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How prepared is Canada for adopting new models of health care delivery?

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Introduction

In Canada, the momentum is growing for changing the way health care is delivered in order to ensure timely access by the population to health professionals who provide comprehensive care across all regions and in different health care settings. Over the last decade, there is growing evidence that Canada is falling behind other countries in the Organization for Economic Cooperation and Development (OECD) with universal access programs, in the number of physicians per population and on other health indicators. In 2003, the First Minister's Accord on Health Care Renewal identified the need for health care professionals to work collaboratively as a key component to health care renewal. This pronouncement built on the recommendations made by the Romanow Commission[1] and the Kirby Report[2] as well as the provincial reports by Mazankowsky[3], Fyke[4], and Clair[5], and others[6,7]. This paper will present information on: current health human resource (HHR) issues in Canada; recent reports on health indicators; the status of collaborative models of care; barriers and enablers for change; and recommendations to assist in the transformation of the system.

Health Human Resources (HHR)

There is evidence that Canada is experiencing increasing stresses on its health care system due to physician shortages[8] as the current physician supply will not keep pace with the growing need for physicians. In 1991, the Barer-Stoddart Report[9] recommended that medical schools decrease their enrolment by 10% to maintain a physician/population ratio of 1.9 /1,000. As of 1999, the ratio had decreased to 1.85/1,000 with predictions of a further decline to 1.4/1,000 by 2021[8]. Concurrent with the decrease in enrolment in medical schools, Canada removed the "preferred status" of physicians immigrating to Canada thus further reducing the available pool of

practising physicians[8]. In May 2004, the OECD released a report entitled "OECD Health Project – Toward High-Performance Health Systems"[10] which stated that Canada had fewer practising physicians per 1,000 population than most of the other member countries placing it 16th out of 23. Although it does better than the OECD average in nursing supply, retirement pressures in the nursing community will have a significant impact on available nurses by 2006[11]. In addition, Canadian health spending grew 1.5 times faster than the economy between 1999 and 2002[12]. There are a number of other factors beyond numbers that affect adequate physician supply. Demands for physician services increase as research and new technologies are developed, leading to improved health outcomes and greater expectations from the public. The shift from hospital to ambulatory care has created a more crushing workload for family physicians who in turn are limiting their scope and hours of practice[13]. In the 1990's, the population growth and physician workforce supply increased at almost equal rates. Given current medical school enrolment, retirements, and an aging population, it is unlikely that physician supply will be adequate to meet the needs of the population[8]. In addition, one must take into account the increasing number of women entering medical school which has steadily increased from 17.8% in 1970 to over 50% in 2004. Traditionally women practise 4-5% fewer hours per week than men. As well, both men and women are expressing the need to balance work with family and community needs[14]. From the public perspective, Canadians are concerned that there are not enough doctors to meet their needs. Waiting times to see specialists are too long[15] and 12.5% cannot find a family physician[16].

In summary, inadequate numbers of new Canadian graduates, decreased numbers of international medical graduates, changing scope of practice and reduced work hours, an aging population, and new knowledge and technologies, are contributing to a shortage of physicians which, given established models of health care delivery, will lead to decreased services and reduced quality of care for the population.

The Quality of Health Care in Canada

Three recent health policy reports published in 2004[10,12,17] have contributed to our further understanding of the Canadian health care system in comparison to other industrialized countries. Collectively, these reports provide valuable insights and can be used to assist in deriving recommendations for new directions. The Fraser Institute is an independent Canadian organization dedicated to social research and education. In May 2004 it released a report entitled "How good is Canadian Health Care: an International Comparison of Health Care Systems"[12]. This report indicates that Canada spends a greater percentage of its GDP on health care (10.8%) than any other industrialized country that provides universal access, yet ranks low in access to care and on other important indicators. Out of 23 countries Canada ranks:

- 1st in lowest incidence of mortality from colorectal cancer
- 6th in lowest incidence of mortality from breast cancer
- 8th in lowest incidence of medically avoidable deaths
- 9th in potential years of life lost to disease
- 14th in total life expectancy (lived disability free)
- 16th in infant mortality.

Canada produces inferior age-adjusted access to physicians and technology, produces longer waiting times, is less successful in preventing deaths from preventable causes, and costs more than any other systems that have comparable objectives. In summary, Canada under-performs compared to other countries.

The Commonwealth Fund is a private foundation which supports independent research on health and social issues. In the spring of 2004 it released a report entitled "Commonwealth Fund International Working Group on Quality Indicators"[17] which reviewed 21 indicators from the United States, Canada, New Zealand, Australia, and the United Kingdom. Areas of good performance for Canada included: cancer survival rates generally, with particularly high rates for childhood leukemia; high transplant survival rates; few financial barriers to getting medical aid, diagnostic tests, or prescription drugs. Areas of performance that needed improvement included: higher case –fatality rates for acute myocardial infarction in older patients; higher incidence of

pertussis; and difficulty for patients to see a specialist, get care on weekends or nights, and get same-day doctor appointments when needed.

The OECD is a multilateral organization with a mandate to promote policies to achieve the highest sustainable economic growth and standard of living in member countries while maintaining fiscal stability. In May 2004 it released a report entitled "OECD Health Project: Towards High-Performance Health Systems"[10]. Its findings are based on a three-year study. In addition to reporting on absolute numbers of physicians and percentage of GDP spent on health care (see above), observations are made to guide future directions for health policies. The report recommends that: new systems need to be developed that better support health care practitioners; investment be made in practice guidelines, information systems, economic and administrative incentives that promote quality care; attention be paid to social determinants of health care not just to the level of health care spending; and that family care givers be given support.

These three reports provide valuable comparative data that indicate that, overall, Canada's health care system may not be performing as well as previously, particularly in the areas of access, mortality from preventable causes, and cost.

Collaborative Models of Health Care

The World Health Organization identified collaboration among health care providers as a key building block in their "Global Strategy for Health for All by the Year 2000"[18]. Teams are not new in health care and some authors suggest that interdisciplinary teams are becoming the basic building blocks for organizing and delivering health services[19]. Since the 1980's, many large health care institutions in Canada have switched to a "program management" structure, some focusing on patient populations, others on disease-management models. This approach brings together health care professionals from different fields with a goal of delivering high quality care. However, outcomes have been difficult to measure in order to produce generalizable principles that can be applied in various settings[20]. An interdisciplinary health care team includes members from many disciplines and professions that work together to provide optimal coordinated care for individuals. Such teams are being established and are becoming the standard for providing care in specific contexts: primary care, chronic illness, critical care, mental health, care of the elderly, palliative care[21]. A recent systematic review of the literature

demonstrated that collaboration interventions can have a positive effect on the delivery of health care in a range of areas including: geriatric evaluation and management, congestive heart failure, neonatal care and screening[22]. Settings varied from community-based primary care to hospital-based critical care. The participating professionals included: physicians, pharmacists, nurses, laypersons and patients. Some studies demonstrated differences in mortality rates, healthy function, and other patient relevant outcomes while others achieved improved process changes. Within the last two years, two surveys and environmental scans have been conducted to determine the scope and nature of team collaborative models of health care in Canada. In 2003, a report entitled "Assessing New Models for the Delivery of Medical services: Inventory and Synthesis"[23] was published as a joint project between the medical profession, Human Resources Development Canada, Health Canada, and other components of the health care system. This environmental scan yielded a number of different collaborative practices which were categorized according to funding mechanism, primary care, hospital-based care, continuing/community care, mental health services, public/population health care, integrated models of care, and e-health. A number of primary care models used capitation-based funding or contract/block funding, the latter being appropriate for rural/remote regions. Hospitals or academic health science centers also had negotiated block or contract funding for specialty groups targeting specific patient populations. New innovative primary care models were located in Ontario and Western Canada and had incorporated information technology, a focus on determinants of health, 24/7 access to services, and quality assurance. Physicians and nurse practitioners formed the basic health professional team with pharmacists, rehabilitation specialists and social workers being present in larger units. Across the country, hospital-based models involved non-physician health professionals with expanded roles and responsibilities. In the community, home care and palliative care programs were the most common models in which a wide variety of health care professionals worked together. There were a number of "shared care" models in mental health between family physicians and psychiatrists. Using a population-based approach, there were a number of training and education interventions across the country targeting high-risk populations such as patients with diabetes, cardiovascular illness, and underserviced populations. A few examples of integrated health facilities initiatives existed combining hospital, ambulatory, and community services around specific patients/clients. Lastly there were a number of models

related to telehealth particularly linking remote regions in Newfoundland, Quebec, New Brunswick, and Manitoba.

As support documentation for a Health Canada initiative on Interprofessional Education for Collaborative Patient-Centred Practice, an environmental scan was conducted in 2004[24] to investigate the different initiatives in both practice and education related to collaborative care in Canada. Of the large number of initiatives that were identified, 41.9% were in primary care, 14.5% in tertiary care, 6.5% in rehabilitation, and 37.1% in a combination of primary, secondary, community settings. The composition of professions involved included primarily: medicine, nursing, social work, physiotherapy, pharmacy, nutrition, occupational therapy, psychology, and chiropody. Fifty-eight percent of projects had run for four or more years while the rest had been more short-lived. Projects targeted specific patients such as those with diabetes, asthma, chronic pain, or populations such as First Nations, rural communities, and adolescents. Evaluation data from the projects tended to focus more on process issues rather than on health outcomes.

In summary, there are a large number of collaborative models of health care in Canada in a variety of settings, serving diverse clientele. Attempts are now underway to create a national inventory of these initiatives in order to inform the system as well as facilitate the collection of rigorous evaluation data of both process and health outcomes.

Barriers and Enablers for Change

There exist a number of factors within our health care system that can act as barriers or enablers for change. The major ones include: government policy, scopes of practice of the various health professionals, regulatory and medico-legal issues, the role of patients and their families in care, and educational issues.

Government Policy:

Over the past decade, there has been an explicit investment made by governments to promote collaborative models of health care[25]. In 1994, the "Supporting Self-Care" project[26] was initiated by Health Canada and was active until 2002. This program engaged family physicians and nurses to work together with patients/clients in decision-making. During this period, funding was made available from both federal and provincial sources for "Health Transition" projects, many of which involved multi-

professional teams. In 2000, the First Ministers' Agreement earmarked $800 million for the Primary Health Care Transition Fund with the requirement that a major proportion of funded programs involve professionals from a variety of disciplines. These projects are underway and have built into most of them rigorous evaluations in order to create new knowledge in this area. The First Minister's Accord in 2003 created a $16 billion Health Reform fund to move forward on the recommendations that had been elaborated by Mr. Romanow[1], Senator Kirby[2] and a number of provincial reports[3-7]. These funds target primary health care, home care, drug coverage, and access to care. In addition, Health Canada has invested $30 million over 5 years to support Interprofessional Education for Collaborative Patient-Centred Practice (IECPCP) through which education projects will be funded to help in the transformation of the system.

A number of other issues have emerged that support different models of practice. Two of these are concerns about Patient Safety[27] and the new focus of medical schools on Social Accountability[28]. The mandate of the new Canadian Patient Safety Institute will be to influence and support change in the culture and systems of practice in order to ensure the safety of the patient population. Under the leadership of the Association of Canadian Medical Colleges and supported by Health Canada, medical schools are being urged to assume a greater socially accountable role in educating future physicians to provide care in an interdisciplinary way that responds to the needs of the community. Clearly both initiatives are levers for changing how health care is provided in our country.

Scopes of Practice:

Professional scopes of practice have changed over time[11,29]. Pharmacists not only dispense drugs but also advise patients and physicians thus affecting overall quality of life and prescribing habits. Today's nurses have assumed a number of specialized roles primarily in the tertiary care setting but are now receiving advance training in order to provide a wide range of primary health care services. This tendency toward specialization is occurring in other professions and we are seeing as well the development of new roles such as physician assistants. Of concern, is the narrowing scope of practice that is taking place among a growing number of family physicians[13,29,30] who are restricting their practices by either focusing on specific areas such as psychotherapy or sports medicine or by abandoning the more comprehensive approach by no longer

providing in-patient or obstetrical care. A number of reasons have been postulated to explain this trend, the most likely being the poor remuneration for these services and lifestyle preferences. This tendency to superspecialize is seen as well among the specialties as graduates from medical school tend to favour the high tech specialties at the expense of general medicine, paediatrics, or surgery. Thus the narrowing of the practices of physicians and the expanding roles of other health care professionals who may be viewed as competing with physicians particularly in the primary care arena create new tensions that have the potential to interfere with team development and functioning. In 2003 the Canadian Medical Association, the Canadian Nurses Association, and the Canadian Pharmacists Association issues a joint statement on Scopes of Practice[31] that elaborated a series of principles and criteria that need to be considered in order to move forward. They proposed that all policy decisions in this area be based on patient need, be grounded in professionalism, lifelong learning and patient safety, and that there be legislative and regulatory changes that support evolving scopes of practice.

Regulatory and Medico-Legal Issues:

Two areas of law which act as barriers to interprofessional collaboration are the laws under which health care professionals are regulated and the law of professional malpractice as applied by the courts[32]. The regulation of health professions is a provincial and territorial responsibility with considerable variation across the country. In most regions, each regulated profession is given responsibility to self-regulate within a define "scope of practice". There is widespread consensus that structures for professional regulation, especially within defined scopes of practice, act as a deterrent for integrated interprofessional health care delivery. Senator Kirby's report[2] recommended a comprehensive review of the content of scopes of practice of various regulated professions at a national level. In addition, regulatory bodies should adopt specific statutory accountabilities that recognize and support interprofessional practice. Sharing of different approaches that have already been employed should be facilitated between provinces, territories, and professions.

The second major hurdle to overcome is malpractice law which tends to individualize accountability and responsibility. Malpractice litigation and allegations of negligence are evaluated by the courts on a case-by-case and individual-by-individual basis with

ultimate findings linked to individuals rather than to a group. A number of issues must be addressed to tackle this difficulty. Patients need to be "informed" about the function of the team. Providers must be ready to relinquish their "turf" and adopt common goals breaking down traditional hierarchical power structures. Lastly, the courts must be educated about this new model and may benefit from provincial/territorial legislative reform that takes into account the nature and requirements of interprofessional care.

Role of Patients:

In Canada and elsewhere, patients and their families play an increasingly important role in the health care system. In the Declaration of Alma-Ata[33] in 1978, the WHO affirmed that: *The people have the right and duty to participate individually and collectively in the planning and implementation of their health care.* The patient-centred method has been demonstrated to improve patient outcomes[34]. This is particularly important when dealing with various ethnic or cultural populations such as the First Nations. Many successful team efforts have involved the community as key stakeholders and partners in the collaboration[35]. Given that interprofessional teams often are established to address specific patient/client groups or larger communities or populations, it is vital that they be involved and have distinct and valued roles within the team. However, this requires a new approach and even a shift in beliefs and values by a traditionally hierarchical health care sector.

Education:

In order to renew and revitalize our health care system we need to change the way health care professionals are educated. The 2003 First Ministers' Accord and the Federal Budget have identified interdisciplinary education for patient-centred collaborative practice as a mechanism to address current emerging health and human resource issues, and a way to ensure that health providers have the knowledge, skills, and attitudes to practice in this different paradigm. A systematic review of the literature determined that there is no evidence that interprofessional education (IPE) changes patient outcomes[22] . However, a broader review of the literature[36] concluded that there was a paucity of studies focusing on the pre-licensure learner and that most evaluations looked at process rather than at health outcomes. A recent survey[24] revealed that there were a number of IPE initiatives taking place across Canada occurring in a variety of settings, targeting

undergraduate, postgraduate, and practicing professionals. Most had not been described in the literature and most had not been rigorously evaluated. Oandasan and Reeves[37] further assessed the state of IPE by describing the lack of information on: the definition of competencies for collaborative practice, the "best" timing in the education continuum, appropriate teaching strategies, the ideal patient/client and learning environments, faculty development, and curriculum planning. To drive this movement forward there is a need to study the initiatives that are currently underway in order to elucidate the educational theories and principles that should guide the development of innovations[38]. Universities and professional colleges must be urged to change their curricula by incorporating IPE opportunities both in the pre-clinical and clinical years. As an additional driver, accreditation bodies have been urged to elaborate standards for IPE as requirements for approval of programs[39].

Is Canada ready to change?

The looming crisis in human health resources particularly in physician supply coupled with Canada's downward performance in certain health indicators such as mortality rates from preventable diseases, immunization rates, and limited access to health services have created an environment that begs for new models of healthcare delivery to be developed and implemented. Federal, provincial, and territorial policies have supported new initiatives in the area of collaborative practice. A number of different projects involving different health providers and patients have evolved across the country with varying levels of success. In spite of these efforts, transformation has bee slow and some might say has stalled for a number of reasons. Professionals continue to protect their "turf" or develop or limit their scopes of practice in response to their own needs rather than those of the population[40]. The self-regulation of professionals and current malpractice laws place enormous constraints on teamwork. As well, our educational system has been slow to adopt new approaches to professional training remaining entrenched in traditional models of curriculum.

What is needed to enable our system to evolve? Specific recommendations include:

- review the content of scopes of practice of various regulated professions at a national level;
- revise malpractice liability laws in the context of collaborative practice;
- create a central inventory of existing practice and educational models that will allow for sharing of information;
- build upon federal/provincial/territorial initiatives that facilitate the development of collaborative models, including different remuneration models;
- advocate and create incentives for the development of educational models across the continuum of professional education;
- provide funding for rigorous evaluation/research studies in order to generate new knowledge about effective team practice and effective educational interventions.

Conclusion

Canadians value their health care system which has been considered by many countries as demonstrating a model guaranteeing universal access to quality services. Changes in the numbers of health care providers and their scopes of practice, rising costs of health services, different expectations from patients and the population, have created a need to explore alternative ways to deliver care. Collaborative models of care among and between different health professionals have been shown to improve patient outcomes. Government policies support the development of such models but alone cannot transform the system. Other sectors, the courts, the professional regulatory bodies, educational institutions, accreditation organizations, patients/clients, and providers themselves must be ready to review current practices and embark in new initiatives that will improve the working environment and ultimately the health of the population.

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