

Difficult-to-Fill Vacancies
In Selected Health Care Disciplines
In British Columbia, 1980 - 1991

HHRU 93:5

Health Human Resources Unit
Centre for Health Services and Policy Research
The John F. McCreary Health Sciences Centre
The University of British Columbia
Vancouver, B.C. Canada V6T 1Z3

A. MacDonald
A. Kazanjian

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HEALTH HUMAN RESOURCES UNIT

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Health Human Resources Unit
Centre for Health Services and Policy Research
429 - 2194 Health Sciences Mall
Vancouver, British Columbia
V6T 1Z3 (604) 822-4810

THE UNIVERSITY OF BRITISH COLUMBIA



Health Human Resources Unit
Centre for Health Services and Policy Research
429 - 2194 Health Sciences Mall
Vancouver, B.C. Canada V6T 1Z3

Tel: (604) 822-4810
Fax: (604) 822-5690

July 23, 1993

Mr. Tom Vincent
Chairman
Health Human Resources Working Group
Ministry of Health
1515 Blanshard Street
Victoria, B.C. V8W 3C8

Dear Mr. Vincent:

It is with great pleasure that I transmit to you and the members of the Health Human Resources Working Group the completed report "Difficult-to-Fill Vacancies in Selected Health Care Disciplines in British Columbia, 1980 - 1991". This is the second analytic summary of the Difficult-to-Fill (DTF) vacancy data collected quarterly by the Health Human Resources Unit. This second report encompasses twelve years of data, providing a longer term analysis of trends than its predecessor.

The DTF vacancy data are examined for both Registered Nurses and disciplines other than RNs, and analyzed for possible trends in three forms: absolute numbers of vacancies, vacancy rates per 100 beds, and vacancy rates per 100 employed personnel. Comparisons are also made with UI claimant data from Employment and Immigration Canada.

It is a pleasure to thank once again the participating hospitals and agencies which have faithfully continued the data collection over the years. The response rate, admittedly encouraged by follow-up telephone calls, has been maintained near perfect.

We look forward to receiving comments and suggestions from the members of the Working Group as well as from other readers.

Sincerely yours,

A handwritten signature in blue ink, appearing to read "A. Kazanjian".

Arminée Kazanjian, Dr.Soc.
Associate Director

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I. INTRODUCTION

A. Background

This report is the second of its kind presenting a summary and synthesis of the data collected by the Health Human Resources Unit (HHRU) on difficult-to-fill (DTF) vacancies in British Columbia. The first summary report was completed in 1987 following the first seven years of data collection; this report incorporates five more years of continuous data, covering a twelve-year period.

The "Difficult-to-Fill" study began in January 1980 following discussions in 1979 between the British Columbia Health Association (BCHA) and the Health Human Resources Working Group (HHRWG), at the time comprising the ministries of Health, Post-Secondary Education, Universities, and Labour. These discussions were undertaken in response to mounting pressure from numerous reports in British Columbia newspapers during 1979 and 1980 of a nursing shortage. However, there was no available empirical evidence at the time for these claims. This project was thus established to monitor unmet demand for health personnel in British Columbia with a focus on nursing personnel but also to include a large number of other health care disciplines.

During 1980, survey data were collected on a monthly basis with monthly reports on the findings, prepared and distributed to the participants and government officials. From 1981 to 1983 data were collected monthly but reports were prepared on a three-month basis. Since 1984 the data has been collected in spot counts at the end of the quarter (March, June, September, and December) and survey reports prepared on a quarterly basis. These quarterly reports have always been descriptive accounts of the current situation only. The first summary report (Kinnis, 1987) presented a description of the data collected over the entire seven year period and a brief analysis of the trends over that time frame. This report continues that examination of trends in unmet demand for health personnel in British Columbia.

B. Definitions

Difficult-to-Fill (DTF) Vacancy: A vacancy in any health care related field which has been in existence for at least one month, and for which, during that period, there has been active recruitment without hiring a suitable applicant. Vacancies for casual and/or temporary positions are not included.

GVRHD: Refers to the Greater Vancouver Regional Hospital District as defined by the Hospital Care division, B.C. Ministry of Health. It includes Burnaby, Coquitlam, Delta, Langley, New Westminster, North Vancouver, Port Coquitlam, Port Moody, Richmond, Surrey, Vancouver, and West Vancouver (See map of British Columbia in Appendix A).

Other B.C.: Refers to the remainder of the province of British Columbia outside of the GVRHD.

Registered Nurse (RN): Throughout this report, the designation "Registered Nurse" includes both Registered Nurses and Registered Psychiatric Nurses, unless otherwise noted.

Vacancy Rate per 100 Beds: This is calculated by taking the number of DTF vacant positions as the numerator, and dividing it by the number of approved beds contributed by the responding facilities, and multiplying the result by 100. Where comparisons are made based on region and size of facility, the denominator is also based on region and size of facility; otherwise, the denominator is based on the total number of beds contributed by all respondents.

Vacancy Rate per 100 Practising/Employed Personnel: This is calculated by taking the number of DTF vacant positions as the numerator, and dividing it by the number of personnel practising/employed in that area/discipline, and multiplying the result by 100.

II. DATA DEVELOPMENT

A. Study Population

When the Difficult-to-Fill survey began in 1980, a population of 132 facilities and agencies existed in British Columbia, including all hospitals listed by the Hospital Care Division of the Ministry of Health, two large government hospitals, and selected agencies. Of the 132, one of these never responded, leaving a working survey population of 131. Of these, 120 facilities/agencies responded regularly; 6 joined the survey late (3 in mid-1980, 2 in early 1981, and 1 in early 1983); and 5 left during 1980-81 (2 closed and 3 withdrew), leaving a population of 126 facilities/agencies which responded regularly from 1983 until mid-1988. At that time another agency withdrew and the population dropped to 125. In 1990, due to the amalgamation of several hospitals under various societies, the study population decreased to 122, although the same hospitals were all still included in the survey. For consistency in reporting, 6 outlying small hospitals which are part of the Canadian Red Cross Society were combined in 1991 under one society to give the current (as of December 1991) study population of 117 facilities/agencies. The historic composition of the study population is summarized in Figure 1.

The classification of the current respondents by size of facility and HHRU Health Region (see Appendix A) is shown in Table 1. About one-quarter (24.8%) of all facilities/agencies and 64.3 percent of the large facilities (400+ beds) are in the Greater Vancouver Regional Hospital District (GVRHD). The Capital District contains 4.3 percent of the facilities, with the remainder in other areas of the province. The majority of all facilities (73.5%) are small in size, with fewer than 200 beds.

A description of the functional category of beds for current responding institutions is provided in Table 2. Just over 80 percent of the facilities/agencies are acute care - with or without longer stay or rehabilitation beds. Longer stay beds (primarily extended care beds) are present in 70 percent of the facilities.

Figure 1
DTF Study Population
1980 - 1991

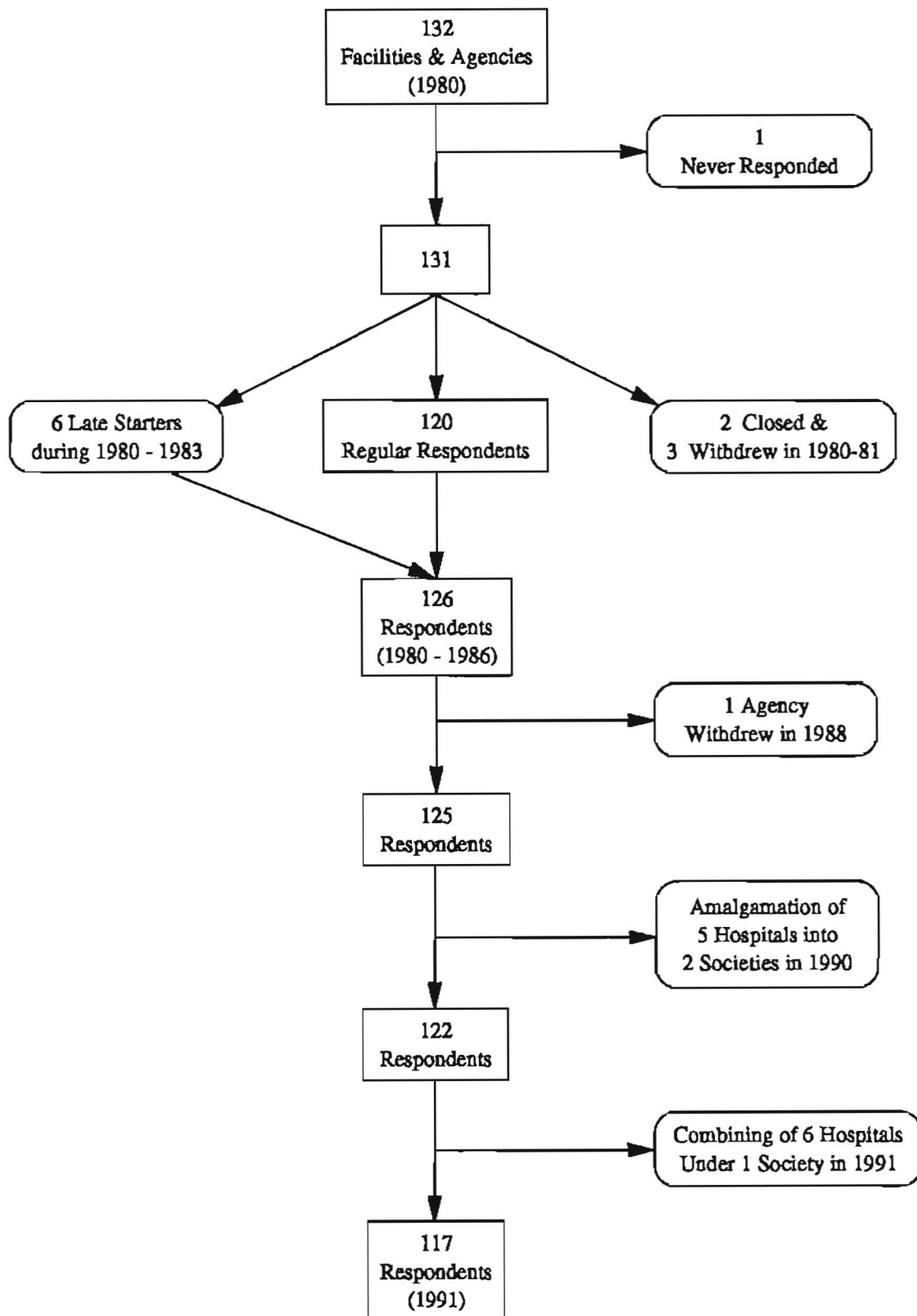


Table 1
Classification of 117 Current Respondents,
by HHRU Health Region¹, and Hospital Bed Size²

HHRU Health Region	Number of Approved Beds						None or Not Rated	Total N	Total %
	400+	300-399	200-299	100-199	50-99	<50			
GVRHD	9	4	3	6	4	0	3	29	24.79
Capital	2	0	1	1	1	0	0	5	4.27
Fraser Valley	0	1	2	1	1	1	0	6	5.13
Okanagan	1	1	1	1	1	3	1	9	7.69
South East	0	0	1	1	8	8	1	19	16.24
Island Coast	1	0	2	4	0	10	2	19	16.24
Central	1	0	0	2	0	7	1	11	9.40
North Central	0	1	0	1	2	8	1	13	11.11
North	0	0	0	0	3	3	0	6	5.13
TOTAL N	14	7	10	17	20	40	9	117	100.00
%	(12.0)	(6.0)	(8.5)	(14.5)	(17.1)	(34.2)	(7.7)	(100.0)	

¹ Regional Hospital Districts have been grouped by the HHRU in order to provide a sufficient base for analysis of health personnel groups. See map of B.C. in Appendix 1 for location of regions.

² Number of approved beds as listed by the Hospital Care division of the B.C. Ministry of Health, for March 31, 1991.

Table 2
Classification of 117 Current Respondents
by Functional Category of Beds

Functional Category of Beds	Number	%
Acute Care Only	26	22.22
Acute Care + Longer Stay ¹	66	56.41
Acute Care + Longer Stay + Rehab.	2	1.71
Acute Subtotal	94	80.34
Longer Stay Only	11	9.40
Rehabilitation ²	3	2.56
Psychiatric	1	0.85
Holding Beds Only ³	6	5.13
Other Facilities ⁴	2	1.71
Total	117	100.00

¹ Includes extended, intermediate, and personal care.

² With or without extended care.

³ Diagnostic & Treatment Centres and Canadian Red Cross Society.

⁴ Worker's Compensation Board of B.C. and The Arthritis Society (B.C. Division).

B. Data Collection

During 1980, data collection was on a monthly basis with the use of two forms. On the first form participants listed any vacancies that had become difficult-to-fill during that month (i. e. vacant 30 days or more and for which there had been active recruitment). The second form was a computer-generated list of their previously reported difficult-to-fill positions on which they were to indicate which ones had been filled during that month. This allowed vacancies to be tracked longitudinally. Information was collected on the reason for the vacancy and the required qualifications, as well as the type of position (full-time or part-time) and the nursing area (RNs) or specific discipline (other health personnel) of the vacancy. Monthly reports were sent during the first year of the survey.

For the next three years (1981 - 1983) data were collected in the same way except that the survey forms and the reports were distributed every three months (March, June, September, and December) rather than every month.

From 1984 onward, the DTF report consisted of a simplified spot count of the difficult-to-fill vacancies in existence on the last day of the quarter. Information on the number, type of vacancy (full-time or part-time), and the area of nursing or specific discipline are the only data collected in these "spot counts". The "spot counts" of difficult-to-fill vacancies are still ongoing and the results are presented in quarterly reports.

For the purpose of comparing data over the entire twelve year period, the longitudinal data collected from 1980 to 1983 were examined and simple records extracted and computer-filed for each report-month to produce "spot counts" of difficult-to-fill vacancies similar to those from 1984 onward. For example, if a given vacancy became difficult-to-fill in June 1981 and was filled in November 1981, a record would be filed for each of the two end-of-quarter months, June and September.

The number of vacancies in each of the four quarters for each year were then summed to give the number of vacancies for each year, which form the basis for most of the tables and figures included in this report. Appendices B and C contain the number of DTF vacancies for Registered

Nurses and Other Disciplines respectively.

In order to undertake 'pooled' time series analysis and examine trends over time, various methods of calculating vacancy rates were considered. The numerator (number of vacant positions) has been refined over the study period, but it has been more difficult to find an appropriate denominator. The number of approved beds in the reporting facilities/agencies as listed by the Hospital Care Division of the Ministry of Health (see Appendix D) has been used as the denominator for vacancy rate calculations in the quarterly reports since the reports began. In this report, like the first summary report (Kinnis, 1987), an attempt has also been made to calculate vacancy rates for RNs using the number of practising RNs (see Appendix E) as denominator; this number is estimated by nursing area as listed by the Registered Nurses' Association of British Columbia (RNABC). For other health disciplines, the rate is estimated using the respective numbers found in the ROLLCALL publications (see Appendix F).

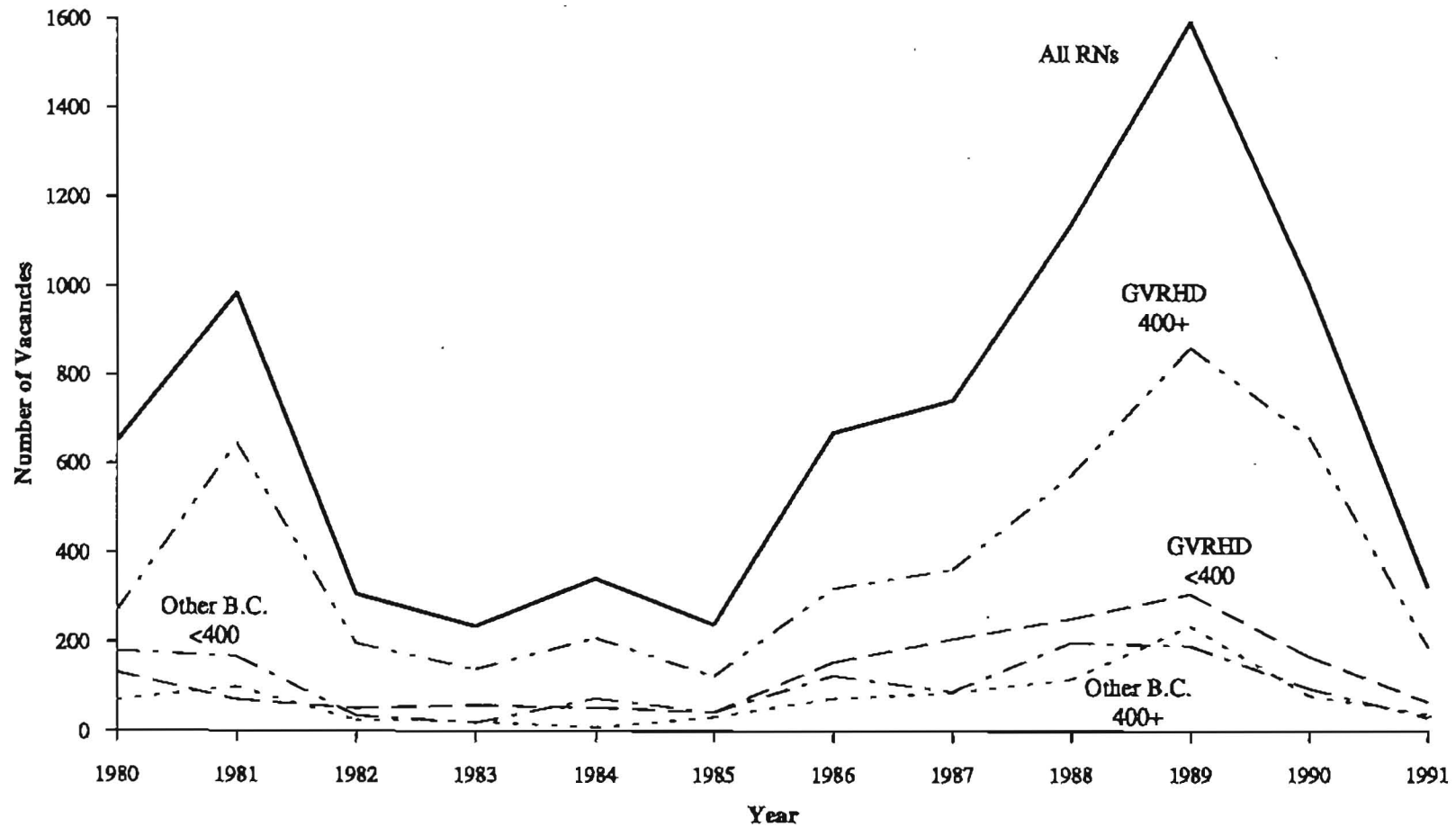
This report also compares vacancy trends to trends in data about unemployment insurance claims (from 1986 - 1991) for various health personnel, as reported by Employment and Immigration Canada (Regional Economic Services Branch for B.C. & Yukon Region). Unemployment insurance data are based on "Regular Claimants". A claimant is a person who has an open and established claim, regardless of whether or not he or she is receiving benefits, and 'regular' excludes those claims that are based on sickness or maternity.

III. RESULTS - REGISTERED NURSES

A. Region and Size of Facility

Figure 2 shows the trends in the number of difficult-to-fill vacancies for RNs from 1980 to 1991 by region and size of facility. The first peak in the number of vacancies was in 1981 as reported in our earlier summary report, along with the rapid decrease in vacancies seen during 1982. The increase in the number of vacancies which was just beginning at the time of the last report can now be

Figure 2
DTF Vacancies for RNs
by Region and Size of Facility, 1980 - 1991



seen to have peaked in 1989, and as with the earlier peak of 1981, it has since undergone a large decrease through 1990 and 1991. Each of the four (region and size) disaggregated categories illustrated in Figure 2 also follow these same trends, although the peaks for GVRHD in 1981 and 1989 most closely follow the peaks for all RNs of the same period.

The percentage of difficult-to-fill vacancies in each of the four region and size groupings included in Figure 2 is illustrated in Figure 3. The majority of vacancies has consistently been in the Greater Vancouver Regional Hospital District (GVRHD) 400+ bed facilities. The <400 bed facilities in the GVRHD accounted for the next highest proportion of the vacancies in 1982, 1983, and 1986-1991. The <400 bed facilities outside the GVRHD accounted for the second highest proportion of DTF vacancies in 1980-1981 and 1984-1985. The smallest proportion of vacancies was usually seen in the 400+ bed facilities outside the GVRHD.

B. Nursing Area

Figures 4a and 4b show the trends in the number of difficult-to-fill vacancies for RNs from 1980 to 1991, disaggregated by area of service for the six most common problem areas. In all the other nursing areas, the number of vacancies ranged from 0 to 101 over the twelve year period, and such fluctuations usually followed the overall RN trend very closely. Of the six problem areas, all but ECU/Geriatrics appear to have contributed to the peak in the number of vacancies for Registered Nurses that was seen in 1981. The 1989 unprecedented peak in overall DTF vacancies can be attributed to ICU/CCU/PAR, General Nursing, Medicine, and Surgery. ECU/Geriatrics shows a slightly later peak occurring in 1989 and 1990, compared to an earlier 1988 peak for Psychiatry, a peak related to institutional, not community-based, vacancies. Although the number of extended care beds in the province has increased consistently throughout the period, from 5,694 in 1980 to 7,801 in 1991 (ROLLCALL UPDATE 80, ROLLCALL 91), the number of difficult-to-fill vacancies in ECU/Geriatrics has tended to follow the overall trend seen for Registered Nurses in the province and

Figure 3
Percentage Distribution of DTF Vacancies for RNs
by Region and Size of Facility, 1980 - 1991

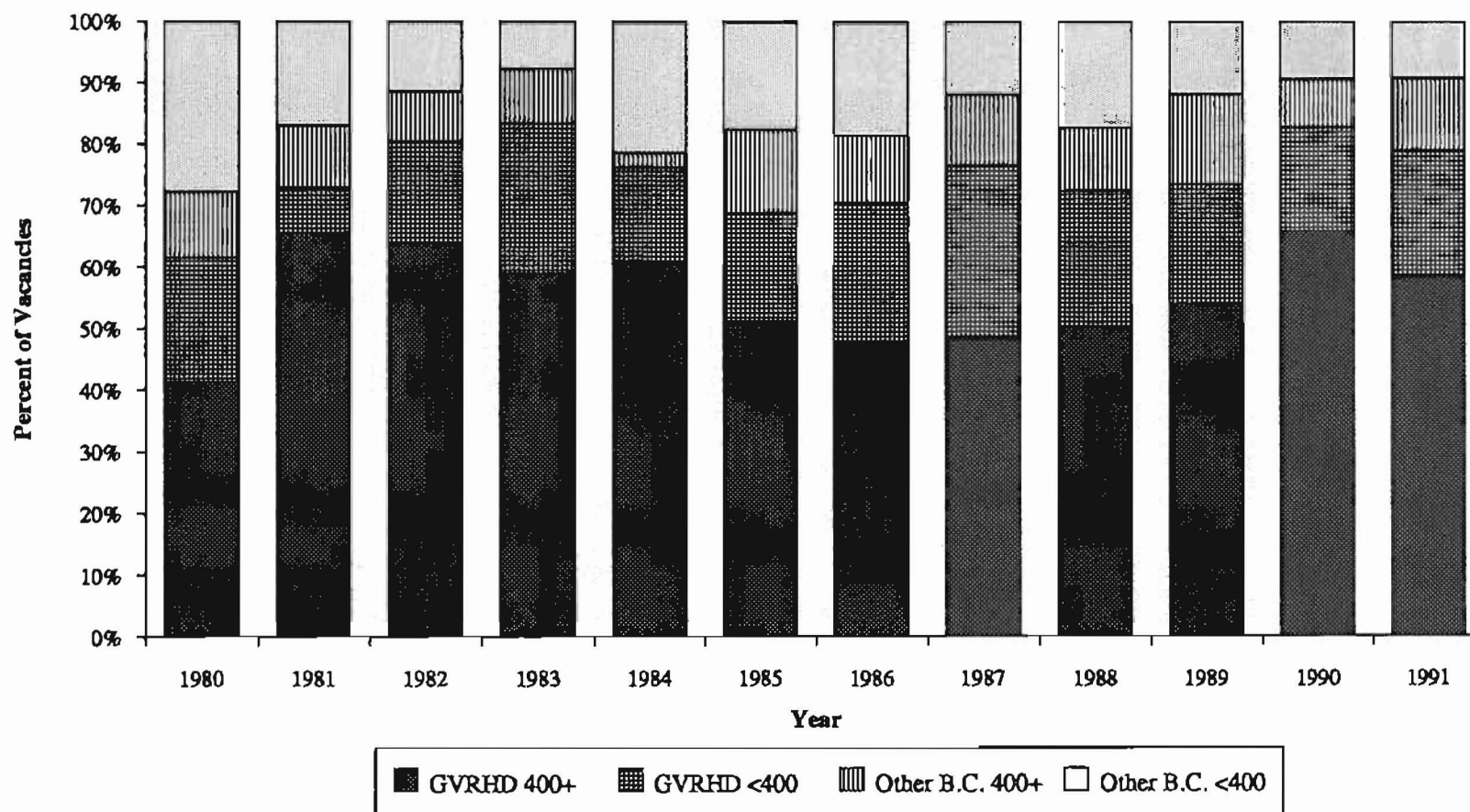


Figure 4a
DTF Vacancies for RNs in Three Problem Areas,
by Year, 1980 - 1991

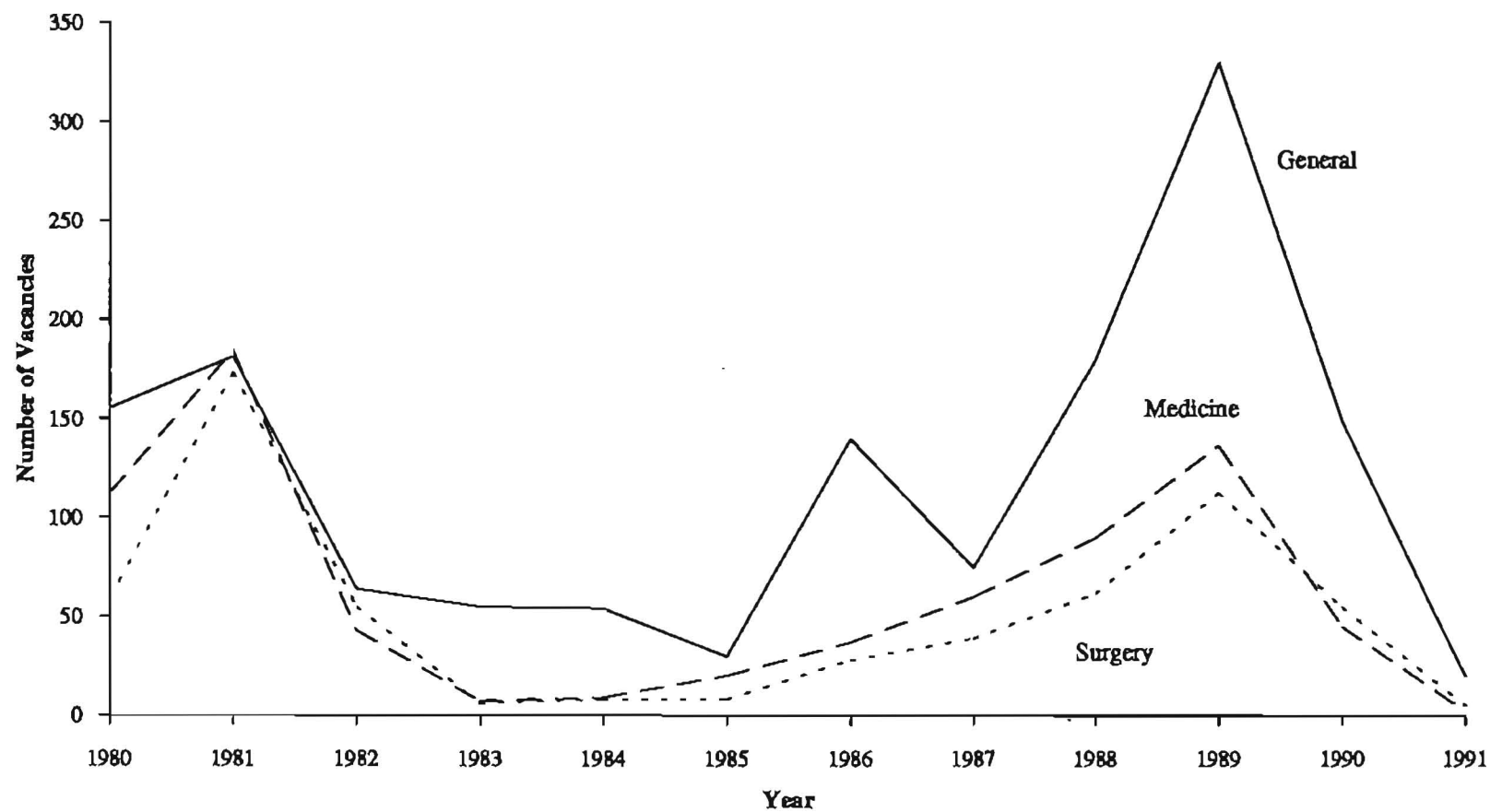
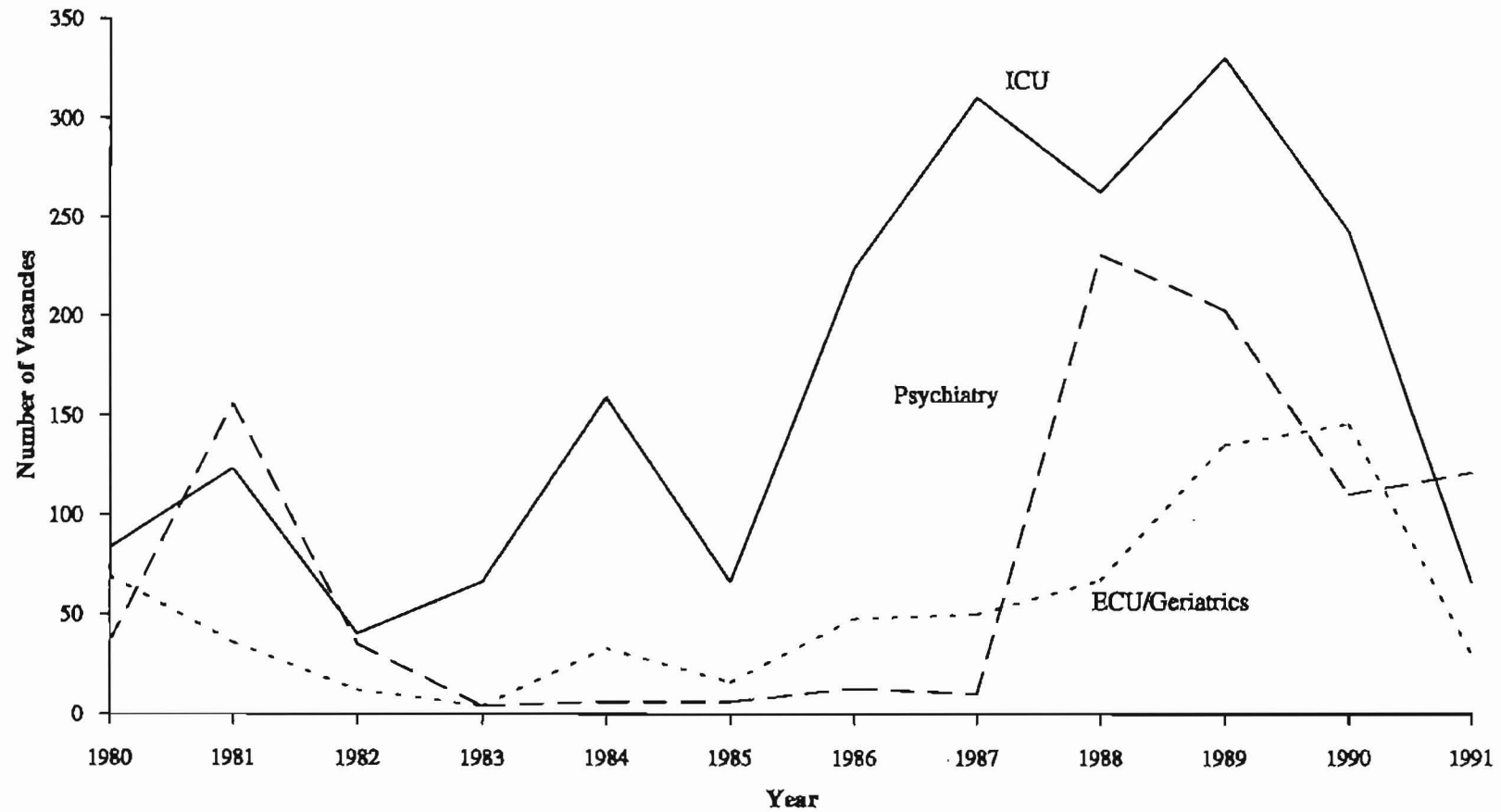


Figure 4b
DTF Vacancies for RNs in Three Problem Areas,
by Year, 1980 - 1991



has not varied as a function of extended care beds. In retrospect, the relatively smaller peaks in the number of vacancies in 1984 and 1986 for all RNs appear to be a function of the lesser increase in vacancies seen in General Nursing and especially ICU/CCU/PAR nursing areas.

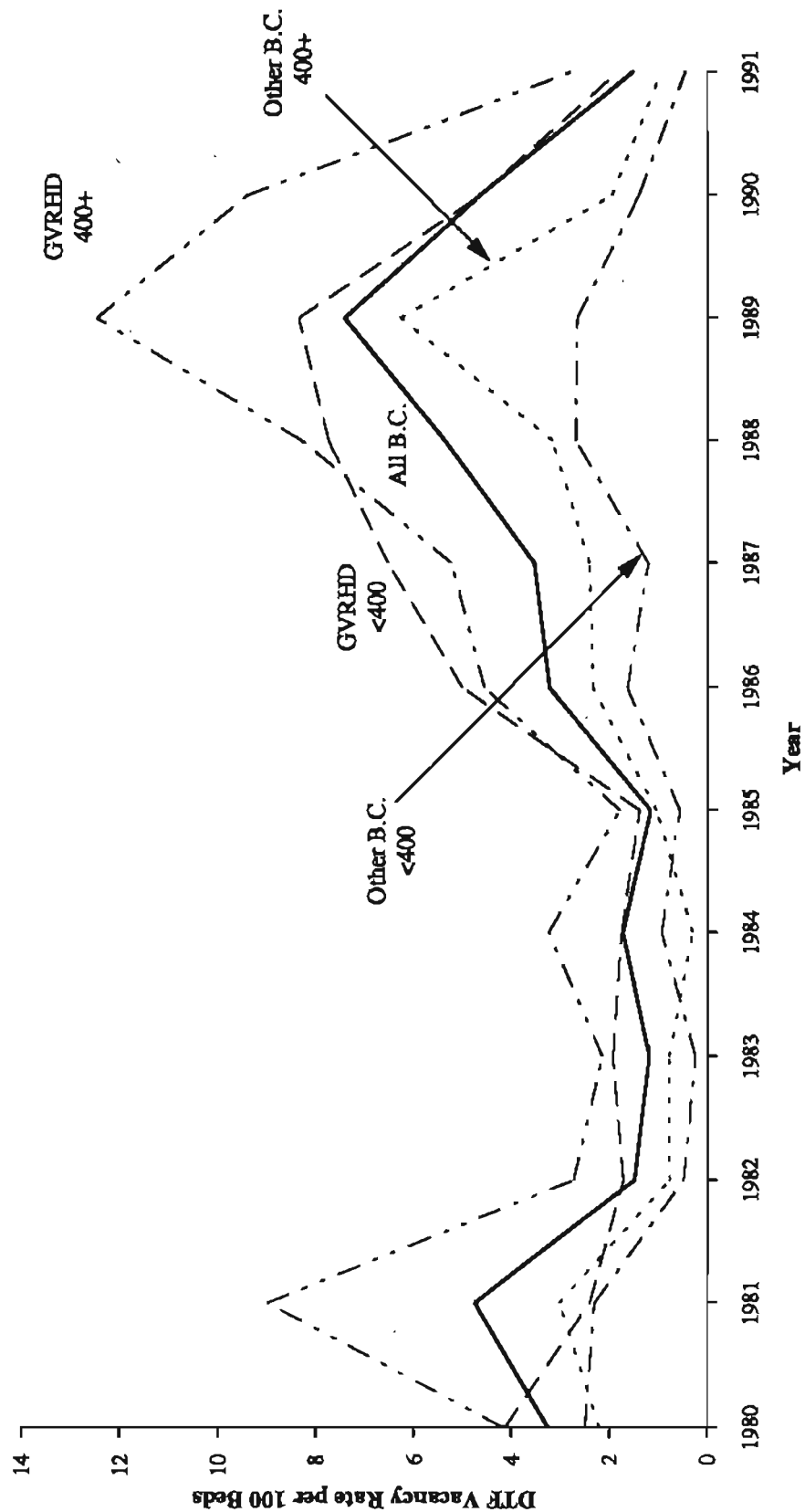
C. Vacancy Rates per 100 Beds

Using hospital bed capacity as a denominator in calculating vacancy rates for Registered Nurses puts the numbers in historic context (Figure 5); if changes in the vacancy rates were simply in response to changes in bed capacity, Figure 5 would not so closely resemble Figure 2. For the province as a whole, the peaks in the number of vacancies which occurred in 1981 and 1989 remain significant when the vacancy rate per 100 beds is examined. The vacancy rate was on the increase and peaked in 1981 at 4.7, and again peaked in 1989 at 7.4, while the denominator, bed capacity, was also on the increase in both 1981 and 1989; yet in the subsequent year immediately following the peak years, when the vacancy rates dropped sharply (1982 and 1990), the bed capacity remained more or less constant. Of course, bed capacity is an official statistic established by the Ministry of Health and may not correspond to the actual number of beds in the province at any time.

The sharp drop in vacancy rate which occurred in 1982 coincided with the decade's earliest imposition of fiscal restraint on hospitals, when the B.C. Ministry of Health stopped funding hospitals on a per diem basis and changed to "global" funding in 1981/82 (Haazen, 1992). The decline in the vacancy rate that occurred in 1990 through 1991, interestingly, coincided with the B.C. Ministry of Health's next attempt at a more appropriate funding strategy when they introduced the "population/demographic" model in 1989/90 (Haazen, 1992). We assume that in both situations, the uncertainty of funding level is a factor hospital management takes into consideration; the short-term reaction to it is the elimination of vacant positions and closing of beds, if necessary.

Comparing the vacancy rates based on the region and size of the facilities illustrates that DTF vacancy problems were most severe in the GVRHD, especially in the 400+ bed facilities whose

Figure 5
DTF Vacancies for RNs per 100 Approved Beds,
by Region and Size of Facility, 1980 - 1991



vacancy rate was always above the provincial vacancy rate. The vacancy rate per 100 beds in the GVRHD <400 bed facilities rose above that in the GVRHD 400+ bed facilities in 1986 - 1987, due to the large increase in the number of DTF vacancies in the GVRHD <400 bed facilities. The percentage of vacancies which occurred in the GVRHD <400 bed facilities in fact reached its maximum for the study period in 1987 at 27.7 percent of all vacancies for that year (Figure 3). The vacancy rates outside the GVRHD were always lower than the provincial vacancy rate. However, unlike the trend seen in the numbers of DTF vacancies, where the numbers of vacancies were greater in the Other B.C. <400 bed facilities than in the Other B.C. 400+ bed facilities, the vacancy rates per 100 beds were less in the Other B.C. <400 bed facilities in all years but 1980 and 1984. In the years 1980 and 1984, the percentage of vacancies which were found in the Other B.C. <400 bed facilities reached the highest levels for the study period, at 27.7 percent of all vacancies in 1980 and 21.4 percent of all vacancies in 1984 (Figure 3), compared to an average of 15.2 percent over the twelve year study period.

Figures 6a and 6b illustrate the vacancy rate per 100 beds by nursing area of service for the six most common problem areas. These figures are almost identical to Figures 4a and 4b which showed the absolute numbers of vacancies for the same nursing areas. The same trends seen in Figures 4a and 4b are also present in Figures 6a and 6b, indicating that the change in number of beds in the province did not have an impact on DTF vacancies during the period under study.

D. Vacancy Rates per 100 Practising RNs

Calculating vacancy rates allows us to compare data across time, by removing underlying changes such as the changing bed capacity discussed in the last section, or changes in the number of employed personnel. In order to discover whether changes that occurred in the number of practising RNs employed in nursing (supply) over the study period (1980 - 1991) had any effect on the Difficult-to-Fill vacancies (unmet demand), the vacancy rates per 100 practising RNs were calculated (Table 3).

Since the numerator (number of DTF vacancies) includes both Registered Nurses and

Figure 6a
DTF Vacancies for RNs per 100 Approved Beds,
by Nursing Area for Three Problem Areas, 1980 - 1991

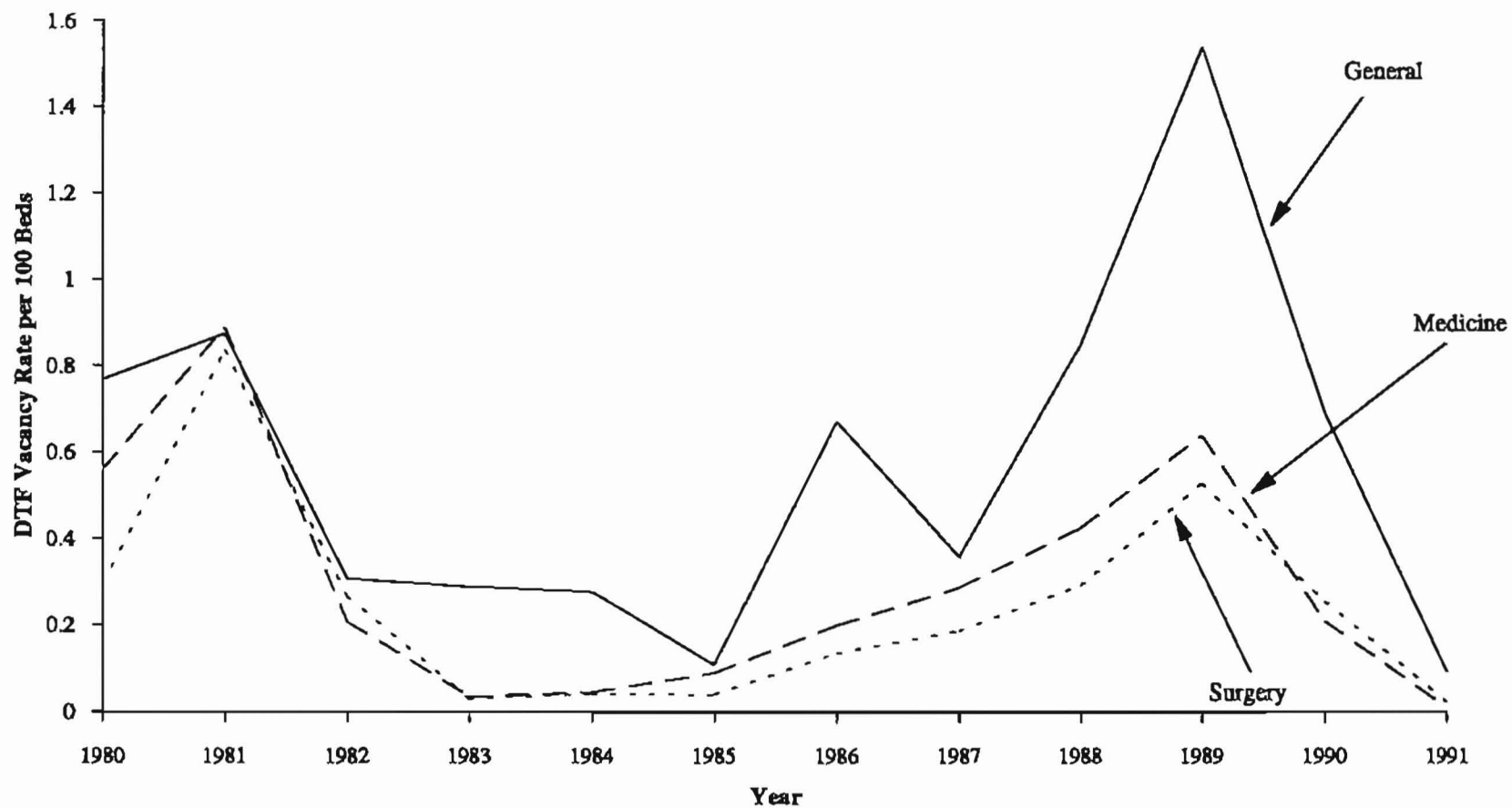
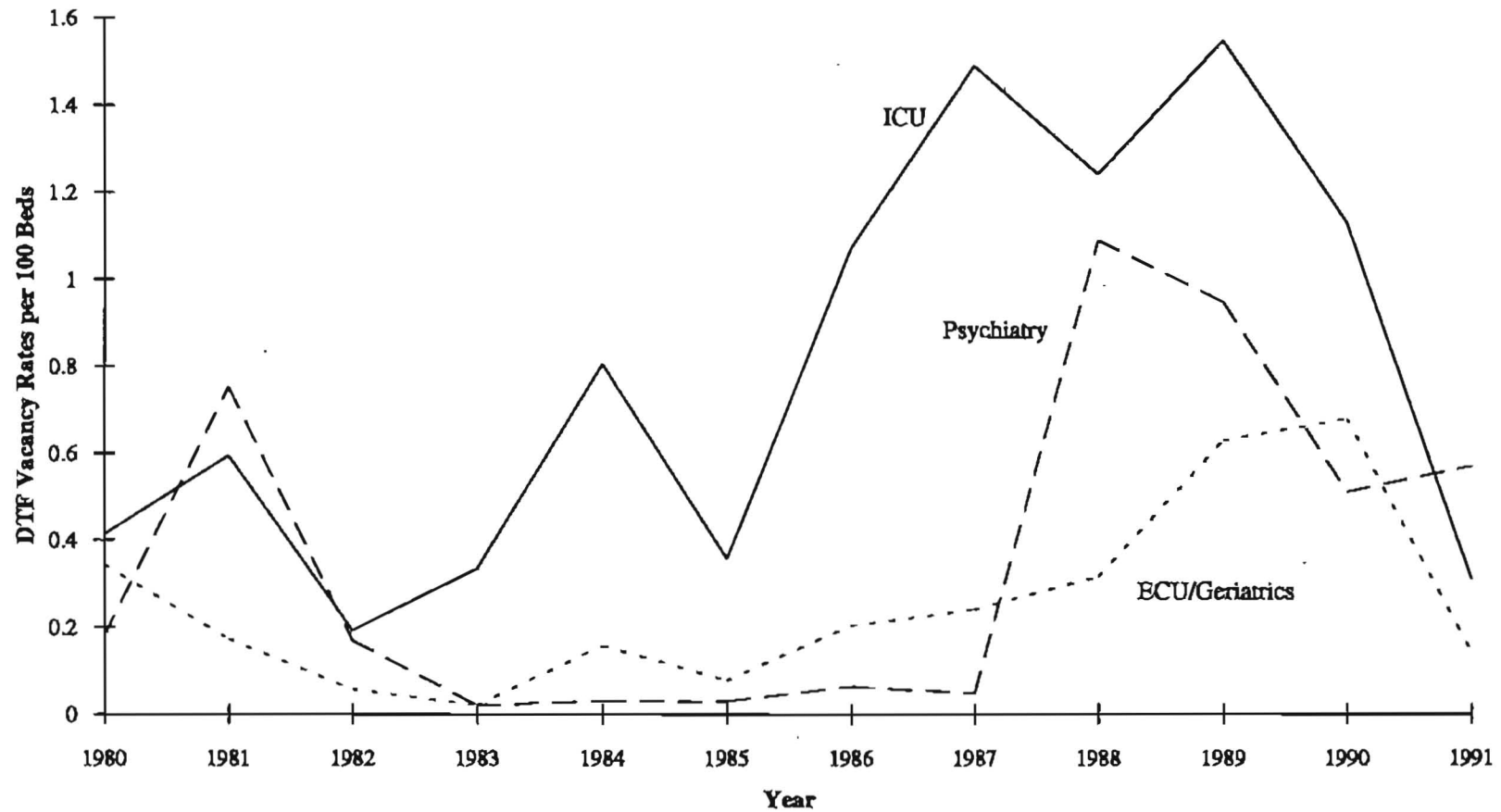


Figure 6b
DTF Vacancies for RNs per 100 Approved Beds,
by Nursing Area for Three Problem Areas, 1980 - 1991



Registered Psychiatric Nurses, the denominator should do likewise, and include both RNs employed in nursing and RPNs employed in nursing. The number of practising RNs employed in nursing was obtained using RNABC registration data. There are some difficulties which occur when matching the RNABC categories for nursing area to the DTF survey categories, so that it is necessary to group DTF categories for comparison purposes. As a result, information about important areas such as ICU/CCU/PAR, Medicine, and Surgery is lost within the one large grouping of Medicine/Surgery, along with information about other areas such as Emergency, OR, Cardiology, and Spinal Unit. Also, the nursing area categories listed by the RNABC on their annual registration renewal forms tend to change from year to year, leading to inconsistencies in the number of RNs included in categories from one year to the next, a problem we are unable to correct for, but which must be considered when interpreting the data.

Major difficulties occurred when we attempted to include the number of RPNs employed in nursing in the denominator of the vacancy rate calculations, using RPNABC registration data as found in the ROLLCALL and ROLLCALL UPDATE publications. The first problem was the lack of data for the years 1980, 1982, 1984, and 1986, as RPNs were not included in ROLLCALL UPDATE prior to 1988. The next difficulty was the inconsistencies over the years in the data which were available. For 1981 and 1983, the available data include RPNs who were registered as 'active' but may or may not have been employed in nursing, while no information was available by nursing area. For the years 1985, 1987, and 1988 the available data were for RPNs registered as 'active' who may or may not have been employed in nursing, but a breakdown of the data by nursing area did exist. The year 1989 marked the introduction of a change in registration to 'practising' from 'active', but the available data on nursing area still included both RPNs employed and not employed in nursing. In 1990 and 1991, data comparable to those from the RNABC, using the categories 'practising' and 'employed in nursing' were available for RPNs and came disaggregated by nursing area. As with RNs, there were also difficulties in matching RPN nursing area classifications to those for DTF vacancies.

Due to all the problems with the data on RPNs, it was decided not to include the number of RPNs employed in nursing as part of the denominator in the calculation of the vacancy rates for Table 3. The same decision was made by Barer et al, 1984 and Kinnis, 1987 in their reports on Difficult-to-Fill vacancies. In general, excluding the stock of RPNs from the denominator will cause a slight upward bias in the vacancy rates. This should be taken into consideration when interpreting the results shown in Table 3.

The provincial vacancy rate per 100 practising RNs peaked in 1981 at 8.88 and in 1989 at 12.00, and followed the same trends as seen previously for both the absolute number of vacancies (Figure 2) and the vacancy rate per 100 beds (Figure 5). The changes which occurred in the number of practising and employed Registered Nurses (see Appendix E) did not therefore appear to affect the patterns seen in the Difficult-to-Fill vacancies. The vacancy rate per 100 practising RNs in the GVRHD was greater throughout the study period than the provincial vacancy rate, indicating that the greatest DTF vacancy problems were in the GVRHD, while the vacancy rate outside the GVRHD was always less than the provincial rate. The GVRHD vacancy rate per 100 practising RNs peaked in 1981 and 1989, but outside the GVRHD there was no 1981 peak. Since the changing trends in the number of practising RNs employed in the DTF study facilities were the same for both the GVRHD and Other B.C. regions, the early peak in the vacancy rate outside the GVRHD in 1980 must be due instead to an increase in the number of DTF vacancies. Figure 3 supports this, as the percentage of DTF vacancies outside the GVRHD was greatest in 1980.

When we examined the DTF vacancy rate per 100 practising RNs for different areas of nursing, the nursing areas which most closely follow the provincial trend, and are therefore likely major contributors to the provincial trend, were delineated: General Nursing and Medicine/Surgery. In both of these nursing areas, the vacancy rate per 100 practising RNs in the GVRHD was always greater than the rate outside the GVRHD. The largest vacancy rates per 100 practising RNs were seen in the GVRHD region in the areas of General Nursing and Psychiatry; General Nursing peaked in

Table 3
Difficult-to-Fill Vacancies per 100 Practising RNs¹,
by Nursing Area and Region of Facility, 1980 - 1991

Nursing Area	Region	Year											
		1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
General ²	GVRHD	-	-	-	-	21.53	13.42	38.26	17.83	40.66	99.06	69.54	5.25
	Other B.C.	-	-	-	-	4.93	1.82	15.84	9.15	22.49	36.38	11.93	2.60
Med/Surg ³	GVRHD	7.48	11.59	4.35	3.62	4.55	2.09	6.18	9.01	8.27	13.21	8.77	1.66
	Other B.C.	3.14	4.44	0.90	0.59	1.48	1.56	2.55	2.30	4.50	4.42	2.43	1.08
Psychiatry	GVRHD	12.93	70.32	11.64	1.26	2.13	0.68	2.19	0.00	71.94	45.86	33.21	33.25
	Other B.C.	6.17	8.36	2.82	0.55	0.00	1.74	2.53	4.36	4.15	5.85	1.61	1.53
Paediatrics	GVRHD	0.65	2.12	0.31	0.00	1.95	2.78	22.56	21.45	22.17	13.36	6.57	2.17
	Other B.C.	5.07	1.53	0.83	1.11	0.36	0.00	0.78	1.21	2.93	9.29	3.50	0.00
Obstetrics	GVRHD	0.64	3.38	2.32	7.43	1.18	1.12	0.00	0.33	2.51	7.81	1.32	0.14
	Other B.C.	3.21	2.57	1.00	1.42	0.35	1.04	0.91	2.52	1.98	3.00	1.81	0.68
Geriatrics/ECU	GVRHD	19.24	7.87	2.73	1.22	6.10	2.72	5.20	6.87	6.73	18.14	21.40	3.60
	Other B.C.	2.06	0.83	0.50	0.00	1.25	0.58	3.46	2.18	5.12	4.94	1.24	1.04
Administration	GVRHD	0.91	3.46	0.61	4.01	2.83	2.37	2.65	0.59	1.41	7.43	0.27	1.10
	Other B.C.	4.65	2.45	1.04	0.50	1.36	1.63	0.00	0.00	0.30	1.27	1.24	0.59
Other ⁴	GVRHD	5.22	3.21	1.13	0.89	4.90	15.09	18.80	11.28	9.77	11.47	7.74	1.61
	Other B.C.	0.56	0.51	0.00	0.62	3.85	1.63	8.33	22.74	1.87	1.43	0.40	0.71
Total	GVRHD	7.93	12.71	4.60	4.11	4.35	2.56	7.13	8.29	11.64	15.80	10.52	3.09
	Other B.C.	5.16	4.90	1.22	0.97	1.58	1.37	3.67	3.16	5.66	7.22	2.99	1.10
	Total	6.57	8.88	2.99	2.67	3.07	2.02	5.58	6.00	9.01	12.00	7.30	2.23

¹ Includes only data on RNs (see text), from RNABC registration data for practising RNs employed in the study facilities on a full-time or part-time basis (excluding casual), in June of each of the years 1980 to 1991.

² Includes the DTF category of General; and the RNABC categories of General Practice, and 'Several Areas' (includes float, small hospital, and community). The RNABC categories of General Practice and Several Areas did not exist between 1980 and 1983.

³ Includes the DTF categories of Medicine, Surgery, ICU/CCU/PAR, OR, Emergency, Spinal, Cardio-thoracic, and Cardiac Surgery & Transplant. Includes the RNABC categories of Medicine/Surgery, Medicine/Surgery Specialties, Critical Care, OR, PAR, and Emergency.

⁴ Includes the DTF categories of Rehabilitation and Miscellaneous. Includes the RNABC categories of Occupational Health, Research, Teaching (all categories), and Other Patient Care. The RNABC categories of unspecified 'Direct Patient Care' and 'Unknown' were distributed proportionally among the other categories.

1989 with 99.06 DTF vacancies per 100 practising RNs, and Psychiatry peaked in 1988 with 71.94 DTF vacancies per 100 practising RNs. The area of General Nursing shows the greatest fluctuations from year to year in the vacancy rates, matching the pattern seen for the number of DTF vacancies (Figure 4a) and for the vacancy rate per 100 beds (Figure 6a). For the nursing areas of Paediatrics, Obstetrics, and Geriatrics/ECU, the vacancy rates in the GVRHD peak at times other than 1981 and 1989, when most of the peaks in the vacancy rates occurred. The peak in the vacancy rate for Paediatric nursing seen in 1986 - 1988 in the GVRHD matches the peak seen in the number of DTF vacancies for Paediatrics at that time. The same is true for the Obstetric nursing peak in vacancy rate in 1983, and the peaks in the vacancy rates for Geriatric/ECU nursing in 1980 and 1990; they match corresponding peaks in DTF vacancies in these areas, and are not due to changes in the number of practising RNs employed in the facilities.

The absolute numbers of DTF vacancies included in the Medicine/Surgery category accounted for the largest percentage of vacancies in all years but 1991 (see Appendix B), appearing to indicate that this was the area of nursing with the most severe DTF situation. Calculating the vacancy rates per 100 practising RNs for Medicine/Surgery put the situation in a better perspective, demonstrating that a rate in 1989 of 13.21 per 100 practising RNs was much less formidable than a rate of 99.06 for General Nursing in the same year. Regrettably, data are not available to examine the vacancy rate per 100 practising RNs for the different nursing areas subsumed under the Medicine/Surgery category to examine which of these nursing areas, if any, did have large DTF problems. "Other" is the one nursing area in which the peaks in the vacancy rates per 100 practising RNs do appear to be caused more by changes in the number of practising Registered Nurses than in the number of DTF vacancies. The large increase in the vacancy rates for the Other nursing area coincided with changes in the classification of nursing areas by the RNABC in 1984. Between 1984 and 1987, the RNABC removed its category of 'Other/Not Specified/Other Patient Care' from the classification scheme, causing a dramatic decrease in the number of practising RNs who would ordinarily have fallen into the Other

category (see Appendix E), and consequently the increase in estimated vacancy rates per 100 practising RNs seen in Table 3.

E. Unemployment Insurance Claimant Statistics

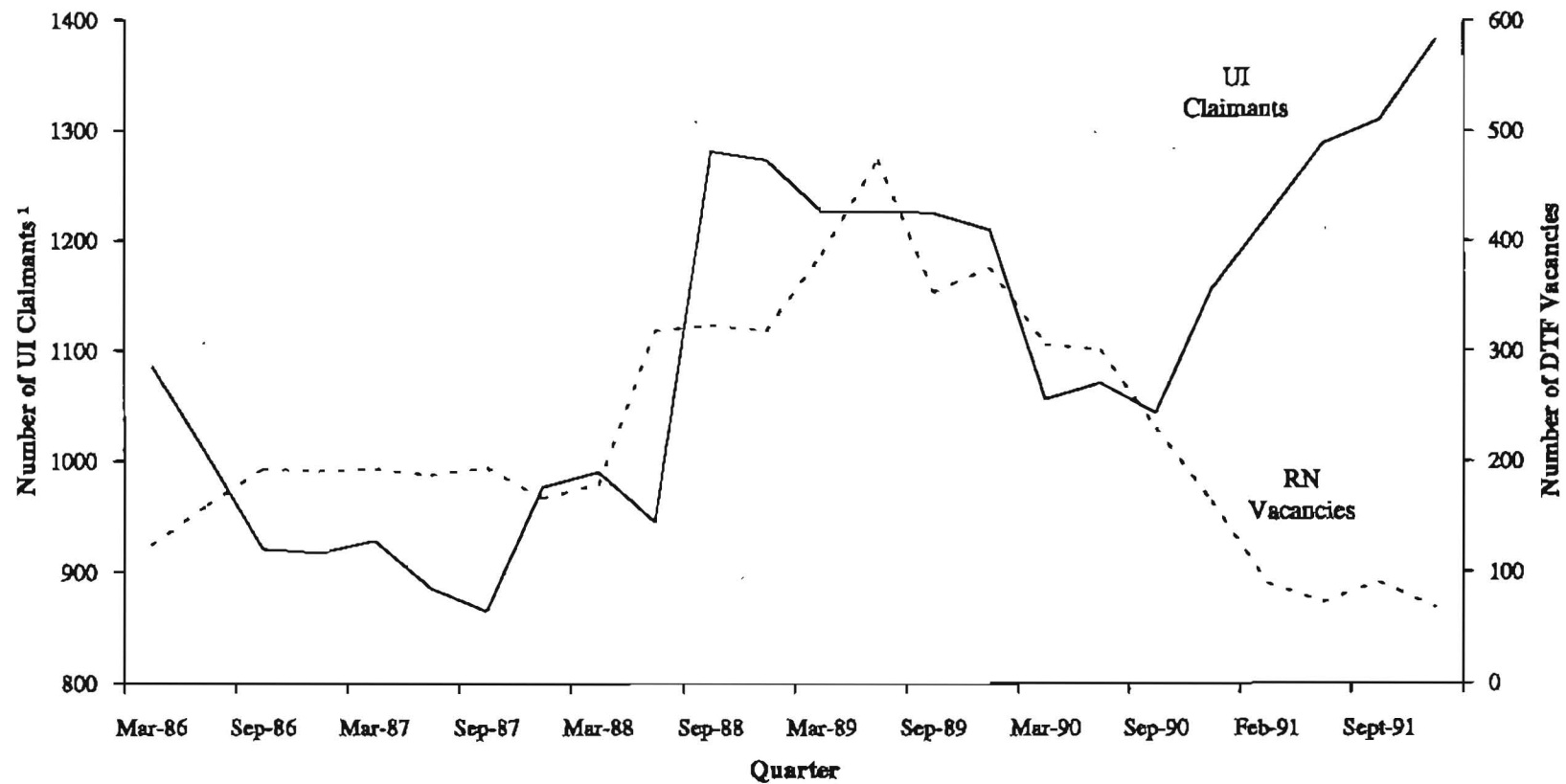
Figure 7 shows the number of Registered Nurse (both the Nursing Supervisor and the Graduate Nurse groups combined) UI claimants in relation to the number of DTF vacancies for RNs from 1986 to 1991. From March 1986 to June 1988, as hospitals reported more DTF positions, UI claimant numbers were on the decline. The reverse was true from December 1990 to December 1991, when UI claimant numbers grew as RN vacancies decreased. From September 1988 to September 1990, however, both the number of DTF vacancies for RNs and the number of RN UI claimants increased. Theoretically, a large number of nurses looking for work should have resulted in a reduction in the number of DTF vacancies, instead of the large reported increase. No conclusions can be drawn, of course, without further information on the types of DTF vacancies, the training/experience requirements for those vacant positions, and the educational/occupational profile of the UI claimants. It is interesting that the number of UI claimants rose first, and very abruptly, between June 1988 and September 1988, not to be followed by a similarly precipitous rise in DTF vacancies until March to June 1989.

IV. RESULTS - OTHER HEALTH PERSONNEL

A. Region and Size of Facility

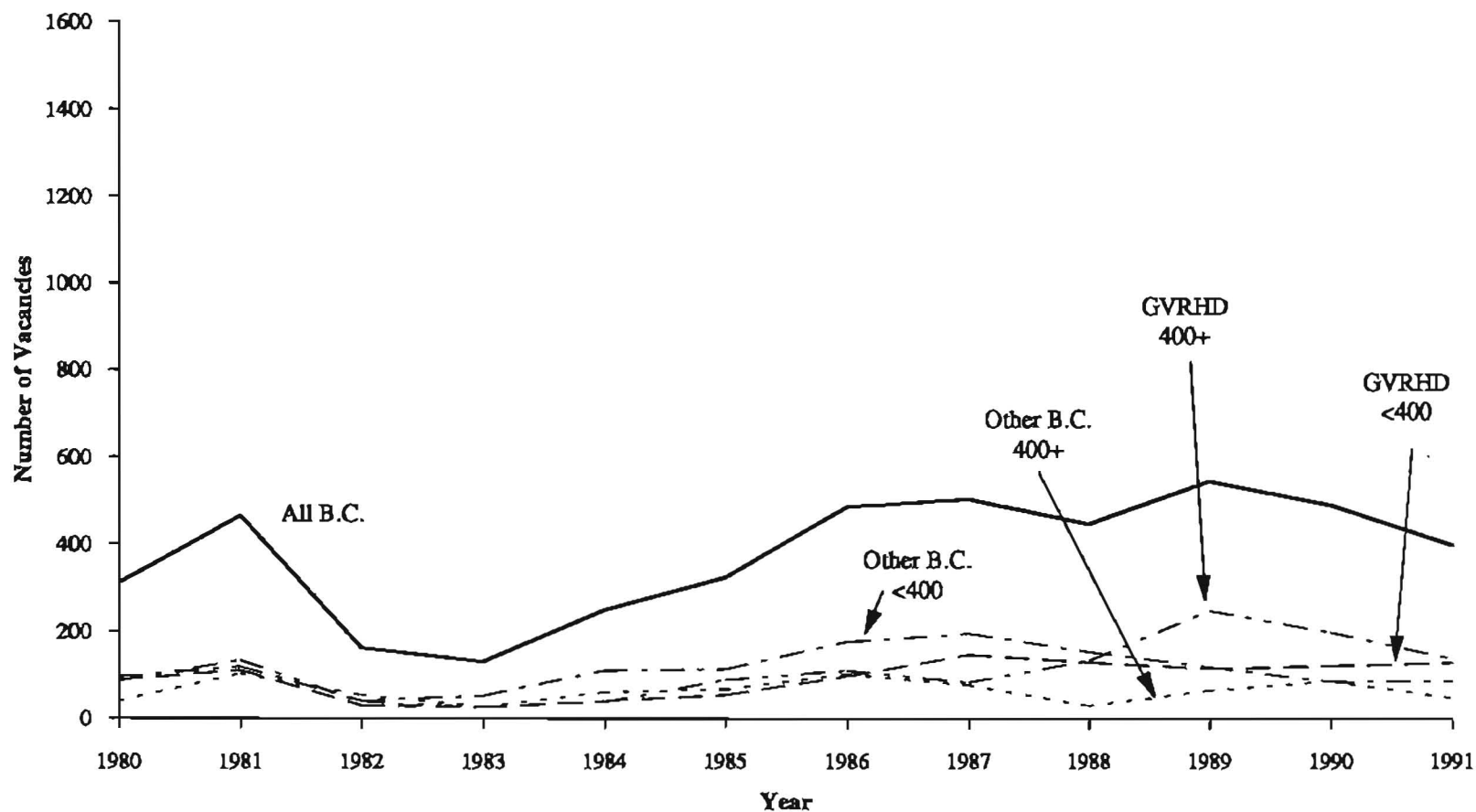
The trend in the number of difficult-to-fill vacancies for health personnel other than Registered Nurses follows the same pattern as that seen for RNs overall, although the numbers are smaller, ranging between a low of 131 in 1983 to a high of 545 in 1989, and the fluctuations less dramatic (Figure 8). Increases in the number of vacancies in all four (region and size) groupings contributed to the 1981 peak, while the slow rise from 1983 to 1987 appears to have been related to a matching

Figure 7
Number of UI Claimants¹ versus Number of DTF Vacancies
for RNs, 1986 - 1991



¹ Number of Claimants refers to Regular Claimants (see explanation in text). Data are available for 1986 to 1991 only. Source: Regional Economic Services Branch for British Columbia & Yukon, Employment and Immigration Canada.

Figure 8
DTF Vacancies for Other Disciplines
by Region and Size of Facility, 1980 - 1991



increase in the number of vacancies in the <400 bed facilities. The peak seen in 1989 was due to the increase in the number of vacancies in the GVRHD 400+ bed facilities.

The vacancies in the GVRHD 400+ bed facilities accounted for the largest percentage of vacancies in 1981 and 1989-91, but for a lesser percentage of the vacancies at other times (Figure 9). The number of vacancies in all facilities outside the GVRHD (regardless of bed capacity) accounted for the majority of the vacancies from 1982 to 1987. This is very different from the picture for RNs (Figure 3), in which the number of vacancies in the GVRHD was always greater than the number outside the GVRHD.

B. Occupational Group

Figures 10a and 10b illustrate the number of difficult-to-fill vacancies for the seven non-RN health disciplines which showed the greatest problems during the study period. Physiotherapists and Occupational Therapists consistently appeared as large contributors to the total number of difficult-to-fill vacancies, accounting for a combined percentage of 48.6 in 1986 which later fell to a low of 26.5 percent in 1990. Respiratory Therapists have maintained a fairly steady number of difficult-to-fill vacancies, with only minor fluctuations throughout the period 1980 to 1991, and slight peaks in 1981 and 1989, in keeping with the trend seen among Registered Nurses and other health occupations.

Physicians had no DTF vacancies during the first four years of the study, but have increased overall since then, with some fluctuations from year to year. The number of DTF vacancies for Secretarial/Clerical positions peaked in 1981 and again in 1989, following a trend similar to the overall vacancy picture for all disciplines (other than RNs). The vacancies for Pharmacists have been somewhat similar to those for Physicians, in that they reported very few DTF vacancies from 1980 to 1983 with an increase in number from 1983 to 1987 and a slight dip in 1986. However, the Pharmacist vacancies have been fairly constant since 1988, while Physician DTF positions showed a peak in 1990. LPNs/Orderlies showed a large increase in the number of DTF vacancies in 1981, and

Figure 9
Percentage Distribution of DTF Vacancies for Other Disciplines
by Region and Size of Facility, 1980 - 1991

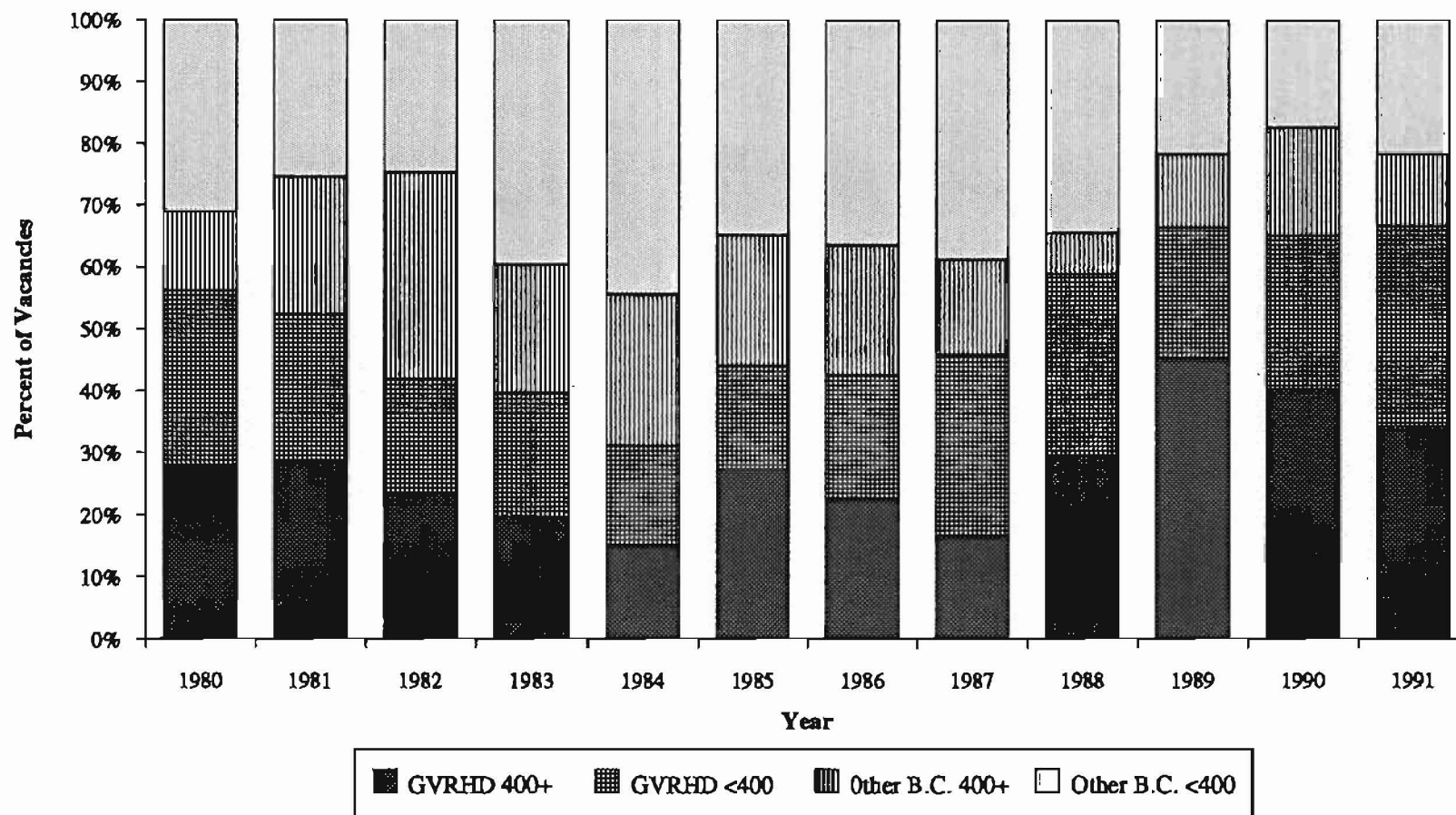


Figure 10a
DTF Vacancies for Other Disciplines
by Discipline, 1980 - 1991

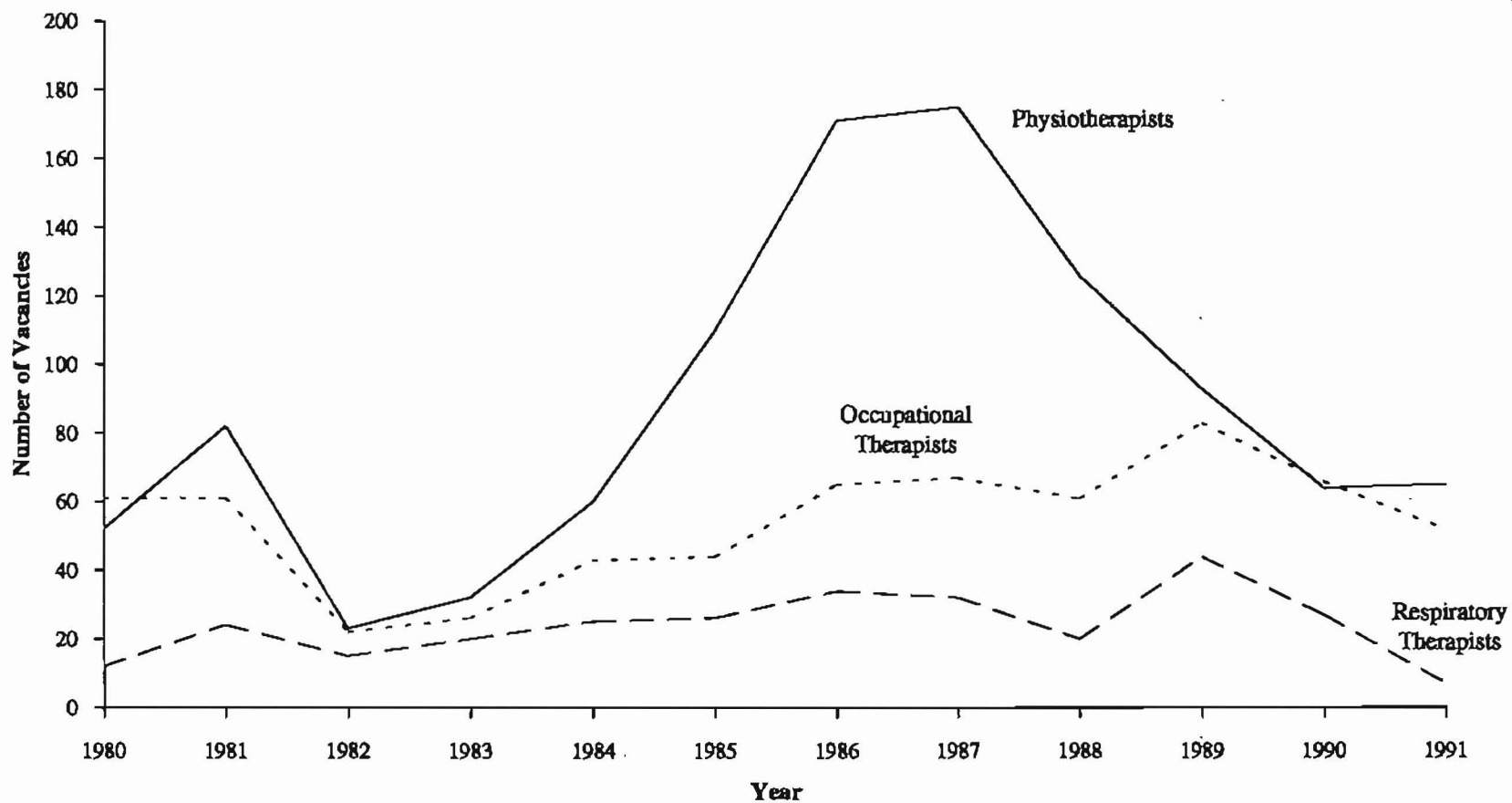
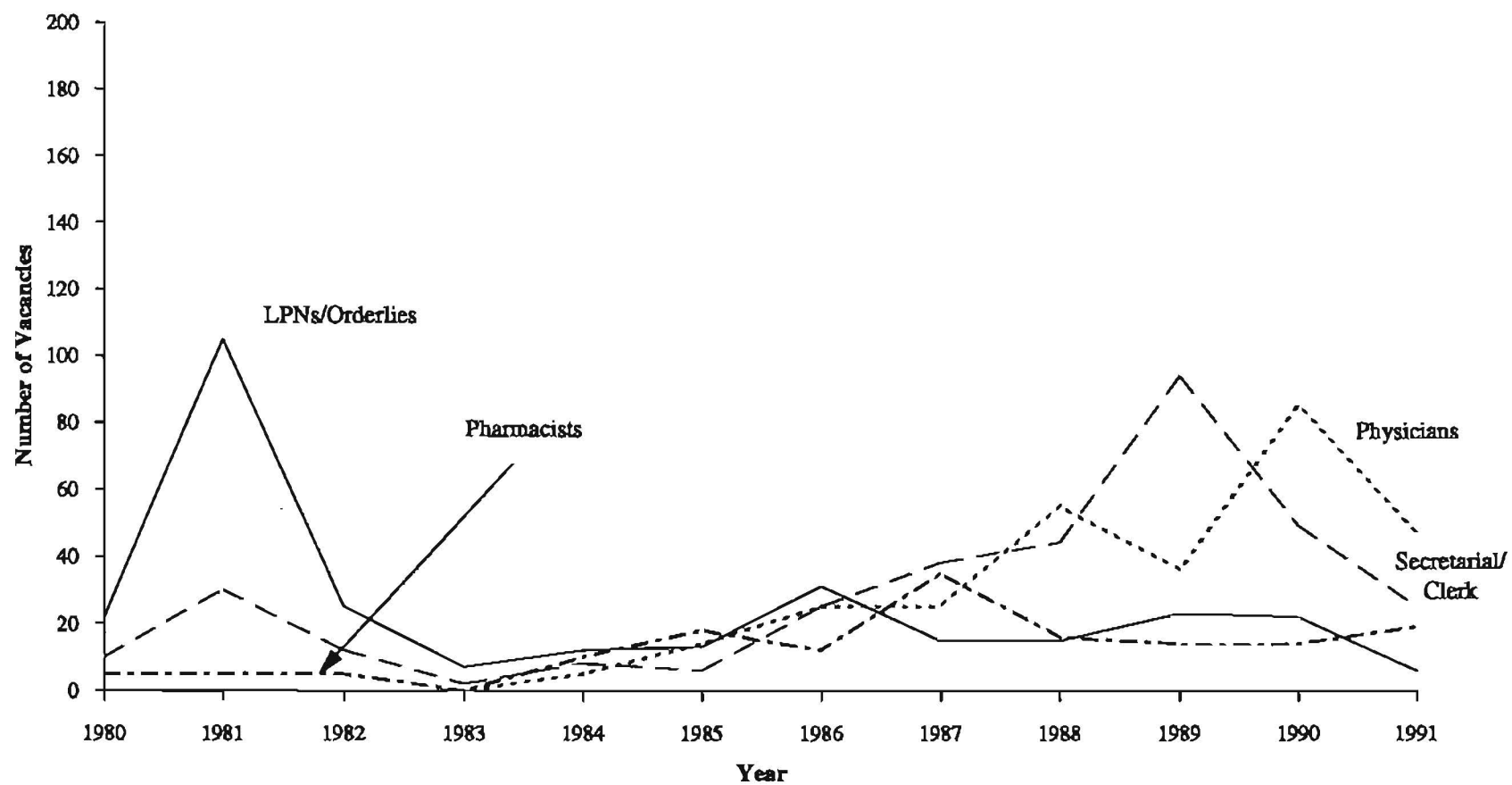


Figure 10b
DTF Vacancies for Other Disciplines
by Discipline, 1980 - 1991



much smaller peaks in 1986 and 1989-1990.

Comparing the DTF vacancies for LPNs/Orderlies to those for RNs and also Nurses' Aides (NAs), the peak in 1981 was greatest for LPNs/Orderlies and RNs and lesser for NAs (Figure 11). The three groups differ significantly after 1982 in the distribution of their difficult-to-fill vacancies, suggesting that little relationship exists between the vacancies of the three groups, although it should be noted that the number of DTF vacancies for NAs seems somewhat inversely related to that for LPNs/Orderlies after 1982.

C. Vacancy Rates per 100 Beds

Figure 12 illustrates the vacancy rates per 100 approved beds for disciplines other than RNs by region and size. All four region/size groups followed the same trend closely from 1980 to 1984, peaking in 1981. However, from 1985 onward, the trends in the vacancy rate per 100 beds for the region/size groups appear to differ greatly. Closer examination reveals that each region/size group in fact peaks, although in different years. The first peak belongs to the Other B.C. 400+ bed facilities in 1986, followed by the GVRHD <400 bed facilities and the Other B.C. <400 bed facilities in 1987, and then the GVRHD 400+ bed facilities in 1989.

Since we have no control over the types of positions reported to us in this category (disciplines other than RNs), i.e. we did not survey about specific DTF vacancies such as Physiotherapists or LPNs, the positions reported can vary greatly from one quarterly report to the next. For this reason it is difficult to make useful comparisons across time and no conclusions can be drawn about which years were the best and which were the worst. The total number of vacancies for Other Disciplines is based on which hospitals are experiencing problems at a particular time, and for which among the many disciplines. For example, in Figure 13a the large peaks in the vacancy rate per 100 beds for Physiotherapists in 1986 and 1987 probably contributed greatly to the peaks in overall vacancy rates of 1986 and 1987 that were seen for facilities with <400 beds. In 1989, peaks in the vacancy rates per

Figure 11
Number of DTF Vacancies for RNs,
LPNs/Orderlies, and Nurses'Aides,
1980 - 1991

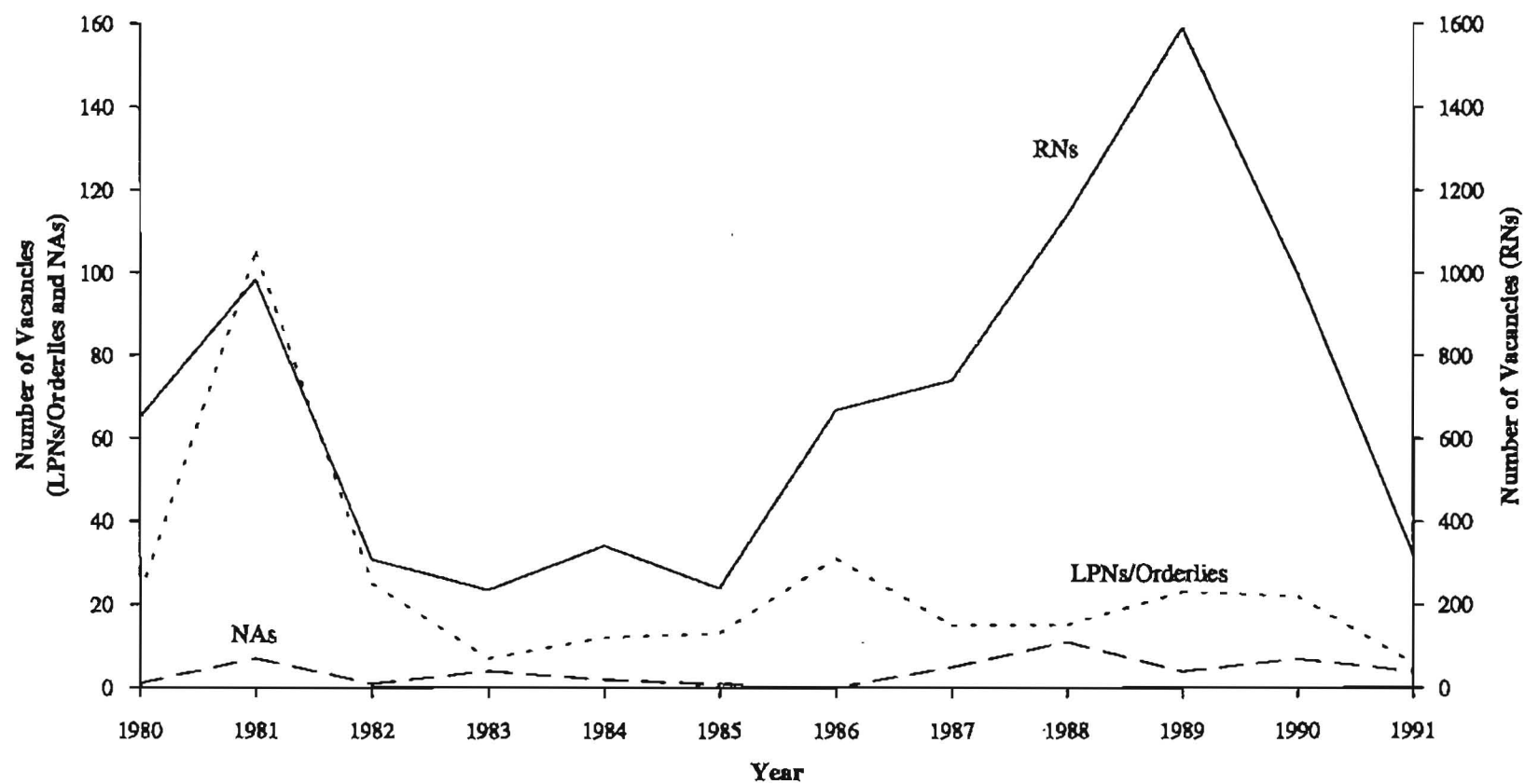


Figure 12
DTF Vacancies for Other Disciplines per 100 Approved Beds,
by Region and Size of Facility, 1980 - 1991

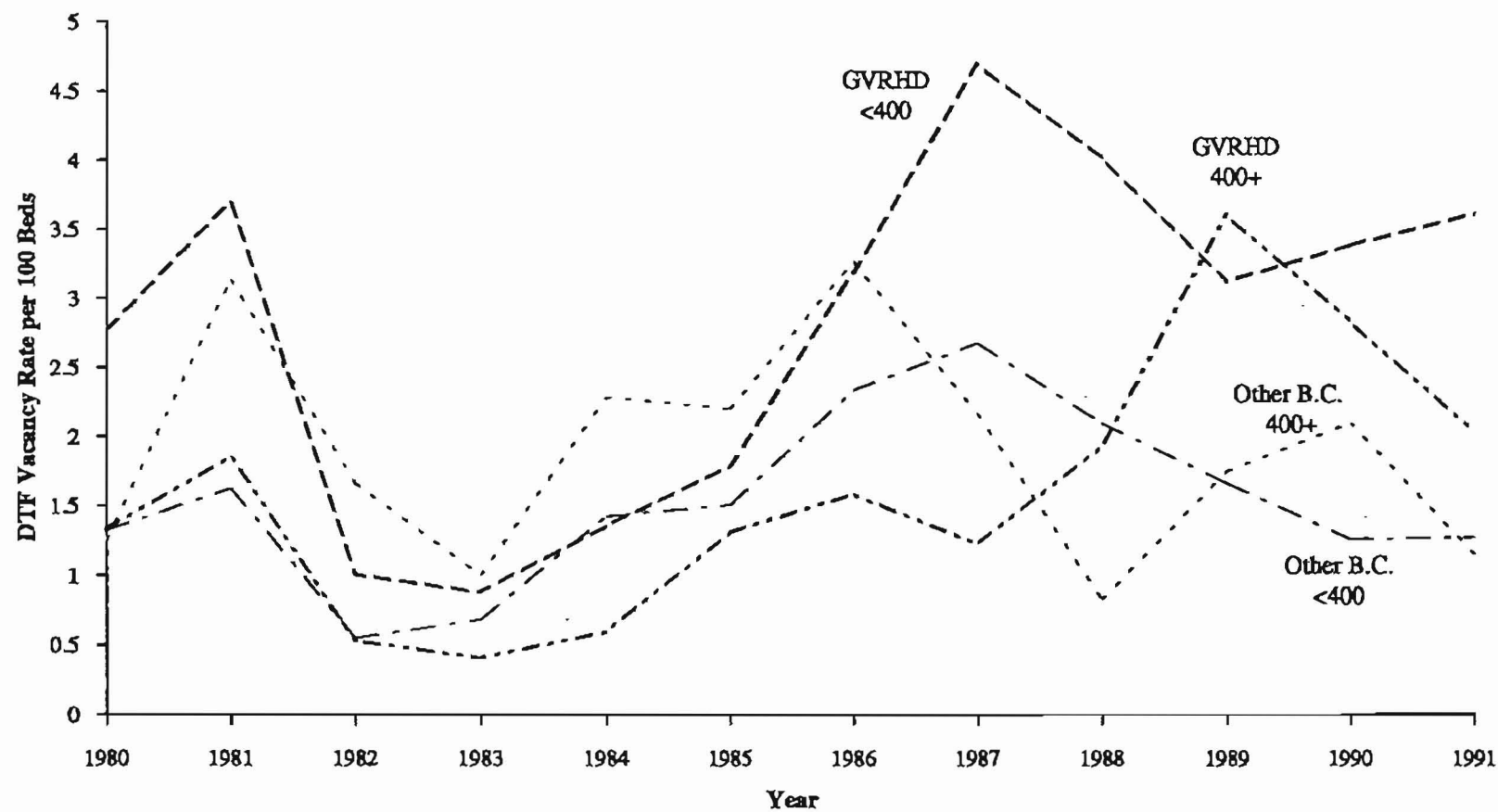


Figure 13a
DTF Vacancies for Other Disciplines per 100 Approved Beds,
by Discipline for Three Problem Areas, 1980 - 1991

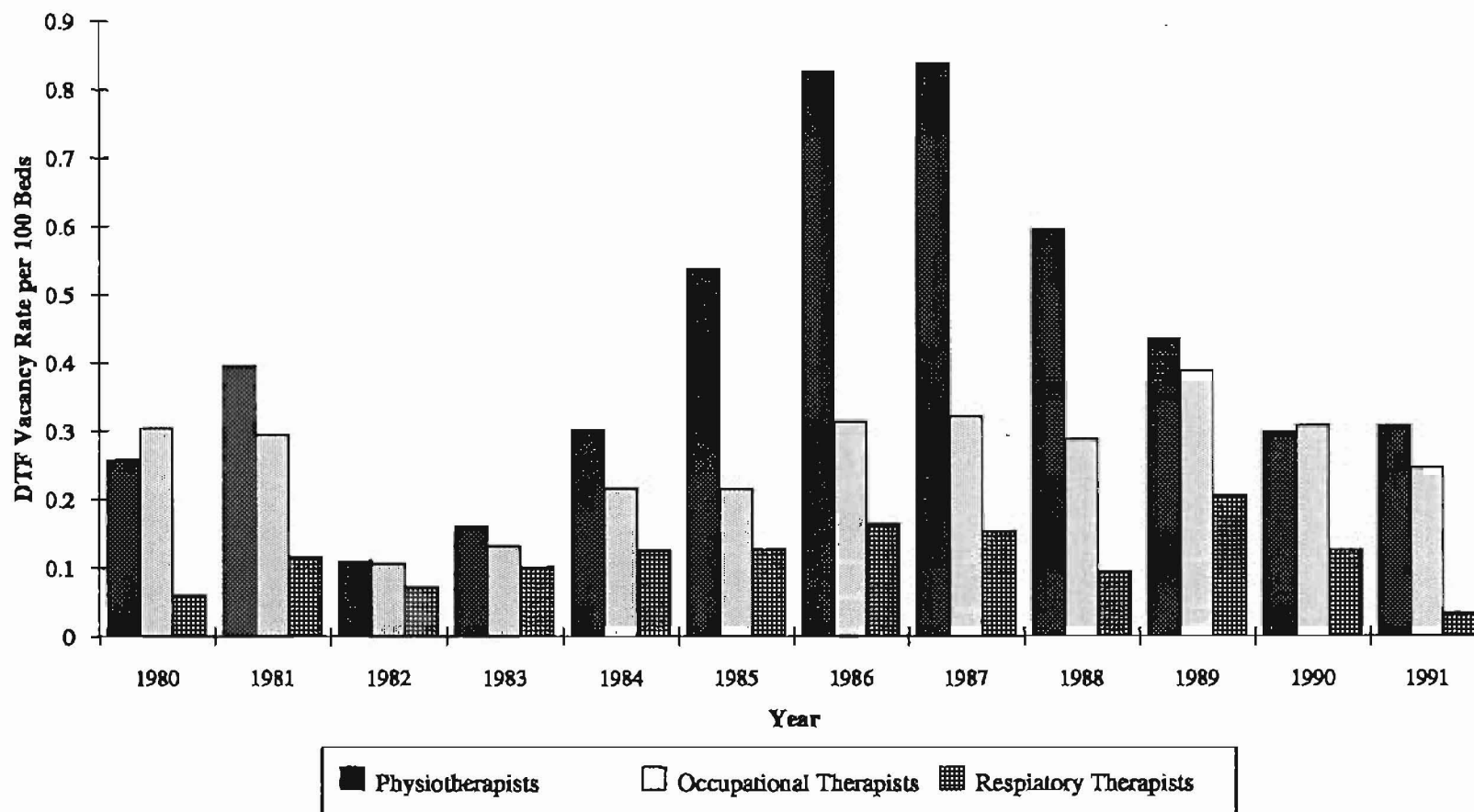
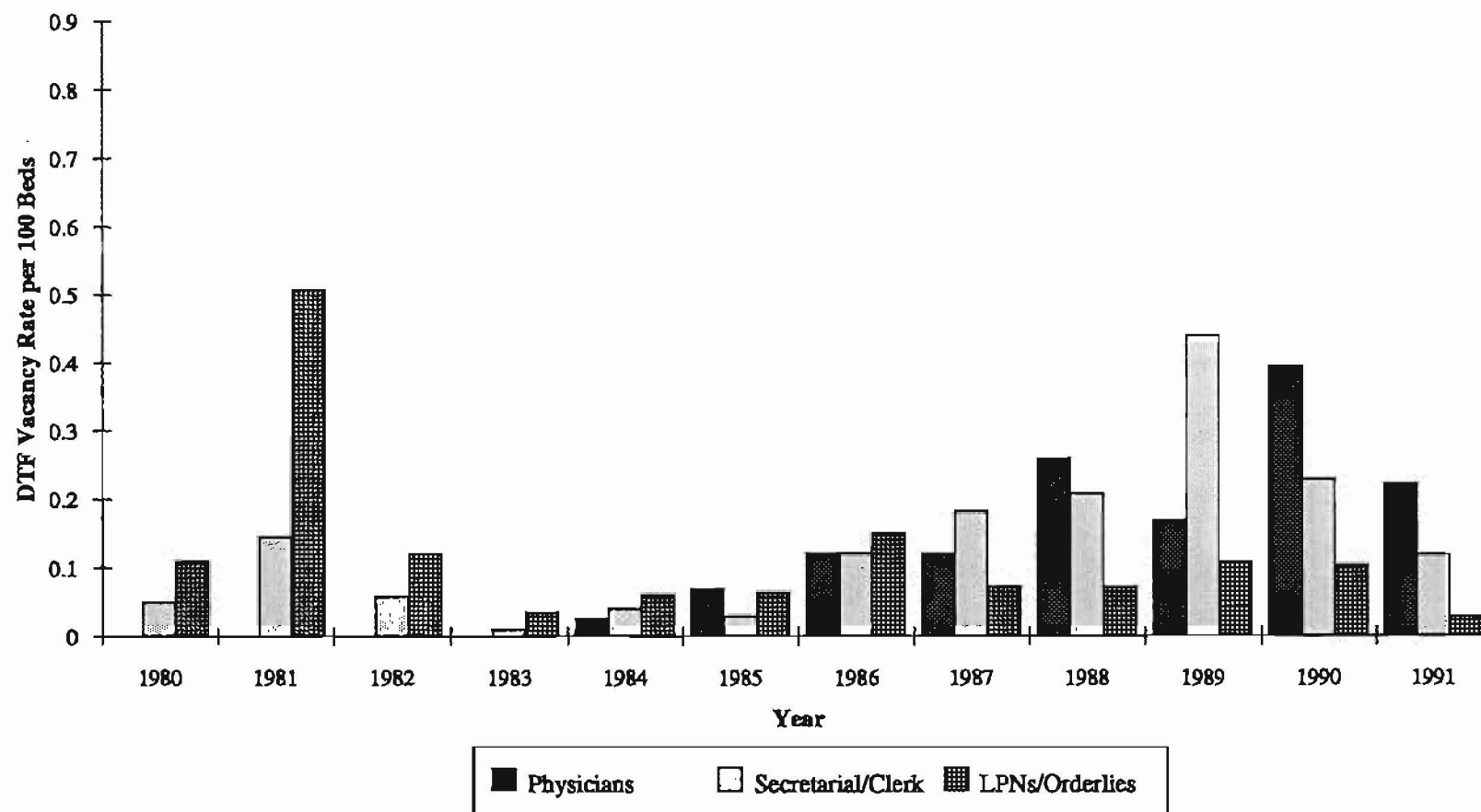


Figure 13b
DTF Vacancies for Other Disciplines per 100 Approved Beds,
by Discipline for Three Problem Areas, 1980 - 1991



100 beds for Occupational Therapists and Secretarial/Clerical (Figures 13a and 13b) probably contributed to the peak in the vacancy rate for the GVRHD 400+ bed facilities, but they were not the only factors. Figures 13a and 13b on vacancy rates per 100 beds follow the trends seen in the number of DTF vacancies in Figures 10a and 10b very closely. However, it is clear that vacancy rates per 100 beds for other personnel follow the trend seen among RNs only for selected years.

D. Vacancy Rates per 100 Employed Personnel

Table 4 examines the difficult-to-fill vacancies per 100 employed or active/practising personnel for selected disciplines. The Health Human Resources Unit (HHRU) publishes data on the number of personnel in various health-related disciplines in British Columbia, but many of the databases are extracted from membership lists of the various associations and governing bodies and membership is often not mandatory. The disciplines included in this table are therefore limited to those included in the DTF surveys and for whom adequate data exist in the way of membership lists with compulsory registration.

The largest group included in Table 4 is the Physicians', for whom the vacancy rate (per 100 non-postgraduate directory active physicians) ranged from 0 to 1.27 during the study period, and the total number of physicians increased from 5,037 to 6,919. From 1984 to 1987 the number of physicians in the GVRHD accounted for between 54.7 and 56.0 percent of all physicians in the province, and the vacancy rate in the GVRHD was smaller than that outside the GVRHD. From 1988 to 1991, the percentage of physicians in the GVRHD increased slightly, to range between 56.4 and 58.0 percent. Despite this increase, the vacancy rate also increased in the GVRHD compared to the previous period, due to large increases in the number of vacancies reported for physicians during those years. Meanwhile, the vacancy rate outside the GVRHD increased from 1984 to 1988, and then dropped sharply in 1989 to level off until 1991.

The vacancy rate per 100 employed LPNs was greater outside the GVRHD for most of the

Table 4
Difficult-to-Fill Vacancies per 100 Employed Personnel¹,
for Selected Disciplines, by Region, 1980 - 1991

Discipline	Region	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991/92
LPNs ²	GVRHD	0.76	1.82	0.26	0.13	0.00	0.00	0.58	0.00	0.26	0.08	0.15	0.45
	Other B.C.	0.36	2.61	0.76	0.18	0.47	0.51	0.85	0.62	0.50	0.87	0.79	0.00
	Total	0.50	2.33	0.58	0.16	0.31	0.34	0.76	0.41	0.42	0.61	0.57	0.16
Pharmacists ³	GVRHD	2.80	1.61	0.00	0.00	1.90	8.11	1.72	7.62	1.24	2.22	1.87	3.66
	Other B.C.	2.38	3.13	4.90	0.00	7.22	5.26	8.65	14.29	10.00	5.88	6.00	5.52
	Total	2.62	2.27	2.08	0.00	3.92	6.87	4.32	10.03	4.31	3.45	3.36	4.36
Physicians ⁴	GVRHD	0.00	0.00	0.00	0.00	0.00	0.15	0.36	0.06	0.99	0.67	1.92	0.91
	Other B.C.	0.00	0.00	0.00	0.00	0.19	0.34	0.50	0.86	0.73	0.41	0.39	0.37
	Total	0.00	0.00	0.00	0.00	0.09	0.24	0.42	0.41	0.88	0.56	1.27	0.68
Physiotherapists ⁵	GVRHD	-	12.63	-	3.10	-	8.65	-	22.04	-	10.80	7.87	5.20
	Other B.C.	-	16.07	-	9.09	-	33.60	-	37.99	-	16.98	9.62	11.97
	Total	-	14.31	-	6.13	-	19.68	-	29.56	-	13.70	8.68	8.20

¹ Source: ROLLCALL 81, 83, 85, 87, 89, 91 and ROLLCALL UPDATE 80, 82, 84, 86, 88, 90. Status Reports of Selected Health Personnel in the Province of British Columbia, Health Human Resources Unit, UBC.

² LPNs employed in acute care, activation/rehabilitation, extended care, psychiatric facilities, and community health agencies, in September of each of the years 1980 to 1991.

³ Pharmacists employed in hospital pharmacies, in September of each of the years 1980 to 1986, and in December of each of the years 1987 to 1991.

⁴ All Directory-Active Non-Postgraduate Physicians, in September of each of the years 1980 to 1990, and in January of 1992.

⁵ Physiotherapists employed in acute care, children's, extended care, psychiatric, and rehabilitation facilities, Worker's Compensation Board, community health centres, and diagnostic & treatment centres, in October 1981, November 1983, February of 1986 and 1988, and December of each of the years 1989 to 1991. Data not available for 1980, 1982, 1984, 1986, and 1988.

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study period, the exceptions being 1980 and 1991 (Table 4). The large vacancy rate seen in 1981 results from the large number of DTF vacancies for LPNs at that time and not the small size of the workforce. In fact, the number of LPNs employed in the province has decreased from 4,373 in 1980 to 3,828 in 1991, although there have been many fluctuations during the study period.

While the number of Physiotherapists employed outside the GVRHD was only somewhat smaller than the number employed in the GVRHD, the vacancy rate per 100 employed personnel outside the GVRHD was far greater than the vacancy rate in the GVRHD (Table 4). Facilities outside the GVRHD therefore appear to have had much greater difficulties in filling physiotherapy positions than facilities in the GVRHD. The peak in the vacancy rate in 1987 for Physiotherapists coincided with the peak in the number of vacancies for Physiotherapists in that year.

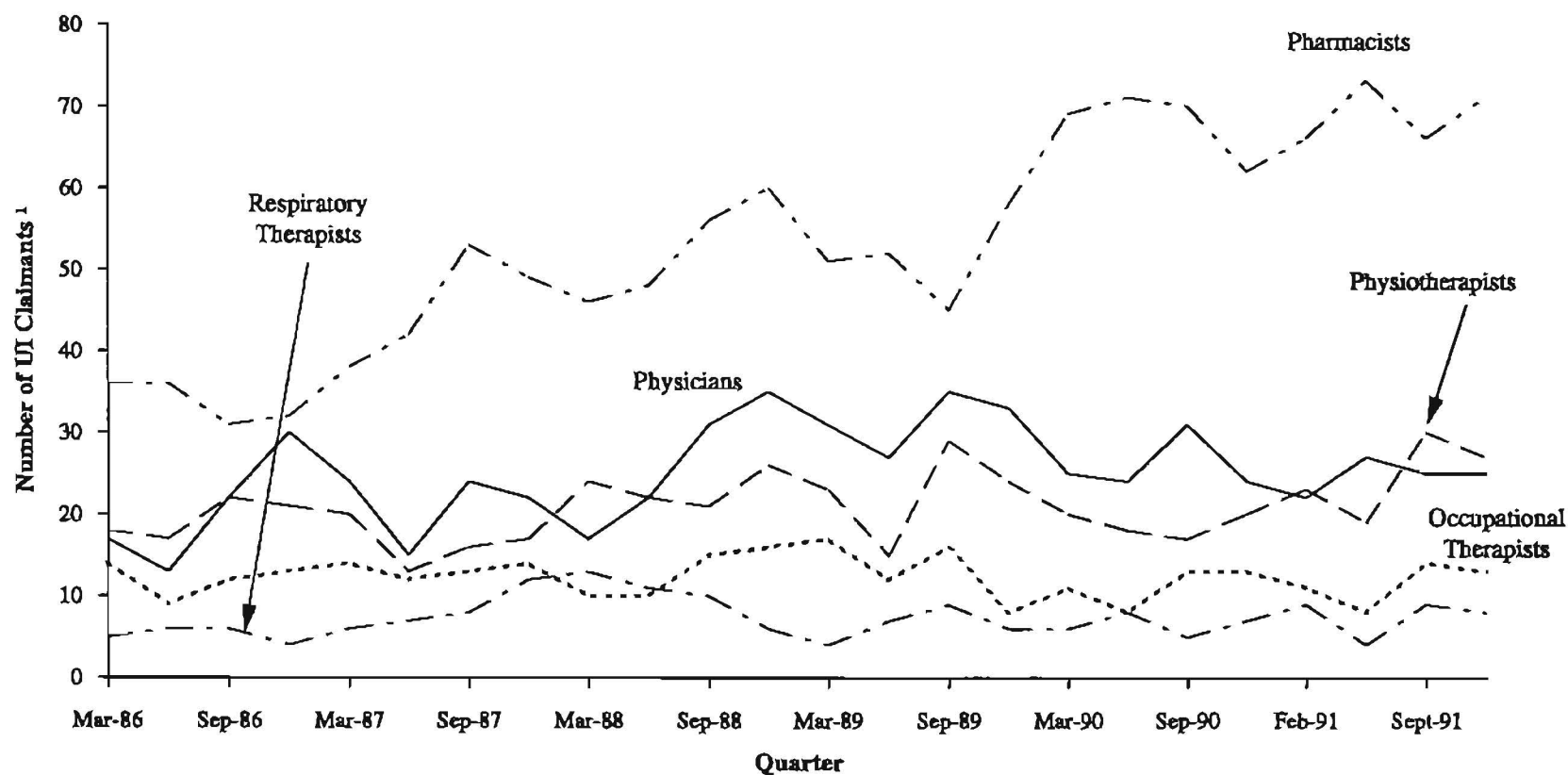
Pharmacists were the smallest group and had few vacancies between 1980 and 1983, which is reflected in the relatively low vacancy rates per 100 pharmacists employed in hospitals. From 1984 onward, there have been more DTF vacancies reported for pharmacists, and the vacancy rate is slightly higher throughout this period.

E. Unemployment Insurance Claimant Statistics

Figure 14 illustrates the UIC statistics on number of regular claimants for five of the disciplines discussed previously. Four of the disciplines show small fluctuations over the six-year period but no relative change over time. Only Pharmacists show a definite change in the number of UI claimants, with an increase occurring from 1986 to 1991. The number of DTF vacancies for pharmacists (Figure 10b) peaked slightly in 1987, but remained fairly constant after that time, so the increased numbers of pharmacists looking for work apparently had no impact on the difficult-to-fill vacancies in the hospitals.

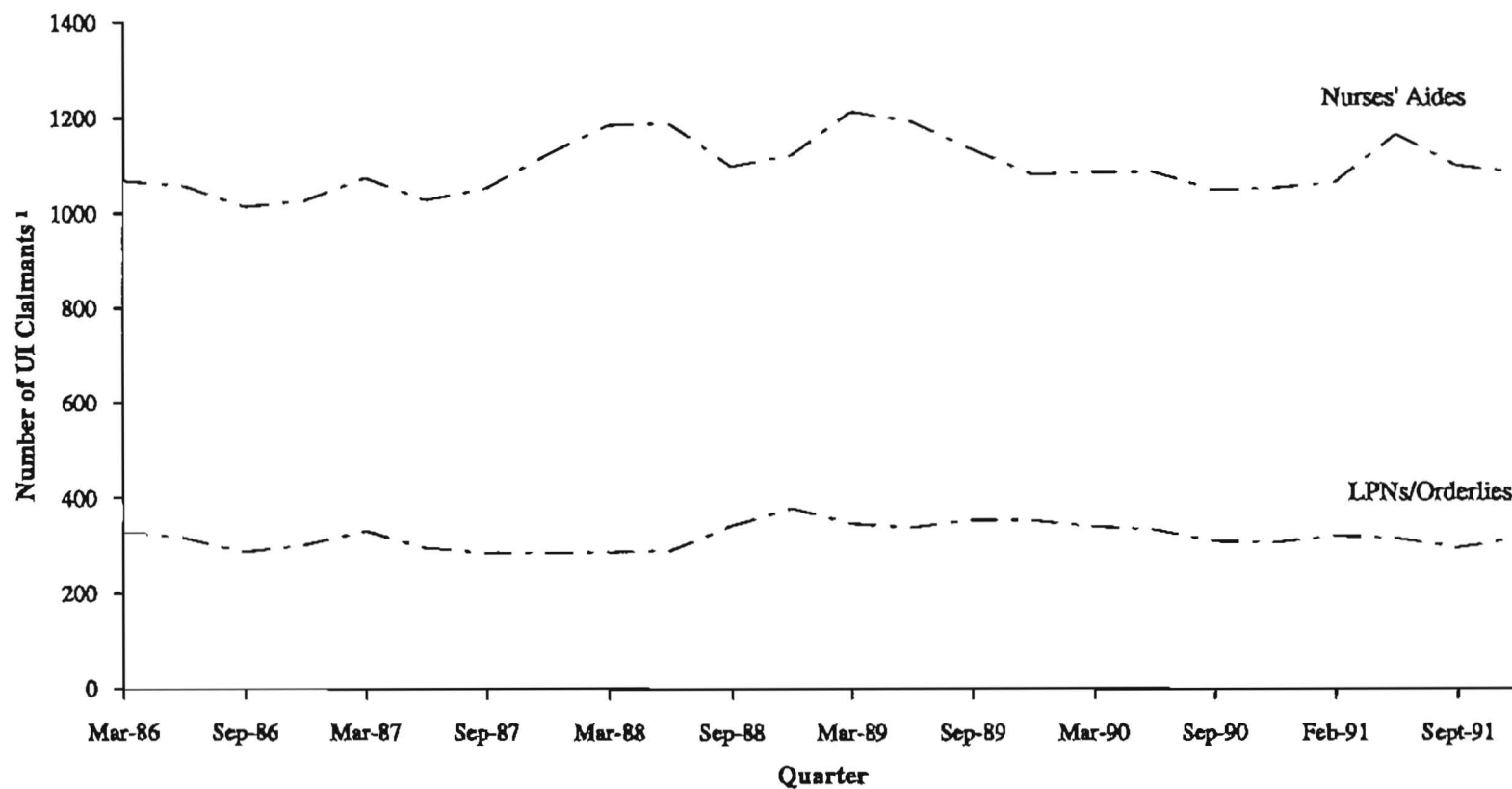
The UI claimants for the two nursing-related disciplines, Nurses' Aides and LPNs/Orderlies, are shown in Figure 15. There has been little variation since 1986. The small changes that occurred in

Figure 14
Number of UI Claimants¹ for Other Disciplines,
1986 - 1991



¹ Number of Claimants refers to Regular Claimants (see explanation in text). Data are available for 1986 to 1991 only. Source: Regional Economic Services Branch for British Columbia & Yukon, Employment and Immigration Canada.

Figure 15
Number of UI Claimants¹ for Nursing-related Disciplines,
1986 - 1991



¹ Number of Claimants refers to Regular Claimants (see explanation in text). Data are available for 1986 to 1991 only. Source: Regional Economic Services Branch for British Columbia & Yukon, Employment and Immigration Canada.

the number of DTF vacancies for these two disciplines during that time (Figure 11) do not therefore seem to be related to the unemployment situation.

V. SUMMARY AND DISCUSSION

During the study period of 1980 to 1991, we have been able to report remarkable fluctuations in the net demand for health personnel, as measured by the number of Difficult-to-Fill vacancies reported in the province of British Columbia. Demand has fluctuated in all regions of the province and also in all sizes of facilities. The two periods of greatest demand occurred in 1981 and 1989.

The number of Difficult-to-Fill (DTF) vacancies for Registered Nurses tended to be greater than the number of DTF vacancies for all the other disciplines included in the study, with the exception of the years 1985 and 1991. Facilities in the Greater Vancouver Regional Hospital District (GVRHD), especially those with 400+ beds, experienced the greatest DTF vacancy problems with Registered Nurses. Facilities in the remainder of the province, especially the smaller size facilities (<400 beds), experienced the greatest problems with DTF vacancies for disciplines other than RNs. The nursing areas of General nursing, Medicine/Surgery, ICU/CCU/PAR, Geriatrics/ECU, and Psychiatry experienced the largest numbers of DTF vacancies. The disciplines other than RNs with the greatest DTF problems were: Physiotherapists, Occupational Therapists, Respiratory Therapists, Physicians, LPNS/Orderlies, and Secretaries/Clerks.

Vacancy rate calculations using the number of DTF positions as the numerator and the number of approved hospital beds in the comparable responding facilities as the denominator showed the same trends as the raw numbers of DTF vacancies, for both the Registered Nurses and the Other Disciplines. For example, with RNs the vacancy rate peaked in 1981 and 1989, and the rate in the GVRHD 400+ bed facilities was consistently greater than the provincial rate, while the vacancy rate outside the GVRHD was always less than the provincial rate. The vacancy rates per 100 beds for different nursing service areas closely followed the trends seen in the absolute numbers of DTF vacancies for

the same nursing areas. The changes in the number of beds in the responding facilities thus appear to have had no impact on the trends seen in the reported DTF vacancies. For disciplines other than RNs, there was a peak in 1981 in the vacancy rate per 100 beds for all four region and size groups, but only the rate in the GVRHD 400+ bed facilities peaked in 1989. The rate in the Other B.C. 400+ bed facilities peaked instead in 1986, and the rates in the GVRHD and Other B.C. <400 bed facilities both peaked in 1987. The variation in timing of the peaks in the vacancy rates per 100 beds for disciplines other than RNs are due to the fluctuations in the personnel category and number of DTF vacancies reported at a particular time. For example, the large DTF vacancy rate for disciplines other than RNs which occurred in 1986 and 1987 is due to the large number of DTF vacancies for Physiotherapists reported in those years, especially in the <400 bed facilities.

Vacancy rates calculated using the number of employed personnel as a denominator showed trends similar to the trends for the absolute numbers of DTF vacancies and the vacancy rates per 100 beds for RNs. The vacancy rate per 100 practising RNs in the GVRHD was always greater than the provincial vacancy rate, and the vacancy rate outside the GVRHD was always less than the provincial rate. General nursing, Psychiatry, Medicine/Surgery and Geriatrics/ECU again appeared as the major contributions to the overall vacancy rate.

The vacancy rates per 100 employed personnel for the disciplines other than RNs were usually greater outside the GVRHD than in the GVRHD. This is consistent with the trend seen in the absolute numbers of DTF vacancies for disciplines other than RNs. Using Physiotherapists again as an example, the vacancy rate per 100 employed personnel peaked in 1987, as the number of DTF vacancies and the rate per 100 beds for Physiotherapists had.

Efforts to compare the DTF vacancies for Registered Nurses to UIC statistics on nurses provided counterintuitive results for one period, as both the number of DTF vacancies and the number of UI claimants increased from September 1988 to September 1990, when one might have expected an inverse relationship between the two statistics. An inverse relationship did appear to exist between the

number of DTF vacancies and the number of UI claimants from March 1986 till June 1988, and from December 1990 until December 1991. It is possible that the nurses looking for work may not have been qualified for the reported vacant positions, but such data are not currently available. The numbers of UI claimants for the other disciplines stayed fairly constant between 1986 and 1991, the exception being Pharmacists who showed an increase in the number of UI claimants during this period.

The Difficult-to-Fill surveys and the quarterly reports based on the surveys only document DTF vacancies and do not explain why they happen. In this report, we examined some of the potential underlying causes for fluctuations in DTF vacancies such as changes in bed capacity, changes in the number of employed personnel, and changes in the number of unemployed (and looking for work) individuals, in an effort to possibly explain the reason(s). The trends which were seen in the number of DTF vacancies reported, remained consistent when examined per 100 beds or per 100 employed personnel, indicating that fluctuations and changes in bed capacity and/or number of employed personnel did not directly affect the DTF vacancies. UI claimant statistics also did not prove very helpful in explaining the fluctuations seen in the DTF vacancies. However, potential changes in the type and/or amount of funding to facilities by the Ministry of Health, which may have occurred due to the 1981/82 and 1989/90 funding policies, coincided with the two dramatic decreases in the DTF vacancies reported at those times, suggesting that this happened in reaction; funding uncertainties, therefore, could be an important factor in DTF vacancy fluctuations.

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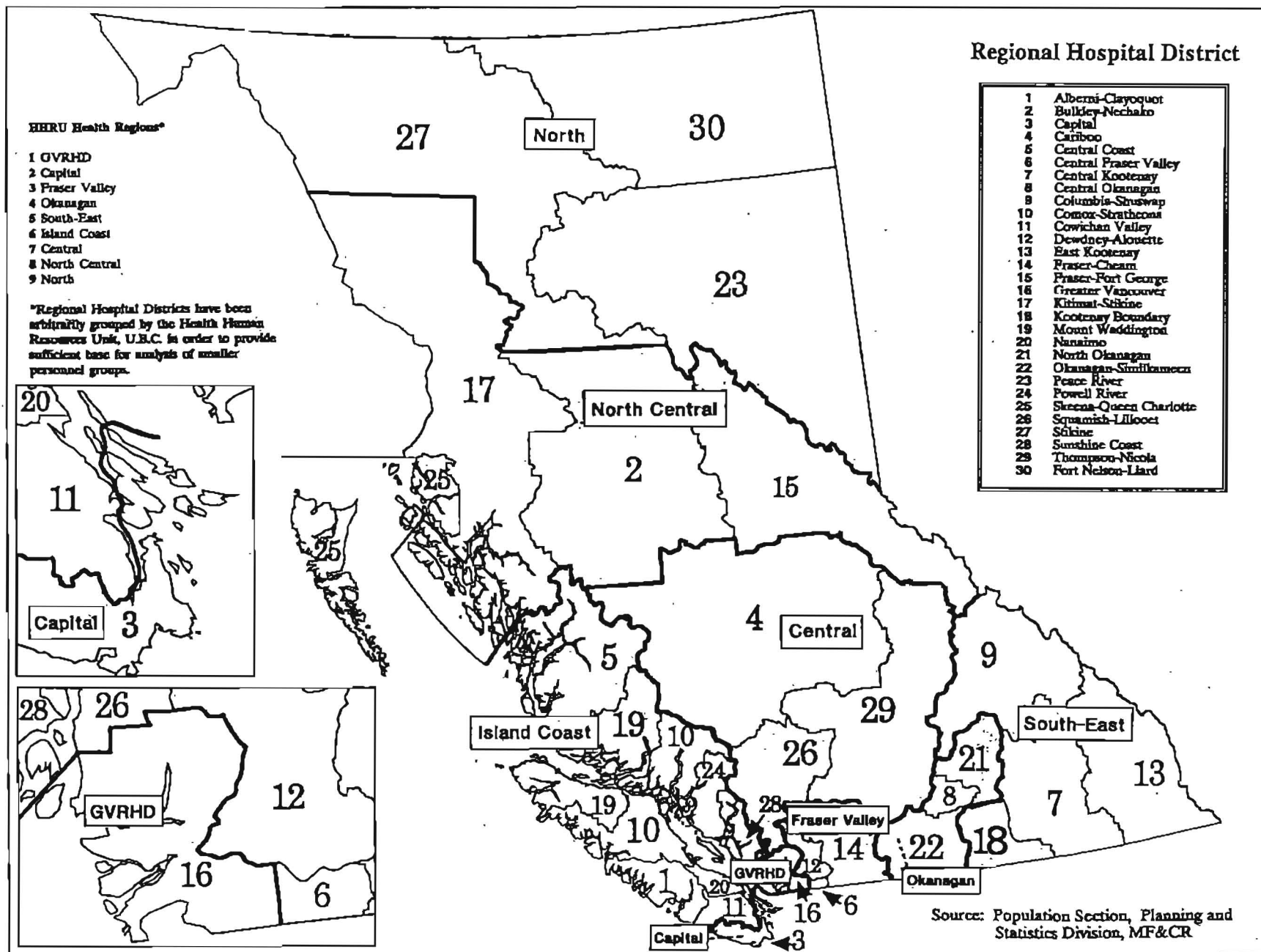
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APPENDIX A
MAP OF REGIONAL HOSPITAL DISTRICTS



APPENDIX B

NUMBER OF DIFFICULT-TO-FILL VACANCIES

FOR REGISTERED NURSES, 1980 - 1991

Appendix B

Number of Difficult-to-Fill Vacancies for Registered Nurses, 1980 - 1991

By Region and Size of Facility

Region/Size Groups	Year											
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
GVRHD	400	717	247	195	260	164	471	566	824	1166	826	254
Other B.C.	250	266	60	39	81	74	197	174	314	424	175	68
All 400+ Beds	339	745	221	159	216	154	391	447	689	1094	739	227
All <400 Beds	311	238	86	75	125	84	277	293	449	496	262	95
GVRHD 400+ Beds	269	646	196	138	208	122	318	361	573	860	659	189
GVRHD <400 Beds	131	71	51	57	52	42	153	205	251	306	167	65
Other BC 400+ Beds	70	99	25	21	8	32	73	86	116	234	80	38
Other BC <400 Beds	180	167	35	18	73	42	124	88	198	190	95	30
Total B.C.	650	983	307	234	341	238	668	740	1138	1590	1001	322

By Nursing Area

Nursing Area	Year											
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
General	155	181	64	55	54	30	140	75	180	330	149	20
Medicine	112	184	43	7	9	20	37	60	90	137	45	2
Surgery	59	173	55	6	8	8	28	39	62	113	55	5
Paediatrics	14	11	3	2	8	11	95	98	101	81	39	10
Obstetrics	18	31	17	40	9	13	5	16	26	67	19	5
ICU/CCU/PAR	83	123	40	66	159	66	224	311	263	331	243	66
Psychiatry	36	156	35	4	6	6	13	10	231	203	110	121
ECU/Geriatrics	69	36	12	4	33	16	48	50	67	135	146	30
OR	51	37	9	5	25	23	19	15	31	42	32	10
Administration	9	10	3	5	12	13	9	2	6	31	5	6
Rehabilitation	26	13	4	3	3	3	6	11	21	21	23	5
Spinal	5	2	3	0	0	1	5	6	11	2	9	1
Cardio./Thoracic	0	3	15	31	0	1	2	8	0	0	0	0
Emergency	6	15	3	3	10	9	12	14	34	68	76	35
Miscellaneous	7	8	1	3	5	18	25	25	15	29	16	6
Card. Surg./Transpl.	0	0	0	0	0	0	0	0	0	0	34	0
Total	650	983	307	234	341	238	668	740	1138	1590	1001	322

APPENDIX C

NUMBER OF DIFFICULT-TO-FILL VACANCIES

FOR OTHER DISCIPLINES, 1980 -1991

Appendix C

Number of Difficult-to-Fill Vacancies for Other Disciplines, 1980 - 1991

By Region and Size of Facility

Region/Size Groups	Year											
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
GVRHD	174	243	68	52	78	143	207	231	263	362	319	265
Other B.C.	136	221	94	79	172	181	279	272	184	183	171	133
All 400+ Beds	126	236	92	53	99	157	212	161	163	313	284	184
All <400 Beds	184	228	70	78	151	167	274	342	284	232	206	214
GVRHD 400+ Beds	86	133	38	26	38	89	110	84	133	248	198	137
GVRHD <400 Beds	88	110	30	26	40	54	97	147	130	114	121	128
Other BC 400+ Beds	40	103	54	27	61	68	102	77	30	65	86	47
Other BC <400 Beds	96	118	40	52	111	113	177	195	154	118	85	86
Total B.C.	310	464	162	131	250	324	486	503	447	545	490	398

By Discipline¹

Discipline	Year											
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
LPNs/Orderlies	22	105	25	7	12	13	31	15	15	23	22	6
Nurses' Aides	1	7	1	4	2	1	0	5	11	4	7	4
Occupational Therapists	61	61	22	26	43	44	65	67	61	83	66	52
Pharmacists	5	5	5	0	10	18	12	35	16	14	14	19
Physicians	0	0	0	0	5	14	25	25	55	36	85	47
Physiotherapists	52	82	23	32	60	110	171	175	126	93	64	65
Respiratory Therapists	12	24	15	20	25	26	34	32	20	44	27	7
Secretarial/Clerical	10	30	12	2	8	6	25	38	44	94	49	25

¹ Only the selected disciplines that were discussed in the text are listed. The number of DTF vacancies for other disciplines not listed are available from the Health Human Resources Unit.

APPENDIX D

APPROVED BED CAPACITY FOR DTF FACILITIES,

BY SIZE AND REGION OF FACILITY, 1980 - 1991

Appendix D
Approved Bed Capacity¹ for DTF Facilities,
by Size and Region of Facility, 1980 - 1991

Region/Size Groups	Year											
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
GVRHD	9642	10168	10187	9414	9396	9831	10005	10015	10146	10555	10590	10321
Other B.C.	10449	10546	10606	10385	10474	10617	10710	10864	11030	10843	10890	10894
All 400+ Beds	9662	10477	10463	9154	9103	9902	10080	10450	10566	10619	11120	10866
All <400 Beds	10429	10237	10330	10645	10767	10546	10635	10429	10610	10779	10360	10349
GVRHD 400+ Beds	6466	7191	7205	6448	6430	6807	6956	6882	6907	6895	7005	6767
GVRHD <400 Beds	3176	2977	2982	2966	2966	3024	3049	3133	3239	3660	3585	3554
Other BC 400+ Beds	3196	3286	3258	2706	2673	3095	3124	3568	3659	3724	4115	4099
Other BC <400 Beds	7253	7260	7348	7679	7801	7522	7586	7296	7371	7119	6775	6795
Total B.C.	20091	20714	20793	19799	19870	20448	20715	20879	21176	21398	21480	21215

¹ Number of approved beds as listed by the Hospital Care division of the B.C. Ministry of Health, for March 31 of each year.

APPENDIX E

NUMBER OF PRACTISING REGISTERED NURSES

EMPLOYED IN THE STUDY FACILITIES,

BY NURSING AREA AND REGION OF FACILITY, 1980 - 1991

Appendix E
Number of Practising Registered Nurses Employed in the Study Facilities¹,
by Nursing Area and Region of Facility, 1980 - 1991

Nursing Area	Region	Year											
		1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
General ²	GVRHD	-	-	-	-	130	149	141	151	143	137	122	114
	Other B.C.	-	-	-	-	527	550	543	525	542	533	536	539
Med/Surg ³	GVRHD	3113	3503	3307	2902	3759	3980	4112	4264	4331	4482	4766	4987
	Other B.C.	2647	2951	2677	2194	2699	2879	2859	3006	2959	3190	3124	3343
Psychiatry	GVRHD	170	193	249	238	282	296	319	312	309	327	319	352
	Other B.C.	227	239	212	180	214	229	237	229	217	222	249	262
Paediatrics	GVRHD	308	330	319	293	358	395	412	443	424	434	457	460
	Other B.C.	237	261	240	180	281	284	257	249	239	248	257	254
Obstetrics	GVRHD	472	533	518	458	593	626	592	604	597	640	680	728
	Other B.C.	468	506	499	422	571	578	550	555	554	566	553	587
Geriatrics/ECU	GVRHD	317	407	367	327	443	477	557	553	580	584	650	666
	Other B.C.	388	482	400	331	481	521	549	551	547	587	564	578
Administration	GVRHD	110	144	163	75	283	338	340	341	355	363	365	364
	Other B.C.	172	204	192	400	293	307	298	307	330	315	321	338
Other ⁴	GVRHD	556	530	442	452	122	133	133	160	338	410	491	559
	Other B.C.	711	788	697	321	52	61	72	79	160	210	251	280
Total	GVRHD	5046	5641	5364	4744	5970	6394	6607	6827	7076	7378	7849	8231
	Other B.C.	4849	5431	4918	4029	5119	5410	5366	5501	5549	5872	5856	6183
	Total B.C.	9895	11072	10282	8773	11090	11804	11972	12328	12625	13250	13705	14414

¹ Includes only data on RNs (see text), from RNABC registration data for practising RNs employed in the study facilities on a full-time or part-time basis (excluding casual), in June of each of the years 1980 to 1991.

² Includes the DTF category of General; and the RNABC categories of General Practice, and 'Several Areas' (includes float, small hospital, and community). The RNABC categories of General Practice and Several Areas did not exist between 1980 and 1983.

³ Includes the DTF categories of Medicine, Surgery, ICU/CCU/PAR, OR, Emergency, Spinal, Cardio-thoracic, and Cardiac Surgery & Transplant. Includes the RNABC categories of Medicine/Surgery, Medicine/Surgery Specialties, Critical Care, OR, PAR, and Emergency.

⁴ Includes the DTF categories of Rehabilitation and Miscellaneous. Includes the RNABC categories of Occupational Health, Research, Teaching (all categories), and Other Patient Care. The RNABC categories of unspecified 'Direct Patient Care' and 'Unknown' were distributed proportionally among the other categories.

APPENDIX F

NUMBER OF EMPLOYED PERSONNEL

FOR SELECTED DISCIPLINES, BY REGION, 1980 - 1991

Appendix F
Number of Employed Personnel¹ for Selected Disciplines,
by Region, 1980 - 1991

Discipline	Region	Year											
		1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991/92
LPNs ²	GVRHD	1575	1591	1540	1489	1357	1268	1389	1251	1166	1221	1310	1320
	Other B.C.	2798	2916	2763	2764	2570	2563	2694	2430	2396	2521	2530	2508
	Total	4373	4507	4303	4253	3927	3831	4083	3681	3562	3742	3840	3828
Pharmacists ³	GVRHD	107	124	138	146	158	148	174	223	241	270	267	273
	Other B.C.	84	96	102	104	97	114	104	126	130	136	150	163
	Total	191	220	240	250	255	262	278	349	371	406	417	436
Physicians ⁴	GVRHD	2736	2859	2930	3043	3107	3275	3327	3404	3523	3746	3849	3964
	Other B.C.	2301	2377	2450	2504	2569	2611	2626	2673	2722	2713	2821	2955
	Total	5037	5236	5380	5547	5676	5886	5953	6077	6245	6459	6670	6919
Physiotherapists ⁵	GVRHD	-	293	-	258	-	312	-	313	-	361	394	442
	Other B.C.	-	280	-	264	-	247	-	279	-	318	343	351
	Total	-	573	-	522	-	559	-	592	-	679	737	793

¹ Source: ROLLCALL 81, 83, 85, 87, 89, 91 and ROLLCALL UPDATE 80, 82, 84, 86, 88, 90. Status Reports of Selected Health Personnel in the Province of British Columbia, Health Human Resources Unit, UBC.

² LPNs employed in acute care, activation/rehabilitation, extended care, psychiatric facilities, and community health agencies, in September of each of the years 1980 to 1991.

³ Pharmacists employed in hospital pharmacies, in September of each of the years 1980 to 1986, and in December of each of the years 1987 to 1991.

⁴ All Directory-Active Non-Postgraduate Physicians, in September of each of the years 1980 to 1990, and in January of 1992.

⁵ Physiotherapists employed in acute care, children's, extended care, psychiatric, and rehabilitation facilities, Worker's Compensation Board, community health centres, and diagnostic & treatment centres, in October 1981, November 1983, February of 1986 and 1988, and December of each of the years 1989 to 1991. Data not available for 1980, 1982, 1984, 1986, and 1988.

Health Human Resources Unit
 Centre for Health Services and Policy Research
 The University of British Columbia
 429 - 2194 Health Sciences Mall
 Vancouver, B.C. V6T 1Z3

Telephone: (604) 822-4810
 Fax: (604) 822-5690

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