different health care professions, and thus more tailored, yet also less expensive, health care provision. It also addresses at-risk patients' need for monitoring, and creates a network of practitioners that can adapt to a patient's changing needs.

Involving patients in their own care decisions depends on effective and appropriate communication with patients.

Although this approach has been piloted in some Health Service Delivery Areas in BC with positive results, it has proven difficult to implement province-wide, for a number of reasons. As studies by the Canadian Centre for Policy Alternatives have discussed,[103] providing an integrated system of home and community care involves fundamental reorientations in the health care system. First, reorienting a system as complex as health care requires sustained effort and leadership. Second, it also requires changes in the financial aspects of the health care system, both to provide the increased financial support to bring about such changes and to get the incentives for doing so right. Third, it depends on fostering a willingness and trust among health care providers to collaborate effectively, which can be difficult to encourage in a system that has evolved into a number of different delivery "silos". Fourth, and related to this, because home and community care needs to be patient-centred, rather than profession-centred, it depends on an effective system of case management that can coordinate the delivery of services in a way that is responsive not just to patients' medical conditions, but to their needs as persons. Involving patients in their own care decisions requires a different approach from one where the health care professional "knows best". In particular, it depends on effective and appropriate communication with patients.

Chronic Disease Management

As the available data show, the incidence of chronic disease has been increasing in recent years.[104] While this is in part due to the onset of chronic diseases in later years of life, and thus is related to the aging population, it is also due in part to lifestyle changes and environmental factors such as diet. Successful management of patients' chronic diseases has been shown to reduce the use of more costly health resources by reducing the incidence of episodes that require acute care. For example, successful management of diabetes can prevent episodes of diabetic coma, and early intervention and treatment of chronic diseases that

[103] Cohen et al. 2009; Cohen, 2012.

[104] British Columbia Medical Association, 2012.

impair motor functioning can prevent falls in the home. However, similar to the health care system challenges posed by the aging population, providing the right care at the right place and time for people coping with chronic diseases has proven challenging, not only in terms of successful interprofessional collaboration, but also in the availability of facilities such as clinics and health centres that are open after hours or 24/7. Where such facilities are lacking, the ED becomes the default option.

Rural and Remote Communities

A further challenge facing rural and remote communities, such as those in several Health Service Delivery Areas in B.C., is the lack of local facilities and services.[105] One reason for this is that the size of the local population may be too small to financially justify full-time provision of services such as physiotherapy and occupational therapy. Another is that local service delivery in such communities can be more expensive because of their remoteness. But if these services are provided by visiting professionals who are unfamiliar with and have no ongoing relationship to the community and the patients, uptake by residents may be low, thereby leading to a further reduction in services.[106] Likewise, 911 calls may be too infrequent to justify a 24/7 ambulance station or an after-hours clinic. As a result, when emergencies do arise, residents have fewer options than their urban counterparts, although they face similar health conditions.

An ongoing challenge for many of BC's remote and rural communities is in recruiting and retaining health care practitioners to work in these locations, particularly if the positions are only part-time.

Remote and rural communities thus pose additional complications in addressing BC's health care system challenges, as it is more difficult to provide patient-centred, collaborative home and community care when the services and, more importantly, the health care professionals are lacking. An ongoing challenge for many of BC's remote and rural communities is in recruiting and retaining health care practitioners to work in these locations, particularly if the positions are only part-time.

Increasing access to the right care at the right time in the right place is at the top of most provincial healthcare agendas. Many health care reform strategies are directed at increasing access to health services in rural and remote communities to ensure that patients have access to the care they need before more costly acute care is required. Porter's analysis of the principles of a high-value health care delivery system explains that better health is far less expensive than poor health:

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105 See, for example, Vancouver Island Health, 2013, p. 2.

106 Crossland, 2011.

> the faster individuals achieve or regain their health and sustain it, the lower the true costs in the system will be. Better health outcomes have a powerful effect on costs in the long term. Earlier detection, correct diagnosis, appropriate treatment, less invasive treatment methods, and other steps that improve outcomes can also dramatically lower direct costs, not to mention the indirect costs of poor health, such as lost work time, immobility, and others.[107]

The Canadian Health Services Research Foundation has argued that "poor accessibility in the primary health care system has a significant impact on the overall health care system efficiency and sustainability and on patient outcome".[108]

Changing Roles for Changing Professions

If the focus on home and community care is a way to address BC's health care challenges, success depends also on patients' perception of provision of services.

A final consideration relevant to the challenges facing BC's health care system has to do with the evolving roles of health care practitioners. As indicated above, addressing these challenges through better home and community care for aging populations and those coping with chronic diseases entails that the health care professions involved need to collaborate in a patient-centred way. However, the structure of the health care system itself may, in fact, work against this. Although particular health care services (e.g., wound dressing, vital signs monitoring, medication monitoring, wellness checks) can be delivered by a variety of health care practitioners, the perception of the care thus provided also depends on *patients'* understanding of the professions involved. In BC, as in other provinces, many health care professions are self-regulated under an umbrella act (for BC, the *Health Professions Act, 1996*) and thus are subject to the same standards of professional practice. However, lack of public familiarity with some of these professions and their expertise may mean that the understanding of them is dependent on personal experience with the respective practitioners. In the absence of such experience, it may be less likely that the collaborative, patient-centred care required for successful home and community care can be achieved. That is, different health care professions may be able to provide identical care, but if patients are unaware that this is in fact part of the expertise of a particular profession, they may be reluctant to take advantage of that care when offered.

This is of particular relevance in cases, such as community paramedicine, where health care practitioners move into an expanded role. As Crossland's research showed, most residents of rural communities in Queensland, Australia had little knowledge of paramedics' skills and training, which suggested that

[107] Porter, 2008, p. 145.

[108] Canadian Health Services Research Foundation, 2012, p. 8.

they might be unlikely to take advantage of community paramedic services. Although this is relevant to considerations for the introduction of CP programs in BC, it has wider implications as well. If the focus on home and community care is a way to address BC's health care challenges, the success or lack thereof is not just dependent on the provision of *services*, but also on patients' *perception* of that provision. To "right care, right time, right place", as a recent strategy by the Government of Ontario puts it, needs to be added "right practitioner", which means not only the most appropriate practitioner, but also the most acceptable. Without a concerted effort to inform the public about the roles and skills of their health care practitioners, the danger remains that patients will instinctively turn to physicians and nurses, and failing that, to the ED, thereby defeating the purpose of integrated health care.

Characteristics of Paramedic Skills and Training

The Origins of Paramedicine

> Paramedicine is positioned at the intersection of health care, public health, and public safety. Owing its existence to each, the Paramedic is cross-trained in each of these areas. As a result, a synergy occurs among the knowledge from these three areas and the result is paramedicine, a unique body of knowledge which is exclusive of its origins.[109]

Paramedics today predominantly operate in standardized systems of Emergency Medical Services (EMS), for which the ambulance is emblematic. Although there is wide public familiarity with EMS, such systems are of surprisingly recent origin, particularly in North America, having only been established in the 1960s. They also have a complex history, with roots in military medicine and public safety, as well as civilian emergency medicine. In the relatively short time that it has existed, then, the paramedic profession has evolved from the performance of what was essentially a transport role (the "ambulance driver") to one that includes the performance of a variety of clinical tasks in the out-of-hospital (and sometimes the in-hospital) environment; scene management; psycho-social skills in dealing with patients and others in the environment; and the skills and training required to safely transport patients facing a range of health conditions. However, much of this development in the profession has taken place out of public view, with the result that paramedic practice is poorly understood not only by the public, but also by other health professionals. In fact, with the exception of those that regularly interact with paramedics, such as ED nurses, emergency physicians and, notably, midwives, it would appear that there is generally a poor understanding of paramedic practice on the part of other health professionals.[110]

The practice of transporting the ill to a place where they might be treated (often, their own homes) and the wounded from the battlefield has existed for centuries, if not millennia. But, as Bell (2009) notes in *The Ambulance: A History*,

> A true ambulance…is a specialized vehicle with a particular destination—namely, a hospital or its like—and incorporates in its design haste in

[109] Beebe and Myers, 2009, p. 4.

[110] Crossland, 2011.

> dispatch and speed in delivery. In this way, the ambulance…is actually a vessel for a host of medical ideas…Without hygiene, pharmacy, surgery, and recuperation there is no healing art…[111]

The development of the "true" ambulance occurred during the Napoleonic wars, when a French military surgeon named Dominique-Jean Larrey sought to address the lethal deficiencies in the standard practice of collecting the wounded. At that time, the practice was to keep field hospitals several kilometres away from the battlefield, and the wounded were brought to these hospitals when convenient, often with delays of 24 hours or more, which not surprisingly meant that many of them died. Larrey's innovation was to create *ambulance volante*, or "flying ambulances", using light, mobile transport wagons carrying physicians and their assistants on to the battlefield to provide the wounded with first aid, and then to transport them to the field hospitals for further treatment.[112]

Larrey's system, then, contained all of the elements commonly found in many of our present-day civilian emergency medical services: highly mobile transport units operated by staff able to provide the treatment necessary to transport a patient in need of acute care for further treatment at a hospital. But such designated services for civilians did not appear in North America until quite recently, once again because of a transportation-related phenomenon.[113] Prior to the late 1960s, patient transport services in North America were generally provided on an ad hoc basis that depended on the availability of a vehicle capable of transporting a prone patient. In many parts of the U.S. and Canada, particularly in smaller centres of population, this meant the funeral hearse.[114] Such services were provided, whether voluntarily or otherwise, by individuals who had little first aid, let alone medical, training.

Prior to the late 1960s, patient transport services in North America were generally provided on an ad hoc basis.

In the meantime, military paramedic practice continued to evolve, including the introduction of air evacuation of casualties in World War II, with the further development of the use of helicopters for this purpose in the Korean War. More significant, however, was the introduction of triage and treatment of the wounded by medics prior to transport and treatment at a field hospital, a procedure that dramatically increased survival rates, and was to become one of the motivating factors for the development of civilian EMS. In 1966, the U.S. National Academy of Sciences issued a report entitled *Accidental Death and Disability: The Neglected Disease of Modern Society*, which focussed

111 Bell, 2009, p. 3.

112 *Ibid.*, ch. 3.

113 In Europe, such services appeared earlier, under a different model, sometimes referred to as the "Franco-German model", in which out-of-hospital medical services are provided primarily by emergency physicians rather than paramedics, and treatment is often rendered on-scene. The two different systems are sometimes called "stay and play" and "scoop and run". Cf. Chung, 2001, pp. 85, 88.

114 National Academy of Sciences, 1966, pp. 13-14.

on the human and financial costs of accidental injuries, in particular those caused by traffic accidents. It highlighted the fact that soldiers wounded on the battlefield had a higher survival rate than highway accident victims because those providing treatment on the battlefield were properly trained medical personnel.[115] This report, in conjunction with the rise of emergency medicine as a field of specialization for physicians,[116] resulted in the establishment of standardized EMS systems in North America, involving 911 emergency call systems, ambulances built to provide a suitable environment for patient transport and, most of all, operators trained in the clinical skills to provide the treatment necessary to ensure safe patient transport. [117] The convergence of government and physician support gave rise to the modern North American EMS system. It also placed ambulance services on par with firefighting and police services, as a key component of public safety.[118]

Over the past four decades, paramedic practice has continued to develop in parallel with medical and technological advances such that, today, paramedics are highly trained professionals equipped with the clinical skills necessary to deliver health care services, whether in the out-of-hospital emergency environment, or as mobile health care providers in the community. However, this unique intersection of skills and roles also seems responsible for a lack of understanding of paramedics and their scope of practice on the part of both the public and other health care professionals. Because paramedics also drive the ambulances out of which they work, they are sometimes still thought of as just "ambulance drivers", yet even a cursory examination of their educational requirements is enough to dispel such a notion.

Paramedic Scope of Practice and Training

This section focuses on the categories of Primary Care Paramedic (PCP) and Advanced Care Paramedic (ACP), as these two categories comprise the vast majority of paramedics in BC (89 percent and 8 percent, respectively, of all practitioners holding "paramedic" designations), and therefore are of most relevance to the implementation of CP programs. Critical Care Paramedics (CCPs) have the widest scope of practice, but account for less than 2 percent of BC's paramedics.

In BC, all paramedics are licensed by the Ministry of Health's Emergency Medical Assistants Licensing Board which, under the *Emergency Health Services*

115 *Ibid.*, p. 12.

116 Simpson, 2013, pp. 163-197.

117 National Academy of Sciences, 1966, pp. 15-17.

118 van Stralen, 2008.

Act [RSBC 1996] Ch. 182, "sets licence terms and conditions, and mandates competency requirements. In addition, the board investigates complaints and conducts hearings where necessary". The *Emergency Medical Assistants Regulation B.C. Reg. 210/2010* progressively specifies the categories of licence and the services (or restricted activities) each category is permitted to perform. The services specified for the ACP level include all of those at the PCP level. BC's PCPs and ACPs are highly trained in assessment, diagnostics and therapeutics. They are also trained to deliver services in uncontrolled environments and are well-versed in interpersonal communication and patient management. Their scopes of practice, then, are highly suitable for delivering the kinds of services involved in CP programs.

Currently, paramedic training in BC is accredited by the Canadian Medical Association, and therefore follows the National Occupational Competency Profile for Paramedics (NOCP) developed by the Paramedic Association of Canada. The NOCP sets out eight competency areas and general competencies for each, which cover:

1. Professional responsibilities;
2. Oral, written and non-verbal communication skills and interpersonal relations;
3. Health and safety in work practice;
4. Assessment and diagnostics, including conducting triage, obtaining patient history, conducting physical assessment, assessing vital signs and using diagnostic tests;
5. Therapeutics, including maintaining airway patency, preparing oxygen delivery devices and delivering oxygen, administering manual ventilation and using ventilation equipment, maintaining hemodynamic stability, providing basic care for soft tissue injuries, immobilizing actual and suspected fractures, and administering medications;
6. Integration, including using differential diagnosis skills, decision-making skills and psychomotor skills in providing care to patients, providing care to unique patient groups, and conducting ongoing assessments;
7. Transportation, including preparing an ambulance for service, driving an ambulance or emergency response vehicle, transferring a patient to air ambulance, and transporting a patient in air ambulance;
8. Health promotion and public safety, including integrating professional practice into community care, contributing to public safety through

collaboration with other emergency response agencies, and participating in the management of a chemical, biological, radiological/nuclear, or explosive incident.

The specific sub-competencies under each of these general competencies are progressively specified for each of four levels (EMR, PCP, ACP and CCP).

As the role of community paramedicine continues to evolve and paramedic practice is expanded, additional training is also required.

However, as the role of community paramedicine continues to evolve and paramedic practice is expanded, additional training is also required. Educational institutions offering paramedic training in Canada do not have any specific formal components directed at community paramedicine training. Many EMS or Paramedic Services in Canada currently offering CP programs recognize that, as these programs are introduced or expanded, appropriate training is required. To that end, many services offer in-house training programs. These vary considerably across programs, ranging from a one-hour information session to custom-designed on-line training modules and formal clinical classes. For example, in the Expanding Paramedicine in the Community (EPIC) program in Ontario, paramedics underwent a six week education program run by Centennial College, completed electronic medical records training, data entry training, and a communications course in order to assess and treat patients under the medical delegation of the patient's primary care physician.[119] Typically, training programs are designed to inform of a new process or program, increase knowledge in a specific area, and/or enhance paramedic skills.

Internationally, there are several programs that train paramedics specifically for community paramedicine roles. In Australia, for example, the Queensland Ambulance Service in collaboration with Queensland Health offers a one year graduate certificate in rural and remote paramedic practice. An evaluation of the experience of its graduates concluded that "the overall course was effective in training rural and remote paramedics to undertake a more substantial health provider role within their community".[120] In the US, the Community Healthcare and Emergency Cooperative has developed a community paramedicine curriculum that is provided free of charge to educational institutions. "The curriculum covers CP roles in public health and healthcare; social determinants of health; cultural competency; community roles, including health assessment and community resources; personal safety; and professional boundaries. The clinical component addresses sub-acute, semi-chronic patient needs".[121]

Although research on the effectiveness of extended care paramedic training is not abundant, one study is worth noting. Mason et al. completed a cluster-randomized controlled trial to evaluate the safety of clinical decisions made by

[119] University of Toronto Department of Medicine. n.d.

[120] Reeve et al. 2008, p. 375.

[121] Patterson and Skillman, 2012. p. 5.

extended-role paramedics working for the South Yorkshire Ambulance Service in the UK. This evaluation suggested that paramedics trained with extended skills treating seniors with minor acute conditions in the community are as safe as standard EMS transfer and treatment in the ED.[122]

[122] Mason et al., 2008.

Community Paramedic Programs

Overview

The International Roundtable on Community Paramedicine defines community paramedic programs as

> a model of care whereby paramedics apply their training and skills in "non-traditional" community-based environments (outside the usual emergency response/transport model). The community paramedic may practice within an "expanded scope" (applying specialized skills/protocols beyond that which he/she was originally trained for), or "expanded role" (working in non-traditional roles using existing skills).[123]

CP programs have been part of the health care landscape for over two decades in countries such as Australia, New Zealand, the UK and the US, but are a relatively new and evolving model of health care delivery in Canada. Although titles and models of care may differ between countries, the important differentiating characteristic of the community paramedic is the provision of non-traditional EMS health care services, either through the use of already existing EMS personnel delivering CP program services while not on an emergency response (911) call or through dedicated CP program personnel.

Historically, CP program models evolved out of the need to address issues of access to health care services in rural and remote areas. However, in recent years, as a result of the demographic shift, more CP programs are being introduced or expanded to address health care issues specific to the elderly and chronic disease management in both rural and urban settings. As Wingrove and Laine argue,

> Paramedics and EMTs [Emergency Medical Technicians] are among the logical choices for extending health care services because they are already trained in the fundamentals of patient assessment and medical treatments and they are already integral members of the communities, resources, and existing health services, most especially, the people living in the communities.[124]

The variety of CP program models offered in Canada and abroad is extensive, as programs are designed to meet the specific needs of the communities in which

[123] International Roundtable on Community Paramedicine, 2013.

[124] Wingrove and Laine, n.d. p. 32.

they are offered. Over the past decade, CP programs have been implemented in many provinces, with Ontario being the most active. A survey completed in 2013 showed that, currently, over 50 percent of Ontario residents live in areas with one or more active CP programs. By the end of 2014, this is expected to rise to more than 80 percent.[125] In January 2014, the Ontario Ministry of Health and Long-Term Care (MOHLTC) announced an investment of $6 million to support the expansion of community paramedicine initiatives across the province.[126] Over the past decade, many CP programs in Canada have been evaluated, with encouraging results. For example, an evaluation of Alberta Health Services' home visit program in Calgary concluded that it had "improved access to primary care for local seniors and eased pressures on the city's emergency departments".[127]

The Nature of Community Paramedic Programs

The innovative character of CP programs is a result of paramedics' unique combination of skills and field experience, which allows such programs to be targeted to address health care gaps in a way that increases overall health care system effectiveness and efficiency by providing patients with the right care at the right time in the right place. However, in order to be successful, the implementation of CP programs has to take into account local community conditions such as existing health care facilities and organizations, available health human resources, current health care gaps, and the broader context such as distance from EDs and speciality clinics. The different contexts of remote, rural and urban settings, the range of services that CP programs can provide, and their appropriateness for different settings and conditions are key considerations, as case studies of successful implementations of CP programs demonstrate.

Classifying CP programs

There is little consensus about the classification of CP programs. The nomenclature used to describe programs also varies. For the purpose of this discussion, CP programs are classified into four types: referral programs, clinics, home care, and community education. Although the outcomes of each CP program vary, in general they fall under one or more of the following:

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125 County of Renfrew Paramedic Service, 2013, p. 4.

126 Ontario Ministry of Health and Long-Term Care, 2014.

127 Alberta Health Services, 2013b.

- Decrease in 911 responses
- ED diversion—decrease in 911 transports
- Decrease in hospital and long-term care admissions
- Improved health outcomes
- Improved patient access to the right services
- Improved patient and caregiver satisfaction
- Improved patient transition across service providers
- Optimized health human resources
- Improved cost-effectiveness

Referral Programs

Referrals are made by paramedics based on a determination that a patient is in need of additional health care or support services. One of the most common referral CP programs adds this service to 911 response, such that if paramedics determine that a patient would benefit from additional health care or support, they can refer the patient to an appropriate organization. In some jurisdictions, such referrals can be an alternative to transport to ED, but in others, such as BC at present, unless the patient refuses, paramedics have a regulatory obligation to transport. CP program referrals are also made in other settings, such as during a home visit or while assessing a patient at a clinic, where such CP services are already operative.

One example of a referral program is the Community Referral by EMS (CREMS) in Ontario. A recent survey in Ontario identified 11 Paramedic Services with a CREMS program. Paramedic Services have partnered with the Community Care Access Centers (CCACs), which help the public access government funded home and community services. Once a referral is received, the CCAC follows-up with the patient and connects them with the appropriate community health care service. Since the adoption of the CREMS program, paramedic services in Ontario have reported a reduction in 911 calls and a reduction in transports to hospital. Although not all programs use the same referral criteria, patients that present with one or more of the following conditions are typically seen as those who would benefit from a referral to a local health organization (e.g., primary care, mental health/crisis centers, community clinics, support service agencies):

- Mobility issues
- Frequent falls
- Cognitive impairment
- Need for dressing changes
- Skin conditions
- Catheterization
- Chronic conditions
- Multiple medications or compliance issues
- Palliative patients awaiting nursing home admission
- Mental health
- Drug addiction
- Social isolation
- General problems with daily living
- Potential abuse
- Poor living conditions

During the assessment, the paramedic may or may not require consent (depending on local protocol) to share the patient's personal health information with the local health organization for follow-up.

A number of assessment tools have been developed to evaluate whether the patient would benefit from a referral. For example, in Alberta, the Elderly Falls Screening Tool was developed to identify patients at risk of frequent falls. The screening test divides patients into low-, moderate- and high-risk groups.[128] Another example is a checklist developed as part of the Paramedics Assessing Elders at Risk for Independence Loss (PERIL) study. On scene, the paramedic completes a structured checklist comprising 42 predictor variables observed in the client's home, in order to identify older adults at high risk for adverse outcomes.

Clinics

A few provinces in Canada have introduced CP program clinics. A number of wellness clinics have been implemented, which typically provide general assessment, vital signs and blood glucose monitoring and recording, medication and nutrition checks, immunizations, health education and referrals to appropriate agencies.

[128] The City of Edmonton Community Services, 2009.

- An example of an innovative clinic is the Health Bus in Saskatoon. This bus is staffed with nurse practitioners and paramedics and travels to poorer parts of the city and nearby First Nations to offer health checks, chronic disease management, health education, wound care, flu shots and referrals.[129]
- The City of Toronto currently offers immunization clinics that provide seasonal vaccinations to select populations, including EMS, fire, police, long-term care home staff, vulnerable populations and homebound clients.

Home Care

CP programs provide a variety of services to patients in their homes, including immunizations for vulnerable populations (homeless shelters, senior lodges), home visits to patients who are eligible for long-term care placement but want to remain living in their own homes, and drop-in home visits to patients in the community who have been identified as vulnerable in some respect (e.g., frequent 911 callers, poor living conditions). Some programs are highly formal, whereas others are more ad hoc. Examples of innovative home care CP programs in Canada are abundant:

- The flagship Long and Brier Islands program was implemented to address an issue of access to health care in a remote location. This is one of the few programs in Canada that has undergone a longitudinal study to assess the cost effectiveness and outcomes of the program.[130] Long and Brier are two remote islands in Nova Scotia. The only access is by ferry, and transportation from the furthest island, Brier, to the nearest hospital in Digby can take up to an hour and includes two ferry legs. The inhabitants of the islands have been without a resident doctor for many years. The only health care providers the 1240 permanent residents had access to were paramedics and a foot care nurse. 911 responses averaged one emergency call every three days. In an effort to make better use of the paramedics stationed on these islands, Nova Scotia's Emergency Health Services introduced a nurse practitioner (NP) – paramedic – physician model in which residents received primary health care and emergency services from an on-site NP and paramedic and an off-site physician. The longitudinal study showed positive outcomes and concluded that "the innovative model of care resulted in decreased cost, increased access, a high level of acceptance and satisfaction and effective collaboration among care providers".[131] Within

[129] MD Ambulance, 2009.

[130] Martin-Misener et al., 2009.

[131] *Ibid.*, p. 1.

a year, ambulance trips dropped by 25 percent and ER visits by residents of the islands fell 40 percent. The cost of health care for residents of the small communities fell from an average of $2,380 to $1,375.[132]

- In Calgary, specially trained paramedics provide additional support to multidisciplinary health care teams in nursing homes and long-term care facilities. The paramedics provide routine care on-site, including ECGs, collecting specimens, catheterization, rehydration and wound care. During the first year of implementation of this program, 700 ambulance trips to the ED were avoided.[133]

- In York Region, Ontario paramedics visit 3 emergency shelters one day per week to provide health assessments and referrals to other health care community services.

- In Winnipeg, a paramedic has been placed full-time in a downtown detox centre. An evaluation of the program showed that, during the first five months, the paramedic attended to 8,000 patients of whom only 161 were sent to ED. This represented a significant drop from the 350-400 patients transported to ED over the same period in the previous year. Building on the successes of this program, Winnipeg recently launched a program that provides similar community paramedic services to two inner-city personal care homes and the Salvation Army building.[134]

- The Aging at Home program introduced in the County of Renfrew, Ontario allows seniors to continue living at home. The program's main goal is to improve clients' quality of life by reducing the need for 911 calls. It does so by identifying and removing hazards, ensuring medications are being taken as prescribed, taking monthly vitals, collecting medical histories, and educating clients about their medical conditions. Paramedics are also available to transport clients to hospital for appointments and other non-emergency reasons.[135]

- In 2011, Nova Scotia's Emergency Health Services launched a collaborative initiative to deliver timely, enhanced non-emergency and emergency medical services in nursing homes. The catalyst for introducing this program was a data review that revealed that many 911 transports to hospital from nursing homes involved transfers for non-emergency procedures. Although the nursing homes employ in-house registered nurses, their ability to provide on-scene treatment is limited. Paramedics received specialized training tailored

132 Picard, 2014.

133 Picard, 2014; Alberta Health Services, 2013a.

134 Winnipeg Health Region, 2013; Picard, 2014.

135 County of Renfrew, 2011.

to the needs of nursing home patients. A dedicated physician provides medical oversight and coordinates necessary treatments or transports. An evaluation of the program reported that, after 41 weeks, the extended care paramedics attended 599 nursing home calls, for which 73 percent of the patients were treated on-site without the need for transport to hospital.[136] Dr. Andrew Travers, Emergency Health Services Provincial Medical Director, noted that the program is the first of its kind in Canada. "We have previously brought primary health care to patients. This is bringing acute care to patients. It's new and novel."[137]

Community Education

CP community education programs cover a range of health education and promotion activities, and are offered both in the home (e.g., fall prevention and home safety education) and in community settings (e.g., CPR training and car seat safety).

136 Nova Scotia Emergency Health Services, n.d.

137 Moulton, 2011.

Considerations for Implementing Community Paramedic Programs in British Columbia

As the discussion has shown, CP programs are a highly appropriate addition to the range of health services currently provided in BC, as they are particularly suited to collaborative and integrated home and community care. As well, through better use of health human resources, such programs can contribute to paramedic recruitment and retention, particularly in rural and remote areas. However, any implementation of CP programs needs to take context into account. First of all, as previously discussed, the skills and expertise of paramedics are not well understood by the public and even by other health care practitioners. Second, the different geographic and demographic contexts of the regions in which BC's Health Authorities operate mean that they face different challenges and have different needs, for which some CP programs may be more appropriate than others. As the U.S. Department of Health and Human Services stated, "each of the successful programs now in place across the country was uniquely and specifically designed to meet one or more health care needs essential to that community".[138] Third, health care service delivery gaps may be quite localized, meaning that a CP program appropriate for one context may be less so in another.

CP programs are particularly suited to collaborative and integrated home and community care.

Understanding Paramedic Practice

As Crossland's study of health care delivery in rural Australia indicated, the public may have little awareness or understanding of paramedics' skills and expertise, due in part to episodic and infrequent exposure. Similarly, it has been pointed out that "[o]ther health providers often do not fully understand the skills and expertise of EMS personnel, a barrier that must be overcome before introducing the concept of CP".[139] Again, this is due in part to the fact that paramedics work most often in isolation from other health care practitioners, both in terms of setting and practice. Thus, the very aspects of paramedic

[138] U.S. Department of Health and Human Services – Health Resources and Services Administration (HRSA), 2012, p. 4.

[139] Patterson & Skillman, 2012, p. 8.

expertise that support CP programs (i.e., mobile health care delivery and experience working in patients' homes) also present barriers. This suggests that, in order for CP programs to be successful, targeted information campaigns are required to create greater awareness and understanding of paramedics,[140] as part of the "discussion and partnership with local populations and officials as well as the health and medical communities" required to identify how CP programs can best address local needs.[141]

On the other hand, the expanded role of community paramedics also involves some different skills from traditional out-of-hospital emergency practice, such as "improved interpersonal communication skills and understanding of and integration with systems of healthcare and public health".[142] Due to the nature of traditional out-of-hospital emergency health care, paramedics have fewer opportunities for experience with continuity of care and interprofessional collaboration.

It may also be a challenge for community paramedics to gain acceptance among the public and other health care practitioners as providers of such services, yet doing so is essential, both for CP programs and also for better integrated home and community care. As community paramedics themselves have pointed out, "[i]dentifying needs that CP providers can fill without encroaching on other providers' roles or scopes of practice can facilitate integration with other health providers".[143]

Regional Differences

One fundamental difference between B.C.'s Health Authorities is that some of them (Vancouver Coastal, Fraser) are much more urbanized than others (Interior, Northern). More urbanized regions have greater numbers of health care practitioners, services and facilities, which means that there are more opportunities for collaborative interprofessional care. In particular, referral services such as CREMS can be more easily implemented in urban areas than in rural or remote regions, where there may not be local services or facilities appropriate for such referrals. However, because of the wider range of practitioners and services available, another challenge is to ensure that the CP programs implemented do not duplicate services that already exist in these areas. In contrast, rural and remote regions may have a greater need for services such as home visits, vital signs checks and clinics than urban areas.

140 Crossland, p. 2.

141 Patterson & Skillman, 2012, p. 8.

142 *Ibid.*, p. 5.

143 *Ibid.*, p. 8.

Health Human Resources

Availability of health human resources is a factor that affects access to health care services considerably. Optimizing health care human resource potential is also at the top of most health care policy agendas. The physician and nurse shortage in BC is well documented and recruitment and retention in rural and remote areas has also been highlighted as a challenge. Further complicating the issue is the fact that the number of nurses and physicians approaching retirement age is growing rapidly.[144] Although efforts have been made to increase health human resources, inadequate supply still remains a problem. For example, Northern Health reports that they are currently 45 physicians short.

There are a number of ways to optimize health human resources. One way is to expand the scope of practice of certain health care practitioners to allow them to perform a wider range of interventions and therefore deliver a wider range of services. Another is to introduce multidisciplinary teams or increase their number. As noted by the BC Medical Association,

> multidisciplinary care (MDC) is cited as one solution to the challenges facing primary care, which include limited patient access, increasing prevalence of chronic conditions, the aging population, the restructuring of the hospital sector, and the emergence of more complex patients in community care. MDC may meet these challenges by better coordinating care, optimizing the use of health care resources, and improving patient outcomes, particularly for those with chronic conditions.[145]

A number of CP programs deliver their services using multidisciplinary teams. The EPIC program and the Long and Brier program discussed above are two Canadian examples. Yet another way to optimize health human resources is to make better use of existing 911 response paramedics in areas where call volumes are low. In a few regions in Ontario, when paramedics are not on 911 calls, they do home visits to those patients in the response jurisdiction who have been flagged as vulnerable.

144 New Brunswick Nurses Union, 2013.

145 British Columbia Medical Association, 2005, p. 1.

Conclusions and Recommendations

Conclusions

In order for the introduction and implementation of CP programs in BC to be effective, such programs need to be understood holistically, i.e., as components of a broader transformation of BC's health care system towards integrated care that can better address the needs of the province's present and future population. The intricacies of the current health care system means that such transformation is a complex, ongoing task involving the re-design of delivery mechanisms, the re-configuration of patient pathways, and a re-conceptualization of roles and responsibilities. In all of these respects, community paramedicine has an important role to play, particularly in helping to re-define primary health care as collaborative, patient-centred care rather than the disjointed, hospital- and provider-centric system it currently is. The implementation of CP programs in BC will undoubtedly improve health care outcomes across the province, and is therefore part of the solution to address the current issues the health care system is facing. But they are not a panacea, and need to be implemented in concert with other changes and innovative approaches.

Implementing CP programs effectively involves the same kind of transformation that the health care system itself is undergoing.

More significant is the transformative effect *intrinsic* to the implementation of CP programs, which both depend on and entail re-thinking how the health care system operates. That is, implementing CP programs effectively involves the same kind of transformation that the health care system itself is undergoing. Effective implementation thus requires an appropriately resourced, collaborative approach that brings health care professionals together in a way that places the patient at the centre. These considerations are the basis for each of the APBC's recommendations for the implementation of CP programs in BC.

Recommendations

The implementation of CP programs in BC requires a number of initiatives, many of which involve a variety of actors and need to occur in parallel. The following recommendations focus on these initiatives, and suggest steps that need to be taken to ensure success.

Implementation Committee

Recommendation 1. That a community paramedic program implementation committee, comprising senior staff from the Ministry of Health, the PHSA, the regional Health Authorities, the FNHA, BCEHS, BCAS and APBC, be established.

The transformative effect of CP programs on the health care system in terms of integration and collaboration depends not only on leadership, but also on high-level coordination. The successful implementation of CP programs requires effective and ongoing communication, information sharing and exchange of ideas across all regions, to ensure an understanding of, and input into, the aim and design of specific programs. The patient-centered, mobile integrated health care that CP programs can deliver depends on both ground-level coordination and high-level participation. A CP Program Implementation Committee would be a forum in which to foster a participatory approach, a broad understanding of CP programs, and innovative practices.

Leadership, not Ownership

Recommendation 2. That the APBC engage health care partners to develop leadership for the implementation of community paramedic programs across the province.

As a collaborative endeavour, CP programs cannot be seen as the primary responsibility of any single organization or profession. But when responsibility is shared across different groups, it runs the risk of becoming orphaned. Thus, leadership in the implementation of CP programs needs to be cultivated within and amongst participant organizations. The APBC's commitment to community paramedicine, combined with its relationship with such organizations, would enable it to engage in constructive dialogue around CP program implementation to encourage the emergence of such leadership.

Awareness and Understanding

Recommendation 3. That an information campaign to promote awareness and understanding of paramedic practice and community paramedic programs be developed, targeting both the public and health care professions in general.

A key factor in the successful implementation of a new form of health care service delivery is awareness and understanding, both on the part of the public and of health care professions. Without this, patient uptake becomes less likely and opportunities for collaborative synergies with other programs may be missed. Paramedics' skills and expertise are not well understood, even by other health care professionals. Therefore, an information campaign

promoting such awareness and understanding is one of the steps required in successful implementation of CP programs. As the organization representing BC's paramedics, the APBC is ideally positioned to play a leadership role in this respect.

CP Program Implementation/Evaluation Framework

Recommendation 4. That the leaders for community paramedic program implementation, in concert with the implementation committee, develop or adapt an evaluation framework for such implementation.

Although each successful CP program is context-dependent and thus aims at specific outcomes appropriate for the community in which it operates, the principles guiding such programs are common. Such principles are also the framework for the evaluation of CP programs, and thus need to be integrated into their implementation from the start. Working collaboratively, the CP program implementation leadership and the CP program implementation committee should draw on available CP program evaluation tools and adapt them to the BC context.

Community Assessments

Recommendation 5. That a collaborative team of community representatives, local officials, patient groups, paramedics and other health care professionals undertake community assessments to determine health care needs and service delivery gaps and use the community paramedic program implementation framework to design appropriate programs.

The success of a CP program depends on how well it addresses a concrete and specific community health care gap and responds to local circumstances and conditions. Although communities may have similar gaps, the specific contexts will differ. It is essential that community assessments be undertaken to determine specific needs prior to implementing such programs. It is equally essential that these be undertaken with community involvement, to ensure that local concerns can be raised and local input elicited. A team of community representatives, patient groups, local officials, paramedics and other health care professionals working collaboratively should be formed for each community considering CP programs. This team would draw on the CP program implementation framework for its principles, while being responsible for incorporating and addressing contextual factors. Once the need for CP programs has been determined, the team would then use the framework to design appropriate CP programs.

Funding

Recommendation 6. That the Ministry of Health provide sufficient and stable funding to support the implementation of community paramedic programs across the province.

As discussed in previous sections, CP programs have the potential to both generate cost efficiencies and provide more effective patient care. Although direct comparison of expenditures and savings across jurisdictions is difficult, there is demonstrated evidence that CP programs can deliver low-cost, high-quality health care in a way that results in cost savings across the health care system. However, the additional roles and responsibilities involved in the delivery of such programs require additional resources. First and foremost, they require financial resources. BC's paramedics, like other health care professionals, are working at or near capacity. The mobile integrated health care that community paramedics can provide is additional to, not a replacement for, emergency response and transport, and therefore requires additional funding, both for ancillary training and for administration and coordination.

Health Human Resources

Recommendation 7. That the Ministry of Health review resource allocations to ensure sufficient health human resources to implement community paramedic programs across the province.

The successful implementation of CP programs in BC requires not only financial support, but human resources as well. In order to be effective, CP programs may require dedicated paramedic staff to fulfill the changing roles such programs depend on. At the same time, the efficiency and effectiveness of BC's emergency health care system needs to be maintained. Equally, as the success of CP programs in part depends on other community-based health care services with which they are integrated, the Ministry of Health, in conjunction with the regional Health Authorities, needs to ensure that these services also have sufficient capacity.

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