Centre for Health Services and Policy Research

STUDY OF RURAL PHYSICIAN SUPPLY:

PRACTICE LOCATION DECISIONS AND PROBLEMS IN RETENTION

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This document is one of a series describing the distribution of health human resources in the Province of British Columbia. These reports are working documents, prepared for the Health Human Resources Working Group of the Ministry of Health, and comments or suggestions are welcome.

THE UNIVERSITY OF BRITISH COLUMBIA

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June 11, 1991

Dr. D. Bigelow
Chair
Health Human Resources Working Group
Ministry of Health
1515 Blanshard Street
Victoria, B.C. V8W 3C8

Dear Dr. Bigelow:

It gives us great pleasure to be able to transmit to you and the members of the Health Human Resources Working Group the first report of the project "Study of Rural Physician Supply: Practice Location Decisions and Problems in Retention."

The project was formulated as a response to a request from the Provincial Medical Manpower Advisory Committee in 1989; a small working group, comprised of representatives from the Committee and the researchers, collaborated in the development of the research protocol.

We believe this to be the first of this type of study, focusing on key characteristics of long-term rural practice, and examining professional practice location decisions from the perspective of the family unit. More detailed analyses are currently underway, but this general descriptive overview already indicates that the approach has produced some very useful planning information.

We look forward to comments and suggestions from users of this report regarding the future phases of the analysis.

Sincerely yours,

A. Kazanjian

Arminée Kazanjian, Dr.Soc.
Associate Director

AK:da

Encl.

A Research Unit Funded by the Ministry of Health, British Columbia

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PART A: DESCRIPTION OF THE RESEARCH

I. Introduction

While invoking a sense of national immediacy in many Canadians, the problems involved in attracting physicians to and retaining them in rural areas are international in scope. Although they have been studied in various other provinces and countries, the factors influencing practice location decisions and retention of physicians undoubtedly will be subject to unique local conditions. Accordingly, a decision was made to study the problems as they specifically related to British Columbia. Furthermore, unlike other studies, this research was designed to take a more positive approach to the problems of rural physician supply. It not only sought to examine why physicians leave rural areas, but also attempted to identify those who stay and their reasons for doing so. In other words, the research was intended to track the general movement of physicians between rural and urban areas, not simply to document rural exodus.

The project was formulated with assistance from the British Columbia Ministry of Health Medical Manpower Advisory Committee, the British Columbia Medical Association, and the Rural Residency Program of the Department of Family Practice at the University of British Columbia. The stake-holders sponsored and supported the research as a positive response to concerns about the uneven distribution of physicians within British Columbia. It was their view that the information thus gained would be useful in the development of appropriate policies to achieve a more even distribution and to eliminate the need for policies built on disincentives. A small working group, which was formed in June 1989, participated in the development of the research protocol. The group was comprised of representatives from the collaborating organizations (Appendix A). The research was undertaken to examine the supply of physicians in rural practice in British Columbia and related problems of recruitment and retention. Practice location decisions of British Columbia physicians and the professional, community, and personal/family factors related to these were the focus for analysis. In order to estimate future supply, those currently completing internships/residencies were also surveyed. The intent of this survey was to describe current post-graduate physicians and their career plans. Thus the two surveys would allow a comparison of the practice profiles of current supply and the career expectations of future supply. The identification, from these profiles, of key characteristics pertaining to long-term rural practice could, therefore, facilitate successful recruitment,

beginning at the residency level. Spouses of practising physicians also were surveyed, in recognition of the role that spouses and families play in influencing practice location decisions.

II. Literature Review

The problem of rural physician supply has been publicly recognized for many decades. Accordingly, it has become a focus of concern for policy-makers, academics, interest groups, government, and media, both in Canada and internationally. This has been especially true since the early 1970s, after which time there has been a proliferation of scholarly articles on health and health care delivery in rural areas and, at least in Canada, a series of Royal Commissions and Provincial Advisory Committees on provincial health care systems. A number of these studies and reports provided guidance in the development of the survey questionnaires that were sent to participants in the study described in this paper.

In large part, the various studies of physician practice location decisions have produced consistent but not always identical results. Cooper *et al.* noted that items which have been identified as affecting physician practice location decisions can be classified into three groups: physician background, professional considerations, and community factors. Of those factors relating to the physician's background:

> the best documented seems to be the community background of the physician. Practice in a small community is more likely to be the choice of doctors who grew up in small communities than of those who did not... [Furthermore] wives of rural physicians, like their husbands, are more likely to have a rural background (Cooper *et al.*, 1972, p. 940).

Skipper and Gliebe (1977) studied the influence of spouses on the practice location decisions of students at the Medical College of Ohio with results supportive of this last contention. Cooper *et al.* (1977) reiterated, after their first study, the positive influence of a physician's rural background on the choice of a rural practice location. As well, they departed from the common view that physician supply was a homogeneous pool, arguing instead that the observation of trends pertaining to each kind of physician would be useful in physician human resources planning.

However, Parker and Sorensen (1978, p. 159) found that a number of factors, reported in other studies to be related to rural practice location decisions, "were important to a relatively small proportion of... [participating] physicians... [Rather,] within every subgroup, respondents consistently emphasized those factors relating to good professional support, especially a good community hospital, a nearby medical center, and medical consultants in various fields." According to Cordes (1978, p. 366), a study of rural physicians in Washington state found that physicians were most frequently frustrated with:

> the "excess work, responsibility, demands and expectations by patients and community." Contrary to expectations, professional isolation, inadequate professional support, and the disadvantages of small-town living were infrequently mentioned as sources of frustration.

Wilensky (1979, p. 154) suggested that there were two trends of thought that had emerged from previous studies. First, as noted previously, "there is a relationship between the location of events in the physician's past such as birth, medical school, residency, etc., and the place that the physician decides to locate his practice... The second trend to emerge," Wilensky noted, "...involves the use of a more explicit economic model to explain physician location choices." Wilensky's study of a sample of Michigan-trained physicians concluded that the probability of locating in that state varied "according to the number and recency of contacts, ...to attitudes about climate and the importance of being near friends and family and according to several measures of expected returns such as relative physician income and net migration rates (Wilensky, 1979, p. 176)."

Following a model based on supply and demand estimation, Newhouse *et al.* (1982, p. 2396) argued that "the availability of primary services in small towns should increase over time as the number of family practitioners increases and competitive pressures become more intense." Indeed, Langwell *et al.* (1985) concluded that as supply increases, the geographic diffusion of physicians into "attractive" non-metropolitan areas *is* occurring. However, Madison (1980, p. 853) argued that "because of the trend to centralization within rural areas - of services, not necessarily of people - strategies that predispose physicians toward non-metropolitan America and rely on laissez-faire forces to guide their settlement will do little for the critical problem areas." To this end, Anderson and Rosenberg (1990, p. 43) noted that physician distribution is commonly treated as a supply and demand issue. "Where governments have recognized the mismatch of

supply and demand," they argue, "intervention has generally taken the form of increased financial incentives to locate in under-serviced areas." They conclude, however:

> physicians and policy makers alike need to add a humanist perspective to a problem that for the most part has been approached with statistics and financial incentives in hand. Quality of life considerations for both those demanding and those supplying health services should be of prime importance to everyone in resolving the problem of medically underserved areas (Anderson and Rosenberg, 1990, p. 44).

While the literature on physicians' practice location decisions is largely consistent, the significance attributed to particular influences varies among studies. These variations may be crucial in view of their implications for priorities in terms of public policy and programs directed at the problems of the geographic distribution of physicians in a particular region. In addition, the degree to which particular issues are a problem may vary from region to region. Based on a 1988 study of physicians in rural Saskatchewan, for instance, Lepnurm and Trowell (1989, p. 19) argued that the geographic dispersion of the province's economic activity required the replacement "of outmoded solo practices and tiny hospitals with a regionalized network of group practices and modern community hospitals." Jennett and Hunter (1988, pp. 155-163), in their study of Alberta medical graduates over the period 1973 - 1985, report that drawing physicians to rural communities will require programs to allow rural physicians access to consultants as well as to opportunities for continuing professional education. The Alberta Medical Association seems to have concurred with that assessment. Their 1989 Task Force on Rural Medical Care stressed, among other recommendations: a) the need to convince governments and universities of the requirements in rural areas for physicians with specialty skills, b) the need in residency and university training programs for an emphasis on the distinct requirements and characteristics of rural medical practice, and c) the need for innovative means by which to provide back-up and support to practising rural physicians. From a planning perspective, only a region-specific analysis will identify the particular problems facing the particular region and will provide insight into what solutions should be adopted.

III. Research Design and Methods

Three separate but similar surveys were designed, one each for practising non-postgraduate physicians, spouses or live-in partners of practising non-postgraduate physicians, and interns/residents. Interns and residents were surveyed in order to better understand the decision-making processes of those who soon would be establishing practices, as well as of those already established in practices. Spouses of practising physicians were surveyed in recognition that, to a greater or lesser extent, locational decisions are likely to be made jointly by physicians and their spouses. Figure 1 illustrates the sample design described in detail below.

Sample Design

A listing of practising non-postgraduate physicians from the register of the College of Physicians and Surgeons of British Columbia and population distribution figures for 1989 from Statistics Canada were used as the bases for determining the survey group; physicians were stratified, first, by the population size of the community in which they practised, and then by their general area of specialty - clinical, surgical, or laboratory. Because the relatively smaller number of physicians practising in rural areas of the province was the focus of the study, 100 percent of this group was targeted for the survey; rural communities were defined as those with fewer than 10,000 people. Urban physicians were proportionally selected based on stratification by their area of specialty, while an increased sample size was taken for strata where populations were considered too small for accurate representation. The result was that 11.6 percent of physicians practising in urban areas were targeted for the survey. The survey's overall target population accounted for 21.2 percent of the province's 6,459 non-postgraduate physicians as at September 1989 (ROLLCALL 89, pp. 201-221).[1]

[1] The figure used to determine the survey sample (6,460) includes one osteopath who, while directory active, is included in a separate listing in ROLLCALL. However, three additional osteopaths were excluded from the survey population due to a clerical error.

Since the marital or cohabitation status of the practising physicians included in the study was not verified, a questionnaire addressed to the physician's spouse was included in the mailings. It was not possible to determine how many spouses actually received a questionnaire, so it is not possible to determine a response rate for spouses. The numbers in the boxes entitled "spouses' response" in Figure 1 only indicate the number of spousal questionnaires that were returned.

Because of their small numbers, 100 percent of residents and interns on the temporary (at hospital) register with the College of Physicians and Surgeons of British Columbia, as at September 1989, were targeted for the survey. Excluded from the resident and intern population-frame were residents on the full register with the College. Accordingly, 292 residents and interns on the temporary register were originally targeted for the survey, instead of the total 534 reported by the Office of the Associate Dean, Residency Programs, Faculty of Medicine (Production 89, p. 369 *erratum*).

Ten physicians were selected to take part in a pretest of the questionnaire. Efforts were made to ensure that members of the pretest group had at least some rural experience, and that the questionnaire would be scrutinized from both a rural and an urban perspective. In accordance with the results of the pretest, the questionnaire was then revised before being distributed to the selected survey group.

In November 1989, self-administered, mail-in surveys were sent to 1,370 physicians (and their spouses) and 292 residents/interns.[2] Of 702 rural physicians who were sent questionnaires, 414 responded. Of the 668 urban physicians targeted, 335 responded. A sample of practising physicians of this size will estimate the proportion of physicians practising in urban areas with an error as small as ±0.034, 95 times out of 100. Rates of response and information on the survey group are detailed in Table A-1.

For the purposes of the preliminary analysis, the surveyed physician and physician spouse groups were divided into two subsets, based on the size of the community within which the respondents practised or resided. Rural respondents were identified as those practising or residing in communities of fewer than 10,000 people.

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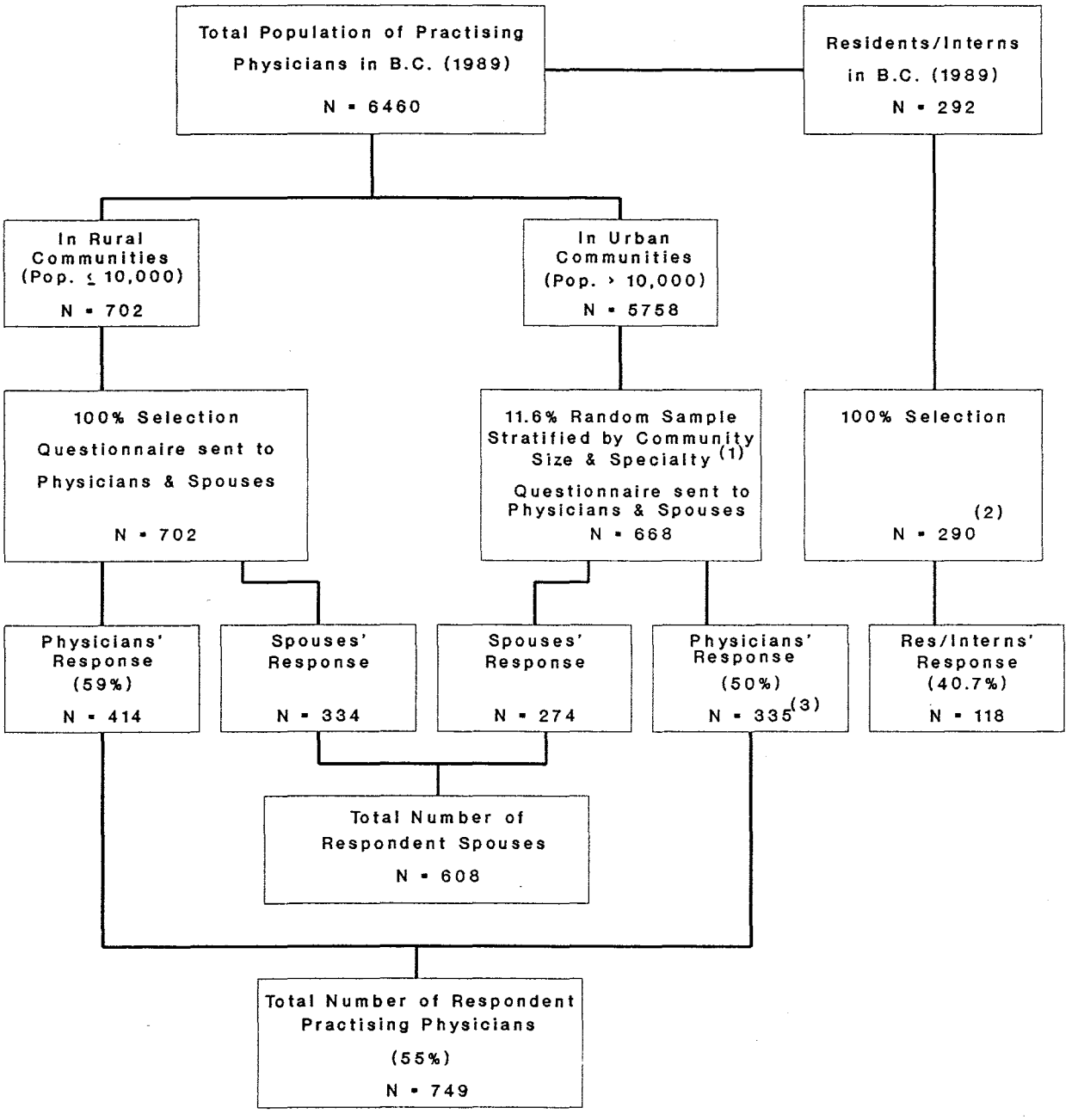
[2] This figure was later reduced to 290 when two respondents returned the questionnaires and noted that they were neither residents nor interns. Consequently, any analysis of this data is conducted on the basis of a target population of 290 individuals.

Figure 1: Diagram of Sampling Procedure



(1) Community size: 10,001 to 50,000 50,001 to 100,000 >100,000
Specialties: General Practice Clinical Surgical Laboratory
Sample size required to estimate the proportion of physicians practising in urban areas with an error of ± 0.02, 95 times out of 100.

(2) Survey population was reduced to 290 when 2 respondents returned questionnaires noting they were neither interns nor residents.

(3) Error of estimation of proportion of physicians practising in urban areas is ± 0.034, 95 times out of 100.

Table A-1

Survey Group and Response Rate

Group	Physicians				Spouses		Interns/Residents			
	Total		Response		Response		Total		Response	
	N	%	N	%	N	%	N	%	N	%
Rural	702	100.0	414	59.0	334	-	-	-	-	-
Urban	668	11.6	335	50.1	274	-	-	-	-	-
Totals	1370	21.2	749	54.7	608	-	290	100.0	118	40.7

Urban respondents were identified as those who practised or resided in communities of more than 10,000 people. Rural and urban designations were based on census figures for respondents' community of residence or practice. While these population figures are employed in Statistics Canada's designations of rural and urban, they are relatively subjective and arbitrary from a qualitative standpoint. Invariably, some may consider a community of more than 10,000 people to be rural, while a community that has a population of fewer than 10,000 may be considered urban by others. Further analyses of more narrowly focused research questions will include more complex definitions and/or more detailed breakdowns of regional distributions. The rural-urban analytic designations used in this report cannot be applied to interns and residents since these individuals, of necessity, almost always will be based in urban teaching hospitals.

On a cautionary note, Madison suggested that a distinction be drawn between *rural* and *under-served.* "Fifty-five percent of Americans," Madison (1980, p. 853) noted, "live in communities of less than 25,000 population, but it is the 6 percent in medically underserved rural America... that feel the physician shortage most critically." In an analysis of physician choices between rural and urban practice locations, however, the subjective nature of these designations may be less of an issue than when health care itself is assessed.

Questionnaires and Analysis

The questionnaire that was developed for practising physicians provided the foundation for slightly shorter versions that were used to survey physicians' spouses and residents/interns. Each of the

questionnaires, therefore, was similar, except for variations intended to accommodate differing professional backgrounds and current activities. The questionnaire for practising physicians was divided into four basic areas. In part one, personal biographic and demographic information was sought. Part two inquired as to the respondent's educational background, including areas of specialization and the year training was completed. Information on the nature and scope of the physician's practice was sought in part three. The community in which the respondent's practice was located was the focus of the final part of the questionnaire. Also included in this part were questions regarding respondents' satisfaction in relation to professional, community, and personal/family life. Samples of the questionnaires and accompanying correspondence are contained in Appendices B and C.

Throughout this report, tables displaying data may not add up to 100.0 percent due to rounding. Where mean scores were calculated for survey items that required response on a five point Likert-type scale, a two-tailed t-test of significance was conducted to test the equality of means for rural and urban respondents. The two practising physician groups were weighted to reflect the province's more than 8:1 ratio of urban to rural physicians. In this test and others, the pooled-variance t-test was used in the two groups under scrutiny, and the separate-variance t-test was used in the case of unequal population variance. The equality of population variance hypothesis was based on the F-test. In the majority of cases, the hypothesis of equal variances was not rejected.

The questionnaire for residents/interns was similar to that sent to practising physicians except that questions regarding respondents' practices were excluded. This section was also excluded from the spousal questionnaire and, instead, questions regarding the home lives and occupations of physicians' spouses were included. The data acquired for residents/interns and physicians' spouses will be discussed in later sections of this report.

PART B: PRACTISING NON-POSTGRADUATE PHYSICIANS

I. Introduction

As noted previously, this part of the study targeted practising non-postgraduate physicians. This group was stratified, first, by the population size of the community in which they practised, and then by their general area of specialty - clinical, surgical, or laboratory. All of the relatively smaller number of physicians practising in rural areas of the province were included in the survey population. Urban physicians were proportionally selected based on stratification by their area of specialty, while an increased sample size was taken for strata where populations were considered too small for accurate representation. Slightly more than eleven percent of physicians practising in urban areas (11.6%) were targeted for the survey. The survey's overall target population accounted for 21.2 percent of the province's 6,459 non-postgraduate physicians.

The response rate for rural practising physicians (59.0%) was greater than that for urban (50.1%). There were 286 rural non-respondents, of whom 86.0 percent were male and 14.0% were female. Rural respondents included a slightly greater proportion of females (17.0%). Just over twenty percent of urban non-respondents (20.2%) were female and 79.8 percent were male. This compares with an urban response that was 18.3 percent female and 81.7 percent male.

II. Profile of Respondents

In the following section, sociodemographic characteristics, including background information and preferences for leisure time are discussed.

Age and Sex

While there were rural respondents from each age category, the majority (58.1%) were younger than 45 years. A lesser proportion of urban respondents fell into this group (51.0%). The modal age category for rural respondents was the under-35-years group (22.9%). The age category into which the single largest number of urban respondents fell was the 40 to 44 years group (18.6%). The modal age category for female respondents, both from rural (42.9%) and urban (36.1%) areas, was the under-35-years group. In both

cases, the percentage of women under-35 was more than double the percentage of men. Table B-1 presents a breakdown of rural and urban respondents by age and sex.

Table B-1

Respondents by Age and Sex
(Total N = 749)

Age	Rural						Urban					
	Male		Female		Total		Male		Female		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
< 35	64	18.8	30	42.9	94	22.9	38	14.0	22	36.1	60	18.0
35-39	62	18.2	13	18.6	75	18.2	38	14.0	10	16.4	48	14.4
40-44	56	16.4	14	20.0	70	17.0	52	19.1	10	16.4	62	18.6
45-49	44	12.9	4	5.7	48	11.7	25	9.2	11	18.0	36	10.8
50-54	38	11.1	4	5.7	42	10.2	43	15.8	1	1.6	44	13.2
55-59	29	8.5	2	2.9	31	7.5	23	8.5	5	8.2	28	8.4
> 59	48	14.1	3	4.3	51	12.4	53	19.5	2	3.3	55	16.5
Totals*	341	100.0	70	100.0	411	100.0	272	100.0	61	100.0	333	100.0
(%)		(83.0)		(17.0)		(100.0)		(81.7)		(18.3)		(100.0)

* Non-respondents: Rural = 3; Urban = 2.

As indicated in Table B-2, there was little overall difference in the marital status of rural and urban respondents. The proportions of rural (86.9%) and urban (88.0%) respondents who were married or living with a partner were almost identical. However, while the proportion of males and females was equal among single urban respondents, there was a slightly greater proportion of single males among rural respondents. Although not explicitly stated in the table, 22.9 percent of female respondents in rural areas and 22.6 percent in urban were single, while only 7.9 percent of male respondents from rural areas and 5.2 percent from urban areas were single.

Table B-2

Respondents by Marital Status and Sex

Marital Status	Rural						Urban					
	Male		Female		Total		Male		Female		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Single	27	6.6	16	3.9	43	10.4	14	4.2	14	4.2	28	8.4
Married	309	75.0	49	11.9	358	86.9	250	75.1	43	12.9	293	88.0
Other	6	1.5	5	1.2	11	2.7	7	2.1	5	1.5	12	3.6
Totals*	342	83.0	70	17.0	412	100.0	271	81.4	62	18.6	333	100.0

* Non-respondents: Rural = 2; Urban = 2.

Community of Residence as a Youth

Respondents were asked to identify the size of the communities in which they were born and had attended elementary and secondary school. This information is outlined in Tables B3a and B3b. Rural respondents tended to have been born and educated (at the primary and secondary levels) either in communities with populations of more than 100,000 (ie. a range of 40.1% to 46.6% for the three locations of interest), or in communities of up to 10,000 people (ie. a range of 24.3% to 32.0% for the three locations of interest).

Approximately one-half of all responding urban physicians were born and educated in communities with more than 100,000 people (a range of 49.7% to 54.1% for the three variables). Their higher representation among this group, compared with rural respondents, appears to coincide with correspondingly lower representation from communities of up to 10,000 people.

Table B-3a

Rural Respondents by Size of Community of Birth, Elementary, and Secondary School

Population	Birth		Elementary		Secondary	
	N	%	N	%	N	%
Up to 10,000	122	29.8	130	32.0	98	24.3
10,001 - 50,000	64	15.6	74	18.2	79	19.6
50,001 - 100,000	33	8.0	39	9.6	45	11.2
More than 100,000	191	46.6	163	40.1	181	44.9
Totals*	410	100.0	406	100.0	403	100.0

* Non-respondents: Birth = 4; Elementary = 8; Secondary = 11.

Table B-3b

Urban Respondents by Size of Community of Birth, Elementary, and Secondary School

Population	Birth		Elementary		Secondary	
	N	%	N	%	N	%
Up to 10,000	74	22.4	69	21.3	53	16.6
10,001 - 50,000	52	15.8	65	20.1	55	17.2
50,001 - 100,000	39	11.8	29	9.0	39	12.2
More than 100,000	165	50.0	161	49.7	173	54.1
Totals*	330	100.0	324	100.0	320	100.0

* Non-respondents: Birth = 5; Elementary = 11; Secondary = 15.

Father's Field of Employment

Respondents were then asked to indicate their fathers' fields of employment or professions. Since the vast majority of respondents' families were likely to have been characterized by male, single-income earners, mothers' fields of employment or professions were considered to have been of lesser influence in respondents' career choices and accordingly were not included in the questionnaire.

The most frequently selected professional/employment category for both rural and urban respondents' fathers was "Managerial/Administrative" (17.0% and 16.7% respectively). Rural respondents whose fathers were physicians were the third largest group (15.6%), closely following those whose fathers had come from other, unspecified fields (15.8%). The order of these was reversed for urban respondents (15.8% for "Physicians" and 15.5% for the all encompassing "Other" category). Only 3.9 percent of rural and 4.2 percent of urban respondents indicated that their fathers had been involved in "Other Medicine/Health" related fields. If "Other Medicine/Health" related fields are combined with "Physician," however, the rankings are slightly altered. This grouping would be the most frequent professional/employment category for the fathers of both rural (19.5%) and urban (20.0%) respondents, followed by "Managerial/Administrative" and the "Other" category. Regardless, the results indicate similar employment/professional backgrounds for fathers of respondents in both the rural and urban survey groups. Table B-4 outlines this information in more detail.

Table B-4

Father's Profession/Field of Employment

Profession	Rural		Urban	
	N	%	N	%
Managerial/Administrative	70	17.0	55	16.7
Physician	64	15.6	52	15.8
Teaching	36	8.8	22	6.7
Farming/Ranching	29	7.1	21	6.4
Sales	26	6.3	31	9.4
Services	18	4.4	16	4.8
Other Medicine/Health	16	3.9	14	4.2
Processing/Manufacturing	14	3.4	9	2.7
Forestry/Mining	13	3.2	9	2.7
Construction	11	2.7	10	3.0
Clerical	11	2.7	8	2.4
Social Sciences/Law	10	2.4	9	2.7
Religion	8	1.9	7	2.1
Machining	6	1.5	8	2.4
Transport/Equipment Operation	6	1.5	3	0.9
Artistic/Literary	6	1.5	2	0.6
Sport/Recreation	1	0.2	2	0.6
Fishing/Hunting	1	0.2	1	0.3
Other	65	15.8	51	15.5
Totals*	411	100.0	330	100.0

* Non-respondents: Rural = 3; Urban = 5.

Preferences for Leisure Time Activities

There appears to be some difference in the kinds of leisure time activities enjoyed by rural and urban respondents. A slightly greater proportion of rural respondents preferred outdoor leisure time activities over indoor activities (Table B-5a), participatory versus spectator activities (Table B-5b), sporting over cultural activities (Table B-5c), and non-group over group activities (Table B-5d). The difference between the rural and urban response to these four survey items, however, varied between a maximum of 7.7 percent (for outdoor versus indoor activities) and a minimum of only 0.7 percent (for non-group over group activities).

Table B-5a

Respondents by Preference for Indoor vs. Outdoor Leisure Activities

Activities	Rural		Urban	
	N	%	N	%
Indoor	53	13.2	67	20.9
Outdoor	348	86.8	253	79.1
Totals*	401	100.0	320	100.0

* Non-respondents: Rural = 13; Urban = 15.

Table B-5b

Respondents by Preference for Active vs. Spectator Leisure Activities

Activities	Rural		Urban	
	N	%	N	%
Active	387	96.3	297	92.5
Spectator	15	3.7	24	7.5
Totals*	402	100.0	321	100.0

* Non-respondents: Rural = 12; Urban = 14.

Table B-5c

Respondents by Preference for Sporting vs. Cultural Leisure Activities

Activities	Rural		Urban	
	N	%	N	%
Sporting	314	78.7	234	75.5
Cultural	85	21.3	76	24.5
Totals*	399	100.0	310	100.0

* Non-respondents: Rural = 15; Urban = 25.

Table B-5d

Respondents by Preference for Group vs. Non-Group Leisure Activities

Activities	Rural		Urban	
	N	%	N	%
Group	119	30.2	97	30.9
Non-Group	275	69.8	217	69.1
Totals*	394	100.0	314	100.0

* Non-respondents: Rural = 20; Urban = 21.

III. Education

Of the rural physicians who responded to the survey, 74.2 percent (307 physicians) indicated that their primary area of training was general practice. However, a number of respondents indicated more than one primary area of training. Further examination revealed that 281 rural respondents indicated they were primarily trained as general practitioners only. Of these, three were actually licensed as specialists - one from each of clinical, surgical, and laboratory areas - with the College of Physicians and Surgeons of British Columbia.[3] Twenty-six rural respondents stated that they were general practitioners and reported at least one other specialty.[4] According to the registry of the College of Physicians and Surgeons, however, two of these twenty-six respondents were surgical specialists. The other twenty-four in this group were registered with the College as general practitioners.[5] These figures are in marked contrast to respondents from the urban sample, of whom 47.2 percent (158 physicians) indicated that they had been trained primarily as GPs. One hundred and forty of these respondents indicated general practice as the only area in which they had been primarily trained. One of these, however, was registered with the College of Physicians and Surgeons as having a clinical specialty. Eighteen other urban respondents reported general practice and at least one specialty as their primary areas of training.[6] Only six of these general practice respondents were licensed

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[3] Specialist certification by the College of Physicians and Surgeons of British Columbia does not prohibit a physician from being active as a general practitioner.

[4] In addition to general practice, specialties noted by these 26 rural respondents include: anaesthesia (4); geriatric medicine (1); internal medicine (1); cardiology (1); general surgery (2); obstetrics (4); ophthalmology (2); orthopaedics (6); otolaryngology (2); general pathology (1); anaesthesia and general surgery (1); and internal medicine and general surgery (1). Twenty-four of these respondents were licensed as general practitioners with the College of Physicians and Surgeons.

[5] A time-lag can occur between successful completion of specialist training and formal recognition of certification in the registry of the College of Physicians and Surgeons of British Columbia, which may explain some of these inconsistencies. As well, it is possible for general practitioners to do partial residencies in a specialty area without receiving specialist certification from the College.

[6] In addition to general practice, the specialties noted by these 18 urban respondents include: anaesthesia (3); community medicine (1); emergency medicine (1); psychiatry (1); general surgery (1); obstetrics/gynaecology (2); ophthalmology (1); orthopaedics (2); otolaryngology (1); urology (1); general pathology (1); community medicine and obstetrics (1); psychology and obstetrics (1); dermatology, general surgery, and a laboratory specialty (1). Twelve of these respondents were registered as general practitioners with the College of Physicians and Surgeons.

as specialists with the College.

Respondents who indicated that they were general practitioners were then asked to indicate whether they had completed a residency in family practice and whether they held a CCFP Certificate. Table B-6 displays a breakdown of this information. According to the survey results, a slightly greater proportion of responding urban general practitioners did residencies in FP *or* were CCFP certificants. A number of rural (N = 33) and urban (N = 22) respondents possessed a CCFP Certificate but had not completed a family practice residency. This is possible because, until 1989, there were two routes to become eligible to sit the exam for a CCFP certificate. Until then, physicians who had spent five years or longer in what could be defined as a family practice were eligible to sit the exam. The other option, and since 1989 the only avenue to the CCFP certificate, was to undertake a residency in family practice. CCFP re-certification is required every five years. Of the thirteen rural general practitioners who had done residencies in family practice but did not hold CCFP certificates, ten were graduates from foreign universities. Four of the ten urban practitioners who had completed family practice residencies but did not hold CCFP certificates were from foreign universities.

Table B-6

Respondent General Practitioners by FP Residency and CCFP Certificate
(Total N: Rural = 307; Urban = 158)

General Practitioners	Rural		Urban	
	N	%	N	%
FP Residency Only	13	4.3	10	6.5
CCFP Certificate Only	33	11.0	22	14.4
Both	51	17.1	20	13.1
Neither	202	67.6	101	66.0
Totals*	299	100.0	153	100.0

* Non-respondents: Rural = 8; Urban = 5.

Overall, rural practitioners were more apt both to have done a residency in family practice *and* to hold a CCFP Certificate. Equal proportions of the two groups (approximately two-thirds of each) neither had done an FP Residency, nor had acquired a CCFP Certificate.

Areas of Specialty

Two hundred and forty-nine physicians (33.2% of all respondents) noted that they had completed their training primarily in a specialty area. These figures exclude respondents who indicated that they were general practitioners but who also claimed to have been trained in one or more specialty area(s). One hundred and sixty-three (65.5%) of these individuals were from urban areas, 34.5 percent (N = 86) from rural. Of the rural respondents reporting specialty training, 51.7 percent were trained primarily in clinical areas, 47.1 percent were trained primarily in surgical specialties, and only one individual (1.1%) in laboratory medicine. Clinical specialties were noted by 60.8 percent of urban respondents with specialty training; 34.9 percent noted surgical specialties and another 4.2 percent noted laboratory specialties. However, because of the methods used to determine the survey population, caution should be exercised when comparing these figures.[7]

Among responding rural physicians who indicated specialty training only, most clinical specialties were not represented. Those not represented included: cardiology, clinical immunology and allergy, community medicine, endocrinology and metabolism, gastroenterology, geriatric medicine, haematology, infectious disease, medical oncology, nephrology, neurology, nuclear medicine, physical medicine and rehabilitation, radiation oncology, respiratory medicine, and rheumatology. Only clinical immunology and allergy, geriatric medicine, infectious disease, nephrology, and nuclear medicine were unrepresented among responding urban physicians with clinical specialties.

Table B-7 presents the most common clinical, surgical, and laboratory specialties, in ranked order, for rural and urban areas. The table is based on a total of 253 responses (rural N = 87; urban N = 166), rather than 249 physicians, because of double counting in some specialties. One rural respondent indicated

[7] As noted earlier, 100 percent of rural physicians were included in the survey population, while a sample of 11.6 percent of urban physicians was targeted.

Table B-7

Most Common Specialties: Clinical, Surgical, and Laboratory
(Total N: Rural = 87; Urban = 166)

SPECIALTIES	N	%	N	%	N	%
CLINICAL	Rural (1)		Urban (2)		Total	
Anaesthesia	11	24.4	21	20.8	32	12.6
Internal Medicine	10	22.2	16	15.8	26	10.3
Psychiatry	8	17.8	18	17.8	26	10.3
Radiology (Diagnostic)	8	17.8	15	14.9	23	9.1
Paediatrics	6	13.3	8	7.9	14	5.5
Emergency Medicine	1	2.2	5	5.0	6	2.4
Other Clinical (3)	1	2.2	18	17.8	19	7.5
Clinical Subtotal	45	100.0	101	100.0	146	57.7
SURGICAL	Rural (4)		Urban (5)		Total	
General	14	34.1	8	13.8	22	8.7
Obstetrics & Gynaecology	10	24.4	12	20.7	22	8.7
Ophthalmology	6	14.6	15	25.9	21	8.3
Orthopaedic	4	9.8	8	13.8	12	4.7
Otolaryngology	3	7.3	4	6.9	7	2.8
Other Surgical (6)	4	9.8	11	19.0	15	5.9
Surgical Subtotal	41	100.0	58	100.0	99	39.1
LABORATORY	Rural (7)		Urban (8)		Total	
General Pathology	1	100.0	3	42.9	4	1.6
Anatomical Pathology	-	-	2	28.6	2	0.8
Haematological Pathology	-	-	2	28.6	2	0.8
Laboratory Subtotal	1	100.0	7	100.0	8	3.2
SPECIALTY TOTALS	87 (9)	34.4	166 (10)	65.6	253	100.0

(1) Excluded from these totals are eight rural respondents who indicated being trained primarily in general practice, but who also noted having clinical specialties. These include: anaesthesia (5); geriatric medicine (1) and internal medicine (2).

(2) Excluded from these totals are nine urban respondents who indicated being trained primarily in general practice, but who also noted having clinical specialties. These include: anaesthesia (3); community medicine (2); dermatology (1); emergency medicine (1); and psychiatry (2).

(3) Includes, for rural: dermatology (1); for urban: cardiology (3); community (1); dermatology (1); medical oncology (2); neurology (2); physical/rehabilitation (2); radiation oncology (2); endocrinology/metabolism (1); gastroenterology (1); haematology (1); respiratory medicine (1); and rheumatology (1).

(4) Excluded from these totals are 19 rural respondents who indicated being trained primarily in general practice, but who also noted having surgical specialties. These include: cardiovascular and thoracic surgery (1); general surgery (4); obstetrics and gynaecology (4); ophthalmology (2); orthopaedics (6); and otolaryngology (2).

(5) Excluded from these totals are 11 urban respondents who indicated being trained primarily in general practice, but who also noted having surgical specialties. These include: general surgery (2); obstetrics and gynaecology (4); ophthalmology (1); orthopaedics (2); otolaryngology (1); and urology (1).

(6) Includes, for rural: urology (3); plastics (1); for urban: plastics (5); urology (3); neurosurgery (2); and cardiovascular and thoracic (1).

(7) Excluded from these totals is one rural respondent who indicated being trained primarily in general practice, but who also noted having a laboratory specialty in general pathology.

(8) Excluded from these totals are two urban respondents who indicated being trained primarily in general practice, but who also noted having laboratory specialties. These include: general pathology (1); and medical microbiology (1).

(9) Figures include the double counting of one rural respondent who indicated both a psychiatry/psychology and an orthopaedic specialty.

(10) Figures include the double counting of three urban respondents who indicated dual specialties: internal medicine and haematological pathology (1); and radiology and obstetrics/gynaecology (1).

both a psychiatry/psychology and an orthopaedic specialty. Three urban respondents indicated dual specialties: one noted internal medicine and orthopaedics; one noted internal medicine and haematological pathology; one noted radiology and obstetrics and gynaecology. Accordingly, the total *N* value for the table is inflated by four. At this point, specialties rather than individuals are counted in the table since an appropriate basis for selecting one specialty over another for classification and analysis, where more than one has been reported, has yet to be established.

The rural and urban listings are similar for clinical specialties, except for internal medicine and psychiatry, which are ranked second and third, respectively, in rural areas, but were in reverse order in urban ones. The "other" category in the urban listing also reflects a wider range of clinical specialties. The most common clinical specialty, for both rural (24.4%) and urban (20.8%) physicians with specialty training, was anaesthesia. There were no respondents with paediatric general, thoracic, or vascular surgery specialties. The most common area of surgical training for rural respondents was general surgery (34.1%), followed by obstetrics and gynaecology (24.4%), ophthalmology (14.6%), orthopaedics (9.8%), and otolaryngology (7.3%). For urban respondents the most common surgical specialties were ophthalmology (25.9%), followed by obstetrics and gynaecology (20.7%). These were followed by orthopaedics and general, at 13.8 percent each, plastic surgery (which is included in the "other" category), at 8.6 percent, and otolaryngology at 6.9 percent.

Specialties in neuropathology, medical microbiology, and medical biochemistry were absent from both groups. In addition, there were no rural respondents with specialties in anatomical pathology or haematological pathology. The one rural respondent who indicated having completed training primarily in general pathology was the only laboratory specialist represented among rural respondents. General pathology also was the most common area of laboratory training for urban respondents. Three of the seven urban respondents who noted a laboratory specialty indicated general pathology as their primary area of training.

Completion of Training

Table B-8 displays the number of rural and urban respondents by the period in which they completed their primary area of training. For both rural and urban respondents, the modal category for year of graduation was the period between 1976 and 1985; one hundred and forty (34.6%) of rural respondents and one hundred and nine (33.3%) of urban ones completed their training during this period. The proportion of urban respondents who had graduated during the period before 1966 was slightly larger than rural ones; the reverse was true for those graduating since 1966.

Table B-8

Respondents by Period of Graduation

Period of Graduation	Rural		Urban	
	N	%	N	%
Before 1956	28	6.9	29	8.9
1956-1965	56	13.9	47	14.4
1966-1975	123	30.4	97	29.7
1976-1985	140	34.6	109	33.3
After 1985	57	14.1	45	13.8
Totals*	404	100.0	327	100.0

* Non-respondents: Rural = 10; Urban = 8.

Undergraduate Medical Training

Respondents were asked to indicate the Canadian or foreign university from which they received their undergraduate medical training. Tables B-9 and B-10 present, in ranked order, the number of rural and urban respondents according to the province or country in which they graduated from university; in addition, they list the existing 1989 data for these variables (Cavalier *et al.*, pp. 86-95). Similar proportions of rural (68.4%) and urban (69.5%) respondents reported having received their undergraduate training from

Canadian universities. One hundred and thirty rural (31.4%) and ninety-nine urban (29.6%) respondents received their undergraduate training from foreign universities. These percentages closely reflect the actual percentages of 68.9 percent domestic-trained, and 31.1 percent foreign-trained, as outlined in existing data.

a) Canadian Universities

The proportions of respondents graduating from universities in each of the provinces appear to be an accurate reflection of actual proportions as indicated by existing physician data. For both rural and urban respondents educated in Canada, more than one-third received their training at the University of British Columbia. Outside British Columbia, the single greatest Canadian source of responding physicians, rural (23.0%) and urban (14.2%), was the province of Alberta. More than two-thirds (71.0%) of Canadian-trained rural respondents and nearly two-thirds of urban ones (61.1%) received their undergraduate training at universities west of the Ontario-Manitoba border. Francophone universities accounted for only three of the 13 rural respondents and two of the 25 urban respondents who graduated from universities in Quebec. There were no rural respondents who had undergraduate training in Newfoundland.

Table B-9

Respondents by Province of Graduation (Canada)

Province	Rural		Urban		Group Total		Actual 1989 (1)	
	N	%	N	%	N	%	N	%
British Columbia	98	34.6	81	34.8	179	34.7	1521	34.2
Alberta	65	23.0	33	14.2	98	19.0	768	17.2
Ontario	59	20.9	54	23.2	113	21.9	998	22.4
Manitoba	19	6.7	16	6.9	35	6.8	361	8.1
Saskatchewan	19	6.7	12	5.2	31	6.0	243	5.5
Quebec	13	4.6	25	10.8	38	7.4	376	8.4
Nova Scotia	10	3.5	8	3.4	18	3.5	141	3.2
Newfoundland	0	0.0	4	1.7	4	0.8	45	1.0
Totals	283	100.0	233	100.0	516	100.0	4453	100.0

(1) Source: Cavalier, S., Kerluke, K., and Wood, L. (1990), "Place of Graduation for Selected Health Occupations - 1989", HMRU 90:7, Health Human Resources Unit, University of British Columbia, p. 93.

b) Foreign Universities

While the proportion of non-Canadian-trained respondents was also an accurate reflection of actual 1989 licensing data, the total respondent group contained a slightly larger number of physicians who had been educated in the United Kingdom, South Africa, the Irish Republic, and Australia/New Zealand. Physicians from the United States, other European countries, Hong Kong and India were slightly under-represented among the respondents.

Table B-10

Respondents by Place of Graduation (Outside Canada)

Place of Graduation	Rural		Urban		Group Total		Actual 1989 (1)	
	N	%	N	%	N	%	N	%
United Kingdom	85	65.4	45	45.5	130	56.8	988	49.3
South Africa	16	12.3	9	9.1	25	10.9	137	6.8
Irish Republic	8	6.2	11	11.1	19	8.3	143	7.1
Australia/New Zealand	8	6.2	4	4.0	12	5.2	94	4.7
United States	6	4.6	3	3.0	9	3.9	111	5.5
Other Europe	3	2.3	3	3.0	6	2.6	180	9.0
Hong Kong	-	-	4	4.0	4	1.7	51	2.5
India	-	-	1	1.0	1	0.4	77	3.8
Other	4	3.1	19	19.2	23	10.0	225	11.2
Totals	130	100.0	99	100.0	229	100.0	2006	100.0

(1) Source: Cavalier, S., Kerluke, K., and Wood, L. (1990), "Place of Graduation for Selected Health Occupations - 1989", HMRU 90:7, Health Human Resources Unit, University of British Columbia, pp. 93 - 95.

Of the 130 rural respondents who had received their undergraduate training outside Canada, almost two-thirds (85) graduated from universities in the United Kingdom. South African universities provided training for 12.3 percent of rural respondents, while universities in the Irish Republic and Australia/New Zealand each accounted for 6.2 percent. Slightly less than half (45.5%) of foreign-trained urban respondents indicated having been trained in the United Kingdom. The second greatest source of urban respondents was the Irish Republic, an additional 11.1 percent having received their training in universities there. South African universities were the third greatest source of urban respondents (9.1%).

Time Practising Medicine

Table B-11 displays respondents by the length of time they have been practising medicine. According to the data, rural respondents tended to have practised for shorter lengths of time than urban respondents. One hundred and forty-eight (35.9%) rural respondents indicated having practised medicine for fewer than 11 years, while only 29.4 percent of urban respondents were in this category; however, among the grouped years of tenure, the greatest difference seems to be between rural and urban respondents who have been practising for six to ten years, where the proportion of rural respondents was 5.4 percent larger than the proportion of urban respondents. Further, a smaller proportion of rural respondents (34.2%) than urban (38.8%) indicated having practised for more than 20 years.

Table B-11

Respondents by Length of Time Practising Medicine

Number of Years	Rural		Urban	
	N	%	N	%
Less than 6 years	77	18.7	58	17.6
6 to 10 years	71	17.2	39	11.8
11 to 15 years	65	15.8	58	17.6
16 to 20 years	58	14.1	47	14.2
More than 20 years	141	34.2	128	38.8
Totals*	412	100.0	330	100.0

* Non-respondents: Rural = 2; Urban = 5.

Respondents were asked to indicate on a five-point scale, where (1) denoted "no influence" and (5) "very much influence," the degree to which selected factors, people, or events were influential in the choice of location for their current practice. The mean influence level attributed to each survey item, as calculated for rural and urban respondents (Table B-12), should be interpreted relative to the sliding scale from which it is derived. Standard deviations indicating how much, on average, individual values differ from each mean score are also included in the table. The results appear to indicate that respondents did not consider factors related to their medical training to be very influential in their practice location decisions. More important

in these decisions, it seems, were personal considerations such as the respondent's spouse. From among the items provided, this factor was identified both by the rural and urban groups as the single most influential in their practice location decisions (rural 3.02; urban 3.24) although it was more important for urban physicians. A two-tailed *t*-test revealed that the difference in mean scores of rural and urban respondents for this item was statistically significant.[8] The desire to live or raise a family in an environment similar to that in which the respondent grew up was identified by both the rural (2.49) and urban (2.86) as the second most influential factor. In both cases, however, it appears to have been only of moderate influence in practice location decisions. And while locum experience was reported as the first professional influence (although third overall, with an average value of 2.43) among rural respondents, urban respondents indicated peers/friends (2.65) as the third most influential factor. Although locum experience (2.35) was also noted by urban respondents as the most influential professional concern in practice location decisions, it ranked fifth overall after four factors related to spouse, friends, relatives, and personal environment. The difference between rural and urban respondents' average influence values attributed to locum experience was found not to be statistically significant.

The high number of responses and the high influence values in the "other" category led to a decision to examine those responses more thoroughly. Upon review, factors indicating influence that had been written in by respondents were found to fall into four general categories: employment availability, preference for a particular lifestyle (rural or urban), preference for the geography or climate of a particular area, and professional considerations. Accordingly, additional variables were created to accommodate these responses, and average influence levels were calculated.

While average influence levels for each of the newly created variables are considerably higher than those for the itemized categories provided, N values are much smaller.

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[8] In this test and others, as mentioned earlier, the pooled-variance *t*-test was used for the two groups, and the separate-variance *t*-test was used in the case of unequal population variance. The equality of population variance hypothesis was based on the *F*-test. In the majority of cases, the hypothesis of equal variances was not rejected. The *t*-tests indicate the statistical significance of the *difference* between the mean scores calculated for each survey sub-group.

Table B-12

Respondents by Mean Level of Influence on Practice Location Decisions
(1 = not at all ... 5 = very much)

Factors	Rural			Urban		
	N	Mean	Standard Deviation	N	Mean	Standard Deviation
Spouse*	332	3.02	1.481	268	3.24	1.539
Similar to Childhood Environment**	345	2.49	1.600	278	2.86	1.641
Locum Experience	316	2.43	1.656	237	2.35	1.657
Peers/Friends**	340	2.40	1.441	269	2.65	1.434
Postgrad. Rural Experience**	308	2.40	1.556	222	1.99	1.438
Undergrad. Rural Experience**	320	2.18	1.421	234	1.74	1.230
Location of Internship**	338	1.72	1.233	274	2.10	1.562
Closeness to Parents**	332	1.68	1.140	263	2.41	1.545
Professor/Mentor**	311	1.57	1.101	244	1.80	1.374
Location of Residency**	286	1.51	1.059	229	2.32	1.628
Other	187	4.64	0.794	116	4.60	0.844
Breakdown of Other: (1)						
Professional Reasons	54	4.87	0.339	29	4.79	0.491
Preferred Lifestyle	79	4.73	0.499	34	4.74	0.511
Needed a Job	19	4.37	1.257	17	4.53	0.514
Preferred Geography	18	4.33	0.840	14	4.50	1.092
Other Reasons	23	4.61	0.583	20	4.65	0.933

* Significant ($p < 0.05$)
** Highly significant ($p < 0.01$) (2)

(1) N value in "Other" category is not equal to total N values in the "Breakdown of Other" because some respondents indicated more than one factor of influence in the choice of their practice location.

(2) Based on a 2-tailed t-test after the practising physician groups were weighted to reflect the province's more than 8:1 ratio of urban to rural physicians.

Respondents who wrote a particular factor into the "other" category were fewer in number, but the level of influence they attributed to these factors tended to be much greater. Accordingly, the averages were loaded with the highest influence values (4 or 5). In addition, because the items were not listed in the survey questionnaire for all respondents to see, those respondents who otherwise may have indicated that the written-in factors were "not at all" influential in their decision making (a value of 1) were not given the opportunity to do so. Average influence values for factors derived from the "other" category, therefore, were not reduced by the inclusion values at the low end of the influence scale. Thus the average influence levels are higher for the factors derived from the "other" category than for those that were itemized in the survey questionnaire.

Responses such as "needed a job," "preferred lifestyle," and "preferred climate or geography" do not necessarily indicate why a particular choice was made. Indeed, if taken at face value, "needed a job" seems to indicate a choice between working and not working, but not between rural and urban areas. Responses such as "lifestyle" and "geography" invite some explanation of how they came to be influential factors in the first place. The specific responses that are encompassed in "professional considerations," however, suggest that respondents made a locational choice on the basis of their perception of the characteristics of rural and urban medical practices. Rural practices were often preferred since, in the view of a number of respondents, they allowed for a wider variety of medical treatment, sometimes because referrals were less of an option. For some urban respondents, "professional considerations" included the view that rural practice was "too boring."

However, none of the differences in average values calculated for the categories created from the "other" category was found to be significant. In comparison, all of the differences in average influence values for the listed items, except "locum experience" (not statistically significant) and spouse (significant at $p < 0.05$), were found to be highly significant ($p < 0.01$).

IV. Practice

Detailed information about the scope and structure of respondents' practices was sought in part three of the questionnaire.

Solo vs. Group Practice

Nearly two-thirds (65.5%) of rural respondents, compared with approximately half of urban ones (49.9%), reported working in group practice. Tables B-13a and B-13b list these respondents by the number of general practitioners and specialists with whom they were in group practice. The tables do not indicate whether respondents themselves were general practitioners or specialists.

The proportion of urban respondents in a group practice with at least five general practitioners and five specialists (7.6%) was almost twice that of their rural counterparts (3.9%). A greater proportion of rural respondents, however, were in group practice with five or more GPs and two or fewer specialists (rural 36.7%; urban 19.9%). Only 5.0 percent of rural respondents indicated being in practices without general practitioners, while 19.1 percent of their urban counterparts were in such practices. The proportions of rural (62.9%) and urban (58.8%) respondents in group practices without specialists, however, were relatively equal. Although noting that they were in group practice, three rural respondents went on to indicate that there were no other general practitioners or specialists in that practice.

Other Practices in the Community

Over one-third (34.5%) of rural respondents reported that theirs was the only practice in the community, while only a tenth (10.1%) of urban respondents indicated that there were no other practices in the community. Of those who reported competition from other practices in their communities, 76.5 percent of those from rural and 76.0 percent from urban areas believed that the competition did not affect their patient retention or, more generally, their practices.

Table B-13a

Other Physicians in Group Practice:
General Practitioners by Specialists - Rural
(N = 271)

General Practitioners (2)	Specialists (1)								Totals	
	5+		3 - 4		1 - 2		None			
	N	%	N	%	N	%	N	%	N	%
5+	10	3.9	15	5.8	38	14.7	57	22.0	120	46.3
3 - 4	3	1.2	4	1.5	13	5.0	48	18.5	68	26.3
1 - 2	1	0.4	1	0.4	1	0.4	55	21.2	58	22.4
None	4	1.5	1	0.4	5	1.9	3	1.2	13	5.0
Totals*	18	6.9	21	8.1	57	22.0	163	62.9	259	100.0

* Non-respondents = 12.

(1) Excluded from these figures are eight rural respondents who indicated that theirs were solo practices but who reported working in a group with other specialists. Two of these respondents reported working in a group with more than five other specialists; one reported working with three or four specialists; and five others reported working with one to two specialists.

(2) Excluded from these figures are eight rural respondents who indicated that theirs were solo practices but who reported working in a group with other general practitioners. Three of these respondents reported working in a group with more than five other general practitioners; two reported working with three to four GPs; and three others reported working with one to two GPs.

Table B-13b

Other Physcians in Group Practice:
General Practitioners by Specialists - Urban
(N = 167)

General Practitioners (2)	Specialists (1)								Totals	
	5+		3 - 4		1 - 2		None			
	N	%	N	%	N	%	N	%	N	%
5+	10	7.6	3	2.3	6	4.6	20	15.3	39	29.8
3 - 4	1	0.8	1	0.8	5	3.8	23	17.6	30	22.9
1 - 2	1	0.8	1	0.8	1	0.8	34	26.0	37	28.2
None	15	11.5	8	6.1	2	1.5	-	-	25	19.1
Totals*	27	20.6	13	9.9	14	10.7	77	58.8	131	100.0

* Non-respondents = 36.

(1) Excluded from these figures are four urban respondents who indicated that theirs were solo practices but who reported working in a group with other specialists. Two of these respondents reported working in a group with more than five other specialists; one reported working with three to four specialists; and one other reported working with one to two specialists.

(2) Excluded from these figures are three urban respondents who, while indicating that theirs were solo practices, reported working in a group with one to two other general practitioners.

Patient Volume and Workload

Table B-14 displays rural and urban respondents according to the number of patients they see in an average working day. The data suggest that rural physicians, on average, have a greater patient load than their urban counterparts. While only a quarter of rural respondents (25.6%) reported seeing fewer than 21 patients per day, 42.5 percent of urban respondents reported that this was the case. Conversely, 74.7 percent of rural respondents, compared with only 57.6 percent of urban ones, noted seeing more than an average of 20 patients per day.

Table B-14

Respondents by Patients Seen per Average Day

Number of Patients	Rural		Urban	
	N	%	N	%
Up to 10	37	9.3	84	26.8
11 - 20	65	16.3	49	15.7
21 - 30	159	39.8	96	30.7
31 - 40	109	27.3	57	18.2
41 - 50	22	5.5	14	4.5
51 - 60	3	0.8	4	1.3
Over 60	5	1.3	9	2.9
Totals*	400	100.0	313	100.0

* Non-respondents: Rural = 14; Urban = 22.

The data summarized in Table B-15 suggest that rural physicians spend more time on-call than urban physicians. Only a quarter of rural physicians (24.0%), compared with almost a third of urban respondents (32.3%), spent one night per week or less on-call. Almost half of rural respondents (47.1%) spent two or more nights per week on-call. This compared with only 37.0 percent for urban respondents.

The number of weekend days off per month, as displayed in Table B-16, was relatively equal for rural and urban respondents except at the lowest and highest ends of the scale; 21.1 percent of rural respondents, compared with only 12.7 percent of urban ones, reported having no weekend days free of medical responsibility in the average working month.

Table B-15

Respondents by Nights per Week On Call

Nights Per Week	Rural N	Rural %	Urban N	Urban %
Less than 1	94	24.0	101	32.3
1	113	28.8	96	30.7
2	84	21.4	52	16.6
3	35	8.9	22	7.0
4	13	3.3	5	1.6
5	53	13.5	37	11.8
Totals*	392	100.0	313	100.0

* Non-respondents: Rural = 22; Urban = 22.

Table B-16

Respondents by Weekend Days Off per Month

Weekend Days Per Month	Rural N	Rural %	Urban N	Urban %
None	86	21.1	41	12.7
1	22	5.4	16	5.0
2	74	18.2	52	16.1
3 - 4	104	25.6	84	26.0
5 - 6	96	23.6	78	24.1
7 - 8	25	6.1	52	16.1
Totals*	407	100.0	323	100.0

* Non-respondents: Rural = 7; Urban = 12.

At the other end of the scale, 16.1 percent of urban respondents noted having, on average, seven to eight weekend days per month with no medical responsibilities. This was the case for only 6.1 percent of rural respondents.

While the data reviewed to this point seem to suggest a heavier and, perhaps, more intense work load for rural physicians, it appears some may find compensation in the holidays they take. Although rural and urban respondents take approximately the same number of holidays, seemingly minor differences exist

between their patterns. As summarized in Table B-17, a majority of rural respondents (51.6%) reported having more than four weeks holidays in the past year. The percentage of urban respondents who took this amount of holiday time was appreciably smaller (44.1%). Conversely, the proportion of rural physicians who took one week or less was 5.4 percent, while only 3.4 percent of urban physicians reported such limited holiday time.

Table B-17

Respondents by Weeks of Annual Holidays

Weeks of Holidays	Rural N	Rural %	Urban N	Urban %
None	9	2.2	6	1.9
1	13	3.2	5	1.5
2	37	9.1	42	13.0
3	48	11.8	48	14.8
4	90	22.1	80	24.7
More than 4	210	51.6	143	44.1
Totals*	407	100.0	324	100.0

* Non-respondents: Rural = 7; Urban = 11.

Table B-18

Finding a Locum

Methods	Rural N	Rural %	Urban N	Urban %
Covered by Members of Group Practice	69	23.4	47	24.1
Word of mouth	83	28.1	77	39.5
Journals	14	4.7	1	0.5
Co-operation With Other Doctors	34	11.5	34	17.4
Department of Family Practice Residents	7	2.4	5	2.6
"Matchbox"	3	1.0	-	-
College Listing Service	32	10.8	3	1.5
Private Service	3	1.0	2	1.0
Relatives/Friends	7	2.4	8	4.1
Other	43	14.6	18	9.2
Totals*	295	100.0	195	100.0

* Non-respondents: Rural = 54; Urban = 48. Totals also exclude 65 rural and 92 urban responses that were "Not Applicable".

Finding a Locum

Respondents were then asked to indicate how they went about finding a locum (Table B-18). In large part, both rural and urban physicians found locums through word of mouth, through co-operation with other doctors in the same town or in neighbouring towns, or by virtue of their coverage in a group practice. The Listing Service provided by the College of Physicians and Surgeons of British Columbia was used by a substantially greater proportion of rural respondents (10.8%) than urban ones (1.5%).

Breakdown of General Practitioners' Medical Work Time

General practitioners were asked to indicate the percentage of their work time spent involved in various medical areas. The complete results of this question are provided in Appendix D. However, Table B-19 displays, for rural and urban respondents, the number (N) and percentage (%) of general practitioners who spend at least some time in various medical areas, the modal percentage category for the amount of time spent in that area (Modal % Time), the frequency for the modal percentage category (Modal n), and the percentage of responding GPs that comprise the modal category (Modal %).

Table B-19

General Practitioners by Time Spent in Various Areas of Medicine
(Total N: Rural = 307; Urban = 158)

Areas of Medicine	Rural					Urban				
			Modal					Modal		
	N	%	% Time	n	%	N	%	%Time	n	%
Internal Medicine	268	87.3	11 - 20	83	31.0	128	81.0	21 - 30	33	25.8
Paediatrics	266	86.6	11 - 20	109	41.0	125	79.1	11 - 20	48	38.4
Psychiatry/Counselling/Psychology	264	86.0	11 - 20	102	38.6	128	81.0	1 - 10	42	32.8
Obstetrics & Gynaecology	262	85.3	1 - 10	106	40.5	121	76.6	1 - 10	48	39.7
Dermatology	255	83.1	1 - 10	165	64.7	121	76.6	1 - 10	68	56.2
House Calls	222	72.3	1 - 10	197	88.7	114	72.2	1 - 10	90	78.9
Geriatrics	213	69.4	11 - 20	80	37.6	104	65.8	1 - 10	36	34.6
General Surgery	137	44.6	1 - 10	104	75.9	63	39.9	1 - 10	47	74.6
Public Health/Community Medicine	109	35.5	1 - 10	87	79.8	42	26.6	1 - 10	27	64.3
Physical Medicine & Rehabilitation	88	28.7	1 - 10	62	70.5	47	29.7	1 - 10	32	68.1
Anaesthesia	81	26.4	1 - 10	49	60.5	16	10.1	1 - 10	10	62.5
Radiology	74	24.1	1 - 10	59	79.7	25	15.8	1 - 10	21	84.0
Medical Subspecialty	59	19.2	1 - 10	38	64.4	34	21.5	1 - 10	19	55.9
Pathology & Lab Medicine	43	14.0	1 - 10	38	88.4	20	12.7	1 - 10	17	85.0
Surgical Subspecialty	42	13.7	1 - 10	38	90.5	23	14.6	1 - 10	16	69.6
Other	39	12.7	1 - 10	19	48.7	34	21.5	1 - 10	12	35.3

The medical area in which both rural (87.3%) and urban (81.0%) general practitioners most frequently spent time was internal medicine. For respondent rural general practitioners involved in internal medicine, the modal response category was the 11 to 20 percent range, with 31.0 percent devoting this amount of time to it. The modal response category for urban GPs was the 21 to 30 percent range, with 25.8 percent indicating that internal medicine required this portion of their time. Compared with urban respondents, therefore, a greater proportion of rural GPs spent a lesser amount of their time involved in internal medicine.

After internal medicine, paediatrics (86.6%), followed closely by psychiatry/counselling psychology (86.0%) were the areas in which rural general practitioners were most frequently involved. Forty-one percent of responding rural GPs were involved in paediatrics for between 11 and 20 percent of their time, and 38.6 percent spent a similar amount of time in psychiatry/psychology. The proportion of urban GPs working in these areas was slightly smaller (paediatrics 79.1%; psychiatry/psychology 81.0%). As well, while the modal response category for paediatrics was the same for urban respondents as it was for rural (11 to 20%), the modal category for psychiatry/psychology was 1 to 10 percent for urban respondents; 32.8 percent of responding urban GPs spent between 1 and 10 percent of their work-time in psychiatry/counselling psychology.

For most of the medical areas listed, the proportion of rural respondents working in each was greater than the proportion of urban respondents so occupied. For 26.4 percent of rural GPs, compared with only 10.1 percent of urban ones, anaesthesia was an area of medicine to which they devoted some time in their practices. A large majority of rural GPs (85.3%) spent some time in obstetrics and gynaecology, while somewhat smaller proportion of responding urban GPs reported such work (76.6%), and 35.5 percent of rural GPs, compared with 26.6 percent of urban ones, were involved to some extent in public health.

Relatively equal portions of rural and urban respondents spent some time in geriatrics, but the modal amount of time spent by rural GPs (11 to 20%) was greater than that for urban GPs (1 to 10%). The percentage of urban GPs was slightly greater than rural GPs only in rehabilitation and physical medicine, medical subspecialties, and surgical subspecialties. The proportions of each spending time on house calls

were almost exactly the same - approximately 72 percent. Only in other unlisted areas of medicine did a substantially greater percentage of urban respondents (21.5%) indicate involvement, as opposed to 12.7 percent of rural respondents.

Type of Payment

The final question regarding respondents' practice inquired as to method(s) of payment (Table B-20). A slightly greater percentage of responding rural physicians (94.7%) than urban (92.5%) reported payment at least partly on a fee-for-service basis. Payment at least partly on a salaried basis was somewhat more prevalent among urban respondents (11.7%) than rural ones (8.1%), perhaps due to the presence of a greater number of alternative models of health care delivery in urban areas. This may also explain why no rural respondents indicated payment at least partly on a sessional basis.

Table B-20

Type of Payment

Type of Payment	Rural		Urban	
	N	%	N	%
Fee-for-Service Only	335	85.2	228	74.0
Salary Only	21	5.3	11	3.6
Sessional Only	0	0.0	10	3.2
Fee-for-Service and Salary	11	2.8	20	6.5
Fee-for-Service and Sessional	26	6.6	34	11.0
Salary and Sessional	0	0.0	2	0.6
Fee-for-Service, Salary and Sessional	0	0.0	3	1.0
Totals*	393	100.0	308	100.0

* Non-respondents: Rural = 21; Urban = 27.

V. Community

In this section, respondents were asked to provide information on the community in which they practice, the health services available there, and their level of satisfaction with professional, community, and personal/family concerns. While respondents' town/city information and census figures were used to place

them objectively into previously defined rural and urban categories[9], respondents were asked to note whether, by their own definition, their community of practice was urban, semi-rural, or rural. Only half (53.4%) of those respondents identified by the research team as practising in rural areas indicated that they believed that they were practising in rural areas. About thirty-nine percent of those identified as being rural respondents considered their community of practice to be semi-rural, and a further 7.4 percent considered their community of practice to be urban. Of the respondents deemed urban by the research team, 78.4 percent subjectively agreed with the urban designation of their community of practice; 16.5 percent, however, considered their communities to be semi-rural, and 5.2 percent considered them to be rural.

The discrepancies between the population-based designations and physicians' subjective perceptions of rural and urban were anticipated and, indeed, pose interesting questions for future study. The population-based designations, however, provide a more stable and appropriate foundation for most of the analysis that follows. Since the basis of physicians' perceptions of rural and urban perceptions of rural and urban is essentially unknown, these perceptions are used as a foundation for analysis only where survey questions are directly related to specific subjective issues and items.

Respondents were asked to indicate how long they had practised in their current geographical area. Table B-21 summarizes this information. The data for rural and urban respondents appear to be fairly similar, except that a greater proportion of rural respondents (24.6%) than urban (15.4%) had lived in their communities for between six and ten years, and a greater proportion of urban respondents (21.1%) than rural (12.3%) had lived in their communities more than twenty years.

Table B-22 lists respondents by the length of time that they were planning to remain in their then current communities of practice. Similar proportions of rural (27.3%) and urban (26.8%) respondents were planning to stay in their respective communities for one to five years. However, fewer rural than urban respondents (62.5% vs. 68.9%) were planning to remain there more than five years.

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[9] As noted earlier, rural communities were defined as having fewer than 10,000 people, while urban communities were defined as those with populations of over 10,000.

Table B-21

Respondents by Years in Current Geographic Area

Number of Years	Rural		Urban	
	N	%	N	%
Less than 1 year	43	10.6	31	9.3
1 year	26	6.4	11	3.3
2 - 3 years	43	10.6	40	12.0
4 - 5 years	42	10.3	32	9.6
6 - 10 years	100	24.6	51	15.4
11 - 15 years	66	16.2	59	17.8
16 - 20 years	37	9.1	38	11.4
More than 20 years	50	12.3	70	21.1
Totals*	407	100.0	332	100.0

* Non-respondents: Rural = 7; Urban = 3.

Table B-22

Respondents by Plans to Continue Practising in Current Geographic Area

Number of Years	Rural		Urban	
	N	%	N	%
Less than 1 year	41	10.3	14	4.3
1 year	18	4.5	11	3.4
2 - 3 years	55	13.8	42	12.9
4 - 5 years	36	9.0	34	10.5
More than 5 years	250	62.5	224	68.9
Totals*	400	100.0	325	100.0

* Non-respondents: Rural = 14; Urban = 10.

A greater proportion of rural respondents (10.3%) than urban (4.3%) were planning to leave their communities in less than one year. The data suggest that, in both the short and long terms, rural areas will continue to experience an outflow of physicians.

Respondents who had indicated that they did not consider their present community of practice to be rural were asked if they had ever practised in a rural setting (Table B-23). Of those who indicated that they had practised in a rural setting at one time, over half (56.5%) had been there for one year or less. Only 12.9 percent reported having practised in a rural area for more than five years before leaving.

Table B-23

Respondents by Time in Past Rural Practice
(Total N = 211)

Number of Years	N	%
Less than 1 year	85	40.7
1 year	33	15.8
2 - 3 years	41	19.6
4 - 5 years	23	11.0
More than 5 years	27	12.9
Totals*	209	100.0

* Non-respondents = 2.

When asked to indicate some of the reasons for leaving, the results displayed in Table B-24 were obtained. For almost two-thirds of the respondents (61.6%), the main reasons reported for leaving rural practice were related primarily to personal or family considerations. However, less than half of these 130 respondents indicated only personal or family considerations; for the rest, there were also other reasons for leaving. The second most common reasons for leaving, reported by just under half of the respondents, were related to professional considerations. Less than one-quarter of the respondents left rural practices because of dissatisfaction with the community in which they were located. No respondents reported community factors as their only reasons for leaving. Only 10.4 percent cited financial reasons for moving their practice from a rural area.

Table B-24

Respondents by Reasons for Leaving Rural Practice
(Total N = 211)

Reasons	N*	%**
Personal/Family Reasons	130	61.6
Professional Dissatisfaction	95	45.0
Dissatisfaction with Community	45	21.3
Financial Dissatisfaction	22	10.4

* Number of responses; multiple answers were permitted.

** Percentage calculations are based on total number of respondents.

The N value (211) for Tables B-23 and B-24 is comprised of 126 urban respondents who noted having spent some time in the past in a rural practice, as well as 85 respondents who, while deemed rural by the research team, considered their present practice location to be semi-rural or urban and had indicated spending some time in rural practice. From these responses and responses to other of the survey questions, the subjective nature of rural and urban designations has become increasingly evident. As a result, it was decided that the experiences and perceptions of these individuals, particularly in relation to leaving what *they* considered rural practice, would be no less valid and should be included in the data analysis where appropriate.

Medical Support Services and Backup

Respondents were provided with an itemized list of medical support services and then asked to indicate those which were based in their communities. Table B-25 displays the number and percentage of respondents by the services that were available in their communities. Less than half of the rural respondents, compared with over 90 percent of urban respondents, reported that all of the medical services

itemized were provided in their communities. Rural and urban respondents reported high and relatively equal availability of ambulance, laboratory, public health and pharmacy services. While social and psychological counselling and radiology services were available to approximately 80 percent of rural respondents, over 90 percent of urban respondents reported these services were provided in their communities. Approximately two-thirds or less of rural respondents indicated that dietetic or rehabilitation services were available in their communities. Less than half of rural respondents reported access to podiatry services in their communities.

Table B-25

Respondents by Medical Support Services Provided in Their Communities
(Rural N = 414; Urban N = 335)

Medical Support Services	Rural		Urban	
	N	%	N	%
Ambulance Service	404	97.6	324	96.7
Laboratory	393	94.9	322	96.1
Public Health Service	390	94.2	321	95.8
Pharmacy	382	92.3	323	96.4
Social/Psych. Counselling	339	81.9	315	94.0
Radiology	333	80.4	321	95.8
Dietetics	282	68.1	316	94.3
Rehabilitation Service	250	60.4	306	91.3
Podiatry	195	47.1	307	91.6
Other (1)	29	7.0	6	1.8

(1) Includes five rural and three urban respondents who indicated that all itemized services were provided in their communities, but noted that other services that were not listed also were provided.

Respondents were asked to indicate the type of hospital closest to or based in their communities. Definitions of each of these designations were not provided to respondents, under the assumption that British Columbia Ministry of Health definitions would be applied. As illustrated in Table B-26, the results for rural areas were essentially the reverse of those for urban areas. Over two-thirds of rural respondents (69.0%) reported a primary care facility closest to or based in their communities. Only 3.4 percent of rural respondents reported being nearest a tertiary hospital. Most urban respondents (50.2%), on the other hand,

were closest to a tertiary hospital. Only 18.1 percent of urban respondents reported closest proximity to a primary care facility. Regional hospitals appeared to be more equitably distributed, with 27.6 percent of rural and 31.7 percent of urban respondents noting these as the type of hospital nearest their communities.

Table B-26

Type of Hospital Nearest to/ Based in the Community

Type of Hospital	Rural		Urban	
	N	%	N	%
Primary	280	69.0	57	18.1
Regional	112	27.6	100	31.7
Tertiary (referral)	14	3.4	158	50.2
Totals*	406	100.0	315	100.0

* Non-respondents: Rural = 8; Urban = 20.

When asked to identify all of the medical specialist back-up available within 100 kilometres of their area, less than one-quarter of rural respondents (24.2%), as compared with over three-quarters of urban ones (77.3%), reported that all of the services on the itemized list were available.

Appendix E lists respondents by the types of medical specialist back-up that were available within 100 kilometres of their communities. To provide a summary of this information, Table B-27 displays the top five specialty services in each of clinical, surgical, and laboratory areas, and the number and percentage of respondents who reported each of them available within 100 kilometres of their community of practice. Over 90 percent of urban respondents indicated access within 100 kilometres to the top five clinical and surgical specialties. More than 85 percent of them reported similar access to all of the top five laboratory specialties. In comparison, the only specialty back-up that was available within 100 kilometres to more than 80 percent of rural respondents was general surgery.

Less than 75 percent of rural respondents had access to most of the top five specialties in each of the areas indicated. In some cases, less than half of rural respondents were within 100 kilometres of where these services could be found.

Table B-27

Respondents by Medical Back-up
Within 100 Kilometres
(Rural N = 414; Urban N = 335)

Type of Medical Back-Up	Rural		Urban	
	N	%	N	%
CLINICAL SPECIALTIES:				
Radiology (Diagnostic)	315	76.1	319	95.2
Anaesthesia	311	75.1	314	93.7
Internal Medicine	306	73.9	320	95.5
Paediatrics	299	72.2	314	93.7
Psychiatry	281	67.9	313	93.4
SURGERY SPECIALTIES:				
General	340	82.1	324	96.7
Obstetrics/Gynaecology	291	70.3	321	95.8
Urology	290	70.0	315	94.0
Ophthalmology	284	68.6	312	93.1
Otolaryngology	280	67.6	314	93.7
LABORATORY SPECIALTIES:				
General Pathology	272	65.7	317	94.6
Medical Biochemistry	202	48.8	290	86.6
Medical Microbiology	200	48.3	293	87.5
Anatomical Pathology	195	47.1	296	88.4
Haematological Pathology	185	44.7	289	86.3

Satisfaction Levels

Respondents were presented with a series of 42 survey items in order to identify their level of satisfaction with various aspects of their professional, community, and personal/family lives. Using the five-point scale provided, respondents were asked to indicate whether they were (1) "very unsatisfied", (3) "indifferent", or (5) "very satisfied" with the various survey items. Once again, the mean values that were calculated for these items should be interpreted in the context of the scale from which they were derived.

Appendix F displays the mean satisfaction levels for rural and urban respondents as calculated from the survey results.

As noted earlier, two-tailed *t*-tests were conducted to test the equality of means for rural and urban satisfaction averages, after the practising physician groups were weighted to reflect the province's more than 8:1 ratio of urban to rural physicians. The *t*-tests indicated that the differences between mean satisfaction levels for the majority of survey items were either significant ($p < 0.05$) or highly significant ($p < 0.01$). There is a possibility that the statistical significance for those survey items may at least partly be due to the large sample size. However, because of the sample size, even large differences in mean satisfaction levels that were not statistically significant are without much doubt truly lacking in significance.

a) Professional Items

On average, both rural and urban respondents were quite highly satisfied (a value of approximately four or greater) with a number of professional concerns. The *t*-tests for the following items indicated no significant differences between average values for rural and urban groups:

i) the variety in the medical problems to be treated (rural 4.46; urban 4.45);

ii) opportunity to provide complete package of medical services (rural 3.95; urban 4.01);

iii) opportunities for continuity of care (rural 4.18; urban 4.15);

iv) opportunity to practice the kind of medicine they wish (rural 4.16; urban 4.17).

While both rural and urban groups appeared to be quite highly satisfied with the professional concerns itemized below, *t*-tests indicated that the relatively small differences in their average satisfaction scores were significant for the first two cases that follow, and highly significant for the third:

i) acuteness of diseases seen (rural 4.37; urban 4.26);

ii) challenge of practice (rural 4.33; urban 4.22);

iii) level of responsibility (rural 4.31; urban 4.43).

Rural and urban respondents were, on average, relatively equal in being somewhat satisfied (rural 3.11; urban 3.40) with their caseloads in relation to their incomes. They also were equally less satisfied (rural 2.75; urban 2.88) regarding the ease with which they could relocate their practices.

There were a number of other profession-related concerns for which levels of satisfaction varied between rural and urban respondents. In every case, except one, urban respondents were more satisfied, or less unsatisfied, than their rural counterparts. Only when asked to comment on the "opportunity to practice as a family doctor" were rural respondents (4.36), on average, more satisfied than urban ones (3.83). Although the average levels of satisfaction for the "availability of clinical support" and "free and informal communication with peers" were fairly high among rural respondents (3.83 and 3.97, respectively), there was considerably higher satisfaction among urban respondents (4.57 and 4.43 respectively) in regard to these items. In each of these cases, the differences tested as highly significant.

There were four professional points in relation to which rural respondents were only somewhat satisfied while urban respondents were quite highly satisfied. The differences, in each of these cases, were found to be highly significant:

i) access to specialist expertise (rural 3.69; urban 4.54);

ii) availability of medical facilities (rural 3.65; urban 4.08);

iii) ease of transfer to an appropriate level of care of the acutely ill/injured patient (rural 3.60; urban 4.14);

iv) specific training for the appropriate medical services in their geographic area of practice (rural 3.55; urban 4.01).

In relation to the question of satisfaction with "length of working hours (on-call)," rural respondents (3.19) were somewhat less satisfied than urban ones (3.85). Once again, the difference in mean values was found to be highly significant.

There were five survey items about professional concerns with which rural respondents were somewhat unsatisfied, while urban respondents tended to be relatively satisfied. Of these, rural respondents were least satisfied with research opportunities (2.49). Rural respondents were also somewhat unsatisfied with

academic opportunities (2.80), while this was not much of a concern for urban respondents (3.65). Rural respondents were somewhat more unsatisfied than their urban counterparts with "opportunities for involvement in B.C.M.A., C.M.A., or other related activities" (rural 2.84; urban 3.49), their "ability to secure uninterrupted free time from work" (rural 2.85; urban 3.44), and the "availability of locum relief" (rural 2.89; urban 3.43). The difference in average values for each of these items was found to be highly significant.

b) Community Items

Levels of satisfaction in relation to community concerns were relatively equal among rural and urban respondents, with two exceptions. The largest difference between rural and urban average satisfaction levels, for any of the satisfaction items, was received for the "availability of cultural activities." For this item, rural respondents indicated indifference (3.04), while urban respondents indicated a relatively high level of satisfaction (4.25). And while both rural and urban respondents reported a satisfaction with the "availability of recreational facilities," urban respondents (4.51) indicated a notably greater satisfaction than rural ones (4.04). In both cases, *t*-tests indicated that the different satisfaction values were highly significant.

Both rural and urban respondents indicated relatively equal satisfaction with eight community survey items, although rural respondents were slightly more satisfied with half of the items, while urban respondents were slightly more satisfied with the other half. Those items with which rural respondents were slightly more satisfied were:

i) quality of environment (rural 4.33; urban 4.05);

ii) own personal safety in the community (rural 4.50; urban 4.26);

iii) sense of community (rural 4.00; urban 3.83);

iv) possibility for community involvement/leadership (rural 4.04; urban 3.85);

Items with which urban respondents, on average, were slightly more satisfied were:

i) size of community (rural 4.05; urban 4.33);

ii) life-style in the community (rural 4.12; urban 4.22);

iii) resources with which to enjoy leisure time (rural 4.02; urban 4.25);

iv) financial/economic security in the community (rural 3.86; urban 4.00).

For all but one of the items relating to community concerns, there were highly significant differences between rural and urban respondents; the mean value of "life-style in the community" was found to be significant.

c) Personal/Family Items

Mean levels of satisfaction for at least half of the personal/family related survey items were relatively equal among rural and urban respondents. In every case, however, levels of satisfaction were higher, if only slightly, among urban respondents than rural ones.

Both rural (4.38) and urban (4.44) respondents, on average, expressed a fairly high degree of satisfaction relating to their "own preference for practising" where they do; however, the *t*-test indicated that the difference in means for this variable was not significant. The quality of life for respondents' children (rural 4.04; urban 4.34), the quality of housing (rural 4.16; urban 4.30), and the contentment of respondents' spouses in the community (rural 3.95; urban 4.32) were other items in regard to which a fairly high degree of satisfaction was expressed. In each of these cases, the difference between rural and urban averages was found to be highly significant. Both rural and urban respondents expressed relatively equal satisfaction with "opportunities to earn the kind of income [they] require" (rural 3.79; urban 3.87). While rural and urban respondents were both somewhat satisfied with their time for family life, recreation, and leisure (rural 3.47; urban 3.75), the difference in mean values in favour of urban respondents was found to be highly significant.

Levels of satisfaction differed most, as with community items, in relation to the "availability of cultural opportunities for self and family," where rural respondents indicated indifference (3.05), while urban respondents expressed a fairly high level of satisfaction (4.12). Concern over quality of education for respondents' children also differed considerably, with rural respondents expressing relative satisfaction (3.30) and urban respondents being quite satisfied (4.21). Urban respondents (3.30) were slightly less unsatisfied

than rural ones (2.70) regarding their proximity to relatives and extended family. In each of these cases, the differences between rural and urban average satisfaction levels were found to be highly significant.

VI. Overall Satisfaction

Respondents were surveyed to determine their overall satisfaction or contentment with their professional, community, and personal/family lives. Once again, respondents were asked to indicate their responses on a five-point scale: (1) "strongly disagree"; (3) "indifferent"; (5) "strongly agree." Averages of these responses were calculated for rural and urban respondents, and are displayed in Table B-28. Responses from both rural and urban physicians were comparable, but as with the majority of the more detailed items regarding their professional, community, and family/personal lives, urban satisfaction levels were slightly higher.

Table B-28

Respondents by Mean Satisfaction Levels for Professional, Community and Personal/Family Lives
(1 = strongly disagree ... 3 = indifferent ... 5 = strongly agree)

	Rural			Urban		
	N	Mean	Standard Deviation	N	Mean	Standard Deviation
Professional	412	3.68	1.148	334	3.84	1.128
Community	407	4.01	0.986	328	4.14	0.937
Personal/Family	407	4.16	0.995	325	4.27	0.929

As a general indicator of professional satisfaction, respondents were asked to indicate their level of agreement with the following statement: "When I think of my professional career I am quite satisfied with it and there is very little I would like to change." In responding to this statement, urban respondents (3.84) expressed slightly greater agreement than rural ones (3.68).

The following statement was used as an indicator of respondents' overall level of satisfaction with their lives in relation to their communities: "When I look at the community where I live I think that it greatly contributes to my overall quality of life." Once again, while agreement among both groups was relatively

high, urban respondents (4.14) were slightly more satisfied than rural respondents (4.01) with life in their communities.

As an indicator of overall satisfaction with their personal/family lives, respondents were asked to record the degree to which they agreed or disagreed with the following statement: "When I look at my personal/family life I am quite satisfied with the quality of those relationships." While the whole survey group indicated basic agreement with this statement, on average, urban respondents (4.27) reported a slightly higher degree of agreement than rural ones (4.16).

The differences between the overall satisfaction levels for professional and community concerns were found to be highly significant ($p < 0.01$); testing indicated that the difference between rural and urban satisfaction in relation to overall family/personal life was statistically significant ($p < 0.05$).[10]

Respondents were then asked to indicate whether they intended to move their practices within the next five years and, if so, to indicate the type of area they were considering: urban, semi rural, or rural. The responses to this question are displayed in Table B-29.

Table B-29

Respondents by Intent to Move

Intent to Move	Rural		Urban	
	N	%	N	%
Yes, to an Urban Area	35	8.9	17	5.4
Yes, to a Semi-Rural Area	34	8.7	14	4.4
Yes, to a Rural Area	9	2.3	7	2.2
No Intent to Move	315	80.2	278	88.0
Totals*	393	100.0	316	100.0

* Non-respondents: Rural = 21; Urban = 19.

Reflecting their greater overall satisfaction, a greater proportion of urban respondents (88.0%) than rural (80.2%) reported no intent to move their practices in the immediate future. Only 6.6 percent of urban

[10] As noted earlier: based on a two-tailed *t*-test after the practising physician groups were weighted to reflect the province's more than 8:1 ratio of urban to rural physicians.

respondents expressed an intent to move to other than an urban area. Almost nine percent of rural respondents indicated an intent to move their practices to urban areas. Eleven percent of rural respondents indicated that they intended to move their practices to other rural or semi-rural areas, while 5.4 percent of urban respondents intended to move to other urban areas.

Respondents who reported that they intended to move their practices within the next five years were asked to indicate whether, or how much, factors related to community, professional, personal/family, and income were involved in their decisions to relocate (Table B-30). Once again, family/personal followed by professional reasons were primary among factors related to moving. Reasons related to community and income tended to be of lesser importance in decisions to relocate.

Table B-30

Respondents by Factors Related to Intended Move
(1 = not at all ... 5 = very much)
(Total N: Rural = 78; Urban = 38)

Factors	Rural			Urban		
	N	Mean	Standard Deviation	N	Mean	Standard Deviation
Personal/Family	72	3.94	1.362	36	3.81	1.348
Professional	71	3.31	1.379	34	3.53	1.502
Community	70	2.54	1.380	35	2.71	1.506
Income	71	2.21	1.372	34	2.03	1.337

Respondents who considered themselves to be currently practising in an urban or semi-rural area were asked if they would be interested in doing a locum in a rural area within the next three years (Table B-31). Only urban respondents are included in this table, since rural respondents who answered the question were already practising in rural areas. Ninety-two urban respondents (27.5% of the urban survey population) indicated that they would be interested in a rural locum. Almost a quarter of these (23.1%) indicated a willingness to take on a locum of between one and three months. Almost half (47.3%) indicated that they would do a locum of between three and four weeks. Another quarter (24.2%) reported they would accept

a rural locum of one to two weeks. Only 5.5 percent of urban respondents who were willing to do a rural locum indicated they would do so for more than six months.

Table B-31

Respondents Interested in Doing a Rural Locum

Preferred Length of Locum	N	%
1 - 2 Weeks	22	24.2
3 - 4 Weeks	43	47.3
1 - 3 Months	21	23.1
4 - 6 Months	1	1.1
7 - 9 Months	2	2.2
10 - 12 Months	0	0.0
> 1 Year	2	2.2
Totals*	91	100.0

* Non-respondents = 1.

VII. Concluding Remarks

The survey group appeared to be a reasonable reflection of British Columbia's physician population despite a less than ideal response rate. Responding rural physicians were fairly representative of the rural physician population in British Columbia, in terms of age, sex, place of graduation, and area of specialty. According to these criteria, urban respondents were also quite representative of the urban target population as identified in the sampling procedure.

While some differences between the responding rural and urban physicians exist, a significant finding of the survey was the extent to which the two groups displayed similar characteristics and indicated similar attitudes. Regarding background characteristics such as age, sex, father's field of employment, and preferences for leisure time activity, the differences between the two groups appear to be relatively minor. Interestingly, for both groups, the proportion of female respondents who were single was considerably larger than the proportion of male respondents who were single.

In support of the literature on physician practice location decisions, a greater proportion of rural physicians noted having been born and educated in less populous communities. Also clearly supported by the survey results was the idea that physicians' spouses are a significant influence in the practice location decisions of their partners.

A slightly larger proportion of rural than urban physicians completed their training in the years since 1966. A greater proportion of urban respondents graduated before that time. Reflecting these differences, rural physicians tended to have been practising medicine for shorter lengths of time.

Findings on respondents' primary area of training proved to have been more complex than had been anticipated, particularly when the results of these questions were compared with registration data from the College of Physicians and Surgeons of B.C. In some cases, the information on primary area of training provided by the respondents did not match with College registry data. This may have been due to differing interpretations of what was being asked or to registry data that were not as current as the survey. Within the confines of this analysis, however, it raises several interesting research questions regarding physician education and training.

According to the survey results, rural practitioners appeared to have seen more patients per day and spent more time on-call. Rural practices also appear to be more varied in terms of the amount of time physicians spend in different medical areas; the proportion of rural respondents working in most of the medical areas listed was greater than the proportion of urban respondents. An appreciably greater proportion of rural respondents reported taking more than four weeks of annual holidays.

The proportion of rural respondents who had access in their communities to a full list of medical support services and back-up was almost half that of their urban counterparts. Further, while almost all urban respondents had access within 100 kilometres to a range of clinical, surgical, and laboratory specialties, only three-quarters of responding rural physicians had the same access.

Rural respondents tended to be more satisfied with professional concerns such as the challenge of their practices, opportunities to practice as a family doctor, and the acuteness of diseases that they treat. The community item with which urban respondents were appreciably more satisfied was the availability of cultural

activities; both groups appeared equally satisfied with various aspects of life in their communities. They also appeared to be relatively equally satisfied with their personal and family lives.

Overall, rural and urban respondents tended to express general satisfaction with their personal, professional, and community lives. Urban respondents may have been slightly more satisfied. This point may be reflected in the greater proportion of rural respondents who were planning, either in the short term or the long term, to leave rural areas. The proportion of rural respondents planning to leave their communities within a year was more than double the proportion of urban respondents planning to leave theirs. Interestingly, 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.

PART C: SPOUSES OF PRACTICING PHYSICIANS

I. Introduction

In recognition of the likelihood that locational decisions will be made jointly by physicians and their spouses, a spousal questionnaire was included with those sent to practising physicians. The questionnaire was divided into four basic areas. In part one, personal biographic and demographic information was sought. Part two inquired as to the respondent's educational level; part three requested information on the respondent's occupational status. Part four was comprised of questions regarding the respondent's satisfaction in relation to professional, community, and personal/family life.

A total of 608 spouses answered the survey. For the purposes of analysis, the respondents were divided into two subsets (as are the physicians) based on the size of the community within which their physician-spouses practised or resided. Rural respondents (N = 334) were identified as those from communities of fewer than 10,000 people, and urban respondents (N = 274) from communities of more than 10,000 people. Since the marital status of the practising physicians included in the study was previously unverified, it was not possible to calculate an appropriate response rate for the spousal respondents. However, 651 of the physicians who responded to the questionnaire indicated that they were married. For a detailed discussion of sample design, see Part A, Section III: Research Design and Methods. The information which follows is a preliminary descriptive analysis of the data which were obtained from the spouses' questionnaires.

II. Profile of Respondents

Age and Sex

Of the 334 responding spouses in rural communities, 87.4 percent were female and 12.6 percent were male; of the 273 urban respondents, 84.6 percent were female and 15.4 percent were male (a slightly greater proportion of males than their rural counterparts). While there were rural respondents from each age category (from under 35 years to 60 years or over), a majority of these (61.7%) were less than 45 years old. A smaller proportion of urban respondents fell into this group (50.9%). The modal age category of

rural male respondents (31.0%) was the younger-than-35 age-group, while that of rural female respondents (22.6%) was the 35-to-39-years group. The modal age category for both male and female urban respondents (23.8% and 21.2%, respectively) was 35 to 39 years. Thus, rural respondents were slightly younger than their urban counterparts, with a higher proportion of males who were younger than 40. Table C-1 presents rural and urban respondents by age and sex.

Table C-1

Respondents by Age and Sex
(Total N = 608)

Age	Rural						Urban					
	Male		Female		Total		Male		Female		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
< 35	13	31.0	65	22.3	78	23.4	9	21.4	35	15.2	44	16.1
35 - 39	12	28.6	66	22.6	78	23.4	10	23.8	49	21.2	59	21.6
40 - 44	5	11.9	45	15.4	50	15.0	8	19.0	28	12.1	36	13.2
45 - 49	1	2.4	22	7.5	23	6.9	3	7.1	22	9.5	25	9.2
50 - 54	5	11.9	44	15.1	49	14.7	7	16.7	45	19.5	52	19.0
55 - 59	2	4.8	30	10.3	32	9.6	1	2.4	29	12.6	30	11.0
60+	4	9.5	20	6.8	24	7.2	4	9.5	23	10.0	27	9.9
Totals*	42	12.6	292	87.4	334	100.0	42	15.4	231	84.6	273	100.0

* Non-respondents: Urban = 1 Female.

Community of Residence as a Youth

Respondents were asked to identify the size of the communities in which they were born and had attended elementary and secondary school. This information is outlined in Tables C-2a and C-2b. A higher percentage of rural respondents were either born or attended school in communities of 50,000 or fewer people than their urban counterparts (53.6% of rural respondents were born in communities of such size, compared with 42.7% of urban respondents; 55.4% of rural respondents attended elementary school in communities of 50,000 or fewer people, compared with 43.5% of urban respondents; and, 48.3% of rural respondents attended secondary school in communities of that size, compared with 37.6% of their urban counterparts). In contrast, between 42 and 48 percent of all responding urban spouses were born and

Table C-2a

Rural Respondents by Size of Community of Birth, Elementary, and Secondary School

Population	Birth		Elementary		Secondary	
	N	%	N	%	N	%
Up to 10,000	114	34.3	125	38.5	91	28.2
10,001 - 50,000	64	19.3	55	16.9	65	20.1
50,001 - 100,000	36	10.8	31	9.5	43	13.3
More than 100,000	118	35.5	114	35.1	124	38.4
Totals*	332	100.0	325	100.0	323	100.0

* Non-respondents: Birth = 2; Elementary = 9; Secondary = 11.

Table C-2b

Urban Respondents by Size of Community of Birth, Elementary, and Secondary School

Population	Birth		Elementary		Secondary	
	N	%	N	%	N	%
Up to 10,000	65	24.3	74	27.5	55	20.7
10,001 - 50,000	49	18.4	43	16.0	45	16.9
50,001 - 100,000	37	13.9	39	14.5	38	14.3
More than 100,000	116	43.4	113	42.0	128	48.1
Totals*	267	100.0	269	100.0	266	100.0

* Non-respondents: Birth = 7; Elementary = 5; Secondary = 8.

educated in communities of more than 100,000 people (43.4% birth; 42.0% elementary; 48.1% secondary). However, when compared with the physician survey, these figures show that a higher proportion of both rural and urban spousal respondents came from smaller communities (of 50,000 or fewer people).

Father's Field of Employment

Respondents were asked to indicate their father's profession or field of employment (Table C-3). The most frequently cited professional/occupational category for both rural and urban respondents' fathers was "Managerial/Administrative" (16.3% and 19.2%, respectively). Rural respondents whose fathers' fields of employment were "Farming/Ranching" comprised the second largest group (12.6%), followed by those in "Sales" (8.9%). The order of these was reversed for urban respondents (9.1% for "Sales"; 7.5% for "Farming/Ranching"). If the categories of "Physician" and "Other Medicine/Health" are combined, they take third place among rural and second place among urban respondents (9.8% for both rural and urban). Other unspecified fields of employment account for 12.3 percent of the father's professional/employment category for rural respondents, and 19.2 percent for urban respondents.

Table C-3

Father's Profession/Field of Employment

Profession	Rural		Urban	
	N	%	N	%
Managerial/Administrative	53	16.3	51	19.2
Farming/Ranching	41	12.6	20	7.5
Sales	29	8.9	24	9.1
Physician	27	8.3	19	7.2
Services	21	6.5	8	3.0
Processing/Manufacturing	16	4.9	13	4.9
Forestry/Mining	15	4.6	8	3.0
Construction	15	4.6	14	5.3
Teaching	14	4.3	13	4.9
Machining	11	3.4	5	1.9
Clerical	9	2.8	4	1.5
Transport/Equipment Operation	9	2.8	12	4.5
Social Sciences/Law	8	2.5	7	2.6
Artistic/Literary	5	1.5	1	0.4
Other Medicine/Health	5	1.5	7	2.6
Religion	4	1.2	5	1.9
Fishing/Hunting	3	0.9	2	0.8
Sport/Recreation	0	0.0	1	0.4
Other	40	12.3	51	19.2
Totals*	325	100.0	265	100.0

* Non-respondents: Rural = 9; Urban = 9.

The distribution of these responses differed from those of the physicians, for whom the most frequently reported category was that of "Physician" and "Other Medicine/Health" combined. "Managerial/ Administrative" comprised the second largest employment category (rural 17.0%; urban 16.7%), followed by "Teaching" (8.8%) for the rural physicians' fathers and "Sales" (9.4%) for those of the urban group.

Preferences for Leisure Time Activities

Respondents were asked to indicate their preferences for leisure time activities. Both rural and urban respondents expressed a preference for outdoor over indoor activities (Table C-4a), for active over spectator activities (Table C-4b), for sporting over cultural activities (Table C-4c), and for non-group over group activities (Table C-4d). A larger proportion of rural respondents indicated these preferences in each instance although the rural/urban difference with respect to group/non-group activities was small.

The spousal group appeared to prefer the same activities as the physician group but in lesser proportions. For example, while 64.4 percent of the spouses in rural areas preferred sporting to cultural activities, 78.7 percent of the physicians in rural areas preferred sporting over cultural activities. This may be explained, in part, by the gender difference between the two respondent groups; the physicians were predominantly male (approximately 82%), while the spouses were predominantly female (approximately 86%). It also seemed to be related to location; both rural physician and spouse respondents seem more likely to prefer outdoor, active and sporting activities than did their urban counterparts.

Children

Reporting spouses were asked to indicate the number of children they had (Table C-5). The majority (rural 61.1%; urban 56.2%) had two to three children; a small proportion had none (rural 12.0%; urban 13.5%). Table C-6 shows the number of children living in the respondents' households. Significant proportions of both rural and urban respondents had no children living with them (34.9% and 30.3%, respectively).

Table C-4a

Respondents by Preference for Indoor vs. Outdoor Leisure Time Activities

Activities	Rural		Urban	
	N	%	N	%
Indoor	88	27.4	96	36.4
Outdoor	233	72.6	168	63.6
Totals*	321	100.0	264	100.0

* Non-respondents: Rural = 13; Urban = 10.

Table C-4b

Respondents by Preference for Active vs. Spectator Leisure Time Activities

Activities	Rural		Urban	
	N	%	N	%
Active Participation	292	91.0	224	84.8
Spectator	29	9.0	40	15.2
Totals*	321	100.0	264	100.0

* Non-respondents: Rural = 13; Urban = 10.

Table C-4c

Respondents by Preference for Sporting vs. Cultural Leisure Time Activities

Activities	Rural		Urban	
	N	%	N	%
Sporting	203	64.4	150	57.7
Cultural	112	35.6	110	42.3
Totals*	315	100.0	260	100.0

* Non-respondents: Rural = 19; Urban = 14.

Table C-4d

Respondents by Preference for Group vs. Non-Group Leisure Time Activities

Activities	Rural		Urban	
	N	%	N	%
Group	118	37.2	100	39.4
Non-Group	199	62.8	154	60.6
Totals*	317	100.0	254	100.0

* Non-respondents: Rural = 17; Urban = 20.

Only 4.5 percent of rural respondents and 4.1 percent of urban respondents had more than three children living in their households. The majority (rural 60.6%; urban 65.7%) had between one and three children residing at home.

Table C-5

Number of Children of Respondents

Number of Children	Rural N	Rural %	Urban N	Urban %
None	40	12.0	37	13.5
One	38	11.4	30	10.9
Two	106	31.9	84	30.7
Three	97	29.2	70	25.5
More than three	51	15.4	53	19.3
Totals*	332	100.0	274	100.0

* Non-respondents: Rural = 2; Urban = 0.

Table C-6

Number of Children Currently Living in Respondents' Households

Number of Children	Rural N	Rural %	Urban N	Urban %
None	116	34.9	82	30.3
One	62	18.7	59	21.8
Two	81	24.4	70	25.8
Three	58	17.5	49	18.1
More than three	15	4.5	11	4.1
Totals*	332	100.0	271	100.0

* Non-respondents: Rural = 2; Urban = 3.

The 216 rural (65.1%) and 189 urban (69.7%) respondents who currently had children living with them were next asked to identify the ages of the youngest and oldest children in their households (Table C-7). The most dramatic difference between the rural and urban groups appeared in the over-18 age category. While only 2.8 percent of rural respondents reported that their youngest child was in this group, 16.1

percent of urban respondents had youngest children at home who were older than 18. Data for the oldest child's age show a similar rural/urban difference; 9.2 percent of rural respondents and 23.3 percent of urban respondents reported that the oldest child in their household was over eighteen years old. The contrast between the rural and urban groups may be related to age differences; both the rural physicians and spouses tended to be younger than their urban counterparts and so had less time to have children. The data in Table C-7 support this view; a higher proportion of rural respondents reported that their youngest (or only) child was under one year of age and that their oldest child was between one and five.

Table C-7

Age Range of Children (if any) Living with Respondents

Age Range	Youngest				Oldest*			
	Rural		Urban		Rural		Urban	
	N	%	N	%	N	%	N	%
< 1	34	15.8	19	10.2	0	0.0	0	0.0
1 - 5	66	30.7	62	33.3	32	20.9	20	15.5
6 - 12	71	33.0	41	22.0	62	40.5	49	38.0
13 - 18	38	17.7	34	18.3	45	29.4	30	23.3
18+	6	2.8	30	16.1	14	9.2	30	23.3
Totals**	215	100.0	186	100.0	153	100.0	129	100.0

* If only 1 child was reported, response was included in "Youngest".
** Non-respondents: Youngest - Rural = 1, Urban = 3; Oldest - Urban = 1.

III. Education

Highest level of education information is reported in Table C-8. The largest single proportion of rural respondents reported trade/vocational training as their highest level of education (26.7%); the largest single proportion of urban respondents had completed university graduate education (32.1%). More urban respondents reported having obtained undergraduate (24.7%) and graduate (32.1%) degrees than their rural counterparts (undergraduate 20.0%; graduate 22.4%). As previously noted, the urban respondents tended to be older than their rural counterparts; this may explain in part their higher level of education. In

general, though, the overwhelming majority of both rural and urban respondents had completed some form of post-secondary education (91.5% and 95.1%, respectively).

Table C-8

Respondents by Highest Level of Education

Highest Level of Education	Rural		Urban	
	N	%	N	%
Primary School	1	0.3	0	0.0
Some Secondary School	4	1.2	4	1.5
Completed Secondary School	23	7.0	9	3.3
Trade/Vocational Training	88	26.7	47	17.3
Some University, Undergraduate	59	17.9	48	17.7
Completed University, Undergraduate	66	20.0	67	24.7
Some University, Graduate Level	15	4.5	9	3.3
Completed University, Graduate Level	74	22.4	87	32.1
Totals*	330	100.0	271	100.0

* Non-respondents: Rural = 4; Urban = 3.

IV. Occupation

The majority of both rural and urban respondents were employed although more urban than rural spouses reported employment (63.7% and 66.9%, respectively) (Table C-9).

Table C-9

Respondents by Employment Status

Employment Status	Rural		Urban	
	N	%	N	%
Employed	212	63.7	182	66.9
Not Employed	121	36.3	90	33.1
Totals*	333	100.0	272	100.0

* Non-respondents: Rural = 1; Urban = 2.

Of those who were unemployed (Table C-10), 15.4 percent of the rural respondents reported that their unemployment was *not* by choice, while only 9.3 percent of urban respondents so replied.

Table C-10

If Not Employed, Is This By Choice?

By Choice?	Rural		Urban	
	N	%	N	%
Yes	99	84.6	78	90.7
No	18	15.4	8	9.3
Totals*	117	100.0	86	100.0

* Non-respondents: Rural = 4; Urban = 4.

The majority of the spouses who were employed (Table C-11) worked in health care (rural 62.9%; urban 60.6%). An appreciably larger proportion of rural respondents were nurses (22.9%) than were their urban counterparts (11.1%). While 14.3 percent of rural respondents reported employment as physicians (either salaried or self-employed), a larger proportion (20.6%) of urban respondents stated that as their profession.

Table C-11

Respondents by Type of Employment

Position	Rural		Urban	
	N	%	N	%
Physician - Salaried	4	1.9	5	2.8
Physician - Self-Employed	26	12.4	32	17.8
Nurse	48	22.9	20	11.1
Other Health Care Worker	54	25.7	52	28.9
Other than in Health Care	49	23.3	56	31.1
Self-Employed (Non-Physician)	29	13.8	15	8.3
Totals*	210	100.0	180	100.0

* Non-respondents: Rural = 2; Urban = 2.

Respondents were asked to identify those activities, other than family/job responsibilities, in which they were participating (Table C-12). This question was intended to determine the extent of their involvement in community work. Approximately 46 percent of rural respondents reported being engaged in volunteer work in the community, while only 36.1 percent of urban respondents so answered. In addition, 15.8 percent of rural respondents and 11.6 percent of urban respondents stated that they developed activities within a local social/recreational group.

Table C-12

Respondents by Activities Other Than Family/Job Responsibilities

Activity	Rural		Urban	
	N	%	N	%
Do Volunteer Work in Community	145	45.7	90	36.1
Develop Social/Recreational Group Activities	50	15.8	29	11.6
Have Other Activities	122	38.5	130	52.2
Totals*	317	100.0	249	100.0

* Non-respondents: Rural = 17; Urban = 25.

Respondents were then asked about the extent of their contribution to practice location decisions. Using the 5-point scale provided, respondents were asked to indicate whether they had contributed from (1) "not at all" to (5) "to a great extent" in the decision-making process. Table C-13 displays the mean contribution level for rural and urban respondents as calculated from the survey results. The mean contribution level of rural spouses was slightly larger than that of urban spouses, but the majority of all spouses believed that their input was significant in deciding practice location (an average of 3.7 or greater on the scale provided). A two-tailed *t*-test was conducted in relation to the difference between rural and urban contribution averages; it was not found to be statistically significant.

Table C-13

Extent of Contribution to Families' Decisions to Stay in Spouses' Current Practice Location
(1 = not at all ... 5 = to a great extent)

Rural			Urban		
N	Mean	Standard Deviation	N	Mean	Standard Deviation
325	3.85	1.260	268	3.69	1.351

V. Satisfaction Levels

Respondents were presented with a series of survey items in order to identify their level of satisfaction with various aspects of their professional, community, and personal/family lives. Using the five-point scale provided, respondents were asked to indicate whether they were (1) "very unsatisfied" to (5) "very satisfied" with the survey items. Table C-14 displays the mean satisfaction levels for rural and urban respondents as calculated from the survey results. Two-tailed *t*-tests were performed to assess the differences between mean satisfaction levels of rural and urban respondents for each item below. Highly significant differences in mean satisfaction levels were found for 13 out of 22 items ($p < 0.01$).

a) Professional Items

In all areas of professional concern, rural respondents showed lower mean satisfaction levels than their urban counterparts, with *t*-tests indicating that these differences were highly significant. The area of greatest concern for rural spouses was "professional/work advancement," where the mean level of satisfaction was only 3.12 (compared with 3.77 for their urban counterparts). The difference in level of satisfaction for the two groups was also highly significant with regard to "opportunities for employment" and "opportunity to use [one's] skills." Rural respondents showed satisfaction levels of 3.36 and 3.53, respectively, for these two areas, compared with 3.89 and 3.91 for urban respondents. A comparison of the mean levels of professional satisfaction of the physicians and spouses is difficult because of the work-specific content of the 22 questions

Table C-14

Respondents by Mean Satisfaction Level for
Specific Professional, Community, and Personal/Family Concerns
(1 = very unsatisfied ... 5 = very satisfied)

Professional, Community, Personal/ Family Concerns	Rural			Urban		
	N	Mean	Standard Deviation	N	Mean	Standard Deviation
PROFESSIONAL:						
Opportunity to Use One's Skills**	303	3.53	1.252	249	3.91	1.051
Opportunities for Employment**	295	3.36	1.332	244	3.89	1.091
Professional/Work Advancement**	293	3.12	1.302	237	3.77	1.073
COMMUNITY:						
Personal Safety in the Community**	325	4.55	0.733	262	4.16	0.893
Quality of Environment**	325	4.18	1.007	267	3.91	1.044
Financial/Economic Security in the Community	322	4.14	0.896	262	4.08	0.929
Possibility for Community Involvement/Leadership	318	4.11	0.945	260	4.01	0.913
Life-style in the Community	328	4.05	1.094	268	4.06	0.981
Sense of Community**	325	4.01	1.063	268	3.76	1.081
Size of Community	326	3.99	1.118	269	4.16	1.010
Resources With Which to Enjoy Leisure Time**	322	3.93	1.119	266	4.22	0.946
Availability of Recreational Facilities**	324	3.90	1.193	268	4.32	0.961
Availability of Cultural Activities**	323	2.84	1.220	267	4.03	1.165
PERSONAL/FAMILY:						
Quality of Housing	324	4.28	0.947	256	4.25	0.899
Spouse's Contentment in the Community	325	4.15	0.896	261	4.18	0.942
Quality of Life for One's Children	272	4.11	0.963	231	4.22	0.873
Time for Family Life (Recreation & Leisure)	326	3.69	1.165	264	3.65	1.082
Opportunity to Earn Required Income**	302	3.54	1.293	251	3.90	1.063
Quality of Education for One's Children**	275	3.34	1.120	226	4.03	1.039
Availability of Cultural Opportunities**	327	2.93	1.178	267	3.93	1.067
Proximity to Relatives & Extended Family**	321	2.73	1.508	259	3.20	1.451
Other	31	2.48	1.730	11	3.18	1.834

** Highly significant ($p < 0.01$).

answered by physician respondents (Appendix F). In general, however, the physicians were found to be more satisfied with their professional lives than were the respondent spouses.

b) Community Items

There were many areas of community concern for which *t*-tests indicated highly significant differences in levels of satisfaction between the rural and urban groups. The most notable of these was "availability of cultural activities," where the mean level of satisfaction for urban respondents was 4.03, compared with only 2.84 for those in rural areas. Rural respondents were also less satisfied with the "availability of recreational facilities" (rural 3.90; urban 4.32) and the "resources with which to enjoy leisure time" (rural 3.93; urban 4.22). Rural respondents were more satisfied than their urban counterparts with "sense of community" (rural 4.01; urban 3.76), "quality of environment" (rural 4.18; urban 3.91), and their "own personal safety in the community" (rural 4.55; urban 4.16). These findings are similar to those of the physician group although mean levels of satisfaction were generally higher for rural physician respondents than for rural spouses.

There were only four statements of community concern for which differences in levels of satisfaction between the rural and urban spouses were not statistically significant. However, the physician respondents showed either significant or highly significant differences for these four items, which were:

i) financial/economic security in the community (rural 3.86; urban 4.00);

ii) possibility for community involvement/leadership (rural 4.04; urban 3.85);

iii) life-style in the community (rural 4.12; urban 4.22);

iv) size of community (rural 4.05; urban 4.33).

For all but the item about community involvement or leadership, urban communities scored higher on the satisfaction scale.

c) **Personal/Family Items**

Four items on the personal/family satisfaction scale were highly significant for differences in mean levels of satisfaction between rural and urban groups. In all four cases, rural respondents were less satisfied than their urban counterparts. Once again, the largest difference in level of satisfaction was seen with "availability of cultural opportunities for self and family" (rural 2.93; urban 3.93). Although only 35.6 percent of rural spouses indicated a preference for cultural activities (Table C-4c), no difference was found in the satisfaction levels pertaining to availability of cultural opportunities between spouses who preferred cultural activities and those who preferred sporting activities. Rural physician respondents showed a similar degree of dissatisfaction with the two questions regarding availability of cultural activities although their mean satisfaction levels were slightly higher (3.04 and 3.05).

Rural spouses were also significantly less satisfied with the quality of their children's education (rural 3.34; urban 4.03). These results were similar to those of the physician group. However, there was no statistically significant difference between rural and urban spouses' satisfaction with the quality of life for their children (rural 4.11; urban 4.22). This differs from the results of the physicians' survey, in which highly significant differences were found between the rural and urban groups (rural 4.04; urban 4.34) in response to this statement.

Rural spouses were significantly less satisfied with "proximity to relatives and extended family" (rural 2.73; urban 3.20). Physicians showed similar levels of dissatisfaction with their proximity to family. Rural and urban physicians differed from the spousal respondents in being somewhat satisfied with their income opportunities (rural 3.79; urban 3.87). Mean satisfaction levels were lower for the spouses, with a highly significant difference between the rural and urban respondents (rural 3.54; urban 3.90).

For the item "spouse's contentment in the community", both rural and urban spousal respondents showed similar mean levels of satisfaction (rural 4.15; urban 4.18) with the contentment of the physician respondents. In contrast, rural and urban physician respondents differed significantly in their mean levels of satisfaction with the contentment of the spousal respondents (rural 3.95; urban 4.32). Spouses showed no significant differences in mean levels of satisfaction with "quality of housing" in their communities nor

with "time for family life." On the other hand, the physician respondents showed highly significant differences for these areas (quality of housing: rural 4.16, urban 4.30; family time: rural 3.47, urban 3.75).

Overall Satisfaction

Lastly, respondents were surveyed to determine their overall satisfaction or contentment with their professional, community, and personal/family lives. Once again, the spouses were asked to indicate their responses on a 5-point scale, ranging from (1) "strongly disagree" to (5) "strongly agree." Averages for these responses were calculated for rural and urban respondents and are displayed in Table C-15. The results showed a highly significant difference between rural and urban respondents' satisfaction with their professional careers (rural 3.03; urban 3.38), but no significant differences in community or personal/family satisfaction levels. The mean score for satisfaction with their communities was slightly higher for urban respondents (3.94) than for rural respondents (3.80). For personal/family satisfaction levels, the mean scores for rural and urban respondents were almost identical (rural 4.30; urban 4.28).

Table C-15

Respondents by Mean Satisfaction Levels for Professional, Community, and Personal/Family Lives
(1 = strongly disagree ... 5 = strongly agree)

	Rural			Urban		
	N	Mean	Standard Deviation	N	Mean	Standard Deviation
Professional	278	3.03	1.207	236	3.38	1.151
Community	325	3.80	1.115	267	3.94	0.993
Personal/Family	327	4.30	0.859	265	4.28	0.809

When these results were compared with those of the physician group, both rural and urban spouses were found to have been considerably less satisfied with their professional lives than were the rural (3.68) and urban (3.84) physician respondents. In addition, they were slightly less satisfied with their community lives than were the physician respondents (rural 4.01; urban 4.14). However, rural and urban spouses were

slightly more satisfied with their personal/family lives than physician respondents in either location (rural 4.16; urban 4.27).

VI. Concluding Remarks

In summary, the majority of the spousal respondents were female; half the urban respondents and almost two-thirds of the rural respondents were under 45 years old. A higher proportion of both rural and urban spouses came from communities of 50,000 or fewer people than did the physician respondents. The most frequently cited employment group for spouses' fathers was "Managerial/Administrative," followed by "Farming/Ranching" for rural spouses, and combined "Physician" and "Other Medicine/Health" for urban spouses. In contrast, the most frequently cited employment group for the physicians' fathers was the combined category of "Physician" and "Other Medicine/Health," followed by "Managerial/Administrative." Both the physicians and the spouses had similar interests in leisure time activities, preferring outdoor over indoor, active over spectator, sporting over cultural, and non-group over group activities. Some respondents had no children living with them, but the majority had between one and three children residing at home. The most dramatic difference between the rural and urban groups in the numbers of children appeared in the over-18 age-category. Five times more urban than rural respondents had a youngest child aged 18 or older living with them.

In general, the overwhelming majority of spousal respondents had completed some form of post-secondary education. The largest single proportion of rural spouses reported trade/vocational training as their highest level of education, while the largest single proportion of urban respondents had completed university graduate education.

The majority of both rural and urban spouses was employed. Of those who were unemployed, significantly more rural than urban respondents reported that their unemployment was involuntary. Most of the spouses who were employed worked in health care; twice as many rural spouses were employed as nurses. Approximately 14 to 21 percent of spouses reported employment as physicians (either salaried or self-employed). A higher percentage of rural than urban spouses reported being engaged in volunteer work

in their communities and in development of local social/recreational activities. The majority of all spouses believed that their input was important in the decision to stay in their spouses' current practice location.

In all areas of professional concern, rural spouses showed lower mean satisfaction levels than their urban counterparts, and both groups of spouses were less satisfied than the physician respondents with professional life. Both rural physicians and spouses showed dissatisfaction with the availability in their communities of cultural activities, recreational facilities, and the resources with which to enjoy leisure time. Rural respondents were more satisfied than their urban counterparts with community, the quality of environment, and community safety levels. In matters of personal/family concern, rural spouses were less satisfied than their urban counterparts with the quality of their children's education, proximity to relatives and extended family, and opportunities to earn required income. These results are similar to those of the physician group although the physicians were somewhat more satisfied than the spousal respondents with income opportunities. In terms of overall satisfaction, it was observed that although rural spouses were less satisfied with their professional careers than were urban spouses, no statistically significant differences between the two groups existed in overall community or personal/family satisfaction levels. When these results are compared with those of the physicians, both rural and urban spouses were found to have been less satisfied with their professional and community lives, but more satisfied with their personal/family lives, than were the physician respondents.

PART D: RESIDENTS AND INTERNS

I. Introduction

The target population for this part of the survey included those residents and interns on the temporary (at hospital) register with the College of Physicians and Surgeons of British Columbia as of September 1989. As a result, the survey group was originally comprised of 207 residents and 85 interns. The total figure was later revised to 290 individuals when two respondents returned questionnaires and noted that they were neither residents nor interns.

Forty-one interns and 77 residents returned questionnaires, making a total of 118 respondents and an overall response rate of 40.7 percent. The response rate for interns (41 out of 85, 48.2%) was higher than that for residents (77 out of 207, 37.2%). Among resident non-respondents, 30.5 percent were female and 69.5 percent male; the sex distribution of resident respondents was approximately the same. Intern non-respondents were 53.5 percent female and 46.5 percent male, while intern respondents included a larger proportion of males (58.5%) and a smaller proportion of females (41.5%). Of the 207 questionnaires mailed to residents, 15 (7.2%) were undeliverable after two mailings. None of the intern questionnaires was undeliverable after the second mailing. Thus, while interns constituted only 29.1 percent of the total resident and intern survey population, they accounted for 34.7 percent of the respondents.

Unlike the practising physician and practising physician spouse survey groups, interns and residents were not divided into rural and urban sub-groups for the purpose of description and analysis. This was partly because of the nature of the group under scrutiny and partly a result of their intentions regarding practice locations upon graduation. First, a division into rural and urban sub-groups is not appropriate since virtually all residencies are based in urban teaching hospitals. While the intended location of respondents' practices might have been another basis of comparison, only eight (6.8%) of the 118 interns and residents who responded to the survey indicated that their first choice would be to establish practices in rural communities. Accordingly, this method of classification is not useful for comparative purposes. A comparison of respondents based on an urban and rural/semi-rural split, however, is undertaken in the analysis. This is made possible since an additional 31 respondents declared that it was their intention to

establish their practices in semi-rural areas. This basis of analysis, however, is somewhat problematic for across-group comparison, since interns and residents were provided with specific definitions of urban and rural while practising physicians and spouses were not. For some questions in the resident and intern questionnaire, urban areas were defined as "having all necessary specialty backup services readily available" and rural areas were "over 100 kilometres or more than 1.5 hours from a secondary or tertiary hospital." For the purposes of analysis, practising physicians and their spouses were sub-divided according to the size of the community in which their practices were located: rural (communities of up to 10,000 people) and urban (communities of more than 10,000 people). In any direct comparison of the different survey groups, therefore, these varying definitions of rural and urban must be considered.

For the first part of the analysis, the interns/residents will generally be described without disaggregation into rural and urban groups. In large part, resident or intern status provides the basis for comparison. Residents and interns are subsequently divided into those intending to establish practices in rural or semi-rural areas and those intending to practise in urban areas.

II. Profile of Respondents

Age, Sex and Marital Status

Table D-1 provides a breakdown of respondents' age and sex. The table indicates that there was a greater proportion of female respondents among interns. While 70.1 percent of responding residents were male, the corresponding figure for the intern group was only 58.5 percent. The interns who responded to the survey were slightly younger than their resident counterparts. Only one of the responding interns (2.4%) was over thirty-nine, while 6.5 percent of responding residents fell into this category. Female residents and interns were also slightly more likely to be older than their male counterparts.

Table D-1

Respondents by Age and Sex
(Total N = 118)

Age	Residents						Interns					
	Male		Female		Total		Male		Female		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
< 35	45	83.3	17	73.9	62	80.5	22	91.7	15	88.2	37	90.2
35 - 39	7	13.0	3	13.0	10	13.0	1	4.2	2	11.8	3	7.3
40 - 44	1	1.9	2	8.7	3	3.9	1	4.2	-	-	1	2.4
45 - 49	1	1.9	1	4.3	2	2.6	-	-	-	-	-	-
Totals	54	100.0	23	100.0	77	100.0	24	100.0	17	100.0	41	100.0
(%)		(70.1)		(29.9)		(100.0)		(58.5)		(41.5)		(100.0)

The information displayed in Table D-2 indicates that a greater proportion of interns (55.0%) than of residents (46.8%) were single. In addition, in both the resident and intern groups, the proportion of females who were single (residents 60.9%; interns 68.8%) was greater than the proportion of single males (residents 40.7%; interns 45.8%). However, just over half (51.9%) of the resident group were married (or living with a partner), while only 45.0 percent of the intern group were married (or living with a partner). The proportion of single female interns was larger than the proportion of single female residents; this relationship also held for male interns and residents although the difference between these two groups was not as large as in the case of females.

Table D-2

Respondents by Marital Status and Sex

Status	Residents						Interns					
	Male		Female		Total		Male		Female		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Single	22	40.7	14	60.9	36	46.8	11	45.8	11	68.8	22	55.0
Married	32	59.3	8	34.8	40	51.9	13	54.2	5	31.3	18	45.0
Other	-	-	1	4.3	1	1.3	-	-	-	-	-	-
Totals*	54	100.0	23	100.0	77	100.0	24	100.0	16	100.0	40	100.0
(%)		(70.1)		(29.9)		(100.0)		(60.0)		(40.0)		(100.0)

* Non-respondents: Interns = 1.

Community of Residence as a Youth

Respondents were asked to identify the size of the communities in which they were born and had attended elementary and secondary school. This information is outlined in Tables D-3a and D-3b. The overwhelming majority of both residents and interns were born and educated at the elementary and secondary levels in urban communities of over 10,000 people. However, the proportion of residents from communities of 10,000 of fewer people was double that of interns in each case, except for community of secondary school. The proportion of interns who were born and educated in communities of between 10,001 and 50,000 people was approximately double that of residents. Overall, almost two-thirds of residents and slightly over half of interns were born and educated in communities with populations larger than 100,000.

Table D-3a

Responding Residents by Size of Community of Birth, Elementary, and Secondary School

Population	Birth		Elementary		Secondary	
	N	%	N	%	N	%
Up to 10,000	13	17.1	13	16.9	12	15.8
10,001 - 50,000	9	11.8	10	13.0	7	9.2
50,001 - 100,000	5	6.6	5	6.5	7	9.2
More than 100,000	49	64.5	49	63.6	50	65.8
Totals*	76	100.0	77	100.0	76	100.0

* Non-respondents: Birth = 1; Secondary = 1.

Table D-3b

Responding Interns by Size of Community of Birth, Elementary, and Secondary School

Population	Birth		Elementary		Secondary	
	N	%	N	%	N	%
Up to 10,000	3	7.3	3	7.3	5	12.2
10,001 - 50,000	10	24.4	9	22.0	10	24.4
50,001 - 100,000	3	7.3	5	12.2	5	12.2
More than 100,000	25	61.0	24	58.5	21	51.2
Totals*	41	100.0	41	100.0	41	100.0

Father's Field of Employment

As with the practising physician group discussed earlier, the most frequently noted category for father's field of employment was "Managerial/Administrative" (22.1%) for responding residents. Among interns, "Physician" (14.6%) ranked first as a category of father's field of employment; among responding residents, "Physician" ranked second (14.3%). If "Other Medicine/Health" is combined with the "Physician" category, the rankings of the profession/field of employment categories remain unchanged for residents and interns as separate groups. For residents, however, the gap between the managerial/administrative and the physician categories is narrowed from an original difference of 7.8 percent to a 5.2 percent difference. For interns, the gap between the first ranking physician category and the second in rank teaching and managerial/administrative categories is widened considerably, from 2.4 percent to 14.6 percent. In the final analysis, 26.8 percent of interns noted father's field of employment as health care-related, either physician or other medical or health-related fields.

Table D-4

Father's Profession/Field of Employment

Profession	Residents		Interns	
	N	%	N	%
Managerial/Administrative	17	22.1	5	12.2
Physician	11	14.3	6	14.6
Teaching	8	10.4	5	12.2
Social Sciences/Law	4	5.2	-	-
Sales	4	5.2	3	7.3
Services	4	5.2	-	-
Farming/Ranching	4	5.2	2	4.9
Transport/Equipment Operation	3	3.9	4	9.8
Other Medicine/Health	2	2.6	5	12.2
Artistic/Literary	2	2.6	-	-
Construction	2	2.6	-	-
Machining	2	2.6	-	-
Religion	1	1.3	-	-
Forestry/Mining	1	1.3	2	4.9
Processing/Manufacturing	1	1.3	1	2.4
Clerical	-	-	1	2.4
Other	11	14.3	7	17.1
Totals	77	100.0	41	100.0

If residents and interns are examined as one group, and physician and other medicine/health are combined, this category becomes the most frequently selected overall (20.3%). As with the practising physician group, the number of residents and interns who indicated that their fathers were employed in other professions or fields of employment was nearly as large or larger than the listed items. Table D-4 displays in more detail the profession and field of employment of each respondent's father.

Preferences for Leisure Time Activities

When asked to indicate a preferred kind of leisure time activities, responding interns and residents noted a preference for outdoor (73.9%), active (85.5%), sporting (74.1%), and non-group (59.1%) activities, although interns were evenly divided, preferring group and non-group activities equally. In terms of outdoor activities (80.5%) and activities that require active participation (92.5%), responding interns were very closely matched with practising urban physicians. In terms of a preference for sporting activities (79.5%), responding interns were more closely matched with practising rural physicians. Collectively, the interns who responded to the survey were unique in the almost equal division of their preferences for group and non-group activities (Table D-5d). Both interns and residents preferred non-group activities, but the proportion of residents that preferred such activities was greater than the corresponding proportion of interns. In each of the other leisure activity items, the proportion of responding residents was between 7.5 and 10.5 percent smaller than the proportion of interns indicating similar preferences (Tables D-5a through D-5d).

III. Education

Area of Residency - Professional Goals

Residents were asked to indicate the specialty or professional discipline in which they were doing a residency, while interns were asked their intended professional goal. Twenty eight residents and interns (23.9%) expressed an intention to pursue general and family practice. Eighty-nine residents and interns expressed an intention to pursue specialty training.

Table D-5a

Respondents by Preference for Indoor vs. Outdoor Leisure Activities

Activities	Residents		Interns	
	N	%	N	%
Indoor	22	28.9	8	19.5
Outdoor	54	71.1	33	80.5
Totals*	76	100.0	41	100.0

* Non-respondents: 1 resident.

Table D-5b

Respondents by Preference for Active vs. Spectator Leisure Activities

Activities	Residents		Interns	
	N	%	N	%
Active Participation	62	81.6	37	92.5
Spectator	14	18.4	3	7.5
Totals*	76	100.0	40	100.0

* Non-respondents: 1 resident; 1 intern.

Table D-5c

Respondents by Preference for Sporting vs. Cultural Leisure Activities

Activities	Residents		Interns	
	N	%	N	%
Sporting	54	72.0	31	79.5
Cultural	21	28.0	8	20.5
Totals*	75	100.0	39	100.0

* Non-respondents: 2 residents; 2 interns.

Table D-5d

Respondents by Preference for Group vs. Non-Group Leisure Activities

Activities	Residents		Interns	
	N	%	N	%
Group	28	37.8	19	48.7
Non-Group	46	62.2	20	51.3
Totals*	74	100.0	39	100.0

* Non-respondents: 3 residents; 2 interns.

Of this latter group, 58 (64.9%) planned to pursue clinical specialties, 24 (26.8%) planned to pursue surgical specialties, and seven (7.8%) planned to pursue laboratory specialties.

Of the respondent residents, a total of 59.7 percent reported clinical residencies. A further 22.1 percent were involved in surgical residencies, and 9.1 percent noted laboratory specialties. Finally, 9.1 percent of residents noted family practice (CCFP) as the area of their residency. Over half (52.5%) of responding interns indicated either general or family practice (CCFP) as their intended professional goal. A further 30.0 percent intended to pursue clinical specialties. Surgical specialties were noted as professional goals by 17.5 percent of interns. No interns indicated an intention to pursue laboratory specialties.

Internal medicine was the most frequently chosen area of specialty among residents (13.0%) and among interns (7.5%), excluding those interns who intended to pursue either general practice or family practice (CCFP). Paediatrics was noted as the specialty of residency of 11.7 percent of residents. This was followed by 9.1 percent of residents who chose psychiatry as their area of residency. Ophthalmology was first among surgical specialties noted by residents (5.2%), followed by cardiovascular and thoracic (3.9%), and neurosurgery (3.9%). Interns indicating clinical specialties as intended professional goals selected, after internal medicine, anaesthesia and emergency medicine (at 5.0% each). Further details of residents' specialties and interns' professional goals are outlined in Appendix G.

Undergraduate Medical Training

As with practising physicians, residents and interns were asked to indicate the Canadian or foreign university from which they received their undergraduate medical training. Tables D-6 and D-7 present, in ranked order, responding residents and interns according to the province or country in which they graduated from university. The proportion of responding residents (66.2%) who received their undergraduate training from Canadian universities, while similar to the practising physician group, was different from the intern population. While 26 residents (33.8%) were trained at foreign universities, only one intern indicated having received undergraduate training from a foreign university, in this case, India.

a) Canadian Universities

The proportions of responding residents and interns who graduated from universities in each of Canada's provinces did not compare directly with the actual place of graduation distribution of the practising physician survey group (see Cavalier *et al.*, 1990). Residents and interns who were educated in British Columbia accounted for slightly more than one-quarter (26.7%) of responding Canadian educated interns and residents. The University of British Columbia was the single largest source of the intern/resident group. When examined separately, however, figures for residents vary somewhat from those for interns. The single largest source of responding residents was Alberta, with the two universities in that province accounting for 31.4 percent of those who responded. While 38.5 percent of interns had graduated from the University of British Columbia, only 17.6 percent of residents received their training at UBC. As with practising physicians, approximately two-thirds of responding Canadian-trained residents (68.6%) and interns (66.8%) received their undergraduate training at universities west of the Ontario-Manitoba border.

Table D-6

Responding Residents and Interns by Province of Graduation (Canada)
(Total N: Residents = 51; Interns = 40)

Province	Residents		Interns		Group Total	
	N	%	N	%	N	%
Alberta	16	31.4	6	15.4	22	24.4
Ontario	11	21.6	4	10.3	15	16.7
British Columbia	9	17.6	15	38.5	24	26.7
Saskatchewan	7	13.7	4	10.3	11	12.2
Newfoundland	4	7.8	1	2.6	5	5.6
Manitoba	3	5.9	1	2.6	4	4.4
Quebec	1	2.0	5	12.8	6	6.7
Nova Scotia	-	-	3	7.7	3	3.3
Totals*	51	100.0 (56.7)	39	100.0 (43.3)	90	100.0 (100.0)

* Non-respondents: Interns = 1.

b) Foreign Universities

Of the interns who responded to the survey, only one trained in a foreign university (India). Almost half (46.2%) of the 26 responding residents who had received their undergraduate medical education outside Canada indicated training from universities in areas or countries not itemized in the survey questionnaire. Areas not itemized in the questionnaire included much of Asia, Africa, the Middle East, and Central and South America. Those residents who did select an itemized country or area reported training in the United Kingdom (15.4%), Australia/New Zealand (11.5%), South Africa (11.5%), and various other countries. Details of the results are provided in Table D-7.

Table D-7

Responding Residents and Interns by Place of Graduation (Outside Canada)
(Total N: Residents = 26; Interns = 2)

Place of Graduation	Residents		Interns		Group Total	
	N	%	N	%	N	%
United Kingdom	4	15.4	-	-	4	14.8
Australia/New Zealand	3	11.5	-	-	3	11.1
South Africa	3	11.5	-	-	3	11.1
Hong Kong	1	3.8	-	-	1	3.7
Other Europe	1	3.8	-	-	1	3.7
United States	1	3.8	-	-	1	3.7
India	1	3.8	1	100.0	2	7.4
Other	12	46.2	-	-	12	44.4
Totals*	26	100.0 (96.3)	1	100.0 (3.7)	27	100.0 (100.0)

* Non-respondents: Interns = 1.

IV. Community

Residents and interns were asked to indicate if and for how long they had been in a rural community during their medical training. For the purposes of this question, rural communities were defined as those with populations of up to 10,000 people (Tables D-8a and D-8b). Close to half of all responding residents (48.7%) and interns (43.9%) did not spend time in a rural community during their undergraduate medical

training. Twenty-one percent of residents and 29.3 percent of interns spent one month or less in rural areas during their undergraduate years. Over a quarter of residents (30.3%) and interns (26.8%), however, had spent more than one month in rural communities during this time.

Table D-8a

Undergraduate Medical Training in Rural Areas
(Total N: Residents = 77; Interns = 41)

Length of Training	Residents		Interns	
	N	%	N	%
Less than One Month	8	10.5	4	9.8
One Month	8	10.5	8	19.5
More than One Month	23	30.3	11	26.8
Never	37	48.7	18	43.9
Totals*	76	100.0	41	100.0

* Non-respondents: Residents = 1.

Table D-8b

Post-graduate Medical Training in Rural Areas
(Total N: Residents = 77; Interns = 41)

Length of Training	Residents		Interns	
	N	%	N	%
Twelve Months	3	4.3	-	-
Nine Months	4	5.7	-	-
Three Months	5	7.1	-	-
One Month	2	2.9	4	13.8
Never	56	80.0	25	86.2
Totals*	70	100.0	29	100.0

* Non-respondents: Residents = 7; Interns = 12.

The proportion of residents and interns with any rural experience was reduced further during their post-graduate medical training. Eighty percent of residents and 86.2 percent of interns who responded to the question reported never having spent time in a rural area during their post-graduate training. Only three residents who responded to the question (4.3%) had spent more than a year in a rural area during their post-graduate medical training.

Respondents were asked to indicate their first choices for location of practice following completion of their residency or internship program (Table D-9). Only 28.0 percent of residents, compared with 41.5 percent of interns, chose rural or semi-rural areas as their area of first preference for establishing a practice.

Table D-9

First Choice for Location of Practice
(Total N: Residents = 77; Interns = 41)

Location of Choice	Residents		Interns	
	N	%	N	%
Urban Area	54	72.0	24	58.5
Semi-rural Area	18	24.0	12	29.3
Rural Area	3	4.0	5	12.2
Totals*	75	100.0	41	100.0

* Non-respondents: Residents = 2.

For the analysis of residents and interns that follows, "rural," "rural/semi-rural," and "rural-bound" refer to respondents who intended to establish practices in rural or semi-rural areas, while "urban" and "urban-bound" refer to those who intended to establish practices in urban areas. Accordingly, comparisons between residents and interns based on the intended rural or urban location of their practices, and comparisons with physicians based on their actual rural or urban practice locations, should be approached with caution because of the differing definitions of rural and urban provided to respondents and assumed in the analysis.

Those residents and interns who had spent time in a rural area as part of their undergraduate or post-graduate medical training were asked to indicate on a scale from (1) "not at all" to (5) "very much" the degree to which they had enjoyed a) "the practice of medicine in that community," b) "the community life,"

and c) their "personal/family life." Table D-10 displays means and standard deviations for the levels of enjoyment for the group, as well as for the type of area in which they were planning to set up practice. Because the cell for rural-bound contained only two respondents, the rural- and semi-rural-bound were collapsed into one category for the purposes of analysis.

Table D-10

Residents and Interns by Enjoyment of Rural Experience
(Rural/Semi-Rural-bound vs. Urban-bound)
(1 = not at all ... 5 = very much)
(Total N = 53)

Aspects of Rural Experience	Intended Location of Practice						Total Group*		
	Rural/Semi-rural			Urban					
	N	Mean	Standard Deviation	N	Mean	Standard Deviation	N	Mean	Standard Deviation
Practice**	18	4.33	0.767	28	3.61	1.066	46	3.89	1.016
Community	18	3.50	0.985	28	2.96	1.170	46	3.17	1.122
Personal	17	3.24	1.300	27	2.89	1.188	44	3.02	1.229

* Non-respondents: Practice = 7; Community = 7; Personal = 9.
** Highly Significant ($p < 0.01$).

Among responding residents and interns, there was a reasonably high average level of enjoyment regarding their experiences in rural medical practice, rural community life, and their personal lives in the rural area, regardless of the type of area in which they intended to set up practice. In each case, however, the urban-bound residents and interns enjoyed these aspects of rural life less than those who planned to set up practice in rural or semi-rural areas. In particular, based on a two-tailed *t*-test, the difference in the degree to which these two groups enjoyed the practice of medicine in that community was found to be highly significant. Furthermore, in each case, the mean level of enjoyment for the rural-bound was greater than the mean for the total survey group, while the enjoyment level of those intending to establish urban practices was lower than for the total group.

Satisfaction Levels

Respondents were asked to indicate, from a list of 35 survey items, the degree to which various factors were influential motivators in the choice for the location of their future practice. These items were essentially the same as those for which physician respondents were asked to indicate their levels of satisfaction regarding aspects of their professional, community, and personal/family lives. Using a five-point scale that ranged from (1) "not at all" to (5) "very much," residents and interns were asked to indicate the extent to which the main reason for establishing a practice in rural, semi-rural or urban areas was motivated by factors directly related to the items listed. These items are ranked in the order of the mean scores of the rural-bound respondents in Appendix H.

a) Professional Items

The professional factor of most importance to the practice location decisions of both residents and interns was the "opportunity to practice the kind of medicine" they desired (rural 4.47; urban 4.24); the difference between their mean scores was not statistically significant. For the rural-bound residents and interns, the professional factors ranking next in importance in practice location decisions were "level of responsibility" (rural 4.28; urban 3.22) and "challenge of practice" (rural 4.24; urban 3.72). In both of these cases, the differences in the mean scores for the two groups were highly significant. Items ranked low by the rural-bound group, but relatively high by the urban-bound group were:

i) research opportunities (rural 1.83; urban 3.32);

ii) teaching and academic medicine opportunities (rural 2.61; urban 4.04);

iii) access to specialist expertise (rural 3.27; urban 3.83).

The differences in the means of each of these items were highly significant at the 0.01 level. The differences in the means for "research opportunities" and "teaching and academic medicine opportunities" were the largest among all the professional items measured. While those intending to establish urban practices considered these items to be of substantial importance in their location decisions, rural-bound residents and interns attributed much less importance to them.

"Opportunities for continuity of care," "opportunity to earn a good income," and "caseload in relation to income" were ranked higher in importance by rural-bound residents and interns than by those planning to practise in urban areas. The difference in the mean scores for the first item was highly significant at the 0.01 level; for the other two items, the differences were significant at the 0.05 level.

The "availability of medical facilities" (rural 3.54; urban 4.03) and the "availability of clinical support" (rural 3.30; urban 3.86) were each ranked higher in importance by those residents and interns intending to establish urban practices. The differences in the mean scores for these items were statistically significant at the 0.05 level.

The professional item accorded the least importance as a factor in the practice location decisions of either of the resident/intern groups was "opportunities for involvement in B.C.M.A., C.M.A. or other related activities" (rural 1.70; urban 1.76). The difference in the mean scores between these two groups was not statistically significant. "Opportunity to practice as a family doctor" ranked fifteenth in importance as an influence in the practice location decisions of rural-bound residents and interns. With this item, the difference between the means for the rural- and urban-bound groups was highly significant. This is an item, however, that ranked third among practising physicians in relation to their level of satisfaction with professional concerns. With this exception, the importance that residents and interns attributed to professional concerns appeared consistent with the satisfaction levels for corresponding items as noted by practising physicians.

b) Community Items

Rural-bound residents and interns ranked "quality of environment" of primary importance among the community factors with influence on their practice location decisions. This is consistent with rural practising physicians who ranked this item as one of the community-related concerns with which they were most satisfied. As well, the difference between the rural mean score (4.47) and the urban mean (3.62) for this item was highly significant ($p < 0.01$).

"Lifestyle in the community" was ranked third among the community items of importance in the practice location decisions of those residents and interns intending to establish rural practices. Furthermore, the difference in the mean scores for this group and those who were urban-bound was significant ($p < 0.05$). The community item for which there was the greatest difference in mean scores of rural- and urban-bound residents and interns was "sense of community." This item ranked quite highly in importance among rural-bound residents and interns (4.16), but it was of only moderate importance to those intending to establish practices in urban areas (2.94). A two-tailed *t*-test determined that this difference was highly significant.

While of least importance among community items in the practice location decisions of both rural- (3.33) and urban-bound (2.57) residents and interns, the difference in the mean scores for the "possibility for community involvement/leadership" was highly significant. The only community item ranked lower by residents and interns intending to establish rural practices than by their urban-bound counterparts was the "availability of cultural activities" (rural 3.70; urban 4.00); the difference in these means was found not to be statistically significant.

c) Personal/Family Items

Residents and interns identified all of the personal/family items listed in the questionnaire except "proximity to relatives and extended family" to be of moderate to high influence in location decisions. For each of these items, the differences between the means of the urban-bound and the rural-bound were not statistically significant. Those intending to establish urban practices attributed moderate importance (3.45) to "proximity of relatives and extended family," while rural-bound residents and interns ranked this item of much lesser importance (2.36). The difference in the mean score was highly significant ($p < 0.01$).

V. Concluding Remarks

For both residents and interns, the proportion of female respondents was greater than in the rural and urban practising physician groups. This was particularly true in the intern group, where 41.5 percent of respondents were female, in comparison with approximately 20 percent in the practising physician groups.

This may partly reflect a trend increasingly towards the breakdown of gender as a barrier to the study and practice of medicine.

As with the practising physicians, most respondent residents and interns were born and educated in communities of more than 100,000 people. Indeed, the proportions for both interns and residents of the "city"-born and -educated sub-group exceeded the proportion of "city"-born and -educated seen among the physician respondents.

Among the items pertaining to community of birth and education, there was only one, that of secondary school, for which a smaller proportion of residents and interns, as compared with the proportions of practising physicians, noted being from communities of more than 100,000 people. Even in this case, the proportion of urban practising physicians who attended secondary school in communities of over 100,000 people was only slightly larger than the corresponding proportion of interns. As with the practising physician group, the single most frequent response for "Father's field of employment" of the residents was "Managerial/Administrative." Although the proportions of interns and residents who chose "Physician" were comparable to those in the practising physician groups, this response was the most frequently chosen among interns. Further, the proportion of interns who selected "Other Medicine/Health" as their fathers' field of employment was considerably higher than in the resident or practising physician groups.

Over half of the interns who responded to the survey noted general practice or family practice (CCFP) as their intended professional goal; slightly more than one-tenth of responding interns (12.2%) intended to establish practices in rural areas. An additional 29.3 percent, however, intended to establish practices in semi-rural areas.

Few of the responding residents and interns had spent any of their post-graduate experience in rural areas. A sizeable proportion of each group had no undergraduate medical experience in rural practice.

Residents and interns who had previously worked in rural areas expressed moderate to fairly high enjoyment of their rural experiences. Only for the item describing enjoyment of their professional practice was the difference in mean scores for rural- and urban-bound residents and interns statistically significant.

In terms of practice location decisions, rural-bound residents and interns appeared to place considerable importance on professional items such as the level of responsibility that characterizes the practice, the challenge of the practice, and the variety in medical problems to be treated. Those who were urban-bound appeared to place more importance on items that indicated a concern for professional support such as medical facilities, clinical support, and access to specialists. Consistent with responses regarding satisfaction levels of practising physicians, the only community item to which urban-bound residents and interns attributed greater importance than did those who were rural-bound was "availability of cultural activities."

PART E: INTER-GROUP COMPARISONS AND CONCLUSION

I. The Scope and Structure of Medical Practice

Rural physicians were more likely than their urban counterparts to be practising in group settings. Theoretically, according to the literature on the practice of medicine in rural areas, this should reduce the demands of rural practice on individual physicians because patient loads would be shared with other physicians. By extension, this would mean that rural physicians could spend more time with their families. Despite the greater proportion of group practices among rural physicians, however, their workloads, as suggested by the number of nights per week spent on-call, appeared to be heavier than those of urban physicians. Patient volumes also appeared to be larger than those of urban physicians; a large proportion of rural physicians saw from 21 to 40 patients in an average day, while the greatest proportion of urban respondents saw from 1 to 20 patients per day. The lower patient volumes of urban physicians may have resulted from individual patient requirements for more time with urban specialists. Perhaps in compensation for their apparently heavier patient loads, a greater proportion of the rural physicians took more than four weeks of holidays in the year of the survey.

In support of the contention that rural medical practice is more varied than urban practice, a greater proportion of rural physicians spent at least some time in each of the medical areas itemized, except physical medicine and rehabilitation, medical subspecialties, and surgical subspecialties (Appendix D). This may be related to the greater proportion of general practitioners who practice in rural communities and the fact that specialist practices are more likely to be located in urban areas.

II. Profile of Practising Physicians and their Spouses

The vast majority of both the rural and the urban practising physician groups were male and married. Greater proportions of female practising physicians from these groups, however, were single.

A statistical comparison of married physicians and spouses has not yet been undertaken. In general, however, rural physicians and spouses tended to be younger than their urban counterparts; this was supported by the higher proportion of rural respondents who had children from younger age brackets.

Spouses of rural physicians were more likely than rural physicians to have been born and educated in smaller rural communities (10,000 or fewer people). At the same time, urban physicians were more likely than urban spouses to have been born and educated in communities of more than 100,000 people.

In terms of their preferences for leisure time activities, both the practising physician and spouse groups expressed a preference for outdoor over indoor activities; active over spectator activities; sporting over cultural activities; and non-group over group activities. In each case except the last, the proportion of rural respondents who indicated these preferences was noticeably larger. The proportion of rural practising physicians who indicated these preferences was also somewhat larger than the proportion of rural spouses who indicated likewise.

Influence in Location Decisions

Spouses reported that, in family decision-making concerning whether to remain in current practice locations, their contributions were important. In addition, regardless of geographic setting, practising physicians rated spousal influence as the most influential of a number of factors relating to location decision. However, mean scores of practising physicians for spousal influence were lower than the mean scores for the extent to which spouses believed they influenced practice location decisions.

Satisfaction With Specific Professional, Community, and Family/Personal Concerns

A comparison of practising physicians and spouses based on average satisfaction scores for specific professional concerns is not appropriate because all items were not applicable to both groups. However, most of the specific community and personal/family items for which physicians and spouses were asked to indicate their level of satisfaction are directly comparable. Physicians' and spouses' mean satisfaction scores for community items did not differ greatly and were relatively high.

The mean scores for rural physician and rural spouse satisfaction with various community items differed by more than 0.10, on a scale of one to five, for only four items. Rural spouses' mean scores were more than 0.10 higher than rural physician mean scores for satisfaction with the quality of the environment and

satisfaction with financial/economic security in the community. The difference in the mean scores for the former item was statistically significant; for the latter item the difference in the mean scores was highly significant. Indeed, while rural spouses ranked as third the community item "financial/economic security," practising physicians ranked it ninth among ten community items in terms of satisfaction. Rural physicians' mean satisfaction scores were greater than those of rural spouses in relation to the availability of cultural activities (the difference in these scores was statistically significant) and recreational facilities in the community.

Urban physicians' mean satisfaction scores were larger than those of urban spouses for quality of the environment, lifestyle in the community, community size, and the availability of recreational facilities and cultural opportunities in the community. The mean satisfaction score of urban spouses was larger than that of practising urban physicians only for the possibility for community involvement/leadership. Except for quality of the environment, each of these items showed statistically significant differences in mean scores.

Among the personal/family items, rural spouses' mean satisfaction scores were larger than those of rural physicians for quality of housing, spouses' contentment in the community, and time for family life (or recreation and leisure time). The differences in the mean scores for these items were statistically significant and highly significant, respectively. Rural physicians' mean satisfaction scores were higher than the spouses' for the opportunity to earn the kind of income they desired and the availability of cultural opportunities for themselves and their families.

None of the urban spouses' mean satisfaction scores for personal/family items exceeded the scores of urban physicians by more than 0.10, nor were any of the differences in mean scores for these items statistically significant. Urban physicians' mean scores, however, exceeded this margin for the following items: spouse's contentment in the community, quality of life and education for the respondent's children, and the availability of cultural opportunities for themselves and their families. Only for the last item was the difference in the mean satisfaction scores found to be statistically significant. The mean satisfaction scores of urban physicians and urban spouses differed by more than 0.10 for more community and personal/family items than did the scores of their rural counterparts. In terms of the relative ranking of

these items based on mean satisfaction scores, however, urban physicians and spouses were closer in agreement with each other than were rural physicians and spouses.

Overall Satisfaction with Professional, Community, and Family/Personal Life

In terms of overall satisfaction with professional and community life, practising physicians in rural and in urban areas tended to have appreciably higher mean scores than rural and urban spousal groups. For each of these items, the difference in mean satisfaction scores of rural physicians and rural spouses was highly significant. The difference in the mean scores of urban physicians and urban spouses was statistically significant for satisfaction with community life and highly significant for professional satisfaction. Among both the practising physician and the spousal groups, urban respondents had higher mean scores for professional satisfaction than their respective rural counterparts; at least part of the reason for the low mean score among rural spouses may be the higher proportion of these respondents who are involuntarily unemployed.

The mean scores for overall satisfaction with personal/family life were almost equal for urban physicians and urban spouses. For rural physicians, the mean score for overall satisfaction with personal/family life was slightly smaller than that of rural spouses; the difference between these means was found to be statistically significant.

III. Profile of Residents and Interns

The proportion of women among the resident and intern group was somewhat larger than among the urban or rural practising physician groups. For the most part, residents and interns were more likely than either practising physicians or spouses of practising physicians to have been born and educated in communities of more than 100,000 people. However, the proportion of urban physicians who attended secondary school in communities of more than 100,000 was greater than the proportion of interns who attended secondary school in communities of that size. While the resident and intern group, on average,

expressed a preference for the same types of leisure activities as practising physicians, the proportion of residents and interns indicating such support in each case was not as large.

Intended Areas of Specialization

A large proportion of residents and interns were either involved in or expressed intentions to pursue specialty training. The proportion of this group that planned to pursue clinical specialties was larger than the proportion of practising specialists who had been trained in these areas. The proportion of interns and residents interested in specialization and intending to pursue surgical specialties, however, was smaller than the proportion of responding specialists actually practising in these areas. The proportion of interns and residents who intended to pursue laboratory specialties was more than double that of specialist respondents who were practising in these areas.

Professional, Community and Personal/Family Items: Satisfaction and Influence

When asked where they intended to establish their future practices, residents and interns overwhelmingly chose non-rural areas. They were then presented with a series of professional, community, and personal/family items and asked to indicate the extent to which these had been influential in their choice of practice location. Practising physicians had been presented with a similar but longer list and asked to indicate their level of satisfaction with these and other such items. While a cross-group statistical comparison of these items is not appropriate, given the different concepts involved in the questions, a descriptive comparison provides some indication of the degree to which some of the expectations of interns and residents may be borne out in the actual experiences of practising physicians. However, such a comparison cannot identify any causal relationship or even a correlation between elements of the decision-making of interns and residents and the experiences of practising physicians.

Responding interns and residents indicated that, among professional items, the opportunity to practice as a family doctor was not very influential in their practice location decisions. However, this was one of the professional factors with which practising physicians were most satisfied. In addition, while rural-bound

interns and residents rated the ability to secure uninterrupted free time as a factor of moderate importance in their practice location decisions, practising rural physicians indicated that this was an item with which they were somewhat less than satisfied. Rural-bound interns and residents indicated that most of the community items were of moderate to high influence in their practice location decisions. Practising rural physicians indicated mean satisfaction levels for these items that also ranged from moderate to high. While urban-bound interns' and residents' mean influence scores were relatively low for sense of community and possibility for community involvement/leadership, practising urban physicians' mean satisfaction scores for these items were relatively high.

Among personal/family items, proximity to relatives and extended family was considered the factor of least influence by rural-bound residents and interns and of second least influence by their urban-bound counterparts. This item was ranked as least satisfactory by practising physicians, both rural and urban. Practising rural physicians scored this item as less than satisfactory, while practising urban physicians scored it as only moderately satisfactory.

IV. Concluding Remarks

For physicians and for their spouses, the personal and professional demands and implications of rural practice are quite different from those that characterize the practice of medicine in urban areas. An understanding of these demands and implications is essential, not only to the development of policies for the successful recruitment and retention of physicians, but also to the development of educational recruitment policies for residents and interns and medical students interested in practising in rural areas. Given the importance of spousal influence on practice location decisions, knowledge of the perceived differences in quality of life of rural and urban communities may provide a foundation upon which to base policies and programs to address spousal concerns. Rural medical practice must be better understood so that it can be more effectively promoted and so that the concerns of those who value its distinct nature can be addressed. While not itself a basis upon which to implement policy, this descriptive analysis has identified a number of issues and concerns that require further in-depth examination so that efforts to rectify the geographic maldistribution of physicians can be better focused and, ultimately, more successful.

REFERENCES

REFERENCES

Alberta Medical Association (1989), Report of the Task Force on Rural Medical Care, May.

Anderson, M. and Rosenberg, M.W. (1990), "Ontario's Underserviced Area Program Revisited: An Indirect Analysis," Social Science and Medicine, 30(1):35-44.

Cavalier, S., Kerluke, K., and Wood, L. (1990), Place of Graduation for Selected Health Occupations - 1989, HMRU Report 90:7, Health Manpower Research Unit, University of British Columbia, March.

Cooper, J.K., Heald, K., and Samuels, M. (1972), "The Decision for Rural Practice," Journal of Medical Education, 60(December):939-944.

Cooper, J.K., Heald, K., and Samuels, M. (1977), "Affecting the Supply of Rural Physicians," American Journal of Public Health, 67(8):756-759.

Cordes, S.M. (1978), "Opinions of Rural Physicians About Their Practices, Community Medical Needs, and Rural Medical Care," Public Health Reports, 93(4):362-368.

Health Manpower Research Unit (1990), PRODUCTION 89: A Status Report on the Production of Health Personnel in the Province of British Columbia, HMRU Report 90:4, University of British Columbia, March.

Health Manpower Research Unit (1990), ROLLCALL 89: A Status Report of Health Personnel in the Province of British Columbia, HMRU Report 90:3, University of British Columbia, March.

Jennett, P. and Hunter, K.L. (1988), "Career and Practice Profiles of Alberta Medical Graduates 1973-1985: Implications for Manpower Planning and Decision Making," in Physician Manpower in Canada: Proceedings of the First and Second Annual Physician Manpower Conferences, Mamoru Watanabe (ed.). Association of Canadian Medical Colleges, Calgary: University of Calgary Printing Services.

Langwell, K., Nelson, K.S., Calvin, D., and Drabek, J. (1985), "Characteristics of Rural Communities and the Changing Geographic Distribution of Physicians," The Journal of Rural Health, 1(2):42-55.

Lepnurm, R. and Trowell, M. (1989), "Satisfaction of Country Doctors," Healthcare Management Forum, 2(3):14-20.

Madison, D.L. (1980), "Managing a Chronic Problem: The Rural Physician Shortage," Annals of Internal Medicine, 92(6):852-854.

Newhouse, J.P., Williams, A.P., Bennett, B.W., and Schwartz, Wm. B. (1982), "Where Have All the Doctors Gone?" Journal of the American Medical Association, 247(17):2392-2396.

Parker, R.C., Jr. and Sorensen, A.A. (1978), "The Tides of Rural Physicians: The Ebb and Flow, or Why Physicians Move Out of and Into Small Communities," Medical Care, XVI(2):152-166.

Skipper, J.K., Jr. and Gliebe, W.A. (1977), "Forgotten Persons: Physicians' Wives and their Influence on Medical Career Decisions," Journal of Medical Education, 52(September):764-766.

Wilensky, G.R. (1979), "Retention of Medical School Graduates: A Case Study of Michigan, Research in Health Economics, Vol. 1:153-183.

APPENDIX A

Members of the Project Working Group and Collaborating Organizations

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APPENDIX B

STUDY OF RURAL PHYSICIAN SUPPLY

PRACTICE LOCATION DECISIONS AND PROBLEMS IN RECRUITMENT AND RETENTION

OFFICE USE ONLY

0	◯◯◯◯
1	◯◯◯◯
2	◯◯◯◯
3	◯◯◯◯
4	◯◯◯◯
5	◯◯◯◯
6	◯◯◯◯
7	◯◯◯◯
8	◯◯◯◯
9	◯◯◯◯

Directions: Use a dark HB PENCIL ONLY and FILL IN THE RESPONSE CIRCLE COMPLETELY and darkly. If you wish to change your answer, erase all traces of the wrong mark, then darken the correct response. Do not make stray marks on the front or back of this page.

Questionnaire for Practicing Physicians

PERSONAL

1. Sex
   - ◯ Male
   - ◯ Female

2. Please indicate the age group you belong to:
   - ◯ Under 35 years
   - ◯ 35 - 39
   - ◯ 40 - 44
   - ◯ 45 - 49
   - ◯ 50 - 54
   - ◯ 55 - 59
   - ◯ 60 or over

3. Marital Status
   - ◯ Single
   - ◯ Married/Living with partner
   - ◯ Other

4. Please indicate the name and size of the community where you were born

   Name of Community: _____

   Size of Community:
   - ◯ Up to 10,000
   - ◯ 10,001 - 50,000
   - ◯ 50,001 - 100,000
   - ◯ More than 100,000

5. Please indicate the size and name of the community where you attended:

a) Elementary School	b) Secondary School
◯ Up to 10,000	◯ Up to 10,000
◯ 10,001 - 50,000	◯ 10,001 - 50,000
◯ 50,001 - 100,000	◯ 50,001 - 100,000
◯ More than 100,000	◯ More than 100,000
Name of Community: _____	Name of Community: _____

6. Please indicate the field of employment or profession of your father: (please fill only one circle)
   - ◯ Physician
   - ◯ Other Medicine/Health
   - ◯ Managerial/Administrative
   - ◯ Social Sciences/Law
   - ◯ Religion
   - ◯ Teaching
   - ◯ Artistic/Literary
   - ◯ Sport/Recreation
   - ◯ Clerical
   - ◯ Sales
   - ◯ Services
   - ◯ Farming/Ranching

More choices on the next page...

- ◯ Fishing/Hunting
- ◯ Forestry/Mining
- ◯ Processing/Manufacturing
- ◯ Construction
- ◯ Transport/Equipment Operation
- ◯ Machining
- ◯ Other

7. Please indicate the kind of leisure time activities that you prefer (Check ONLY one from each pair)

a) ◯ Indoor
◯ or Outdoor

b) ◯ Requiring active participation
◯ or as a spectator

c) ◯ Sporting
◯ or Cultural

d) ◯ Group activities
◯ or Non-group activities

EDUCATION

8. Please indicate in column 1 in which specialty or professional discipline you completed your training. (Check your primary area of training only)

Col 1

◯ General Practice

If general practice, did you do a residency in FP?

◯ Yes ◯ No

Are you a certificate CCFP?

◯ Yes ◯ No

Clinical Specialties

Col 1	Col 2	
◯	◯	Anaesthesia
◯	◯	Cardiology
◯	◯	Clinical Immunology and Allergy
◯	◯	Community Medicine
◯	◯	Dermatology
◯	◯	Emergency Medicine
◯	◯	Endocrinology and Metabolism
◯	◯	Gastroenterology
◯	◯	Geriatric Medicine
◯	◯	Haematology
◯	◯	Infectious Disease
◯	◯	Internal Medicine
◯	◯	Medical Oncology
◯	◯	Nephrology
◯	◯	Neurology
◯	◯	Nuclear Medicine
◯	◯	Paediatrics
◯	◯	Physical Medicine and Rehabilitation
◯	◯	Psychiatry
◯	◯	Radiation Oncology
◯	◯	Radiology (Diagnostic)
◯	◯	Respiratory Medicine
◯	◯	Rheumatology

Division of Surgery Specialties

Col 1	Col 2	
◯	◯	Cardiovascular & Thoracic
◯	◯	General
◯	◯	Neurosurgery
◯	◯	Obstetrics & Gynaecology
◯	◯	Ophthalmology
◯	◯	Orthopaedic
◯	◯	Otolaryngology
◯	◯	Paediatric General
◯	◯	Plastic
◯	◯	Thoracic
◯	◯	Urology
◯	◯	Vascular

Laboratory Specialties

Col 1	Col 2	
◯	◯	Anatomical Pathology
◯	◯	General Pathology
◯	◯	Haematological Pathology
◯	◯	Medical Biochemistry
◯	◯	Medical Microbiology
◯	◯	Neuropathology

9. Using the list of specialties above, please indicate in column 2 other specialties in which you have had at least six months of training. (please fill all that apply)

10. In what year did you complete your training indicated in question 8?

- ◯ Before 1956
- ◯ 1956 - 1965
- ◯ 1966 - 1975
- ◯ 1976 - 1980
- ◯ 1981 - 1985
- ◯ After 1985

11. From which university did you receive your undergraduate medical training? (Please fill one only.)

If in Canada:

◯ Alberta	◯ Memorial
◯ British Columbia	◯ Montreal
◯ Calgary	◯ Ottawa

More choices on the next page...

- ◯ Dalhousie
- ◯ Laval
- ◯ Manitoba
- ◯ McGill
- ◯ McMaster
- ◯ Queen's
- ◯ Saskatchewan
- ◯ Sherbrooke
- ◯ Toronto
- ◯ Western Ontario

If abroad:

- ◯ United Kingdom
- ◯ Other Europe
- ◯ South Africa
- ◯ India
- ◯ Australia/New Zealand
- ◯ Irish Republic
- ◯ United States
- ◯ Hong Kong
- ◯ Other

12. How long have you been practicing medicine?

- ◯ Less than 6 years
- ◯ 6 - 10 years
- ◯ 11 - 15 years
- ◯ 16 - 20 years
- ◯ More than 20 years

13. How much were you influenced by the following people or events in the choice of location of your current practice? (leave blank if not applicable)

1 = not at all
5 = very much

1	2	3	4	5	
◯	◯	◯	◯	◯	Location of internship
◯	◯	◯	◯	◯	Location of residency
◯	◯	◯	◯	◯	Undergraduate rural experience
◯	◯	◯	◯	◯	Postgraduate rural experience
◯	◯	◯	◯	◯	Locum experience
◯	◯	◯	◯	◯	Professor/mentor
◯	◯	◯	◯	◯	Peers/friends
◯	◯	◯	◯	◯	Spouse
◯	◯	◯	◯	◯	Closeness to parents/extended family
◯	◯	◯	◯	◯	Desire to live/Raise a family in a similar environment to the one I grew up in
1	2	3	4	5	
◯	◯	◯	◯	◯	Other (specify)

PRACTICE

14. What is the nature of your practice?

◯ Solo ◯ Group

15. If a group practice, excluding yourself,

a) How many GP's/Family Physicians (CCFP) are there?

- ◯ 5 or more
- ◯ 3 - 4
- ◯ 1 - 2
- ◯ none

b) How many specialists are there?

- ◯ 5 or more
- ◯ 3 - 4
- ◯ 1 - 2
- ◯ none

16. Is this the only practice in the community?

◯ Yes ◯ No

17. If no, does this affect your practice/patient retention?

◯ Yes ◯ No

18. How many patients do you see in an average working day?

- ◯ Up to 10
- ◯ 21 - 30
- ◯ 41 - 50
- ◯ Over 60
- ◯ 11 - 20
- ◯ 31 - 40
- ◯ 51 - 60

19. How many nights are you on-call in an average working week?

- ◯ Less than 1
- ◯ 1
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5

20. How many weekend days do you have free of medical responsibilities in an average working month?

- ◯ 0
- ◯ 1
- ◯ 2
- ◯ 3 - 4
- ◯ 5 - 6
- ◯ 7 - 8

21. How many weeks of holidays did you have in the last year?

- ◯ None
- ◯ 2 weeks
- ◯ 4 weeks
- ◯ 1 week
- ◯ 3 weeks
- ◯ more than 4 weeks

22. How did you go about finding a locum?

- ◯ Locum covered by members of group practice
- ◯ Word of mouth
- ◯ Journals
- ◯ Cooperation with other doctors in town or neighbouring towns
- ◯ Department of Family Practice Residents

Locum services:

- ◯ a) 'Matchbox', College of Family Physicians, B.C. Chapter
- ◯ b) College of Physicians and Surgeons of B.C. Listing Service
- ◯ c) other private service

- ◯ Relatives/Friends
- ◯ Not Applicable
- ◯ Other (specify)

23. If you are a General Practitioner what percentage of your work time is spent in the following areas of medicine? (do not fill bubbles for zero percent)
1= 1% to 10% 2= 11% to 20% . . . 10= 91% to 100%

1	2	3	4	5	6	7	8	9	10	
◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Anaesthesia
◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Dermatology
◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Internal Medicine
◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Medical subspecialty
◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Ob & Gynaecology
◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Paediatrics
◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Pathology and Lab Medicine
◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Physical Medicine & Rehabilitation
1	2	3	4	5	6	7	8	9	10	
◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Psychiatry/Counselling/ Psychology
1	2	3	4	5	6	7	8	9	10	
◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Public Health/Community Medicine
1	2	3	4	5	6	7	8	9	10	
◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Radiology
◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	General Surgery
◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Surgical subspecialty
◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Geriatrics
◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	House Calls
◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Other (specify)

24. Are you paid on a (please fill as many as apply)

- ◯ Fee-for-service basis
- ◯ Salaried basis
- ◯ Sessional basis

COMMUNITY

25. By your own definition, do you consider the area where you practice

- ◯ urban
- ◯ semi-rural
- ◯ rural

26. How long have you practiced in your current geographical area?

- ◯ Less than 1 year
- ◯ 1 year
- ◯ 2 - 3 years
- ◯ 4 - 5 years
- ◯ 6 - 10 years
- ◯ 11 - 15 years
- ◯ 16 - 20 years
- ◯ More than 20 years

27. How long do you plan to continue practicing in this area?

- ◯ Less than 1 year
- ◯ 1 year
- ◯ 2 - 3 years
- ◯ 4 - 5 years
- ◯ More than 5 years

[IF YOU HAVE MARKED 'RURAL' IN QUESTION 25 SKIP QUESTIONS 28 TO 30]

28. If you do not consider the area where you practice as rural, have you ever practiced in a rural setting?

◯ Yes ◯ No

29. If yes, how long did you practice in that rural area?

- ◯ Less than 1 year
- ◯ 1 year
- ◯ 2 - 3 years
- ◯ 4 - 5 years
- ◯ More than 5 years

30. Why did you leave? (fill as many as apply)

- ◯ Professional dissatisfaction
- ◯ Personal/Family reasons
- ◯ Dissatisfaction with community
- ◯ Financial dissatisfaction

31. Please indicate which of the following medical support services are based in your community. (please fill all circles that apply)

- ◯ All of the services below
- ◯ Ambulance service
- ◯ Public Health Service
- ◯ Dietetics
- ◯ Laboratory
- ◯ Rehabilitation Services
- ◯ Pharmacy
- ◯ Podiatry
- ◯ Radiology
- ◯ Social/Psych. counselling
- ◯ Other (specify)

32. Please indicate the type of hospital closest to or based in your community.

- ◯ Primary
- ◯ Regional
- ◯ Tertiary (referral)

33. Please indicate in column 1 all the medical specialist back-up available to you within 100 km of your area.

col. 1

◯ All of the specialties below

Clinical Specialties

col. 1	col. 2	
◯	◯	Anaesthesia
◯	◯	Cardiology
◯	◯	Clinical Immunology and Allergy
◯	◯	Community Medicine
◯	◯	Dermatology
◯	◯	Emergency Medicine
◯	◯	Endocrinology and Metabolism
◯	◯	Gastroenterology
◯	◯	Geriatric Medicine
◯	◯	Haematology
◯	◯	Infectious Disease
◯	◯	Internal Medicine
◯	◯	Medical Oncology
◯	◯	Nephrology
◯	◯	Neurology
◯	◯	Nuclear Medicine
◯	◯	Paediatrics
◯	◯	Physical Medicine and Rehabilitation
◯	◯	Psychiatry
◯	◯	Radiation Oncology
◯	◯	Radiology (Diagnostic)
◯	◯	Respiratory Medicine
◯	◯	Rheumatology

Division of Surgery Specialties

col. 1	col. 2	
◯	◯	Cardiovascular & Thoracic
◯	◯	General
◯	◯	Neurosurgery
◯	◯	Obstetrics & Gynaecology
◯	◯	Ophthalmology
◯	◯	Orthopaedic
◯	◯	Otolaryngology
◯	◯	Paediatric General
◯	◯	Plastic
◯	◯	Thoracic
◯	◯	Urology
◯	◯	Vascular

Laboratory Specialties

col. 1	col. 2	
◯	◯	Anatomical Pathology
◯	◯	General Pathology
◯	◯	Haematological Pathology
◯	◯	Medical Biochemistry
◯	◯	Medical Microbiology
◯	◯	Neuropathology

34.. Using the list above, indicate in column 2 those consultant/resource services, not presently available to you, that you feel would most help you in your practice of medicine. Select **ONLY** the three most important.

35. Please indicate your level of satisfaction with your present life and practice using the following 5-point scale.

1 = very unsatisfied 3 = indifferent 5 = very satisfied

Professional

1	2	3	4	5	
◯	◯	◯	◯	◯	availability of clinical support
◯	◯	◯	◯	◯	opportunities for free and informal communication with peers
◯	◯	◯	◯	◯	variety in medical problems to be treated
◯	◯	◯	◯	◯	acuteness of diseases seen
◯	◯	◯	◯	◯	opportunity to provide complete package of medical services
◯	◯	◯	◯	◯	access to specialist expertise
◯	◯	◯	◯	◯	level of responsibility
◯	◯	◯	◯	◯	length of working hours (on call)
◯	◯	◯	◯	◯	caseload in relation to income
◯	◯	◯	◯	◯	ability to secure uninterrupted free time from work
◯	◯	◯	◯	◯	opportunities for continuity of care
◯	◯	◯	◯	◯	availability of medical facilities
◯	◯	◯	◯	◯	opportunity to practice as a family doctor
◯	◯	◯	◯	◯	ease of transfer to an appropriate level of care of the acutely ill/injured patient

Continued ...

1 2 3 4 5
○○○○○ availability of locum relief
○○○○○ teaching and academic medicine opportunities
○○○○○ research opportunities
○○○○○ opportunities for involvement in B.C.M.A., C.M.A. or other related activities
1 2 3 4 5
○○○○○ challenge of practice
○○○○○ specific training for the appropriate medical services in my geographic area of practice
1 2 3 4 5
○○○○○ opportunity to practice the kind of medicine I wish to practice
1 2 3 4 5
○○○○○ ease to relocate practice

Community

1 2 3 4 5
○○○○○ size of community
○○○○○ availability of cultural activities
○○○○○ availability of recreational facilities
○○○○○ sense of community
○○○○○ life-style in the community
○○○○○ resources with which to enjoy leisure time
○○○○○ financial/economic security in the community
○○○○○ quality of environment
○○○○○ possibility for community involvement/ leadership
1 2 3 4 5
○○○○○ own personal safety in the community

Personal/Family

1 2 3 4 5
○○○○○ own preference for practicing here
○○○○○ spouse's contentment in the community
○○○○○ time for family life (recreation and leisure time)
1 2 3 4 5
○○○○○ availability of cultural opportunities for self and family
1 2 3 4 5
○○○○○ quality of education for my children (if any)
○○○○○ quality of life for my children (if any)
○○○○○ quality of housing
○○○○○ proximity to relatives and extended family
○○○○○ opportunity to earn the kind of income I require
1 2 3 4 5
○○○○○ Other (specify)

36. Read the following statements and indicate to what extent you agree or disagree:
1=strongly disagree 3=indifferent 5=strongly agree

1 2 3 4 5
○○○○○ When I think of my professional career I am quite satisfied with it and there is very little I would like to change.

1 2 3 4 5
○○○○○ When I look at the community where I live I think that it greatly contributes to my overall quality of life.

1 2 3 4 5
○○○○○ When I look at my personal/family life I am quite satisfied with the quality of those relationships.

37. In the near future (in the next 5 years, say), do you intend to move your practice to...

○ ...an urban area
○ ...a semi-rural area
○ ...a rural area

○ In the near future I do not intend to move my practice

38. If you intend to move your practice, to what extent is the main reason for moving motivated by a factor **directly** related to ...?

1=not at all 5=very much

1 2 3 4 5
○○○○○ ...the community you live in now
○○○○○ ...strictly professional reasons
○○○○○ ...personal/family reasons
○○○○○ ...income

39. If you are currently practicing in an urban or semi-rural area, would you be interested in doing a locum in a rural area within the next three years?

○ Yes ○ No

40. If yes, for how long?

○ 1 - 2 weeks
○ 3 - 4 weeks
○ 1 - 3 months
○ 4 - 6 months
○ 7 - 9 months
○ 9 -12 months
○ more than one year

COMMENTS

Prepared by:
Health Manpower Research Unit
The University of British Columbia

STUDY OF RURAL PHYSICIAN SUPPLY

PRACTICE LOCATION DECISIONS AND PROBLEMS IN RECRUITMENT AND RETENTION

OFFICE USE ONLY

0	◯◯◯◯
1	◯◯◯◯
2	◯◯◯◯
3	◯◯◯◯
4	◯◯◯◯
5	◯◯◯◯
6	◯◯◯◯
7	◯◯◯◯
8	◯◯◯◯
9	◯◯◯◯

Directions: Use a dark HB PENCIL ONLY and fill in the response circle completely and darkly. If you wish to change your answer, erase all traces of the wrong mark, then darken the correct response. Do not make stray marks on the front or back of this page.

Questionnaire for Spouses of Practicing Physicians

PERSONAL

1. Sex
   - ◯ Male
   - ◯ Female

2. Please indicate the age group you belong to:
   - ◯ Under 35 years
   - ◯ 35 - 39
   - ◯ 40 - 44
   - ◯ 45 - 49
   - ◯ 50 - 54
   - ◯ 55 - 59
   - ◯ 60 or over

3. Please indicate the name and size of the community where you were born.

   Name of Community: _____

   Size of Community:
   - ◯ Up to 10,000
   - ◯ 10,001 - 50,000
   - ◯ 50,001 - 100,000
   - ◯ More than 100,000

4. Please indicate the size and name of the community where you attended:

a) Elementary School	b) Secondary School
◯ Up to 10,000	◯ Up to 10,000
◯ 10,001 - 50,000	◯ 10,001 - 50,000
◯ 50,001 - 100,000	◯ 50,001 - 100,000
◯ More than 100,000	◯ More than 100,000
Name of Community: _____	Name of Community: _____

5. Please indicate the field of employment or profession of your father: (please fill only one circle)
   - ◯ Physician
   - ◯ Other Medicine/Health
   - ◯ Managerial/Administrative
   - ◯ Social Sciences/Law
   - ◯ Religion
   - ◯ Teaching
   - ◯ Artistic/Literary
   - ◯ Sport/Recreation
   - ◯ Clerical
   - ◯ Sales
   - ◯ Services
   - ◯ Farming/Ranching

More choices on the next page...

- ◯ Fishing/Hunting
- ◯ Forestry/Mining
- ◯ Processing/Manufacturing
- ◯ Construction
- ◯ Transport/Equipment Operation
- ◯ Machining
- ◯ Other

6. Please indicate the kind of leisure time activities that you prefer (Fill ONLY one circle from each pair)

a) ◯ Indoor
◯ or Outdoor

b) ◯ Requiring active participation
◯ or as a spectator

c) ◯ Sporting
◯ or Cultural

d) ◯ Group activities
◯ or Non-group activities

7. How many children do you have?

- ◯ None
- ◯ 1
- ◯ 2
- ◯ 3
- ◯ More than 3

8. How many children are presently living in your household?

- ◯ None
- ◯ 1
- ◯ 2
- ◯ 3
- ◯ More than 3

9. In what age range is the youngest child (if any) living with you?

- ◯ < 1
- ◯ 1 - 5
- ◯ 6 - 12
- ◯ 13 - 18
- ◯ 18 +

10. In what age range is the oldest child (if any) living with you?

- ◯ < 1
- ◯ 1 - 5
- ◯ 6 - 12
- ◯ 13 - 18
- ◯ 18 +

EDUCATION

11. What is your highest level of education?

- ◯ primary school
- ◯ some secondary school
- ◯ completed secondary school
- ◯ trade/vocational training
- ◯ some university, undergraduate
- ◯ completed university, undergraduate
- ◯ some university, graduate level
- ◯ completed university, graduate degree

OCCUPATION

12. Are you currently employed?

◯ Yes ◯ No

13. If no, is this by choice?

◯ Yes ◯ No

14. If currently employed, which of the following applies to you?

- ◯ I am employed as a salaried physician
- ◯ I am self employed as a physician
- ◯ I am self employed (other than physician)
- ◯ I have a paid position as a nurse
- ◯ I have a paid position in the health care system (other than as a nurse or physician)
- ◯ I have a paid position other than in the health care system

15. Aside from your family/job responsibilities, which of the following activities, if any, applies to you?

- ◯ I do volunteer work in the community
- ◯ I develop activities within a local social/ recreational group
- ◯ I have other activities

16. To what extent have you contributed to your family's decision to stay in your spouse's current practice location? 1= Not at all . . . 5= To a great extent

1 2 3 4 5
◯◯◯◯◯

PERSONAL SATISFACTION

17. Keeping in mind the geographical area where you live, please indicate your feelings on the following topics:

1 = Very Unsatisfied . . . 5 = Very Satisfied

Professional

1 2 3 4 5
professional/work advancement
opportunity to use my skills
opportunities for employment

Community

1 2 3 4 5
size of community
availability of cultural activities
availability of recreational facilities
sense of community
life-style in the community
resources with which to enjoy leisure time
financial/economic security in the community
quality of environment
possibility for community involvement/ leadership
own personal safety in the community

Personal/Family

1 2 3 4 5
spouse's contentment in the community
time for family life (recreation and leisure time)
availability of cultural opportunities for self and family
quality of education for my children (if any)
quality of life for my children (if any)
quality of housing
proximity to relatives and extended family
opportunity to earn the kind of income I require
other (specify)

18. Read the following statements and indicate (when applicable) to what extent you agree or disagree:

1 = Strongly Disagree . . . 5 = Strongly Agree

1 2 3 4 5
When I think of my professional career I am quite satisfied with it and there is very little I would like to change.

1 2 3 4 5
When I look at the community where I live I think that it greatly contributes to my overall quality of life.

1 2 3 4 5
When I look at my personal/family life I am quite satisfied with the quality of those relationships.

COMMENTS

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STUDY OF RURAL PHYSICIAN SUPPLY

PRACTICE LOCATION DECISIONS AND PROBLEMS IN RECRUITMENT AND RETENTION

OFFICE USE ONLY

0	◯◯◯◯
1	◯◯◯◯
2	◯◯◯◯
3	◯◯◯◯
4	◯◯◯◯
5	◯◯◯◯
6	◯◯◯◯
7	◯◯◯◯
8	◯◯◯◯
9	◯◯◯◯

Directions: Use a dark HB PENCIL ONLY and fill in the response circle completely and darkly. If you wish to change your answer, erase all traces of the wrong mark, then darken the correct response. Do not make stray marks on the front or back of this page.

Questionnaire for Interns/Residents

PERSONAL

1. Sex
   - ◯ Male
   - ◯ Female

2. Please indicate the age group you belong to:
   - ◯ Under 35 years
   - ◯ 35 - 39
   - ◯ 40 - 44
   - ◯ 45 - 49
   - ◯ 50 - 54
   - ◯ 55 - 59
   - ◯ 60 or over

3. Marital Status
   - ◯ Single
   - ◯ Married/Living with partner
   - ◯ Other

4. Please indicate the name and size of the community where you were born

   Name of Community: _____

   Size of Community:
   - ◯ Up to 10,000
   - ◯ 10,001 - 50,000
   - ◯ 50,001 - 100,000
   - ◯ More than 100,000

5. Please indicate the size and name of the community where you attended:

a) Elementary School	b) Secondary School
◯ Up to 10,000	◯ Up to 10,000
◯ 10,001 - 50,000	◯ 10,001 - 50,000
◯ 50,001 - 100,000	◯ 50,001 - 100,000
◯ More than 100,000	◯ More than 100,000
Name of Community: _____	Name of Community: _____

6. Please indicate the field of employment or profession of your father: (please fill only one circle)
   - ◯ Physician
   - ◯ Other Medicine/Health
   - ◯ Managerial/Administrative
   - ◯ Social Sciences/Law
   - ◯ Religion
   - ◯ Teaching
   - ◯ Artistic/Literary
   - ◯ Sport/Recreation
   - ◯ Clerical
   - ◯ Sales
   - ◯ Services
   - ◯ Farming/Ranching

More choices on the next page...

- ◯ Fishing/Hunting
- ◯ Forestry/Mining
- ◯ Processing/Manufacturing
- ◯ Construction
- ◯ Transport/Equipment Operation
- ◯ Machining
- ◯ Other

7. Please indicate the kind of leisure time activities that you prefer (Fill ONLY one circle from each pair)

a) ◯ Indoor
◯ or Outdoor

b) ◯ Requiring active participation
◯ or as a spectator

c) ◯ Sporting
◯ or Cultural

d) ◯ Group activities
◯ or Non-group activities

EDUCATION

8. Are you presently enrolled in:

◯ ... a residency program
◯ ... a rotating internship

9. <u>If you are a resident</u>, indicate from the choices below the specialty or professional discipline in which you are doing your residency.
<u>If you are an intern</u>, indicate below your intended professional goal.

- ◯ General Practice
- ◯ Family Practice (CCFP)

Clinical Specialties

- ◯ Anaesthesia
- ◯ Cardiology
- ◯ Clinical Immunology and Allergy
- ◯ Community Medicine
- ◯ Dermatology
- ◯ Emergency Medicine
- ◯ Endocrinology and Metabolism
- ◯ Gastroenterology
- ◯ Geriatric Medicine
- ◯ Haematology
- ◯ Infectious Disease
- ◯ Internal Medicine
- ◯ Medical Oncology
- ◯ Nephrology
- ◯ Neurology
- ◯ Nuclear Medicine
- ◯ Paediatrics
- ◯ Physical Medicine and Rehabilitation
- ◯ Psychiatry
- ◯ Radiation Oncology
- ◯ Radiology (Diagnostic)
- ◯ Respiratory Medicine
- ◯ Rheumatology

Division of Surgery Specialties

- ◯ Cardiovascular & Thoracic
- ◯ General
- ◯ Neurosurgery
- ◯ Obstetrics & Gynaecology
- ◯ Ophthalmology
- ◯ Orthopaedic
- ◯ Otolaryngology
- ◯ Paediatric General
- ◯ Plastic
- ◯ Thoracic
- ◯ Urology
- ◯ Vascular

Laboratory Specialties

- ◯ Anatomical Pathology
- ◯ General Pathology
- ◯ Haematological Pathology
- ◯ Medical Biochemistry
- ◯ Medical Microbiology
- ◯ Neuropathology

10. From which university did you receive your undergraduate medical training? (Please fill one only.)

If in Canada:

◯ Alberta	◯ Memorial
◯ British Columbia	◯ Montreal
◯ Calgary	◯ Ottawa
◯ Dalhousie	◯ Queen's
◯ Laval	◯ Saskatchewan
◯ Manitoba	◯ Sherbrooke
◯ McGill	◯ Toronto
◯ McMaster	◯ Western Ontario

If abroad:

◯ United Kingdom	◯ Irish Republic
◯ Other Europe	◯ United States
◯ South Africa	◯ Hong Kong
◯ India	◯ Other
◯ Australia/New Zealand	

COMMUNITY

11. During your medical training, for how long were you (or have you been if still there) in a rural community (population less than 10,000)?

Undergraduate:	Postgraduate:
◯ Less than 1 month	◯ Never
◯ 1 month	◯ 1 Month
◯ Over 1 month	◯ 3 Months
◯ Never	◯ 9 Months
	◯ 12 Months

12. If you spent (are spending) any length of time in a rural community, how much did you enjoy (are you enjoying):

1 = Not at all ... 5 = Very much

1	2	3	4	5	
◯	◯	◯	◯	◯	the practice of medicine in that community?
◯	◯	◯	◯	◯	the community life?
◯	◯	◯	◯	◯	your personal/family life?

13. After you finish your residency/internship program do you think your first choice for establishing your practice will be in ...

◯ ... an urban area
◯ ... a semi-rural area
◯ ... a rural area

(Urban is defined as having all necessary specialty backup services readily available.)

(Rural is defined as over 100 km or more than 1.5 hours from a secondary or tertiary hospital.)

14. To what extent is the main reason for establishing your practice in the area you have indicated motivated by a factor directly related to ...

1 = Not at all ... 5 = very much

Professional

1	2	3	4	5	
◯	◯	◯	◯	◯	availability of clinical support
◯	◯	◯	◯	◯	opportunities for free and informal communication with peers
◯	◯	◯	◯	◯	variety in medical problems to be treated
◯	◯	◯	◯	◯	opportunity to provide complete package of medical services
◯	◯	◯	◯	◯	access to specialist expertise
◯	◯	◯	◯	◯	level of responsibility
◯	◯	◯	◯	◯	length of working hours (on call)
◯	◯	◯	◯	◯	opportunity to earn a good income
◯	◯	◯	◯	◯	caseload in relation to income
◯	◯	◯	◯	◯	ability to secure uninterrupted free time from work
◯	◯	◯	◯	◯	opportunities for continuity of care
◯	◯	◯	◯	◯	availability of medical facilities
◯	◯	◯	◯	◯	opportunity to practice as a family doctor
◯	◯	◯	◯	◯	availability of locum relief
◯	◯	◯	◯	◯	teaching and academic medicine opportunities
◯	◯	◯	◯	◯	research opportunities
◯	◯	◯	◯	◯	opportunities for involvement in B.C.M.A., C.M.A. or other related activities
◯	◯	◯	◯	◯	challenge of practice
◯	◯	◯	◯	◯	opportunity to practice the kind of medicine I wish to practice

Community

1	2	3	4	5	
◯	◯	◯	◯	◯	size of community
◯	◯	◯	◯	◯	availability of cultural activities
◯	◯	◯	◯	◯	availability of recreational facilities
◯	◯	◯	◯	◯	sense of community
◯	◯	◯	◯	◯	life-style in the community
◯	◯	◯	◯	◯	resources with which to enjoy leisure time
◯	◯	◯	◯	◯	financial/economic security in the community
◯	◯	◯	◯	◯	quality of environment
◯	◯	◯	◯	◯	possibility for community involvement/ leadership

Personal/Family

1	2	3	4	5	
◯	◯	◯	◯	◯	time for family life (recreation and leisure time)
◯	◯	◯	◯	◯	availability of cultural opportunities for self and family
◯	◯	◯	◯	◯	quality of education for my children (if any)
◯	◯	◯	◯	◯	quality of life for my children (if any)
◯	◯	◯	◯	◯	quality of housing
◯	◯	◯	◯	◯	proximity to relatives and extended family
◯	◯	◯	◯	◯	Other (specify)

COMMENTS

Prepared by:
Health Manpower Research Unit
The University of British Columbia

APPENDIX C

THE UNIVERSITY OF BRITISH COLUMBIA

Office of the Co-ordinator,
Health Sciences
Division of Health Services
Research and Development

#400-2194 Health Sciences Mall
Vancouver, B.C. Canada V6T 1Z6

Telephone (604) 228-4810

November 27, 1989

Dear Respondent:

In collaboration with the Department of Family Practice, Community-based Residency Program; the British Columbia Medical Association; and the Ministerial Medical Manpower Advisory Committee, we are currently undertaking a study of rural physician supply in B.C. A small working group, comprised of representatives from the collaborating organizations, was formed in June 1989, and has participated in the development of the research protocol.

The main purpose of the project is to study the supply of physicians in rural practice and related problems in recruitment and in retention. More specifically, it is the intention of this survey to examine practice location decisions of B.C. physicians, the professional, community and personal/family factors related to these, as well as to estimate future supply, including those currently completing internships/residencies.

Please find enclosed the specially designed questionnaire for practising physicians or for residents/interns. If you are a practising physician, you will also find a separate questionnaire to be completed by your spouse/live-in partner (if applicable). Practice location decisions are often made in consultation with family members, therefore, this dimension is also important for a full understanding of problems in rural physician recruitment and retention.

As you may be aware, a low response rate will undermine the interpretation of results from this study. Therefore, your kind cooperation and that of your spouse (if applicable) is essential to the success of this project. While it goes without saying that you have every right to decline our invitation to participate, and this should in no way prejudice your standing with the above named organizations, we are hopeful that you will recognize the importance of the study and will be willing to assist us.

The amount of time required to complete the questionnaire is about 20 minutes (less than 10 minutes for the spouse). The returned questionnaire in the stamped, self-addressed envelope will be taken as your consent to participate in this study, and will also represent the total commitment required of you.

.../(continued)

There will be no further contact or questionnaires. Your identity and the information you provide will be held in strict confidence and will be accessible only to the researchers directly involved in this study. Results on individuals will not be published or appear in any working documents.

If you have any questions please feel free to contact me at 228-4618 or Nino Pagliccia at 228-5009.

Thank you in advance for your cooperation.

Sincerely yours,

Arminée Kazanjian, Dr.Soc.
Associate Director
Division of Health Services
Research and Development

Assistant Professor
Department of Health Care
and Epidemiology

AK:da

Encl.

BRITISH
COLUMBIA
MEDICAL
ASSOCIATION

November 12, 1989

Dear Colleague:

As a positive response to expressed concerns about the uneven distribution of physicians within British Columbia, the BC Medical Association and the Health Manpower Research Unit at the University of British Columbia are undertaking a joint study of the factors that determine why physicians establish practice in a given area and why they do or do not stay there. We hope that the information thus gained will be useful in the development of reasonable policies to achieve more even distribution and avoid policies built on disincentives.

You have been chosen as one of a statistically useful group of physicians in training, physicians' spouses, or physicians in practice. It is most important that we hear from you in order to ensure that we have an accurate picture of the group you represent. We also wish to ensure that this questionnaire allows you to "tell your story", and hope that you will forward comments on any factors that may not be fully described in the questionnaire. Follow-up to improve the response rate is very expensive and so it would be very helpful if you could complete and return the questionnaire as soon as possible.

I recognise that each of you is very busy, and express in advance my appreciation for the portion of your valuable time you take to respond to this request. The compensation I can offer is the assurance that your efforts will make a positive contribution to the future of your colleagues and patients within our health care system.

Yours sincerely,

John B Anderson

John B Anderson MD
President

115 - 1665 West Broadway, Vancouver, B.C. V6J 5A4 Telephone [604] 736-5551 FAX [604] 736-4566

THE UNIVERSITY OF BRITISH COLUMBIA

Division of Health Services
Research and Development
Office of the Co-ordinator,
Health Sciences
400 - 2194 Health Sciences Mall
Vancouver, B.C. Canada V6T 1Z6

Tel: (604) 228-4810
Fax: (604) 228-2495

January 22, 1990

Dear Respondent:

In early December we sent you a questionnaire soliciting information for a study on the supply of physicians in rural practice and related problems in recruitment and retention. More specifically, it is the intention of this survey to examine practice location decisions of B.C. physicians, the professional, community and personal/family factors related to these, as well as to estimate future supply, including those currently completing internships/residences.

If you have received the questionnaire please take the time to complete it and return it to us at your earliest convenience. We realize that this is a somewhat exacting request, given your busy schedule, but we trust that you will recognize the importance of your cooperation to the health care delivery system and will be willing to assist us in achieving a very high response rate to the study.

If you have just mailed your response, please disregard this reminder; your cooperation is greatly appreciated. If for some reason you have not received the questionnaire, please call Donna Abbott, collect, at 228-4810 and we will immediately provide you with another one.

If you have any questions, please feel free to contact me at 228-4618 or Nino Pagliccia at 228-5009.

Thank you for your cooperation.

Sincerely yours,

A. Kazanjian

Arminée Kazanjian, Dr.Soc.
Associate Director
Division of Health Services
Research and Development

APPENDIX D

Rural General Practitioners by Percentage of Time in Various Areas of Medicine

Area of Medicine	1% - 20%		21% - 40%		41% - 60%		61% - 80%		81% - 100%	
	N	%	N	%	N	%	N	%	N	%
Anaesthesia	67	82.7	11	13.6	2	2.4	0	0.0	1	1.2
Dermatology	240	94.1	12	4.7	3	1.2	0	0.0	0	0.0
Internal Medicine	115	42.9	94	35.1	45	16.8	11	4.1	3	1.1
Medical Subspecialty	51	86.4	6	10.2	2	3.4	0	0.0	0	0.0
Obstetrics & Gynaecology	187	71.4	55	21.0	12	4.6	6	2.3	2	0.8
Paediatrics	171	64.3	80	30.1	12	4.5	3	1.1	0	0.0
Pathology & Lab Medicine	43	100.0	0	0.0	0	0.0	0	0.0	0	0.0
Physical Medicine & Rehabilitation	80	90.9	6	6.8	1	1.1	0	0.0	1	1.1
Psychiatry/Counselling/Psychology	199	75.4	46	17.4	17	6.5	0	0.0	2	0.8
Public Health/Community Medicine	97	89.0	5	4.6	2	1.8	3	2.8	2	1.8
Radiology	66	89.2	2	2.8	1	1.4	0	0.0	5	6.8
General Surgery	129	94.2	5	3.6	3	2.2	0	0.0	0	0.0
Surgical Subspecialty	40	95.2	2	4.8	0	0.0	0	0.0	0	0.0
Geriatrics	157	73.7	39	18.4	13	6.1	3	1.4	1	0.5
House Calls	214	96.4	5	2.3	2	0.9	1	0.5	0	0.0
Other	28	71.8	6	15.4	2	5.2	1	2.6	2	5.2

Urban General Practitioners by Percentage of Time in Various Areas of Medicine

Area of Medicine	1% - 20%		21% - 40%		41% - 60%		61% - 80%		81% - 100%	
	N	%	N	%	N	%	N	%	N	%
Anaesthesia	12	75.0	4	25.0	0	0.0	0	0.0	0	0.0
Dermatology	107	88.4	12	9.9	2	1.7	0	0.0	0	0.0
Internal Medicine	47	36.7	50	39.1	25	19.6	6	4.6	0	0.0
Medical Subspecialty	26	76.5	7	20.5	1	2.9	0	0.0	0	0.0
Obstetrics & Gynaecology	84	69.5	29	24.0	4	3.3	4	3.3	0	0.0
Paediatrics	84	67.2	33	26.4	5	4.0	3	2.4	0	0.0
Pathology & Lab Medicine	18	90.0	1	5.0	0	0.0	1	5.0	0	0.0
Physical Medicine & Rehabilitation	39	83.0	5	10.6	2	4.3	1	2.1	0	0.0
Psychiatry/Counselling/Psychology	81	63.3	32	25.0	10	7.8	4	3.1	1	0.8
Public Health/Community Medicine	34	81.0	3	7.2	1	2.4	2	4.8	2	4.8
Radiology	22	88.0	0	0.0	0	0.0	0	0.0	3	12.0
General Surgery	57	90.5	6	9.5	0	0.0	0	0.0	0	0.0
Surgical Subspecialty	21	91.3	1	4.3	0	0.0	0	0.0	1	4.3
Geriatrics	64	61.5	22	21.2	12	11.5	4	3.9	2	1.9
House Calls	107	93.9	6	5.3	0	0.0	1	0.9	0	0.0
Other	21	61.8	8	23.5	1	2.9	1	2.9	3	8.8

APPENDIX E

Respondents by Medical Back-Up
Within 100 Kilometres
(Rural N = 414; Urban N = 335)

Medical Back-Up	Rural		Urban	
	N	%	N	%
CLINICAL SPECIALTIES:				
Radiology (Diagnostic)	315	76.1	319	95.2
Anaesthesia	311	75.1	314	93.7
Internal Medicine	306	73.9	320	95.5
Paediatrics	299	72.2	314	93.7
Psychiatry	281	67.9	313	93.4
Neurology	204	49.3	299	89.3
Cardiology	199	48.1	296	88.4
Dermatology	196	47.3	305	91.0
Nuclear Medicine	187	45.2	299	89.3
Medical Oncology	182	44.0	294	87.8
Nephrology	181	43.7	292	87.2
Community Medicine	172	41.5	289	86.3
Respiratory Medicine	170	41.1	294	87.8
Gastroenterology	167	40.3	298	89.0
Rheumatology	164	39.6	295	88.1
Emergency Medicine	160	38.6	291	86.9
Physical Medicine/Rehabilitation	150	36.2	293	87.5
Haematology	147	35.5	282	84.2
Clinical Immunology & Allergy	132	31.9	282	84.2
Geriatric Medicine	128	30.9	272	81.2
Infectious Disease	121	29.2	278	83.0
Endocrinology & Metabolism	119	28.7	279	83.3
Radiation Oncology	113	27.3	266	79.4
SURGICAL SPECIALTIES:				
General	340	82.1	324	96.7
Obstetrics/Gynaecology	291	70.3	321	95.8
Urology	290	70.0	315	94.0
Ophthalmology	284	68.6	312	93.1
Otolaryngology	280	67.6	314	93.7
Orthopaedic	274	66.2	317	94.6
Plastic	217	52.4	301	89.9
Vascular	202	48.8	296	88.4
Thoracic	164	39.6	284	84.8
Paediatric General	161	38.9	286	85.4
Cardiovascular/Thoracic	147	35.5	278	83.0
Neurosurgery	135	32.6	296	88.4
LABORATORY SPECIALTIES:				
General Pathology	272	65.7	317	94.6
Medical Biochemistry	202	48.8	290	86.6
Medical Microbiology	200	48.3	293	87.5
Anatomical Pathology	195	47.1	296	88.4
Haematological Pathology	185	44.7	289	86.3
Neuropathology	107	25.8	269	80.3

APPENDIX F

Respondents by Mean Satisfaction Level for
Specific Professional, Community, and Personal/Family Concerns

(1 = very unsatisfied ... 3 = indifferent ... 5 = very satisfied)

Professional, Community, Personal/Family Concerns	Rural			Urban		
	N	Mean	Standard Deviation	N	Mean	Standard Deviation
PROFESSIONAL:						
Variety in Medical Problems to be Treated	407	4.46	0.820	323	4.45	0.760
Acuteness of Diseases Seen*	404	4.37	0.848	322	4.26	0.889
Opportunity to Practice as a Family Doctor**	356	4.36	0.849	214	3.83	1.142
Challenge of Practice*	406	4.33	0.854	318	4.22	0.904
Level of Responsibility**	406	4.31	0.948	320	4.43	0.797
Opportunities for Continuity of Care	406	4.18	0.938	309	4.15	0.988
Opportunity to Practice the Kind of Medicine I Wish to Practice	404	4.16	0.997	320	4.17	0.971
Opportunities for Free and Informal Communication With Peers**	406	3.97	1.236	323	4.43	0.911
Opportunity to Provide Complete Package of Medical Services	400	3.95	1.123	310	4.01	1.075
Availability of Clinical Support**	403	3.83	1.058	322	4.57	0.791
Access to Specialist Expertise**	407	3.69	1.105	322	4.54	0.719
Availability of Medical Facilities**	405	3.65	1.097	318	4.08	1.089
Ease of Transfer to an Appropriate Level of Care of the Acutely Ill/Injured Patient**	401	3.60	1.160	293	4.14	1.063
Specific Training for the Appropriate Medical Services In My Geographic Area of Practice**	389	3.55	1.149	297	4.01	1.023
Length of Working Hours (On Call)**	403	3.19	1.366	321	3.85	1.199
Caseload in Relation to Income**	403	3.11	1.236	322	3.40	1.245
Availability of Locum Relief**	383	2.89	1.291	263	3.43	1.308
Ability to Secure Uninterrupted Free Time From Work**	405	2.85	1.343	318	3.44	1.325
Opportunities for Involvement in BCMA, CMA or Other Related Activities**	383	2.84	0.997	304	3.49	1.096
Teaching and Academic Medicine Opportunities**	391	2.80	1.174	314	3.65	1.193
Ease to Relocate Practice**	378	2.75	1.123	292	2.88	1.263
Research Opportunities**	380	2.49	1.016	307	3.20	1.182
COMMUNITY:						
Own Personal Safety in the Community**	403	4.50	0.802	323	4.26	0.866
Quality of Environment**	409	4.33	0.868	324	4.05	1.020
Life-style in the Community*	406	4.12	0.935	326	4.22	0.933
Size of Community**	407	4.05	1.047	324	4.33	0.940
Possibility for Community Involvement/Leadership**	403	4.04	0.881	321	3.85	0.998
Availability of Recreational Facilities**	407	4.04	1.136	320	4.51	0.796
Resources With Which to Enjoy Leisure Time**	409	4.02	1.012	320	4.25	0.973
Sense of Community**	409	4.00	0.999	320	3.83	1.098
Financial/Economic Security in the Community**	409	3.86	1.015	322	4.00	1.025
Availability of Cultural Activities**	406	3.04	1.267	324	4.25	1.047
PERSONAL/FAMILY:						
Own Preference for Practicing Here	405	4.38	0.843	325	4.44	0.871
Quality of Housing**	405	4.16	0.997	317	4.30	0.961
Quality of Life for My Children (If Any)**	335	4.04	0.989	270	4.34	0.825
Spouse's Contentment in the Community**	366	3.95	1.053	290	4.32	0.933
Opportunity to Earn the Kind of Income I Require	405	3.79	1.081	320	3.87	1.066
Time for Family Life (Recreation and Leisure Time)**	398	3.47	1.191	321	3.75	1.108
Quality of Education for My Children (If Any)**	332	3.30	1.176	275	4.21	1.013
Availability of Cultural Opportunities for Self and Family**	403	3.05	1.172	323	4.12	1.007
Proximity to Relatives and Extended Family**	395	2.70	1.425	311	3.30	1.438
Other	27	3.41	1.907	17	3.59	1.661

* Significant ($p < 0.05$)
** Highly Significant ($p < 0.01$) (1)

(1) Based on a 2-tailed t-test, after the practising physician groups were weighted to reflect the province's more than 8:1 ratio of urban to rural physicians.

APPENDIX G

Residents and Interns by Specialties/Professional Goals
(Total N: Residents = 77; Interns = 41)

Specialty/Professional Goal	Residents		Interns		Total	
	N	%	N	%	N	%
NON-SPECIALIST						
General Practice	-	-	14	35.0	14	12.0
Family Practice (CCFP)	7	9.1	7	17.5	14	12.0
Sub-total	7	9.1	21	52.5	28	23.9
SPECIALIST						
CLINICAL						
Internal Medicine	10	13.0	3	7.5	13	11.1
Paediatrics	9	11.7	1	2.5	10	8.5
Psychiatry	7	9.1	1	2.5	8	6.8
Anaesthesia	5	6.5	2	5.0	7	6.0
Radiology (Diagnostic)	4	5.2	-	-	4	3.4
Radiation Oncology	3	3.9	-	-	3	2.6
Community Medicine	2	2.6	-	-	2	1.7
Cardiology	1	1.3	1	2.5	2	1.7
Dermatology	1	1.3	-	-	1	0.9
Gastroenterology	1	1.3	-	-	1	0.9
Geriatric Medicine	1	1.3	-	-	1	0.9
Respiratory Medicine	1	1.3	-	-	1	0.9
Rheumatology	1	1.3	-	-	1	0.9
Emergency Medicine	-	-	2	5.0	2	1.7
Clinical Immunology & Allergy	-	-	1	2.5	1	0.9
Neurology	-	-	1	2.5	1	0.9
Clinical Sub-total	46	59.7	12	30.0	58	49.6
SURGICAL						
Ophthalmology	4	5.2	2	5.0	6	5.1
Cardiovascular/Thoracic	3	3.9	2	5.0	5	4.3
Neurosurgery	3	3.9	-	-	3	2.6
Obstetrics/Gynaecology	2	2.6	-	-	2	1.7
Orthopaedic	2	2.6	1	2.5	3	2.6
Vascular	2	2.6	-	-	2	1.7
General	1	1.3	-	-	1	0.9
Paediatric General	-	-	2	5.0	2	1.7
Surgical Sub-total	17	22.1	7	17.5	24	20.5
LABORATORY						
Anatomical Pathology	3	3.9	-	-	3	2.6
Medical Microbiology	2	2.6	-	-	2	1.7
Haematological Pathology	1	1.3	-	-	1	0.9
Medical Biochemistry	1	1.3	-	-	1	0.9
Laboratory Sub-total	7	9.1	0	0.0	7	6.0
Specialist Sub-totals	70	90.9	19	47.5	89	76.1
TOTALS*	77	100.0 (65.8)	40	100.0 (34.2)	117	100.0 (100.0)

* Non-respondents: Interns = 1.

APPENDIX H

Residents and Interns by Mean Influence Level for Professional, Community, and Personal/Family Factors Relating to Intended Practice Location Decisions

(1 = not at all influential ... 5 = very much influential)

Professional, Community, Personal/Family Factors	Rural			Urban		
	N	Mean	Standard Deviation	N	Mean	Standard Deviation
PROFESSIONAL:						
Opportunity to Practice the Kind of Medicine I Wish to Practice	38	4.47	0.830	76	4.24	1.031
Level of Responsibility**	36	4.28	0.882	77	3.22	1.199
Challenge of Practice**	37	4.24	0.760	76	3.72	1.138
Variety in Medical Problems to be Treated	36	3.92	1.079	77	3.84	1.136
Opportunity to Provide Complete Package of Medical Services	35	3.86	1.115	77	3.55	1.083
Opportunities for Free and Informal Communication With Peers	36	3.69	1.091	77	3.90	0.882
Opportunities for Continuity of Care**	38	3.68	1.118	77	3.00	1.288
Ability to Secure Uninterrupted Free Time From Work	37	3.65	1.230	78	3.37	1.378
Availability of Medical Facilities*	37	3.54	0.931	77	4.03	1.038
Availability of Clinical Support*	37	3.30	1.199	78	3.86	1.125
Access to Specialist Expertise**	37	3.27	1.018	77	3.83	1.031
Length of Working Hours (On Call)	37	3.16	1.214	78	3.14	1.365
Opportunity to Earn a Good Income*	37	3.16	1.191	78	2.67	1.266
Caseload in Relation to Income*	37	3.00	1.354	77	2.52	1.071
Opportunity to Practice as a Family Doctor**	37	2.68	1.765	72	1.74	1.151
Teaching and Academic Medicine Opportunities**	36	2.61	1.271	75	4.04	1.202
Availability of Locum Relief	36	2.58	1.251	72	2.49	1.547
Research Opportunities**	36	1.83	1.082	74	3.32	1.491
Opportunities for Involvement in BCMA, CMA or Other Related Activities	37	1.70	0.996	76	1.76	1.044
COMMUNITY:						
Quality of Environment**	38	4.47	0.893	77	3.62	1.236
Availability of Recreational Facilities	37	4.35	0.889	78	3.97	1.105
Life-style in the Community*	37	4.32	0.852	77	3.92	1.244
Resources With Which to Enjoy Leisure Time	36	4.25	0.937	77	4.08	1.167
Sense of Community**	37	4.16	0.898	77	2.94	1.196
Size of Community	37	4.00	0.882	76	3.95	1.057
Financial/Economic Security in the Community	36	3.75	1.079	77	3.38	1.267
Availability of Cultural Activities	37	3.70	1.151	78	4.00	1.162
Possibility for Community Involvement/Leadership**	36	3.33	1.287	76	2.57	1.170
PERSONAL/FAMILY:						
Time for Family Life (Recreation and Leisure Time)	38	4.29	1.137	77	3.88	1.246
Quality of Life for My Children (If Any)	34	4.15	0.989	69	4.00	1.260
Quality of Education for My Children (If Any)	34	3.76	1.304	70	4.19	1.183
Availability for Cultural Opportunities for Self and Family	37	3.65	1.136	77	4.08	1.085
Quality of Housing	37	3.65	1.207	77	3.43	1.261
Proximity to Relatives and Extended Family**	36	2.36	1.291	78	3.45	1.420
Other	4	4.00	2.000	14	4.57	1.089

* Significant ($p < 0.05$)

** Highly Significant ($p < 0.01$) (1)

(1) Based on a 2-tailed t-tests, as previously described.