Toward Improved Access to Medical Services for Relatively Underserved Populations:
Canadian Approaches, Foreign Lessons

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A. Scope of Project and Introduction

This document is intended to provide a status report on initiatives in place across Canada, the primary objective of which is to improve access to medical care in areas that are considered underserved. The number of such policies and practices one finds as one canvasses the provinces and territories is astonishing, the fact that one finds variants on the same few themes virtually everywhere one looks is revealing, and the relatively ineffective record of this panoply of policies in reducing the geographic disparity of primary and secondary medical services, is sobering.¹

Because it is so obvious that Canada continues to suffer from relative policy impotence in this arena (despite copious good will and much creativity and innovation), we also examined a small set of other countries in the hopes of gleaning some lessons from abroad about what might be importable, and effective. To this end, we offer relatively detailed descriptions of initiatives in the United Kingdom, the United States, Australia and New Zealand.

More specifically, the objectives of this report are to:

♦ provide in one document a detailed account of the historical and current initiatives in each province and territory, intended to redress geographic imbalance in the provision of medical services (Appendices 1-12);

♦ report on the approaches taken in other countries to which Canada often looks for policy inspiration (bad examples can also inspire important avoidance strategies) (Section C);

♦ summarize the provincial/territorial experiences, in order to draw out common themes and experiences (Section B);

♦ offer some reflections and lessons on the basis of the information and materials gathered in support of the first three objectives (Section D).

¹ Indeed, there are indications that, at least in some locations, the geographic disparity may be getting worse, although the reasons for this erosion are not clear. For example, Hutten-Czapski (1998) argues that "[r]educed enrolments in medical schools, which began in the early 1990s, have reduced the flow of family medicine residents to rural Canada", without providing any supporting evidence. One might be forgiven for wondering, if dramatically increased enrolment did not substantially alleviate the rural area primary care problem in previous decades, how a much smaller reduction in that enrolment might be implicated so quickly now. In fact, in most medical schools, completing a family practice residency takes four years of undergraduate training plus two years for the residency itself. The "early 1990s" reductions began in 1993. From here it appears that Hutten-Czapski's claim is mathematically impossible. It seems more likely, if anything, that the change in post-MD training requirement, to a minimum two-year family practice residency, may have reduced the flow of such residents. Decisions about how to allocate post-MD training slots rest with the academic health centres of this country. If the most pressing needs are for rural family practice training, those health centres have the levers to make it happen.
We employed two main research 'engines' in pursuing these objectives. The first was an informal (and admittedly not exhaustive) written (paper and electronic) survey of key contacts in each of the provinces and territories. We provided each with a description of policies in their jurisdiction as we understood them to have been as of late 1996, accompanied by three requests:

i) that they correct, expand, and update the information provided, to reflect the current situation;

ii) that they provide us with any internal (public but not published) documents that would offer details of historical or current policies;

iii) that they provide us with any internal (but public) documents describing evaluations of any of the policies addressing these geographic inequities.

We followed a similar strategy for the four international perspectives. Supplementing work completed in 1996 with a review of more recent literature, we developed a profile of policy experience in each country, which was then sent to key informants in each country with similar requests.

The second 'engine' was a literature search, through which we canvassed published as well as so-called "fugitive" or "grey" materials (e.g. technical reports, conference proceedings, theses, and government papers/policy documents) addressed to this topic. We searched Medline, HealthStar, and Embase in order to obtain as many relevant articles as possible. The MeSH terms used for Medline and HealthStar included "Professional Practice Location", "Physicians", "Medically Underserviced Area", "Education Medical", "Rural Health Services", "Rural Health", and "Internship and Residency". Subheadings such as "-Manpower", "Supply and Distribution" and "-Trends" were applied to the MeSH terms where appropriate. The terms used in Embase included "General Practice", "Primary Health Care", "Health Service", "Clinical Practice", "Community Medicine", "Family Medicine", "Rural Health Care", "Rural Area", "Geographic Distribution", "Health Care Policy", in combination with the following terms; "General Practitioner", "Medical Specialist", "Physician", "Medical Education", "Physician Attitude", "Decision Making", and "Manpower Planning". Additional key words (e.g. underserv: adj2 area) were used in order to refine the search further.

We also searched the Canadian Business and Current Affairs (CBCA) database and OCLC FirstSearch database in order to access articles not indexed in Medline, HealthStar, or Embase. Library catalogues such as the Canadian Institute for Scientific and Technical Information (CISTI), BC Ministry of Health Web Catalogue, and Health Canada Library, as well as many Canadian University Health Library Catalogues were all checked for books, reports and other documents relating to this project. The Journal of Rural Health and The Canadian Journal of Rural Health were hand-searched to identify relevant articles.

The detail that emerged on the provinces and territories can be found in the set of 12 appendices to this report. It will not escape the observant reader that these are of
variable comprehensiveness and coverage, in three respects — temporal, policy range, and evaluative. Some provinces provided more historical detail than others. Rather than forcing consistency (to the lowest common denominator) by eliminating all but the most recent/current policy information, we have attempted to include summaries of all information provided to us. Similarly, while all provinces provided information on the 'core' regulatory/administrative and financial policies, we suspect that we have a less complete record of (current and past) core and continuing medical education, and telehealth initiatives, for example. And finally, we have reported on evaluations about which we are aware; there may be others. Within the time and funding constraints of this project, we were not able to bring complete closure to what had become seemingly endless iterations of information gathering, processing, and updating. Nevertheless, we believe that the overall Canadian picture that emerges is sufficiently 'in focus' that it would not be significantly enhanced through 'higher resolution'.

One of the unavoidable hazards of this sort of policy analytic work is that it will be out-of-date not only before it reaches its intended audiences, but indeed before the writing is completed. While we have attempted to ensure that our information is up-to-date, the "date" tends to be a moving target. We first canvassed provincial/territorial contacts, and undertook our initial literature reviews, in the late spring of 1998. Some responded almost immediately; from others we received this first round of information well into the fall. Immediately we had the problem of inconsistent 'reporting' dates. As we completed provincial/territorial summaries, these were sent back to those contacts, for confirmation, but also by then, for further updates. Again, jurisdictions responded over a two month period. New information, and new literature, continued to come in even as we were attempting to close the files. The descriptive sections of the report should be taken to represent the policy landscapes as of late fall 1998/early winter 1999, except where we explicitly indicate other dates of record (as, for example, through more recent personal communications). While it is sometimes tempting to get lost in the ever-changing details, which do reflect the tenacity of these policy issues and the huge effort expended to address them, both here and internationally, one should not lose sight of the fact that this is 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.

What's the Problem Anyway?

Underlying Health Canada's interest in this work was a) a sense that this 'problem' was, if anything, getting worse; and b) a feeling that there must be some common truths, or lessons, that might emerge from a comprehensive appraisal of what was being done across the country to address the 'problem', and with what measurable effects (personal communication, Judith Dowler, March 1998).

But what exactly is the problem? It is variously characterized as "geographic maldistribution of physicians", "inequitable access to primary care services", "underserved areas", "overworked physicians in rural, remote and isolated communities", and so on.
What is often not clear is whether the problems are primarily those of patients and potential patients having difficulty accessing necessary and appropriate services, those of physicians (and occasionally other, although much less vocal, health care personnel) facing situations and workloads that are quality-threatening and impossible to sustain, or unmet income aspirations. In practice, each situation is unique. In some, the argument is that physicians are over-worked, have to deal with unreasonable call, and do not have adequate support in many smaller communities across the country. They get burned out, and head for more hospitable work environments. In others, the problem is simply that a community cannot hold onto a source of primary care services, and so it is the potential risks (and considerable inconvenience) to future patients that come to the fore. In many, it appears to be a combination of too few (and therefore overtaxed) care resources leaving populations vulnerable; and in a few, one is drawn to the inescapable conclusion that incomes, rather than workload or quality of care or access to care, are the pre-eminent issues for physicians.

There is no consensus as to what constitutes appropriate distribution of physicians (or for that matter of any other of the myriad health professions). It may be reasonable to think about a distribution of general/family practitioners that is roughly equal across regions of some particular size as being appropriate. But such a criterion for evaluating the distribution of thoracic surgeons, for example, would be clearly inappropriate for regions within a province such as Saskatchewan, simply because of the much larger population required to sustain a single practice in thoracic surgery -- for most regions, a reasonable number of resident surgeons in this specialty might be zero or, looked at another way, the relevant size of "region" when considering the requirements for some types of specialists, may be the whole province, or even a cluster of provinces. The corollary is that unequal travel "convenience", for example in getting to a thoracic surgeon, is an unavoidable fact.

But even for general practitioners, an objective of equal distribution may not be appropriate. For example, arguing that each region of British Columbia should have the same general practitioner/population ratio as one of that province's major urban centres, seems transparently inappropriate if there is general agreement that there is an oversupply of general practitioners in that urban centre. On the other hand, it could be (and has been) argued that a community with ready access to a full range of specialists and tertiary services, should, in fact, require fewer general/family practitioners (setting aside the question of whether all the specialists are required). Furthermore, because of the need for on-call coverage and relief, it is often argued that a higher ratio may be necessary in smaller communities (see, e.g. Professional Association of Internes and Residents of Ontario, 1997). So the arguments about "equality" cut many ways. Even were we to choose a baseline community which all agreed had a reasonable ratio, there may still be communities with insufficient population to support a resident general practitioner -- ergo, equal is not an appropriate criterion. At the end of the day, there is no objective science that can help us out of this fundamentally social/political dilemma. An appropriate supply of physicians of any particular type is that supply that a society feels it needs and is prepared to support (Barer and Stoddart, 1991a). The corollary is that an "appropriate distribution", of any type of health care personnel must also be, in the end, a social
judgement. These will vary across countries, provinces, and regions, and hold true irrespective of the method of health care financing.

There is also a danger in focusing too closely on any one category of personnel in this pursuit of the distributional holy grail, because doing so runs one the risk of overlooking policy solutions that lie outside the subset of interest. The Yukon Territory, for example, relies on a model of primary care centred around a combination of primary care physicians and extended role nurses, and has policies in place to discourage the immigration of new physicians. Unlike most provinces, the Yukon philosophy is that adequate quality primary care can be provided to many segments of its population using a different model. This is not to argue that the populations in large urban centres of this country would (or even should) accept a similar care model. But it does suggest that expanded horizons might help alleviate some of the allegedly critical shortages of physicians in some of the communities south of the 60th parallel.

Leaving aside the matter of what constitutes a "shortage" (another debate that "science" will not help us resolve; see recent exchange between Ryten (1998) and Evans (1998)), we can observe the very real variations in per capita supply of physicians, we can measure regional variations in use of services, we can relate these variations to estimates of need (based on, for example, the age, sex and socioeconomic mix of populations, the prevalence of particular health care problems, health status indicators, etc.), and we can develop reasoned and reasonable judgments, with the help of quantitative research, about the appropriateness of physician availability, given the availability of other health care resources, the ease of inter-regional transport and proximate health care facilities, and other considerations that should bear upon the need for particular types of services, and therefore particular types of health care personnel, in particular locations (Roos et al., 1996; Roos, 1997).

Making matters even more complicated is the fact that specialty and geographic distribution often get blurred in policy discussions. The likelihood that a student will eventually enter rural practice is closely related to the specialty chosen. In general, the more specialized the discipline, the less likely the physician will ever (or should ever) practice in rural areas. One can clearly have different degrees of geographic maldistribution for different specialties. But "specialty maldistribution" is generally taken to mean that there is an inappropriate overall distribution of physicians across specialty categories (general practice, internal medicine, etc.). Such a maldistribution may result in geographic maldistribution of certain specialties, although one could certainly have what was considered a serious geographic distribution problem, without there being any accompanying overall specialty distribution problems.

Why is this relevant to the topic of this report? The interconnectedness of the two variables (choice of specialty, choice of practice location) means that policies intended to address one will inevitably affect the other. Individuals choosing general/family practice, or a generalist specialty, are more likely to end up serving a rural/remote community. It would make no sense to increase the number of sub-specialty residency positions, at the
expense of general practice or generalist specialty positions, if a predominant policy preoccupation is primary care in rural and remote communities. Having said that, however, it would make just as little sense for medical schools to address the rural area primary care problem by reducing the number of specialty residencies in order to boost the complement of family practice residencies, if at the same time other policies were not put in place to ensure that a significant proportion of the new family practice graduates were actually going to end up practicing in those rural areas where the needs were. In the absence of such complementary policies, one is likely to end up with a shortage of many specialties, an exacerbated urban surplus of general/family practitioners, and rural communities in much the same situation as they have been in for decades.

All of this is meant to emphasize that the problems are rarely as clear cut or one-sided as many accounts in the popular media (or even scientific journals) would suggest, and the solutions, if there are any, are likely to be complex, multi-factorial, interdependent, and dynamic. There is a reason these problems have been with us for so long.

**Canada is Not Unique**

Wide variations in the geographic supply of physicians is a part of the landscape in virtually every country in the developed (and developing) world. It is thus a common feature across a rich and varied mix of health care system organizational and financing arrangements (Organization for Economic Cooperation and Development (OECD), 1994), and has survived an equally rich and creative mix of attempts at remediation. We find large differences in per capita physician supply across the countries of the OECD. For example, 1994 data from the OECD reveal a range from 920 people per physician in Turkey, to 250 people per physician in Greece (OECD, 1996). In all of these countries, considerable regional supply variation persists despite, in many cases, decades of waiting for the markets to solve the problem, or regulatory or financial initiatives intended to improve these situations.

As a leading example of this intra-country variation, the population per physician in the United States varied in 1991 from about 660-725 in states such as Alaska and Idaho, to 265-280 in Maryland, Massachusetts, and New York (personal communication, Bradley Gray, January 1997). This wide variation in physician supply has been seen as a significant policy problem in many OECD countries for many years (see, e.g., Ritsatakis, 1988; Kalandidi and Ritsatakis, 1988; Malcolm, 1991). Those countries where geographic distribution is not seen as an issue tend also to be countries which are geographically much smaller than Canada, with much higher population densities, and in which the overall supply of physicians per capita is much higher (e.g. Belgium, Switzerland, Israel). In these countries, over-supply is a much more urgent problem than any distributional problems.

Closer to home, we find 1996 populations per physician ranging from 468 in Quebec to 791 in PEI and 1055 in the Northwest Territories (these are based on so-called 'head counts' rather than full-time-equivalents (Pitblado and Pong, 1999). And, within each
province and territory, one can find similar variations (Kazanjian, Wong Fung and Wood (1993) report the variations for British Columbia; Pitblado and Pong report head counts by region). For example, Pitblado and Pong (1999) report that, in 1996, 91.6% of Ontario's physicians (by head count) practiced out of urban core (Statistics Canada definition) locations. About 76% of the province's population lived in those urban 'cores'. The comparable figures for Nova Scotia were 70.8% and 39.1%.

Geographic Location of Physicians — Understanding the Determinants

Central to any reasoned attempt to affect the distribution of physicians must be a clear understanding of how that distribution comes to pass. Physicians do not set out deliberately to distribute themselves in ways that create inequitable access to their services. Rather, the distributions that we observe are the aggregation of a myriad of individual career decisions which, in turn, are influenced by many inter-related, often subtle and complex, factors. Matters of importance to a physician in determining where to locate a practice (and which are therefore of interest to those attempting to develop recruitment strategies) may only partially overlap those that influence a decision about whether to move on (which would be of importance in thinking about retention strategies). And even where the same factors are important in both decisions, they may come into play with different "weights" (or relative importance).

Policy approaches to geographic disparities have historically been dominated by economic/financial incentives. Yet the literature on the determinants of practice location suggests that a complex and subtle set of interactions, involving far more than financial considerations, underlie these decisions. The variables of importance can be usefully clustered into the following categories:

- personal background
- professional education factors
- professional practice factors
- personal/family factors
- community factors
- economic factors.

The most important factors from within the personal background category appear to be where the physician, and/or the physician's spouse, spent their childhood/adolescence. Among professional education factors are the extent of exposure to rural and non-tertiary practice situations during medical and intern/resident training, curricular emphasis on the special problems of providing care in non-urban, non-tertiary care settings, and the location of the medical school itself. The professional practice factors that have been reported as significant to location and retention decisions include the availability of

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2 There is a voluminous and still growing literature on the topic of location decision-making by physicians. Because our primary objective here is to report on policy approaches, we provide here only a brief summary of the research on this topic, supported by a small sample of references. A more complete list is, however, available from the authors.
professional support and back-up (including access to specialists and on-call relief), the availability of facilities such as a community hospital or medical centre, and continuing education opportunities.

**Personal/family** factors include the preferences of the spouse, the size of a professional/social peer group (in turn often a function of the socioeconomic characteristics of the community), educational and extra-curricular opportunities for children, and the proximity of family and friends. Commonly noted **community** factors include climate, recreational and cultural opportunities, the socioeconomic status of the community, and more generally the extent of match between what the community and surrounding environment has to offer, on the one hand, and a practitioner's preferred "lifestyle" on the other. The **economic** factors of most importance are relative gross income opportunities, practice costs, financial risk (i.e. predictability/reliability of professional income), and employment opportunities for the spouse.

But it seems unlikely that these factors would ever all be equally weighted by any physician making either an initial location or a re-location decision. The scientific literature that has explored the nature of these decisions suggests rather convincingly that they are dominated by family, and particularly spousal, considerations (see, e.g., Costa et al., 1996). Indeed, the willingness of a spouse to locate in a non-urban area, which in turn will be a function of the spouse's personal background, as well as cultural, recreational, and employment opportunities and educational and other prospects for children, seems to dominate. For example, a significant number of physicians are married to spouses with their own professions and career aspirations. This makes it particularly difficult, in many cases, to find suitable professional opportunities for the spouse in more rural and remote areas (Ferrier et al., 1996). This literature also indicates that practitioners who have grown up in less highly populated areas, or who marry individuals with non-urban backgrounds, are more likely to be prepared to set up practices in such locations (see, e.g., Canadian Medical Association, 1992; Costa et al., 1996; Fryer et al., 1997; Kazanjian and Pagliccia, 1996). Personal/family and community considerations also weigh heavily in the stay/leave decision. As Kazanjian et al. (1991) note, "...while much is made in the literature of the professional isolation that can discourage physicians from rural practice, respondents seemed more likely to cite personal/family reasons for the decision to leave rural areas" (p. 53).

Professional considerations, such as the availability of partners or other (e.g. locum) relief arrangements and proximity to consultants, are also important (Pope et al., 1998), particularly in the "retention" dimension — decisions regarding whether or how long to stay once in a rural/remote location. It is often difficult to disentangle the importance of these from the effects of the training process, particularly with respect to the "recruitment" dimension — decisions about initial practice location. Many primary care practitioners, for example, may feel uncomfortable practicing in situations without the proximity of tertiary specialist support because their training has insufficiently prepared them for the breadth of situations and expectations faced in more rural areas, rather than because such support is essential to a good quality rural medical practice. For example, in a 1989
survey of B.C. residents and interns about to make decisions about where to establish practices, it was found that "[f]ew of the responding residents and interns had spent any of their post-graduate experience in rural areas. A sizable proportion of each group had no undergraduate medical experience in rural practice" (Kazanjian et al., 1991, p. 89). While this situation is likely to have improved as most provinces have made some rural practice exposure a key component of undergraduate and/or residency training during the past decade (see section B below), insufficient perceived familiarity with the expectations of rural/remote practice may, nevertheless, continue to be a factor in these decisions.

Limited opportunities to become involved with their professional association, and to "secure uninterrupted free time from work", have also been noted as important considerations (Kazanjian et al., 1991).

Perhaps the most counter-intuitive result to emerge from this literature is that most financial considerations are well down the list in terms of relative importance. The opportunity to receive financial assistance, a guaranteed minimum income level, or an income bonus in return for practice in rural areas, for example, were found not to be particularly important considerations among students about to make career location decisions in British Columbia (Wright, 1985), or among rural physicians in Alberta (MacDonald and Associates, 1996), and a Canadian Medical Association report (Canadian Medical Association, 1992) noted that "[f]actors that might have influenced physicians to stay in rural practice were, in order, additional colleagues, locum tenens, an opportunity for group practice, specialist services, alternative compensation, continuing medical education, improved facilities and emergency transportation" (Rourke, 1993);

"[p]hysicians in rural areas...[un]likely to report that financial incentives had been a key factor in their location decision, with just 1 in 10 reporting that they were very important" (Canadian Medical Association, 1992, p. 17). One could always argue that the financial incentives have simply not been large enough. But one doesn't need to travel too far down this path before other approaches would quickly become more cost-effective.

The ameliorability of impediments to recruitment and retention of physicians to/in less-highly-populated centres is highly variable. "Modifiable factors" (Rourke, 1993) include education and recruitment practices, practice opportunities and support facilities, working conditions, and financial factors. But it is considerably more difficult to devise public policies that will address the spousal and family concerns that seem to dominate so many of the original location, and subsequent retention, decisions. And some modifiable factors, particularly medical school and residency training, may have less effect than is often presumed, or hoped (Rabinowitz and Rattner, 1997; Xu et al., 1997).

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3 Familiarity with the peculiarities and challenges of rural/remote practice is also important in the location decisions of specialists. A recent Norwegian study found that "location of postgraduate training influences later locational choices" among specialists (Kristiansen and Førde (1992).
Geographic Location of Physicians — Influencing the Decisions

Turning to the literature describing the array of approaches to improving the geographic distribution of physicians, these can be grouped in ways that will assist in describing and evaluating this policy landscape. We suggest six generic clusters, although these are often, in practice, interdependent and even overlapping, rather than mutually exclusive:

- regulatory/administrative
- funding/payment
- education-related funding
- education/training
- market-based
- other (including communication technology).

For example, many (most) financial incentives are rooted in enabling legislation — they fall within both regulatory/administrative and funding/payment clusters. Similarly, as we note below, many of the education/training-related initiatives have involved providing financial incentives to medical students and residents — these fall within both the funding/payment and the education/training clusters. Furthermore, a billing numbers policy which restricts the issuance of 'rights' to bill a provincial medical plan for services rendered could be viewed as a financial disincentive program in which the disincentive was a 0% fee proration. And finally, communications technology is being viewed as having potential both in the process of care delivery, and as a continuing education tool. Nevertheless, we found this to be a useful way to cluster policies, and many seem to fit relatively comfortably within one of the above categories.

**Regulatory/administrative** approaches are public policies with a primary intent of influencing location decisions, which are 'codified' in provincial or federal acts or regulations, or which are the result of policies enacted by bodies who have been given self-regulatory powers through acts or regulations, or which are implemented on the strength of administrative rules or guidelines. These would include not only "billing numbers"-type policies which impose conditions on where individual physicians may practice, but also the issuing by medical Colleges of conditional licenses, or immigration laws which restrict the entry conditions of foreign-trained physicians.

**Funding/payment** approaches would encompass different methods of paying providers, as well as financial incentives within a payment system. They are perhaps the most familiar and long-standing in Canada, and include northern/isolation allowances or income guarantees, loan forgiveness, assistance with practice expenses, funding continuing medical education through subsidies and support of locum programs, differential fees, and the like. They will often, as with the U.S. National Health Service Corps program, be rooted in legislation that dictates to whom funds can be made available.

**Education-related funding** approaches involve providing a variety of financial incentives to physicians-in-training, in order to encourage them to select particular training experiences, particular specialties, or particular practice locations post-graduation. They
range from support for rural placements, to bursaries and loan packages, the latter often tied to return-in-service commitments.

Within an educational/training cluster are a wide range of policies spanning the early stages of the "physician life cycle" (Barer and Stoddart, 1991a). These might begin with high school science enrichment and student counseling programs for rural areas, through medical school recruiting strategies, through curricular and clinical exposures provided during medical and post-graduate training, to continuing education/skills upgrading initiatives. Included would be initiatives based on where training programs are physically located, as well as where students are sent for training.

Market-based approaches involve letting 'the market' take care of it. This approach is commonly based on the view that, as urban centres become more crowded, there will be a spill-over or 'trickle-down' effect which will result in more physicians setting up practice in rural areas. For example, with increasing HMO penetration in some areas in the United States is coming some redistribution of primary care physicians (and physician incomes) (Simon, Dranove and White, 1997). But it would also include efforts by communities, regions, or even Ministries/Departments of Health, to 'advertise' opportunities in, and the attractions of, particular locations attempting to attract physicians. Initiatives such as "recruitment fairs" or "recruitment tours", intended to heighten awareness among practicing and soon-to-be-practicing physicians of opportunities in underserved areas, can be considered key components of a "market-based" policy cluster.

Finally, an emerging set of initiatives (which at this juncture could not, in most jurisdictions, be considered policies) that are viewed in some quarters as offering enormous potential for ameliorating problems of rural/remote service access are the rapid advances in communications technology. These would include efforts to establish remote connections between remote communities and regional or urban 'hubs', with the latter becoming 'virtual' members of the professional community available to the remote residence. These more centralized physicians could be involved in reading and interpreting diagnostic tests, remotely assisting with surgeries, and the like.
B. An Overview of Provincial/Territorial Initiatives

Every province in Canada currently has a set of (often uncoordinated) policies designed with the specific objective of changing the current geographic distribution of physicians. In 1990 this was viewed as one of the most serious health care system problems facing Canadian provinces and territories (Barer and Stoddart, 1991a); what we have seen in our information-gathering for this report suggests convincingly that it remains a first tier policy pre-occupation. Many regions have had a variety of initiatives in place for decades, because this has been seen as a problem for decades.

Detailed descriptions of the policy history and current approaches for each province and territory can be found in the Appendices. Here we focus on the 'current' policy landscape, and attempt to provide a summary and to draw out some highlights and common themes. In Table 1 we have attempted to develop a simple check-list (without providing the details of individual policies) which provides, at a glance, a picture of which policies are in place in each jurisdiction.6

Perhaps the most striking thing about this table is the sheer number of rows with at least one ✓, each such row representing a different lever being used/tried somewhere in the country.6 The second notable feature is the relative number of funding/payment rows, and the number of ✓ in many of those funding/payment rows — these continue to be the predominant type of policy instrument in place in Canada. Indeed, many of these rows suggest that virtually "everyone's doing it". Particularly noteworthy here are the number of jurisdictions offering: a) either subsidized incomes or guaranteed minimum income contracts for physicians practicing in rural/remote/isolated areas; b) "return-of-service" bonuses and grants; c) funded rural area locum programs; d) specific funding for rural area on-call coverage; e) student loans, grants and bursaries tied to "return-of-service" commitments; and f) funding to allow rural/remote physicians to take advantage of continuing education/skills upgrading opportunities.

Despite their widespread deployment, there is little evidence that these financially-based initiatives are particularly effective. For example, the general experience of provinces providing return-of-service-tied grants, loans and bursaries to students and residents is that the recipients often buy their way out of the service commitment (see, for example, appendices 3 and 6, on Saskatchewan and Quebec), although some provinces (see appendix 4 on Manitoba) appear to have been more successful than others. Even when recipients complete their terms, these initiatives have limited effect on longer-term

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6 Bearing in mind our earlier caution about the constantly changing state of play in this arena.
5 Similar tabular summaries have been developed for Canada (Barer and Wood, 1997; Hutten-Czapski, 1998) and Australia (Australian Medical Workforce Advisory Committee, 1996).
6 A few of the rows in the table contain no ✓. They are included in the table because we found mention of such policies in our canvassing of international literature, and because we could conceive of no reason why such policies could not be tried in Canada (indeed, it is possible that there are examples of such policies currently in place here, of which we are simply unaware at this point).
retention. American experience with the National Health Services Corps (see below) is similar.

In contrast to the plethora of funding/payment-based incentives, there is comparatively less being done in the education/skills areas. Aside from most provinces now offering dedicated rural area training/exposures during the years of undergraduate medical education, and a fair number of opportunities for rural residency experiences, particularly for family practice, other initiatives are less common.\(^7\)

A promising development has been the recent re-emergence of interest in, and establishment of, training programs for what have traditionally come to be known as "nurse practitioners". There are training programs in at least three provinces, with a number of other jurisdictions either having such programs in the planning stages, or under discussion. But there appears still to be considerable confusion in this country over what types of individuals ought to be trained, and for what purposes.\(^8\) There are multiple 'standards' which have an effect on where or whether graduates of certain programs can be deployed in certain locations (e.g. it is our understanding that Health Canada's Medical Services Branch has a peer review committee that evaluates training programs; only graduates of programs that meet that committee's standard can be employed by MSB or jurisdictions that adopt the MSB standard). Provinces appear to have different conceptions of how independently, and in what situations, they would like such extended scope personnel to practice.

To date, three provinces have made amendments to existing Acts (subsets of Acts governing the practices of nursing, prescribing pharmaceuticals, and laboratory and radiology diagnosis) so that practitioners other than licensed physicians are legally able to perform a limited range of primary care functions. Other provinces, such as Manitoba and Saskatchewan, are currently planning, or in the process of enacting, similar regulatory changes.

The apparent lack of activity at the local level in raising funds to support recruitment or retention is misleading. Our impression from speaking with our provincial/territorial contacts is that some of this occurs virtually everywhere, but little of it is as a result of official provincial/territorial Ministerial/Departmental policy (see, e.g., Arnold, 1999); indeed, most Departments/Ministries would prefer this sort of uncoordinated initiative did not exist, because it creates a 'whipsaw' effect in many situations and, in turn, puts additional pressure for resources on the central Departments/Ministries.

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\(^7\) This is not to say that progress is not being made. A recent survey of family medicine programs across the country found a significant increase in re-entry opportunities, a significant share of which are made available for physicians intending to (return to) practice in rural areas (Chaytors et al., 1999).

\(^8\) In part, the debate appears to be over whether one should be training "advanced clinical nurses" who are able to provide highly specialized nursing skills, but whose focus continues to be the "nursing function", or practitioners who are skilled nurses but who also have the capability of providing some of the services usually provided by physicians (e.g. some primary care diagnostic, test ordering, and prescribing activity) (see Hill and Pickup, 1998).
Also noteworthy is the fact that two of the rows containing no ✓ represent initiatives related to spousal support or education support for children. This is not surprising on the one hand, and ironic on the other. As noted above, these tend to be among the least 'policy-ameliorable' of the factors affecting physicians' decisions to locate or stay in rural/remote areas. Yet at the same time, they are among the most important considerations in those decisions.

An examination of the table by column makes clear that most provinces/territories currently employ policies from more than one of the generic clusters. Nevertheless, financially-based approaches continue to dominate the geographic policy landscape. There is an increasing number of policies based on alternative methods of payment (e.g. salaried or contract positions, non-fee-payments for on-call), although many of the more-widespread funding/payment initiatives intended to improve access to care in rural or remote areas are still tied to fee-for-service reimbursement.

It is interesting that the continued heavy reliance on financial instruments in Canada comes despite the facts that: "(a) the research on determinants of locational decision-making seems to suggest that other factors outweigh financial considerations; and (b) the evaluative evidence suggests that the financial approaches to date have not been particularly effective" (Barer and Wood, 1997). Indeed, the fact that Canadian provinces have relied so heavily on these instruments, and that the problems remain so evident, and so high-profile, would seem to provide prima facie evidence that different approaches are going to be needed if progress is to be made in the future. This leads rather naturally to questions about whether approaches in other health care systems have been different, or any more successful. We turn to some of those experiences in the next section.
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<td>Development of continuing education capacity using new communication technologies</td>
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<td>Promotion of rural practice in medical schools</td>
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<td>Recruitment fairs/tours</td>
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C. Selected International Approaches

In this section we review recent and current policy approaches found in the United Kingdom, the United States, Australia and New Zealand. These choices were responses to a combination of constraints and practicality. On the former, the time and financial constraints on this project dictated the choice of a circumscribed set of international experiences. On the latter, one quickly runs into diminishing returns in international quests of this nature. While the details in each country and, indeed, at the level of sub-country units, vary, we have found (in earlier, wider canvassing) that the general approaches tend to repeat, as they do in the provinces and territories in this country. Since Canada tends to look to the U.S. and the U.K. for policy lessons (positive and negative) and experiences, and to Australia because its health care system is seen as bearing some considerable resemblance to our own, these seemed like logical choices for a short list. We added New Zealand because recent developments in primary care reform appear to offer some important insights for Canadian policy-makers.

Before turning our attention to these specific country experiences, it is perhaps worth noting that, to our knowledge, there is virtually no cross-country collaboration in the development or implementation of policies intended to improve the geographic distribution of physicians. Indeed, if anything, there is open competition — Canada recruits physicians from South Africa; the United States recruits primary care practitioners from Canada; Australia recruits practitioners from Canada; Canada recruits practitioners from the United Kingdom; the United States allows individuals from other countries to enter on J-1 visas (meaning they are expected to return to country of origin once they complete training), in part presumably as a form of foreign aid (to allow them access to the training expertise in the country), then makes it relatively easy to get waivers allowing those residents to stay in the U.S.; and so on. Of particular interest in this respect will be the countries in Europe, since barriers to inter-country mobility are being dramatically reduced. Whether pan-European policies intended to address geographic distribution of physicians emerge over the next few years remains to be seen. What we do know, however, is that some countries (e.g. Italy) have significant surpluses, while others (e.g. the United Kingdom) have plans afoot to ramp up their domestic medical school training.

One of the few exceptions to this general story may be the World Organization of Family Doctors (WONCA), which has established a Working Party on Training for Rural Practice. This Working Party produced a document in 1995 (WONCA, 1995) which outlined a series of recommendations intended to improve access to adequate medical care in rural and remote areas around the world. While the recommendations contained

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9 Much of this section borrows heavily from Barer and Wood (1997), although for each of the four countries we have attempted to ascertain and report on the nature and extent of policy changes since 1996. We have focused on the regulatory/administrative and funding/payment clusters, in the interest of time and space. A comprehensive review of individual state, region, or school-specific education initiatives in any one of these countries could be the subject for an entire separate report. However, other than learning about how many there are, we feel it is unlikely that we would find initiatives not already mentioned somewhere in the present report.
therein focus (not surprisingly) largely on education-related initiatives, there are also recommendations focusing on personal and professional support in rural settings and the need for local community involvement. In general, these recommendations largely mirror those of earlier, and later, documents (see, e.g., Barer and Stoddart, 1991a; PAIRO, 1998, 1997).

United Kingdom

From the time the National Health Service was established in 1948, the UK has had in place a "negative direction" or negative control regulatory policy affecting the distribution of general practitioners. A central "Medical Practices Committee" (MPC) must approve all gp applications for practice. This Committee has the power to refuse an application if it considers that the number already practicing in the requested area is adequate. Adequacy is determined by the length of patient rosters (referred to as 'lists'). Designated areas are those with average gp lists of 2500 patients and above, open areas have average lists of 2101 - 2499, intermediate areas have average lists of 1701-2100 patients, and restricted areas are those with average lists of 1700 or fewer patients per gp.

Applications to practice in designated and open areas are usually granted without question, while those for intermediate and restricted areas are considered on the basis of detailed advice from the appropriate local family practice committee (FPC) and may be refused (Haynes, 1987) (FPCs, later re-named Family Health Services Authorities, have now all been merged with Health Authorities, but have the same role). Importantly, the MPC "must approve the location decision of all GPs seeking to locate in an area and provide care in the NHS" (Taylor, 1998, 714).

The negative direction policy was evaluated in the mid-1970's, and has proved to have some perverse effects. One of the most important is that the areas with the fewest physicians were less likely to be "designated" because of their sparse populations. More recently, its effects have been dampened by the rather liberal list size 'cut points'. For example, there are few "designated" areas remaining in the UK, and in practice many applications to "intermediate" areas are granted. Nevertheless, overall the policy is widely seen as having provided a reasonably equitable distribution of gp services (Maynard and Walker, 1997), so that the current UK preoccupation appears to be more with "inequalities of access" (Watt, Franks and Sheldon, 1993, 1994) than with absolute underservicing or unmet primary care needs, even in the least well supplied areas.

The U.K. has also utilized financial policies. An initial practice allowance is payable for those setting up practices in designated areas. Those who remain in practice in designated areas for a period of time also receive additional remuneration in the form of a designated area allowance. The latter was found to be the more effective, although most practitioners regarded it as far too low to affect practice decisions. In addition, the allowances might be counter-productive in that they give established physicians in designated areas an incentive to discourage or refuse newcomers, since the allowance is
lost once list sizes drop below the margin, and the MPC membership is dominated by gp's (Haynes, 1987).

The other key "mainstream" component of the UK approach was introduced with the 1990 NHS gp contract. An index called the "UPA 8" (which is a weighted average of factors such as percent of elderly living alone, one parent families, unemployed, social class V) is used to designate the status of geographical small areas. The weights on these factors were derived from a survey of a 10% national sample of gps, who were asked how important they felt each factor was in influencing their workloads (Jarman, 1983). Areas that have high "underprivileged area index" values are deemed "deprived" (although questions about the relationship between "deprivation" and gp workloads, or about whether the index is in fact better correlated with those workloads than other possible indexes, have not been adequately answered: see Carr-Hill and Sheldon, 1991; Davey-Smith, 1991). A "deprivation payment" is then 'attached' to all area residents, and the gps who have such patients on their lists receive a capitation supplement, as an incentive to serve patients from areas with these characteristics.

The annual capitation supplements ranged in 1995/96 from approximately $15 to $25 per designated patient (Taylor, 1998). Since these areas tend to be those generally less coveted by physicians looking to locate practices, this has the effect of being an incentive to set up practice in relatively less well-served areas. However, one of the effects of use of the UPA 8 appears to have been to channel deprivation payments more to inner city London locations than to rural areas in the North and elsewhere, which may actually be more under-serviced (Taylor, 1998; Townsend et al., 1988).

In addition, the UK employs a wide variety of other more ad hoc programs, such as an "Inducement Scheme" that provides physicians with "a family-sized house and a surgery for rent...[plus]...80% of the current agreed average general practitioner earnings...[and]...locums for annual and study leave...paid for by the health authority"; an "Associate Scheme" that provides "salary and expenses, at approximately senior registrar level, for a doctor to work on a shared basis between two or three isolated practices...at least ten miles apart" (Macleod, 1995); and compensation to primary care physicians for "increased time spent traveling when caring for patients in sparsely populated areas" (United States, 1994). Rural practices in areas of sparse population are often supported by some of these schemes, which in practice have effects similar to salaried posts. These physicians often have extra training, for example in obstetrics or cardiology.

There are even ad hoc programs for less well-served parts of urban centres. The "Primary Care Initiative Program" provides selected assistance to Liverpool practices that require it, and the "London Initiative Zone" provides a variety of allowances intended to encourage new practice arrangements within the "LIZ" (Review Body on Doctors' and Dentists' Remuneration, 1996). But these appear to be secondary 'fiddling' alongside the major UK programs.
These schemes are all overlaid on a system in which gps are paid on a capitation basis to start with. This might lead one to question the need for these other approaches, since "[u]nder a strict capitation system competition for patients (or their associated capitation fees) would produce strong financial incentives to locate in areas of under supply". However, "...a large proportion of an average gp's income comes from non-capitation sources" (Birch and Maynard, 1991). Indeed, while the largely capitation-based method of funding primary care is viewed as having been quite an effective approach to ensuring reasonable access to primary care services (Maynard and Walker, 1997), nevertheless its effects on geographic distribution have undoubtedly been somewhat vitiated by the rich mix of 'envelopes' through which general practitioners can receive income (Review Body on Doctors' and Dentists' Remuneration, 1996, Appendix A, pp. 65-69; Bloor and Maynard (1995)).10 Indeed, there has been a tendency for the proportion of capitation in overall gp incomes to exhibit a cyclical pattern, falling over time until a new capitation level (usually amounting to about 80% of total income) is agreed to, before beginning to fall again as special payments and arrangements are layered in, and so on.

On balance, however, the combination of central decision-making through the Medical Practices Committee and funding based to a considerable extent on the number of patients on a gp's practice list has left the UK in a situation where geographic maldistribution of primary care physicians is not seen as a current problem (although clearly pockets of underservicing remain).

With respect to specialist services, most specialists are (at least in part) salaried employees of Hospital Trusts. Funds for specialist services are allocated to regions according to a 'weighted capitation' formula (a modification of the original Resource Allocation Working Party (RAWP) formula), and the regional health authorities contract with hospital trusts for provision of an agreed set of services for an agreed population. Trusts have some independent latitude in setting "terms and conditions of employment" for specialists, which may make it easier for some of the more problematic specialty shortage areas to recruit (Maynard and Walker, 1997). 'Life under RAWP' has, apparently, improved the distribution of specialist services, because it has been able to steer specialists to the populations in need of those services (who would have the funding available to employ the hospital specialists). Like the capitation-based funding for gp services, the approach of having funding follow populations seems to have reduced problems of geographic maldistribution.

Can the UK improve on this situation? Taylor (1998) has recently suggested that further progress could be made by developing "more refined weighted capitation means of funding [regional purchasing authorities], leaving "local discretion to reallocate resources

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10 Over and above the capitation fees, general practitioners are entitled to an overhead allowance, allowance for employing an assistant, and allowances for treating patients in "deprived areas". But in addition, they are eligible for "target payments" and "fees for items of service" for a wide variety of specific activities such as administering childhood immunizations and pre-school boosters, doing cervical cytology, running a practice health promotion program, chronic (e.g. diabetes) disease management, and the like.
between primary and secondary care" to local governing bodies (p. 722). This might, for example, counteract some of the apparently anomalous and concentrated distribution of the deprivation funding. In the meantime, there are plans afoot to increase the intake of the UK's medical schools, although this decision, and the underlying concerns that motivated it, seem largely unrelated to matters of geographic distribution (Goldacre, 1998). And with the new reforms in much of the UK are to come "primary care groups" and "local health groups", with wide commissioning and budgetary responsibilities (Chisholm, 1998). How, or whether, these will affect the distribution of gp services across the UK seems at this point in time unclear.

In terms of lessons for Canada, there would appear to be a number. The keys to the U.K.'s relative success in distributing physician resources have been a combination of administrative (the negative direction policy) and financial incentives (funds follow patients). A number of jurisdictions in Canada have tried, or are currently using, policies similar to the U.K.'s negative direction policy, although this class of policy continues to be in flux in this country because of the legal uncertainties surrounding its application. What does seem clear is that any province that attempts a policy of this nature should be prepared to weather the legal storm. At the very least, such policies should not discriminate according to where physicians have been trained or previously resided. But to go beyond that, and to address the widespread sentiment among interns, residents and new physicians that they should not be restricted from competing for practice opportunities in the more desirable locations of the country, one would need to look to the other sorts of initiatives adopted in the U.K. Both through RAWP funding to hospitals, from which consultant (specialist) incomes derive in large part, and through the largely capitated arrangements for family practitioners, the U.K. policy has been to have funding made available on the basis of the number and characteristics of the patient population, rather than on the basis of the services that physicians in a particular locale end up providing. It seems fair to say that Canada has barely scratched the surface of this sort of approach, and that this has the potential of yielding significant gains in terms of improving rural/remote access problems (although the practical logistics are not trivial; as but one example, special circumstances of small communities would require special adjustments to any population-based funding approach).

**United States**

There is substantial agreement among all observers of the U.S. scene that there are serious problems with the geographic distribution of physicians, including primary care physicians, despite continuing increases in supply over the last 25 years. For example, about "20 percent of the U.S. population lives in rural areas while only 9 percent of the nation's physicians practice in rural communities" (Konrad, 1996). While the ratio of practicing physicians to population decreased from 1:593 to 1:379 between 1975 and 1995, the number of government-designated medically underserved areas was unchanged (Iglehart,
1998), and actually increased over the decade 1984 — 1994 (Rivo and Kindig, 1996). Indeed, the number of Americans without access to primary care increased during that decade (ibid.). For a time, the difficulty was exacerbated by the increasing preference of recently-trained physicians to choose non-primary-care specialties and sub-specialties. This appears to have been changing recently (Simon, Dranove and White, 1997), although the effects of such a shift on overall physician distribution will take some time to play out. Between 1989 and 1994, the geographic distribution of all primary care physicians in the United States did not become more even (Politzer, Cultice and Meltzer, 1998).

Policy-makers in the US, at the state and federal levels, have put their faith and hopes largely on market forces, supplemented by a number of small-scale, ad hoc programs which use educational and financial levers, to address distributional issues. Indeed, the U.S. approach has been recently described (by an American observer) as "...a piecemeal effort to respond to geographical problem areas....and not a coherent strategy designed to rationalize the allocation of health resources to improve access" (Taylor, 1998, p. 714). Much of the activity has occurred, and continues to occur, at the state or individual institution level (see, for example, Summitt, Herrick and Martins, 1998), and there is a large and constantly expanding literature on that experience. A canvassing of that literature was determined to be well beyond the scope of this project.12

If there is a "general approach" in the U.S., it would appear to be to provide federal or state funding to "medically underserved" or "health professional shortage" areas, or to individual health care professionals prepared to set up practices in those areas. The determination of whether an area is "underserved" or has a "shortage" is based on the comparison across geographic areas of index values created from combining factors viewed as being indicative of these phenomena. There has been considerable controversy over the methods used to designate areas, and over the uses of those funds. We focus here on the two most widely known initiatives, the National Health Services Corps (NHSC), and the Medically Underserviced Area (MUA) programs.

The NHSC is a financial incentive program rooted in federal legislation. It is designed to recruit (and retain) primary care physicians to (and in) rural and underserved (including metropolitan) areas. Developed in 1972, and offering a combination of incentives and coercion (scholarships and loans, with an obligation of "return-in-service"), it has trained

11 While Iglehart (1998) claims that this presents a "paradox" for federal policy, in fact it is really no mystery. For increasing supply to have changed the number of underserved areas would require that a 'trickle-down' policy actually works. There is sufficient evidence now out there, even for federal policy-makers in the US, that this is expensive and ineffective policy. As Noren (1997) noted recently, "market forces operating during the past several decades have not solved the underservice problem for these 45 million people [in HPSAs], and the numbers make it quite clear that simply continuing to increase the supply of physicians will not solve the access problem" (p. 220). On this point, see also Sparer (1997), who concludes that market forces in the U.S. appear to have had some influence on reshaping specialty distribution, but not geographic distribution.

12 A recent example is Rabinowitz et al. (1999) who examined the effects of one medical college's "physician shortage area program" and found that graduates of that program were considerably more likely to be practising in rural or remote areas than their non-program counterparts.

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over 20,000 health professionals, the majority of whom have been physicians. The placement of those professionals is based on the identification of Health Professional Shortage Areas (HPSA); only HPSAs are eligible for NHSC funds. The HPSA "index" combines information on the population:primary care physician ratio with "locally provided information on health need[s] and health facilities" (Taylor, 1998, p. 717). However, the population:physician ratio appears to be the most important factor, and the 'cut-off' ratio appears to have been set not on the basis of any evidence that areas having higher ratios were truly "in need" and those having lower were not, but rather so as to ensure that about one-quarter of all U.S. counties were eligible for NHSC funds at the time of inception. Since the inception of the NHSC, however, a variety of other financial assistance programs have also adopted the HPSA as the basis on which they allocate funds (United States, 1995). As in the United Kingdom, indices developed for a specific policy purpose have tended to take on a life of their own, and the underpinnings and original intents tend to become forgotten (Taylor, 1998).

The other major financial incentive program has its roots in the Health Maintenance Organization (HMO) Act of 1973. This Act uses a different index, the "Index of Medical Underservice", which is a weighted combination of the population: primary care physician ratio, the proportion of the population 65+ years of age, the proportion of the population below the poverty line, and the infant mortality rate, to identify "Medically Underserved Areas" (MUA) (Taylor, 1998). The original intent of this initiative (and therefore the original purpose of the index) was to make funds available to underserviced areas in order to encourage the development of HMOs in those areas.

Small areas (usually counties) must apply to the federal government for designation either as an MUA or an HPSA, in order to be eligible for funds that can be used for programs intended to improve recruitment or retention of health care professionals. Under the HPSA program, counties must re-apply every three years, or they are dropped from the list, and new shortage areas are only added if they actually apply for designation. As a result, the list of HPSAs could change without any changes in the actual relative supply of health care professionals. Historically, there has been considerable variation in the probability that a shortage area would bother applying, depending largely on whether it perceived that funds would be forthcoming, and on whether the host state was aggressive in assisting small areas (Konrad, 1996).

The NHSC programs have undergone extensive, albeit rather narrowly focused, evaluation. Evaluations have focused primarily on whether physicians who go through this program end up staying in HPSAs beyond their term of "service repayment".

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13 In 1994 the NHSC awarded 429 scholarships (189 for physicians) and 536 loan-repayment contracts (217 to physicians).
14 For a more detailed discussion of the designation of HPSAs, see Council on Graduate Medical Education (1998).
15 This leaves the rather more interesting questions about effects of the programs on the health of the targeted populations, or even on their access to care, largely unexamined (personal communication, Kevin Grumbach, April 1999).
Pathman and colleagues (1992) reported that, between 1984 and 1990, fewer NHSC physicians than non-NHSC physicians remained in the practices in which they worked in 1981, or in practice in a rural county. Long-term (8 year) retention percentages for NHSC and non-NHSC physicians were 12% versus 39%; 29% of NHSC physicians, as compared with 52% of non-NHSC physicians, who began in non-metropolitan practices, remained in practice in a rural county eight years later. Problems with retention and satisfaction have since been studied extensively. Key factors associated with dissatisfaction, that resonate with the earlier-reviewed literature on the determinants of retention, were failure to match NHSC physicians to states where they had previously lived or trained, and inadequate consideration of the needs of spouses and children and personal life issues (Pathman et al., 1994). In addition, within HPSA-designated areas, there are more and less desirable places to practice. The task of the NHSC is to place practitioners into areas on the basis of relative need, whereas those settling in HPSA areas on their own, can choose their locations. As a result, it seems likely that the NHSC-placed individuals are, on average, in the less desirable of the HPSA-designated areas, relative to the non-NHSC physicians (personal communication, Fitzhugh Mullan, November 1996).

A more recent evaluation of rural HPSA retention was carried out between 1990 and 1992. About 20% of primary care physicians who had located to underserved areas during the study period had gone through the NHSC program. About 60% of NHSC physicians and 40% of non-NHSC physicians had left their rural practice setting within four years of arrival. Seventy percent of NHSC physicians intended to leave their assigned practice within 6 years. About 40% of NHSC physicians in rural practice intended to stay for six years in rural practice at the time they began their NHSC service, in contrast to about two-thirds of the non-NHSC physicians in the same HPSAs. About 40% of the NHSC participants in HPSAs intended to move to urban areas within the first six years, in marked contrast to less than 10% of the other rural (non-NHSC) physicians surveyed. At least one-third of the NHSC physicians indicated only a short-term interest in underserved area practice (Konrad et al., 1993).

Rosenblatt et al. (1996) surveyed all recipients of NHSC scholarships who had graduated between 1980 and 1983 from family practice residencies and who had gone to practice in rural areas. They found that in 1994 one-quarter of these graduates were still practicing in the counties to which they had been assigned by the NHSC six years after graduation, and a further quarter were still practicing in some rural area.

Konrad (1996) notes that "..about one of every four new primary care physicians entering HPSAs in the late 1980s was placed there under the NHSC scholarship or loan repayment programs". Whether "..this fact alone boldly illustrates the impact of the program in quantitative terms", is questionable, however, since we have no way of knowing whether those same, or other, primary care physicians might have settled in HPSAs in the absence of the NHSC. Certainly the evidence from the Pathman and Konrad evaluations suggests that those who choose to settle in HPSAs tend to be more committed to rural area practice and more likely to stick with it, than those physicians attracted to such practices through a financial incentive program. However, whether this reflects problems with the
program administration, lack of comparability because of failure to adjust for the relative desirability of sub-regions within HPSAs, or simply the fact that what attracts physicians to rural areas is not fundamentally financial considerations, is impossible to ascertain from this evidence.

A recent review of strategies for improving physician distribution to underserviced areas in California recommends that the state should provide its own funds to match the NHSC loan repayment programs, as a means of supporting an additional 25-30 physician placements each year. The authors conclude that overall, "both the federal and state NHSC programs in California have little difficulty attracting physicians to participate and appear to be reasonably successful in retaining graduates in underserved communities", quoting the results of a recent survey to the effect that 41% of the State Loan Repayment Program recipients who had completed service obligations prior to June 30, 1998 were still in practice at their original placement site (Grumbach et al., 1998). Of course the effectiveness of the NHSC in encouraging underserved area retention should be evaluated in comparison with other measures with the same objectives. A recent study noted that rural counties in sparsely settled states typically lost 3 or more physicians for every four new ones they acquired, this despite the fact that many of these states have medical schools that encourage matriculation of students from rural backgrounds, place special emphasis on primary care and rural practice, and have well-developed rural-oriented graduate medical education programs (Konrad and Li, 1995).

In the only recent study of which we are aware that undertook an international comparison of leading national policies, Taylor (1998) notes that "...the National Health Service Corps is one of the most highly visible and probably most-evaluated of the responses to geographical problem areas in the U.S. Yet it is debatable whether the program is a success, or not.....It is a difficult program to evaluate because its purpose is unclear.....NHSC physicians have provided care to those in some of the most deprived parts of the U.S., but few have remained beyond their commitment and many report being dissatisfied from their experience, and potentially less likely to provide care in deprived areas in the future." In contrast, Taylor notes that the MPC "has produced a fairly even distribution of GPs across the UK...the policy has worked reasonably well, but additional efforts to respond to geographical problem areas became necessary since the MPC does not have the policy scope to compel GPs to particular areas, only to approve or deny requests of GPs to locate in particular areas".

Moving beyond the NHSC to other less extensive funding programs, Medicare bonuses have been paid to physicians practicing in underserved areas since 1989. At that time, a 5% bonus payment was made available to rural HPSAs with the most severe physician shortages. This was increased to 10% in 1991 and was extended to all rural and urban HPSAs. This policy was enacted despite the fact that "relevant literature has indicated that physician location and retention decisions are [only] somewhat influenced by financial factors..", largely, it seems, on the grounds that "payment incentives appear to have greater potential for retaining physicians currently located in underserved areas than for attracting new physicians." (emphasis added) (Physician Payment Review Commission,
Another funding initiative has been the development of certified rural health clinics (RHCs) to serve Medicare and Medicaid populations. Established by Congress in 1977, the RHC was designed as a primary care site in rural areas without adequate physician services. These clinics are staffed by mid-level practitioners (physician assistants, nurse practitioners, or nurse midwives), working under the general direction of a physician who is, however, not required to be on-site full-time. As of 1994, about 2000 RHCs were expected to be in operation. About 40% of them are provider-based (i.e.: linked to a hospital outpatient department, skilled nursing facility, or other health care agency), while the remaining 60% are independent, owned by physicians or other practitioners. In order to be certified, a RHC must be established in a designated area as determined/defined by one of HPSAs, MUAs, Medically Underserved Population Areas (MUPAs), or in a "shortage area as defined by criteria recommended by the state's governor and approved by the US Public Health Service" (Sullivan and Peoples, 1998, p. 228).

In the last few years, questions about physician supply and geographic and specialty distribution appear to have become of increasing policy interest in the U.S., not least because the perception is growing that there is a general glut of physicians, with specialist physician oversupply being most acute (largely due to the inroads being made by managed care), while at the same time, despite (or perhaps because of) those inroads, serious distributional problems remain (Simon et al, 1997, Escarce, 1998; Berlin, 1996). While the perception that market forces are not sufficient to solve problems of distribution may be gaining ground (certainly more observers seem to be calling for government intervention; see American College of Physicians, 1998, and references therein), and even advocates of market forces concede that such forces alone are not going to increase physician availability in rural and remote areas (Foreman, 1996), at the federal level there seem to be limited policy levers at the moment, and these are focused largely on the funding of graduate medical education.

Federal funding for medical schools appears to have been designed rather perversely, again exposing the ad hoc nature of U.S. physician resource policies. It is well known that family physicians/general practitioners are much more likely to settle in small isolated counties than their specialist counterparts. Yet the amount of federal (particularly NIH) funding a school receives is inversely related to its propensity to graduate physicians who would be likely to locate in rural areas. Indeed, Rosenblatt et al. (1992) noted four characteristics that are strongly associated with the tendency to produce rural graduates:

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16 Not only does the physician not need to be on-site full-time, but once every two weeks satisfies the requirements, so long as the physician is "in communication" and provides "periodic review" of services provided by staff (Sullivan and Peoples, 1998).
17 Foreman (1996) argues that "[y]oung doctors tend to go where the opportunities are, and increasingly the opportunities are in locations that were formerly undesirable." However, he also notes that these improvements at that time had come largely in less desirable urban areas, and that the problems in underserved rural/remote areas were not likely to be solved by the market forces then at play.
location of school in a rural state, public ownership, emphasis on family physicians, and less NIH funding" (emphasis added). The generous funding made available federally for training residents has also created strong incentives for teaching institutions to create positions, irrespective of the local care needs or the country's workforce needs. In particular, it has meant that many institutions have simply created and filled residency positions with international medical graduates (IMGs) in order to attract the federal funding (Iglehart, 1996).

Perhaps because of this, in 1997, the federal government moved to reduce the Medicare-based component of the subsidy for graduate medical education. Medicare is the single largest source of such funding (Iglehart, 1998). Not only did Congress move to reduce direct payments\(^\text{18}\) for GME to teaching hospitals with residency programs, but indirect payments\(^\text{19}\), based on the number of FTE residents in training in each facility, are also to be reduced. For the first time, a cap has been placed on the total number of residency positions that will be supported through Medicare. This was intended to counteract the 26.4% increase in the number of residents in training between 1989 and 1996, an increase made up almost entirely from IMGs entering US training programs (Iglehart, 1998; Dunn et al., 1998). In addition, in order to encourage teaching facilities to reduce the number of residency positions, while providing a bit of a 'soft landing', hospitals which pledge to reduce their residency programs by 20 or 25% over 5 years will be funded not on the basis of actual residents, but on the basis of a three year moving average (Iglehart, 1998; Goldstein, 1997). This latter proposal is patterned after an initiative developed earlier in New York State (Korcok, 1997). Whether most teaching institutions will 'buy in' to this proposal, and whether it will even survive the onslaught of criticism ("The idea that we are taking the taxpayers' money and paying people not to train doctors is almost unbelievable" Senator Phil Gramm, quoted in Iglehart (1998)), is yet to be determined. And how this will affect the distribution of physicians is, of course, not yet clear. While it is true that specialists are less likely to end up practicing in underserved areas, the evidence on the role of IMGs in improving access to services in relatively underserved areas seems more mixed.

As in Canada, there is a heated and ongoing debate about the role and desirability of IMGs (FMGs in Canada). In Canada they are more likely to practice in rural/remote areas because of the conditional licenses or other restrictions they face on entry. However, it is well-known that their rural/remote retention rates are not high, so that over time, they exacerbate over-supply situations in larger urban centres. Those entering the country into residency programs tend to be recruited into programs which cannot be filled with Canadians; in so doing, they serve institutional care provision and program critical mass needs rather than helping meet broader physician resource policy objectives (Barer and Stoddart, 1991a).

\(^{18}\) Direct payments include "a share of residents' stipends, faculty salaries, administrative expenses, and institutional overhead allocated to residency programs" (Iglehart, 1998).

\(^{19}\) Indirect payments are to reflect the higher patient care costs in teaching environments (Iglehart, 1998).
A recent study looking at geographical distribution of US physicians and the contribution of IMGs concluded not only that recent "physician growth has not produced dividends in geographic distribution" but also that "in most cases, IMGs are not only not gap filling, but they are exacerbating the deterioration" of distribution; in other words, "the availability of gp/fps [in rural areas] has been sustained by the contribution of USMGs far more so than the IMGs" (Politzer et al., 1998). This seems consistent with the findings of Baer et al. (1998), who examined post-resident IMGs as a proportion of the primary care physician workforce in non-metropolitan Health Professions Shortage Areas (HPSA) and non-HPSAs. Although their work emphasizes the slightly greater presence of IMGs in non-metropolitan (relative to metropolitan) areas, they also report that only 18.7% of all primary care physicians in non-metropolitan HPSAs were IMGs in 1996, while in non-HPSAs the corresponding figure was 14.3%. They do not provide data that would indicate whether the proportion of primary care physicians in HPSA areas who are IMGs has changed in recent years. In any case, US policy-makers have begun to argue for a reduction in the number of resident places given to IMGs (Jacott, 1997; Noren, 1997).  

While IMGs must pass both parts of the US Medical Licensing Exam (US graduates are only required to pass Step One at this time) and are subject to visa restrictions, fully half of the IMGs remain in the US after their GME is complete because they are able to obtain waivers that are "granted to federal agencies for physicians from abroad whose continued participation in certain programs is deemed to be in the US public interest" (American College of Physicians, 1998). Each state is entitled to up to 20 of these waivers each year, and the total number of physicians covered by the waivers has increased from 70 in 1990 to 1374 in 1995. These waivers now represent more positions than are funded through the NHSC (American College of Physicians, 1998). But, since some 44% of IMGs are either permanent US residents, naturalized US citizens or native US citizens, it is unclear how effective any restrictions on IMGs would be. While the American College of Physicians acknowledges that "[r]esidency training opportunities must also be maintained for limited numbers of IMGs who satisfy the examination and certification requirements of the Educational Commission for Foreign Medical Graduates and are naturalized U.S. citizens, permanent U.S. residents, refugees, and U.S. citizens who obtained their undergraduate medical education abroad", they do not specify what limits could be applied, other than the restriction of graduates from unaccredited foreign medical schools (American College of Physicians, 1998). Problems in enforcing the waiver program are suggested by the move by the Department of Housing and Urban Development to suspend its J-1 visa waiver program in early 1997 because of complaints from the Texas Medical Association and a report from the General Accounting Office suggesting that some residents and fellows on J-1 visa waivers who had received these waivers on the basis of providing service in underserved areas were not, in fact, practicing in shortage areas (Association of American Medical Colleges, 1997; United States 1996).  

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20 The 1998 report of the Council on Graduate Medical Education noted that "[a]lthough some IMGs provide valuable services to underserved rural and urban populations, most end up practicing in well-supplied urban areas, and their addition to the U.S. workforce deprives their home countries of needed physicians while contributing to U.S. oversupply" (COGME, 1998, p. xiv).
As in Canada, some US observers are concerned lest a diminution in the number of IMGs end up further skewing the distribution of physicians and exacerbating the problems in underserved areas (Mick and Sutnick, 1996). The General Accounting Office's 1996 Report to Congressional Committees on "Foreign Physicians: Exchange Visitor Program Becoming Major Route to Practicing in U.S. Underserved Areas" examined the J-1 visa waiver program and concluded that IMGs were being recruited to shortage and underserved areas, though in typical uncoordinated US fashion, these efforts were divided among several federal and 49 state agencies and were "somewhat weak for ensuring that physicians continue to meet the terms of their agreements" (United States, 1996). Also as in Canada, IMGs are an important component of staffing in some teaching hospitals, which "often are heavily dependent on IMGs to staff residency positions considered less desirable by U.S. medical school graduates - these residents provide vital patient services to indigent clientele" (Berlin, 1996). Even proponents of restrictions on IMG access have acknowledged that hospitals which serve poor and underinsured populations will need to be adequately funded in the event of any decrease in the number of residency positions (American College of Physicians, 1998; Iglehart, 1998).

Can Canada take away any useful lessons from this policy patchwork? It would seem that most would be negative rather than positive lessons — things not to do, rather than things to emulate. At the top of such a list we would suggest that the American experience is the single best illustration of two important facts: 1) simply increasing physician supply does not, and will not, resolve rural/remote access problems; and 2) relying on financial incentives to encourage physicians to locate in such areas will leave one far short of solving those problems. Two other lessons come immediately to mind: 3) there is considerable scope for deploying nurse practitioners to improve access to primary care in areas that have difficulty attracting physicians; and 4) some of the funding made available to academic health centres may need to come with more explicit strings attached if we are to expect those centres to meet the training needs of the public. Whether a National Health Service Corps analogue for Canada would be helpful is difficult to ascertain, given the rather mixed evidence on retention from the U.S. evaluations.

Australia

In 1989 rural physicians across Australia formed the Rural Doctors' Association of Australia (RDAA). The formation of the RDAA was motivated by general dissatisfaction with medical policy and programs at the state and national level. This national association was instrumental in the development of the first National Rural Health Conference, held in 1991 (Gregory & Humphreys, 1997). Interestingly, the Conference co-organizers were the Council of Remote Area Nurses and the Country Womens' Association of Australia. This inaugural conference became a 'watershed' in the evolution of rural/remote physician resources policy in Australia (Hays et al., 1997).

In 1992 the Commonwealth Government unveiled the first national strategy to address the undersupply of medical care in rural Australia. The National Rural Health Strategy
(NRHS) followed directly from the policy paper emerging from the 1991 conference (Brooks, 1994; Humphreys, 1997; Hays et al., 1997). Major policies included funding a gp Rural Incentives Program (GPRIP) and the creation of the Australian Rural Health Research Institute, a consortium of five universities with rural campuses. Also funded was a new academic journal, the Australian Journal of Rural Health.

The GPRIP was a comprehensive program intended to address both recruitment and retention issues. On the recruitment side, it included relocation grants (up to $20,000 AUS) for urban-based physicians prepared to move to rural/remote communities, skills upgrading grants for urban physicians prepared to relocate (up to $50,000), and remote area grants. On the retention side it provided continuing medical education grants and funding for locums grants (Holub and Williams, 1996; Humphreys and Rolley, 1998).

In general, policy discussions leading to the NRHS identified two types of program that might successfully address the long term policy objective of providing a stable and acceptable level of physician services for residents of rural and remote areas. These long term programs included initiatives that would: 1) bring more students with rural backgrounds into medical schools; and 2) provide more training in a rural setting to undergraduate and graduate medical students (Kamien & Buttfield, 1990a,b & c; Jackson & Jackson, 1991; Rolfe, Pearson et al. 1995; Kamien, 1995; Bollen, 1996; Næronton, 1997). The former initiative was facilitated through the commitment in 1992 of $2.5 million to medical schools, specifically to help with recruiting undergraduates from rural areas. Several medical schools also changed entrance requirements so that rural applicants could be accepted with lower grades. More recently, three of the country's medical schools have gone to a graduate entry program, whereas previously all medical schools accepted applicants straight from high school (Horvath et al., 1998).

Also in 1992 a Faculty of Rural Medicine (FRM) was established by the Royal Australian College of General Practitioners (RACGP). The FRM was created to develop and administer a new four year graduate diploma in rural general practice (a graduate diploma in general practice being three years). The additional year of formal education provides advanced training in obstetrics, pediatrics, emergency medicine and other specialization (Rourke & Strasser, 1996; Brooks, 1994).

In March, 1996 a Conservative Coalition federal government was formed after 13 years of Labour rule. In the 1996/97 Commonwealth budget, the GPRIP and its $15 million annual budget were enhanced. Relocation grants of up to $20,000 dollars and training grants of up to $78,000 were maintained. Continuing education grants, locum grants and rural undergraduate grants were also kept. Remote area grants of up to $50,000 per year for practice in particularly remote locations were also retained. New components added to the GPRIP included: 1) $20 million to allow rural hospitals to serve as training facilities for undergraduate and graduate medical students; 2) $27 million over four years for six university-linked departments of rural health to be established in rural areas; 3) 600 scholarships by the year 2000, providing up to $10,000 over four years to undergraduate and graduate medical students to work and study in rural regions; and 4) funds to establish
an Advanced Specialist Training Posts Program to create specialist training posts in major rural centres.

In addition to these measures, in 1997 the Commonwealth Government provided funds to train 100 permanent resident physicians (physicians trained overseas but without access to Australian certification) as long they committed to working in rural areas upon completion of training (Australian Medical Workforce Advisory Committee and Australian Institute of Health and Welfare, 1999, forthcoming). It is also giving consideration to the use of nurse practitioners in communities without a general practitioner (Humphreys and Rolley, 1998).

Most State/Territory governments have also created programs, including Rural Health Training Units (e.g., Jackson and Jackson, 1991; Mudge, 1993) and programs for locum relief. At all levels of government, but particularly at the state level, programs are almost entirely focused on gps, although the Commonwealth introduced a number of pilot projects in 1995 aimed at "improving the delivery of specialist services to rural and remote areas", and "allocated additional funding for rural/regional specialist training positions" (Australian Medical Workforce Advisory Committee, 1996, p. 25). At this point in time, physician under-supply in rural areas in Australian continues to present a problem; in addition, none of the programs noted here have yet been comprehensively evaluated and, indeed, it is probably premature to attempt such evaluation, particularly for those programs with an explicitly longer-term focus.

In late 1996 Australia introduced a national provider number policy, whereby the number of practitioners eligible to claim payments through the national Medicare program would be linked to the achievement of particular post-MD training. Existing physicians were 'grandfathered', but then-current and all future cohorts of interns and residents will be required to apply for a number. Numbers are only provided to gps who have completed a recognized vocational training program (equivalent to a residency training program in Canada, and including family practice 'residency') (Australia, 1996). The usual route is to complete undergraduate medical school, then proceed to a year of what would previously in Canada have been a rotating internship. This is then followed by either "undifferentiated . . . work within the public hospital system" (Australia, 1997), or entrance into a vocational training program.

Without a provider number, neither the physician, nor the physician's patients, is/are able to seek reimbursement from Medicare. The Commonwealth restricts the number of funded first year places in vocational training programs in each year to about 400; the implication is that as many as 950 newly graduating general practitioners must seek positions in public hospitals (Australia, 1997; 1998). Most physicians emerging from the first postgraduate year will queue for a vocational training spot for a number of years, gaining experience in the public hospital system. The expectation is that physicians will take up posts in rural areas due to the limited number of available hospital posts in larger centres (Horvath et al., 1998). To date, there has been no evaluation of the distributional effects of this new legislation. At present the plan does not involve geographic restrictions, per se, although the Commonwealth Minister also introduced a companion
program whereby new medical graduates can be granted temporary provider numbers if they are prepared to undertake locum work in rural areas (personal communication, J. Richardson, October 1996; Australia, 1996). However, as of the end of 1998, no temporary numbers had yet been issued (personal communication, P. Gavel, February 1999).

Interestingly, while individual states in Australia have the power to register physicians and so could, in principle, restrict access to urban areas or otherwise direct location decisions through legislation, the Australian system embodies inter-state portability. This means that any physician currently practicing in any state has the right to practice anywhere in any other state. If Queensland, for example, were to invoke a policy of excluding its new registrants from setting up practice in Brisbane, this would not stop already registered New South Wales physicians from moving north to, and setting up practices in, Brisbane. Not surprisingly, states have not implemented such policies.

What lessons might there be in the Australian record for Canadian policy-makers? Australia appears to continue to struggle with a situation similar to that in Canada, having employed a mix of policies quite similar to those in Canada. There, as here, the message seems to be that something different will be necessary to make greater inroads. The recent Australian development of a national 'billing numbers' policy is a potentially interesting approach made easier by Commonwealth funding of medical care than it would be in the Canadian situation of each province/territory having its own agreement with its physicians. Furthermore, it is too early to tell what effects this is going to have on geographic distribution of physicians. It would seem to warrant "watchful waiting". Australia has been extremely active in the education/training arena, and there may be initiatives there that would be worthy of additional Canadian attention. But we would caution that despite this extensive effort, there are clearly still serious problems of reasonable access to primary care in many parts of Australia. The Australian experience raises, in our minds, a question about how much one can expect to achieve from education-related approaches, even given ample resources and policy scope.

New Zealand

New Zealand is another country which offers potentially useful lessons for Canada. Like Canada, the majority of health care (77%) in New Zealand is publicly funded. Over 90% of the public funding derives from general taxation (Ashton 1996). New Zealand has experienced a physician shortage in many regions of the country, and especially in rural and remote regions, for many decades (Barnett, 1991a; Brown and Crampton, 1997). Initiatives intended to address the issue date back at least to 1941, when 34 "Special Medical Areas" (SMAs) were designated. Within these SMAs, gps held salaried posts funded by the national government (Brown and Crampton, 1997). The SMAs were reduced to 23 in 1967, largely as a response to physicians feeling that the salaried positions were an attempt to implement unpopular "free GP services", and further reduced to 12 in 1993 (Crampton and Brown, 1998).
In 1966 New Zealand began to offer guaranteed incomes for physicians practicing in certain rural areas. By 1993 there were five such areas, offering public sector income floors of about $NZ60,000. In 1969 a 10% bonus for rural fee-for-service was introduced. In 1970 a subsidy was implemented to encourage rural physicians to hire a practice nurse. The amount of this subsidy was initially 50% of the cost of the hiring; this was increased to 100% coverage in 1974, but reduced to 75% in 1986 (Brown and Crampton, 1997). The amount of the subsidy has been 70% since 1991 (personal communication, L. Malcolm, February 1999).

As part of the response to the physician supply crisis in the early 1970s, a second medical school was built and foreign medical graduates (FMGs) were encouraged to emigrate to New Zealand (Barnett 1991a). By the late 1970s, the national physician shortage had turned into a national physician surplus. In response, medical school enrolment was reduced by 25%, and between 1980 and 1990, FMGs were restricted to practice in "shortage areas", most being rural and remote (ibid.). Since then, there has been little in the way of new policy intended to adjust physician supply. As of the early part of this decade, considerable regional differences in supply still existed, although "politically embarrassing 'doctor shortages' [were] no longer in evidence" (Barnett, 1991b).

New Zealand provides ample evidence of the ineffectiveness, and costliness, of a laissez-faire approach to geographic maldistribution. Between 1981 and 1987, despite large increases in physician supply and medical care utilization in the country, urban-rural disparities actually got worse. To the extent that underserved areas attracted primary care practitioners during this period, they were largely foreign medical graduates (Barnett, 1993).

In response to the major reforms announced in 1991, general practitioners began to organize themselves into independent practitioner associations (IPAs), of which there were over 40 in the country by 1995 (Malcolm, 1999; Barnett, Barnett and Kears, 1998). Some of these IPAs have now had five years of experience with fund-holding for pharmaceutical and laboratory services. There is now active discussion and debate about providing integrated capitation for the core provision of primary care services by IPAs, and possible secondary care fund-holding (Malcolm, 1998, 1999). How this might be extended to the provision of primary care in areas without the physical proximity of groups of primary care physicians, or whether it has had any impact on the distribution of primary care practitioners around the country, is not yet clear.

New Zealand has also had some recent experience with B.C. style billing numbers policy. In 1997, the then-Northern Regional Health Authority began dictating where new foreign graduates could establish practices. This policy was challenged and deemed illegal by the New Zealand courts, and was replaced by a policy applied to ALL new graduates attempting to set up practice in this region (personal communication, Ross Barnett, February 1999). Our understanding is that the current policy is a hybrid billing numbers and "points" approach, through which new graduates may be granted so-called "Section
unrestricted rights to bill only after establishing practices in designated rural areas; such practices attract sufficient points that, after three years, the physician's subsequent location of practice becomes unrestricted. This policy is to be implemented country-wide later this year (personal communication, Laurence Malcolm, April 1999).

Some of the regional authorities have also sought to use capitation-based contracts as a means of restricting general practitioner access to areas of the regions deemed relatively over-supplied (Barnett, Barnett and Kearns, 1998). How successful this has been in encouraging the establishment of practices in less-well-supplied areas is unclear; in the absence of a comprehensive within-region approach, let alone a uniform cross-regional policy in this respect, it seems unlikely that great strides would have been seen in improving distribution of primary care providers.

General practitioners in New Zealand are also encouraged to practice in designated areas through a policy amounting to differential fees. The government provides public subsidies for the provision of care to low income families (e.g. about one-half the cost of an office visit would be subsidized). However, new general practitioners who choose to practice in "restricted" (read oversupplied) areas are ineligible for the subsidies, even if they are treating low income patients (personal communication, Ross Barnett, February 1999, April 1999). This policy has apparently not been particularly effective in improving access for low income families because the remaining out-of-pocket cost can still be substantial, and because of the stigma associated with registering in order to be eligible (personal communication, Ross Barnett, April 1999).

Another related and potentially important recent development in New Zealand has been the emergence of community-owned and -managed services. The most important example has been the Hokianga Health Enterprise Trust, serving a population of some 9,000 people, a large proportion of whom are Maori, in the rural north of the country. The Trust owns the small rural hospital, receives integrated funding for the provision of comprehensive primary health care and employs its four general practitioners on a salaried basis. Similar developments are being implemented elsewhere. For example, a community-owned trust has been established by a Maori tribal organization on the east coast of the north island. There has also been recent growth in the numbers of Maori tribal providers, and in the number of contracts for primary care between Maori groups and health funding authorities. These developments illustrate the extent to which community participation is emerging as an increasingly important factor in ensuring the provision of adequate health services to rural communities (personal communication, L. Malcolm; R. Barnett, February 1999, April 1999).

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This refers to Section 51 of the 1993 Health and Disabilities Services Act which gave then-practicing primary care physicians continued rights to "unfettered fee-for-service payments" (Barnett, Barnett and Kearns, 1998).

Eligible individuals and families who apply are provided with a "Community Services Card" which triggers the public subsidy to eligible physicians. However, although the subsidy may help with access to primary care practitioners, often the patients will not be able to afford prescription medicines.
Current policies being used to attempt to influence distribution and ensure adequate physician supply in rural areas include the placing of restrictions on initial licensing and location of practice for all newly graduated gps (including FMGs; see above), and the provision of some fee bonuses for rural physicians (10% on consultations; 25% for situations where travel to patient is required). The restrictions on location of practice for new gps appear sufficiently effective to keep the current government from introducing any other new policies, save some extra funding for rural hospital care and for the provision of 24 hour on-call services (English, 1998).

The New Zealand experience is revealing in that the country appears over the past six or eight years to be slowly moving in directions reminiscent of the approaches which have evolved in the United Kingdom. Their recent billing numbers initiatives are similar to the U.K.’s negative direction policy, and they appear to be moving toward a greater reliance on capitated funding for primary care. The recent development of community trusts, in which local areas have responsibility for providing integrated care, bears some similarities to Canadian regionalization initiatives. A major difference is that the community trusts receive funding with which to provide a full range of integrated services. To date, the Canadian approach of segregating pharmaceutical and physician funding from allocations available to regions would seem to stand in the way of this more rational approach to truly integrated care.

Selected Other Experiences

We do not pretend that this exhausts the experiences from abroad that might usefully inform Canadian discussion and debate about improving access to medical services. But even with this review of four countries, we may have reached the point of rapidly diminishing returns in our quest for other innovations. Nevertheless it seems useful to add a few other observations. In the Netherlands, while physicians are theoretically able to set up practices wherever they choose, in practice their choices are limited by the willingness of regional sickness funds23 to contract with them, and by the willingness of the general practitioners already in place to make satisfactory arrangements for collaboration (weekend and evening schedules, for example). Indeed, increasingly the sickness funds themselves are making contracting contingent on the establishment of such arrangements (personal communication, K. Okma, September 1996). In addition, gp contracts with the sickness funds are for payment by capitation, which imparts a clear incentive to 'locate where the patients are'. However, some gps are able to secure sufficient private patients that they are not dependent on sickness fund capitation, muting that incentive effect in such situations. Perhaps most important, the Netherlands is amply supplied with physicians, and covers a small geographic area, so that one has far fewer situations of isolated and clearly underserved communities than are found in Canada or the U.S.

23 Sickness funds operate as regional insurers and purchasers of care on behalf of their enrolled/insured populations. For more details, see Okma, 1997 and Saltman et al., 1998.
Norway and Sweden both have long-standing, and apparently successful, experiences with establishing medical schools in rural areas, Sweden in the 1960s, Norway in the early 1970s. In Norway the northern medical school must recruit a quota of students from northern Norway (50% since 1979). As of 1990, over one-half of the graduates (56%) were practicing in rural/remote areas. An astounding 82% of those who both grew up in the north and were educated at the University of Tromso were still in the North 5 to 10 years after graduating (Magnus and Tollan, 1993). Also in Sweden, in 1993, a "Family Doctor System" was established, among the features of which were the requirement that all citizens join a primary care practice roster, and the shifting of primary care practitioners from salaried employees of the County Councils to capitation-based contractors with those Councils.

In short, when looking abroad we find policies both similar to and different from those being tried in Canada. We should not pretend that Canadian policy-makers have exhausted the possibility set.
D. Summary and Discussion

This survey of policy initiatives designed to improve access to necessary medical services in rural, remote and isolated regions offers up a number of general observations:

- all provinces and territories are experiencing wide inter-regional variations in the supply of physicians, including general/family practitioners;
- virtually all developed countries face similar problems of inequitable access to basic medical services;
- these problems are long-standing;
- despite the fact that most OECD countries experienced rapid growth in physician supply over the three decades 1965-1995, this increased availability has failed to solve the access problems in the relatively "underserved" areas of these countries (including Canada);
- even in the United States, which comes closest to embracing almost religious faith in the power of the market to solve these sorts of problems (along with most others), there is a grudging but growing recognition that this particular problem will not be solved by the invisible hand alone;
- the country which appears to have been most successful in improving geographic distribution of physicians, the United Kingdom, has employed a combination of administrative fiat and alternative (to fee-for-service) methods of payment;
- in countries as diverse as the United States, the United Kingdom, the Netherlands, New Zealand and Sweden, one finds capitation-based contracting methods increasingly being used, particularly to finance primary care; Canada's continued resistance to these approaches is increasingly leaving it the 'odd man out';
- Canadian provinces and territories employ a rich and creative mix of regulatory, administrative, funding, and educational policies and programs in an attempt to improve access to medical care for the residents of the less highly populated areas of the country;
- the majority of these Canadian policies involve the use of financial incentives — differential fees, income guarantees, settlement and 'good behaviour' (retention) bonuses, student loans and bursaries;
- a growing number of financially-based Canadian policies are not linked to fees-for-services. These include direct locum employment pool arrangements, salaried and contract positions in designated communities; and non-fee-based payments for being on-call in areas where call requirements are more than would be considered 'normal' or 'reasonable';
- nevertheless, there continues to be limited general innovation evident in the use of alternative (to fees-for-service) funding models for physician services in rural/remote regions; while there have been calls from some physician groups for such innovation, these tend to fly in the face of the more widespread love affair with fee-for-service remuneration of provincial/territorial medical associations. Most agreements between provincial Ministries of Health and medical associations lock the available medical care reimbursement funds in fee-for-service silos. As a result, any alternatives emerge from
add-on funding, or from already existing alternative payments pools. Since neither is growing particularly rapidly in the current fiscal climate, one ends up with limited innovation;

- alternative methods of paying physicians (particularly for primary care) should not, however, be viewed as a panacea. Implementation of such alternative models would not come without many significant implementation and administrative complexities;

- there are growing numbers of education-related initiatives, particularly directed to general/family practice training for rural areas, in Canada. These include exposure to rural area practice during undergraduate medical training; compulsory and optional rural area rotations in residency training; opportunities for skills upgrading and increased availability of continuing education opportunities for rural area physicians;

- a few programs are beginning to reflect in their entry policies the evidence on the relationship between childhood/adolescent residence, and probability of being prepared to practice in rural/remote areas;

- the 'new horizon' of communications technology shows promise, but must be considered at this stage unproven as an effective policy for improving access to care in rural/remote areas;²⁴

- although progress is being made, there continues to be far less use of, and innovation related to, non-physician personnel to meet primary care needs in "underserved" areas of the country, than would seem desirable. The evidence has been around for decades (indeed, some of the seminal work in this area has been Canadian; see Spitzer, 1984, and Lomas and Stoddart, 1985), and in the United States, use of such personnel is far more widespread than in Canada. There is still relatively limited training capacity in the country for nurse practitioners who are able to practice relatively independently in rural/remote primary care settings, and many jurisdictions still lack the necessary enabling regulatory environment to make such practice possible;

- the judgement in the Waldman case in British Columbia appears to have established a stringent set of conditions to be satisfied by any future regulatory initiatives of a "billing numbers" or "differential fees" nature. Of particular importance (assuming the judgement is upheld at appeal) would seem to be the necessity not to discriminate between physicians in place in the jurisdiction, and physicians from outside the jurisdiction. In this respect the judiciary seems to be more in tune with the spirit of the Ministers of Health 1992 agreement than some subsequent Ministers have been (see below);

- despite the fact that some provinces (e.g. Alberta, Ontario) have developed relatively comprehensive packages of initiatives intended to address this issue, it would appear that no policy package currently extant in Canada can claim success.

While all regions of the country have some policies in place intended to improve access to medical services in rural and remote areas, there appears to be virtually nothing of a "pan-

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²⁴ The recent PAIRO/SRPC (Ontario) document captures the dilemma as follows: "The development of Telemedicine is plagued with three basic problems: a. Unclear remuneration/liability for consultants rendering opinions; b. Unsatisfactory infrastructure for reliable transmission of suitable imagery; c. A "top down planning" error of attempting to compensate for inadequate training of rural physicians by providing "hand holding" Telemedicine links" (PAIRO, 1998, p. 26).
Canadian" nature in place. This is undoubtedly in large measure due to the fact that "health" is, constitutionally, a provincial/territorial matter. As a result, there are relatively few policy levers held at the federal level (immigration policy being the one significant exception). Less immediately explicable is the vacuum in "national" (as distinguished from "federal") policy. There are some processes in place (and some have been in place for decades). All jurisdictions share approaches and policy ideas through fora such as the Federal/Provincial/Territorial Advisory Committee on Health Human Resources, and the National Coordinating Committee on Post-graduate Medical Training; sadly any cross-national ideas emerging from the deliberations of these committees must return home to face the realities of limited policy levers (e.g. over decisions taken within the black boxes of academic health centres), the local political music, or both; more often than not they get drowned out.25

All provinces and territories face the same issues, and find themselves, instead, trying many of the same general policy approaches, with local colour added (see appendices). This can become circular, and insular. The failure to develop any pan-Canadian initiatives has meant a history of destructive competition rather than co-operation. One has only to recall the temporary Ontario billing numbers policy of a few years back, whereby graduates of Ontario medical schools or those in training in that province, were given preferential access to 'billing rights' through OHIP, or B.C.'s more recent differential fees policy, which exempted those then in training in B.C., to find examples of anti-cooperation. Viewed from a narrow single provincial perspective, these two policies, and others like them, probably made perfect sense when set against some narrow criteria. But they were hardly enacted in the spirit of co-operation and collaboration so evident in the all(but Quebec)-Ministerial pronouncements of 1992 (Provincial/Territorial Conference of Ministers of Health, 1992).

There is more to collaboration in this area than simply "being friends". The solutions to issues of access in rural and remote areas would seem largely beyond the reach of any single jurisdiction. For example, there is clearly scope for expanded deployment of "physician extenders" (nurse practitioners, physician assistants, and the like) in many of these areas. Yet there is limited training capacity and considerable confusion around scope, standards, and regulations for such personnel in Canada. To our knowledge, there has been no discussion about "Canadian" training resources of this nature. As with most other issues in this complex field, so far provinces/territories seem to be "doing their own thing". It may not be necessary for every province to develop training capacity; it would seem worth investigating a small number of truly Canadian schools, funded by all provinces and territories, graduating practitioners who would satisfy standards agreed to by all jurisdictions; but then this would require co-operation. In some

25 While there was general pan-Canadian agreement with most of the recommendations emerging from the Barer-Stoddart report (Barer and Stoddart, 1991a), and these were reflected in subsequent Ministerial action plans, very few of those recommendations have actually been acted on. There appeared to be pan-Canadian support for the "Victoria report" (Federal/Provincial/Territorial Advisory Committee on Health Services (1995), on the creation of new primary care organizations, but again the ideas were not picked up at the level where the policy rubber must hit the road. These are but two of many such examples.
provinces/territories, deployment of the graduates of such programs in ways that took 
advantage of their full scope of practice potential, would still require new regulatory 
initiatives.

We were taken aback by the lack of readily available information in this area. There was 
no consolidated source of information on types of expanded scope nurse training, 
availability of training programs, numbers of entrants and graduates, where graduates 
were (and could be) practicing, what each jurisdiction had done to date with respect to 
regulatory amendments, and so on.26 This would seem a logical, and badly needed, 
follow-up piece of work.27

In a similar vein, there has been discussion for years of the need to move away from 
funding primary care solely by fees-for-services. Yet we are in the unhappy situation 
across this country of having the policy flexibility in this area locked away in individual 
provincial-medical association agreements (Barer, Lomas and Sanmartin, 1996).28 Not 
only are provinces/territories generally hamstrung with respect to changing the mix of 
funding approaches, but in provinces which have adopted regional structures, the 
agreements with the medical associations also continue to lock in place the province- 
profession level of negotiation, precluding the development of new models at the regional 
level. And even if these constraints did not exist, were only one province to move in this 
direction, it could face an out-migration, of physicians resistant to 'anything other than fee-
for-service', to provinces and territories where the "status quo" prevailed, perhaps 
defeating its own objectives of moving its supply around within its borders, and at the 
same time exacerbating the physician supply situations in those other jurisdictions.

As is the case internationally, an exception to this spirit of non-cooperation appears to be 
emerging in the education arena. The Society of Rural Physicians of Canada, along with 
the College of Family Practitioners of Canada, is in the process of developing national 
curricula and guidelines for the training of rural physicians (personal communication, Carl 
Whiteside, January 1999). While this is certainly a step in the right direction, and no one 
is likely to argue that more extensive and consistent initiatives in the physician 
training/experiential area are necessary to an improved situation, we found no evidence 
(from Canada or elsewhere) to suggest that they will ever be sufficient. Indeed, one of the 
gaps in our understanding of the relative effectiveness of policy initiatives in this area is 
the fact that one comes away from the literature, and from speaking with individuals 
involved in the educational enterprise, without any clear sense of the full potential of 
education/training-based initiatives.

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26 The recent report by Hill and Pickup (1998) goes some way toward this objective, but is far from 
comprehensive.

27 Indeed, a number of the contacts from whom we attempted to gather some limited information on this 
issue expressed frustration that such information was not readily available, and hoped that we would be 
able to fill that void. A comprehensive examination of this matter was clearly beyond the scope of the 
current work; nevertheless, since all jurisdictions are actively examining this matter, such information is 
clearly needed.

28 This despite a recognition within the profession that fee-for-service payment methods stand in the way 
of improving the situation in rural areas (Hutten-Czapski, 1998)
In conclusion, the challenge of providing adequate access to necessary medical services for all residents of this huge country is one that continues to defy the best minds, and the enormous amounts of good will, of large numbers of dedicated health care practitioners, bureaucrats, and researchers. Are there answers out there? We believe that there are, that some of the experiences in Canada, and some from abroad reviewed here, could be deployed more extensively to improve the situation in this country.

Our review and analysis suggests that there is potential to do more in many of the broad policy avenues described earlier. Within the regulatory/administrative realm, we have not come close to exhausting the potential of deploying non-physician personnel, given appropriately accommodating regulatory environments. Within education/training, the key lesson emerging from the foregoing analysis is that we have barely scratched the surface of our understanding, or of the policy potential, of this set of influences. Academic health centres have access to our future physicians at the key influence and decision points in their professional lives — from decisions about who gets into medical school, through the exposures and training they receive, to the more subtle messages about the relative importance and prestige of different types of public service. And those same centres have the potential to develop additional programs for training non-physician personnel who can ably meet many of the challenges of providing some primary care access in rural and remote regions of this country. The challenge for the policy community (and this clearly reaches beyond Ministries of Health) is to find mechanisms to ensure that the academic enterprise becomes more accountable for its performance in meeting these very important public objectives. As for communication technology, we are reminded at every turn about its virtually endless potential, but it is less clear what will be practical, and cost effective, in terms of extending the capabilities of providers on the ground in rural/remote area.

Finally, we should not too-quickly dismiss the potential of "financial incentives". What is necessary is an expanded view of what this means, and a keener eye on the extensive literature which has created a relatively comprehensive picture of the limited potential of more narrow, traditional applications. Experience with the use of these latter approaches (e.g., differential fees; isolation allowances; on-call supplements) has largely been built upon a base of fee-for-service remuneration. As such, these approaches have done little, if anything, to address the most fundamental problems with that method of payment (Barer and Stoddart, 1991a). Physicians are still largely responsible in this country for "providing services", rather than being responsible for "caring for patients". The financial magnet continues to be services, not patients. There are alternative models out there, derived from the ideas contained in the "Victoria report" (Federal/Provincial/Territorial Advisory Committee on Health Services, 1995), extending through some of the innovative contracting arrangements being put in place across the country to the various primary care demonstration projects now being developed and evaluated. To date, however, this has all seemed like little more than nipping at the heels of the rural/remote access problem.
Achieving a more comprehensive, enduring and effective set of innovations will require more than this type of fiddling around the edges, another financial carrot here, another pilot project there. It will require bold strokes, local political risk, and national collaboration. It will require creating new opportunities for some, and disturbing old and comfortable situations and relationships for others. It will require transparency and good will. Above all, it will require a more thoughtful consideration of evidence that is there for the taking -- the lessons from the research on the matters that matter in the multitude of individual decisions by individual physicians and physicians-to-be, about where to practice medicine. And in the end, even this may not be enough, which is why looking beyond physicians may end up being an important piece of the solution calculus.
Appendix 1

British Columbia
British Columbia

Beginning in 1978, British Columbia instituted a "Northern and Isolation Allowance" for physicians paid fees-for-service and who were prepared to live in remote communities. This allowance 'topped-out' at a bonus of 15% over then-existing fee levels, and the actual allowance in individual cases was a function of the degree of 'remoteness' (based on distance from nearest hospital, availability of specialists, physician/population ratio, and the like). In the early 1980s there were about 250 physicians receiving an average of about $10,000 in allowances.

At the present time (January 1999), the Northern and Isolation Allowance program continues in force with some recent modifications. As of fall 1996, approximately 85 communities in the province were assigned "points" ranging from 6.6 to 20. Each point represents a 1% fee bonus, so that a physician practicing in a location such as Bella Coola, a "20 points" area, would be eligible for a 20% bonus or allowance on all fee items billed. As of April 1, 1999, the range of points will be from 4.2 to 30.

In 1997 the NIA program budget was about $6.8 million, and about 280 physicians received an allowance or bonus through the program (for an average of about $25,000). By October 1998, almost 400 physicians working in 91 rural and isolated communities were involved. (B.C. Ministry of Health, 1998b).

We are unaware of any formal evaluation of the effectiveness of this program. It is of course impossible to determine how many of the physicians receiving these bonuses would, in their absence, not be practicing in NIA-designated areas. What can be said is that the number of communities in the NIA program has been growing, as have the number of eligible physicians. Like the programs in the U.S., this program is based on communities actually applying to the Ministry of Health for designation. Questions have been raised about the logic of tying the amount of the allowance to fees received for services rendered. Indeed, it could be argued that the most isolated regions, where it is most difficult to recruit and retain adequate physician resources, might be precisely those regions where there is not quite a sufficient patient load (and therefore service requirements) to support a full-time physician (or to support a second or third full-time physician). This then raises questions about whether a fee-based NIA is the best process for recognizing the importance of 'available capacity'. It is not unrelated to the issue of reimbursement for 'on call' services (see below), and again raises fundamental questions about the logic of remunerating practitioners in these sorts of situations through a fees-for-services basis (Barer and Stoddart, 1991a).

Whether the increasing numbers reflect a growing awareness of the fact that the program can assist with community recruitment efforts (leading to ever-more communities applying), changed criteria for designation, or simply eroding rural area supply, is not clear. It seems obvious that the more communities are designated as NIA-eligible, the less effective the program may be at attracting physicians to the most 'needy' areas, in light of
the limited 'bonus range' (6.2%-20%). Eventually rural/remote communities simply end up competing with each other for a small pool of willing (under current policy circumstances) physicians.

In the early 1980s, B.C. had in place a number of other programs intended to encourage the provision of medical services to residents of isolated communities. These included a "Subsidized Income Program" for specific communities, whereby physicians could receive subsidies of up to $42,000 annually, were thereby guaranteed a minimum level of income of that amount, and were eligible for some subsidy even with incomes as high as $120,000 annually; a "salaried physicians" program whereby funds were provided to certain communities in order to permit them to employ physicians; and a "northern and isolation travel allowance" providing travel assistance for physicians willing to service selected remote areas of the province.

The "Subsidized Income Program" was terminated in 1994, but the Northern and Isolation Travel Allowance (NITA) program continues, to cover the travel and ground expenses of itinerant specialists. These specialists make periodic visits to about 30 rural and isolated communities. A related initiative, the Physician Outreach Program (POP), covers the travel time of specialists who agree to travel to patients near their own communities, and to encourage primary care physicians to provide outreach services to nearby communities.

The Alternative Payments Branch (APB) of the Ministry has developed an extensive program (with a budget of almost $125 million in 1998/99) providing funding for physicians paid other than by fees-for-service. Beginning in the early 1980's and lasting until 1995/95, the APB periodically entered into direct individual contractual arrangements with physicians willing to practice in rural communities. The APB then paid a subsidy to such physicians who, however, continued to bill fees-for-services. By the end of the program, there were fewer than six communities making use of these arrangements. The APB funding is now made available to regional health authorities or community health service societies which contract with physicians to provide services. As of March 1999, a health authority or society may negotiate non-fee-based service agreements or contracts with physicians or groups of physicians, and then submit claims to APB for the set of services provided.

More recently, the Ministry established a Northern and Rural Locum Program which provides subsidized locum services to NIA communities. These services make a locum available to allow the physicians in these communities some vacation relief, or to take advantage of continuing education opportunities. Initially eligible communities were those with three or fewer full time practicing physicians (Elizabeth Gillies, personal communication, Sept. 1996). The program offers prospective locums a guaranteed daily income of $500, plus travel expenses and a monthly retainer. Between June 1996 and October 1998, respite locum services were provided about 100 times to physicians practicing in small rural communities. The program was expanded to include NIA communities with 7 or fewer physicians for 1998-99. As of fall 1998, the program had
Physicians providing emergency room coverage to hospitals and Diagnostic and Treatment Centres in NIA communities in northern BC resorted to job action in early 1998 over the issue of on-call schedules (Borsellino, 1998a; 1998b). This action spread to physicians in other areas of the province and to communities without hospitals before it was finally resolved. The issue was characterized as being about insufficient back-up for physicians in small communities who, as a result, were required to be on-call as much as every day or every other day.

However, the physicians in some of the affected communities seemed relatively unreceptive to offers of additional support, suggesting that the real issue for many of them was money — in other words, they could handle the on-call schedules if only there were sufficient funds to ease the pain (Fong, 1998; Jimenez, 1998). After a mediator failed to break the impasse, a fact-finder (Dobbin) was engaged to file a report with recommendations for resolving the issue. Dobbin filed her report in May 1998 (Dobbin, 1998), and the Minister of Health/Seniors agreed to the recommendations in that report.

The terms of the agreement arising from the Dobbin recommendations (B.C. Ministry of Health, 1998a) are complex and clearly inequitable (leaving aside the issue of whether on-call payments were appropriate in the first place). Funding for "emergency medical coverage" is available to any Health Authority containing one or more NIA communities. The Authorities in turn are required to arrange contracts with affected physicians.

The agreement identifies three categories of physician: 1) gps in NIA communities providing emergency coverage through the local hospital(s); 2) gp-surgeons and gp-anaesthetists in NIA communities who, in addition to providing anaesthesia services or undertaking surgery, also run general practices; and 3) gps in NIA communities without hospitals and less than three (in practice three or fewer) physicians. Remuneration for on-call services for the communities with hospitals (category 1) is, in addition, a function of how many fte gps are in the community in question. Table A1.1 summarizes the payment terms.

Category 1 physicians were offered two options, one offering $30/hr (except for weekends and statutory holidays in communities with <6 fte gps, where the rate is $40/hr) in lieu of fees-for-service, the other offering $20/hr (except for weekends and statutory holidays in communities with <6 fte gps, where the rate is $30/hr) over and above any fees-for-services actually provided. The latter option is, however, available only to gps in communities with 9 or fewer fte gps.

Category 2 gps (gp-anaesthetists and gp-surgeons) were offered only one option, a payment of $5 per hour in addition to fees-for-services, during periods in which they were on-call (nights, weekends and statutory holidays) for the respective service (e.g. anaesthesia or surgery). These gps must decide whether they wish to be category 1 or
category 2 physicians during any particular on-call session, and cannot charge for both categories simultaneously. Category 3 gps, those practicing in communities without hospitals, have been offered a $30,000 per year on-call bonus, to a maximum of $60,000 per community, pending the development of a permanent formula.

Table A1.1

<table>
<thead>
<tr>
<th>Category</th>
<th>No. of fte gp/fps in community</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&lt;6</td>
</tr>
<tr>
<td>weekdays 1800—0800</td>
<td>$30 ($20)</td>
</tr>
<tr>
<td>weekends</td>
<td>$40 ($30)</td>
</tr>
<tr>
<td>stat holidays 0800-0800</td>
<td>$40 ($30)</td>
</tr>
<tr>
<td>2</td>
<td>6-9</td>
</tr>
<tr>
<td>weekdays 1800-0800, weekends &amp; stats</td>
<td>($ 5)</td>
</tr>
<tr>
<td>3</td>
<td>&gt;9</td>
</tr>
<tr>
<td>24 hour coverage</td>
<td>($2,500/mth)</td>
</tr>
</tbody>
</table>

There are a number of obvious problems with the terms of this agreement. First, and perhaps most fundamental, if one is going to be paid 'work rates' to be on-call, there seems no reason to be offering the option of also paying for services provided during the call period (interestingly, the Ministry appears to have got this right for communities with more than 9 physicians). This seems akin to paying those supervising medical students a salary for the supervision, while at the same time allowing them to bill a medical plan for services provided under their supervision. Perhaps not surprisingly, the vast majority of NIA-eligible communities (all but 4) have chosen the combined on-call plus fee-for-service option. The four communities which have chosen the straight on-call option have very few (one or two) physicians at the present time.

Second, the scheme appears to embody some rather perverse incentives for regions that are constantly claiming that they have huge problems attracting physicians. For example, the category 3 physicians are eligible for $30,000 per year if there are up to two fte gps in the community (in fact, the Ministry is prepared to provide a total of $60,000 for up to three ftes). Were a community to need a fourth gp, the on-call bonuses would disappear under the current scheme. On the other end, a community with two fte gps and no
hospital has $60,000 at its disposal for on-call coverage; a community with one fte gp and no hospital has $30,000 available. This might make sense if, for example, the latter community had half the population of the former. But if instead the latter community is one which has severe difficulties recruiting physicians, the on-call requirements may be the same, but the funding is not. These anomalies clearly expose the fact that the scheme has nothing whatsoever to do with the underlying care/coverage requirements of the communities involved. In this situation, money follows practitioners, not patients.

Third, to these observers it would appear that in some cases 'equals' are treated unequally, and in others unequals are treated inequitably. For example, a gp-anaesthetist who does nothing but anaesthesia (doesn't maintain a gp practice) is ineligible for the $5/hr on-call fee, even if (s)he is required to be on call. Even more problematic would seem to be the fact that a gp in a community without a hospital is currently restricted to the $30,000 bonus plus fee-for-service earned while on call for being on-call continuously (or at least ½ time; or $20,000 if 1/3 time), whereas a gp in a community with a hospital and five or fewer fte gps who chose to be on-call just one weekend out of four, and one weekday per week would receive $38,740 for the on-call time (plus fees-for-services provided during these on-call periods)!!

It gets worse. Consider a two-physician community with a hospital (yes, there are a few), assume that the two physicians share call equally, and that the physicians have chosen the option of a lower on-call rate plus fees-for-services. Under the terms of the Dobbin agreement, each will collect approximately $80,000 in on-call payments alone, before any fees-for-services are factored in! Were these physicians to be practicing in an adjacent town with the same population but without a hospital or treatment centre, each would (under current terms) receive $30,000 plus fees-for-services during non-on-call hours. One might anticipate some adjustments to these arrangements over the coming months and, indeed, the Ministry views all of these arrangements as an interim solution pending the development of a longer-term on-call payment plan. Of course once an arrangement is in place, any changes will create winners and losers (since it seems highly unlikely that the Ministry would end up pouring even more money into on-call remuneration for this group of communities); there may be more hot nights in the cold north before this is all resolved.

But while the northern physician on-call dispute has received a considerable amount of policy and media attention over the past year, perhaps British Columbia's most widely known geographic distribution initiative was Canada's first "billing numbers" policy, first put in place in 1983, enacted in 1985, and put to rest when the province was not given leave to appeal a B.C. Court of Appeal judgement to the Supreme Court of Canada, in 1988. Under the terms of the policy, "billing numbers", entitlements to have fee-for-service claims paid by the Medical Services Plan of the province, were only available to new physicians prepared to practice in certain designated areas. New physicians were required to apply for hospital privileges and, with privileges in hand, could then apply for a geographically restricted billing number. Already practicing physicians were "grandfathered" -- given geographically unrestricted numbers. The details of the stormy legal and "on-again, off-again" policy history can be found elsewhere (Barer, 1988).
No formal evaluation of the policy was ever undertaken (or at least published). The Canadian Association of Internes and Residents (1992) suggested that it was ineffective, but in fairness, it was not given long to run before it met its demise at the hands of the courts of the land. Even during its short life, it was 'on again, off again', and so there was never really an adequate opportunity to evaluate its effects or effectiveness. Certainly some applications were denied during this period, and the assessment at the time was that the preliminary evidence suggested some reduction in the issuance of numbers as a result of the policy. However, many of these denied applications showed up as unrestricted *locum tenens* (Barer, 1988).

The most recent initiative in British Columbia was the 'Permanent' Physician Supply Measures (henceforth PPSM) which came into effect on October 1, 1996, and which built upon the earlier-instituted so-called Interim Physician Supply Measures (IPSM) which dated back to 1994. These were administrative measures applied in accordance with the terms of the *Medicare Protection Act*, according to details set out in various "Minutes" of the B.C. Medical Services Commission. Minute 96-0015 (April 4, 1996) set out the details of the PPSM. The Commission is a tripartite body, which includes representation (1/3) from the provincial medical association.

The PPSM was a financial incentive program, whereby differential fees were established according to the location where a physician established practice. The fee proration ranged as low as 50%. New physicians would earn 20 "points" for each year in practice, unless practicing in an NIA-designated region. Once 100 points were accumulated (after five years), the physician then changed "category" (there were thirteen different categories set out in Minute 96-0015), becoming eligible for 100% fees, irrespective of region or specialty. A physician choosing to set up a practice in a NIA region was eligible for the NIA fee bonus, and annual bonus PPSM points equal to the NIA points for the region. Again using Bella Coola as an example, a physician setting up practice there would receive a 20% fee bonus, the standard 20 PPSM points, plus an additional 20 PPSM points annually. Under this arrangement, a physician settling in Bella Coola would amass the necessary 100 points in 2.5 years (Hanvelt, 1996).

The proration for each region was provided in the Physician Supply Plan (PSP) developed by a Physician Supply Advisory Committee. That Committee was tasked with determining, on a semi-annual basis (MSC Commission Minute 96-0016) whether each region was "under, adequately, or oversupplied with physicians in each specialty" (MSC Commission Minute 96-0015, p. 10). Adequately supplied regions attracted a 75% proration, oversupplied regions 50%.

There were two significant exceptions to these general terms and conditions. The first concerned individuals who were in medical or post-graduate training in British Columbia as of 1995. These individuals were eligible for 100% billing numbers if they applied within one year of completing their training. The second exception was for practitioners who entered into agreements to serve as *locums* for "grandfathered" physicians, irrespective of
the region in which those physicians practice. These *locums* came to be a significant factor as the policy 'played out', because they provided a route for securing net income in excess of what would otherwise have been available if a practitioner were subject to 50% or 75% prorated fees (and had the usual practice expenses). At the same time the practitioner could amass the same 20 points per year toward an unrestricted billing number through such a *locum* arrangement. For example, one would not be surprised to find that a physician faced with a choice of a 100% billing number in an undersupplied (but not NIA-eligible) region, a 50% billing number in an urban centre, or, say, 50-60% fees with no expenses in an urban centre (as might reasonably be the case in a *locum* situation), might quite reasonably choose the revolving *locum* option for the five years necessary to accrue the 100 points under the PPSM (Hanvelt, 1996).

A detailed examination of the micro-incentives embodied in the scheme (Hanvelt, 1996), which ended up playing a key role in the judgement in the case brought against the PPSM (see below), determined that the PPSM were unlikely to reduce supply, improve geographic distribution, or help control health care costs. Indeed, the measures embodied some rather perverse incentives, such as the incentive for urban physicians contemplating retirement to, instead, simply hire a *locum*, since there were likely to be more *locums* available in urban centres than in the absence of the policy, making it possible to negotiate financial arrangements with *locums* that were advantageous to the established physician.

With the September 1996 Minute 96-0054, the Medical Services Commission made an adjustment to the NIA program. In particular, any physician wishing to move to a NIA-eligible community would from that point on receive "written confirmation of community support" in order to gain a 100% billing number and be eligible for the NIA bonus. "Community support" was defined as either the existence of a hospital physician workforce plan or "[s]upport of senior local government official [sic] and local physicians" (British Columbia, 1996, Appendix A, p. 5).

Recalling that the purpose of the NIA program is to attract physicians to relatively underserved areas, the only apparent explanation for this 'minor' adjustment is that it allowed physicians already in those areas to manage the delicate process of finding a balance between providing some necessary support and relief, on the one hand, and not removing NIA-points-eligibility by increasing supply too much, on the other (Hanvelt and Schneider, 1996). This exposed an obvious conflict for physicians already in place in NIA communities, which seemed to stand in the way of the province's attempts to improve distribution. Similar considerations may have come into play in the more recent debate and negotiations over on-call coverage.

In August 1995, a petition was brought against the B.C. Medical Services Commission and the Attorney General's Office of B.C. by a young female physician (Deborah Waldman) and two others who had been affected by the IPSM (this predated the PPSM). The action was based on alleged violations of B.C.'s *Medicare Protection Act*; certain conditions of the *Canada Health Act*, specifically the requirement that any provincial medical insurance program must "provide for reasonable compensation for all insured
health services rendered by medical practitioners;” and rights guaranteed by the Canadian Charter of Rights and Freedoms (specifically mobility rights, rights to life, liberty and security of the person, and equality rights (Barer and Wood, 1997) The case (Waldman v. British Columbia (Medical Services Commission) was heard in 1996, with the decision being filed in June 1997. Details of the decision, and the reasoning, can be found elsewhere (Barer and Wood, 1997; McNamara, 1998), and are discussed briefly in the main text of this report. Suffice to note here that the PPSM were found to violate rights under each of the two Acts and some of the rights guaranteed under the Charter; with respect to the Charter the judgement also found no relief from s. 1. In particular, Levine J. agreed with Hanvelt (1996) that the PPSM were unlikely to achieve their stated objectives, because most physicians confronted with the PPSM choice were opting for locums, and because there were, in fact, no regions where new general practitioners could be granted 100% billing numbers (a fact which was reported to have come as a surprise, after the fact, even to the province’s Deputy Minister of Health; Borsellino, 1998c). It is interesting to juxtapose this judgement, based on the PSP which was developed by the Physician Supply Advisory Committee (with representation from the profession), with the subsequent dispute between the Ministry and northern rural physicians over workloads and on-call relief. If, in the judgement of those who developed the PSP, there were no communities with shortages of general practitioners, why only a year later were so many rural/northern physicians 'going to the wall' over workloads and call?

Also troublesome for Levine J. was the apparent contradiction between identifying regions with established needs, and entitling existing physicians in those regions to determine whether a new physician would be accepted. From July 1997, there have been no explicit financial or regulatory/administrative 'macro' policies intended to influence the distribution of physicians in B.C. The decision is being appealed by the Medical Services Commission (Kent, 1997) with the BCMA having intervenor status (Borsellino, 1998c). The case is not expected to be heard until later this year, with a decision not likely before spring 2000.

In February 1996, at about the same time as the PPSP was being approved, the "Central Physician Recruitment Assistance Program" was set up. It was operated by the Health Employers Association of BC (HEABC) to help rural communities recruit physicians. Between 1996 and 1998 the program assisted in the placement of 43 permanent and 24 locum physicians in underserved communities. The program also provides locum services to larger communities such as Quesnel and Creston. The same group at HEABC also put together an extensive advertising campaign in July 1998 as their services expanded in 1998 to include recruitment (B.C. Ministry of Health, 1998b). On the training/continuing education front, the province has established a number of initiatives. Physicians practicing in NIA communities are now eligible for up to $4,400 per year to support access to continuing medical education opportunities. This is in addition to the $1,600 available to all physicians (whether or not in NIA communities) under the terms of the most recent agreement between the BCMA and the Ministry of Health and Ministry Responsible for Seniors (MOH). The faculty of medicine at UBC also has 6 residency positions which are used to provide skills upgrading for gp/fps in situations where there is a community need for particular skills. Over half of the physicians who took up these training posts between
1982 and 1997 are currently practicing in rural locations (B.C. Ministry of Health, 1998b). The Department of Family Practice, Faculty of Medicine, University of British Columbia developed a community-based rural training program for family practice residents in 1982. This program involves placing residents in rural and regional settings for large segments of their two year program, mentored through an extensive group of community-based faculty (Whiteside and Mathias, 1996).

The program selects likely candidates on the basis of personal background and personal/family factors, and then provides them with a full year of rural residency exposure. Currently the program requires all family practice residents to complete at least one month of training in a rural or regional location, and "12 of the 26 second year residents spend 9 months of their training" in one of these locations (B.C. Ministry of Health, 1998b). Apparently over 50% of the physicians who took advantage of this program during the 1982-91 period are practicing in remote rural areas, and a further 20% are in non-metropolitan areas of British Columbia (Whiteside, 1996). Between 1982 and 1997 this proportion has stayed well over 50% (B.C. Ministry of Health, 1998b). In addition, the UBC medical school organizes undergraduate medical student summer employment opportunities in rural communities. These range from 4 to 8 weeks during the summer after completion of second year; in 1997/98 108 of the 118 second year students took up placements in 59 different rural communities. The Department of Family Practice has organized rural family practitioners who serve as preceptors, and funding is provided by the MOH through its Alternative Payments Branch. The Department of Family Practice has also established a 'northern satellite' teaching unit in Prince George, which offers a two year residency in family medicine in a northern setting. This program was established in 1995. And finally, the province is running a "teleradiology" pilot program involving 11 communities in the northwest of the province.
Appendix 2

Alberta
Alberta

Alberta Hospitals and Medical Care first made funds available for encouraging rural physician recruitment and retention in the mid-1980s. The Incentive Payment Program, beginning in 1985, provided incentive allowances to "eligible physicians" in "eligible communities". A total of at least 30 'eligibility points' had to be amassed; these were assigned on the basis of the number of physicians in the community (and relative to the catchment population), the number of specialists in the area, and the proximity of hospitals to the physician's office and on the basis of a number of "living factors" (distance from the main urban centres; population of the community; recreational potential). Eligible physicians received a minimum incentive of 5.0%, plus 0.5% for each eligibility point in excess of 30 points, to a maximum total incentive of 20% (i.e. maximum 'eligibility points' of 60).

Incentives payable under this program were intended for physicians whose total billings to the Alberta plan were not more than $200,000. For each $1,000 in payments in excess of $200,000, any incentive entitlements were reduced by 1%. There was a ceiling on the total incentive payments, equal to 20% of plan payments to the physician.

If a community had no resident physicians, it would not be listed as an eligible community (since eligibility was based on a combination of physician and community characteristics). A community could be listed as eligible but, were a prospective physician to move there, could become ineligible irrespective of where the physician set up practice (relative to the location of hospitals).

This program underwent an 'internal' evaluation in 1989. Performed by the Incentive Payment Steering Committee (1989; with representatives from Alberta Health, the Alberta Medical Association, and the Rural Health Care Association) this evaluation used both qualitative and quantitative methods. The qualitative element surveyed two groups of physicians: one that had received incentive payments for 1983 to 1985 (155), and one consisting of physicians who had not received such payments, but who resided in communities having between 10 and 29 'eligibility points' (104). The responses indicated that lifestyle and professional factors had much greater weight in location/relocation decisions than did monetary incentives, with the latter being significant factors for only 17% of the group receiving incentive bonuses. (A similar finding was reported by a later evaluation of the Rural Physician Action Plan; see below.) However, the incentive program did appear to have had a positive affect on retention: 34% of the group receiving incentive payments indicated that the payments had influenced their decisions to continue to practice in an eligible community.

The quantitative component of the evaluation compared the recruitment and retention of fee-for-service physicians in rural communities from 1983 to 1987. The movement of these physicians was tracked using Alberta Health Care Insurance Plan (AHCIP) billings information. The results showed that the proportion of always-eligible communities which
gained at least one new physician did not change before and after the introduction of the program, and the proportion of sometimes-eligible communities which recruited successfully actually declined (while things improved for never-eligible communities). This led the authors to conclude that the "Program has not increased physician recruitment and retention in communities eligible for incentives compared to rural communities which were not eligible." But those always-eligible communities did enjoy some success with recruiting because the growth in physician supply in always-eligible communities was more rapid between 1984 and 1987 than in the never-eligible communities.

The incentive payment program underwent considerable amendment during 1990 and 1991. Effective January 1, 1991, a community became eligible for the program if it had a population in excess of 500 residents, was more than 160 km from Edmonton or Calgary, and was more than 80 km from one of five other regional centres. Eligibility of individual physicians was reviewed quarterly, and required the physician to practice primarily in an eligible community, and to be relatively active (bill >$10,000 in the quarter) (personal communication, Sandra Woodhead-Lyons, February 1997). Incentive payments were the sum of any "Isolation Payment" (based on the distance in kilometres of an eligible community from Calgary or Edmonton), and a "Practice Payment" (based on a community's physician:population ratio, relative to a target of 1:1000). As with the original plan, incentive payments were reduced for high income (> $50,000/quarter) physicians.

In 1990, the External Advisory Committee on Physician Manpower completed and approved a Proposed Action Plan for Addressing Rural Physician Recruitment and Retention Issues, which focused largely on initiatives designed to address the professional education and professional practice-related determinants of practice location decisions. The Plan was approved by Cabinet in December of that year, and funding for the Rural Physician Action Plan began in April 1991. The plan provided for:

- rural rotations for medical students
- rural experience during postgraduate training
- expansion of programs that could provide extended skills training for already practicing physicians (e.g. in anaesthesia, general surgery, obstetrics)
- increased and more convenient opportunities for continuing medical education for rural physicians currently in practice
- increased availability of temporary medical relief or locums for rural practitioners wishing to further their education as well as for vacation, sickness or other reasons.

Details on each component can be found elsewhere (Woodhead-Lyons, 1993). A rural physician recruitment fair program was added in 1994.

The Plan was developed and coordinated through the collaboration of the Ministry of Health, the provincial medical association and College, the Alberta Healthcare Association
(representing hospitals and other health care institutions), the two provincial faculties of medicine, the Northern Alberta Development Council, and Alberta Municipal Affairs. The composition of the Plan's Co-ordinating Committee continues to be in flux -- in 1995 the Northern Alberta Development Council dropped off, but three regional health authorities were added, along with two rural physicians and a representative of the Professional Association of Interns and Residents of Alberta. The newly created AMA Section of Rural Medicine was added in 1996 (personal communication, Sandra Woodhead-Lyons, February 1997). As of June 1998, the Co-ordinating Committee was composed of three representatives from regional health authorities (a Board chair, a CEO and a regional Medical Director), as well as the College of Physicians and Surgeons of Alberta, the Alberta Medical Association, the two provincial faculties of medicine, practicing rural physicians, the AMA's section on Rural Medicine, medical students, Alberta Health, and the Professional Association of Interns and Residents of Alberta (personal communication, D. Kay, Rural Physician Action Plan, June 1998). The Plan included a student loan remission program. This program provided newly graduated physicians who agreed to take up practice in designated communities with a $10,000 remission of already-held student loans. In 1993/94 this loan remission component of the program was modified to target family medicine residents interested in rural practice. Such residents could enter into a return-of-service agreement, at which time a remission of $10,000 was made on the resident's outstanding student loans, with a further $10,000 available at the end of a two year period of service in a designated community. Eligible communities were defined by physician to population ratios of less than 1:1000.

A formal evaluation of the Plan was commissioned in late 1995, and reported out in early 1996 (MacDonald and Associates, 1996). The report is largely descriptive, based for the most part on the opinions of physicians, residents, and students, who were interviewed as part of the project. The evaluation did report data indicating that, if anything, rural areas had become less successful at recruiting and/or retaining physicians in the 1993-95 period relative to 1987-89 and 1991-93. The authors of the evaluation suggested that the physician recruitment fairs had not been particularly successful, and that the student loan remission program had had very limited effect. In general, the rotations for residents were felt to be more effective than those for medical students. With respect to the special skills year for family practice residents, it appeared to be too early to evaluate comprehensively the effects of this opportunity. While survey respondents thought it was effective in recruiting rural physicians, very few rural physicians indicated it as being influential in their own recruiting decisions. As for the locum program, this was reported to be the most widely-known component of the Plan, and apparently a relatively successful component. It had had some effect both on retention and recruitment. However, it has come to be used primarily to provide some physician coverage for communities unable to recruit a new physician, leaving it short of funding for short-term coverage locums. The continuing medical education programs were "not seen as particularly effective, by most rural physicians" (p. 84), in part because of the time off, and/or locum coverage, required in order to take advantage of the opportunities.
The authors of the evaluation conclude that "[t]here is no evidence to show that the Rural Physician Action Plan initiatives have materially increased the overall recruitment rates in Alberta over the last five years. There is evidence which suggests that without the Rural Physician Action Plan programs, recruitment rates would have decreased, particularly over the past few years." (p. 105). They reached a similar conclusion with respect to retention. In short, the primary effect of the Plan, in the opinion of the authors, had been as a defense against likely erosion of rural physician supply in Alberta in its absence.

Also in 1995, the province constituted the Physician Resources Planning Group (PRPG), composed of representation from the regions, the two faculties of medicine, the AMA, the College, the Professional Association of Internes and Residents of Alberta, the Medical Students' Association and Alberta Health. Its deliberations drew on the work of three bodies: the Coordinating Committee of the Rural Physician Action Plan, the Post-Graduate Medical Education Working Group, and the Physician Database Working Group. The PRPG presented a report to the Minister of Health in February 1997. This report, like so many before it (although not in Alberta specifically), suggested that Alberta did not currently have an oversupply of physicians, but did have serious geographic distribution problems and that, furthermore, it was likely to face an overall shortage of physicians in the not-too-distant future. The group's assessment of the Rural Physician Action Plan was that its activities had produced "measurable successes for recruitment to rural Alberta" (p. I), but that considerably more attention needed to be paid to professional and lifestyle matters bearing on retention (PRPG, 1997). The report also noted a number of areas worthy of considerable future attention. These included the development of "physician specialist extenders", telehealth networks, and standardized return-in-service agreements (PRPG, 1997).

The student loan remission program was phased out as of the end of fiscal year 1998 (owing to persistent low uptake). In its place the province established a "signing bonus" program, whereby a rural regional authority provided a $10,000 signing bonus (matched by the RPAP) to any medical resident who signed a return in service agreement of at least one year. Together with other available incentives, provided by regional authorities, some new physicians prepared to settle in rural areas were securing incentives worth as much as $75,000 (Walker, 1997).

As of 1997, family physicians interested in a third year of training became eligible for a "signing bonus for additional skills", upon signing a return in service agreement with a rural regional health authority (D. Kay, June 1998). The value of the bonuses, and the matching provision, are the same as for residents' bonuses (personal communication, S. Woodhead-Lyons, February 1997; D. Kay, June 1998) Here, too, the required return in service is a minimum of one year. As of 1997/98, 18 of the 24 available additional skills training program (AST) slots for family physicians or residents require a return-of-service arrangement with a rural health authority or with the rural locum program. The 18 positions are for upgrading in areas such as anaesthesia, general surgery, obstetrics, and palliative care (Paetkau, 1999). Currently because of the timing, there are some problems with the return-of-service arrangements. The program begins in July, but the candidate
has until December of the same year to secure the arrangement with the locum service or a RHA. A number of participants have failed to make such arrangements, and are ending up taking advanced skills training in emergency medicine, and then ending up in urban settings. There has, to date, been no enforcement of the requirement to secure a rural return-of-service arrangement (Paetkau, 1999).

The incentive payment program underwent another review in 1997 and was terminated as of 31 March 1998. It was replaced with a rural "on-call" program, which is a program with funding separate from the Medical Services Budget. The on-call plan pays $17.00/hr to on-call physicians serving in eligible rural facility emergency departments. The on-call fee is in addition to any fee-for-service billings, for eligible on-call hours. This rate will be in effect until March 31, 2000, at which time the rate will increase to $21/eligible on-call hour. Eligible on-call applies to weekends, statutory holidays, and weekdays from 1700 until 0800 (Alberta Health, 1998b). If more than one physician is on-call during the same period, only one hourly payment is provided. Funding for this program was in addition to funds negotiated in the 1998 agreement with the AMA (personal communication, D. Kay, January 1999; Alberta Health, 1998b; personal communication, Thorsten Duebel, April 1999).

Thus, by mid-1998, several aspects of the original Rural Physician Action Plan had been modified or eliminated. What remained had been judged to be of special value. Undergraduate educational initiatives have tended to remain in place (with the exception of the loan remission program); for example, rural rotations were still available to medical students at both provincial medical schools and rural residency rotations were optional at the University of Alberta, and compulsory at the University of Calgary. In addition, the Plan currently includes the provision of travel/accommodation allowances for students undertaking rural/remote area placements, as well as honoraria for their clinical preceptors. The Enrichment Program, a package of 1991 initiatives designed to provide skills enhancement opportunities for already-practicing rural physicians (including the locum pool), is also intact. It initially provided $80,000 in annual honorarium (prorated for length of enhancement training); the amount of the honorarium was reduced to $76,000 in 1993 (and continues at that level).

The fall of 1997 saw the start of a special two-year recruitment initiative (separate from and intended to complement the longer term objectives of the Rural Physician Action Plan) designed to address the shortfall in physician numbers in rural Alberta over an 18-month time frame. During 1998, placements were sought for over 100 vacancies; about 90 physicians (mostly gp/fps) were recruited (personal communication, Alberta Health, April 1999) Just over half of these were Canadian graduates; the vast majority of the

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29 Eligible facilities are acute care hospitals without contracted emergency room physicians, which offer 'around-the-clock' emergency room care and which handle fewer than 25,000 unscheduled visits per year. As of spring 1999, 84 facilities were designated as eligible. Funds are allocated to facilities, and allocated by facilities to individual gp/fps on the basis of hours of service.

30 Also relevant, although not part of the RPAP, is the fact that the University of Alberta designates two medical school entry slots per year for qualified Aboriginal candidates.
remainder were the product of aggressive recruiting in South Africa, with the next largest contingent being from the United Kingdom. Regional health authorities handled their own recruiting in about 55% of the cases, although the efforts of some authorities clearly predate this special initiative (Canadian Press Newswire, 1996; Alberta Health, 1998a; Walker, 1998).

Alberta has a program to accommodate FMG physicians with special licenses tied to specific practice locations. The Alberta Medical Register has two parts; Part 2 is the Special Register, and part 5 of the Special Register permits a Regional Health Authority which cannot recruit a Canadian-trained physician to its area to apply to the Minister of Health for an emergency designation under the provisions of part 5. If permission is received, the RHA can recruit someone not eligible for full licensure (e.g. a FMG). The recruit receives a 30 month license and is restricted during that time to working in an underserved location. The expectation is that the FMG will pass the LMCC I and II examinations during that period. Assuming this occurs, at the end of the 30-month period, the FMG moves on to part 1 of the Special Register if (s)he is a gp/fp and part 2 if a specialist; both designations are tied to the specific underserved location. After 5 years in the setting, the FMG gp/fp can apply for a College of Family Practice certificate through its "practice-eligible" route. Once certified, the FMG is no longer subject to location restrictions.

The April 1998 collective agreement between the Alberta Medical Association and the Government sets out criteria for "Physician Resource Planning" to be undertaken jointly between the two parties. As part of the undertaking, a "Physician Resource Planning Committee" is to be constituted, a body whose constituents appear to resemble very closely those of the PRPG.
Appendix 3

Saskatchewan
Saskatchewan

Saskatchewan has no regulatory measures designed to improve the availability of Canadian-trained physicians in rural/remote areas. However, there are policies aimed at foreign medical graduates (FMG). Through an agreement with Human Resource Development Canada (HRDC), FMGs applying to settle in Saskatchewan must receive approval from Saskatchewan Health. Whether an application is approved will depend on whether the applicant would be eligible for licensure with the College of Physicians and Surgeons of Saskatchewan (CPSS), and whether the applicant’s specialty and intended location of practice meet the province’s needs. While the FMG is in the country on a visa, he or she must practice in specific approved communities or districts.

Physicians who do not meet the conditions for full licensure with the CPSS may apply for a probationary license which falls into one of the following categories: conditional, provisional, special or locum tenens. Each of these options requires a commitment to work in particular communities or districts for a variable period of time. Failure to abide by the terms of the commitment without the approval of the Council of the CPSS is treated as professional misconduct. A provisional or conditional license will be granted to a FMG who has passed the Medical Council of Canada’s Evaluating Examination (MCCEE), and who has graduated from an approved undergraduate and postgraduate program. The physician must agree to a three- or five-year service commitment.

A locum tenens permit may be granted to an applicant who has not yet passed the MCCEE. Such a permit is valid for a maximum of twelve months of supervised practice. Special licenses are granted to particular specialists in short supply (e.g. psychiatrists). These specialists must sign a service commitment to a community. (A court challenge to the service commitments was brought in 1996, but the challenge was not successful). In addition, as an interim measure in response to the Royal College’s June 30, 1997 policy change, the CPSS now permits other qualified foreign-trained specialists to apply for a special license.31

The province has a variety of programs offering financial incentives targeted both at practicing or prospective physicians and physicians-in-training. The Rural Practice Establishment Grant (RPEG) program (jointly funded by the Saskatchewan Medical Association (SMA) and Saskatchewan Health) provides different opportunities each year. In 1997, a one-time grant program was established; it provided $25,000 to any gp/fp with a valid Saskatchewan license who was prepared to take up practice with one or more physicians for at least 18 months in a community with a population of approximately 10,000 or less (Driver, 1997b). Since 1998 the RPEG program has been available only to

31 The Royal College’s 1997 changes restricting specialty certification to physicians trained in the U.S. or Canada created significant problems for provinces such as Saskatchewan which had historically relied heavily on FMGs other than from the U.S. In response, Saskatchewan opened up its availability of special licenses which had, until then, largely been available only for psychiatry and Medical Officers of Health (personal communication, Dianne Anderson, April 1999).
physicians who were eligible to obtain full registration under the *Medical Profession Act*, and the grant amount has been reduced to $18,000 for an 18-month commitment. The program is now on-going. Concern has been expressed by some that the dichotomous nature of this program (under 10,000 population communities are eligible; over 10,000 are not) may be adversely affecting slightly larger communities such as Swift Current (Driver, 1998b); we had no independent information with which to evaluate such alleged concerns.

Through the Rural Physician Enhancement Training (RPET) program (also jointly funded by Saskatchewan Health and the SMA), the province makes it possible for up to two rural physicians each year to receive $80,000 so that they can take leave (not exceeding one year in duration) to obtain advanced training in obstetrics, anaesthesia, general surgery, geriatric medicine, psychiatry, or emergency medicine. The program also offers two $40,000 grants per year for second-year Family Medicine residents seeking a third year in one of these specialty areas. The grants are conditional on one-year (for practicing physicians) and six month (for family medicine residents) return-in-service commitments to eligible communities. Communities with populations of approximately 10,000 or less which can support a three-or-more physician practice and which have demonstrated need for physicians with enhanced skills are eligible.

In 1999, a re-entry program (funded jointly by the SMA and Saskatchewan Health) for physicians practicing in rural communities was introduced. This program will fund up to two physicians per year. Preference will be given to candidates who are willing to sign a return-service commitment to practice in Saskatchewan, who agree to enter a medical specialty that is identified as being one of particular need, who are currently practicing in a rural area or who have practiced in a rural area in the past ten years and who are Saskatchewan or Canadian graduates.

There are also two initiatives targeted specifically at medical students and medical residents. Up to 15 bursaries per year have been available each year since 1991 to medical undergraduates in their second, third, and fourth years of study who agree to set up practice in an underserviced area of the province once their program is completed. These bursaries can be held for a maximum of three years; current value is $18,000 annually. Upon obtaining licensure, bursary recipients are allowed a six-month period to establish full-time practice, and are then required to maintain that practice for a period equivalent to the period for which a bursary was provided. Licensees who fail to fulfil this service commitment are required to repay the bursary funds (on a pro rata basis), together with interest. (A $20,000 penalty has also, in the past, been applied; this has now been replaced by interest charges (Driver, 1997a). Since 1998, up to three $18,000 bursaries per year have also been available to medical residents. If approved by the Rural Practice Committee, a recipient may train in a general specialty. Most recipients, however, are family medicine residents. Family medicine recipients must establish practice in a community of approximately 10,000 population or less, while those who have trained as a general specialist are permitted to establish practice in any community in Saskatchewan, other than Regina or Saskatoon.
Through a collaborative program involving the University of Saskatchewan, Saskatchewan Health, and Health Canada (MSB), the Northern Medical Services Division of the University hires physicians to work as members of teams in a few small, remote, communities. As of 1998, these physicians serve three communities, and are paid between $121,000 and $140,000 plus benefits (including the availability of subsidized housing).

In 1997, Saskatchewan Health and the Saskatchewan Association of Health Organizations (SAHO) created the position of "Physician Resource Co-ordinator", with a mandate to undertake a number of functions designed to "facilitate the recruitment of physicians into rural Saskatchewan", including:

- Workshops on effective recruitment practices;
- Development of a practice opportunities database and website;
- Development of a network to facilitate communication between physicians in these communities, residents, and medical students;
- Coordination of weekend relief placements in rural sites (see below);
- Coordination (inter- and intra-provincially) with other recruitment agencies.
- Recruitment fairs (Saskatchewan, 1998)

On the education side, SAHO offers a summer extern program through which up to 20 medical students can gain summer work experience in rural/remote communities, between their second and third years of medical school. The University of Saskatchewan Family Medicine Department has had a 12 week rural exposure program in place for some time. Beginning in 1997, it established a pilot project which would place a limited number of its residents into rural communities for 40 weeks. This program was given a budget of $200,000 over a three-year period. By 1999-2000, the program hopes to have six such rural placements available.

The Saskatchewan Medical Association employs a number of physicians who can offer short term (4-14 days) locum relief for physicians in rural communities with fewer than four physicians. In February 1997, a weekend relief program was established by Saskatchewan Health. This program was designed to provide relief services to rural/remote communities in which the weekend call schedule exceeded 1:3. Relief physicians are paid $1,500 per weekend. A weekend is defined as the time from 5:00 P.M. Friday to 8:00 A.M. on Monday. Travel expenses are paid at current government rates. Currently there are over 50 physicians listed as willing to participate.

The SMA and the Department of Health negotiated an Emergency Room Coverage Program in January of 1998. This program provides $5.5 million in funding to compensate physicians providing emergency room coverage in rural areas. The program is overseen by a tri-partite committee comprised of Department of Health, SMA and SAHO representatives. There are two categories of coverage. Category "A' communities are those with facilities serving a large catchment area, high volume emergency departments, providing a broad range of services and generally supporting three or more physicians. These sites serve as primary emergency centres within a geographic region or health district. Payment in these centres is based on an hourly rate of $10/hr from 5:00
P.M. to 8:00 am weekdays and $25/hr from Friday at 5:00 pm to Monday at 8:00 am. Category "B" sites are smaller acute care facilities or health centres that the health districts have designated as requiring 24 hour continuous physician coverage. These facilities serve a smaller population and have low to medium emergency volumes. Generally these facilities have fewer than three physicians providing a limited range of emergency and acute care services. Physicians are paid $5,000 per quarter and must provide a minimum of 1:3 weekend coverage to be eligible (Driver, 1998a, Saskatchewan, 1998).

Districts are required to submit emergency coverage plans on an annual basis to the Emergency Room Coverage Committee. In July, 1998 a change was made to the program to allow physicians in Category "B" communities to bill $1,175 per weekend to a maximum of 4 additional weekends per quarter. Physician payments in both categories are in addition to fee-for-service billings.

Finally, the province is involved in a number of administrative initiatives focusing on so-called "telehealth" or "infotech". These are intended to provide remote, continuous, access to a range of health care providers (including, in some communities, diagnostic services) for patients in rural and remote communities, and collegial support and continuing medical education for clinicians in such communities.
Appendix 4

Manitoba
Manitoba

Manitoba has had geographic redistribution initiatives in place at least since 1969. In that year, the University of Manitoba's Faculty of Medicine established a Northern Medical Unit (NMU) which began providing services to isolated communities the following year. The unit is funded by Manitoba Health, and currently funds about 24 fte physicians. It has, over the years, had difficulty recruiting Canadian graduates, although the 1996 introduction of isolation incentives (see below) appears to have improved this situation.

In January 1996, the compensation package for the NMU physicians was augmented. Incomes currently range from about $120,000 to $168,000 for gps; NMU physicians providing specialty services receive per diems ranging from $605-700, depending in part on whether the physician is engaged under an employee or independent contractor arrangement. As of spring 1999, the NMU contract is under review.

Manitoba has, for some time, operated a program of differential fees. Initially fee-for-service physicians based outside Winnipeg received a premium based on location. In 1989 these premia range from 2.5% for physicians practicing in Brandon, to 10% for physicians practicing north of the 53rd parallel, with other rural physicians receiving a 5% premium.

The province has a program to provide income tax-free incentive grants, payable over a four year period, to physicians who establish a practice in designated under-serviced areas. Those practicing north of the 53rd parallel are eligible for $44,000, while those south of the 53rd could receive up to $30,000. As of 1992, only six such incentive grants or guaranteed income arrangements had been established over an eleven year period. No grants have been provided since that time and continuation of this program is currently under review. As an alternative to the incentive grants, a physician agreeing to practice in a designated medically under-serviced area may be eligible for a guaranteed net income, based on the average rural/remote physician remuneration. Approximately 83 rural physicians are now working under such contracts, for approximately $150,000 annually.

In 1997 Manitoba committed earmarked funding for emergency on-call coverage in rural and northern Manitoba hospitals. Payment levels are a function of the 'business' of the emergency room. For example, hospitals handling at least 10,000 ER visits annually provide $70/hr, hospitals with 5,000-10,000 ER visits provide $600/day for weekday 24 hour coverage or $900/day for 24 hour weekend/statutory holiday coverage, and hospitals with 1,000-5,000 visits annually provide $500/day and $750/day. Physicians receiving this on-call remuneration cannot claim fees-for-services rendered during these periods, except for obstetrical, surgical or anaesthetic procedures, or for booked hospital procedures for up to one continuous four hour block of time per day. In communities without hospitals where physicians are paid under contract, some of these contracts make explicit provision for on-call remuneration. Physicians paid by fees for services can bill a "special premium" for after-hours work (e.g. an after-hours home visit attracts a 30% fee premium).
In July 1995 the College of Physicians and Surgeons of Manitoba (CPSM) established a conditional register which, as of February 1999, had been used to recruit 164 physicians to rural/northern Manitoba (132 currently active, most from South Africa). The key condition is that physicians must work in a designated medically underserviced area and they have up to 5 years to achieve full licensure. The advantages are that FMGs from certain countries who have not completed the MCC examination requirements can be granted conditional registration and can work toward full licensure during this period, and rural/remote communities are able to secure physician services that Canadian graduates have shown a long-standing resistance to providing. Between 1983 and 1992, almost two-thirds of physicians entering rural practice in the province were trained outside Canada (Postl et al., n.d. 1994).

During the past year, Manitoba Health imported a large number of FMGs. A recent follow-up survey found that most of these physicians received little or no orientation. Subsequently, an orientation manual containing information on treatment protocols, consultants, health programs such as Home Care, etc., has been developed by the Faculty of Medicine. The hope is that the provision of additional CME support will both improve recruitment and improve the record of rural/remote retention. To the latter end, Manitoba Health recently employed a family practitioner to work with rural physicians on a physician retention plan.

Another recent licensure-related option was signaled with the recent approval in principle by the CPSM of the licensing of "physician-associates" (Love, 1997). This is modeled after the "physician assistants" who find widespread use in the U.S. (Cooper and Dietrich, 1998). Physician-associates (or "clinical assistants" — the label is not yet worked out) would work under the supervision of a physician (although how close this supervision would need to be is not yet clear), and would be able to prescribe medications and admit patients to hospital. At this point it is not clear where such assistants/associates will originate (since there is no training program in Canada), but presumably extended duty nurses with the requisite training, or foreign-trained physicians not on the conditional register might fill such roles.

In March 1994 the province established a "Provisional Billing Numbers" policy, pending the development of a more permanent physician resource policy. The Preliminary Physician Resource Plan under which such numbers were issued was implemented in spring 1995. Under this provisional policy, the quantity of available "active and valid" medical practitioners' billing numbers was fixed as equal to the number of physicians who were entitled to bill, or billing, the provincial medical plan on December 31, 1993. Provisional billing numbers began to be issued thereafter. Although in practice these numbers were no different than the "active and valid" numbers (in other words, they came with no restrictions), the idea was that physicians with provisional billing numbers who provided two months of service in the North, or four months in rural southern Manitoba would then be able to obtain an "active and valid" billing number. This "Preliminary...Plan" was to have been replaced by a "Comprehensive Physician Resource Plan" by the end of 1995. To our knowledge, that "Comprehensive" plan was never
released, and all provisional numbers were, in the meantime, converted to "active and valid" numbers. In short, while considerable work was done on a "billing numbers" policy for Manitoba, no such policy has, to date, been implemented.

A medical student loan program has been in place since 1981, consisting of forgivable loans of $15,000 available to third and fourth year students, with an obligatory return-of-service period of one year for each year of support. As of June 1997, 102 students had received loans over the fifteen years of the program, of which 22 had repaid their loans with interest; 51 had completed at least part of their northern/rural return-of-service, and 29 were still in training. Between 1981 and 1992, 62 students received loans/bursaries under this program; of the 35 who had completed their training by 1992, 17 had withdrawn from the program and repaid their bursaries, 3 served part of their return-in-service period and then paid back the remainder of the bursary, and 15 completed the rural practice obligation. There was an increase in the size of the loans (from $9,000 to $15,000) in 1989. Since 1989, of those who have completed training, 24 of 27 are returning service. Criteria for the loan program will be reviewed again this year.

In addition, a program to offer work experience in rural areas to first and second year medical students is accompanied by a stipend plus reimbursement for travel and accommodations, totaling about $5,000 per student. All fourth year medical students are required to take a seven week family practice clerkship; most students select rural sites for this clerkship (Manitoba Health Services Commission, 1992). All family medicine residents are also required to complete a rural rotation. Funding is also provided by Manitoba Health for accommodation and travel for family medicine residents involved in their rural practice rotation.

In 1992 a rural training program for family medicine residents was established by the Faculty of Medicine at the University of Manitoba. This program, based in Dauphin, provides the opportunity for six residents a year to spend their entire second year of residency training in this rural community. Subsequently, a second community-based residency program was established in a southern small community, but this was discontinued in 1997. There is some current discussion about re-establishing this site.

Beginning in 1998, Manitoba Health began providing to each rural physician an orientation manual containing information on treatment protocols, available consultants, health programs such as home care, and other resources available to them and to their patients. Manitoba Health has also hired a family practitioner to work with the new rural doctors and assist them with practice and other issues. This individual is working in close collaboration with the Health Authorities and the Faculty of Medicine on recruitment issues.

Continuing medical education grants provide payments of approximately $3,200 per month for rural physicians who wish to take advantage of one-to-six month self-directed education programs. A formal agreement to return to practice in a rural community is required, the breach of which requires repayment of the funds with interest. Between
1980 and 1985, 28 physicians received funding under a program similar to this which did not require a formal return-of-service agreement. Of these, 13 failed to return to rural practice upon completion of their training and 15 complied with the program requirements. Of the 57 physicians funded between 1985 and 1998, the period during which the return-in-service provision has been in place, all but one have completed their return of service. In addition, Manitoba offers longer programs for rural physicians wishing to complete an additional year to develop or upgrade specialty practice skills such as anaesthesia, emergency medicine, gerontology or psychiatry. These programs run up to 1 year and participants must return services in their community.

In September 1997, the province entered into an agreement with the Northern Medical Unit to provide a *locum tenens* program. For the past 18 months, locums have been provided for physicians working in medical practices of less than 3 physicians in rural/remote communities who wish to take vacation or educational leave. The program was intended to be run on a cost recovery basis. However, this has not been successful. The program continues to be funded through the NMU, although the province is presently exploring alternative funding approaches.
Appendix 5

Ontario
Ontario

The Ontario Underserviced Area Program (OUAP) was established in 1969 to address problems with accessibility of physician services in northern communities. It was soon extended to encompass "underserviced" areas throughout the province. Requests for designations as "underserviced" are initiated by communities which felt they were in need of recruitment and retention assistance. The designation itself results from a process of formal review, involving determination of the number and type of physicians in a community or region, the population:physician ratios for the area (in relation to the gp/fp guideline of 1:1380 established by the Council of Ontario Faculties of Medicine), the population composition, availability of housing and facilities for a physician, previous recruitment efforts, support of local health care professionals, a letter indicating District Health Council support or recommendation, and the area's health care needs and resources.

By late 1997, this method of designation had resulted in more underserviced areas being identified in southern Ontario (37) than in the north (31); in 1995/96, in contrast, there were 22 in the south and 41 in the north (Sibbald, 1998b). This was despite the fact that only northern communities may be designated as "underserviced" for physician specialists (Ontario, 1998). The 68 communities were seeking a total of 116 physicians, up from the 88 physicians being sought by the 63 communities two years earlier (Sibbald, 1998a). By May 1998, these numbers had grown further, to 43 southern communities and 32 northern (Hardy, 1998). But vacant positions are not restricted to "underserviced" areas. As of early 1998, 235 gp/fp positions were listed as vacant in a Ministry publication (Ontario, 1998b; as cited in McElroy, 1998).

Financial incentives in the Program include tax free grants of $40,000, paid quarterly over four years, to general practitioners and psychiatrists prepared to locate in "underserviced" northern communities. Smaller grants of up to $15,000 are available for gp/fp's who relocate to designated southern communities, and for some other health care professionals (e.g. audiologists, chiropodists, physiotherapists) (Ontario, 1998a).

The program also had another option whereby general practitioners could, instead, receive a guaranteed net professional income of $38,000 (Anderson and Rosenberg, 1990). This option expired in the late 1970s.

In 1979, the program was enlarged to permit a limited number of incentive grants for specialists. Participants who establish practices in designated northern communities are eligible for a tax free grant of $20,000, payable over four years, with an additional $20,000 available to specialists prepared to participate in outreach activities for a minimum of 12 days per year to areas at least 40 km from their chosen home community (Ontario, 1998a).
As of 1994, the OUAP has been managed under the Northern Health Programs Branch of the Ministry of Health. The Branch maintains a "list of areas designated as underserviced for general/family practitioners" which is updated quarterly. A similar list is maintained for specialists, and a third covers rehabilitation professionals. These lists are updated quarterly, and the Ministry makes published versions available on request. With funding from the OUAP, the Ontario Medical Association (OMA) maintains an on-line job registry containing opportunities in designated underserved areas. The OMA job registry is available only to members. (McElroy, 1998; personal communication, David Salter, April 1999).

In 1996, the Ministry of Health began providing a "$70 per hour sessional fee payment for on-call after-hours emergency services provided in rural hospitals" (PAIRO, 1996, p. 13). Fee-for-service physicians practicing in eligible communities receive the sessional payment for overnight, weekend, and statutory holiday coverage. They are not permitted to bill fees-for-services actually provided during periods for which they are receiving sessional payments; if they are involved in obstetrics or extraordinary circumstances during an on-call period, but they are not the on-call sessional physician, they can bill fees for such services.32

Eligible communities are those with emergency room volumes of less than 25,000 visits during 1994/95; at least 40 km from a "major centre"; and having only one public hospital emergency department. There are currently 78 eligible hospitals in the province, of which 70 are actively using this sessional fee. Eligible physicians are those not already under an alternative payment arrangement. In some communities, physicians have chosen to bill fees-for-service during some periods (weekend daytime), and take the sessional rate during other (presumably slower) periods. The OUAP currently makes no special provision for gp on-call responsibilities in smaller communities without a hospital, beyond the usual out-of-office-hours fees in the negotiated fee guide (personal communication, David Salter, April 1999).

Locum tenens funding has been available for some time, both through the OUAP and through an Ontario Medical Association-sponsored "Rural Placement Program" also funded by the Ministry. These programs are intended to provide replacement physicians for rural and isolated practices. Locums provide services both in situations where communities are in urgent need of medical services but have been unable to recruit, and as respite for local physicians who wish to take a vacation or attend continuing medical education programs.

The 1996/97 agreement between the Ontario government and the OMA included a commitment of $36.4 million "of new monies to implement alternative payment plans in medically underserviced communities in the fiscal years 1997-98, 1998-99, and 1999-2000." (Gravelle, 1998) This was identified as a priority item for ongoing negotiations;

32 The sessional payments are for the provision of primary care. If a specialist provides this coverage, (s)he is, in addition, entitled to bill fees for any services/procedures that would normally require specialist expertise (personal communication, Anne Finlay, April 1999).
the significance of this being "new monies" was that it did not threaten the existing negotiated fee-for-service global budget. Part of this new funding was used to address rural/remote community recruiting/retention problems through the establishment of Globally Funded Group Practices Agreements (GFGPA). These were designed to assist small rural communities which require 3 to 7 physicians in recruiting and stabilizing gp/fp services by providing guaranteed incomes to those who contracted to practice in approved communities (Ontario, 1998a, Physicians of Northwestern Ontario, 1998).

The GFGPA had a short life; only four agreements were ever negotiated. The program's demise was precipitated by concerns particularly from representatives of PAIRO and the physicians from northwest Ontario. There appear to have been two major concerns: a) that the terms of the GFGPA were based on insufficient numbers of physicians per community to create the necessary critical mass in designated communities struggling with issues such as on-call loads ("virtually none of this committed funding was spent [in the last fiscal year] due to the government's insistence on funding only a minimum of physicians per community rather than a sustainable physician complement necessary to retain and recruit needed physicians" (Gravelle, 1998)); and b) that the program's scope and potential were restricted by the Ministry's agreement with the OMA. This agreement places restrictions on the funding which will be made available from the fee-for-service budget for this and similar alternative payment arrangements, thereby limiting the potential of such arrangements to resolve the recruitment/retention problems in undersupplied areas of the province (PAIRO, 1998).

As a result, the GFGPA were replaced by the Northern Group Funding Plans (NGFP). Under the terms of these plans, groups of three to seven physicians practicing in 20 northern communities of under 10,000 population and more than 80 km from a "major" health centre, are eligible for a base salary of $128,000 (Borsellino, 1999). The contracts under these plans are to cover all primary care services, including palliative care and mental health.33 Participating physicians are eligible for up to $60,000 annually for practice overhead, and those who complete the three years of the contract are also eligible for a $10,000 "retention incentive" bonus (personal communication, Anne Finlay, April 1999; Ontario Government News Release, November 26, 1998 (from http://www.gov.on.ca/health)). The OUAP designation process and its method of determining the necessary "complement" for a community are still in use with the NGFP, but as of spring 1999, appeals may be made by physicians and communities to the Ontario Physician Complement Review Committee, which is composed of a chair, and representatives from the OMA, the Ministry of Health and practicing physicians (personal communication, David Salter, April 1999).

In addition, part of the $36.4 million was used to continue to support "community sponsored contracts consisting of guaranteed annual incomes of up to $194,000; benefits; no overhead costs; time off for holidays and continuing education. As well, there are completion bonuses of $10,000 and $25,000 for two- and three-year contracts for family

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33 Participating physicians are, however, able to receive additional payments for specific services such as obstetrics, anaesthesia, and surgical assisting, and on-call emergency coverage.
physicians going to work in 21 northern and rural communities" (Ontario, 1996a). The bonuses are payable on completion of the contracts. Funds for these contracts arise from a variety of partnerships involving the individual communities and the Ministry of Health, and the Ministry portions are taken from the OHIP fee-for-service pool, since these funds are seen as supporting practitioners who would otherwise be billing fees-for-service (personal communication, Eileen Mahood, January 1997). By November 1, 1998, 30 physicians had signed contracts (Ontario, 1998a). The maximum program commitment is 40 contracts in 25 communities; as of spring 1999, there were 25 communities involved.

The OUAP has been the subject of a number of reviews. An assessment undertaken by Anderson and Rosenberg (1990) used geographical analysis to examine physician-to-population ratios across the province over time. Their conclusion was that while the number of physicians available in all regions had increased between 1969 and 1990, the fundamental distribution problem that had been the prime motivation for the OUAP in the first place, remained largely unresolved by that program.

A review of the OUAP, undertaken for the Ministry of Health by Dreezer and Dreezer Inc. (1992) concluded that, if the evaluation were to be based solely on the number of health professionals who have taken advantage of the Program's various incentives to practice in Northern Ontario, "the program can be called a qualified success". Other earlier evaluations (cited in Anderson and Rosenberg) also appear to have felt that the program had been relatively successful in improving recruitment into northern and other rural areas.

Perhaps predictably, the program continues to be controversial, with arguments both around the process of designation, and concerning whether the embodied policies are effective in attracting and retaining physicians in designated communities. Indeed, even leaving aside the over-arching fact that the program relies rather centrally on financially-based tools, the more communities that become designated, the less effective the program is likely to be at solving the problems of any one of them.

The Plan is also criticized by physician groups for its method of calculating "complement" (the number of physicians the MOH will provide funding for in any one community). It is asserted that this method has "time and time again...proven to be inaccurate, arbitrary and not reflective of the real physician need in any given community" (Physicians of Northwestern Ontario, 1998). An independent assessment of these claims was beyond the scope of the present work.

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34 These contracts are restricted to communities requiring a complement of one or two physicians; the OUAP designation process is used to calculate the complement. Thus, the eligible communities must be those which are northern and rural, rather than rural alone; this program does not apply to those southern communities recently identified as underserviced (see above, Sibbald, 1998b; personal communication, David Salter, April 1999).
One of the factors standing in the way of comprehensive and ongoing evaluations of the effectiveness of the program is the lack of the requisite information base. The program has never come under the scrutiny of the province's Auditor General. Data on various components of the OUAP exist for 1991 on, but the Ministry of Health only began the systematic collection of information on OUAP placements in 1995 (Hardy, 1998). Several studies not specific to the operation of the OUAP but examining the problem of workforce distribution and rural access were undertaken by the Provincial Co-ordinating Committee on Community and Academic Health Sciences Centre Relations in 1995 (personal communication, David Salter, April 1999). But even with this information in hand, since the previous location of physicians recruited through the OUAP is not monitored, it is not possible to net out movement of physicians between underserviced communities without a more concentrated research effort.

In place of any recent critical evaluation, one has a litany of claims and complaints about the program, many of which may be valid, some of which are not, and a few of which (largely from the OMA and PAIRO) we note here (Hardy, 1998; Quinn, 1997; Sibbald, 1998a):

- competing programs and lack of Ministry coordination -- the OUAP might be losing physicians to the Community Sponsored Contracts program;
- the risk/threat of a billing numbers policy which might lock rural/remote physicians in place;
- blurring, or watering down, of the original intent of the "underserviced area" designation, so that now a number of relatively large southern communities have the designation; this loses sight of the original intent of the program, and makes it even more difficult for rural/remote communities with situations in which physicians are being burned-out by too-frequent on-call situations, to recruit help;
- "The UAP's focus on financial incentives is out of step with the wants and needs of rural doctors...[t]hey are more interested in such things as locum relief for continuing medical education purposes, spousal employment and educational opportunities for family members";
- on the other hand, others believe it is a problem, in part of the "perks" being too small;
- limited opportunities to generate the incomes sufficient to draw down education and new practice investment loans;
- alleged inappropriate use of physician:population ratios which fail to take account of full-time-equivalence of physicians, or of inter-regional patterns of care-seeking.

But the feedback is not all negative. Marathon, Ontario is one community that credits the possibility of an alternative payments plan, as well as the sessional fees for emergency work and a local reworking of the idea of group practice as contributing to their ability to recruit 6 family physicians in one year. (O'Reilly, 1997).

Under a recent agreement between Health Canada and McMaster University, new funding is being provided to hire up to sixteen family physicians to provide medical services to First Nations communities in a massive area north of Lake Superior. Under the agreement, these physicians would receive salaries similar to those provided through the
NGFP, and McMaster University is taking on the responsibility of hiring the physicians and ensuring the terms of the agreement are met. As part of the agreement, the NOMP (Northwestern Ontario Medical Program; see below) has also agreed to include this area among the clinical education opportunities it makes available to medical students and residents at the five Ontario schools (Kilpatrick, 1998).

Turning to regulatory/administrative initiatives, under the terms of the 1993 "Interim Agreement on Economic Arrangements" between the Ontario government and the Ontario Medical Association, a supply control policy was put in place that restricted the issuance of "provider numbers" to physicians who were graduates of Ontario medical schools or who had completed at least one year of postgraduate medical training in Ontario. While the agreement also imposed restrictions on access to practice for FMGs, exemptions were granted for physicians interested in practicing in underserviced areas. FMGs willing to commit to three years' service in an underserviced area would be granted an exemption.

A charter challenge of the restricted billing privileges component of the interim agreement was filed in 1995. However, the entire agreement expired March 31, 1996, rendering the challenge moot. It was therefore not pursued. This agreement was replaced by a new "Interim Agreement", dated December 15, 1996, ratified in 1997, and in effect until Dec 31, 1999. Under the terms of the new agreement, the earlier-proposed billing number policy has been replaced with a differential fees policy. New general/family practitioners35 choosing to establish a practice in an "oversupplied" area receive 70% fees to an annual maximum of $140,000 for the first 12 months, 75% fees to a maximum of $165,000 for the second twelve months, and 80% fees to a maximum of $205,000 for the third twelve months, after which they are eligible for full (100%) fees. The same discounts with larger maxima ($175,000; $205,000; and $255,000) apply to selected new specialist groups.

The individual income ceilings imposed on these new physicians are lower than those for established physicians. For example, in his/her third year of practice, a new general practitioner in an oversupply area can bill $205,000, whereas an established general practitioner anywhere in the province can bill up to $300,000 before any fee proration kicks in, and can bill an unlimited amount, although subject to an accelerated proration (topping out at 25% fees for billings in excess of $350,000). For established specialists, fee proration does not kick in until billings of $380,000 have been accumulated, and the highest proration (25% fees) affects billings over $430,000. Under the terms of one of the components of the OUAP, the Specialist Retention Initiative (SRI), gp/fp's and specialists in undersupplied areas may be granted exemptions to their individual annual OHIP billing caps. Specialist applications are considered on the basis of geographic undersupply, or undersupplied domain of practice (e.g. a unique sub-specialty), while gp/fps are considered on the basis of undersupplied communities designated as requiring four or

35 This differential fees policy applies to gp/fps who were issued a billing number any time after December 15, 1996, who commenced practice in Ontario less than 36 months prior to receipt of that billing number, and who practice in a designated oversupplied area (with an exemption process available) (personal communication, Jane Seltzer, February 1999).
fewer family physicians, or on the basis of undersupplied specialized domains of practice, or because of "unique practice circumstances" (Ontario, 1998a).

Again here, we are unaware of any independent evaluation/audit of this new initiative. Ministry figures reported in The Medical Post suggest that only 30% of new numbers issued during the life of the agreement have been to physicians wishing to practice in oversupplied areas (Hardy, 1998).

This current agreement with the OMA was negotiated within an environment influenced by the Omnibus legislation (Bill 26) introduced in January 1996 to allow the government of Ontario to "achieve fiscal savings and to promote economic prosperity through public sector restructuring, streamlining and efficiency and to implement other aspects of the government's economic agenda" (Ontario, 1998a). Included in this legislation were amendments to the Health Insurance Act in the area of the setting/negotiation of fees of physicians, and to the Savings and Restructuring Act which gave the Minister the authority to restrict the issuance of new fee-for-service billing privileges to gp/fps who are prepared to practice in designated areas, and to specialists who have an appointment with a hospital, independent health facility, or other health agency. This authority is to be exercised only if deemed necessary by the Minister (Ontario, 1998a).

This legislation provoked intense opposition from among physicians as soon as it was proposed (see Borsellino 1996a; Borsellino 1996b; Rich, 1996). It would appear from the results of a recent survey of University of Toronto family medicine residents that the mere threat that the Minister would invoke billing number restrictions was a key factor in location decisions among these residents. Almost half the respondents indicated that they intended, or were likely, to practice in the U.S. after completing their residencies. Almost 7/8 of respondents rated the threat of "geographic billing restriction" as a "very important" factor in the location decision. This was by far the most important of the factors canvassed. In contrast less than half rated "universal access" as a key consideration (Ma et al., 1997).

The new agreement also established a "Medical Services Corps of 20 physicians...[to] ..fill service gaps in hard-to-place communities; provide support to nursing stations; provide locums to those in alternative payment plans...", a job registry, and expanded opportunities in underserved areas for alternative payment arrangements (Ontario, 1996b). These initiatives formed part of a commitment of about $45 million in new geographic distribution-related financial incentive programs, over and above the funding for new payment arrangements. As of October 1998, this funding covered the OMA job registry (see above), a Health Professionals Recruitment Tour36, and a program establishing Community Development Officers (CDO). As of 1998, the Ministry funds CDO positions in Northwestern, Northeastern and Southwestern Ontario. Their objective is to "develop

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36 For many years, the Ontario Ministry of Health has been involved in an annual health professionals recruitment tour, which involves a tour by representatives of communities designated as underserviced communities, of the five academic medical centres. This tour has been in place since 1978, and is currently co-sponsored by the Ministry of Northern Development and Mines.
a collaborative effort on many fronts to improve on independent efforts, primarily by the communities in need, to attract and retain doctors and their families". The CDO program was introduced through a two year pilot project run by the Ministry of Northern Development and Mines. During the Northwest Ontario program's first two years of piloting, it apparently reduced the number of communities designated as underserviced to nine looking for 19 physicians in 1997 from 14 communities looking for 21 physicians in 1995 (Medical Post, 1997; personal communication, David Salter, 1999).

The province is currently embarking on a number of pilot/demonstration projects based on a non-fee-for-service model of primary care. Five potential sites for primary care pilot projects had been identified by Ministry officials as of April 1998, but as of April 1999, they had still not been confirmed. There was, at the time of the initial announcement, some disagreement between Ontario Health and the OMA around the details of the model to be piloted. The pilot projects are to involve population-based (capitated) funding, supplemented by incentives for care co-ordination and preventive care, and will include the availability of 24-hour access to expertise, including through a new after-hours telephone triage service. The pilots are expected to run 18 months to two years, and the intent, as in British Columbia, is to undertake an independent evaluation of the projects. It is not at all clear what, if anything, will be done thereafter in terms of broader implementation.

Ontario recently passed into law the *Expanded Nursing Services for Patients Act*. Under the terms of this Act, so-called "Extended Class" nurses are permitted to perform an expanded range of duties, some of which, prior to this, could be performed only by MDs. These duties can only be performed when the nurses are working as parts of multi-disciplinary health care teams, although it is not clear what (or in what circumstances) direct 'supervision' is required. In addition, the province has committed to funding for over 100 new nurse practitioner positions, most of which will be targeted for underserved areas of the province.

In addition to these financial, regulatory and administrative policies, Ontario has a large mix of education-related policies intended to encourage future physicians to set up practice in rural areas and to provide continuing medical education opportunities for those already practicing in such settings. These include programs that provide travel assistance to medical students to travel to northern facilities for clinical placements, as well as rural electives in a number of northern Ontario sites for both medical students and residents from the five Ontario medical schools. These electives are arranged through the Northwestern Ontario Medical Program (NOMP) in Thunder Bay, and the Northeastern Ontario Elective Program (NEP) in Sudbury. Other similar programs are based at Collingwood General and Marine Hospitals (McMaster affiliation) and Goderich (University of Western Ontario affiliation).

The Ministry of Health also recently announced funding for a 3 year program to provide rural-oriented medical education and training to undergraduate medical students at the University of Western Ontario. The Southwestern Ontario Rural Medicine (SWORM)
Program is structured to provide clinical rotations in rural southwestern Ontario towns; funding will provide support for a rural placement co-ordinator, teaching fees, student grants, administrative, transportation and accommodation costs. The program will include a week of rural exposure for all first year students, 10 eight-week summer studentship grants for second and third year students; a four week year 3 rotation for up to 60 students in "general specialty" areas; 3 month specialty rotations for up to 10 year 3 students, and 2 month rural rotations for up to 10 year 4 students.

On the specialty training side, the SWORM Research and Development Unit, led by the University of Western Ontario, provides rural exposures and experiences through a multi-specialty community training network. There are also two family practice residency training programs geared to providing rural exposure. McMaster University runs a program out of Thunder Bay, while the University of Ottawa administers the Sudbury-based "North Eastern Ontario Family Medicine Program". Sajgalik (1996, p. 2) cites an administrator with this latter program as indicating that "the majority of graduates from the programs are establishing practices in small northern towns...[h]owever, it is still too soon to measure retention rates." Of the 131 graduates from these two programs to date, 20 have carried on with additional training, and almost 60% of the rest are currently practicing in northern Ontario (personal communication, Jane Seltzer, February 1999).

The OUAP also administered, from 1969 until 1996, a bursary program through which the Ministry of Northern Development and Mines provided $7,500 (taxable) for each of the last two years of medical school. Students were required to commit to provide one year of service in a designated northern community for each year of bursary support. Repayment of the bursary with interest was the penalty for non-compliance. We are unaware of any data or analysis pertaining to return-of-service rates, but one might infer by the fact that the program is no longer in place that it was not an overwhelming success (or had become less so over time).

Beginning in the current (1999/2000) fiscal year, the Ministry of Health will provide support for implementing some of the components of the recently developed Northern Academic Health Science Network's (NAHSN) program to improve recruitment and retention of primary care health care professionals to/in northern communities. A joint initiative of the Northeastern Ontario Medical Education Corporation (NOMEC; Sudbury) and the Northwestern Ontario Medical Program (NOMP; Thunder Bay), the full program will include northern high school science program enhancement, aboriginal and francophone initiatives, telecommunication and library service development, increased northern medical training, development of regional locum/specialist services, and increased support for research and continuing education of northern doctors (personal communication, Jane Seltzer, February 1999).

Under the terms of the current agreement with the OMA, the Ministry is also providing funding for 25 "re-entry" training positions. This funding is for up to 10 3rd year family medicine slots, and up to 15 new specialty re-entry enhanced training positions. All positions come with return of service conditions. Physicians accepted into re-entry
positions must return one year's service for each year's training (or pay back a prorated proportion of the salary and benefits, plus interest, dependent on the return-of-service not completed) and must agree to locate in an underserviced area, facility or agency acceptable to the Ministry (Ontario, 1998a; Suhadolc, 1998). Early evidence suggests a high rate of return-of-service, although indications here, as elsewhere, is that very few recipients stay beyond the service-return obligation period (Paetkau, 1999).

There has been some analysis of the relative success of the five Ontario medical schools' recent attempts at encouraging their graduates, through recruiting, training exposures or other means, to locate in non-urban settings. The most successful appears to be the University of Western Ontario "by a wide margin" (Peter Coyte, as quoted in Hardy, 1998); the University of Ottawa has been the least successful. Queen's University's family medicine residency program claims that 75% of its graduates locate in "communities smaller than Kingston", and one-third of those in "truly rural settings with populations of 10,000 or less" (Godwin et al., 1998)

The province currently has capacity in place to train approximately 75 nurse practitioners annually.

The Ministry of Health recently began funding a telehealth project for Northern Ontario. The Northern Ontario Remote Telecommunications Health (NORTH) network is developing two-way video technology to upgrade telemedicine services and reduce specialist travel.
Appendix 6

Québec
Quebec

Quebec was the first province in Canada to implement a policy of differential fees; it dates back to June 1982. Initially, fees were reduced to 70% for the first three years in university areas and the urban periphery, for gps and most specialists beginning practice (in fact, specialists within nineteen of thirty-two specialties were so affected; for the others, there was no proration, even in university areas). Payments equal to 115% (for gp's) or 120% (for specialists) of the prevailing fees (or sessional fees or salary) were available to practitioners (new and already established) in areas away from major centres. At the same time, an isolation premium began to be offered, along with reimbursement of moving expenses, and reimbursement of costs of trips out of the rural/isolated regions. Each region of the province was designated as either "university", "intermediate", "remote", or "isolated", with the distinction between the last two being based on difficulty of access (e.g. James Bay, and Isles de la Madeleine were categorized as "isolated"). The isolation premium was intended only for isolated areas, while the 15% and 20% fee bonuses were available to both remote and isolated areas. New monies were allocated to the upgrading of medical facilities in isolated regions to assist those regions with recruitment.

In 1984, the government established an earnings floor for physicians who had to take call in facilities with few emergency cases. In addition, a maximum of $10,000 (non-taxable), available over a four year period, was made available to assist with the setting up of new practices in designated isolated communities, and new monies were allocated to the upgrading of medical facilities in isolated regions to assist those regions with recruitment. At the same time, the 115% rate of pay for gps practicing in isolated regions was made conditional on practice in a hospital centre or other facility with on-call responsibilities, and the fee reductions to $.25 on the dollar, which would come into effect once a gp had hit the quarterly income ceiling (Contandriopoulos, 1986), were waived for services provided "in an institution within a designated territory", but not for private practice (Quebec Department of Social Affairs, 1984).

Many of these measures, or minor modifications thereof, were still in place as of July 1998. General practitioners working in institutions in designated regions are exempt from the 75% fee reduction over the trimestrial ceiling, and activities carried out as part of a gp replacement program, or medical services provided in a front-line emergency department on a Saturday, Sunday or statutory holiday, or between 10 p.m. and 8 am any day, are not included in the determination of whether a physician has hit the quarterly ceiling. Also, in the determination of whether a gp has hit the ceiling, any fee premia (i.e. the 15% in designated regions) are not counted.

Starting in 1982, specialists locating in the three urban areas (Montreal, Quebec City and Sherbrooke) were paid 70% of billings, increasing to 100% after three years, while those who selected the outskirts of Montreal received 70% for office-based practice and 100% for hospital-based practice. Those locating in intermediate areas received 100%, and
specialists who settled in remote/isolated areas were paid 120% of billings. Between October 1995 and October 1998, new specialists setting up practice in designated underserviced regions received 95% of basic payments during their first three years of practice, and 100% from the fourth year on, with these payments eligible for the 20% premium noted above. While it may seem strange that physicians establishing practices in underserviced areas would be subject to any fee discounting, the 95% does exceed the 85% of basic payments for the first three years and 100% in the fourth year paid to specialists settling in intermediate regions, and the 70% of basic payments paid in the first two years, followed by 80% in the third and fourth years, and 100% in the fifth year and beyond, for specialists locating in university or urban areas. As of spring 1999, fees for specialists settling in urban areas are subject to a discount of 70% for the first two years, and 80% for the third year; full fees are paid from the fourth year on. Specialists in office-based practice in the outskirts of Montreal are subject to the same discounting, but if they are hospital-based, they will receive 100% of billings. Specialists choosing to practice in intermediate areas now receive 100% of billings, and those who select remote/isolated regions are eligible for the bonus, thus receiving 120% of billings (personal communication, José Velasco, April 1999).

The discounting for general/family practitioners has not changed since 1982. Those locating in urban areas are subject to discounts to 70% for three years, while those settling in the outskirts of Montreal receive 70% if in office-based practice and 100% if in hospital-based practice. GPs locating in intermediate regions receive 100% of fees billed, and those who choose remote/isolated areas are eligible for the bonus, thus receiving 115% of billings. At this time, negotiations are underway to increase the gp remote/isolated area bonus to 20% from 15% (personal communication, José Velasco, April 1999).

Between 1982 and 1995 it was possible for some specialists locating in urban areas to receive exemptions from the discounting, provided they were working as a professor of medicine and were connected with a teaching hospital and a faculty of medicine. This exemption was removed in 1995, as it had led to increases in the supply of urban-located specialists. After a three-year hiatus, the exemption was renewed in 1998 for newly certified specialists who obtain fellowships outside Quebec; such physicians will be paid 100% of billings for twice the length of the fellowship, once they return to Quebec. (personal communication, José Velasco, April 1999).

A settling-in premium has been payable (since 1984) by regional boards to physicians locating in designated regions. Until 1991, the premium had a maximum annual value of $10,000 for non-salaried and $25,000 for salaried physicians and was non-taxable. It is normally paid for a maximum of four years from the date of settlement. While consideration was being given in late 1995 to eliminating the distinction based on mode of remuneration, as of July 1998 the difference remained. A physician can only take advantage of this premium once, and cannot previously have practiced in the region.
A general/family practitioner who has settled in, and chooses to stay in, a designated region may be eligible for a retention premium which can extend a settling-in premium through a second four-year period upon evaluation by and approval from the regional board. This premium has the same value as the settling-in premium for physicians working in certain isolated areas, and a maximum value of $5,000 or $12,500 in other specified regions, depending on the region.

Specialists are eligible for a retention premium after at least three years in a "remote" region. These premia are paid to new and established specialists. A new specialist is therefore eligible for both the settling-in and the retention premium in year 4 in a remote region. The actual retention premium is 10% of earnings up to a maximum of $10,000 per year in the fourth to sixth year; thereafter it is increased to 12% of earnings, up to a maximum of $12,000 per year.

For those specialists who already had long-established commitments to these designated regions, the government introduced a "revalorization" (compensation for low income) premium at the time that the retention premium was introduced; the revalorization premium was available in addition to the retention premium. The premia range from $4,000 to $20,000 annually, and the level in each case is determined by the distance of the practice from Montreal or Québec City, the income of the specialist (with those with the higher incomes being eligible for smaller premia), and the type of specialty. These premia, too, are grossed up by the 20% remote/isolation fee bonus. In addition, specialists located anywhere in the province who are members of designated specialties (e.g. anaesthesiology, internal medicine, and general surgery) may become part of a "replacement pool" for remote or isolated areas, thereby receiving $50 per day in addition to any other remuneration for which they might be eligible.

Other sources of supplemental funding include isolation premia, travel expenses and moving costs. In addition, some specialists (e.g. anaesthesiologists, internists, and general surgeons) can arrange to be paid on a sessional basis for work in remote or isolated areas, and at the same time are eligible for part of what would otherwise have been billed, had they been billing fees for service. These specialists are eligible for $550/day for a (7 am to 7 pm) weekday 'shift' with a minimum presence of 7 hours on hospital premises; but in addition, they receive 20% of the fee value of the services actually provided. Both the sessional fee and the 20% of fee-for-service are grossed up by the 20% remote/isolation fee bonus (i.e. $660/12 hour shift plus 24% of basic fees-for-service). Those same specialists (e.g. anaesthesiologists, internists, and general surgeons) located in "intermediate" areas can also be paid on a sessional basis, but are not able to bill the 20% fees in addition, and are of course not eligible for the 20% remote/isolation bonus.

Specialists in remote/isolated areas and in selected hospitals in "intermediate" regions can receive a (12 hour) "on call" sessional fee of $50 during weekdays and $350 for weekends and statutory holidays. This is in addition to the usual fees for any services actually provided during these periods, and both the "on call" sessional fees and the service fees are also grossed up by 20% for those specialists in remote/isolated regions.
Quebec distinguishes between emergency room (ER) coverage and on-call remuneration. GP who provide ER coverage anywhere in the province between 0800 and 2400 of any day must choose between billing fees-for-services in the usual manner, or receiving a lump sum (this varies according to a variety of criteria) plus 35% of fee-for-service billings. If the gp is covering the ER between 2400 and 0800, (s)he may choose on a daily basis, before or after the fact, between straight fee-for-service billing, or a lump sum of $450 plus 75% of fees-for-services billed. These arrangements are available only to gps

On-call coverage payment arrangements are available to gps or specialists in remote and isolated areas only; the remuneration arrangements for each group have the same framework - only the details differ. For example, gps providing on-call coverage in remote areas receive 50% of the current hourly rate ($57.60) while on-call, and in addition may claim full fee-for-service billings for any activities performed if called in.

Since 1985 the entitlement of physicians practicing in designated regions to time for refresher courses was increased from 10 to 20 days per year, complete with compensatory allowances for remuneration, living expenses, and transportation.

A few recent policy initiatives not primarily aimed at remote/isolated supply issues may, however, represent indirect threats to, or potentially undermine some of the effects of, this package of policies. In particular, in 1996 the province began a new program to run over three years to 1998 -- the "end-of-career allocation program" -- through which gps aged 55 and over in 1996, 55-64 in 1997 and 55-63 in 1998 could contract to receive 40% of their mean income from the previous five years (the mean subject to a maximum of $190,000 per year) for the next 3 years, and 30% of the mean in the fourth year, for a total of 150% of average annual income, over 4 years. A similar program was established for specialists in 1997, running for 1997 and 1998 only, whereby practitioners aged 65-67 could receive 200% of their average income from the previous 3 years, up to a maximum of $150,000, spread over 5 years, while practitioners aged 68 were entitled to 180% over 4 years, those aged 69 to 160% over 4 years, and those 70 and older to 140% over 4 years.

The "assisted-departure program" was instituted in 1997 as a replacement for the gp portion of the end-of-career program, which had experienced a poor subscription during its first year. Applying only to gps and only to the two years remaining to the "end-of-career" program timing, those practitioners who were between the ages of 50 and 64 could contract to receive 200% of their mean income from the previous five years, allocated over 4 years, while gps aged 65-69 could receive 150% over 4 years and those aged 70 and older 100% over 4 years. As this arrangement was sometimes more attractive than the provisions of the gps' end of career program, special arrangements had to be made for those who wished to transfer (personal communication, José Velasco, April 1999).
These policies may have had perverse effects in chronically undersupplied areas, in many of which a few GPs would have been serving a community for many years, and may have been approaching retirement. They would seem likely to have hastened retirements in situations where communities have not yet established replacement arrangements.

The other recent (1997) policy with potentially perverse geographic distribution effects is the daily patient limit. This was agreed to by the Fédération des médecins omnipraticiens as a means of assisting the process of keeping global billings within the cap. It involved sharply reduced fees for patient visits beyond 50 per day. Again, this is likely to differentially affect regions with chronic problems of finding sufficient physicians, since those in place will often need to work long hours and see large numbers of patients, simply because they are the only game(s) in town (Wanamaker, 1998). The program was terminated in 1998 as it was deemed to be too controversial in view of the limited savings accruing from its implementation.

As with most other provinces with medical schools, Quebec has over the years developed an extensive array of education-related financial incentives designed to encourage exposure to rural community medicine, the establishment of practices in such communities after the completion of post-MD training, and retention of physicians already practicing in these areas. Beginning in 1982, the government of Quebec agreed to increase the level of bursaries for medical students (first introduced in 1978) from $6,000 to $10,000 per one-year commitment in a designated area. The $10,000 bursaries are available in each of the final two years of medical undergraduate training. For students choosing family practice, an additional two years of $10,000/year in residency bursaries are available. Between 1978 and 1985 return of service was mandatory; failure to comply meant the graduate was unable to secure a billing number. Since 1985, a repayment option has been available. The proportion of bursary-holders fulfilling the return-of-service requirement has fallen considerably since the repayment option was introduced (Paetkau, 1999).

For those choosing the return of service option, each recipient agrees to provide insured services in an area designated by the Minister of Health and Social Services for a number of years equal to the number of annual bursaries received. Individuals may indicate specific regions in which they wish to practice (up to three regions) but the student has no control over the region to which (s)he is assigned. The number of bursaries available to medical students and family practice residents was increased from 90 to 180 in 1985 because it was thought that no more than 50% of those who took bursaries would keep the commitment to return of service. However, there are usually only 50 candidates each year, and of those who do begin their return of service, about 50% repay the remainder after one year of such service (personal communication, José Velasco, April 1999).

As of 1984, bursaries of between $10,000 and $25,000 per year have been made available by regional boards to residents in the final two years of training for designated specialties. Residents are required to reimburse the region for the value of the bursary, any accumulated interest, and any settling-in allowance, in proportion to the time not served, if they do not take up or complete the return-of-service obligation.
Alternatively, medical students and residents may apply for bursaries from the Ministry of Education, which have no return of service requirement. In addition, medical students are eligible for the ordinary student loans available to any Canadian undergraduate. It is also apparently relatively easy for even new physicians to secure loans. The result of these various alternative sources of funds seems to be that most who do receive Ministry of Health bursaries with return of service obligations choose to 'buy them out' rather than return the service. This seems to have been especially true for specialists. Another problem that has emerged with "return-of-service" requirements arises when medical students receive conditional (return-of-service) bursaries, but then go on to do specialty residencies in specialties where there are no needs in isolated/remote regions. They are, under the terms of the bursaries, required to provide return-of-service, yet there are no opportunities for them to do so (this has been particularly true in the past four years (personal communication, Quebec Ministry of Health, 1998)). This has affected both Quebec and non-Quebec students.

In 1984, there was a major multi-party review of initiatives to improve geographic distribution of medical services. As a result of this review, 20 new rotating internships were created for graduates of faculties of medicine located outside of Canada and the US. The number of positions allocated thus increased from 30 to 50, but the additional 20 were required to make a formal commitment to practice for three years in a locality or facility designated by the government.

The provincial physician resources plan for the years 1995-96 to 1998-99 includes a provision that 51 of the 457 authorized annual first year medical school places in the province may be filled by students drawn from two quotas: 20 from New Brunswick and one (1) from PEI, all of whom must agree not to remain in Quebec to practice; and 30 for foreign students with visas. In addition, up to 10 of the remaining 406 positions can be taken by Canadian students from provinces other than Quebec. These latter 61 positions in the foreign and other-Canada quotas are available provided that the students agree in writing to practice for four consecutive years in a facility designated by the Minister if they should settle in Quebec after graduation. Failure to comply can leave the recipient subject to a penalty of $200,000 (reduced by number of years of designated service that have been completed).

An internal study undertaken for the Ministère de la Santé et des Services Sociaux (MSSS) in 1995 found that gp/fps and specialists who had agreed to "return of service" contracts between 1985-86 and 1993-94 were considerably more likely than those without contracts, to remain in isolated regions. Among gp/fps, 42.4% with contractual obligations and who also benefited from regional bonuses, were found to have left isolated regions within the first three years of practice. This contrasts with 48.7% of gp/fps who had not benefited from any incentives and were not under contractual obligations, and 58.8% of those who had only taken advantage of isolated area bonuses. Within five years, however, there was virtually no difference between the three groups of gp/fps in "departure" rates (Velasco, 1995).
A different picture emerged for specialists, where almost 78% of those under contractual obligation had departed from the isolated regions within the first three years of practice. This was virtually identical to the experience of specialists over this period who had not taken advantage of any bonuses, and who were not under contractual obligation. What is particularly interesting about the specialists is that only 40% of those without contracts, but who took advantage of bursaries or other regional bonuses, had departed within the first three years. Within the first five years, the third group showed the highest rate of departure (88%), with 78% of the other two groups who had benefited from bonuses or bursaries (with or without return of service obligations) having departed. (Velasco, 1995). Based on this analysis, the study concluded a) that contractual obligations were far more effective than bonuses/bursaries alone, in encouraging retention in isolated regions; b) that relocation bonuses in particular appear to be largely ineffective in getting those without contractual obligations to practice in isolated regions; and c) that relocation and other bonuses for those under contractual obligation were largely wasted, since those under contract would have likely fulfilled the obligations in any event. What was not clear to these observers was how one could determine whether fewer contracts might have been honoured (rather than bought out) in the absence of the bonuses.

Some programs provide rural/remote training to residents in family medicine and in a few specialties. Since 1985/86, family practice residents have had to spend eight weeks during their two year training period, doing remote area rotations. In addition, required remote area rotations of 8-12 weeks have recently been introduced for residents in anaesthesia, general surgery, internal medicine, obstetrics/gynaecology, paediatrics, and psychiatry. In addition, there are remote area opportunities for summer employment for medical students in the first three years of school, including allowances for the costs of moving and accommodation.

Ten specialty resident I (first year residency) training positions (of a total of 330 in 1996/97, and 308 in 1997/98) carried with them a commitment to practice condition. These positions were allocated across eight generalist specialties (those likely to be supportable in smaller communities): general internal medicine, general surgery, anaesthesia, psychiatry, paediatrics, obstetrics/gynaecology, anatomic pathology, and orthopaedic surgery. Four of these ten positions were reserved for non-Canadian and non-American-trained residents. Graduates were required to commit in writing to serving at least four consecutive years in a facility approved by the Minister. Failure to comply left residents subject to the same penalty as for the medical students who fail to comply ($200,000). Because of insufficient applications, the program was eliminated at the end of 1997. Beginning in 1998, foreign medical graduates are required to undertake medical training in Quebec if they wish to practice in Quebec.

The Quebec government has also instituted a series of measures designed to ensure that clinical fellows (residents paid other than through the usual route based on the agreement between the Fédération des médecins résidents du Québec and the government of Québec) are not able to settle in Québec after their residency period, unless specifically authorized
by the government, or unless they agree to a similar return-of-service arrangement with the attendant penalty for non-compliance. In particular, there are limitations on the authorized training period for FMGs, because their likelihood of obtaining landed immigrant status increases with the time in the country.

Since the introduction of the policy of differential fees by the Ministère de la Santé et des Services Sociaux (MSSS), the MSSS has evaluated and monitored its effects on an annual basis. Recent data suggest that there has been some increase in the proportions of new general practitioners who decide to set up practice in a remote or isolated region. This increased from 11.8% between 1978 and 1981 to 20.3% between 1982 and 1994, and to 23.3% between 1995 and 1997. For specialists over the same periods, the comparable rates have been 4.6% (in the four years before the beginning of the policy), 10.9%, and 15.7% (unpublished data provided by J. Velasco, 1998).

Of course the proportions of new physicians who settle in remote/isolated regions is only one part of the overall distribution story. If more are leaving than are settling, then distribution could still theoretically be getting worse, despite these increasing proportions. However, an examination of net flow for remote/isolated regions during the years 1982-94 indicates that between 1982 and 89 there was a net addition of 21 specialists per year in these regions. The net increase slowed to 18/year between 1989 and 1997. For gps, the net increase was 35/year between 1982 and 89, but only 23/year in the later period. The drop in gp net in-flow to these regions may be related to the reductions in post-graduate training slots implemented in the early 1990's. While maintaining the same total number of postgraduate training seats, Quebec began in 1992-93 to expand specialty-training intake, which led in turn to reductions in the number of slots available for family practice residencies. As a result, by 1994-95, there were reductions in the number of graduates from family medicine programs. About the same time, there was considerable discussion by government about new policies designed to restrict the location choices of new physicians. This led some physicians who might otherwise have contemplated practicing in rural/remote areas to establish practices in non-remote areas as soon after completion as possible, so as to avoid permanent 'rustication'. These two factors may have worked in tandem to reduce the flow of gp/fps to remote and isolated regions (personal communication, José Velasco, April 1999).
Appendix 7

New Brunswick
New Brunswick

The first significant government policy intended to influence geographic distribution of physicians came with the 1987/88 "Physician Recruitment Incentive Program". This Program provided settlement grants, guaranteed minimum incomes, and guaranteed incomes for locums. The settlement grants were $10,000/year for up to three years, and were available to physicians making a commitment to practice for three years in a designated area. Designated areas for general practitioners were those in which the average population/physician ratio was at least 1500 (or those containing a particular linguistic sub-population which was deemed to be under-served, even if the population/physician ratio for the region overall was less than 1500:1). For specialists, designated areas were those in which hospital services master plans indicated a need for the specialist in question. In addition to the settlement grants, eligible physicians were entitled to up to $3,500/year to cover expenses and foregone income for continuing education, and up to $8,000 (one time) to assist with relocation expenses. The incentives were not intended for "physicians relocating within the province [or for] physicians who have been away from the Province for less than a year" (New Brunswick, 1988).

The guaranteed minimum incomes provided an income floor for the first year of practice of eligible physicians. The level of income varied with type of physician (gp, medical specialist, surgical specialist) and by region. The eligibility criteria were the same as for the settlement grants except that, for general practitioners, the community in question needed to have less than four full-time physicians in practice. The guaranteed incomes for locums were intended for those willing to replace solo physicians in designated areas where the replaced physician was the only practicing physician within the area and specialty. They provided locum incomes for a maximum of four weeks annually (based on the income of the physician who was being replaced), as well as reimbursement of travel costs and reasonable other expenses.

At the same time, the New Brunswick Department of Health began offering some education-related financial incentive packages, including assistance for medical students who were prepared to work in New Brunswick hospitals during the summer, funding for residents to pursue specialty training in shortage specialties, or who were prepared to practice in regions with shortages, in return for a commitment to a particular hospital once the training was completed, and return-of-service bursaries for psychiatric residents.

In 1989 the McKelvey-Levesque Commission on Selected Health Care Programs produced a report "... on how the health care service [could] be better structured, organized and distributed so that the various components of the system can function in the most efficient and cost effective manner" (McKelvey et al., 1989, p. 1). The Commissioners noted that "[w]hile there are still physician requirements in the province which have not been met there is no longer need for overall recruitment...areas of need should be identified and provincial resources directed to recruitment in these areas" (p. 64).
In 1990, two significant new initiatives were introduced. One of these was intended to control overall expenditures on physician services through the application of a global expenditure cap. The other, directed specifically at the objective of improving physician geographic maldistribution, replaced the "Physician Recruitment Incentive Program". This was motivated by the fact that about 40% of new physicians who were taking advantage of the grants or minimum incomes under that Program, were leaving the regions during, or shortly after, their three year commitment, and very few were taking up the offer in the least well-supplied regions of the province (personal communication, Lyne St. Pierre-Ellis, 1996). This new policy involved fee levels differentiated according to practice location and specialty. However, it was intended only for new physicians (already practicing physicians were grandfathered at 100% rates, irrespective of location). Under the terms of the policy, any new general practitioner choosing to practice within 40 km of Moncton, Fredericton, or Saint John would be paid at 75% of the prevailing fee schedule. But new physicians setting up practice anywhere else in the province (whether gp or specialist) would receive 110% fees. These fee prorations were to be effective for the first three years of each new practice.

In 1991, the Physician Resources Advisory Committee (PRAC), which had representation from the licensing authority, the medical society, the association representing hospitals, the nurses association, advanced education, the public, and the Department of Health and Community services, delivered a comprehensive physician resource plan (henceforth the PRAC Plan) to the Minister (Physician Resources Advisory Committee, 1991). The PRAC Plan set out provincial full-time-equivalent (fte) practicing physician targets to the year 2001, based largely on the fte methodology developed earlier by the Federal-Provincial Working Group on Medical Care Statistical Indicators, as part of its development of a national physician resource database (see New Brunswick (1992, Appendix B). It was modified for this exercise to take account of a number of shortcomings (such as the fact that the methodology is generally not applicable to certain specialties, and cannot easily take into account physicians paid other than by fees-for-service).

PRAC concluded that certain specialties, and certain regions of the province, continued to be in need of additional physicians. Its Plan set out targets for the year 2000-2001 which, if met, would eliminate or reduce those net requirements. These targets were based on developing an overall fte specialist target by synthesizing other reports (e.g., Health and Welfare Canada, 1989; Royal College of Physicians and Surgeons of Canada, 1988), expert opinion, and experience within the province. PRAC then chose to assume that a 50:50 gp/specialist ratio was reasonable, from which it was able to develop an overall supply target.

The overall province-level targets for each specialty were developed by taking the existing fte supply, and setting it against a number of 'checks and balances'. These included some inter-provincial comparisons; regional supply validation by members of PRAC; consistency with the Hospital Services Master Plan, which set out the province's intent with respect to the distribution of primary, secondary, and tertiary services; comparison against earlier hospital staffing guidelines, and the Royal College of Physicians and
Surgeons of Canada (1988) recommendations; and the views of the specialty sections of the New Brunswick Medical Society and the Mental Health Commission (PRAC, 1991, 41-44). On this basis, the Committee developed provincial and, where possible, regional, requirements estimates, which became the Plan "targets", for each specialty. A key statement in the overall planning process was that "established regional services should not be enhanced or expanded in excess of the regional targets set by PRAC, until such time as under-serviced regions reach their targets" (PRAC, 1991, 39).

In March 1992, "A Health and Community Services Plan for New Brunswick" (New Brunswick, n.d. 1992a) was introduced. This document presented a major restructuring of the governance of health care in the province (from 51 hospital and health service centre boards, to 8 regional boards), a number of other new organizational initiatives, and a physician resource plan for the province.

This was all formalized later that year with the release of the province's Physician Resource Management Plan (henceforth "the provincial Plan") (New Brunswick, 1992), which remains in place as of April 1999). The Plan drew heavily on the work of the PRAC. The overall goal of the plan was "[t]o achieve an appropriate number and equitable distribution of general and specialized physician services throughout the province by the year 2001, through a process of managed growth." The "appropriate number" was those supply targets that had been recommended by the PRAC, and the "equitable distribution" was, similarly, based on the region-specific targets established by the PRAC.

The Plan set a medium-term planning horizon of eight years (to the year 2000-2001); it established target population/physician ratios for each specialty (with the exceptions of community medicine, emergency medicine, and medical genetics, for which special arrangements were made) for 1992-1993 and 2000-2001; and it gave authority for monitoring of progress toward those targets in each region, to the PRAC. Furthermore, it designated the hospital corporations in each region (RHCs, established in April of 1992) as the groups responsible for implementation; hospital corporations were thus given the power to approve, or deny, applications of new physicians wishing to establish practices in their regions, according to whether the regions required additional physicians of any given specialty in order to meet their interim targets at any given stage in the planning period. The Plan also provided a phase-out period for the earlier-established differential fees policy. This policy remained in place during 1992-93. In addition, the Plan left open the option of issuing special licenses for regions which were unable to attract certified specialists. A separate policies and procedures document (New Brunswick, 1994), set out the specific roles and responsibilities of regional hospital corporations and offered more implementation details.

The hospital corporations were made responsible for granting privileges to those physicians deemed to be needed by the region, and whose addition would be consistent with the targets for the region. All additions and un-replaced reductions were to be reported by each corporation to the Department. The policies and procedures also set out
an "exceptions" process, whereby a corporation that felt it could justify additions beyond target, was able to submit a request to the Department, for review by PRAC.

A number of powerful disincentives are embodied within the Provincial Plan. A corporation that grants privileges, without authorization, to a physician where doing so has the effect of taking the region over target for the specialty, is responsible for bearing the cost of that physician's fee-for-service billings to the Medicare Branch. The corporation is required in the first year of the physician's practice, to reimburse the Medicare Branch, in advance, an amount equal to average yearly payments to physicians of the same specialty. In subsequent years the Corporation is responsible for reimbursing the actual payments made by the Medicare Branch.

The Medicare Branch is responsible for issuing billing numbers to those physicians granted privileges by a regional hospital corporation. A physician without privileges (privileges are granted in the form of a list of procedures that the physician in question is authorized to perform in the hospital in question; New Brunswick, n.d.1992b) could, in theory, practice in the region, but would not have access to the hospital, and would not be issued a billing number.

A number of other initiatives intended to encourage physicians to locate in less well-supplied areas continue as part of the current physician resource management strategy. These include the reimbursement of moving expenses, up to $10,000, for physicians who settle in designated regions, and reimbursement of tuition and travel expenses, plus 50% 'salary' coverage, for attendance at continuing or extended education courses approved by the relevant specialty College. A physician who has practiced in a designated shortage specialty/geographic area combination for five years is eligible for support for a three month course; after ten years of service, a course of from 3-6 months can be attended under these terms. All such course support comes with a post-course return-of-service requirement: 1 year for each month of course attended (New Brunswick, 1994). Finally, after three years of practice, eligible physicians can apply for paid vacation (2 weeks at 40% of average previous year's weekly billings; after five years of service, this increases to 3 weeks).

The "Phase-Out Program" is intended to allow a physician to sell his/her practice without simultaneously having to relinquish his/her billing number. This 'pre-retirement' phase-out permits a physician to transfer his/her practice to a new physician, while at the same time leaving the pre-retirement physician able to engage in a limited amount of clinical service for up to five years. This arrangement is only possible in regions which are at or under the 2000-2001 target in the physician's specialty. To compensate for the fact that allowing pre-retirement physicians to retain part of an fte could hinder recruiting, regions are able to recruit a new physician even if they are not below target by a full fte (personal communication, Bonny Hoyt-Hallett, February 1997).

Effective with the 1996/97 fiscal year, New Brunswick has also had in place individual income thresholds. General practitioners receive 70% prorated fees for fee payments in
excess of $275,000, to a maximum of $325,000, after which they receive 40% prorated fees. For specialists, the proration rates are the same, and the trigger levels are $400,000 and $450,000.

There has been some evaluation of these policies (Reamy, 1995, 1996), which examined one year prior to implementation, and the first few years of operation under the new provincial Plan. The author found that the population:fte physician range went from 477 - 1012 in 1991/92, to 504 - 842 in 1994/95, suggesting a considerable 'evening out' of the overall distribution (although most of this was attributable to an improvement in the supply situation in the least-well-supplied region of the province). However, a more detailed examination of the underlying data suggests that much of this evening out effect was the result not of more physicians practicing in the least-well-supplied region, but rather of higher fee-for-service billings among the physicians already practicing in that region. And in the second least-well-supplied region, there was actually a substantial decline in the number of discrete physicians reportedly in the region in 1994/95 relative to 1991/92 (based on data reported in Reamy, 1995).

Reamy (1995, Table 14) reports data from the Department of Health showing that the number of fee-for-service physicians entering the province declined over the three years of the Plan that he examined. One could surmise that most, if not all, of the decline represented physicians who would have settled in regions that were already at, or over, their physician:population targets. As for movement in the other direction, the data reported by Reamy suggest some decline in out-migration of fee-for-service physicians in 1993/94 and 1994/95, relative to the previous 5 years. However, the differences are small, and cannot be attributed to the provincial Plan, since these decisions will be affected by policies in other provinces (and other potential sites such as the U.S.). On balance, one could reasonably conclude that the provincial Plan did not cause any significant increase in movement out of the province, but this is not surprising, in light of the fact that those physicians already practicing were not materially affected by the Plan. The key question is whether physicians who might have set up practice in adequately or over-supplied regions in the absence of the provincial Plan chose, instead, to do so in regions which were under-supplied relative to target. A survey was sent to the eight region hospital corporations, seeking information on physicians denied privileges, and whether those physicians subsequently settled in other regions of the province. This is at best impressionistic information, because regions would not necessarily have tracked the subsequent decisions of physicians denied privileges in their region, nor would they necessarily have known the prior application history of physicians to whom they granted privileges. The data reported by Reamy (1995) indicate that over the three years 56 physicians were denied privileges because granting them would have put the region/specialty under its population:fte target (or, equivalently, over the targeted number of fte physicians). Of those 56, the region corporations reported knowing of 12 who were subsequently granted privileges elsewhere (either in the same region, or in another region). The region corporations also reported 5 physicians to whom they had granted privileges, who had previously been denied in earlier application (these earlier denials would, in all likelihood, have been part of the 56). What we do not know is what happened to the other 44 physicians who were denied privileges.
These data are, however, the most direct evidence that the Plan was having some of the intended effect.

In 1994 a Statement of Claim was filed against the province by four physicians and the Professional Association of Residents and Interns — Maritime Provinces. The petitioners claimed that "the restriction of billing numbers, the placement of regional and specialty quotas on full-time-equivalent physicians, combined with restrictions on the privileges hospital corporations may grant, and the refusal to reimburse for services delivered by a physician without a billing number, violate the Charter's freedom of association (s. 2), the right to pursue the gaining of a livelihood in the province of New Brunswick (s. 6), rights to liberty and security of person (s. 7), and sex equality (s. 15)" (Barer and Wood, 1997, 352). Unlike the B.C. (Waldman) case, the plaintiffs here are arguing violation of equality rights on the grounds that "the current supply of physicians in urban centres is male-dominated, and the Plan has the effect, (if not the intent) of perpetuating that situation just as the supply of new physicians entering to practice has become more 'gender-balanced' (ibid.). Like the B.C. case, the plaintiffs are also alleging violations of the Canada Health Act. The legal machinery has been dragging along for a number of years now; as of the time of writing, it is the opinion of those closest to the case that it will not see the inside of a courtroom until some time in the year 2000.

Meanwhile, in April 1997, PRAC delivered a new report to the Minister (PRAC, 1997) reviewing and updating the methods and targets underlying the provincial Plan, and reporting on the then current supply, distribution and working conditions situation around the province. The report contained 59 recommendations, including that some method be found for combining fee-for-service payments with sessional payments for calculation of physician ftes, that on-call issues be addressed by the PRAC, that the notion of critical mass be employed when specialist targets were under development, that each hospital corporation be encouraged to develop and maintain a physician resources plan, that revised FTE targets for gp/fps and specialists be adopted, and that the original target date for the provincial Plan be extended to 2003-2004. The Department of Health and Community Services supported most of the recommendations made by the PRAC Subcommittee (Nova Scotia, 1997). At the time of writing, a new provincial Plan with revised targets is expected, presumably drawing on the recommendations from the 1997 PRAC report.

One measure which has been implemented is the establishment of 'on-call' payments. In smaller facilities of less than 90 beds, physicians can choose to be paid $80/hour for emergency room coverage between 6pm and midnight seven days a week, and between 8 am and 6pm on weekends and statutory holidays, in lieu of fees-for-services (except obstetrics), and only if the physician is on site. Between midnight and 8am, physicians receive a $400 flat fee plus any fees for services, for being on-call but not necessarily on-site.

The PRAC has also recently recommended changes to the province's "re-entry" program, whereby physicians prepared to return to medical school for additional training in areas of
defined need, are eligible for some support. Applicants must already be practicing, and have a minimum of two years service in the province. The training for which re-entry is being sought must be in an area of current or projected need, the training site must be in North America (Canada, if available) and the applicant must have the support of an RHC. A return of service clause with the sponsoring RHC will be part of each agreement. If at the point of return to the province to practice there is no vacancy within the sponsoring RHC, then a vacancy in a designated region elsewhere in the province must be accepted. If no vacancy in the area in which the physician has specialized is available anywhere in the province, a physician will be released from the return of service obligation (personal communication, Donna Mulholland, April 1999).

The Department of Health and Community Services, the Department of Labour, the New Brunswick Medical Society and various medical education co-ordinators have recently re-established a rural summer employment program for second year medical students, in which job-shadowing by a preceptor is provided for up to 10 weeks. The program will be taking 12 students in the summer of 1999 (Borsellino, 1998d).

In 1995 the province began to phase out its purchase of undergraduate medical seats at Memorial University. By 1997 the process was complete, and the final Memorial students finished in 1998/99. However, New Brunswick continues to sponsor two postgraduate training seats at Memorial. Some argue that this has exacerbated the problems of attracting new physicians to rural New Brunswick (McLeod, 1998b).

In April 1998 a Health Services Review Committee was established. Included in the matters to be reviewed was access to physician services. The Committee's report was released in early April 1999. It contains extensive recommendations bearing on policies that could affect access to services for residents of rural and remote areas in the province. Included are a number of recommendations bearing on the potential for training advanced practice nurses (see: http://www.gov.nb.ca/hcs-ssc/english/publications/hsrc/).
Appendix 8

Nova Scotia
Nova Scotia

Nova Scotia’s geography means that it has no “isolated areas” the likes of which can be found in provinces to the west of New Brunswick. This is not to say that there are not variations in physician supply, or that there are not communities where ‘isolation’ becomes a factor in the determination by physicians of where to establish a practice. But with most communities in the province being a relatively short drive from a significant community or regional hospital, the distribution problems confronting Nova Scotia are qualitatively different from, say, those in Saskatchewan. The 1993 report, "Creating a Climate for Change" (Nova Scotia, 1993) noted that "...shortages in family practice are, generally speaking, confined to a relatively small number of areas...often remote and experience ongoing or recurring shortages of physicians. Apart from this, maldistribution of family practitioners is not a major problem”, although there was also general agreement that "there is an oversupply of family practitioners and undue concentration of some specialties in the Metro Halifax area" (p. 18). The Department of Health continues to believe "that there are sufficient doctors in the province to provide for the medical needs of Nova Scotians”, but also acknowledges that "some rural areas of Nova Scotia have experienced long standing problems attracting and keeping doctors." (personal communication, Department of Health, Sept. 1998). To that end, the Medical Society of Nova Scotia (MSNS) and the Department established a full-time Physician Recruitment Co-ordinator a number of years ago (Robb, 1996). This position became a provincial appointment in December 1997. The recent focus for that position has been working with communities and with interested physicians (particularly gp/fps), to place the latter into rural and under serviced areas.

In 1997, the College of Physicians and Surgeons of Nova Scotia began to issue "defined" licenses to physicians who are not eligible for full registration with the College; most such situations involve international medical graduates or medical residents (who would received an educational defined license) who are not yet eligible for Royal College or CFPC certification (e.g. are in their last six months of family practice residency, or last two years of other specialty residencies) (Moulton, 1997; personal communication, Brian Taylor, April 1999). The defined licenses permit these physicians to practice under medical supervision. While those with "defined" licenses are not required to work in rural/remote areas, more often than not they do so because this is where they find the opportunities. In particular, allowing the family practice residents to practice was intended to provide opportunities to gain experience while providing needed locum relief.

Rather predictably, there have been strong opinions on both sides of this initiative. Some physicians protested at the introduction of "physicians whose qualifications may not be the match of those trained in this country or others with equivalent training", while others noted that the measure was useful as a means of filling vacancies in "doctor-starved communities" (Borsellino, 1997).
Nova Scotia instituted a policy of restricted issuance of billing numbers in 1995. Under the policy, new numbers were not issued to family practitioners interested in establishing new practices in Metro Halifax, until the population per gp/ fp in that area approached 1170. More generally, issuance of new billing numbers was restricted to areas of need as agreed by the Joint Management Committee (although in practice the only applied restrictions were in Metro Halifax), and existing billing numbers were restricted to then-current geographic areas and domains of practice, to prevent practitioners from moving to the larger urban centres if they were not already there. These policies came into effect with the March 1995 agreement.

Under the terms of a new four year agreement between the Department of Health and the Medical Society of Nova Scotia (MSNS), signed in July 1997, this general billing numbers policy was rescinded, with the exception of Halifax, where no new billing numbers will be made available for the Halifax Regional Municipality (HRM) "except in those sub-regions or practices designated by the Billing Number Committee as under serviced" or in cases where replacement billing numbers are required "for physicians permanently leaving a practice in the HRM due to illness, retirement or other reasons" (personal communication, Department of Health, September 1998; MacKinlay, 1997).

In addition to this administrative approach, a number of financial incentives are in place. An allowance of up to $12,000 is made available to supplement fee-for-service income 'shortfalls' in selected remote areas, and a fixed compensation package has been developed to encourage small groups of physicians to establish practices in underserved locations. This package has been used in four sites to date. The Department of Health also funds a locum service which is available to physicians in selected rural communities for short periods (vacation, illness, CME). These initiatives are part of a comprehensive rural incentives program.

The rural incentives program was developed as part of the March 1995 Agreement between the Department of Health and the MSNS, and was continued by the July 1997 agreement. It provides a package of financial incentives to any physician who agrees to a five year service contract in a region designated by the Department as an "Underserviced Area". Among the features of the Rural Incentive Contracts are:

- a 'signing bonus' of $50,000, payable in five annual installments beginning at the end of the first completed year of service;
- reimbursement of relocation expenses to a maximum of $5000, pro-rated over the five years of the contract, based on completed years of service;
- guaranteed minimum annual gross income of $146,704 or other comparable arrangement to be worked out between the individual physician and the Department;
- locum replacement for continuing medical education and vacations, whenever possible, through the rural locum service;
- reimbursement of continuing medical education expenses to a maximum of $1000;
- reimbursement of moving expenses, to a maximum of $5,000;
• preferred access to a billing number in the HRM, for physicians who complete the five years' service.

There are now 30 contract positions in 22 communities across the province (personal communication, Department of Health, September 1998).

In addition, the Department has made available the option of non-fee-for-service arrangements for communities where there are too few patients to support a reasonable general practice. As of September, 1998, the Department and the MSNS continue to explore and develop alternative funding arrangements, with individual and groups of physicians. About 20% of physicians in the province are now remunerated through non-ffs payment arrangements. The provision of paediatric services in tertiary centres and rural areas has been a focus of recent discussions (personal communication, Department of Health, September 1998). But as in other provinces, negotiations over new payment arrangements remain contentious. Less than a year into the 'new deal', the president of the MSNS suggested that progress on "alternative funding and special projects" had been a "total disaster". He implied that, despite many proposals, a number of them relatively straightforward, there had been no movement to create new funding arrangements with those submitting proposals (Borsellino, 1998).

The July 1997 contract also provided for a Rural Physician Stabilisation Fund, which is designed to pay physicians who provide emergency room 'cover' and services in rural regions of the province, and who provide 'on-call' services in remote regions (defined as any area greater than 45 km from a hospital with emergency facilities). This appears to be a compromise in response to recommendations from the Scott report (Scott, 1996). The current policy provides

- category A emergency on-call remuneration for larger volume rooms (over 13,000 unscheduled ER visits per year), at $65/hr in lieu of ffs billing for nights, weekends and statutory holidays;
- category B emergency on-call remuneration for mid-volume rooms (< 13,000 visits per year), at $600 for a 12 hour shift (a total of $3,000 is available for all weekend on-call coverage), in lieu of ffs billing;

In order to be eligible for this alternate payment, all physicians providing cover at for the facility in question must 'sign-on'. Otherwise, the physicians are paid only fees for services actually provided while on-call.

Physicians in remote areas not serving in designated ER's receive $20,000 per year in addition to ffs billing for being on-call (Martel, 1998). In these regions, the physicians in question can also continue to claim fees for services provided (personal communication, Department of Health, September 1998; April 1999).37

37 Remuneration for all on-call services is based on a "unit value system". One "Medical Service Unit" is currently valued at $1.84; physicians in remote areas receive an annual payment equivalent to 11,628 MSUs; physicians in category A facilities receive 38 MSUs per hour, and so on.
The province is also developing telemedicine linking rural areas with regional and tertiary hospitals. This serves a number of purposes in addition to making specialized services available to rural/remote areas. It provides an opportunity for ongoing continuing medical education for physicians in those areas. It can also be used to provide back-up for diagnostic interpretation, and to offer periodic consultation services. All the facilities in one health region have been linked to the tertiary and paediatric facilities in Halifax, and there is funding to extend the linkage to three other health regions. (personal communication, Department of Health, September 1998).

A number of other initiatives are apparently under current consideration. Among these is the deployment of nurse practitioners to assist in primary care delivery in more isolated rural areas,\(^{38}\) and the incorporation of a return-in-service option for physicians who have practiced for at least two years in the province and wish to improve their prospects of being accepted for re-entry to residency training at Dalhousie Medical School.

\(^{38}\) A Health Transition Fund primary care demonstration project expected to commence this fall will involve the deployment of nurse practitioners.
Appendix 9

Prince Edward Island
Prince Edward Island

A tripartite Physician Resource Planning Committee (PRPC) with representation from the Medical Society of PEI, the Health Association and the Department of Health and Social Services, was established in 1988 to manage the supply, mix and distribution of physicians for the province.

Until recently, PEI had few geographic distribution problems. However, in the last five years the province has experienced more difficulty in recruiting physicians for some of the more 'remote' areas. The Medical Society, in particular, believes that the province is suffering from an overall shortage of physicians, resulting in "limited access to primary care physicians" (McLeod, 1998a). In an effort to address retention of those in such areas, the PRPC established a program that provides locum replacement for vacation and continuing medical education leave.

In June, 1998 a three-year Master Agreement was reached between the Department of Health and Social Services and the Medical Society. Relevant changes under the Master Agreement include increases in the sessional rates for emergency call at the five rural hospitals, and various provisions regarding salaried physicians, including matters related to on call coverage.

The current Master Agreement also provides for the continuation of a policy of 50% fee proration for physicians who obtained a billing number on or after April 1, 1993, who are not part of the approved complement in any given region of the province.

While there are several salaried specialists in Prince Edward Island, consideration is currently being given to the development of salaried arrangements for family physicians. A set of guidelines/formulae for the conversion of practices from fee-for-service to alternate payment (including salary), and vice versa, is currently under development.

Physicians providing coverage in five rural hospitals are eligible for on-call evening/night fees ranging from $38.20 per hour to $58.20 per hour in lieu of fee-for-service claims. Times range from 8:00 p.m. - 8:00 a.m. to 10:00 p.m. - 8:00 a.m. depending on the facility.

The province has provided financial assistance for specialty training in areas of defined need, with return-of-service commitments attached. To date, four such funding arrangements have been made.
Appendix 10

Newfoundland/Labrador
Newfoundland/Labrador

Effective July 1993, family practitioners who established a practice in St. John's which exceeded a quota for that region developed by the province's Joint Management Committee (JMC), were paid at 50% of the fee schedule. In May 1994, sixteen other regions in the province became subject to this same fee proration. Existing physician practices were not affected. As of January 1997, only one family practitioner had established a position in St. John's that attracted the 50% pro-rating (personal communication, Jeff Young, January 1997), and that physician has since left the province.

A number of other family practitioners had settled into specific situations in St. John's, without attracting pro-rated fees (e.g. salaried positions as emergency room physicians, or at psychiatric or cancer treatment facilities). Four family physicians jointly launched a legal challenge to this system in August 1994, but there was little action for a number of years and the case was considered dormant. In early 1998 the association representing the appellants appeared to be reviving the action, and a separate civil action was launched (Gushue, 1998); shortly thereafter (October 1998) the 50% fee proration policy for new physicians locating in the St. John's area was discontinued as a result of negotiations with the Newfoundland and Labrador Medical Association. At issue was the determination of reasonable catchment areas; some of the small communities on the outskirts of St. John's were caught within the policy, yet apparently had too few, or no, physicians. There is currently no fee prorating being applied in the province.

In 1994, the province's Physician Resource Advisory Group (PRAG) (a subcommittee of the JMC) tabled a report which included recommendations for a 'points' system not unlike that recently halted by the Waldman judgement in B.C. It would have involved the accumulation of points for service in rural areas, toward the eventual granting of an unrestricted 'billing number'. The proposal involved a combination of fee incentives (up to 30% premia for practice in certain areas) and disincentives (reductions of up to 25% in fees paid to practices in well-supplied areas such as St. John's), and points accumulation which would eventually entitle a physician to 100% fees irrespective of practice location (Squires, 1996; PRAG, 1994). While most of the PRAG recommendations were accepted by the government in principle, the proposal was never adopted by the province, and the PRAG appears to have disintegrated in 1997 (allegedly in part due to frustration among members of the medical profession who served on PRAG at the lack of progress toward implemented certain recommendations which they considered of utmost importance (Gushue, 1997)).

In recognition of the fact that some sparsely populated regions cannot support a fee-practice physician, the government has come to rely rather more heavily than other provinces on salaried positions. A 1994 report suggested that approximately 34% of all the province's physicians were at that time salaried, and 51% of those located in rural areas were paid by salary (Reamy, n.d. 1994). The province has recently increased rural physician salaries substantially (Gray, 1998a). Because of its particular difficulties with
providing physician services in rural and remote areas, this province has relied, and continues to rely, heavily on FMGs. It has been estimated that as many as 40% of all physicians in the province were trained outside Canada, and the proportion in rural regions is likely even higher (Reamy, n.d. 1994, citing data from the National Physician Database). Subject to meeting the licensure requirements of the Newfoundland Medical Board, foreign medical graduates are eligible for provisional licenses. These licenses require the physician to have a sponsor (e.g. a regional health board) and are only issued in geographic and/or specialty situations where it has proven impossible to recruit a Canadian physician. Such provisional licenses are subject to annual renewal/review. Foreign graduates who have been out of practice for more than two years and who would not otherwise be eligible for provisional licensure, may be assessed through the recently developed Clinical Skills Assessment and Training Program (CSATP) run by Memorial University's Faculty of Medicine (Gray, 1998b). Up to six months training can be provided to assist the physician to meet license requirements following this assessment.

Under the terms of a recently ratified "Micro Allocation Agreement" (Newfoundland, 1998), physicians providing on-site primary care emergency coverage in category A facilities (those offering full-time specialist services) are paid $71-$88/hr (depending on whether the physician had office practice overhead expenses; emergency room physicians get $71; community gps get $88) for twelve hour on-call shifts. The language of the current agreement reads that this sessional arrangement "will continue to be available". Our understanding is that physicians can determine, at the conclusion of each shift, whether to take the on-call hourly payment, or stick with their fees for services provided during the shift. In other words, the hourly rate is intended to establish an income floor per shift to reflect the need to be on-call. Fee-for-service gps providing on-call coverage for other 24-hour emergency facilities (smaller acute care facilities, or health care centres, designated as category B facilities), may bill $10/hr (increasing to $15/hr next year) over and above any fees billed during the on-call period.

Physicians engaged in 'escort duty' (i.e. accompanying a patient by (air or ground) ambulance to a health care facility) receive supplementary remuneration for that service.

In situations where a salaried physician is required to fill in for another salaried physician who, however, is receiving a higher salary, the former receives remuneration at the rate of the latter, for the entire period of fill in. The Department has, in the recent past, also funded four locum positions to allow salaried physicians to take educational and other leave that they accrue. Because of difficulty staffing these positions, this is not offered at present. The Department provides compensation for additional workload resulting from vacancies (through payment of part of the salary from the vacant positions to those salaried physicians remaining in the group, where the group is composed of four or fewer physicians, and the vacancy extends beyond 7 or 14 days; Squires (1996)). It also began paying isolation bonuses of $10,000 to $20,000 in 1997. These Rural Salaried Physician Retention (RSPR) bonuses are payable after two years' service in a designated rural area, with the level depending on relative isolation. For other details of the newly introduced retention bonuses for gps and specialists, see Newfoundland (1998).
Subsequent to the introduction of the RSPR bonus, a second rural recruitment incentive program was established to supplement the incomes of physicians providing service in a rural community designated eligible for the RSPR bonuses. This additional program, the Rural Salaried Physician Geographical Supplement, provided annual supplements ranging from $15,600 to $31,200, depending on the isolation of the area (personal communication, Keith Dyer, September 1998). This program was, however, recently terminated. In addition, the government has recently struck an agreement whereby military medical personnel could provide necessary care in some communities which were unable to find civilian sources of physician services (Tompkins, 1998).

There are also many areas of the province without adequate, or any, local specialist services. Between ten and fifteen specialists a year, upon Departmental approval, may receive a guaranteed annual income for the first year of practice, as well as a one-month payment advance (the latter to be recovered from future income), if they are prepared to practice in designated areas.

As in most provinces with medical schools, a wide variety of education-related initiatives have been developed, although Newfoundland appears to have done more than other provinces in its attempts to 'reach into the rural communities' for potential rural physicians. In 1990, the Memorial University Faculty of Medicine began "MedQuest", which provides the means for rural area high school students to go to Memorial University for a week during the summer for an orientation to the health professions (including medicine). The medical school also runs a rural outreach program which provides information to students in rural areas, and physicians from rural communities participate in high school career days.

All Memorial medical students spend two weeks in a rural practice during their first year of medical training, and complete a four week rural family practice rotation (usually within the province) in each of third and fourth year. In the third and fourth years there are also eight and four week electives, respectively, which can be in any specialty or location approved by the undergraduate education office. Some students use these opportunities to receive additional rural practice exposure. All family practice residents spend at least 16 weeks in a rural family medicine rotation. Residents who choose the Northern Option enroll in the Northern Family Medicine Education Program (NorFaM) and spend 7 months based in Goose Bay, Labrador (Gray, 1997). As well, residents can complete a number of rural rotations in disciplines such as obstetrics (twelve weeks), paediatrics, general surgery, internal medicine and orthopaedics in secondary care centres (defined as communities with fewer than 25,000 people).

In a 1995/96 pilot project, seven additional students were admitted to the entering Memorial class under the condition that they pay a higher-than-usual tuition, with the understanding that if they ended up settling in an underserved area, these additional fees would be reimbursed. With similar intent but a different target, approximately five positions that could be used by provisionally registered physicians to 'train-up' to full
licensure were made available with return-of-service conditions. Both programs have since been discontinued.

As of 1995, the Newfoundland Department of Health increased bursaries from $12,500 to $20,000 per year for six students for their second, third, and fourth years of medical school, in return for which the students had to undertake to provide service as a family practitioner in a designated rural area. Students who accepted these bursaries were obligated to sign a contract with a health care board agreeing to one return-of-service year for each funded year. Each year various boards were designated to sponsor students under the program. Students who failed to complete their commitments (through failure to graduate, to complete a family medicine residency, or to complete the return of service requirement) were required to repay, on a pro-rata basis, all funds advanced to them along with interest.

As of spring 1998, the $20,000 per year undergraduate medical student bursaries were increased to $25,000 and redirected to the final year of family practice residency (with the same year-for-year return-of-service expectation), through a new Medical Student Practice Incentive Program.39 The program was fully subscribed for 1998/99 (personal communication, Keith Dyer, September 1998; April 1999).

In addition, up to twelve bursaries of $12,500 per year are made available at any one time, to residents in their later years of residency training (seven of the twelve are designated for psychiatry), again with a year-for-year return-of-service commitment; and five out-of-province residency posts are available, through the province's Travelling Fellowship Program, for students who wish to receive specialty or sub-specialty training not offered at Memorial University (Squires, 1996; personal communication, Jeff Young, January 1997). Most residents taking advantage of these two programs have completed the service return (Paetkau, 1999). Additional funding in 1999-2000 will increase these bursaries to $17,500 per year.

Memorial University has also recently been involved in developing pilot projects intended to establish primary care service and teaching units in small communities. These service and teaching units are multidisciplinary in nature, and are intended to extend the capabilities of solo practitioners in these communities. The University also maintains an office for professional development that coordinates continuing medical education initiatives and opportunities. The Centre for Nursing Studies established a nurse practitioner program for experienced registered nurses in 1997 (Gray 1998a); the province has since passed legislation permitting graduates to meet some of the rural/remote area primary care needs, (personal communication, Keith Dyer, April 1999). Twelve graduates of the program's first (1997/98) intake are already practicing in eight communities around the province, and the program has thirteen students currently enrolled.

39 Discussions are currently underway, however, about re-establishing undergraduate $20,000 bursaries for 4th year medical students.
The Newfoundland/Labrador Health and Community Services Association employs a central recruiter among whose responsibilities is the coordination of physician recruitment for “Board positions”. Among the sponsored activities is an annual informal networking and social event intended to facilitate dialogue between Boards and postgraduate trainees. In August 1998, the Minister of Health and Community Services established a new *ad hoc* Physician Recruitment Co-ordinating Committee to advise on matters related to physician recruitment. The Committee's mandate included monitoring physician recruitment needs for each region of the province, developing programs to enhance regional recruitment, co-ordinating provincial and regional recruitment activities, and maintaining contact with medical students as they work their way through their medical training (personal communication, Keith Dyer, 1998). This committee reported to the Minister in early 1999.

Communications technologies are used extensively in the province, for both education and care provision.
Appendix 11

The Northwest Territories
The Northwest Territories

The Northwest Territories are characterized by small populations widely scattered across mostly very small communities (only a few centres with more than 2000 residents, many quite isolated, and accessible only by air). In such circumstances it is not feasible to attempt to have physicians available in every community. Instead the Territories have maintained a different model of primary care, centred around the community health nurse.

In the larger communities with populations between 2,300 and 17,000, the physician is the entry point for primary care. In the smaller communities, a health "team", comprised of nurses, dental therapists, aboriginal health workers, and interpreters, among others, provides the source of first health care contact. The teams work out of health centres, which are equipped with basic laboratory and x-ray facilities and which stock a small selection of pharmaceuticals to deal with emergency needs. The nurses provide routine and emergency services, including outpatient treatment, and public health services such as communicable disease control. They are also responsible for managing chronic conditions, and for health promotion. They consult with physicians based in regional centres (or the assigned settlement physician where available) as required. Consultation is by telephone, and the Department of Health has developed guidelines which are used to ascertain whether patients require air med-evac.

In addition, the Territories rely on a number of models of 'rotating physicians'. Most communities will receive a visit from a primary care physician at least once every 6 weeks, some more often. Each region of the NWT either has some resident physicians, who are required to serve a number of communities under agreement with a regional or hospital board, or contracts for physician services. For example, the Keewatin region has a long-standing agreement, and contracts, with the University of Manitoba's Northern Medical Unit (NMU; see discussion under Manitoba, Appendix 4). Under the terms of this contract, two physicians are based in the Churchill Health Centre in Northern Manitoba, and one in the NWT at Rankin Inlet. These physicians are recruited, and funded, by the NMU. The Kitikmeot region contracts with Yellowknife for two of its western communities, with the other three communities being serviced by a regional physician based in Cambridge Bay. The Baffin region receives specialist services (other than those provided by a general surgeon based at the regional hospital) through contract arrangements with McGill University in Montreal, and with the Clarke Institute (for psychiatry). Under these arrangements, specialists make pre-arranged annual visits to hold clinics at the hospital or to visit the communities in the region, and they will often be accompanied by residents who are thereby given exposure to conditions in these communities. Under these arrangements, specialists make pre-arranged annual visits to hold clinics at the hospital or to visit the communities in the region, and they will often be accompanied by residents who are thereby given exposure to conditions in these communities.
Health and social services boards are responsible for physician 'staffing' where there is no private clinic or where the boards supplement existing physician resources. In such situations, they provide (resident or visiting) primary care and consultant services for the communities for which they are responsible. Services in smaller communities are provided through a combination of rotating visits by physicians, and arrangements to bring patients from the most isolated communities to the locations where physicians visit, or are resident.

Many communities in which there are resident physicians are vulnerable because of the lack of relief for those physicians. In addition, many of the physicians with general surgery skills are nearing retirement age, and no new recruits are presently 'on the horizon'. Virtually all specialist services are concentrated in the capital (Yellowknife), and patients are still sent south when the necessary expertise, or complementary clinical facilities, are not available.

In terms of initiatives to improve the supply and distribution of physicians in the territories, there is a rather limited set of policy levers available to them. Many of the communities do not have sufficient populations to support two physicians, yet one would find the on-call an impossible burden without regular relief. The physician in small Territories' communities is called on to play many roles (from back-up to local health teams, to involvement in health education medevac, audit, and even development of clinical guidelines). Communities have a very limited fiscal base from which to attempt to develop financial incentives (and based on experience in the rest of the country, these would not likely be particularly effective in the far north). More regulatory/administrative policies would likely have the effect of reducing the overall supply of physicians in the Territories. However, the regional rotation model, providing physician support for community health nurses, appears to serve the Territories' needs relatively well.

The Territories are innovating in their approaches to recruiting, but it is too soon to know how effective new initiatives will be. For example, the Baffin Regional Health and Social Services Board plans mail-outs to all physicians in the country who have graduated in the past 2-3 years, particularly targeting provinces such as Alberta which have seen relatively significant recent constraints on or reductions in funding for physician services. A number of boards also have long-standing arrangements in place whereby medical students and residents at the Universities of Alberta, Calgary and Manitoba, as well as McGill University, can gain experience with practice in the north. As of late 1996, these had apparently had little, if any, effect on subsequent recruitment (personal communication, Margaret Dunn, November 1996).

As of 1996, Stanton regional hospital was employing funding from the Territorial Department of Health and Social Services to pay the salaries of residents prepared to provide return in service. In other regions, such as Inuvik, the medical director negotiated with a teaching hospital (traditionally in Alberta) to provide training/exposures tailored to the region's hospital and service mix.
The NWT Medical Association has a physician education fund, financed by the Department of Health and Social Services, which provides funding for physicians seeking additional training, provided the applicants have been practicing in the NWT for at least two years.

There is a general loan relief program administered by the Territories' Department of Education, Culture and Employment, available to students who return to the Territories to live after completing their university or college training (irrespective of discipline). This is accessible to medical students who return to set up practices in the Territories.

The Department of Health and Social Services has recently developed a new recruitment and retention strategy in response to critical staffing shortfalls and high turnover in medicine, nursing and social work. This strategy includes:

- a recruitment officer available to all boards to address immediate staffing shortages;
- the creation of a common locum/relief pool accessible to all boards;
- conducting a workload analysis to surface short and long-term problems;
- the development of standard physician contracts so as to avoid inter-regional and inter-personal competition;
- strategies to encourage more Northern residents to study in the health and social services areas; strategies include scholarships, employment opportunities, and mentorship.
Appendix 12

Yukon Territory
Yukon Territory

Like the NWT, the Yukon's policies are less dependent on a physician-centred primary care model. In Whitehorse, where approximately two-thirds of the Yukon population resides, primary care is delivered by physicians. Outside of Whitehorse, primary care is delivered by a variety of combinations of extended-role nurses and family physicians. Approximately 30% of communities outside Whitehorse have resident physicians.

The Yukon developed a physician resource plan (PRP) in 1995, and a regulation under the 1994 Health Care Insurance Plan Act sets out the terms and conditions under which new physicians may enter practice in the territory. The central feature of the regulation is a financial disincentive amounting to the payment of 50% prorated fees to any physician who is not granted 100% billing privileges by the physician resource planning committee (PRPC).

Under this regulation and Plan, any new physician applying to practice in the Territory is paid 50% fees unless (s)he receives PRPC approval for a 100% number (Yukon, 1994). Routine exceptions include certain locum arrangements, when a physician can demonstrate that he/she has special skills or attributes needed in the territory, and the temporary or permanent replacement of a physician. Fee-for-service physicians with 100% billing numbers at the time the policy was put in place have full intra-territorial mobility. But new physicians granted 100% billing numbers for communities outside Whitehorse do not thereby gain the right to move to Whitehorse and carry that full-pay number with them.

Under the terms of the Plan, consideration is given to adding a 100% fees physician in the Territory if the population increases by at least 836, or if there are significant changes in the physicians/FTEs ratio (which would signify a change in active status of some of the practicing physicians in the Territory). All applications, even in situations of permanent replacement, are reviewed by the PRPC.

In addition, the Territory periodically makes contractual arrangements whereby a physician will provide service to a particular community (and that community only). Physicians practicing outside Whitehorse receive $1,000 annually to offset higher overhead costs, and some physicians are able to make office space arrangements within government health care facilities.

General/family practitioners and some specialists based in Whitehorse also have responsibilities to visit outlying communities, as needs may dictate. Included in the physician supply based in Whitehorse are specialists in paediatrics, general surgery, and obstetrics/gynaecology. A number of the gps in the Territory have developed special skills in certain areas (e.g. anaesthesiology, obstetrics, ophthalmology). The remainder of specialist care is provided by specialists from outside the Territory (mostly Vancouver) who make periodic visits to communities in need. The visiting specialty services involve contracts with Whitehorse General Hospital for travel and living expenses; the specialists
then bill the Territory fees-for-service on the basis of the patients seen and services provided (personal communication, Malcolm Maxwell, December 1996).
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Some of the early reports may not be available for distribution.

HHRU 99:2  

HHRU 99:1  

HHRU 98:4  

HHRU 98:3  

HHRU 98:2  

HHRU 98:1  

HHRU 97:4  

HHRU 97:3  

HHRU 97:2  

HHRU 97:1  

HHRU 96:5  

HHRU 96:4  


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