Commission on the Future of Health Care in Canada

Commission sur l'avenir des soins de santé au Canada

SUMMARY REPORT

HEALTH HUMAN RESOURCES

HEALTH HUMAN RESOURCE PLANNING IN CANADA

Physician and Nursing Work Force Issues

by

Canadian Policy Research Networks Inc.

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The findings of this paper are the sole responsibility of the authors and, as such, have not been endorsed by the Commission.

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Highlights of the Report

- Models for forecasting and data collection have improved over time but rely largely on counting the numbers of personnel relative to a given population and projecting forward to calculate future needs. This has been identified as the least optimal method for planning.

- Education and training issues are reviewed highlighting concerns of the impact of increased specialization and credentialism; the misalignment of training programs with population health needs; the effects of increasing tuition fees for professional schools; and, the need for shared curricula.

- The demographic picture of the medical and nursing work force in Canada is changing and aging. The effects of increasing numbers of women in medicine will have profound effects on service delivery as their career choices and style of work are different from those of their male counterparts.

- Policy options for recruitment and retention initiatives are reviewed showing that many of the negative and positive incentives used to date have small long term effects and the lack of progress in employing non-medical personnel for some primary care activities, despite good evidence of their effectiveness, is highlighted.

- The literature on the quality of nursing work life is reviewed with a focus on the concept of magnet hospitals – taking a comprehensive organizational approach to recruiting and retaining nurses.

- Based on the literature review and key informant interviews, barriers to implementation are outlined. These barriers include: treating health human resource planning as a separate policy exercise rather than integrating it into other policy work; not taking into account the complexity of the sector and the multiple policy levers involved in change; using the care provider as the unit of planning rather than population health needs; different regulatory and legislative schemes across Canadian provinces; diffuse accountabilities for decision making; a lack of a coordinating mechanism; a lack of national focus; the provinces and regions independently creating policy and often competing with each other for limited personnel.

- The key recommendation is to shift the health human resource policy culture by creating a national coordinating function to bring focus and expertise to the issue and to provide a neutral space for stakeholders to come together to begin integrated planning for the future.

Executive Summary

Daily stories in the media state that Canada does not have enough doctors and nurses and we need more immediately. Those currently working in the health care system are over-worked, burned out and are leaving. We need to fix this by increasing the numbers of personnel working in the system. These are statements made frequently over the last few years backed up by fact-finding reports, surveys, stories of small towns without a family physician and hospitals unable to fill nursing positions.

The solution offered by stakeholders is to increase supply now. Sounds simple. It isn't. What it is, however, is a popular media topic, the subject of continual claims and counter-claims, and a source of endless frustration for patients, health professionals, health care institutions and governments.

The Commission on the Future of Health Care in Canada commissioned this report to examine health human resource planning in Canada. In particular, the Commission wanted to understand better why implementation efforts have not met with much success. Canadian Policy Research Networks (CPRN) was commissioned to undertake the work. Due to time and resource limitations, the scope of the project was limited to looking at the research literature on physician and nursing issues and to undertaking a series of key informant interviews. A national round table was held with stakeholders in Ottawa in April.

The report focuses on the barriers to implementation and recommends a national coordinating function to shift the culture of policy planning for health human resources in Canada. Appendices to the report, available on the CPRN website, provide a detailed literature review, a brief description of current planning exercises in Canada for physicians and nurses and an extensive bibliography.

Despite years of study, why don't we seem to make progress? Canadian researchers have characterised health human resource planning as a "classic policy soap opera – tune out for a few years and there is a reasonable chance that not much will have changed when one returns." (Barer et al. 1999).

The following reasons are offered as barriers to reform. We view these as root causes of our Canadian difficulty.

- Implementation is difficult because health human resource planning has been treated as a separate policy area and has not been linked to other reform initiatives.
- Implementation is difficult because health human resource planning is a multi-dimensional and complex policy area.
- Implementation is difficult because the complexity often defeats a comprehensive approach.
- Implementation is difficult because our policy approach to health care, and thus health human resources, is a mix of market forces and public control mechanisms.
- Implementation is difficult because health human resource planning starts with the care provider as the unit for planning rather than beginning with population health needs.

- Implementation is difficult because the number of players involved, the effort it takes to get everyone to agree to change, and the actual nature of the solutions means there is often a significant time-lag effect.
- Implementation is difficult because health human resource policy involves people's jobs and incomes.
- Implementation is difficult because provincial legislative and regulatory schemes differ across the country thus creating different thresholds for licensure/registration and varying degrees of flexibility in scopes of practice.
- Implementation is difficult because accountabilities in health human resources are diffuse and there is no coordinating mechanism to pull them together.

Leadership is required to begin a coordinated discussion about future requirements and it is required at the national level in the interest of all Canadians. While each province, and community within the provinces, has unique needs, those needs will not be addressed if stakeholders continue to compete for limited resources and plan in isolation of each other. Linkage is required across sectors, jurisdictions and stakeholders to create a policy table for health human resources. The currently diffused accountabilities for planning and decision making need to come together to provide planning continuity over electoral cycles. For these reasons, we are recommending the creation of a national health human resources coordinating agency to provide focus and expertise.[1]

At least four key shifts in thinking will be required that will take enormous effort and will need new ways of engagement. First, integrating health human resource planning must become integrated into overall health system design issues. We must stop treating health human resource planning as a separate policy exercise. Second, health human resource planning must be done from the perspective of population health needs. We must stop creating policy responses on the basis of numbers of personnel. This will be hard. People will state the data is not available and we may need to create it. Third, health human resource planning should be on the basis of teams of providers. We must stop planning on the basis of individual health professions. Fourth, health human resource planning requires national cooperation. Individual efforts at the provincial level are in competition with each other and do not serve the interests of all Canadians.

Potential roles for the agency could be to: observe and report current information, undertake environmental scanning, identify trends and implications for the system; link policy frameworks with evidence and develop comprehensive planning models for use by stakeholders; develop leading indicators for the health of Canada's health work force and generate a balanced score card to be reported publicly; develop tools for integrative health human resource planning and make them publicly available; flag demographic, practice style, environmental, legislative and regulatory, or educational changes and their impact on Canada's health work force; act as a clearinghouse for best practice information for integrative planning processes, collaborative educational models, recruitment and retention efforts etc; provide a neutral space to bring together the various stakeholders in the health human resource field to begin cross-sectoral

[1] This could easily be part of a larger health care commission, council or auditor's office if Commissioner Romanow recommends such a structure in his final report.

discussions about policy initiatives. In essence, Canada needs a "quality council" for health human resources.

The challenges ahead in thinking differently about health human resource planning are large. They will not be overcome if Canada continues down the existing path of not addressing the root causes of the problem – the barriers to implementation. Ultimately, all the current stakeholders will have to give a little to make this work. This will take leadership from governments and from the organizations representing Canada's health professionals.

Acknowledgements

The research team for this report was Cathy Fooks, Director, Health Network, CPRN; Katya Duvalko, Department of Health Policy, Management and Evaluation, University of Toronto;[2] Patricia Baranek, Health Services Research Consultant, Department of Health Policy, Management and Evaluation, University of Toronto; Lise Lamothe, Department of Health Administration, University of Montreal; and Kent Rondeau, Department of Public Health Sciences, University of Alberta. Research assistance was provided by Jacob Schiff, Department of Political Science, University of Toronto. As well, in between her move from Manitoba to British Columbia, Charlyn Black provided sage advice on earlier drafts of the material.

The research team would like to thank those individuals who graciously agreed to be interviewed for this project and who freely gave of their time and advice. As well, we would like to thank the 28 participants who attended a national round table in Ottawa to review the research and who provided critical feedback on the recommendations. In particular, we would like to thank Dr. Arminée Kazanjian of the Centre for Health Services and Policy Research, University of British Columbia, who provided detailed feedback on the round table paper. Finally, we would like to thank the peer reviewers who gave us practical and sensible ideas about the possibilities of reform.

[2] Ms. Duvalko is also the Acting Manager, Policy, College of Physicians and Surgeons of Ontario. The views expressed herein are those of the research team and do not necessarily reflect the opinion of the College of Physicians and Surgeons of Ontario.

> Issues of supply, mix, distribution, regulation, remuneration and training have been at, or near, the forefront of health care policy discussions in Canada since the early 1960s. They spawned a plethora of national and provincial task forces and research reports in the 1970s and early-to-mid 1980s and have, we suspect, been instrumental in motivating the epidemic of provincial royal commissions in more recent years. But the pace of policy development has not matched the frequency of reviews or the calls for change. The problems are much the same, the methods of organization and remuneration remain largely unchanged, training sites and numbers are very similar, and the most frequently suggested solutions to the myriad problems leave one with a strong sense of déjà vu.
>
> Barer and Stoddart, 1991

Introduction

Daily stories in the media state that Canada does not have enough doctors and nurses and we need more immediately. Those currently working in the health care system are over-worked, burned out and are leaving. We need to fix this by increasing the numbers of personnel working in the system. These are statements made frequently over the last few years backed up by fact-finding reports, surveys, stories of small towns without a family physician and hospitals unable to fill nursing positions.

The solution offered by stakeholders is to increase supply now. Sounds simple. It isn't. What it is, however, is a popular media topic, the subject of continual claims and counter-claims, and a source of endless frustration for patients, health professionals, health care institutions and governments.

In 1990, the Federal/Provincial Advisory Committee on Health Human Resources commissioned a discussion paper on, what was then called, medical manpower, which became known as the Barer-Stoddart Report. Released in 1991, a time when the prevailing sentiment was Canada had too many physicians, it contained over 50 recommendations for change and called for a new, integrated approach to planning. Most of the ideas in the document were ignored. One of the few recommendations implemented was to cut medical school enrolment in Canada by 10%, phased-in over the early 1990s, an action subsequently blamed in current views about shortage.

During the mid 1990s, health human resource issues were not front and center, as provincial governments struggled with economic slow down and the need to constrain health care budgets and projected growth expectations. However, beginning in the late 1990s, claims about shortages, under-supply, lack of access and terms like "crisis" emerged. These statements, largely made by the professional associations, generated studies, working groups, fact finders etc. As report upon report piled up, most provinces found themselves forced to respond. Focusing at first on nursing issues, and more lately, on physician issues, Canada has reverted

back to a view that we require more health care providers educated, trained and working in Canada.

However, there is an underlying concern that we are in fact not going to solve the very problems we have identified if the policy response is simply to increase the supply of workers. There is enough evidence in all the reports that health human resource planning is a much more complex and difficult exercise than it might first appear. In fact, it has eluded us to date.

The Commission on the Future of Health Care in Canada commissioned a research report on health human resource planning. Canadian Policy Research Networks (CPRN) was awarded the contract in November 2001. Our task was to synthesize work already done in the area at the national and provincial levels and to focus on the tricky question of implementation, or lack thereof. It was agreed, in November, that the review would focus on work force planning issues related to physicians and nurses[3] due to the time frame and budget of the project. We recognize this is not ideal as other health professions suffer similar tortuous policy processes and that the problems with the supply, recruitment and retention of health human resources go beyond the boundaries of medical and nursing professions. But, we hope some of the lessons drawn here could apply to others.

It was not the purpose of this project to offer specific policy solutions for the optimal number of health professionals in Canada. Those ideas have been proposed elsewhere and will no doubt be offered to the Commission through its other research and consultation processes. Rather, we wished to step above the operational specifics, and attempt to elucidate the breadth of issues at play, and the difficulties we seem to have in addressing them. Whether we need 5000 more nurses or 300 more physicians in Canada was not the focus here. The reason behind why we need to continually ask how many is.

This report is the collation of the work the research team has done over the last four months. It is based on a review of the published literature, government documents and other policy-related material from provincially-sponsored task forces, committees etc, and material from key stakeholder organizations. As well, we conducted a series of key informant interviews with *individuals who have chaired reform-oriented commissions on health human resources and health reform in general.* The interviews were an attempt to understand better the intricate dance and missteps that occur between those who recommend change and those who must implement it. Thus, we focused on individuals who participated in broad, advice-giving exercises, rather than experts in the field of health human resources per se. It was not feasible with the resources we had to engage in a broader set of interviews with all the experts whose work we have indeed reviewed. Finally, we convened a National Round Table in Ottawa with researchers, policy makers and stakeholders to review the material and assist with formulating recommendations for the Commission.

In approaching the task, we used a career-cycle model of health professional development based on earlier work by Barer and Stoddart (1991). This provided us with an organizing framework based on potential policy levers and the components of learning and influence for a

[3] The terms nurse, nurses and nursing are used throughout this report to mean registered nurses.

health professional. The following matrix provided the organizational context for the literature review and the structure of this report.

Organizing Matrix

	Education and Training	**Practice and System Issues**	**Work Place**
Policy Issues			
Data Issues			
Barriers and Supports to Implementation			

This report is organized into five sections:

- **What do we know:** this section summarizes the research literature and the "grey" literature on health human resource issues related to physicians and nurses. Topics covered include forecasting and data issues, educational and training issues, and practice and system issues. Literature related to the work place environment is included within the practice issues section. A detailed review of the literature can be found in Appendix A, available on the CPRN website.

- **What don't we know:** this section outlines areas where we require further information and research.

- **What is being done:** this section summarizes current planning initiatives undertaken at the provincial and national level, largely by governments. It is focused on the planning activities beyond the regular operational programs within Ministries of Health for the period 1997-2002. A more detailed description of activities can be found in Appendix B, available on the CPRN website.

- **Why is implementation so difficult:** this section summarizes the results of the key informant interviews and describes the barriers to better implementation.

- **What can be done:** this section outlines a series of recommendations for moving forward.

General Context

The Canadian health care system relies on the services of trained health professionals to deliver health care to citizens. But, the labour market in health care is unlike any other. It defies standard human resource planning and management methods. Most health professions in Canada are self-regulatory but to varying degrees across provinces. Some professionals are employees within institutions or community agencies while others are self-employed in community-based private practice. Some work under collective agreements, others do not.

Some are paid 100% through publicly financed programs while others are largely privately financed through private insurance or direct out-of-pocket payments by patients. Some require a community college diploma while others require a university degree and post-graduate training. Most are regulated and at times, their professional practice standards can be at odds with system reform as well as at odds with employer practices. Pricing is not particularly dependent upon supply or demand and is not linked to population health priorities.

It is not surprising then that the supply, mix, distribution and interaction of Canada's health professions has long evaded sensible policy solutions. Labelled recently by one commentator as a "real schmozzle," health human resource planning in Canada has eluded us to our detriment.

The creation of any health service delivery model requires that a series of decisions be made regarding the role of the public and private sectors in the delivery and financing of health services, as well as the allocation of health resources. In a pure market model, the delivery and financing of health services are private sector responsibilities. Physicians work as private entrepreneurs delivering health services and hospitals are privately-run institutions. The financing of health care comes from individuals through direct out-of pocket payments for health services, or, payment mediated by privately run insurance plans. Examples of this type of private delivery/private financing health system are the bulk of non-Medicaid physician encounters in the United States, or, the provision and financing of most psychological counseling services in Canada. Private delivery/private financing health systems frequently rely on the market to allocate health system resources where the "invisible hand" balances out the number and type of health personnel available according to population demand and willingness to pay. Usually, health services financing follows the personal choice of the patient (i.e. physician payment is based on the number and type of services directly provided to patients). Excess capacity, if it exists, is tolerated and moderated by what the market will bear.

On the other extreme, in publicly financed/publicly delivered health systems, responsibility for the delivery and financing of health services lies with the public sector. Physicians are employees of the state, hospitals are state-owned and administered, and payment for health services comes from individuals through tax revenues that are allocated to health. Examples of this type of public delivery/public financing health system are the original government owned and operated institutions in the National Health Service in the UK, or in the countries of the former Soviet Union. Allocation of health resources in public/public models generally follows the command and control rules of centralized planning. Excess capacity is thought to be wasteful and an inappropriate use of government resources. Thus, central agencies determine the appropriate number of service providers and their appropriate distribution to best meet population health needs. The agency then allocates monies accordingly. In these systems, patients generally follow the flow of money. Thus, a health authority may be allocated a certain amount of funds to provide care to a pre-determined population. Patients then receive care in government clinics or hospitals set up by the health authorities and providers are paid a set amount regardless of the number of patients they actually see.

Table 1 Models of Resource Allocation

Patient follows money			**Money follows patient**	
Centrally-planned, command/control models	Adaptive planning or regionally-planned models	Managed competition	Public competition	Market (allocation via supply and demand)

Canada has a hybrid system of service delivery and financing that combines the private and public sectors. Physicians are private entrepreneurs, not employees of the state, who work generally on a fee-for-service model of financing whereas nurses are employees of institutions or community-based agencies and are usually paid a salary or hourly wage. The financing of health services (at least of physician and inpatient hospital services) is the responsibility of the public sector with money to cover physician and hospital costs coming from provincial and federal government general revenues. Care outside this purview may be financed from either public or private sources or some mix of the two. Allocation of health resources is also a mix of market forces and centralized planning. Generally, the choice of physician/health provider or hospital is left to the individual patient and money is allocated accordingly. However, there is a much greater level of government control and planning then would be seen in a typical market-based allocation system. Provincial governments, often in consultation with relevant stakeholders, determine and centrally plan the number of medical and nursing schools, the number of medical and nursing school positions, the number of residency spots and, to some degree, the number and type of hospitals available to provide care. These are not determined according to strict market based supply and demand rules.

These distinctions regarding the relative importance of the private versus public sectors in delivery, financing and allocation of health services have implications for the supply, planning and control of health human resources. In a pure market system, the supply and distribution of health human resources would be determined strictly through supply and demand and would leave the greatest level of choice for both service providers (in terms of choice of specialty or where they might choose to practice) and patients. In a pure command-control model, on the other hand, central planning agencies would determine the appropriate number, specialty mix and distribution of health service providers based on some rational-planning model, and both practitioners and patients would be subject to these central decisions with very little individual choice. In Canada, we have not relied on either model of allocation to the exclusion of the other. Instead both market and central planning elements have affected the supply, mix and distribution of health service providers. These decisions have often been ad hoc and not deliberately planned to meet specified health objectives.

What Do We Know?

The Canadian Institute for Health Information maintains statistics on the number of physicians, nurses and other health professionals in Canada. For the year 2000, the Institute reports there were 232,000 registered nurses working in nursing in Canada. The ratio to 100,000 population

ranged across the country from a low of 681 per 100,000 in British Columbia to a high of 1006 per 100,000 in Newfoundland. Sixty-four percent of the total worked in hospitals and eighteen percent worked in rural communities and small towns (CIHI 2002; 2001). The Institute reports for the year 2000 there were 57,800 physicians registered in Canada working in clinical and non-clinical settings. Just under half were family physicians (CIHI 2002).

Summary of the Literature

There is a lot of information available about the policy and data issues surrounding health human resource planning. All the provinces have work underway, physician and nursing organizations have sponsored reviews and policy exercises, and the federal government through Human Resources Development Canada (HRDC) is currently funding independent sector studies in both areas. Readers are strongly encouraged to read the detailed literature review found in Appendix A on the CPRN website. What follows here is a brief summary of the literature organized into three sections:

- forecasting and data;
- education and training issues;
- professional practice and system issues, including a focus on the work place.

Forecasting and Data Issues

Four approaches to modeling and forecasting were identified in the literature[4]: supply forecasting; utilization or demand forecasting; needs-based planning; and, benchmarking. Supply forecasting counts the number of personnel at any given moment and projects forward in time based on maintaining the level of resource (Lomas et al. 1985). This method often uses simple head counts of personnel or a physician:population ratio. The usefulness of supply projections is limited because it begins with a pre-set physician:population ratio and assumes that this ratio must be replicated or built upon in the future to meet population health care needs. Supply forecasting sets aside the dynamics and external environments in which the forecasting takes place; therefore, it can never hope to project supply accurately. As Evans (1998) writes, "the key assumption, which is neither explicit nor justified, is that the "need" for physicians cannot be less than the current supply, *whatever that supply may be* (emphasis in original). Self-sufficiency requires that domestic production be sufficient to prevent any decline in the physician-to-population ratio, from whatever level it may have attained, however it got there and regardless of what else may be going on."

The second model is utilization or demand forecasting. It attempts to match the counting exercise with some measure of population service use. This is also often converted into a physician:population ratio and projections are based on maintaining what is seen to be a desirable level of service (Greenberg and Cultice 1997; Turner et al. 1993a; 1993b; Lomas et al. 1985). In spite of the increased sophistication of supply and demand/utilization forecasting models, these models have met with increasing levels of criticism regarding their ability to

[4] The historical literature focuses mainly on forecasting of physician resources although, more recently, models for forecasting nursing resources have been developed. The issues are somewhat different for the two groups as physicians have much more freedom of movement and practice autonomy than do nurses, thus making forecasting for physicians a more speculative task.

capture the number of physicians needed to meet population health needs (Millar 2001; Peters 1999; Stoddart and Barer 1999; Roos et al. 1999a; 1998; Fried 1997; Friedenberg 1996; Turner et al. 1993a; 1993b; Flux et al. 1983; Gray 1990; Hayton 1979).

Needs-based planning -- the third model -- actually starts with demographic and health risk information about the population matched to levels of service use matched to numbers of personnel (Roos et al. 1999b; 1999a; 1997).

Finally, benchmarking, a method more predominant in the United States than in Canada, starts with examining communities with the lowest number of personnel per population and capital inputs where health outcomes are felt to be optimal, and then uses that ratio as the benchmark for other communities as the most efficient mix of inputs (Fried 1997; Sekscenski et al. 1997; Goodman et al. 1996).

For nursing, the issues of forecasting and measurement are even less clear than they are for physician resources as the number of positions is so tightly aligned with increases or decreases in health care budgets. Decreased budgets in the acute hospital sector means closed beds and staff layoffs.

A fundamental definitional question that is addressed in the nursing literature is what is a shortage and, by extension, how do we know when there is one?

The definition of shortage needs to be carefully considered when responding to shortage alarms. Indicators of shortage can be objective such as vacancy rates or subjective such as administrators' perceptions of the staffing situation at their institution. Buchan and O'May (1998) identify five objective indicators: vacancy rates; turnover/wastage rates; agency/bank nurse employment; overtime/excess hours working; and nurse unemployment rates. (See also Fridkin et al. 1997; Aiken et al. 1994; Blegen 1993; Wilson and Stilwell 1992; Gray et al. 1988; Yett 1970).

Education and Training Issues

The research on education and training of physicians and nurses focuses on the number and mix of training positions; the cost of education; the need for shared curricula; and, a trend towards greater credentialing requirements.

First, there is concern that the process for identifying medical post-graduate training positions needs to be better linked to population health needs (Barer and Stoddart 1991). There is concern that at present, other factors take precedence in determining the number and mix of residency slots (Thurber and Busing 1999; Woodward et al. 1997). The need for a broader perspective in the planning process and linkage to some of the modeling approaches being developed in the research literature has been raised.

As well, increasing specialization in training programs and the creation of sub-specialties within specialties has been noted and questioned. The question of the effects of the elimination of the rotating internship in the early 1990s, and the early selection of residency programs, have

also been raised (CAIR 2001; CMA 2000). Some medical educators have raised the possibility of reconsidering these decisions.

Third, while there is little evidence yet, the steering effect of higher tuition fees has been identified. Stakeholders feel that increasing educational costs will limit the diversity of the medical student population although initial evidence suggests that the current makeup of medical students is not diverse ethnically or economically (Dhalla et al. 2002). As well, stakeholders feel that those who can afford the fees will be more likely to choose high income generating specialties and to locate in urban rather than rural communities (CMA 2001a). This is somewhat supported by survey data indicating that students are concerned about debt load and will take this into account in making career choices (Kwong et al. 2002).

Fourth, while there is little evidence about impact, the notion of a shared educational curricula makes intuitive sense and would better support the models of health care delivery that appear to be on the Canadian horizon. Researchers are encouraging academic institutions to consider shared programming and multidisciplinary training opportunities across disciplines and jurisdictions (Alcock 2002; Krakauer 2002; Rabinowitz et al. 2001; Pringle et al. 2000; Cooper 1995). However, a recent systematic review of the effects of interprofessional education on professional practice was unable to draw conclusions given the early state of the programs reviewed (Zwarenstein et al. 2001).

Fifth, there is a debate over the necessity and impact of increasing the entry-level educational requirements for health professions. On the one hand, advocates cite increased skill mix, career opportunities and ability to work in an increasingly complex health care environment (CNA1998). On the other hand, opponents cite the increased time to train, the increased cost to train and employ, and rising expectations in terms of career advancement, as reasons for further loss of workers in the health system due to job dissatisfaction (Baptiste 2002; Krakauer 2002).

Lastly, there is a growing body of literature focused on the skill mix of nurses and the impact it may have on patient care --- the argument being that an increased skill set through more training will positively affect patient outcomes. A recent study (Tourangeau et al. 2002) found that a higher skill mix in nursing care was linked to lower mortality rates in hospital. Another study found that hospital patients on wards with a higher proportion of registered nurses and licensed practical nurses had better outcomes when they left hospital. As well, those patient care areas had fewer medication errors and lower infection rates than areas using less skilled workers. However, differences in patient health status did not exist six weeks after discharge (McGillis-Hall et al. 2001).

Professional Practice and System Issues

Physician Focus

The composition of the medical profession in Canada is changing, particularly with women now making up more than half the incoming class of medical students and more than half of residents. Women do appear to make different practice choices than their male counterparts. They are more likely to choose family practice than surgical or diagnostic specialties and are more likely to

choose part time practice. They spend more time with patients and therefore see fewer of them over time. They provide more gynecological services as well as have more of a focus on health promotion, counseling and health education activities than their male counterparts. However, in comparing the mean number of medical services provided in family practice settings, a recent study found no statistical difference between male and female physicians (Slade and Busing 2002). Indeed, when comparing the practice patterns of female physicians working full time to the practice patterns of male physicians working full time, differences in practice style are much less significant statistically. (Slade and Busing 2002; Chan 2002a; 2002b; Chaytors et al. 2001;CPSO 2001; Gable et al. 2000; Reid et al. 2000; Boerma and van den Brink-Muinen 2000).

There is a debate in the research about whether younger physicians are changing the balance between work and family life. The claim is that they are and that they are opting for fewer total hours of work and less after hours work. However, physicians report that they are working the same number of hours as they have historically. (CMA 2001a; 2001b; Woodward et al. 2001; McKendry 1999;Carroll et al. 1995; Cooper 1994)

Patterns of migration are another area where it is asserted there are historical differences and that more physicians are leaving Canada than previously seen. However, the data indicate that annual rates of physician migration out of Canada have never exceeded 1% of the total physician population even in times when the actual numbers have increased (CIHI 2001).

There are clear changes in the nature of practice – largely in the family medicine area. Family physicians are providing less service after hours or on call than they once did (CMA 2001a; 2001b). They are starting to sub-specialize, focusing on one area within family medicine such as sports medicine, rehab medicine, counseling and psychotherapy (Schwartz et al. 1988). As well, other services historically performed by family physicians such as emergency department shifts, nursing home visits or house calls appear to be on the decline. These differences are also seen across communities with different levels of specific services being provided in rural as opposed to urban areas (CIHI 2001). Family physicians in rural and remote areas appear to be providing a more comprehensive set of services than their counterparts in urban areas - potentially because other specialties are not available to fill the gap and referrals are not an option (Chan 2002a; Godwin et al. 2002; Chaytors et al. 2001; Reid et al. 2000; Woodward et al. 1997).

The geographic distribution of physician resources is an issue that has bedeviled policy makers for decades. Because physicians are free to locate their practices where they choose, negative and positive incentives are used to induce physicians to move to underserviced locations. Financial disincentives such as billing caps or discounted fees to discourage set-up in specific locations have been attempted. They have met with some "success" but the burden has been borne largely by newly graduating physicians thus raising fairness issues. As well, the courts have had some concern as to whether governments can legally exert this control (Rombard v. New Brunswick 2001; Wilson v. BC Medical Services Commission 1998; Waldman v. BC Medical Services Commission 1997).

More positive incentives have been used such as location bonuses, educational supports, locum relief, moving and housing allowances. They appear to have had some success in the short term but are less successful in retaining personnel over the long haul (CMA 2000; Society

for Rural Physicians of Canada 1998) Once the contractual time frame expires, many personnel wish to move to larger centres. What does appear to be a good predictor of retention in rural areas is the background of the individual and familiarity with the rural practice environment (Easterbrook et al. 1999; Rourke 1993). This raises the possibility that getting the right type of individual to go to medical school in the first place may be a more effective long-term strategy than financial inducements after graduation. As well, female physicians are still more affected by employment opportunities for their spouse than their male counterparts. Given the increasing numbers of women entering the profession, this will require significant attention in the future.

Young and Leese (1999) also suggest that increased flexibility in work arrangements (e.g. part-time, job-share, temporary and short-term work) and a broader range of career development possibilities (e.g. research, management skills, part-time educational posts) would help in retention efforts.

Despite good evidence that the use of non-physician care providers such as expanded role nurses or nurse practitioners does not compromise the quality of primary care provided, Canada has not yet taken full advantage of these personnel (Centre for Nursing Studies 2001;Hutchinson et al. 2001; Way et al. 2001; Martin 2000). One of the major barriers appears to be provincial payment policies.

Lastly, the issue of changing and overlapping scopes of practice has yet to be fully explored in Canada. A recent study evaluated the types of services provided by physicians and nurse practitioners in shared practice settings in Ontario (Way et al. 2001). The authors looked at reasons for primary care visit and types of services provided, as well as recommendations for further care. They found that differences existed in both reason for a visit and nature of the services provided by each type of practitioner. Patients more often visited nurse practitioners for periodic health examinations and family physicians for disease-management. Nurse practitioners were more likely to be involved in providing disease prevention and supportive services, while family practitioners were likely to be involved in providing curative and rehabilitative services. Perhaps the most interesting finding, however, is that for those patients where follow-up visits were recommended, family practitioners were more likely to recommend a return visit to a family practitioner, and nurse practitioners were more likely to recommend a return visit to a nurse. This finding does little to support the notion of shared care. The authors conclude that nurse practitioners were underutilized with regard to curative and rehabilitative services, and comment on the lack of "bi-directional" referral. Although this study is limited to a small study group (2 nurse-practitioners and 4 family physicians over a 2-month period), it provides needed insight into questions of shared scopes.

Other studies from the UK and the United States have found no evidence that the quality of care provided by nurse practitioners in terms of acute care management and monitoring of chronic illnesses is lower than that provided by physicians (Kinnersley et al. 2000; Mundinger et al. 2000; Shum et al. 2000; Brown and Grimes 1995). And, a recent systematic review comparing nurse practitioners and family physicians found that patients were more satisfied with care from a nurse practitioner with no differences in health outcomes (Horrocks et al. 2002).[5]

[5] The study also found that nurse practitioners provided longer consultations and carried out more investigations than their physician colleagues.

However, the question of how best to increase inter-disciplinary cooperation remains unanswered and regulatory and financial payment policies are a barrier in this regard.

Nursing Focus

The aging of the nursing work force in Canada and its effects on supply, injury and absenteeism are well documented but few work force and workplace policies have responded to these issues (Buchan 2001; 1999a; Kazanjian et al. 2000a; Peterson 1999; Ryten 1997). A major contributor to nurses leaving the profession appears to relate to the quality of nursing work life and job satisfaction. Numerous factors are cited in the literature as contributing to a positive or a negative work environment. They relate to economic, social, organizational and professional aspects of nursing care (Buchan 1999b; McGillis Hall and Donner 1997; Nadeau 1991; Reid 1990). Policies dedicated to improving these aspects of nursing work life appear to have success in recruiting and retaining nurses over the longer term. Paying attention to factors like skill mix, autonomy in patient care, wages and promotion opportunities, flexible work arrangements to fit with work-home balance (this is of particular importance given the predominantly female makeup of the profession), collaboration with other professionals, notably physicians, all improve job satisfaction and the likelihood of maintaining labour force attachment (O'Brien-Pallas and Baumann 2000; Freeman and O'Brien-Pallas 1998; Duff 1990; Benner 1984).

The concept of a magnet hospital has been used in the United States and appears to be a successful policy innovation (Aiken et al. 1997). A magnet hospital is defined as a hospital that has a good reputation for recruiting and retaining nurses based on progressive employment policies and organizational support for the nursing profession. It is not yet widely used in Canada.

A study of 39 magnet hospitals, each matched with comparison hospitals, found that the magnets demonstrated statistically superior outcomes reflected by a lower 30-day mortality rate in Medicare patients. Patient satisfaction was also found to be higher in magnet hospitals and nurses working in magnet hospitals reported more job satisfaction and receiving more support from hospital administrators. Magnet hospitals have also demonstrated better workplace safety for nurses, who report lower levels of emotional exhaustion, and lower rates of needle-stick injuries (Aiken and Sloane 1997; Aiken et al. 1997; Aiken 1994).

A comprehensive literature review on the effectiveness of magnet hospitals indicates positive findings in terms of recruitment and retention potential for nurses. Research has shown that nurse administrators in these hospitals display a distinct leadership style. They are visionary and enthusiastic (Kramer and Schmalenberg 1991, 1988a, 1988b; 1987;McClure et al. 1983); supportive and knowledgeable (Kramer and Schmalenberg 1991 McClure et al 1983); they maintain high standards and high staff expectations and they value education and professional development of all nurses within the organization (Kramer and Schmalenberg 1991; 1988a; 1988b; Kramer et al. 1987; McClure et al. 1983); they uphold positions of power and status within the hospital organization (Kramer and Schmalenberg 1988a; 1988b; Kramer et al. 1987; McClure et al. 1983); they are highly visible to staff nurses and they are responsive and maintain open lines of communication (Kramer and Schmalenberg 1991; 1988a; 1988b; Kramer et al.

1987; Kramer and Hafner 1989; McClure et al. 1983;); and they are actively involved in state and national professional organizations (Kramer and Schmalenberg 1988a; 1988b).

There is also some evidence that involving nurses as a profession in health care decision making more broadly and within the institutions where they work has some impact on retention (Judd and Ciliska 1985). An important part of nursing human resource strategy relates to the empowerment of nurses as political forces and as participants in health care planning.

Lastly, there has been a marked increase in aggressive international recruitment campaigns, similar to those we have seen for physicians. This raises the issue of the ethics of enticing workers to leave their home countries set against a backdrop of international labour markets and global mobility (Buchan 2001).

Work Place Issues

There is a large literature on quality work places which is only recently being applied to health care settings. While the literature provides a lot of information about the factors required to create a high quality health care work place, there does not appear to be much consensus on priorities for action (Koehoorn et al. 2002). Proposals focus on a range of factors such as the psychosocial aspects of the work environment (Siegrist 1996; Karasek and Theorell 1990), job design and organizational structure, industrial relations and the relationships between workers and management, and the need for cooperative employment relationships across all groups in the work place (Koehoorn et al. 2002).

Researchers have argued that decisive action to improve the quality of the work place will require collaboration among researchers, practitioners, union and management representatives who must agree on the needs of specific work places and the appropriate responses. The complexity of the industrial landscape in health care will need to be taken into account when thinking about how to generate positive change.

What Don't We Know?

Despite the more than 300 references reviewed for this report, there are still large gaps in knowledge for policy makers wishing to understand health human resource planning in Canada. Perhaps most importantly, there is very little information about the other health professions working in Canada or about their interaction with the two professions studied here. There is limited information on those professions that are self-regulatory such as pharmacists, midwives, chiropractors etc. and none on those workers that are not regulated. As policy makers consider integrated delivery models, overlapping scopes of practice and increased use of other health professions, these information gaps are critical (Kazanjian et al. 2000b; 1999).

Secondly, there are few evaluations of the impact of policy choices being made today. Expanding the supply of workers, increasing the costs of education, providing financial

incentives to change practice locations are all at play.[6] These measures do not necessarily all work in the same direction and there is little evidence of impact. We may well find ourselves still attempting to address questions of distribution, service patterns and costs in five years time despite significant time and allocation of resources.

Third, while there is consensus that primary care reorganization needs to occur, there is not clarity on the specific model governments wish to implement. Without greater clarity on this, it becomes difficult to plan health human resource capacity, particularly for family physicians and community-based nurses.

Fourth, little is known about the impact of consumer trends in health care. Consumers are using technology not previously available and they are paying for services outside the allopathic traditions of western medicine. What impact this will have on future health human resource requirements is unknown.

Fifth, we have no information on effective strategies to promote collaboration – whether it is across professions, between employer and employees or amongst levels of government. It is clear collaboration is required but how do we make it happen?

What Is Being Done?

When one thinks about it, it is not surprising to find that health human resource planning capacity in Canada mirrors the somewhat patchwork quilt of organization and financing of the health care system overall. If we have a mixed model of private and public delivery, why would we assume the planning functions to support delivery would be any less disjointed?

Current planning initiatives were reviewed as part of the background work for this paper. It is clear that Canadian approaches span the market and public control continuum referred to earlier and are, at times, at odds with each other.

Appendix B provides a brief description of recent efforts at the provincial and national level to address health human resource *planning* and is available on the CPRN website. It does not describe, in detail, existing incentives and subsidy programs within Ministries of Health. Seven themes emerge from the analysis.

- *Governments currently believe Canada has a shortage of physicians and nurses.*

This is a change from positions taken in the early-mid 1990s when the climate favoured a view of over-supply. Following the release of the Barer-Stoddart report, a 1992 communique from the Conference of Deputy Ministers of Health stated the first priority was to reduce the number of doctors trained in Canadian medical schools. The difficult financial situation in which governments found themselves, combined with projected growth rates in supply of personnel

[6] This pertains to within provinces, between provinces and internationally.

that outstripped population growth, meant that an increasing pool of employed professionals was not seen as financially viable.

After the 1991 release, policy work focused largely on cost control. Reductions in positions, income thresholds, geographic fee differentials and restricted billing numbers were all attempted, along with cuts to acute care budgets. However, most of the recommendations from Barer-Stoddart dealing with non-supply side issues were not implemented.

Now, in 2002, governments would appear to have changed their perspective. Provincial Premiers committed in a 2000 communique to a more collaborative approach to improve education, training, working conditions and recruitment and retention initiatives for health service providers. Almost all provinces have developed a nursing strategy. As well, there is a national nursing strategy and a national nursing advisory committee focused on strategy implementation. Some provinces have created an ongoing structure to deal with physician resource issues but not all have and there is yet to be a national focus on a physician strategy.[7] Some provinces have implemented various physician incentive programs for rural, remote and underserviced communities.

- *There is a shift away from one-time planning exercises towards a more permanent structure.*

Most provinces now have a planning unit involving key stakeholders, largely the organizations representing physicians and nurses, and most have funded a research centre to provide ongoing data. The organization and roles of these groups range from advice giving to actual monitoring of government commitments.

- *Efforts are profession-specific and not integrated across disciplines.*

Despite growing evidence of the need for integrated and multi-disciplinary care, health human resource planning efforts still appear to be profession-specific and un-linked. We found separate expert panels, separate planning units within government, separate budget items, separate educational programs. More permanent structures are being created, as referenced in the preceding point, but these are still focused on individual professions. There are very few structures for cross-fertilization and integration. The Health Human Resources Advisory Committee in British Columbia *appears* to be such a structure although the output is still organized by individual professions. The Nursing Strategy for Canada recommended a *multi-stakeholder* committee to address issues but the group consists of representatives from government, nursing and the acute care sector managers as well as nursing researchers.

- *The starting point of discussions is to assume current system design and requirements as the basis for planning.*

Generally, most exercises have taken the current numbers and projected forward in time to estimate perceived shortages. A few reports make the point that this is not the best methodology for planning future requirements. Understandably, the complexity of modelling exercises and

[7] National is used here in the sense of a pan-Canadian approach that would include the federal and provincial governments and key stakeholders.

the lack of reliable data for many of the more subjective variables combine to defeat even the most energetic team. However, until we move away from treating the status quo as the future, we are locked into traditional responses, and we cannot think differently about future requirements.

- *Policy responses to date have focused largely on the supply side variables.*

This is not surprising. If the belief is we need more health professionals, then producing more of them as efficiently as possible is a logical response. Again, there appears to be some recognition that this will not lead to an improved policy capacity over time. The Alberta Physician Resource Planning Committee, the Nursing Task Force in Ontario and the HRDC sectoral study on physician services have all committed to looking at changes on the delivery side and its effect on personnel requirements.

- *There appears to be little involvement of the public in these planning exercises and structures.*

All of the committees reviewed were comprised largely of representatives from the provincial government, the health professions and sometimes, the hospital sector when nursing issues were involved.

- *There is clear, perhaps unnecessary, duplication of effort and resources across the country.*

The issues raised in each of the provincial and national exercises are strikingly similar. While certain regions may have different views about their perceived priorities and needs, the issues and proposed solutions remain the same. Each province is creating its own databases, education and training plans, recruitment and retention programs (often in competition with each other), student subsidy programs, and planning committees.

Why Is Implementation So Difficult?

Canadian researchers have characterised health human resource planning as a "classic policy soap opera – tune out for a few years and there is a reasonable chance that not much will have changed when one returns." (Barer et al. 1999).

Why have we made so little progress in charting a sensible course for health human resources in Canada? The system cannot function without trained health professionals yet we leave many of the key policy decisions to chance. A series of key informant interviews was conducted with individuals who have chaired commissions, task forces etc. to focus on questions of implementation. The following is a summation of their views along with feedback we received from the national round table. It is striking how many exercises have been undertaken in the last five years – almost every province has had a general review of health system reform and most have had some process for health human resource development. Indeed, one interviewee commented, "Canada has had so many commissions that we are starting to recycle commissioners."

Health Human Resource Implementation Issues

- *Implementation is difficult because health human resource planning has been treated as a separate policy area and has not been linked to other reform initiatives.*

Health human resource planning has often been viewed as an end in itself rather than a process by which we could achieve health system goals. The current discussions about primary care reform are a good example of this separation. Governments have yet to decide on an optimal model for providing primary health care at the same time attempting to "fix" the supply of primary health care professionals. If Canada moves toward a model in which nurse practitioners and others become the first point of contact for patients, and family physicians are used as a resource to that process and are the second line of contact, would this alter our perception of need?

- *Implementation is difficult because health human resource planning is a multi-dimensional and complex policy area.*

The processes to train and deploy health professionals must encompass: education and training issues; the way services are funded and organized; the workplace environment; the individual needs of health professionals; and the population health needs of citizens. Within each of these domains there are multiple levers for policy action and multiple organizations with partial or complete responsibility for implementation. Table 2 provides an initial grouping of those involved. It shows that there may be at least 15 distinct policy levers and at least 15 stakeholder organizations involved in policy decisions and implementation.

Table 2 Policy Levers for Physician and Nurse Human Resource Planning

Policy Lever	Responsibility	Level
Data collection and monitoring	CIHI Ministries of Health Research Organizations Stakeholder Organizations Local communities	National Provincial Provincial/Local Nat/Provincial Local
Number of undergraduate positions	Ministries of Health Ministries of Colleges/Universities Faculties of Medicine/Nursing	Provincial Provincial Local
Number and mix of post-graduate positions	Ministries of Health Faculties of Medicine	Provincial Local
Tuition Costs	Ministries of Colleges/Universities Universities	Provincial Local
Educational Curriculum	Medical Council of Canada Faculties of Medicine/Nursing	National Local
Training Curriculum	RCPSC CFPC Faculties of Medicine/Nursing Academic Health Science Centres	National National Local Local

Policy Lever	**Responsibility**	**Level**
Registration/licensing standards	Regulatory bodies	Provincial
Ongoing competency assessment	RCPSC CFPC Regulatory bodies Employers	National National Provincial Local
Practice standards	RCPSC CFPC Regulatory bodies Professional Associations Employers	National National Provincial National & Provincial Local
Scopes of Practice	Regulatory bodies	Provincial
Immigration policy	Canadian government Provincial governments	National Provincial
System financial incentives	Ministries of Health Bargaining agents	Provincial Provincial
Recruitment and retention programs	Ministries of Health Local communities Employers	Provincial Local Local
Job design	Employers Unions	Local Local/Provincial
Collective agreements	Governments Bargaining agents	Provincial Local

- *Implementation is difficult because the complexity often defeats a comprehensive approach*

Barer and Stoddart identified the need for a comprehensive approach to policy development with appropriate linkage and sequencing plans in 1991. They cautioned governments not to "cherry pick" their recommendations. One of the frustrations key informants have is that this message has not resonated with policy makers or stakeholders. The language of planning uses the terms comprehensive and strategic but the content of policy action is still singularly focused. For example, in reviewing the current initiatives, it is clear that governments have opted to increase the supply of physicians and nurses and have committed funding to do so. But, very little appears to be underway to address broader issues of education, training, system reorganization or maximizing the use of alternative personnel. Informants cautioned that in the rush to expand supply, we yet again are missing the opportunity to deal with the root causes of our shortage-surplus cycles.

- *Implementation is difficult because our policy approach to health care, and thus health human resources, is a mix of market forces and public control mechanisms.*

As referenced at the beginning of the paper, Canada has a mixed model of private and public policy levers to manage both our overall health care system and the processes by which health

professionals are trained and deployed. This approach can be at odds with achieving optimal supply, mix and distribution of skills.

Often, we only tackle part of the issue. For example, governments do have the ability to set the number of people educated and trained and the amount they get paid but they do not have much ability to influence whether these people stay in Canada, where they work and what services they provide. Thus, implementation is tough when only half the equation is being managed. Even collective best efforts in one area can be undermined by individual actions in another. The clearest example of this is the current hope that increasing the supply of medical school and residency positions will mean that more physicians will stay in Canada, work in the communities where they are needed, and provide the services required.[8]

- *Implementation is difficult because health human resource planning starts with the provider as the planning base rather than beginning with population health needs.*

Planning starts with how many providers can provide services to a given population. Ideally, one would start with information about the health needs of the population, how much service and what kind of services they require, and evidence about who can most effectively provide those services.

- *Implementation is difficult because the number of players involved, the effort it takes to get everyone to agree to change, and the actual nature of the solutions means there is often a significant time-lag effect.*

The complexity of managing change in health human resource policy means reaching consensus on a problem, and finding potential solutions, takes years. The impacts of solutions themselves are felt some time after the change – particularly if the change involved training. This means policy makers are often working to solve problems that have shifted in new directions. As one informant commented, "in health human resource planning we are always operating on yesterday's problem."

- *Implementation is difficult because health human resource policy involves people's jobs and incomes.*

Health human resource policy reform is even more contentious than some other areas of health reform as it directly affects the lives of 57,800 physicians and 232,000 nurses in Canada (CIHI 2001). The professional associations and unions in the sector have a clear mandate to represent their members' economic interests. The labour relations aspect of their roles in a service sector such as health care can create a volatile situation.

[8] The most recent example being the announcement in BC of a 75% expansion in the number of medical school positions by 2005.

- *Implementation is difficult because provincial legislative and regulatory schemes differ thus creating different thresholds for registration and varying degrees of flexibility in scopes of practice across the country.*

Regulating health care is clearly a provincial matter. But, are patients so different in each province that the registration and practice standards need to be different within professions across provinces? Secondly, for services that can be delivered by more than one profession, does it make sense to have more than one professional standard? Surely patients would benefit from the same standard of care for the service provided regardless of the type of provider?

- *Implementation is difficult because accountabilities in health human resources are diffuse and there is no coordinating structure.*

Federal and provincial governments, academic centres, regulatory authorities, health care agencies and employers, professional associations, unions all have a role to play in health human resource policy. The accountabilities of all of these groups are different – some to citizens, some to members, some to governing boards.

The axis of confrontation is therefore between individual groups and government. It is left to the government to sort through competing claims, priorities and policy options and no where is there a place where they can all be represented and forced to deal with public interest questions of appropriate use. This was one of the biggest frustrations informants had with the process of reform discussions. They were not able to get everyone in the room at the same time to deal with cross-sectoral issues or to agree on the trade-offs required to move forward.

General Implementation Issues

- *Implementation is more successful when there is a broad base of support for the activity and senior people in government sponsor the work.*

Exercises that relied solely on the commitment and interest of one individual (e.g. a Minister of Health) were much less likely to be implemented than exercises that were seen to have government-wide endorsement. Added to the risk of single sponsorship was the possibility of a change in leadership during the period of review. With the one exception of the Fyke Commission in Saskatchewan, a change in leadership led to a significant decline in interest in implementing the work.

- *Implementation is more successful if there is a clear understanding from the beginning about processes government will use to respond to the work.*

Most exercises did not have an understanding of what would occur after the report was finished and released. This often led to some confusion as to the roles of commissioners after the fact. Those processes that discussed the "day after" with their sponsors in advance of public release were often able to create a monitoring and implementation plan as part of their report.

- *Implementation is more successful if there is an internal champion working with the external group.*

It was the general rule that once the work was completed and a report issued, the group disbanded. Therefore, someone internal to government had to become the champion for carrying the work forward. Without it, reports sit on shelves.

- *Implementation is more successful when commissions anticipate and deal with negative reaction from the beginning of the process.*

Changes to health human resource policy will inevitably draw criticism. Thus, knowing in advance where the concerns are and attempting to work them through increases the chances of implementation. Even if the concerns cannot be alleviated, informants felt that having evidence at hand to counter the anecdotes was a good strategy. A number of informants felt that they had not done this in advance of public release and therefore "gave over" space for public response. Perhaps the best example of this is the referencing of cuts to medical school enrolments in Canada in 1993/94 being cited as the cause for distribution problems in the mid 1990s when the impact in practice, if felt at all, would not show up until 1999.

- *Implementation is more successful when there is a good engagement process.*

Informants felt that a process whereby ideas could be tested through a research and consultation phase rather than waiting until the public document was available increased chances of success. This was particularly true for health human resource planning exercises as the accountability points are so diffuse and implementation requires stakeholder co-operation. It is important to note that this engagement process was seen to be more than just consultation. It was a much more interactive and content laden exercise than just listening.

What Can Be Done?

The research group's initial inclination was to provide detailed recommendations dealing with every issue raised during the project. But, the more recommendations we came up with, the less confident we became that we were "fixing" much. We decided instead to identify the one key thing that must take place if we are to get anywhere with improving health human resource planning capacity. Over and over again in this project, we were told there is currently no viable mechanism for health human resource planning in Canada and therefore, human resource discussions go round in circles, never really getting to the heart of the matter. Tune out, tune in and nothing much has changed.

The evidence and commentary presented to the Commission to date through its research and consultation processes contains a number of themes related to the future health care system in Canada. First, Canadians want change – they understand the status quo is not viable or even sensible (Maxwell et al. 2002). Second, Canadians want a stable, modern, *national* health care system. As the Commissioner keeps pointing out – ten-tiered health care is no way to build a

country. Third, Canadians want a depoliticized governance structure that focuses on services for citizens and not short term political agendas (Lewis 2002).

These themes apply to the state of health human resource planning in Canada. A change in thinking is needed otherwise ad hoc reports will continue to sit on shelves. We see at least four key shifts in thinking that will be required, that will take enormous effort and that will need new ways of engagement. First, health human resource planning must become integrated into system design issues. We must stop treating health human resource planning as a separate policy exercise. Second, health human resource planning must be done from the perspective of population health needs. We must stop creating policy responses on the basis of numbers of personnel. This will be hard. People will state the data is not available. Indeed, we may need to create it. Third, health human resource planning should be on the basis of teams of providers. We must stop planning on the basis of individual health professions. Fourth, health human resource planning requires national cooperation. We must stop individual efforts at the provincial level that are in competition with each other.

Changing thinking requires a champion. Whether the focus is turning around a business, a health care organization, or a policy sector – research shows a change agent is needed (Heifetz and Laurie 1997; Dunphy 1996; Kotter 1995; Shepard 1975). National leadership is required to begin a coordinated discussion about future system requirements and the need for health professionals within the system. While each province, and community within the provinces, have unique needs, those needs will not be addressed if stakeholders continue to compete for limited resources and plan in isolation of each other. Linkage is required across sectors, jurisdictions and stakeholders to create a policy table for health human resources. The currently diffused accountabilities for planning and decision making encourage inertia and finger-pointing. Those who hold these accountabilities need to find ways to plan together.

For all these reasons, we are recommending the creation of a national health human resources coordinating agency to provide focus and expertise – in essence a "quality council" for health human resource planning. The intellectual, financial and political resources required to realize these shifts, in our view, require an institutional structure or agency.

Potential roles for the agency could include:

- *Environmental Scanning*: the agency could continually gather current information about health personnel in Canada. This could include personnel numbers (how many, where they work, what they are providing, what they are being paid); surveys of health professions (surveys of health professionals) and population health data.
- *Trend Identification*: through its environmental scanning the agency could identify trends in numbers, movement across borders (provincial and national), potential issues for specific medical specialities, trends in collective agreements for nurses.
- *Red flag identification*: based on its scanning and trend identification, the agency could act as an early warning mechanism to flag demographic, practice style, environmental, legislative and regulatory, or educational changes and their impact on Canada's health work force. This would get the country ahead of the curve so that educational, training or policy adjustments could be planned in advance of perceived shortages.

- *Best practice clearinghouse*: the agency could act as a clearinghouse for best practice information about integrated planning processes, collaborative educational models, recruitment and retention efforts etc.
- *Planning tool development*: the agency could develop tools for integrative health human resource planning and make them publicly available for use by provinces, regions, employers etc.
- *Indicator development*: the agency could develop leading indicators for the health of Canada's health work force and generate a balanced score card in this regard.
- *Linkage*: the agency could assist planners in linking their policy efforts in health human resource planning with evidence – both in terms of data and in terms of best practice information.
- *Model development*: the agency could develop comprehensive models for planning health human resource capacity to be made available to provinces, regions, employers etc.
- *Public reporting*: the agency could report publicly on the state of Canada's health work force on an annual basis.
- *Joint national planning*: the agency could provide a neutral space to bring together the various stakeholders in the health human resource field to begin cross-sectoral discussions about policy initiatives. All the groups identified in Table 2 will need to be involved but in particular, the health and education sectors need to plan jointly.
- *Knowledge transfer laboratory*: the agency could explicitly identify current Canadian research on health human resources and facilitate its use in policy and planning activities.

These proposals are based on a review of the issues related to physicians and nurses. There is no reason to think the analysis is not applicable to other health professions. However, this project has not tested these ideas in those communities. Ultimately, this agency could and should incorporate an integrated approach and include all health personnel in its work.

Some will ask about the reporting accountability for such an agency. There are many ways in which the agency could be constructed – it could be a separate organization with its own governance structure such as the Canadian Institute for Health Information or the Canadian Blood Services. It could be an extension of the Federal/Provincial/Territorial Conference of Deputy Ministers or the Advisory Committee on Health Human Resources. The research team deliberately did not specify reporting relationships as we felt strongly that the recommendation should be consistent with other recommendations the Commission is going to make. There is no reason that the health human resource planning function should be independent of other planning efforts – indeed, we would argue it should be integrated. We do not know whether the Commission will be recommending some sort of audit and reporting function through a permanent health commission, council or ombudsman. If so, the roles outlined above would fit nicely as one of several strategic foci for such a structure. If not, then a separate agency will be required and reporting accountabilities will need to be identified. This would not be our preferred model.

Whatever the design, there are a number of features we suggest are mandatory. First, the agency will require federal and provincial support – it needs to be a shared creature. Second, while it needs the support of governments, it should not be limited to government-only representation. The policy stakeholders identified in this report *must* have a place in the

organization. Third, it should have a transparent operation with all information available publicly.

Some may react negatively to this idea as just another bureaucracy, but we think it is crucial to provide a focal point for culture change. Unless we begin to think about health human resource planning differently in Canada, we will continue to regard the problem as one of managing supply. However, this agency is not meant to supplant the work that is already being done by others. In fact, it should draw on that work by involving existing agencies in its work plan. For example, the Canadian Institute for Health Information has already undertaken information gathering on health personnel in Canada. The new agency does not need to duplicate this effort but could enter into a partnership with CIHI to provide customized reports. The Canadian Health Services Research Foundation has established health human resource planning as a priority for its current research funding. The new agency does not need to duplicate this effort but could enter into a partnership with the Foundation around knowledge transfer activities. The Federal/Provincial/Territorial Advisory Committee on Health Human Resources has responsibility for policy and implementation issues but has limited resources and membership largely restricted to government representatives. Again, the new agency does not need to duplicate the work being done by the group but could forge a partnership with the Committee by providing best practice information, current conceptual thinking and a broader stakeholder focus.

Some will ask why doesn't Health Canada simply undertake all these functions? That is an option but precisely because responsibilities in this area go beyond government we felt Health Canada would have a difficult time on its own. Historically, Canada has had a situation in which governments do one thing, educational institutions do another, and regulatory authorities do a third. A coordinating structure nationally could break this pattern.

The challenges ahead in thinking differently about health human resource planning are large. They will not be overcome if Canada continues down a path of not addressing the root causes of the problem. This report has attempted to outline some of the barriers to implementing policy change in this complex environment and has proposed a structure that could move us in a new direction. Ultimately, all the current stakeholders will have to give a little to make this work. They all share the same starting point - a common goal to establish appropriate health care services for Canadians delivered by the appropriate health personnel. This will take leadership from governments and from the organizations representing Canada's health professionals. Without it, health policy makers will continue to panic in response to claims of too many or too few and will not serve the interest of Canadians – those who pay the bills.

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