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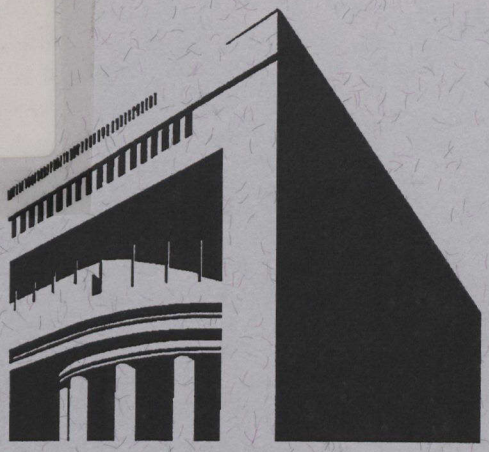

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Physician Resource Management in Atlantic Canada: Programs in New Brunswick, Newfoundland, Nova Scotia, and Prince Edward Island

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PHYSICIAN RESOURCE MANAGEMENT IN ATLANTIC CANADA: PROGRAMS IN NEW BRUNSWICK, NEWFOUNDLAND, NOVA SCOTIA AND PRINCE EDWARD ISLAND

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PHYSICIAN RESOURCE MANAGEMENT IN ATLANTIC CANADA: PROGRAMS IN NEW BRUNSWICK, NEWFOUNDLAND, NOVA SCOTIA AND PRINCE EDWARD ISLAND

Physician resource management plans are being set in motion across Canada in an effort to manage the number, mix, and distribution of physician resources. This paper describes plans recently implemented in the Atlantic Provinces of New Brunswick, Newfoundland, Nova Scotia, and Prince Edward Island. The methods used in each province are compared, with common and disparate techniques identified. Each of the Atlantic Provinces faced the reality that the number of physicians was growing more rapidly than the population, with declining fiscal resources available. To ensure adequate physician resources, appropriately distributed geographically and by specialty, each province has initiated a physician resource management plan, although each is at a different stage in the process. The Atlantic Provinces have many similarities, however, the structure of the plans reflect the unique characteristics of each province, both geographic and political. This study demonstrates how physician resource management plans may have differing structures, with common goals. The plans in the Atlantic Provinces provide examples of varied approaches to managing physician resources more efficiently within a fiscally constrained environment.

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The management of physician resources has become a reality in a growing number of Canadian provinces. The reasons for managing physician resources are essentially the same in the different provinces, the number of physicians are increasing at faster rate than the population, while at the same time a maldistribution of physician resources, both by specialty and geographically, continues. The provinces faced with rising health care costs, declining federal transfer payments, and often inefficient health care systems have been forced to take action. The management of physician resources is one tool chosen to manage a segment of the health system which accounts for a significant portion of health expenditures and influences costs in an even greater part of the health system.

This paper describes and compares physician resource management plans which have been implemented in the Atlantic Provinces of New Brunswick, Newfoundland, Nova Scotia, and Prince Edward Island. The initiatives, which are in various stages of maturity, generally have common goals for managing physician resources. The plans have many traits in common, but also have distinct differences which tend to reflect the unique political and geographic characteristics of each province.

CANADIAN HEALTH CARE

The publicly financed health care system in Canada has been widely described, however to put the changes occurring in the Atlantic Provinces in context it is helpful to briefly review the system's structure (1-3). Although the Canadian health care system is widely discussed, there is actually no national health system, rather each province has its own system which is structured to meet the unique characteristics of the province. The federal government provides partial funding as long as each province meets the basic requirements of ensuring that its health system is universal, comprehensive, portable, accessible, and publicly administered. The portion of total health expenditures funded by the federal government has continued to decline and the original transfers for health were scheduled to be phased out around the turn of the century. In order to perpetuate the federal government's ability to enforce health care requirements, plans are now in place to combine transfer payments for health, social programs, and education into one payment.

PHYSICIAN RESOURCE MANAGEMENT

Physician services consumed 14.2 percent of total health expenditures in Canada in 1994. The percentage of provincial government health expenditures consumed by physicians peaked accounted stood at 20.9 percent in 1994, down from 21.8 percent in 1991 (4). Although the portion consumed by physicians is substantial, there are estimates that decisions made by physicians influence up to 80 percent of total health expenditures. Faced with an increasing number of physicians and declining fiscal resources, a growing number of provinces have chosen to implement plans to manage the number, mix, and distribution of physician resources.

Current plans to manage physician resources have been initiated at the provincial level and although the Provincial/Territorial Ministers of Health agreed that a national plan would be completed by March 31, 1996, to date the plan has not been implemented. A major physician concern with the various provincial plans has been physician mobility. The plans put in place have varied from thorough and well thought out to quick responses designed to protect a province from the results of another province's plan. The physician community's concern with the disparate nature of the plans prompted the Provincial/Territorial medical

associations and the Canadian Medical Association to establish the National Ad Hoc Working Group on Physician Resource Planning in 1994. The working group presented its recommendations dealing with many technical and policy issues in September 1995 (5).

THE ATLANTIC PROVINCES

While the physician resource management plans in New Brunswick, Newfoundland, Novas Scotia, and Prince Edward Island have many common characteristics, there are also distinct differences in the structure and maturity of the plans. Each was based, at least in part, on the recommendations of a multidisciplinary group which was formed for the specific purpose of advising the government on the future management of physician resources. The names of these groups varied from physician resource advisory committee to physician resource advisory group to physician resource planning committee, but all had a common purpose. The founding of these groups resulted from the recommendations of the numerous provincial royal commissions and task forces formed in the 1980s, which expressed concern over the unbridled and uncontrolled growth of physician resources.

Each of the Atlantic Provinces expends less of its provincial government health expenditures on physician services than the national average (Table 1), but each has concerns about the number, mix, and distribution of physicians (4). Three of the provinces have had difficulty in encouraging physicians to locate in underserved areas, while having too many physicians in certain overserved, normally urban, areas. The overall number of physicians are felt to be too few in New Brunswick and Newfoundland, too many in Nova Scotia and about right in Prince Edward Island. Thus, even though the goals of the plans are similar and many of the methods are common across plans, the starting point varies by province.

New Brunswick

New Brunswick is the only officially bilingual province in Canada, with its population of 754,000 being approximately 65 percent Anglophone and 35 percent Francophone. The province, which is generally rural outside the major cities of Saint John, Moncton, and Fredericton, the capital, has over 50 percent of its population in rural areas.

On April 1, 1992, New Brunswick implemented major health system reforms. To regionalize the governance of

select segments of the system, eight region hospital corporations were established to replace local hospital boards and management committees of health service centers in the province. A major portion of the reform process, which deals with identifying and managing the number, mix, and location of physician resources, was implemented in July 1992, with the region hospital corporations assuming responsibility for physician resources in their respective regions (6-9).

Earlier efforts to encourage physicians to locate in underserved areas of New Brunswick did not achieve the desired results. The most recent attempt, which was terminated when the physician resource management plan was put in place, was to pay general practitioners and specialists establishing practices more than 40 kilometers from the three major cities 110 percent of the approved fee schedule. General practitioners settling closer to the cities were paid 75 percent of the schedule (10,11).

The physician resource management plan in New Brunswick was based on recommendations of the Physician Resource Advisory Committee. The Hospital Master Plan 92, which specified the location of primary, secondary, elevated secondary, and tertiary services, served as the basis for determining the location of specialists in the province (12,13).

Full-time equivalent targets for the desired physician supply for 2000-2001 were developed based on a desired general practice/specialty mix of 50 percent general practitioners and 50 percent specialists, excluding tertiary care specialists. The targets were calculated using population to physician ratios based on the projected year 2000 population. The Department of Health and Community Services developed a physician projection model which is used in projecting annual changes needed to attain, but stay within the phased in targets. The model takes into consideration a number of factors that influence physician productivity, including age and gender (8,14).

Under the New Brunswick plan, each region is assigned targets by specialty. The region hospital corporation is responsible for determining the location of physicians within the region, although the Master Plan 92 drives the location of specialists to a large degree.

The New Brunswick government has implemented an initiative which became effective on April 1, 1996, that allows doctors who want to retire to retain their billing numbers while recruiting a replacement. The phase-out plan allows physicians to retire gradually. Only doctors in regions at or under the designated physician targets are eligible to apply for the program (15).

Three factors affect the management of physician resources in New Brunswick. First, the province has no medical school, but has agreements with Nova Scotia, Quebec, and until recently Newfoundland for the training of medical students from the province. Second, the bilingual population requires that language be a consideration in establishing targets for physicians by region. Last, the province started from an overall shortage position in the number of physicians required, which it can be argued makes managing physician resources easier than in those provinces with an overall surplus of physicians.

Newfoundland

Newfoundland, Canada's newest province, is made up of two land masses, Labrador and the island of Newfoundland. The only major urban area in the province is St. John's, the capital, which has 172,000 of the province's 570,000 population. The population is projected to decline in the short term and it was the only province which showed a drop in population between 1993 and 1994 (16).

The geography of the province, with its many isolated areas, has long created a challenge in encouraging physicians to locate their practices in areas of need. These difficulties led to the realization that some practice

sites would not support a physician in a fee-for-service practice. Salaried physicians have become a way of life in the province, with salaried positions established in a number of remote areas. In 1995, 27.4 percent of physicians in Newfoundland were salaried, at the same time 39.1 percent of general practitioners were salaried. The number of salaried physicians increased by 15.2 percent in 1995 compared to a 2.8 percent increase in the total number of physicians in the province (17-19).

Newfoundland has been historically dependent on international medical graduates to a fill a substantial portion of the isolated slots. About 40 percent of the physicians in the province are graduates of foreign medical schools, with even a higher percentage of rural physicians being foreign graduates (20).

The medical school at Memorial University of Newfoundland was established in 1967 with the key goal of training physicians who would locate their practices in the rural areas of the province. Many graduates of the medical school still choose to practice elsewhere, even with the focused efforts on rural medicine by the medical school (17,21).

The government of Newfoundland and the Newfoundland and Labrador Medical Association have worked through the Joint Management Committee to develop a physician resource

management plan for the province. Even with persistent shortages in rural areas of the province, a surplus of physicians in the St. John's area continues.

The Physician Resource Advisory Group (PRAG), appointed by the Joint Management Committee, developed a plan which was submitted to the government and the medical society for approval. The selection of a new premier and a call for a new election in early 1996 delayed the implementation of the plan.

The plan calls for physician full-time equivalent (FTE) targets by region and by specialty. The advisory group used a combination of physician to population ratios and the service target methodology to develop physician targets. The final recommendations called for 46.9 percent of physician FTEs, including tertiary care specialists, to be general practitioners (22,23).

One unique feature of the plan in Newfoundland is a provision for allowing physician mobility. Under the PRAG recommendations, a physician would receive points for time spent in practice. The more isolated the practice site the more points received, with very remote sites possibly requiring only one year of practice to gain mobility. Once a physician received a certain number of points they would be granted mobility to practice anywhere in the province at 100 percent reimbursement. The mobility provision would

make it more palatable for physicians to locate in remote areas, but could create difficulty in reducing the physician surplus in overserved areas (22,24).

All parties have generally agreed to the proposals contained in the PRAG report, however the requirement for rural physicians to be attached to regional hospital board and the mobility issue have raised concerns. The medical society supports the attachment issue in principle, but is concerned about the mechanics of the process. Both the government and the medical society generally support the mobility issue, however, the lack of funds to implement such a plan as proposed by the PRAG has become a sticking point. These two issues have held up adoption of the overall PRAG plan. The Minister of Health, in an address to the medical society, raised the possibility of separating some of the issues to accelerate overall implementation (22,23,25).

Because of the anticipated delay between the issuance of the PRAG report and its ultimate adoption by government, the government instituted several interim measures. Included was a bonus system for physicians practicing for two years in areas deemed rural or isolated. The bonuses are between $5,000 and $10,000 per year depending on the area of practice and are paid at the end of the two years of practice. Also, salaried physicians in small practices will

be compensated for extra workload which results from vacant positions (17,24,26).

Nova Scotia

Nova Scotia, the most populous of the Atlantic Provinces has a population of 938,300. Even with this larger population, much of the province outside of the greater Halifax area is rural. The economy of the province is highly diversified, with the service industry being the largest employer.

Physician resource management in Nova Scotia has moved slower than in the other Atlantic Provinces and has generally been more contentious. The inability of the government and the medical society to reach agreement led to negotiations being broken off in late 1994. In March 1995, the board of directors of the medical society submitted a proposal to the membership with the threat of mass resignation if it was not approved. Unlike other provinces, the Physician Resource Advisory Committee did not provide the recommendations that have structured change in Nova Scotia, not meeting until early in 1995, well after it had been established, with its recommendations still not published in March of 1996 (27-29).

The Nova Scotia Royal Commission on Health Care recommended in 1989 that the government take steps to regulate the supply and geographic distribution of physicians. The Task Force on Physician Policy Development, established in 1993 as a result of the Royal Commission's recommendations, concluded that immediate measures were needed to address the distribution of physician resources. Yet it was a full two years before the government and the medical society could reach any agreement on the needed actions (30,31).

Among the initiatives agreed to were, as in many other provinces, restrictions on billing numbers. Doctors will not be able to move their practice without having a new billing number issued by the Department of Health. The surplus of physicians in the Halifax area drove these changes, with over 60 percent of all physicians in the province located there (31).

Also included in the changes were incentives to encourage physicians to locate in underserved areas. Physicians signing a five year contract for service in an underserved area will receive a minimum signing bonus of $50,000 payable over the life of the contract. The plan also calls for an option of having a guaranteed minimum income. A recruiter was employed to help in finding physicians to locate in the rural areas. Only two

physicians located in rural Nova Scotia during the first year of the incentives, although 100 others expressed interest in coming to Nova Scotia (31-33).

The Department of Health has also implemented a billing number buyout program for physicians who were age 71 as of September 1, 1995 or will reach that age by August 30, 1999. Under the buyout program, the physician will be offered the buyout six months before they become eligible and the physician will have three months to accept. If the offer is not accepted within the three month period it will expire. A physician agreeing to the buyout will receive 60 percent of the physician's average gross billings for the two year period before the buyout (32).

Nova Scotia has a medical school at Dalhousie University and trains physicians for areas outside the province. The school has agreements with New Brunswick and Prince Edward Island to train medical students from those provinces.

The province also provides certain tertiary services to residents of New Brunswick and Prince Edward Island under existing agreements. These agreements require a larger critical mass of physicians than might otherwise needed in the province. However, providing those services for other jurisdictions also allows the province to have the volume

needed to offer services that might otherwise be difficult to justify.

While physician resource management has moved somewhat slower in Nova Scotia than other provinces, there has been continued progress in reaching agreements with the medical society on various changes to the existing system. The Physician Resource Advisory Committee's report will provide a basis for continuing these changes.

Prince Edward Island

Prince Edward Island, the smallest of the Atlantic Provinces, has a population of approximately 135,000, with over 60 percent of the population living in rural areas. The island covers 5,660 square kilometers and may be currently reached only by air or water, however a bridge or fixed link is scheduled to be finished in 1997 which will connect the island with New Brunswick.

Prince Edward Island has one of the oldest and most established physician resource management plans in Canada. The current plan was initiated in 1989. The province has had less difficulty in attracting physicians over the years than other provinces and does not have the same problems found elsewhere in encouraging physicians to locate in rural areas (34).

Prince Edward Island does not offer a full range of tertiary care services, instead it has arrangements with Nova Scotia and New Brunswick to provide those services. It is impractical for the province, with a small population base, to maintain the critical mass of physicians and facilities needed to provide all services on the island. General practice services are provided in all regions and speciality services are offered in two regions. The province does not have a medical school, but contracts with Dalhousie University Medical School to train medical students from the province (34-36).

In 1993, the province regionalized its health care establishing five regional boards, which not only have responsibility for health services, but also oversee social services and the corrections system. The comprehensive responsibilities of the regional boards also includes managing the physician resources within each region. The size of the population within each region varies dramatically, ranging from 7,600 to 60,000 (34,35).

At the end of fiscal year 1993-94 there were 149.4 full-time equivalent physicians practicing in the province. In October 1995, 49.5 percent of the full-time equivalent physicians in Prince Edward Island were general practitioners (34,37)

Although Prince Edward Island uses full-time equivalents to compute its physician supply, the national methodology is not used for internal purposes. Instead a method which counts any physician making more than 50 percent of the average physician income as one full-time equivalent. Those making less that 50 percent of the average income, or part-time physicians are converted to some portion of a full-time equivalent (34).

Physician planning is the responsibility of the Physician Resource Planning Committee (PRPC), which is jointly sponsored by the Health and Community Services Agency, the Health Association of Prince Edward Island, and the Medical Society of Prince Edward Island. The PRPC works in collaboration with the Health and Community Services Agency to develop plans for island-wide services and future physician supply. The PRPC is working to develop a needs based plan for determining the future physician supply requirements. In its early stages, the needs based plan is intended to provide better indicators of need than using population to physician ratios (34,38).

COMMON CHARACTERISTICS

Full-Time Equivalents

Physician head count has often been used to characterize physician supply. The method is problematic, since it does not account for the physician's intensity of service or activity level. To minimize the misrepresentation each of the provinces uses full-time equivalents to measure physician resources. Each, except Prince Edward Island, uses a modified version of the National Full Time Equivalency (FTE) Methodology developed by Federal Provincial Working Group for the Development and Review of Medical Care Statistical Indicators. Modification of the methodology was required, since it only allowed computation of fee-for-service FTEs and did not include radiology and laboratory services (39).

The model uses gross income per fee-for-service physician to measure output or workload. There is a wide range of output among physicians within the same specialty which necessitates using a range of output to describe a realistic full time fee-for-service physician. The fee-for-service computation establishes a lower benchmark and an upper benchmark, the 40th and 60th percentiles respectively. If the physician's earnings are between the benchmarks, the

FTE is calculated to be one. If the earnings are below the lower benchmark, the FTE is the ratio of earnings to the lower benchmark. If the earnings are above the upper benchmark, the FTE is calculated as one plus the natural log of the ratio of earnings to the upper benchmark (39).

The modifications vary between the provinces, with New Brunswick having developed a methodology to compute the FTEs for all physicians. Newfoundland and Nova Scotia are currently working on methods to compute FTEs for those physicians not covered by the national methodology. Prince Edward Island uses a different and more simplified procedure to compute FTEs for internal use (22,40-42).

The methods used have allowed the intensity of service to be compared across groups of physicians, by specialty. Measuring the required physician supply using full-time equivalents provides a more accurate depiction of requirements and available supply.

Reduced Reimbursement

Each province uses some method to restrict or totally withhold reimbursement for physicians locating practices in areas where there is an existing surplus of physicians. The amount of reduction is sometimes different for general practice and specialty physicians. Nonetheless, the intent

is the same, to discourage physicians from locating in areas of oversupply. The hoped for result is that the physician will then locate in an area of physician shortage.

Although not directly part of the physician resource management plans, each of the Atlantic Provinces has implemented some form of individual physician income threshold policies, with New Brunswick being the latest to implement the policies (15,43). In each case the thresholds are high enough that the average physician is not impacted, but those high billing outliers will have billings after a certain level reduced. The thresholds in Nova Scotia and Prince Edward Island are the same for all physicians, while those in New Brunswick and Newfoundland differ for general practitioners and specialists (Table 2).

Development of Physician Targets

Each province has, or is in the process, of in some manner developing targets for the number of physicians needed in various areas of the province. The use of manpower to population ratios to ascertain physicians needs has predominated in the early stages of physician resource planning. Although other methods, such as the health needs, health demand, and service target methods might more accurately define the physician needs in each geographic

area, the information needed to properly use the methods has not been available. Some provinces have continued to attempt to refine the targets and develop more accurate measures of need while initially using the method available. The physician to population ratios have also allowed comparison of physician resources between provinces. Future refinement of the current methods for determining targets will allow a more accurate definition of physician needs (8,22,38).

THE FUTURE

Physician resource management has become a way of life in the Atlantic Provinces of Canada. Each province has determined a need to manage the number, mix, and distribution of its physician resources. The reasons are fairly common across provinces, with shrinking resources and a maldistribution of resources being prominent factors for implementation of the plans.

The basic strategies used to manage physician resources are consistent among the four provinces, while each has taken divergent routes in certain areas. Some provinces have moved rapidly and have been more regulatory in imposing the plans, while others have chosen to move at a slower pace, attempting to achieve consensus where possible on the

methods to be used and the ultimate goals of the plans. The level of cooperation between the physicians and the government has varied. In some cases the medical societies chose to work with government, understanding that some change and controls were inevitable. Although this appears to be the predominant attitude of physicians, it was not present in every case.

The future of physician resource management depends to some degree on the ability to develop comprehensive plans which will allow mobility of physicians throughout Canada. Even though mobility is an important factor, it does not seem probable or practical that unlimited mobility will be possible under today's environment.

The outcome of pending legal cases which challenge the legality of restricting physicians' rights to practice where they desire will ultimately decide the future effectiveness of the plans. Without ability to implement regulations to support the physician resource management plans it is unlikely that the full effect will be possible.

Physician resource management in Atlantic Canada provides diverse examples of approaches used to achieve common goals, but with plans that have some common characteristics. Each province must have a plan which meets its own political and geographic characteristics, one plan could not be equally effective for all four provinces.

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Table 1, Physician Services as a Percentage of Provincial Government Health Expenditures and Percentage Change from Previous Year, New Brunswick, Newfoundland, Nova Scotia, Prince Edward Island, and Canada, 1985-1994.

Year	New Brunswick		Newfoundland		Nova Scotia		Prince Edward Island		Canada	
	Percent Total	Change	Percent Total	Change	Percent Total	Change	Percent Total	Change	Percent Total	Change
1985	16.7%	8.2%	13.9%	7.1%	16.5%	10.9%	15.6%	9.6%	20.8%	9.2%
1986	16.8%	7.8%	13.7%	7.1%	16.6%	6.5%	16.1%	11.1%	21.3%	11.0%
1987	16.7%	9.5%	14.0%	10.5%	16.6%	7.7%	16.3%	9.4%	21.8%	10.3%
1988	17.0%	10.3%	14.5%	11.2%	16.4%	7.4%	16.2%	7.4%	21.8%	8.2%
1989	17.1%	9.6%	14.8%	9.0%	15.7%	4.1%	16.1%	8.0%	21.3%	7.2%
1990	16.3%	2.6%	14.7%	9.9%	15.4%	6.5%	15.9%	5.6%	21.4%	8.6%
1991	17.4%	7.7%	14.5%	2.6%	15.3%	5.8%	15.7%	4.6%	21.8%	10.6%
1992	17.2%	3.1%	14.7%	2.9%	15.4%	2.6%	16.0%	6.0%	21.2%	2.3%
1993	16.9%	3.7%	14.5%	1.0%	16.4%	5.9%	16.2%	2.2%	20.8%	-1.1%
1994	17.1%	3.0%	14.3%	1.8%	16.5%	-2.0%	16.0%	-3.0%	20.9%	-0.4%

Source: Health Canada. (1996). National Health Expenditures in Canada, 1975-1994.

Table 2, Individual Physician Income Threshold Policies, New Brunswick, Newfoundland, Nova Scotia, and Prince Edward Island, 1996.

Province	Policy for Income Overruns
New Brunswick	70% of billings over $275,000 for GPs 40% of billings over $325,000 for GPs 70% of billings over $400,000 for Specialists 40% of billings over $450,000 for Specialists
Newfoundland	67% of billings over $300,000 for GPs 33% of billings over $350,000 for GPs 67% of billings over $400,000 for Specialists 33% of billings over $450,000 for Specialists
Nova Scotia	88% of billings over $140,000 all physicians 75% of billings over $400,000 all physicians
Prince Edward Island	75% of billings for first $25,000 in excess of 1.75 x mean 50% of billings for next $25,000 in excess of 1.75 x mean 25% of billings for the remainder of billings

Source: King, R. (1996). Main Estimates (1996/97) presented to New Brunswick Legislature, March 27, 1996.
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