An Examination of the Forces
Affecting the Locational Decisions of
Physicians in Ottawa: 1875-1915

By

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ABSTRACT

This research examines the location patterns of physicians in Ottawa between 1875 and 1915. It does so in order to provide a greater understanding of the degree to which certain forces affected the decision by physicians to locate in various areas of the city. Generally it seeks to determine whether physicians were benevolent 'good doctors' serving the needs of rich and poor alike or whether they were more interested in their own financial and social status. The first phase of the research demonstrates that the establishment of the medical profession was a relatively recent phenomenon and that the city had evolved into a relatively large multi-functional city. Based on this knowledge and by using annual city directories and other sources, the second phase of the research describes the growth, distribution and mobility of Ottawa's physicians. This description leads to the identification of the most meaningful period, as the years 1875-1915, in which to further examine the common decision making forces which affected the location patterns. The third phase of the research defines these forces and tests the degree to which they were shared by Ottawa's doctors. It is one of the conclusions of this research that most physicians located in areas of the city which maximized their financial status and reflected their perceptions of class and prestige.

Ottawa, Ontario

7 January, 1963

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Chapter 1

INTRODUCTION

The modern day view of the nineteenth century physician has often been governed by the images presented in films, literature, theatre and television. These images, in fact, often vary. Some range from the alcoholic practitioners who lost more patients than they saved, to the good country doctors who travelled for miles on horseback to make their house calls. Others range from the charlatans and quacks who preyed on the poor to the rich highly respected urban physicians who formed an integral part of the upper class establishment. Which is the correct image? Was the nineteenth century medical profession composed of individuals reflecting all of these images? Or was it composed of those who reflected a common image rooted in their shared professional backgrounds and values?

This thesis seeks to provide a greater understanding of this image by exploring the forces which affected the decision by physicians to locate in various areas of an urban setting. It does so for Ottawa between 1875 and 1915. The time period was chosen because it was assumed that it paralleled the growth of the city from a young middle sized lumber town to a mature large multi-functional city. The forces operating to produce this change were thought to be at their most dynamic during this period. It was also assumed that at one point during this period the urban landscape would be sufficiently well defined to permit proper measurements to be made of the forces affecting the location decision. The profession itself was also assumed to have matured to the extent that physicians would be expected to respond to

these forces in a consistent manner based on a shared set of professional values.

In order to identify and evaluate these forces, the assumptions concerning the nature of the profession and growth of the city had to be verified. A thorough knowledge of the professional framework within which a physician practised had to be gained. During these years, for instance, did the medical profession share a common set of professional values? Or, were these values poorly defined, either in legislative terms, for example licensing, or in terms of a strong collegial organization? The need to understand how the medical profession evolved and how it functioned during the period was an essential requirement of the research. This understanding was acquired by examining the sparse literature on the nineteenth century Canadian medical profession and referencing such standard works as Canniff, Bilson, Heagerty, Howell and MacDermont.¹

Since doctors were to be studied in Ottawa it was also considered important to determine, firstly, if Ottawa had, indeed, evolved from a young middle-sized lumber town to a large multi-functional city and secondly to identify the processes which produced the change. Standard histories of Ottawa such as Bond, Brault, Eggleston, Edgar, Haig and Ross² were useful as background to this phase of the research; the most valuable contributions including such contemporary sources as Holt, Gard and Abbott³. Photographs and maps provided useful corroborative material. As well as investigating the overall nature of the city, efforts were made to more specifically identify those city characteristics which directly affected the physician's environment. A developing transportation network, a changing economy, a growing population and an expanding city landscape were examined for their effects on the locational decision of physicians.

Having defined and established the nature of both the city and the profession the next phase of the research evaluated the interaction of the various forces which stemmed from each. With the use of the city directories, the patterns of location and movement of physicians was traced throughout the time period. These patterns were then evaluated and, based on the degree of association between the location of their practices and the attributes of various city areas, conclusions were drawn concerning the extent to which physicians shared a common set of locational decision-making criteria.

Thus Chapter 1 describes the approach used to identify the decision making processes. The adequacy of the secondary literature is evaluated and the rationale behind the need to define annual distribution patterns is explained. Chapter 2 describes the evolution of the medical profession in Canada and demonstrates that the establishment of a mature, well established collegial organization was a relatively recent phenomenon whose members were still only gradually acquiring a common shared set of professional qualifications and values. Chapter 3 describes how the evolution of the profession affected the locational decisions of Ottawa's doctors. Specific consideration is given to the role of hospitals, educational institutions, specialization and public health programmes. Chapter 4 demonstrates how Ottawa matured from a small single function town to a relatively large multi-functional city. The intent of the chapter is to gain a further understanding of how and why the distributions of physicians changed as they did. Based on a thorough knowledge of both the city and the medical doctors who practised during the study period, Chapter 5 describes the growth, distribution and mobility of Ottawa's physicians. The description forms the basis for the identification of the most meaningful period in which to further examine the pattern of

physicians' locations as they relate to the growth of the city and to clearly determine the common decision making forces which affected these patterns. Chapter 6 defines these forces and tests the degree to which they were shared by Ottawa's doctors. Chapter 7 summarizes the findings of this research in terms of both the specific and general forces which affected the choice of a physician's practice, guided at least in part by the form of the city and the nature of the profession during a significant time in this country's urban and social development.

Chapter 2

EVOLUTION OF THE MEDICAL PROFESSION IN CANADA

This chapter describes the changing nature of the profession from the 17th to the 19th centuries. It seeks first to provide an appreciation of the general evolution of the profession, its changing image with respect to both itself and the public it served, and in this way to place Ottawa's physicians in greater focus and perspective. Secondly and perhaps as important by providing an understanding of the position of the physician in Canadian society generally and Ottawa specifically, it contributes to the identification of those location decision-making forces emanating from the profession itself.

2.1 Evolution of the Medical Profession in Canada 1600-1867

'A body of knowledge, a service orientation, a collegial organization, a license, and a mandate, are the principle characteristics of a profession.'¹ A body of knowledge and a service orientation were the only attributes displayed by the small number of physicians practising during the early years of Canadian history. In fact, as this chapter reveals, there was neither a licensing system nor a collegial organization, nor, a clear mandate associated with these early physicians.

The first physician in Canada was François Guilbault who, as an apothecary, accompanied Cartier on his voyage in 1534². Over 80 years passed before the next physician, Louis Hebert, also an apothecary, visited Isle St. Croix during the winter of 1604-1605.³ The first physician to actually establish a practice in Canada was

Bonnermé who accompanied Champlain in 1608.⁴ He died of scurvy a year later. One of Canada's first prominent physicians was Robert Giffard who began his career as a ship's surgeon in 1627, became the first seigneur in Quebec (1635) and later moved to the village of Quebec to manage the city hospital, L'Hôtel Dieu.⁵

By the mid-seventeenth century, only a small number of physicians had actually established practises in the colony. According to Heagerty (1940) however;

'the pioneer physicians of the early days of New France were, with a few notable exceptions...barber-surgeons whose chief ability was their skill in bleeding and opening boils and abscesses.'⁶

During these early primitive years of Canada's medical history, little effort was made to license or "legitimize" the profession.⁷ The number of qualified physicians was too small, the colony too young, and the Government itself too little concerned with the establishment of a formal set of controls on the practice of medicine. The Government in France was more interested in exploration than settlement and, as a result, gave little encouragement to the immigration of French doctors to the new colony.⁸ Many of Canada's earliest physicians, therefore, were poorly trained and, in a number of cases, were little more than opportunists satisfying the demands for physicians services in areas where no qualified physicians were available.

Government corruption was also a factor contributing to the uncontrolled proliferation of quacks and other unqualified medical practitioners. Tim Sullivan, for instance, the first British subject to practise medicine in Quebec, had fought the Spaniards, escaped to Montreal, married La Verendrye's sister and, though not a doctor, had through family influence, been able to obtain a degree from Louis XV.⁹

During the French Regime the government made no effort to control the professional standards and qualifications of any individual practising medicine in the colony. A licensing system, which was central to this control, was not established because both the Government and the inhabitants of the small settlements which existed at this time, failed to recognize any need for such a system.¹⁰ More significantly, however, the physicians themselves, who might have collectively provided the lobby required to pressure Government into establishing such a system, were isolated, disorganized, and without a defined 'collegial organization' and 'mandate' to support them.

The Canadian medical profession's inconspicuous beginnings evolved in a more positive direction after the British Conquest and particularly during the period when increasing numbers of United Empire Loyalists emmigrated to Canada. The French society, based on an extractive economy and largely indifferent to the provision of proper medical services, was replaced by a British society primarily interested in the establishment of settlements and the provision of the fundamental services for their inhabitants.¹¹ Whereas few physicians wished to emmigrate to Canada, a number of highly qualified physicians joined the UEL exodus to Canada.¹² Most were connected to the military, held a high rank, were well educated and respected within the communities they served.¹³ By the beginning of the nineteenth century, it appeared that these attributes would contribute to the development of a well defined professional body of physicians. Unfortunately, this development would be slow to evolve. The army surgeons, for instance, who arrived with the UEL settlers, were normally based at one of the major garrisons such as Kingston, Niagara and Detroit.¹⁴ Consequently, many settlers living in surrounding communities or remote areas of the colony, were forced to travel long distances for

medical services. A number of individuals, recognizing the market for medical services that existed in many settlements established themselves in various communities as local 'medical men'. Many communities, recognizing the immediate service they provided, tolerated these individuals. In spite of their lack of proper credentials and because of their immediate proximity, they accepted their practices and encouraged their proliferation.¹⁵

As settlements increased in size and number, however, the medical problems arising from the practices of these poorly qualified practitioners became more obvious. The number of complaints increased until the seriousness of the situation was finally recognized by the government. In 1788 it passed an act¹⁶ to regulate the practices of physic and surgery. Unfortunately, the examining boards, which were provided for in the act, were never established. The act itself was poorly designed and its regulations rarely enforced. The regulation that only a surgeon could perform mid-wifery, for instance, was totally unrealistic for remote communities.¹⁷

Until 1815, only primitive efforts had been made to develop new legislation. Meanwhile, although the number of qualified physicians in Canada had increased to 40¹⁸, the growth in the number of unqualified practitioners had risen to alarming proportions. Heagerty (1940), for example, reported that the: 'letters of physicians of the time show ignorance of the English language and an inability to spell the simplest words.'¹⁹ In several communities it appeared that just about anyone could establish a practice and, experience or not, assume the functional role of physician. An advertisement in one community demonstrated how far the situation had deteriorated.

'Advertisement: This is to certify that I, Solomon Albert, is good to cure any sore in word complaint or any pains, rheumatic pains or any complaint whatsoever the subscriber doctors with herbs or roots. Any person wishing to employ him will find him at Dick Bell's.'²⁰

In 1818, the Government of Upper Canada, pressured by a small group of qualified and concerned physicians, again passed an act²¹ to control the practice of medicine. Unlike its predecessors, however, the passage of the act led to the establishment of a Board of Examiners composed of highly qualified and respected physicians. It met every three months in York to review the qualifications of prospective applicants. By the end of 1819 eight physicians had passed into the ranks of the country's small but growing medical profession.²² In subsequent years the success of the Board encouraged the establishment of similar Boards in Quebec (1832) and Nova Scotia (1828).²³

Unfortunately, the rate at which the medical profession grew was extremely slow. The high standards required by the Board led to the rejection of many candidates and, given the infrequency of the Board meetings, led to the admission of only a small number of physicians each year. Many candidates, faced with long distances to travel and poor opportunities for success, simply remained in the country and practised in defiance of the law.²⁴ The situation, in fact, had little improved from earlier days when army surgeons only served the communities surrounding a military installation leaving the quacks and other poorly qualified practitioners to serve the large number of more isolated communities. Similarly as the Examining Board in York was only able to serve the needs of the immediate area, its influence over greater distances was extremely limited, thereby promoting the establishment of practices belonging to poorly qualified practitioners.²⁵ The act itself, in

any case, was seldom enforced and most physicians, qualified and unqualified were able to practise with impunity. In effect only the community and not the government could effectively enforce the regulations associated with the Act or any other related legislation. As long as an individual community was willing to accept unqualified practitioners, the medical profession would have difficulties evolving into a large widely respected collegial organization, fully capable of enforcing its own standards.

The first step to formalizing the collegial organization and the definition of standards was taken with the establishment of the College of Physicians and Surgeons.²⁶ The provincial act establishing this College was designed to grant the profession more control over the licensing of its members. Although the creation of the College demonstrated that the profession had developed some influence over government, the College itself eventually failed in its objectives to exert control over the country's medical profession because of pressure from the London College of Surgeons which was concerned that the standards set for the exams were not sufficiently rigorous.²⁷ Furthermore, the College resented the stipulation that British physicians, who had already passed their examinations, would have to pass the Upper Canadian examinations before being admitted into the College of Physicians and Surgeons. Several months after the London College had petitioned the Government, the Act of Incorporation was disallowed.²⁸ Subsequently, the Upper Canadian Medical Board was reinstated to simply review the qualifications of prospective candidates and to recommend that licenses be granted.

Although the incident demonstrated that the Canadian medical profession was held in low esteem by its counterparts in the mother country, it also confirmed the indifferent attitude by the

public to the whole topic of medical professionalism. When the Act was disallowed there was little reaction from public quarters.²⁹ It appeared, therefore, that the public was indifferent to the efforts made to define the qualifications for entry to the profession or to enhance the profession's profile with respect to the quality of the service it felt the public deserved.

What were the roots of this apparent lack of public support? How did the public perceive the medical profession at this time? Part of the answer rests with the public's concern for the physicians' difficulty in properly diagnosing and treating various diseases. Typhus and cholera were particularly dangerous diseases which often affected large numbers of people through a series of epidemics. The most serious epidemics were in 1832 and particularly 1847, when 40,000 of 90,000 immigrants were affected by typhus.³⁰ Outbreaks of either typhus, cholera, or even influenza were common and for physicians, the control of these diseases was difficult to achieve. By as late as 1851, for instance, cholera was thought not to be contagious.³¹ Climatic conditions, filth, stagnant water and even soil conditions were considered the basic sources of the disease. In other words the environment, and not human carriers, was considered 'epidemic' to the spread of cholera. According to the theory, therefore, quarantine was not considered an appropriate control for the disease. Grosse Isle, for instance, an island in the St. Lawrence, near Montreal, was viewed as simply a convenient holding station for the victims of cholera and supposedly healthy carriers were permitted to proceed to their destinations in the provinces.³² Once they arrived contact would be made with other settlers and the disease would spread. In Kingston, Toronto, Ottawa and a score of other communities, cholera and typhoid epidemics often had their source in the arrival of immigrants.

The failure of physicians to deal with these and other diseases contributed to the lack of respect the population held for the medical profession. Aggravating the situation were the physicians' attempts to cure these diseases - often more painful than the disease itself. These cures often included bleeding, liberal doses of calomel (a painfully applied mercury preparation), and opium.³³ For some cases, boiling water would be applied to the stomach. Many people naturally feared a visit to the physician and instead turned to the charlatans who marketed other less painful though useless remedies.³⁴

Seeking to correct the public image of the profession and to develop the public support required to encourage the development of the profession, a small number of physicians attempted to establish medical societies having, as their central role, the organization of the profession and the enhancement of its profile with respect to the public.³⁵

Among the early societies were the Quebec Medical Society (1826), the Medico-Chirurgical Society of Upper Canada (1833), the Montreal Medico-Chirurgical Society (1843) and the Medical Society of Halifax (1844).³⁶ In these early years, however, most were unstable and barely sustained themselves. Bilsen (1975) notes that many of these organizations failed in their intent because: 'of the resistance of doctors who could see no clear advantage to themselves and feared the burden of offering advice to the public without remuneration.'³⁷ Thus, beyond the small number of physicians who promoted the establishment of these societies, many physicians, often working in isolation from one another, were unable or unwilling to form the close ties required by organizations such as medical societies. The backgrounds of many varied to such an extent that finding a common ground upon which to meet was difficult. Some

were French, others English. Some were British trained, others Canadian or American trained. Some supported rural practices, others urban practices. Their views varied with their backgrounds and until the mid nineteenth century few ever came together in any organized manner.

2.2 Evolution of the Medical Profession in Canada 1867-1915

The first substantial efforts to improve the status of the profession were made in the early 1860's by the Quebec Medical Society.³⁸ Invitations were forwarded to various societies, schools, and physicians inviting delegates to gather in Montreal to form a national association which would have as its purpose the development of a uniform method of licensing. After a great deal of promotional work the Canadian Medical Association was created in 1867 to:

'...guard the health of the people by maintaining the highest standards of medical practice. It has also the duty to promote the interests of its members and to act on their behalf. The Association's activities are concerned with all phases of medical life's teaching, hospitals, research, economics, international relations, etc.'³⁹

Soon provincial associations were formed and, though their jealousies would hamper and slow the work of the national association, they did help to enhance the status of the profession within individual provinces. These developments also helped to stabilize and strengthen the medical societies which, in turn, served to develop their image with respect to both themselves and the public.

A number of prominent physicians were also instrumental in enhancing the stature of the profession. Several, such as Roddick, a leading proponent of a National Medical Act, and Shepherd, a

leading physician from Montreal, used the forum of the Canadian Medical Association to pressure both the government and the public to recognize the new more mature stage into which the profession had evolved.⁴⁰ One of the most famous Canadian physicians to appear during the period 1867-1915 was Sir William Osler, known for his skill at home and abroad. Although he made no discoveries on his own, he did display the skill for synthesizing and disseminating medical knowledge in a form which could be easily grasped by both the medical practitioner and the public in general.⁴¹ The work of these and other physicians served to enhance the profile of the physician not only with respect to government and the public, but also to members of the profession itself.

Nevertheless, the establishment of a medical association and the work of a few prominent physicians could not have operated alone to elevate the profile of the profession or to advance its maturity. Coincident with these events, other factors were also at work to ensure that the public's view of the medical profession and, more particularly, the medical profession's view of itself was enhanced. Two of the most significant factors included medical advancements and technological change.

After 1867, for instance, advances in medicine, particularly those which eased patient discomfort, were developed. These raised the confidence patients had in their physicians and enhanced their willingness to entrust themselves to their care. Morton, for instance, a Boston dentist, developed ether, a safe general anaesthetic. The use of such newly developed techniques as X-Rays also enhanced the professional status of physicians by providing them with the information they required to make a fast and accurate diagnosis.⁴² The hypodermic needle and syringe and the safe surgical techniques associated with such operations as partial gastrectomy, were also developed and refined.⁴³

Based on such advancing technology as the telephone, communication between the physician and the patient improved greatly. The postal system was developed and expanded, road networks were improved, and, as towns and cities grew in size, the construction of more sophisticated transportation systems such as the electric street railway ensured that potential patients would have easy access to physicians' services.⁴⁴

As the population increased, particularly in urban centres, so did the requirement for medical services. As a result, in many areas, the number of physicians increased substantially toward the end of the nineteenth century. Most, by this time, were well educated, closely affiliated with their provincial medical associations, backed by a number of significant medical advancements and generally well respected in most communities.

By 1912, the profession had evolved to the extent that, through the efforts of the Canadian Medical Association and, in particular, Dr. Roddick, the Canadian Medical Act was passed.⁴⁵ The process by which this Act was finally introduced and passed was filled with frustration. As early as its inception, the CMA had called for greater uniformity of medical education and registration throughout the country. The Association's lack of clout, however, plus provincial jealousies, were the main reasons behind the considerable amount of time required to successfully promote appropriate legislation.⁴⁶ Once passed, however, the Act established a nation-wide system of qualifications while maintaining the province's right to control licensing.

2.3 Summary

Canadians have generally assumed that the medical profession

has a long enduring and respectable tradition based on a set of common ideas and worthy intentions. In fact, the stability and maturity of the profession, is as this chapter has shown, a relatively recent development.

As a result of indifference on the part of the government, the public and most doctors, the goal of professionalism sought after by some early practitioners eluded them. By the 1860's doctors in Canada had still to develop an agreed body of knowledge, a service orientation, collegial organization or formal mandate. By Confederation the situation had changed and by 1912 as a result of a growing medical capacity and a renewed public support as well as the actions of particular individuals the embryonic structure of modern medicine had emerged in Canada. The effects of this development on the growth of the medical profession per se and the services it offered the people of Ottawa are examined in the next chapter.

FOOTNOTES

- Chapter 2 -

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33. J. Heagerty, Op. Cit., p. 202.
34. H. MacDermont, Op. Cit., p. 56.
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36. H. MacDermont, Op. Cit., p. 65.
37. H. MacDermont, Ibid., p. 36.
38. J. Kett, "American and Canadian Medical Institutions, 1800-1870", Journal of the History of Medicine, volume 22, 1967, p. 344.
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45. H. MacDermont, Op. Cit., p. 46.

46. H. MacDermont, Ibid., p. 52.

Chapter 3

THE NATURE OF THE MEDICAL PROFESSION AND THE DECISION TO LOCATE

The previous chapter traced the evolution of the medical profession in Canada. This chapter follows a similar genetic approach although its purpose is different in that it is concerned with how changes in the structure of the profession affected the locational decisions of doctors in the City of Ottawa. It does so primarily for the period 1860-1912. In the earlier period doctors were not numerous in Ottawa and a paucity of practitioners yields little insight into shared locational attributes for a group. Moreover, since doctors were so few in this earlier period and did not display a set of consistent qualifications it might be expected that the poorly qualified and well qualified would respond to different criteria as they exercised their locational decision. For these reasons this chapter is mainly concerned with the location of physicians in the second of the two periods. Its primary purpose is to describe how choice of location in Ottawa was affected, as elsewhere, by the development of medical schools, hospitals and the shift to specialization. A first section, however, discusses the origins of medicine in Ottawa, illustrating at the local level the themes discussed nationally in the previous chapter.

3.1 The Origins of Doctors in Ottawa

Similar to their counterparts practising throughout the rest of the country in the early nineteenth century, Ottawa's first medical men were army surgeons connected to the military hospital. Dr. J.E. Tuthill, for instance, an ordnance surgeon, was in charge of the military hospital from 1826 to 1832.¹ Although the back-

grounds of other physicians who settled in the town, varied considerably, all were trained at overseas universities and, in many cases, were born in European countries. Dr. Stewart, for instance, who opened his practice on Rideau Street opposite Nicholas Street (see Figure 4.1a for street locations - foldout in back pocket) in 1827, was a graduate of Trinity College in Dublin.² Another early physician, Dr. McQueen, was born in Edwardsburg, Ontario, but received his medical degree in Glasgow.³

Little has been recorded in detail on the backgrounds of many of Ottawa's early physicians. Two exceptions are provided by Canniff who describes the careers of two prominent physicians of the time, Doctors Van Courtlandt and Hill.⁴ Although by no means representative of all medical practitioners in the town at this time (Plate 3.1), they do provide insights into the characteristics of the more affluent and prominent physician. Moreover, they were the first of what would eventually become the mature and well defined medical profession which began to develop in late nineteenth century Ottawa.

Dr. Van Courtlandt was born in Newfoundland in 1805, the son of a retired military officer and a devoted loyalist. His education brought him to Quebec where, at the age of 15 he began his studies in medicine under the tutorship of a Dr. Hackett. In 1825 he travelled to England and, after passing his examination at the Royal College of Surgeons in London, returned to Canada and settled in Ottawa in 1832. In later years he was appointed physician and later consulting physician to the Ottawa General Hospital. He was also appointed consulting physician to the Protestant hospital, coroner to the city and chief physician to the gaol. His office was maintained in his residence at 394 Wellington Street (see Figure 4.1a for street location - foldout in back pocket) which

OLD BYTOWN DOCTORS.

Federal Engraving Co.

Dr. Thos. F. McQueen. Dr. Hamnett P. Hill.
Dr. Edw. Van Courtlandt.
First Catholic Hospital.

First Protestant Hospital.
Dr. S. C. Sewell. Dr. A. J. Christie.

Early Ottawa Physicians and Hospitals

Ross A., Ottawa : Past and Present,
(Ottawa: Thorburn, 1927) p.137

'was looked upon at that time as a mansion'. In his later years Van Courtlandt became a surgeon to the Ottawa Field Battery and, when he died at age 76, he was buried with full military honours. Unlike Van Courtlandt, Dr. H. Hill was the third son of a medical practitioner in London. He was born in 1811 and began his medical studies at the age of 16. After passing his examinations he joined his uncle who was 'surgeon-extraordinary' to King William IV. After several more years as a surgeon in Brighton, he moved to March Township and a year and a half later moved to Ottawa. During his long career in the city he served as surgeon to both the County of Carleton Protestant Hospital and the Ottawa General hospital.

Both Hill and Van Courtlandt were also graduates of well known medical schools. Although it is difficult to determine the extent to which graduation from a particular school was a factor in their decision to locate, the topic is worth pursuing.

3.2 Medical Schools and the Location Decision

An important element in the growth and maturity of any profession is its ability to develop an educational structure from which a well qualified group of professionals may be drawn. The sophistication of such a structure ensures that the profession is composed of members displaying a common set of ethics based upon a standardized educational background. If such an education system existed then presumably physicians might possibly display a common set of ideals and professional standards upon which, possibly, a common approach to a location decision could be based. If a system did not exist, then it would be expected that physicians would display a diverse set of ideas and professional standards which would make the identification of a common approach to location decisions

particularly difficult. Differences in the standards of particular schools could also be a factor affecting the identification of common decision making criteria. Those graduating from a prestigious medical faculty for instance, might be expected to locate in the higher class neighbourhoods of a city than those colleagues who graduated from a lower class faculty. The purpose of this section, therefore, is to investigate the role of the medical school as it affected the overall development of the medical profession and, as a corollary, as it affected the location decision.

Until approximately the beginning of the nineteenth century, a formal medical education system did not exist in Canada. Canadian doctors were generally trained by the apprentice system with an individual physician teaching an individual student. A student was indentured, often beginning in boyhood, to a practitioner for a period of from three to seven years.⁵

By the early 1820's, however, many qualified physicians were becoming concerned about the supply of Canadian trained physicians. The dependence on one or two foreign sources was unsettling and several physicians expressed fears that Canada could face real problems should these sources dry up.⁶ The significant representation of British and American physicians was reflected in the backgrounds of those who passed the Medical Board of Upper Canada. Between 1830 and 1837 over 100 physicians passed the Board's review. Of these, 64 were from the universities of Dublin, Edinburgh, Glasgow or other non-Canadian medical schools; of the 36 Canadians, '...not one was educated in the province without resort to foreign institutions.'⁷

Gradually, however, several physicians and later the medical profession as a body successfully encouraged universities to

formally incorporate medical faculties or schools into their curricula.⁸ The first medical faculty was established at McGill University in 1829⁹, and, reflecting the character of the poorly defined Canadian medical profession at this time, all of the faculty were British. In the past the British domination within the faculty was so strong that it prompted a number of French physicians to establish their own all-French faculty at the Université de Montréal in 1849.¹⁰

The establishment of a medical faculty at the University of Toronto is an example of how the individual efforts of one physician, working without the benefit of a well defined profession to assist him, was able to encourage the university to establish a medical school. This was accomplished by Dr. J. Rolph who, based on his connections with both the Medical Board and King's College and his previous experience in maintaining a school in Guelph, encouraged the creation of a medical school in 1843.¹¹

Although the University of Laval established a medical faculty in 1852, other Canadian universities failed to organize their own faculties until well into the 1860's. Queen's Faculty of Medicine was established in 1870. Interestingly, at Queen's University and, largely as a result of an experiment in co-education begun in 1880, a separate women's college was formed in 1884.¹² Such a development could explain the existence of a number of female physicians who began their practices in Ottawa in the 1890's.

Other faculties, though not as strongly linked to their university administrations as were their counterparts in the east, were also established at the University of Western Ontario in 1881 and at the University of Manitoba in 1883. In Ottawa, the medical faculty at Ottawa University was only established in 1945.¹³

The approach taken to the establishment of medical schools in Canada was quite different from that taken in the United States. While Canadian Medical Schools were associated with universities, those in the U.S. were independent and, unlike their Canadian counterparts, standards varied from school to school.¹⁴ The close links formed in Canada between the medical faculty and university were discussed at length in the Flexner Report (1910), published by the Carnegie Foundation.¹⁵ This report critically evaluated the teaching practices employed by a number of institutions across both the United States and Canada, but generally, favoured the Canadian approach of incorporating medical schools or faculties into university programs. The report particularly praised both the University of Toronto and McGill, although McGill's reputation, in fact, had been considered outstanding for some time. As early as the 1870's, it was reported that; 'McGill was said to be the best medical school north of Philadelphia.'¹⁶

The association of medical faculties with universities and the diligence of the Canadian Medical Association, gave the profession a better opportunity to apply uniform education standards against which prospective graduates could be measured. As a result, the graduates of these schools displayed a much more common set of qualifications and standards than did their American counterparts.

The five schools located in central Canada were well established and fully capable of providing Ottawa with an adequate supply of highly qualified physicians. The calibre of the teaching staff was high and all graduates shared a relatively common background of expertise and education. They were a much less diverse group of doctors than their American counterparts because of their shared experience.

At Trinity University, for instance, courses were offered in a wide range of medical topics including anatomy, obstetrics, general chemistry and botany, medical jurisprudence, principles and practises of surgery, practical and analytical chemistry, physiology, ophthalmology, pathology, and therapeutics. The Medical school at Western which, in 1890, consisted of a large faculty of 14 individuals provided courses which were similar to those offered at Trinity. In this same year McGill also supported a large faculty of 18 professors and 8 demonstrators and instructors, while Laval had a faculty of 15, and Bishop's had 17.¹⁷

These factors, a well defined professional set of standards based on a collegial organization (CMA), a uniform highly regarded medical school system and, a medical profession composed of individuals sharing common sets of expertise and training, all suggested that the Canadian medical profession in general and Ottawa's medical profession, in particular, were sufficiently well defined to permit a shared level of competence and perhaps a common set of decision making factors respecting the location of medical practises. Yet shared experience might not of itself have determined locations. Perhaps more telling were developments in various medical aspects such as the increased use of hospitals and the evolution of specialization.

3.3 Hospital Services and the Location Decision

A facet of the increasing institutionalization of medicine was the evolving role of the hospital which assumed greater significance in both the Canadian community and the profession. In the Canada of 1980 hospitals are commonly viewed by the general public as an essential facet of most medical practices. They are usually held in high regard as established institutions managed by highly

qualified concerned professionals. This was not always so. Hospitals were slowly accepted in the nineteenth century. Eventually, they were wholly accepted. Increased awareness of the importance of hospitals, at least initially on the part of more innovative doctors and eventually all, might therefore affect the locations of medical practises. Unlike the modern multi-functional hospitals of 1980, late nineteenth century Canadian hospitals were little more than holding centres, principally designed to provide shelter and very limited care to victims of the numerous epidemics that occurred throughout this period. Far from serving the needs of the community within which they were located, hospitals were normally established to receive the many immigrants who were affected by disease during the course of their voyage. According to Bilson (1975).

'The hospitals were thought of as places giving the sick the most basic shelter and attention to remove them from the general population to whom they were dangerous. Only those incapable of providing for themselves would willingly go to a hospital.'¹⁸

Most were run by religious orders and supported solely through charitable donations. The community itself held little regard for the hospital and the contemporary public view, throughout the early and mid-nineteenth century, was that hospitals were simply institutions which provided the most basic care for the diseased and the indigent poor who required medical help.¹⁹

Significantly the medical profession itself held little regard for the institution.

'...the hospital was not significant for the great bulk of medical care, however severe the circumstances. Indeed, until this century, hospitals probably increased rather than diminished in risk in severe illness or surgical

healment. It was in that sense of little importance whether or not a GP had access to hospital beds. He could deliver his obstetrics cases more safely²⁰ at home, and operate more safely on the kitchen table.'

By the turn of the twentieth century, as the medical profession matured, both the public and the profession recognized that certain medical services could be performed more effectively in the hospital than in the home. New and more complex surgical techniques, often requiring the use of sophisticated and costly medical equipment, forced physicians to seek facilities other than their own office or their patient's home in which to perform their services. At the same time the medical profession also acknowledged the importance of a clean controlled environment in which to operate, an environment which was difficult to achieve in either the home or the office.²¹

On an increasing scale, therefore, the profession viewed the hospital as the most appropriate facility for fulfilling these requirements. In addition, many physicians, together with the medical faculties of nearby universities, recognized the value of the facility as an education centre. Coupled with these new roles were the growing pressures of urbanization and population both of which contributed significantly to the demand for newer and larger hospitals. The increasingly positive attitudes of the public to the medical profession in general helped to stimulate a correspondingly positive attitude to the hospital.²² As a result, greater numbers of paying patients used the hospital to obtain medical sources from a medical profession, which itself had acknowledged the benefits to be gained from linking itself to the facility.

This process, however, did not occur quickly. The developments, which transformed the hospital from an isolated holding centre staffed by nuns and volunteers to treat victims of epidemics, to a

modern multi-functional medical centre fully supported by the medical profession and well integrated into the community, occurred during the latter half of the nineteenth century and the first half of the twentieth century. The evolution of two hospitals, in particular, provide insights into the changing nature of the Canadian hospital and its significance with respect to the evolution of the medical profession.

Similar to many hospitals, both the Montreal General and the Toronto General were founded by charitable organizations with only limited support from the medical profession. The Montreal General, for instance, was founded in 1818 by the Ladies Benevolent Society.²³ Only four physicians attended at the hospital and even these did so on a monthly rotating basis. In subsequent years as the city grew, other physicians joined the staff and the hospital expanded in size. Only during the last two decades of the nineteenth century, however, did the medical profession become more formally involved in the development of the hospital.²⁴ By 1890 the staff had grown significantly to include four physicians, four surgeons, three associate physicians, three assistant surgeons, three specialists, one medical superintendent and five medical officers.²⁵ Toronto General experienced a similar evolution. Although built in 1819, it was not occupied until 1829.²⁶ From these auspicious beginnings the hospital grew slowly and only received the full and active involvement of the medical profession in the latter decades of the nineteenth century. By 1854, for instance, though supporting an operating theatre, a post mortem room, an abdominal section and an eye/ear infirmary, the hospital was serviced largely by a small attending staff.²⁷

On the local scale, the evolution of Ottawa's hospitals differed little from other parts of the country. The earliest

hospitals were built solely to accommodate the victims of the severe cholera epidemics which struck Ottawa periodically throughout the first half of the nineteenth century. One such hospital was built in 1832 on the present site of the Mint.²⁸ Having served its purpose, however, it was closed in 1834. The description by Ross (1927) of the fate of this hospital suggests that the early population of Bytown and particularly the Community's medical profession, must have had a very limited view of the usefulness of hospitals;

'(It)...was a small wooden building situated on the bank of the river near the terminus of the Ottawa and Prescott Railway; being built in 1832 and intended for the use of cholera patients only. Subsequently it was allowed to go to decay and ultimately to be torn down for firewood by squatters in the area.'²⁹

Further evidence of this limited view is seen in the development of the community's first permanent hospital. In 1845, a charitable group, the Sisters of Mercy in Montreal were requested to move to Bytown in order to treat the ill, teach children and to establish a hospital.³⁰ In 1846 a building to temporarily house the General Hospital was built on St. Patrick Street (see figure 4.1a for street location - foldout in back pocket). For many years, however, and similar to its counterparts in other Canadian cities, its patients were largely restricted to the poor and disadvantaged and those afflicted by contagious diseases. In 1850, for instance, when the permanent building on Bruyère Street had been completed, the structure was known as the 'Immigrants' Hospital, a name referring to the principal clientele of the institution.³² Support for the institution by both the medical profession and the community continued to be limited well into the latter half of the nineteenth century. Though containing 60 beds and supported in part by a government grant of over \$6,000, the hospital, in 1890, was served by only a small attending staff.³³

The other major Ottawa Hospital during the period was Carleton Protestant Hospital (Plate 3.1) which was originally located on the corner of Wurtemberg and Rideau Streets in 1851 and later moved to the northeast corner of Charlotte and Rideau Street in 1871. First incorporated in 1849 by a group of Protestants concerned with the largely Catholic administration of the General Hospital, the Carleton Protestant was formed by provincial grants and voluntary subscriptions.³⁴ The medical profession, however, provided only limited support and, similar to the General, most of the patients were the poor and diseased. Although other medical services were performed, most treatments were unsophisticated and often involved simply keeping the patients comfortable and ensuring that they were isolated from the rest of the community until the disease had run its course. By 1890, however, the hospital's facilities had expanded to support 80 beds. Its medical staff, on the other hand, though substantially larger than was the case in 1871, was still limited to a small number of consulting and attending physicians. Only one full time house surgeon was on staff.³⁵

Other Ottawa hospitals had similar roots and followed a similar evolution. St. Anne's hospital, originally located behind the Ottawa General, had its beginnings as a contagion hospital and, in 1879, was moved to an isolated area on Charlotte Street near Henry Street (see figure 4.1a for street locations - foldout in back pocket).³⁶ The generally negative view of hospitals, however, was reflected in the community's attitude to St. Anne's, particularly as the residential sector in the area began to expand in its direction. As explained by Ross (1927); 'The people in the neighbourhood objected to it and burned it down...'³⁷ Strathcona Hospital and Hopewell Hospital are additional examples of hospitals which were originally established to treat the diseased or those suffering from epidemics.³⁸ The former hospital was built for the

sole purpose of curing contagious diseases such as dyptheria, scarlet fever, and the latter was established to treat small-pox victims. All of these hospitals were intially supported by charitable organizations or religious orders and eventually by provincial and municipal grants. The House of Mercy Lying-In Hospital, which was opened in 1879, was originally administered entirely by the Les Soeurs de Misericorde de Montreal.³⁹

By the end of the nineteenth and the beginning of the twentieth century, the medical profession became more heavily involved in the hospital. Though the number of full time staff remained small, the number of attending and consulting physicians increased. Presumably the increased sophistication of the facilities offered in the newer twentieth century hospital, the more accepting view held of the hospital by the public and the greater diversity in the services provided by a hospital would lead to a closer relationship between the physician and the hospital. In the early period doctors had little need to locate close to a hospital. By the early twentieth century, however, the question of proximity to a hospital may have affected the location decisions of at least the consulting and attending physicians. In the 1890's, for instance, the attending and consulting physicians to the General Hospital might be expected to have located close to that hospital. Similarly, attending physicians to the Protestant Hospital would be expected to have located close to that hospital. The investigation of their actual locations, which will be discussed in a later section, should reveal the degree to which this relationship is accurate.

3.4 Public Health Servies and the Location Decision

Although previous sections have established that the Canadian medical profession had matured substantially by the end of the

nineteenth century, its involvement with various segments of Canadian urban society has yet to be demonstrated. For instance, did late nineteenth century physicians respond equally to the medical needs of both the poor and the wealthy? Were they concerned with the overall health of the community through rigorous participation in public health programmes or were they generally apathetic? In order to gain further insights into the nature of the profession (apathetic versus active), and the relationships between the profession and the community (for example, the community's perception of the medical practitioner's role in the development of public health programmes), it is necessary to understand the degree to which they exercised their civic responsibility through the encouragement of public health programmes.

Prior to 1867, the medical profession had little impact on government involvement in the administration of public health. The inability of doctors to recognize the link between filth and disease (e.g. open sewers, squalid living conditions), was one reason.⁴⁰ Generally, a lack of professionalism contributed significantly to the lack of influence by doctors in government policy making circles. Government itself, which was largely indifferent to public health matters, turned a deaf ear to the warnings of the small number of individual physicians who, without an organized professional body to support them, presented their views in vain. Heagerty (1940) has suggested that Government's involvement with public health, similar to its approach to the establishment of hospitals, was largely based on its overriding concern for the control of contagious diseases.

'Only ad hoc arrangements were made to control the outbreak of communicable diseases...(generally) public health consisted to a great extent, in enforcing legislation which was, in the main, created for the purpose of controlling the spread of epidemic diseases.'⁴¹

In order to control the frequent outbreak of cholera epidemics, the government created temporary Boards of Health which were charged with the responsibility of cleaning up living conditions in many Canadian communities. Though cholera was later proven to have been transported through contact with afflicted persons, many physicians originally believed that the disease stemmed from filthy living conditions.⁴² Though not necessarily controlling the spread of epidemics, the policy to clean up the environment did contribute to an improvement in the health of many.

The nature of these Boards of Health and the participation of the medical profession in both their establishment and the development of the policies which created and governed them, demonstrated clearly their lack of influence, organization and concern.⁴³ By 1847, although 75 Boards of Health had been established across the country, most were only temporary in nature and, as explained by Bilson (1975), were 'short-lived and had little impact on the condition of the towns of Canada.'⁴⁴ They were often composed of laymen who were poorly equipped to deal with the health problems of their respective communities. Moreover, because the poorer areas of a community often required the greatest attention to sanitation, their inhabitants were often harrassed by the Boards.

'...they were the ones who were inspected, sometimes ordered to clean up houses they did not own, told to get rid of the pigs they relied on for food, and carried off to a hospital when ill.'⁴⁵

Little wonder, therefore, that many poorer citizens held little regard for the Boards and even less regard for any physician who might have been associated with them. A particularly vivid example of how the lack of a properly designed and implemented public health policy hurt an otherwise well established relationship between a community and a member of the medical profession occurred in Quebec near the end of the nineteenth century.

From 1875 to 1885, the province was repeatedly affected by small-pox epidemics and, in one year, 1880, 140 persons died in Montreal alone. According to Heagerty (1940) the contributing factor behind this high death rate was the French Canadian reluctance to be vaccinated...;

'...owing to the occurrence of severe ulcerations, some of them possibly of syphilitic origin, which followed vaccination. This antagonism was fostered by several of the leaders of the French Canadians and notably by a well-known French physician, Dr. Coderie. The antagonism towards vaccination became so intense that riots frequently occurred, the troops were called out and, as a result, compulsory vaccination could not be carried out.'⁴⁶

The resentment against members of government and, presumably those members of the medical profession who supported vaccination, was only corrected through the establishment of a provincial health board in 1886.⁴⁷ This board used both religious and educational channels to convince the population of the need for vaccination. By the 1890's, although the death rate had dropped significantly, the populace had already been introduced to a divided medical profession and a government incapable of developing and implementing an effective health policy.

Equally disturbing was the observation that the Quebec Board of Health was not established until 20 years after the province was first officially given the responsibility for its own health matters, through the British North America Act. This was not an isolated case and suggests that both government and the medical profession had little concern for ensuring that the living conditions of the Canadian population, particularly those existing in towns and cities, were supported by the provision of proper sanitation conditions, a clean water supply and a well designed education

programme promoting hygiene and sanitation. In Ontario, for instance, the Health Board was only created in 1882 and charged with;

'collecting and disseminating sanitary information, health legislation, investigating the causes of disease, dealing with outbreaks of diseases, dealing with food and drink supplies, school hygiene and the supervision of the sanitary conditions of public institutions.'⁴⁸

Not until 1885, however, was the Board granted the power to supervise and ensure clean water supplies and adequate sewerage.⁴⁹

On the federal level, the British North America Act restricted the federal government's jurisdiction to 'quarantine and the establishment and maintenance of marine hospitals'.⁵⁰ This limited responsibility and the acknowledgement that most health matters were a provincial concern, probably accounted for the relatively poor commitment by the federal government to health policy.

The insignificance of early federal health programmes is clearly demonstrated by its stature within individual government departments. Through the early years of its development, the programme was passed from the Department of Agriculture to the Marine and Fisheries Department and eventually to the Department of Inland Revenue. Finally, however, by the early twentieth century, the growing concern for a fully recognized national health programme, which was promoted by the now matured Canadian Medical Association, led to the passage of the Canadian Medical Act in 1912.⁵¹ Seven years later the Federal Government expanded the health programme into a fully established Health Department. Among its responsibilities were: the continued control of quarantine, the control of immigration, the continued treatment of marines, the control of the quality of food and drugs, the regula-

tion of the distribution of drugs, the control of venereal disease, and, with the co-operation of the provinces, the management of child welfare. After several reorganizations, the present Department of National Health and Welfare was established in 1944.⁵²

The provision of public health services in Canada was limited during the period prior to the First World War. On both the national and provincial levels, the development of a health policy was slow and poorly implemented. It is known, for instance, that it was not until the early 1900's that effective measures were taken for the improvement of sanitation and the provision of safe drinking water.⁵³ Lack of commitment by provincial and civic officials and, most significantly, the apparent indifference of the medical profession contributed to the slow development of an effective health programme.

At the local level the civic health authority was originally a lay office. Only much later was a medical practitioner required. He faced a number of difficult challenges in his efforts to implement a health programme. First, he had to deal with a civic administration which was generally indifferent to the idea. Second, he had to face a populace who, mostly through apathy, was reluctant to participate in a health programme and third, he had to recognize and accept that few of his colleagues would actively support him.⁵⁴ Quite simply, the medical health officer lacked the 'clout' to ensure that his recommendations were carried out. An example of the weakness of the health officer's position and the general apathy of both the medical profession and civic officials, is demonstrated in the evolution of public health services in Ottawa.

When Bytown established its first Board of Health in 1832 to check the spread of cholera, the community's medical profession

remained indifferent.⁵⁵ The Board, composed of laymen, and charged with preventing affected immigrants from landing at the city dock was quickly disbanded once it had served its purpose. When another epidemic, in this case typhoid, affected the city, a temporary board was again created. Its members, similar to its predecessor, were laymen interested only in dealing with the immediate problem of the epidemic.⁵⁶ In fact most were interested only in dealing with the problem if it affected the more wealthy and influential areas of the town. Poorer areas were often neglected altogether.

Efforts to create a permanent Board of Health also met with little support from the medical profession. In 1850 a proposal to establish such a board was dropped when council learned it would have to defray the costs.⁵⁷ The establishment of a provincial Board of Health finally forced the city, in 1886, to create such a board and appoint a medical health officer.⁵⁸ The sanitation programmes suggested by the medical health officer, however, were often met with indifference and were rarely carried out.

The Board's failure to fully exercise its responsibilities and communicate its recommendations continued well into the early 1900's and largely contributed to the particularly severe outbreak of typhoid which was experienced by the city from 1911 to 1912.⁵⁹ Although the chief cause of the epidemic was blamed on a broken water intake pipe in the Ottawa River, the underlying cause was '...procrastination over the choice of a safe water supply, and complacency about the health problem posed by the lack of one.'⁶⁰

Although the municipal government and the medical board may be blamed for the lack of an effective health programme, the city's medical profession in general must also be held accountable. If it had only recognized the need for such a programme and organized

itself into a lobby to promote its implementation, civic officials would have had to respond more positively. It is suggested, therefore, that although individual physicians may have recognized the need for a programme and although the profession had grown and increasingly defined itself (particularly in the later years of the study period) it had yet to mature into a professionally close knit group capable of forging strong links with the policy makers in the municipal government. As a result, involvement in civic affairs through the promotion of public health services, was probably not a factor affecting the location of physicians' practices. Seemingly, both government and individual doctors viewed the practice of medicine as a one-on-one relationship, perhaps articulated by the ability to pay although, in fairness, the lack of professional clout may simply have frustrated many well intentioned individuals. This lack of civic responsibility, however, also suggests that the establishment of a practice in a disadvantaged section of the city (i.e. maximizing feelings of civic responsibility through the provision of services to the poor) was not a strong motivating factor behind a physician's decision to locate. It would seem that conveniently located and municipally supported clinics benefiting the poor and staffed by physicians unconcerned with profit did not exist as they do today and if they did, did not enter the decision making process of doctors with respect to location. The degree to which physicians were underrepresented in poorer areas of the city, will be tested and described in later chapters.

3.5 Specialization and the Location Decision

The medical profession, as it exists today, supports an extremely complex hierarchy of prestige and class. The levels in the hierarchy are often based on the specialization of the physician.

Heart and brain surgeons, for instance, normally hold positions of higher prestige than the general practitioner. The market for their skills covers a larger area, their salaries and influence often vary considerably, and their working environment and needs differ greatly. Based on these differences their decision-making behaviour with respect to location varies substantially. Heart surgeons, for instance, might tend to consider their wide market area, their access to a hospital and equipment, their high salaries and sense of status and possibly even their access to research facilities when considering a location decision. General practitioners, however, by the nature of their work, might be much less affected by these criteria and might be expected to respond to a different set of criteria (i.e. their ability to afford a particular office, proximity to their patients, access to their home).

By the late nineteenth century and early twentieth century the medical profession was relatively well defined and mature. A question of some interest, however, was the extent to which the medical profession was affected significantly by the stratification which would likely result from specialization? Presumably if the profession was represented by large numbers of specialists then the identification of common decision-making criteria would be difficult.

The purpose of this section, therefore, is to provide insights into the degree to which specialization had taken hold in the medical profession in late nineteenth century Canada. In fact throughout most of this period, specialization never assumed a strong role in the profession. Only in the rare individual case, did some physicians choose to concentrate in one area of expertise.⁶¹ Among the earlier of these 'specialists' were Dr. J.E. Graham, a dermatologist from Toronto (1860's) and Dr. A.M. Rosenburg, an

eye, ear and nose specialist who, in 1863, opened the eye and ear infirmary at Toronto General Hospital. In 1867, a Dr. R. Andrews of Toronto, listed himself as a specialist in ophthalmology. Until the early 1900's, however, most physicians remained as general practitioners. They were experienced to varying degrees in a wide variety of medical techniques. 'The formation of specialities began very gradually and even the division between medicine and surgery remained indistinct until well on into this century.'⁶³

Surgery, in fact, consisted largely in the treatment of wounds, bone setting and amputations. Operating on the internal organs was not practised. Even with advancements in medical science, and the appearance of anaesthetics and x-rays, the distinction between surgeon and physician did not fully develop until after the first world war.⁶⁴

The major factor contributing to the lack of specialization may be traced to the nature of the profession as it existed at this time. In order to become specialists, physicians had to know substantially more about a particular field than their colleagues. The achievement of this knowledge could only come through research and study both of which were often impeded by the lack of facilities for clinical research and the heavy case load of physicians.

Similar to the rest of Canada, Ottawa supported a very small number of specialists during the study period. Based on calculations made of information obtained from the city directories, the number of 'eye, ear, nose, and throat' specialists rose from one in 1895 to six in 1900, and dropped slightly to five in 1905 and four in 1910.⁶⁵ Those practising in 'diseases of women and surgery' rose from one in 1900 to three in 1905 and five in 1910. One 'homeopathic' physician was identified in each of the years 1900

to 1910. One physician practising in 'gyneecology and abdominal surgery' was identified in the 1905 directory.

Whether all were in fact specialists was difficult to say because the only source was the city directory. It may be argued for instance that in order to elevate their status many physicians had listed themselves as, for instance, 'eye, ear, nose, and throat' specialists when, in fact, they were really general practitioners.

In Ottawa, and presumably in other communities of similar size, the number of specialists was relatively insignificant relative to the total population of physicians in the city. Specialization, as a result, was not considered to be a major force affecting the decision by most physicians to locate in a specific area of the city.

3.6 Discussion

The gradual increase in the strength, profile and influence of the Canadian medical profession in general throughout the study period corresponded to a steadily increasing uniformity in the manner in which physicians were trained and responded to certain decision making forces.

By 1915, physicians would seem to have become an integral part of Ottawa's society, and, though not necessarily an influential elite within city, perceived themselves as having some status within the society. The gradual improvements in the responsiveness of the public to the medical profession throughout the study period also suggests that physicians might have tended to locate in areas having some proximity to their patients. On the other

hand, they were not thought to be as concerned with establishing their practices in proximity to the city's hospitals. Only those physicians who had assumed the positions of attending or consulting physician could be expected to locate in proximity to these hospitals.

Specialization was not considered to be a major factor at this stage in the development of Ottawa's medical profession. The existence of a large number of specialists would have affected a physician's decision to locate and would have altered the conclusion that physicians respond to a given set of processes in a uniform manner. Based on the evidence, however, the impact of specialization was insignificant and presumably had little effect on the location decision.

The influence of medical schools is difficult to establish. To conduct such an investigation would have required access to university records and the identification of the alma maters of each physician practising in Ottawa. Such an exercise was felt to be beyond the scope of the current research. As indicated, however, it was felt that Ottawa's proximity to a number of highly regarded medical schools could have ensured an adequate supply of well educated physicians. More importantly, most of these physicians were equally well qualified, having passed through a medical education system designed according to relatively standardized specifications.

Generally, therefore, on an increasing scale from 1875 to 1915, physicians perceived themselves, with growing confidence, as a professional group of individuals deserving of a community's respect and equipped with a common set of ideals and views regarding their role within the community. Though still not fully equipped with all the necessary tools and techniques with which effective

medical treatment could be provided, several medical advancements had contributed to an improved patient-doctor relationship.

The transition to the establishment of a well defined profession within the city was very gradual. Consequently, the common forces affecting the location decision in 1875, were much more clearly defined and pronounced in 1915. As demonstrated in later sections, these forces included the need by physicians to reflect their professional status, the need to maximize accessibility to their patients and the need to establish themselves in a building which would accommodate both an office and a residence.

By 1890, and on an increasing scale thereafter, Ottawa's medical profession appeared to have shared a common set of values with respect to its place both in the profession at large and within the city society itself. Generally, based on the work of the Canadian Medical Association, which led to the formation of the profession and the establishment of a stricter, more universal set of qualifications, the profession had risen in stature with respect to society and, with time, had developed a common set of standards according to which most physicians adhered.

FOOTNOTES

- Chapter 3 -

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Chapter 4

THE CITY OF OTTAWA: 1875-1915

4.1 Introduction

The 'professional' forces affecting a physician's decision to locate cannot be understood in isolation from those forces inherent in the growth and changing nature of the urban environment. How did the physical expansion of the city affect the location decision? How did changes in population density and distribution influence the decision and to what degree did this influence dominate other criteria? Generally, how did the changing characteristics of city growth and expansion affect a physician's decision to locate?

Ottawa, during this period, changed from a medium-sized single function lumber town to a mature multi-functional city.¹ An understanding of how this occurred is necessary to an understanding of how and why the distribution of physicians changed as it did. For instance, during the early years of the study period, were physicians scattered indiscriminately throughout the city or did they group themselves into particular areas? If segregation occurred was it in the form of a single core area or multiple cores, distinct from each other? Did the city, as it evolved, influence these initial patterns or did they remain relatively static? If the patterns changed, then to what degree did various city forces influence the change? Did these same physicians respond in a uniform manner to a given set of 'city forces'? Before this and other questions can be answered, an understanding of the city forces and how they operated must be gained.

The prime intention of this chapter is to demonstrate that Ottawa had matured from a small single function town supporting a very small business core, to a relatively large multi-functional city capable of supporting a large complex business and government structure, complete with a wide variety of services (Plate 4.1). Secondly, the chapter seeks to establish when this occurred.

The rise and fall of the lumber industry, the relatively late but dramatic growth in the influence of the Government, the increase in significance of Sparks, Rideau and Bank Streets as business thoroughfares, and the gradual development and incorporation of several important services, were all thought to have contributed to the evolving nature of the city. Undoubtedly, they must also have contributed to the location decision made by members of Ottawa's medical profession. It would seem, therefore, that just as the pattern of urban development and function became more easily defined as the city matured so the patterns of physician location became more easily defined. We might therefore expect that the locational patterns of Ottawa's early medical practitioners would be scattered and poorly defined. In later years, however, when discrete city areas sharing common yet distinct attributes were found, the locations would be more spatially ordered, easily delimited and more directly relatable to particular attributes associated with individual city areas.

A study of Ottawa's political expansion contributes greatly to the identification of those time periods in the city's history when growth was either at its most dynamic or at its most stable. Such an understanding contributes to a much greater appreciation of how the structure of the city at various time periods, might have affected the members of the medical profession in their decision to locate. The changing city economy, the evolving

(A) Rideau Street, Ottawa, 1875, National Photography Collection, Public Archives Canada, PA12540

(B) Ottawa River and the lumber Mills looking west from the West Block, Parliament Buildings, 1878, National Photography Collection, Public Archives Canada, C 6589

(C) View of Ottawa from the Parliament Buildings, 1892,
National Photography Collection, Public Archives Canada
C 26216

(D) Byward Market York Street, Ottawa 1905, National Photography
Collection, Public Archives Canada, C1323

(E) Sparks Street looking East from Metcalfe Street, Ottawa 1905,
National Photography Collection, Public Archives Canada
PA 42268

(F) Bank Street, corner of First Avenue, Ottawa, 1907,
National Photography Collection, Public Archives
Canada, PA 42268

(G) Sparks Street, Ottawa, 1909, National Photography Collection, Public Archives Canada, PA 9592

(H) Ottawa looking East from Parliament Hill, Ottawa, (1915?) National Photography Collection, Public Archives Canada, PA 34018

transportation network, the growth in population, the fragmentation and delineation of city areas and even the maturing culture of the city can all be expected to have had some impact on the location decision. The understanding of how these factors evolved and at what point they came together and actually transformed the town of Ottawa into a mature well established city will provide the basis upon which a more effective investigation of the location decision can be made.

Figure 4.1 A (see back pocket for fold out) describes the streets and areas which formed the city during the study period. Although the cartographic information pertains to Ottawa in 1915, is also used to reference streets and areas described for earlier years of the study period. For the purpose of this research and in order to define the organizational fragmentation of the city which is explained in this chapter, the city itself has been divided into nine areas (Figure 4.1B). Each area was defined in terms of such factors as economy, function, population, class and transportation, and delimited in accordance with such man made or natural boundaries as the Rideau River, the Ottawa River, the Canal and the railway network. The areas form the background upon which the forces affecting the location of physicians can be more clearly examined.

The first area, New Edinburgh, was bounded by the Rideau and Ottawa Rivers to the north and west and Beechwood Avenue and Rockcliffe to the south and east. The area, one of Ottawa's first suburbs, contained mostly middle class residences first built in the 1860's and 1870's.²

Lower Town was bounded by the Rideau and Ottawa Rivers to the east and north, and Rideau Street to the south. Comprising

J. Holt, Federal District Plan for Ottawa and Hull, 1915 (Ottawa: Federal Plan Commission, 1915)

mostly poor to middle class residences in 1915, this very old district, supporting a high density of population (Figure 4.4) was served, throughout the study period, by a series of mixed retail residential corridors along Rideau, St. Patrick, and Sussex Streets. Much of the district's local social and economic activity focussed on the market area.³

Sandy Hill was bounded by Rideau Street to the north, the Rideau River to the east and south, and the canal to the west. An older area of generally middle to higher class residences, Sandy Hill was, after 1893, well serviced by the electric street railway system which linked its citizens to the downtown core.⁴

Mechanicville was bordered on the north by the Grand Trunk railway yards and lumber mills, on the west and south by the Grand Trunk railway lines and on the east by Bronson Avenue. A small traditional area of high class residences was located to the north near the lumber mills while an area of poorer residences, generally built after 1885, was located to the south. The area generally supported a medium to high population density (Figure 4.4), particularly after 1905. After 1890 it was served by two electric street railway lines, one running south along Preston Street from Albert Street and a second along Somerset Street.⁵

The Glebe, which was only first developed in the 1890's, was bounded by the Grand Trunk Railway line to the north, the Canal to the east and south and Bronson Avenue to the west. By 1915, a generally 'low' to 'medium' density of population was supported in the area. A single street railway line, built along Bank Street in 1893, serviced this area of mostly high class residences.⁶

Ottawa West, first developed in the 1890's, was bordered by

the Ottawa River to the north, the Grand Trunk Railway to the east, the Experimental Farm to the south and the city limits to the west. An area originally supporting a generally 'low' density of population, Ottawa West comprised mixed poor to middle class residences and, by 1913, a small retail sector along Wellington Street. The area was served by two electric street car railway lines, one along Wellington, Byron and Richmond Streets, the other along Holland Avenue.⁷

Ottawa South, which was also first developed after 1900, was bordered by the Rideau Canal to the north and west, and the Rideau River to the south and east. In 1915 this district generally supported a low density population (Figure 4.4) living in middle class residences. The Bank Street line connected the residents with the downtown core and other districts of the city.⁸

Ottawa East was bounded by the Rideau Canal to the west, the Rideau River to the east, and the Grand Trunk Railway to the north. Consisting of middle class residences in 1915, the district was not served by an electric street railway line and supported a generally low density of population (Figure 4.4). The area was first developed after 1900.⁹

Centre Town was bounded by the Rideau Canal to the east, the Rideau River and the Parliament Buildings to the north, Bronson Avenue and the Chaudiere lumber mills to the west and the Grand Trunk Railway lines to the south. The medium and high class residences which were located in this area in 1915 were supported by a series of retail corridors along Wellington, Sparks and in later years of the study period, Elgin, Queen, Albert and Bank Streets. Development of the area had been from north to south beginning in the north with the construction of mixed residential

retail structures in the 1830's and proceeding to the south with the construction of residences around Laurier Avenue in the 1880's and around Somerset Street in the early 1890's followed by the establishment of several residential and industrial structures near the Grand Trunk by the late 1890's. The area was extremely well served by a number of horse drawn and, later, electric street railway lines.¹⁰

4.2 City Development 1820-1915

As the canal was one of the primary reasons for the establishment of the town it was natural that the first buildings were constructed in close proximity to the construction site.¹¹ In 1826, the town supported two stores, one stone building, three square timber houses and a few log cabins. After three years, however, and in response to the stimulative effects of the canal's construction, the town had enlarged to over 140 houses.¹² A tract of open land, which belonged to Nicholas Sparks divided Upper Town from Lower Town. This land, which significantly hampered communication between the two centres, was not opened to development until after 1845.¹³

By 1834 development had occurred along several major transportation arteries including the north side of Rideau Street as far as Nelson Street, both sides of Sussex as far as St. Patrick Street and, to a lesser extent, parts of York, George, Murray, Clarence, and St. Patrick Streets as far as Cumberland.¹⁴ In Upper Town, the centre of development focussed on the area bounded by Wellington, Victoria, Lyon and Kent Streets. The 'Tale of Two Cities' scenario had already been established by this time because of the divisive effects of the canal and the open tract of land which existed between the two centres. With respect to business activity, for

instance, a continual competition for commercial supremacy eventually developed between Upper and Lower Town which was only somewhat tempered by the so-called Great Depression of 1875-1890, affecting all of Canada.¹⁵ Continued fragmentation of the city was the rule rather than the exception as was the case when in later years other divisive forces carved out and isolated various areas of the city. The two solitudes represented in Lower Town and Upper Town, however, were the most significant examples of this segregation and one which had dramatic effects on the location decision made by the medical profession.

By 1845 the town had expanded to include 601 houses, three sawmills, one grist mill, fifty-one stores and one brewery.¹⁶ Bytown was officially incorporated as a town in July, 1847 and in 1855, after changing its name to Ottawa, became a city.¹⁷ Lower Town was composed of the three wards of By, Ottawa, and St. George; Upper Town of Wellington and Victoria wards. By 1861, the number of dwellings in the city had increased to 2,104 and, reflecting the significant growth of the timber industry, supported twelve sawmills.¹⁸ Although a woollen mill, three breweries, a tannery, and a foundry were also established, the city had evolved from a military outpost responsible for the construction of the canal into a one-industry timber town.²⁷ The timber trade was an important stimulant to population growth.¹⁹ From 1830 to 1841, for instance, which was a period of substantial growth in the lumber trade, Ottawa's population grew from 2,171 to 3,122, nearly a 35 percent increase. By 1846, this figure had increased to 7,000.²⁰

By the mid-nineteenth century however, a partial collapse of the industry occurred as the result, in part, of the removal of most of the large pine trees in the Ottawa Valley. This situation was reflected in the decline of the population to less than 5,000.²¹

In order to adjust to this poorer economic climate, the sawmill industry was established, stimulated by the needs of the United States for lumber to build its expanding cities. This new market coupled with the arrival of such powerful entrepreneurs as Booth, Bronson, Baldwin, Potter, Rochester and Young accelerated the growth of the industry.²² The efforts of these men, some of whom were among the most enterprising in North America, led to the establishment of sawmills at both the Chaudière and Rideau Falls, resulting in the development of a timber industry of considerable strength and influence.

In spite of this tremendous industrial growth, however, Ottawa's physical size, in 1875, did not extend much beyond Sandy Hill and Lower Town in the east, the Chaudiere Falls area in the west, and Somerset Street in the south. The small central business area was divided by the Rideau Canal and had, as its focus, the corner of Sparks and Elgin Streets. Residential areas covered a far greater area in Lower Town and Sandy Hill than they did in Upper Town.²³ The large industrial area identified around the Chaudiere Falls was occupied by the giant lumber mills owned by Booth and, by now, the famous Ottawa 'lumber barons'.²⁴

Aside from Trotman's work on the Central Business District in Ottawa, little descriptive information exists concerning the physical extent of the city through the period 1870-1880.²⁵ From Trotman, however, it appeared that the city's spatial growth had stabilized to some degree (Figure 4.2). By the late 1870's, for instance, it was reported that 'Ottawa did not extend much beyond Bank Street and Maria (Laurier Avenue)',²⁶ Elgin Street, which ended at Lisgar Street, had only just been extended to Lansdowne Park. Stewarton, which was one of Ottawa's first suburbs, was just being developed in the late 1870's and New Edinburgh, a small

Ottawa

1878

one inch = 1/2 mile

Fig. 4.2 Ottawa: 1878

— streets

J. Trotman, "An analysis of land uses in Ottawa, 1878", unpublished M.A. thesis, Carleton University, 1977, p. 11.

community separated from Lower Town by the Rideau River, had only just begun to thrive as a relatively affluent residential district.²⁷ The relative stability of the period was reflected in the growth of the population. Compounded by a general nation-wide depression, the population of the city actually declined during the latter half of the decade from 25,471 in 1876 to 23,789 in 1879.²⁸

After 1880, however, the city expanded substantially as it formally annexed its surrounding suburbs; first to the east and then, to a much greater extent, to the west (Figure 4.3). In 1887 New Edinburgh (174 acres) was annexed as a separate ward and two years later an additional 148 acres to the east was annexed and attached to the ward. The name of the entire ward was subsequently changed to Rideau Ward.²⁹

In the same year the city turned to the west and incorporated an area fully one-third its own size (Figure 4.3). Reflecting the western direction of its growth, the city annexed 1,216 acres of Nepean Township including Stewarton, Rochesterville, Mount Sherwood and Orangeville.³⁰ In order to more properly manage its size, which by now exceeded 3,550 acres, the city was reorganized into eight wards: By, Central, Dalhousie, Ottawa, Rideau, St. Georges, Victoria and Wellington.³¹ This substantial one-time acquisition of land would not be exceeded again before the end of the study period. In fact a full eighteen years passed before another land acquisition was made. The significance of this time period (i.e. 1880-1890) was also reflected in the change in population. Although with respect to the study period, Ottawa, from 1871 to 1889, experienced the smallest increase in population growth, the largest increase was experienced between 1881 and 1891 when the population grew a full 72 per cent. The momentum created by this tremendous surge in population was carried on into the next two decades when the population nearly doubled (see also Figure 4.4).³²

Ottawa

one inch = 1/2 mile

Fig. 4.3 Ottawa: Annexations 1875-1915

boundaries

J. Holt, Federal District Plan for Ottawa and Hull, 1915, (Ottawa: Federal Plan Commission, 1915)

Fig. 4.4 (A) Ottawa: Population Distribution 1880

J. Holt, Federal District Plan for Ottawa and Hull, 1915, (Ottawa: Federal Plan Commission, 1915)

Fig. 4.4 (B) Ottawa: Population Distribution 1890

J. Holt, Federal District Plan for Ottawa and Hull, 1915, (Ottawa: Federal Plan Commission, 1915)

Fig. 4.4 (C) Ottawa: Population Distribution 1900

J. Holt, Federal District Plan for Ottawa and Hull,
1915, (Ottawa: Federal Plan Commission, 1915)

Fig. 4.4 (D) Ottawa: Population Distribution 1910

J. Holt, Federal District Plan for Ottawa and Hull,
1915, (Ottawa: Federal Plan Commission, 1915)

Fig. 4.4 (E) Ottawa: Population Distribution 1913

J. Holt, Federal District Plan for Ottawa and Hull,
1915, (Ottawa: Federal Plan Commission, 1915)

A closer examination of how this population was distributed revealed several interesting patterns (figures 4.4 and 6.1). In 1880, just prior to the surge in growth of the population, both Lower Town and Sandy Hill were well populated. The Centre Town area, however, had a relatively low density of population while Ottawa West was virtually unpopulated. By 1890, however, while the populations of Lower Town and Sandy Hill remained relatively static, Centre Town experienced a substantial growth in its population which was reflected in a higher population density. A substantial increase in the growth of the city's population to the west was reflected in a higher density in this area. By 1900, the population distribution in Centre Town had shifted to the south. The density of population, however, remained relatively static throughout the city except in the area of central west Centre Town where it increased significantly. The direction of population growth to the west and south would resume after 1910 and continue in emphasis until after 1920. Throughout these latter years of the study period, Centre Town would continue to support a high density of population. Overall, however, Lower Town would, as it always had, continue to support the highest density of population in the city.

How did the nature of a changing population affect the decision by a physician to locate? If, as has been suggested, a physician was concerned with maintaining a close patient-doctor relationship, then he might be expected to locate in proximity to areas of high population density. Consequently, by 1915, he could be expected to locate in greater numbers in Lower Town than in Centre Town. On the other hand, if, as it will be suggested, he is concerned with reflecting his status as a professional, then he might be expected to locate in the more affluent areas of the city, irrespective of population density. The degree to which a

physician responds to the need to serve all or only parts of society and the degree to which he responds to his financial status will be established later.

During the last two decades of the nineteenth century, the city also experienced a major change in its economic focus. From a community chiefly dependent upon the lumber industry, the city slowly began to accommodate and respond to the growing influx of government civil servants. The evolution to a multi-functional city had begun. While the 19 sawmills established along the Ottawa River continued to form the basis for the city's economic growth, the growing civil service, with its own economic and social needs as well as its own contributions, was beginning to take a role in this growth.³³

Ottawa's function as a government town stemmed from Queen Victoria's decision, on December 31, 1857, to name Ottawa the capital of Canada.³⁴ Two years later construction of the Parliament Buildings was begun and, in 1865, the first session was held. By 1876 the Library of Parliament had been completed and opened for use.³⁵ Nevertheless, the composition of the civil service in these early years was very small. In 1875 one fifth of the total of 160 civil servants were employed by the Post Office, another fifth supervised the collection of customs and excise revenues and the keeping of government books, another fifth were involved with Public Works and only 15 individuals were connected with militia and defense matters.³⁶ In addition, the Agriculture department and the Secretary of State employed 25 each, the Privy Council, 12, and Justice, only seven.³⁷

Between 1867 and 1885 the growth in the numbers of federal employees was only moderate when compared with the overall increase

in the population of the city during this same period. While the population grew by over 200 percent, only 400 individuals were added to the civil service.³⁸ Reflecting the slow increase in the civil service, the government saw no need to expand beyond the confines of Parliament Hill. Even the Langevin Block, which currently holds the Prime Minister's offices alone, and which was the first federal building located off 'the Hill'; was considered sufficient for government needs until early into the twentieth century. After 1900, however, and in response to a sudden expansion in the civil service, a number of government projects were begun resulting in the construction of the Royal Observatory in 1903, the Public Archives Building in 1907, the Connaught Building in 1913, and the Geodetic Survey Building, also in 1913.³⁹

Although the lumber industry itself declined after 1900⁴⁰, the conversion to pulp and paper and the expansion of this industry served to sustain the steady growth of the city's economy and population. Lending stability to this growth and increasing in scale even more dramatically than the pulp and paper industry was the federal public service. After 1900 the size of the civil service had begun to increase substantially and in 1912 it was reported that;

'the present number of officials and employees in Ottawa, not including those engaged in local post offices, local customs houses, the museum, mint, etc., is approximately 6,000.'⁴¹

Both industries, together contributed to the 50 per cent increase in the city's population during this time.⁴² Supporting this growing population was a substantial commercial sector which had grown up around the Sparks Street and Rideau Street corridors. After 1880, although Sparks, Sussex and Rideau Streets were still dominant as commercial thoroughfares, Bank Street had also begun to exert its influence.⁴³

After 1890 commercial activity in the city increased dramatically. The general expansion in commercial activity and the rising population contributed to the establishment of department stores which included the five storey J.M. Garland store, (O'Connor Street and Queen Street), the C. Ross store (Sparks Street), the Bryson Graham and Company store (Sparks Street) and the T. Lindsay store (Sparks Street).⁴⁴ In Centre Town, the development was so dramatic that by 1913 the Government had been forced to reconsider its intention to expand into this area because of high property values and possible interference with long established businesses, particularly along Sparks Street.⁴⁵

An understanding of the strength of the commercial sector of the city is particularly crucial in terms of the analysis of the location patterns of physicians. For instance, did the growing strength of the business sectors of the city affect the location decision, particularly if physicians tended to associate their offices with their residences? The existence of the Centre Town central business district in 1915, for instance, might have inhibited the establishment of practices in this area.

This growing commercial significance supported by the economic base of lumber and government, set the stage for Ottawa's evolution into a mature city supporting a set of easily identifiable residential, industrial, and commercial sectors, a complex transportation system, a distinct social and cultural fabric and a diverse array of well established services (i.e. postal service, police force, power, water, telephone).

In order to accommodate this expansion, the city began, in 1907, to annex a number of villages and suburbs which were rapidly growing around its perimeters (Figure 4.3). Reflecting the westward

expansion of the population, the city again turned in this direction to make its new acquisitions. In 1907 it annexed Bayswater and Hintonberg (743 acres) surrounding the Royal Ottawa Sanitorium.⁴⁶ In 1911, a 99 acre tract of land called Mechanicsville was also added to the western limits of the city. The only eastward expansion occurred in 1907 when the city annexed Ottawa East, a 429 acre tract of land adjoining the eastern side of the Rideau Canal.⁴⁷ By 1915 the political boundaries of the city had changed dramatically with the greatest changes occurring in the west and, to only a slightly lesser degree, the south (Figure 4.3).

A dramatic affect on the city growth patterns, however, was the evolving transportation network. Its role in the growth of the city was substantial and for this reason has been given separate attention in this research. Railway, road and canal routes were all instrumental in delineating particular sectors of the city, sectors which would later evolve into discrete areas displaying their own unique attributes of class, economy, function, and culture. These areas, growing in response to the dictates of the city's transportation network, each displaying its own unique set of characteristics, would have a profound affect on the medical profession's decision to locate.

4.3 Transportation and the Location Decision

The Rideau Canal, which was completed in 1836, and originally built for military reasons, was eventually used as a transportation route for the conveyance of both people and material.⁴⁸ Generally, the traffic on the canal consisted of barges transporting heavy goods and raw materials or foodstuffs into the city and, to a lesser extent, finished goods out. The heaviest traffic, which usually had the Canal Basin as its terminus, originated from areas

along the Rideau Canal rather than along the Ottawa River. As well as barge traffic, the Canal also supported a limited passenger service which carried people from one community to another. Altogether, 6,000 persons were carried in 1901, and by 1912 over 21,000 people had been transported.⁴⁹

Although the canal had the positive effect of linking the city to its hinterland, it had a negative effect in terms of intra-city communications. Even in the early years of the study period, the canal had been viewed as a significant barrier to communication between Upper and Lower Town. Only one bridge connected the two areas and even after construction of the Laurier Street bridge travel between the two remained poor throughout much of the study period (Figure 4.5).⁵⁰

As late as 1913, for instance, it was recorded that;

'In the business district from Wellington to Laurier Avenue, a distance of over $\frac{1}{4}$ mile, there is no crossing. From Laurier Ave. to Argyle Avenue, a distance of nearly a mile, there is no crossing. From Argyle Avenue to Bank Street, a distance of about $1\frac{1}{2}$ miles, there is no crossing.'⁵¹

The existence of such a barrier substantiates the view that Ottawa was at least two cities, one lying to the east of the canal, the other to the west. In the early years of Ottawa's history, these two areas were known as Upper and Lower Town, both of which developed into distinctly different areas displaying unique cultural and economic characteristics. The western area evolved to include the Glebe and Centre Town, while the eastern area came to include Sandy Hill and Lower Town. Each area, divided by the existence of the canal, eventually grew to support its own commercial (in some cases self-sustaining), residential and cultural components.⁵²

OTTAWA

Fig. 4.5 Ottawa: Canal and Railway Lines 1875-1915

- streets with overhead or subway crossing
- streets with grade crossing
- streets blocked by railroads
- railroads

one inch = 1/2 mile

J. Holt, Federal District Plan for Ottawa and Hull, 1915, (Ottawa: Federal Plan Commission, 1915)

The effects of the canal, however, were further modified by the construction of railways (Figure 4.5). Beginning at the end of the nineteenth century and until 1915, the construction of a railway network both around and within the city, served to restrict the growth of various city areas and to block inter-area communications. The first railway line constructed into the city was built in 1854 and had, as its terminus, a station in New Edinburgh.⁵³ In 1871, in order to service the growing lumber industry at the Chaudière Falls, a second railway line was built to Broad Street. In 1880, the Prince of Wales Railway Bridge was opened above the Chaudière Falls to link both sides of the Ottawa River. Two years later, the Canada Atlantic Railway opened a terminal on the west side of the Rideau Canal at the end of Elgin Street. By 1895, seven railway lines had been built into the city and four stations had been constructed.⁵⁴ The 1890's was a decade of intense railway construction and expansion. The Ottawa Arnprior and Parry Sound Railway, built in 1896, connected Ottawa with Arnprior and, in 1898, the Montreal and Atlantic Railway provided a new shorter route to Montreal. During that same year a new station was built at Nicholas and Mann Avenue to accommodate the Ottawa and New York Railway.⁵⁵ Railway construction slackened into the early 1900's, probably because the city was already saturated with railway services. Most of the period was spent in improving both the track and the access routes to surrounding areas. The Alexandria Bridge, for instance, was built in 1901 to improve the railway link between Hull and Ottawa. Finally, in 1912, Union Station was built to unite several railway lines in the downtown core.⁵⁶

The effects of this railway construction upon the growth and character of the city have been well documented by the Federal Improvement Commission.

'The railways and waterways have cut Ottawa into practically nine sections and Hull into four and are responsible⁵⁷ for much of the lack of order and proper street facilities.'

More specifically, the Commission commented on the degree to which each segment of the city was affected by railway development. To the east it noted that:

'On the east side of Ottawa, the Rideau River, with its lack of bridges, and the Sussex Street Branch of the Canadian Pacific, with its lack of separated crossings, have cut the eastern section into two smaller parts and have successfully⁵⁸ made inaccessible the areas farther to the east.'

Similar consequences were felt in the west where;

'The Prescott Branch of the Canadian Pacific and the Chaudière Bridge of the Grand Trunk, have almost completely separated this central section of Ottawa from the newer development taking place to the west, where⁵⁹ a large portion of Ottawa's future population will live.'

In the centre of the city the commission suggested that;

'The Rideau Canal, together with paralleling railways, cuts Ottawa into two main parts; an eastern one and a central and western one. The Plaza Bridge and Laurier Avenue bridges are the only direct ways of communication between them. This barrier extends as far as Gladstone Avenue, and from that point to Hurdman's Bridge, the railways and industries practically blocking all passage between the eastern and central sections of the city.'⁶⁰

Finally, the commission noted that the southern sections of the city were also affected by railway development;

'The railway barrier, between the Canal and Bronson Avenue, a distance of about a mile and a quarter, is crossed by only two subways and one street at grade. It is a serious menace to human life and...it will restrict and retard⁶¹ the natural expansion of Ottawa in a southerly direction.'

Such segmentation would not normally have occurred if adequate street crossings or overpasses had been constructed. Figure 4.5, the information for which was compiled from Holt, describes these crossings for 1913 and suggests that effective communication between the segments was only possible at a few selected points along the railway lines. According to Holt, these few crossings performed a central role in manipulating the expansion of the city.⁶²

Although the effects of railway development were presumably significant in terms of their potential for forcing physicians to carefully consider their location with respect to hospitals, their other colleagues, and their patients, the location of physicians' practices along specific roads would also have been affected by such barriers as the railway. Sussex, Rideau and Wellington Streets, and later in the period, Bank Street were the least affected streets and it would seem logical that they would support a relatively large number of physicians. Indeed, these streets were the major arteries linking suburbs to the central core, or, more broadly, linking Ottawa to other communities. For example, Sussex Street and Rideau Street were arteries through Ottawa to the highways from Montreal; Nicholas and Bank Streets to the Morrisburg Road, Bronson Avenue to the Prescott and Ogdensburg Road, and Wellington to the Toronto, Carleton Place and Renfrew Road (Figure 4.1a).⁶³ On the other hand, Bronson and Elgin Streets, and later Carling Avenue, roads which would otherwise have formed significant linkages between sub-sections of the city, might not have supported large numbers of physicians because several barriers had reduced them to secondary and even tertiary importance.

'Bronson Avenue continues southwards to and stops at the Rideau River...Bank Street is too narrow for its traffic.

Elgin Street stops practically at the Rideau Canal and access to the district to the south of the canal is indirect...Carling Avenue also lacks continuity by reason of the absence of crossings at the canal and river,⁶⁴ and is obstructed by dangerous grade crossings at the railways.'

There were other forces serving to integrate the city physically. Although the canal and the railway represented barriers to intra-city communication and often determined the direction and nature of city growth, the street railway system actually promoted intra-city communication and ensured that the city areas created by the divisive forces associated with the canal and the railway were connected (Figure 4.6). Ottawa's street railway system began in 1866 when the Ottawa City Passenger Company was incorporated to provide a horse drawn tramway service for the city.⁶⁵ The first tracks were built from New Edinburgh to the Suspension Bridge, at the Chaudière Falls by way of Sussex, Sparks, Wellington and Duke Streets. By 1866, 273,000 passengers had been carried along the line. In 1891, the Company owned four miles of track, 10 trams, and 25 horses.⁶⁶

Advancing technology, however, in the form of electricity, forced the Company to merge with the newly established Ottawa Electric Railway Company. This company, owned and operated by the well known entrepreneur Thomas Ahearn, quickly constructed several miles of track to accommodate the electric powered tramways.⁶⁷ Beginning with a single track from Broad Street to the corner of Sparks and Metcalfe Street via Albert and Metcalfe, the network was expanded to include a line to the Exhibition Grounds via Bank Street, another to the Protestant Hospital at Charlotte and Rideau Street (via Wellington and Rideau), and another to the Canada Atlantic Railway Station at the end of Elgin Street. In its first months of operation the company supported five tramways and carried 1,500,000 passengers.⁶⁸ By 1896 the Somerset Street bridge had

OTTAWA

Fig. 4.6 Ottawa: Electric Street Railway Lines 1875-1915

— street railway line

one inch = 1/2 mile

J. Holt, Federal District Plan for Ottawa and Hull, 1915, (Ottawa: Federal Plan Commission, 1915)

been opened and service to the western reaches of the city had become available. Four years later a double track service was opened to the recreational area at Britannia Bay.⁶⁹ By the latter part of the nineteenth century and the early 1900's, the electric street railway system had become an important and influential part of the community. So much so that, in contrast to their concerns for the location of the railways, the Federal Improvement Commission acknowledged that the system was beneficial to the overall growth of the city.

'The Bank Street line, the Experimental Farm line, and the Britannia line have done much towards distributing the city's population. So also has the line to the rifle ranges, the line running up from Hull to the Chelsea Road, and also the line running towards Aylmer. These lines are having a beneficial effect upon the city's growth. The effect of the Britannia line is apparent in the large number of subdivisions which are being laid out to the west of the city. The effect of the Rifle Range line is apparent in the subdivision being laid out adjoining Rockcliffe. This is true also of the line running up the Chelsea Road. The real estate activity immediately adjoining the Britannia line and the Bank Street line has an influence for a considerable distance away.'⁷⁰

As well as contributing to the expansion of the city, the street railway system also tended to reinforce the influence of the two downtown cores centred at Bank and Sparks Street on the one hand and the 'Plaza' area (now Confederation Square) on the other.

'On the east, the Sussex Street line, Rideau Street line, and the Elgin Street line, together with the line from the Alexandria Bridge to Hull, all focus in the vicinity of the Plaza bridge. On the west, the Bank Street line, the Somerset Street line, the Gladstone line, the Britannia line and the line to Broad Street and to Hull all focus at about Bank and Sparks Streets.'⁷¹

This section has demonstrated that transportation networks greatly influenced the form of the city and, in many respects,

governed the functional growth (for example residential, business) of various city areas. In order to provide a comprehensive view of the physician's urban environment, however, the social fabric of the city must also be examined. The next section, therefore, reviews those social aspects which were thought to have had some effect on the location decision.

4.4 Social Aspects and the Location Decision

In Chapter 3 it was argued that the medical profession had matured by the end of the nineteenth century and that most physicians would generally respond uniformly to a given set of forces. Most physicians, probably perceived themselves as professionals who held considerable status in the communities within which they practised. The image of the city doctor, living and practising in a large fashionable house was probably shared by most members of the medical profession as well as the city's populace. It should be expected, therefore, that these perceptions would be translated into the decision to live in relatively fashionable areas of the city.

Where were Ottawa's fashionable areas? Were they well defined? Were they extensive? How and where did they evolve? What were the backgrounds of the people who resided in these areas? The answers to these questions will offer important insights into the locational behaviour of Ottawa's medical profession.

'Before the arrival of the government of Ottawa, the leaders in the community had established themselves in two areas. One was on the high ground of the Upper Town, part along Wellington Street and the terrain to the north, where from Rear or Cliff Street, and Victoria Street, a fine view could be had of the Gatineau Hills...the other, where well-to-do Ottawans built before 1865 was in Louis Besserer's Sandy Hill.'

Most of the original 'well-to-do Ottawans' were associated with the lumber industry or with some large thriving ancillary industry.⁷³ Some, including physicians, were also professionals. The arrival of the government, however, brought a new elite to the city including both statesmen and senior civil servants.⁷⁴ For several years their place of residence paralleled that of their well-to-do counterparts.

In the mid-nineteenth century, except for Sandy Hill and the Wellington Street area near Cliff Street, Ottawa did not support well defined residential sectors.⁷⁵ Towards the end of the nineteenth century, however, the Centre Town area, particularly in the sector bounded by Laurier, Bank, Gladstone and Elgin became increasingly significant. Though still in close proximity to the downtown area, which was developing around the Sparks Street axis, many well-to-do Ottawans viewed this area as particularly attractive for the establishment of their residences. Whereas Sandy Hill continued to develop as an affluent residential area, the area immediately west of Parliament Hill remained relatively static as commercial growth along Wellington Street coupled with topographical restraints prevented the area from expanding in size.⁷⁶ Expansion, on the other hand, was possible in the area to the immediate south of the Centre Town downtown core.

By the early 1900's three relatively affluent residential areas could be identified in the city. The first of these was Sandy Hill:

'In 1865, when the government of the province of Canada arrived in Ottawa, many of its leaders, its members of the executive council and the legislative assembly, its Supreme Court, and other high functionnaires, as well as its ordinary civil servants, elected to live in Louis Besserer's Sandy Hill. This choice placed a seal of respectability on the district that lasts to this day.'

Most of the residents of Sandy Hill were primarily associated with the Government.⁷⁸ Presumably, they had easy access to Parliament Hill (via electric street railway, carriage or on foot) and as well, appreciated the opportunity to locate on a geographic rise which overlooked the city. Gard (1904) identified a number of prominent government officials and parliamentarians in his survey of late nineteenth century inhabitants in Ottawa. The editor of the Citizen, the Mayor of Ottawa, some military personnel, lumber merchants and even the well known poet, Archibald Lampman, also lived in Sandy Hill, indicating that a mixed group of both government and private individuals recognized the prestige associated with establishing their residences in this area of the city.⁷⁹ Contemporary views also support the view that Sandy Hill was an extremely desirable area in which to locate.⁸⁰

The second area to gain prominence as a distinct city area was Centre Town. Throughout the latter half of the nineteenth century this area of the city supported a high class residential district bordered by Gladstone, Bank, Elgin and Laurier Streets. Though established much later than Sandy Hill, this area, by 1900 had assumed a very powerful role as one of the most affluent residential sectors in the city.⁸¹ Similar to Sandy Hill, however, the area was home to a large number of politicians and senior civil servants. Among the generally well known were Carling, Campbell, Davies and Slaughter, on Metcalfe Street; Tilley, Meighan, and Chapleau on Cooper Street, Thompson on Somerset Street and various others on O'Connor, Elgin, Laurier and to a lesser extent along the connecting side streets. A number of affluent entrepreneurs such as Gilmour, Sifton, MacKay, Soper, Birkett and Booth, also had homes in this very small though influential residential sector.⁸² Contemporary accounts substantiate the view that this sector was very significant as a high class area in which to locate.⁸³

By 1880 the significance of the third area, the Cliff Street residential sector had waned in the face of the growing development underway in Centre Town. Nevertheless, further along Wellington Street, a small core of affluent individuals, connected to the lumber industry, had settled themselves in close proximity to the Chaudière Falls lumber yards. Booth and Robertson were two prominent lumbermen who settled on Wellington Street.⁸⁴ The Pinhey family, another lumber family, and Charles Murphy, a well known barrister, also had built their homes along this small segment of Wellington Street.⁸⁵

In 1913, Holt, the urban planning consultant hired by the Federal Government to study Ottawa's potential as a capital, confirmed this residential class structure and described how this structure was represented spatially (Figure 4.7). Lower Town and parts of Ottawa West, for instance, were regarded as low or medium class areas while parts of Centre Town, Sandy Hill and the Glebe were considered high class.⁸⁶ If, as it has been argued, physicians were concerned with responding to their professional status, then they would be expected to locate in high class areas of the city. Thus they would be expected to locate in Sandy Hill, the Cliff area, and to a certain extent the Chaudière Falls area, during the early years of the study period, and, by the early 1900's, the Sandy Hill area and, on an increasing basis thereafter, the Centre Town area. By 1915, they should also be expected to be well represented in the high class residential areas in the Glebe.

As well as identifying the status of various residential areas in the city it is also useful to gain some insight into the perceptions held by contemporary citizens of the city itself. Though limited and unrepresentative such perceptions help to suggest the significance of particular areas, such as Centre Town

Ottawa

one inch = 1/2 mile

Fig. 4.7 Ottawa: Class of Residence 1913

- high class
- medium class
- poor class

J. Holt, Federal District Plan for Ottawa and Hull, 1915, (Ottawa: Federal Plan Commission, 1915)

and Sandy Hill. They also help to differentiate the general view of the city, which might be negative, from the more particular view of specific areas of the city, which might be positive. Gard (1904) sets the stage for this discussion by describing the general perceptions held of Ottawa's urban landscape prior to the study period.

'In response to the lumbering and manufacturing upsurge of the 1850's and 1860's the city had spread like a bed of mushrooms, outdistancing all efforts to provide even the most essential municipal services. Noisy sawmills, foundries, untidy lumber yards and ugly commercial houses sprang up almost overnight and with no particular plan, until the industrial sprawl masked much of the city's original scenic loveliness.'⁸⁷

Laurier himself, the Prime Minister of the country at this time, perceived the city in negative terms;

'I would not wish to say anything disparaging of the capital, but it is hard to say anything good of it. Ottawa is not a handsome city, does not appear to be destined to become one either.'⁸⁸

A programme to deal with the city's development problems was finally developed in the early 1900's by a number of civic and government officials concerned that the city landscape reflect the majesty that was deserving of the capital of the young and dynamic country of Canada. The Federal Improvement Commission, established in 1899, was responsible for investigating the city's development problems and to recommend solutions.⁸⁹ Their work resulted in the construction of the canal driveway in the early 1900's and the cleaning up of the canal basin area.

'it began to clear up the banks of the Rideau Canal, still cluttered with warehouses, sheds, lumberyards, and piles of construction material right up to Parliament Hill; and turn

the west verges into a pleasant driveway, beginning at Laurier Avenue, and pushed along by stages past the Exhibition Grounds to Bronson Avenue, with the intention of linking it up with the Experimental Farm. King Edward Ave. was converted into a boulevard and the first stage of Rockcliffe Park was developed.⁹⁰

Presumably, the efforts to beautify the city had some influence on a physician's decision to locate, particularly if he was concerned with his proximity to an aesthetically pleasing part of the city. Centre Town, for instance, must have been particularly attractive because the projected canal improvements included the eastern border of this area of the city. Other improvements to the area might also have had some impact on the physician's decision to locate. The enhancement of the Confederation Square area in 1912 (Chateau Laurier and Central Station), for instance, may have improved the linkage between Centre Town and Lower Town leading to a wider market area for doctors located in either 'town'.⁹¹ The increased emphasis on the construction of institutional and municipal buildings in the Centre Town area (the YMCA, the Library, the City Hall, and newspaper buildings), would suggest that Centre Town, particularly in the area bounded by Laurier, Elgin, O'Connor and Wellington Streets, was a profitable and prestigious area in which to locate a practice.⁹²

In fact, the increasing cultural emphasis within Centre Town throughout this period would have made this area in these years one of the most attractive areas for a promising young physician to locate.⁹³

4.5 Discussion

The period 1891 to 1911 was a period of tremendous growth for Ottawa. The population had increased substantially and the economy

had effectively made a transition from a small single industry town dependent upon the lumber trade to a large multi-functional city capable of supporting a growing civil service as well as numerous other industrial and commercial concerns. Its physical growth tended to be directed to the south and west until by 1915 Ottawa had annexed nearly twice as much land in these areas as it had in the east. The population also tended to expand into these areas and, although emphasizing a southward expansion until the early 1900's, had shifted to the west by 1915. Although Lower Town supported a very dense population throughout the entire study period, Centre Town, beginning particularly in the 1880's, experienced a heavy influx of people and had, by 1915, had established itself as one of the city's major population centres. The development of individual areas could be identified by the early 1880's as the business core, which centred on Sparks Street and Rideau Street and, several years later, along Bank Street, became more clearly defined. Sandy Hill and parts of Centre Town began to support not only clearly defined residential areas but areas based on class. While Lower Town became an area of middle to low class residences, Sandy Hill and Centre Town became high class.

The major effects on this growth were the canal and the railways. Both transportation modes were barriers to city growth and tended to divide the city into a set of unique areas each cut off from the other either by the railways or the canal. Consequently, Sandy Hill and Lower Town formed one city area which was separated from Centre Town by the canal and a railway line while Centre Town itself was cut off from its neighbouring areas in the Glebe and Ottawa West by several railway lines. Although the railways contributed to the 'Balkanization' of the city, the electric street railway system acted in a different manner to intra-city communication. The routes along which the system was

built became important linkages along which much of the population moved. St. Patrick, Rideau, Wellington, Bank, Somerset, Sparks, and Elgin Streets all became extremely important as a result of their role as intra-city communication routes.

The effect of the street railway system on the location of Ottawa's medical doctors was probably quite significant. For instance, physicians interested in locating in an area to which their patients would have easy access would be inclined to locate in some proximity to the streets supporting these lines. According to this argument the patterns of distribution should tend to be linear along a number of these streets, and particularly along those which linked city areas otherwise cut off by the railways. In 1915, for instance, physicians would be expected to locate along Somerset, Bank, Rideau and Sussex Streets, all of which supported major street railway lines which linked a number of city areas.

An important aspect of any urban history research is the understanding of how contemporaries viewed their environment. Until the end of the nineteenth century, Ottawa was viewed as a disorganized, unattractive city hardly worthy of the title 'Capital of Canada'. By 1915, however, the image had changed to some degree and parts of the city were viewed in a more positive light. Areas receiving particularly favourable reactions were the driveway along the canal and the two high-class residential areas in Sandy Hill and Centre Town.

The most significant developments affecting Ottawa during the study period were the substantial growth of the population from 1891 to 1911, the dramatic increase in the significance of Centre Town as a focal point for the city's commercial and residential development, the construction of the railways which acted as barriers to and manipulators of city growth, and the construction

of the electric street railway system which promoted the development of several major streets and contributed to the increased dominance of one city area (Centre Town) over the others.

The degree to which each of these developments affected the location decision will be discussed in the next chapter. These 'city forces' will then be evaluated in relation to the 'professional forces' outlined in the previous chapter.

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2. Compiled from J. Holt, Federal Development Plan for Ottawa and Hull, 1915, (Ottawa: Federal Plan Commission, 1915).

3. compiled from Holt, 1915, passim.

4. compiled from Holt, 1915, passim.

5. compiled from Holt, 1915, passim.

6. compiled from Holt, 1915, passim.

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11. W. B. Smith, City of Ottawa, 1927, Ottawa: City of Ottawa, 1927, passim.

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Chapter 5

THE DYNAMICS OF OTTAWA'S MEDICAL PROFESSION

5.1 Introduction

In their studies Historical Geographers face the dual problem of time and space.¹ They are aware that what they describe at one point in time has already changed and yet if their emphasis is upon change they learn little about conditions at one point in time. To this problem a number of solutions have been devised. They are the well known horizontal or cross sectional methodology and the longitudinal or thematic approach. The former deals with the totality of events for given static periods, the latter with events as they change through time. A common solution to this problem is to combine both approaches. This is the solution employed here and in the subsequent chapter.

The emphasis of this chapter is on events in time, that of the next chapter on events at a particular time. This chapter looks at the changing numbers and distribution of physicians in Ottawa between 1875 and 1915. It does so in an effort to more fully understand the locational decisions of physicians and in addition to identify the most meaningful period in which to examine the pattern of physicians' locations as they relate to the geographical forces identified in the previous chapter.

5.2 Methodology

Each of the annual city directories² for 1875 to 1915, were used to identify the changing locations of physicians' practices

during the 40 year study period. The business directory section in each directory was referenced to provide a listing of physicians' names and office addresses which were then cross-referenced with the main directory section to identify residential addresses. In over 90 percent of the cases the office-residence addresses could be identified. Finally, the street directory section was used to pinpoint the office/residential locations on the appropriate streets.

Because of the significance of Centre Town, as a location for physicians' practices, a more detailed examination of the area was made. In order to structure these examinations, the area was arbitrarily subdivided into sectors (Figure 5.1).

The **north-west** sector, which was bounded by the Ottawa River, Bronson Avenue, Laurier Avenue and Bank Street, was originally an area of mixed high class residences and retail establishments which evolved into part of the central business district in 1915.

The **north-east** sector, which was bounded by Wellington Street, the canal, Laurier Avenue and Bank Street, evolved as a business, retail and transportation centre.

The **central-west** sector which was bounded by Laurier Avenue, Bronson Avenue, Gilmour Avenue and Bank Street, evolved from uninhabited fields in 1875 to an area of mixed medium and higher class residences in 1915.

The **central-east** sector which was bounded by Laurier Avenue, the canal, Gilmour Avenue and Bank Street followed a similar evolution to its counterpart just to the west except that the class of residences established in 1915 was almost uniformly 'high'.

OTTAWA

Fig. 5.1 Ottawa: Centre Town Sectors

J. Holt, Federal District Plan for Ottawa and Hull, 1915 (Ottawa: Federal Plan Commission, 1915)

The south-west sector which was bounded by Gilmour Avenue, Bronson Avenue, the Grand Trunk Railway, and Bank Street, evolved from pasture land in the late 1800's to a mixed residential-industrial sector in 1915.

The south-east sector which was bounded by Gilmour Avenue, the canal, the Grand Trunk Railway and Bank Street, followed a similar evolution to its counterpart just to the west.

Having established a spatial framework within which the individual practices could be located, a series of maps were compiled describing the distribution of physicians for five year periods from 1875 to 1915 (Figures 5.2 to 5.10). The intention is not to evaluate these distributions as points in time. Rather the maps are designed to serve as a suggestion of the thematic evolution of the distribution of physicians throughout the forty year study period. The discussion to follow, therefore, is structured according to the evolving nature of the distribution patterns rather than as a description of the locations of physicians' practices at discrete time points. The discussion begins with an overview of the distribution patterns for the city as a whole, continues with an investigation of individual patterns in various city areas, and concludes with a detailed examination of the distribution pattern as it developed in Centre Town.

5.3 Distribution of Physicians - General

In 1875 (Figure 5.2) the general pattern of distribution of the 28 physicians identified in the city was confined mostly to a linear pattern along Rideau and Wellington Streets and a seemingly random pattern throughout the mixed residential and retail areas of the city. After 1885 (Figures 5.3 and 5.4), however, the

OTTAWA

1875

Ottawa River

Rideau Canal

Rideau River

City limits

one inch = 1/2 mile

Fig. 5.2 Ottawa: Distribution of Physicians 1875

one dot equals one physician's practice

compiled from City of Ottawa Directory,
(A.S. Woodburn Co.: Ottawa, 1875)

Fig. 5.4 Ottawa: Distribution of Physicians 1885

compiled from City of Ottawa Directory,
(A.S. Woodburn Co.: Ottawa, 1885)

OTTAWA

1890

City limits

Rideau Canal

Rideau River

one inch = 1/2 mile

Fig. 5.5 Ottawa: Distribution of Physicians 1890

one dot equals one physician's practice

compiled from City of Ottawa Directory,
(Might's Directory Co.: Ottawa, 1890)

OTTAWA

1895

Ottawa River

Rideau Canal

Rideau River

City limits

Fig. 5.6 Ottawa: Distribution of Physicians 1895

one dot equals one physician's practice

Compiled from City of Ottawa Directory,
(Might's Directory of Toronto Co. Ltd.,
Toronto, 1895)

Fig. 5.8 Ottawa: Distribution of Physicians 1905

compiled from City of Ottawa Directory,
(Might's Directory Co.: Ottawa, 1905)

Fig. 5.9 Ottawa: Distribution of Physicians 1910

one dot equals one physician's practice

one inch = 1/2 mile

compiled from City of Ottawa Directory,
(Might's Directory Co.: Ottawa, 1910)

Fig. 5.10 Ottawa: Distribution of Physicians 1915

one dot equals one physician's practice

one inch = 1/2 mile

compiled from City of Ottawa Directory,
(Might's Directory Co.: Ottawa, 1915)

pattern became more sharply focussed in the area bounded by Wellington, Rideau, Bronson and King Edward Avenues. Centre Town, by this time, had begun to exercise its role as an attractive area in which to locate. While the distribution patterns in all other areas remained relatively unchanged, the population of physicians supported in Centre Town had begun to expand to the south and west.

The linear pattern of distribution identified along Rideau, Wellington and Sparks Streets throughout the 1880's had become, by the 1890's (Figures 5.5 and 5.6), a 'T' shaped pattern, the stem of which extended south into an area bordered by Laurier, Bank, Gladstone and Elgin Streets. Also of significance during the period just after 1890 was the effect of the growing retail core along Sparks, Wellington and Queen Streets which may have forced a number of physicians to consider locating either to the south or in other areas of the city.

Centre Town's significance continued to grow until by 1900 a sizeable number of physicians had begun to locate in the central east sector of the area and along Somerset Street (Figure 5.7). By 1905, the appearance of physicians in other sectors of Centre Town and, to a certain extent, in Sandy Hill, had contributed to a generally oval pattern of distribution with two focii in Centre Town and Sandy Hill (Figure 5.8). By 1905, however, the growing significance of the central east sector of Centre Town and the growing linear pattern along Somerset Street combined with the reduced significance of the distribution pattern identified in Sandy Hill, confirmed that this area would continue to evolve as the major focus of location for physicians' practices. Several years later two linear patterns, one along Bank Street and the other along Somerset Street, would be superimposed upon this pattern (Figure 5.9).

By 1915, while few physicians had settled in the Lower Town and New Edinburgh areas, the numbers of physicians establishing practices in the south and west had increased substantially and had resulted in a much more extended, developed and clearly defined distribution pattern in these directions (Figure 5.10). The focus of location in the central east sector of Centre Town had become very well established as new physicians virtually saturated the area. The linear patterns along Bank and Somerset Streets had also become more defined and to some extent, physicians appeared to have recognized these streets as holding the greatest attraction with respect to the location of their practices.

5.4 Distribution of Physicians - By Area

The data for this section were obtained through calculations and observations made of the information provided in the Ottawa City Directories.³ Each annual directory was referenced to determine the number of physicians practising in the city for a particular year, the names of individual physicians, their residential and business addresses, the duration of their practices as well as their changing locations. Together with the overview of the distribution patterns in each city area (Figures 5.2 to 5.10) the following discussion of the location patterns of physicians in various areas of the city is based on these calculations and observations.

The first and very important conclusion of this phase of the research was the fact that over 90 percent of all of the physicians identified during the period 1875 to 1915 combined their workplace with their residence (Plate 5.1).

New Edinburgh, the development of which only began in the

(A) Workplace and Residence of Dr. Ami, 111 Cooper Street Ottawa, 1894,
National Photography Collection, Public Archives Canada, PA 27399

(B) Workplace and Residence of Dr. Cooper, 126 Albert Street, Ottawa, 1883,
National Photography Collection, Public Archives Canada, PA 27062

1860's, was not served by a physician until 1876 when Dr. Bell (Plate 5.2) located his practice on Stanley Avenue. His practice remained at this address for over 40 years and was one of the most enduring practices identified during the study period. Only one other physician ever established a practice in this area and he for only a short time. Dr. N. MacLeod established a practice at 36 Charles Street in 1909 but abandoned it a year later. Although no firm conclusions can be drawn as to why the area did not support more physicians, the answer may rest with the suggestion that New Edinburgh was in many respects a village unto itself and existed quite independently of the rest of the city. Isolated because of geographic factors, the community's medical needs may have gravitated around the one physician who had established his practice at the same time as the community was first developed. In fact the loyalty to this one physician might actually have inhibited other physicians from attempting to locate in this area.

In the older more established area of Lower Town the number of physicians remained relatively stable between 1875 and 1915. From 11 in 1875 to 10 in 1915, their numbers decreased only slightly from this range during the period 1880 to 1904. In 1902, for instance, only five physicians could be identified. As early as 1875 the locations of a number of physicians were focussed around the western half of St. Patrick Street and along a small part of the retail dominated north side of Rideau Street between Sussex and Cumberland Streets. This pattern remained stable throughout the early years of the study period as Rideau Street continued to support a number of physicians' practices. Drs. St. Jean and Valade, however, had become established 'fixtures' on St. Patrick Street and would continue to exert an influence on the area until 1899, in the case of Dr. St. Jean and, beyond 1915, in the case of Dr. Valade. Presumably their French background and links with the

National Photography Collection, Public Archives Canada,
C49726

predominantly French speaking population of Lower Town promoted the success of their practices. Similar to Dr. Bell in New Edinburgh, however, the 'village' effect (i.e. the connection and loyalty that a local community may have for its physicians) may also have inhibited the location of many other physicians in what, from a business point of view, would have been an attractive area in which to locate. This specific area, for instance, supported a high population density (Figures 4.4 and 6.1) and was close to major transportation arteries (Figure 4.6). With respect to their specific choice of location on St. Patrick Street both may have been influenced by the need to locate in close proximity to the General Hospital where both had been assigned as attending physicians.

By the mid-1880's Dr. Chapman had become the first physician to locate a practice on the eastern end of Rideau Street. His choice of location was determined by his position as resident physician at the County Carleton Protestant Hospital in 1884. The pattern of distribution remained relatively stable throughout the 1890's although by 1899 Dr. St. Jean's practice was no longer located on St. Patrick Street and Dr. Chapman's practice at the Protestant Hospital had been moved to 393 Bank Street. His position at the hospital was replaced in 1904 by Dr. Robertson. In 1905 Dr. Parent joined Dr. Valade on St. Patrick Street. By the early 1910's, the western end of Rideau Street had become a significant retail artery and this reason alone may have accounted for the shift of the linear pattern of physicians' locations along this street to the still residential area around St. Patrick Street. This pattern became even more defined by 1915 as two more physicians located practices along the street. One lone physician, Dr. Parent, however, had moved from St. Patrick Street to 105 Wurtemberg Street in 1912.

At the beginning of the study period, Sandy Hill was a small, well established residential district which was served by only four physicians. Two were located along the retail dominated south side of Rideau Street while the other two were established along Daly Avenue (Figure 5.2). By the early 1880's only one physician had moved to the eastern part of the area (Figure 5.3). Dr. Robillard was the Medical Health officer for the city and supported only a small practice out of his home on Stewart Street to which he had moved in 1879. Access to the street car railway system which provided his link to City Hall on Elgin Street, may have been a factor in his decision to locate so far away from his downtown office and yet still live in a fashionable part of the city. Interestingly, no physicians were located in proximity to the Carleton Protestant Hospital near Charlotte Street. The attending physicians such as Drs. Hill (Wellington Street), Grant (Elgin Street) and Sweetland (Rideau Street) all lived at some distance from the hospital. Factors other than hospital location must have been operating to affect their location decision. Although the distribution pattern was relatively stable throughout the 1880's, by 1890 (Figure 5.5), several physicians had finally decided to locate in Sandy Hill. Daly Avenue, between Nicholas Street and King Edward Avenue, continued to be attractive to a number of physicians who settled into this fashionable district during this period. One physician, Dr. Playtor, owner of the Sanitary Journal moved his office further to the east to 383 Stewart Street. Possibly his activities with the journal superseded those associated with his regular practice suggesting that he may have faced a different and more particular set of decision making criteria in his choice of location. By 1900 (Figure 5.6 and 5.7) the number of physicians had increased slightly and the importance of Daly Avenue had become more pronounced as the linear pattern along that street had become more clearly defined. Three new

physicians, Drs. Freeland (1899), Fleming (1899) and Bradley (1900) however, chose to locate their practices south of Laurier Avenue. Dr. Fleming, who supported one of the very few practices to be located away from his residence, lived at 213 Chapel Street, the home of Sanford Fleming, well known Canadian entrepreneur and cabinet minister. These and other practices in Sandy Hill continued to thrive at the turn of the century but actually declined in number during the years thereafter. The linear distribution pattern also became less clearly defined as Laurier and Stewart Streets joined Daly Avenue in significance as streets supporting physicians' practices (Figure 5.8 and 5.9). This shift from the relatively narrow linear pattern identified along Daly Avenue several years before became more pronounced by the end of the study period. In 1915 (Figure 5.10) both Laurier Avenue and King Edward Avenue had replaced Stewart Street, and to some extent, Daly Avenue, as centres for the location of physicians' practices. The central focus of the distribution had also shifted from just west of King Edward Avenue to a point east of that street.

In the western region of the city, the small core of three physicians located near the Chaudiere Falls in 1875 (Figure 5.2), inhabited the moderately affluent houses associated with the lumber barons and other entrepreneurs living in the area. Drs. Hill and Wright were well known physicians who had some influence in the community and had, presumably, established close relations with their affluent neighbours. Similar to the 'village doctor' effect suggested in New Edinburgh, this tightly focussed community's close association and loyalty with these two physicians may have inhibited other doctors from attempting to break into the market by locating practices in this area. Dr. Hill, however, and another physician, Dr. Henderson, soon moved out of the Chaudière Falls area and established new practices in a small but very

affluent core of homes near Albert and Wellington Streets. Dr. Hill moved to 721 Wellington Street in 1876 while Dr. Henderson moved to 443 Albert Street in 1881. Throughout the latter part of the nineteenth century the number of physicians remained at about six and their distribution pattern remained relatively focussed around Wellington and Albert Streets (Figures 5.3 and 5.6). Within a two year period, however, this pattern completely disappeared. A closer look at this development revealed that of the physicians who had lived and worked in this area, Dr. Hill (721 Wellington) disappeared in 1898, Dr. Jamieson (664 Wellington) moved to Lisgar Street in 1900, Dr. Scott (718 Wellington) moved to 380 Cooper Street in 1900, and Dr. Wright (538 Wellington) disappeared in 1896. Although the growing significance of Centre Town as a focus for Ottawa's medical profession may have lured several to this area, another more direct reason may account for the total absence of physicians in the area by 1900. In this same year the great Ottawa-Hull fire occurred which devastated much of the area and destroyed many of the stately homes which had supported physicians' practices.⁶ Five years later, however, with redevelopment of the area, the focus of the distribution pattern shifted to the Wellington Street and Somerset Street intersection as another five physicians established practices in the area (Figure 5.7). The pattern eventually assumed a linear shape along Wellington Street (Figure 5.9) which, by 1910, had become a major traffic artery linking the western areas of the city with Centre Town. Somerset Street, particularly, just west of Bronson Street, had also begun to support attractive houses and higher class residents than in previous years. This may have contributed to an increase in the number of physicians locating along this street. By 1915 as many as eight physicians had established practices in this area (Figure 5.10).

The distribution pattern of physicians' practices for the Glebe, Ottawa South and Ottawa East were very difficult to establish, simply because these areas were more recently developed and relatively few physicians had chosen to locate their practices in them. The first physician in the Glebe for instance, did not establish a practice until 1899 (Figure 5.5). He was joined only five years later by one other physician Dr. Switzer who established his practice at 83 Second Street (Figure 5.6).

By 1915, however, the number of physicians practicing in the Glebe had increased dramatically to ten. The pattern, however, was relatively well defined and closely followed the length of Bank Street (figure 5.10). Of specific interest was the linear pattern formed by the four physicians located on First, Second and Third Avenues. Presumably their locations in residences close to the transportation and retail artery formed by Bank Street contributed to the pattern.

According to the directories, Ottawa South was not served by a physician until 1906 when Dr. Graham set up a practice at 147 Sunnyside Street, near Bank Street (Figure 5.9). In 1914 the influence of Bank Street in this area was presumably the reason Drs. McPherson and Gordon established practices near the street on 3 Ossington and 27 Willard respectively (Figure 5.10). The first physician to settle in Ottawa East was Dr. McLaughlin who established a practice at 112 Hawthorne Avenue in 1910 (Figure 5.9). In 1913 when he moved his practice across the street to 113 Hawthorne, he was still the only physician in the area (Figure 5.10).

Altogether the Glebe and Ottawa South contributed little to the overall spatial pattern of doctors in Ottawa. Centre Town is of much greater significance generally and as such requires greater attention. In 1875 relatively few physicians had established

practices in this area of the city (Figure 5.2). Generally, however, those that were represented in the area formed a relatively even distribution throughout the mixed retail and residential area between Elgin and Bronson Avenues, particularly in a small area centred on Sparks and Bank Streets. In subsequent years, however, the distribution of physicians followed the southward development of the city. By 1880 (Figure 5.3), for instance, the linear pattern along Wellington Street had been extended south to Albert Street into the mixed residential retail areas which had, by this time, been extended to Laurier Avenue. In 1878, for instance, Dr. Logan had opened a Turkish Bath and a homeopathist's office at 126 Albert Street. Several years later both the public vaccinator, Dr. Marks and the coroner of the County of Carleton, Dr. Corbett, had established residences in this southern part of the area; Dr. Marks at 419 Slater, in 1884 (Figure 5.4), and Dr. Corbett at 70 Bank Street in 1880 (Figure 5.3).

Reflecting the southward shift of the pattern, the well-known physician Dr. James Grant (Plate 5.3), attending physician to the Governors-General, moved his office from Rideau Street to 150 Elgin Street as early as 1876 (Figure 5.3). He was joined six years later by Dr. Church who established a practice a short distance along Elgin Street (Figure 5.5).

As the Central Business District along Sparks and Queen Street became more defined and as the residential districts of this area were developed to the south, the distribution pattern of physician's practices shifted southward to form a broad linear pattern along Slater Street (Figure 5.4 and 5.5). In 1886, Drs. Kidd and Potter teamed up to form the first joint practice in Ottawa and established themselves at 284 Wellington Street. By 1888, Dr. Mark had become County coroner and had moved into a new office

(A) Dr. James Grant, 1875, National Photography Collection
Public Archives Canada, PA26499

(B) Dr. James Grant, 1913, National Photography Collection
Public Archives Canada, PA 42741

at 419 Slater Street. To the south of Laurier Avenue, the well known Ottawa physician and consulting physician to the County Carleton Protestant Hospital, Dr. Sweetland, had, by 1888, moved from Rideau Street to 130 Cooper Street where he established his practice and assumed the position of Sheriff of Carleton County. Four physicians had, by 1890, located south of Laurier Avenue, including Drs. Grant (150 Elgin), Kelly (372 Laurier), Church (202 Elgin), and Sweetland (130 Cooper). This area, particularly that zone bounded by Bronson, Gladstone, Elgin and Laurier, was entirely residential (Figure 4.8) and was experiencing a tremendous growth in population and the residences established in this area began to reflect the affluence of those who were beginning to move in.

By 1895 the distribution had shifted its focus completely to the newly developed central eastern sector of Centre Town (Figure 5.5). Elgin and Metcalfe Streets were both particularly attractive to the location of physicians, with Laurier Street, between Elgin and Bank Streets, assuming particular significance. Bank Street also reflected its growing importance as a connecting artery to the south as it supported five practices. In 1891 Doctor Henderson and Doctor Garrow formed Ottawa's second joint practice at 414 Albert Street.

By the turn of the century, Laurier Avenue, from Elgin to Bank Street, had developed as a strong focus around which a substantial number of physicians had located their practices (Figure 5.7). The north west sector of Centre Town (see Figure 5.1 for definition of sectors) supported relatively few physicians and, in the north east sector, the expanding retail core of the city forced many to locate to the south. The central west sector experienced a substantial increase in the number of physicians and their distribution

began to follow a linear pattern along Somerset Street. Particularly significant was the core of physicians which had located around the Somerset Street - Bank Street intersection. Bank Street, as a major transportation artery, continued to be attractive to physicians and by 1900 had supported as many as 10 physicians. The distribution pattern in the central east sector, however, was the most significant in Centre Town because, as more physicians located in the area, the patterns along Metcalfe Street and Elgin Street became more defined. This, when combined with the physicians located on the north side of Laurier Street, tended to focus the general city-wide pattern of physicians' practices in this area.

Throughout the early 1900's the significance of this sector continued to grow as more physicians established their practices in this highly fashionable and affluent area (Figure 5.8 and 5.9). The linear pattern along Somerset Street became more developed and the grouping of physicians at Bank Street and Somerset Street became more focussed. A core of physicians around Metcalfe and Laurier Streets also grew in significance. Meanwhile, the pattern in the north-east and north-west sectors became less significant as the growth of the retail and business core of the city forced the profession to locate elsewhere.

By 1915 the central east sector of Centre Town had asserted itself as a significant focus for a large number of practices (Figure 5.10). This area, particularly along Metcalfe and O'Connor Streets, had, according to the scale of the map, become seemingly saturated by 1915. Somerset Street, also supporting a large number of physicians, formed the basis for a linear pattern which extended from Elgin Street in the east to Bronson and beyond in the west. Except for a small part of the northeast sector, both the northwest and northeast sectors appeared to be relatively

poorly represented by physicians. The decline of these two sectors is in marked contrast to their significant influence on physicians locations in 1895.

5.5 Population of Physicians

The total population of physicians in the city is described on an annual basis in Figure 5.11. Figure 5.12 provides greater detail by describing the changing numbers of physicians for each area of the city. In order to more clearly understand how the numbers of physicians in the city through time related to their overall distribution and representation across the city, the percentage total of physicians in each area was also calculated and displayed on Figure 5.13. These latter statistics provide substantial insights into the changing significance of various areas of the city as centres for the location of physicians' practices.

Although the pattern fluctuated to some degree, the percentage representation of physicians in both Sandy Hill and Mechanicsville remained relatively unchanged throughout the study period. In 1875 Sandy Hill supported four percent of the city's physicians while Mechanicsville supported seven percent. After about 1888, Sandy Hill assumed greater significance and continued to support a slightly higher percentage of physicians throughout the remaining years of the study period. By 1915 Sandy Hill supported nine percent while Mechanicsville supported only seven percent of the city's physicians. New Edinburgh, Ottawa East, Ottawa South and Ottawa West supported only a very small percentage of the city's physicians relative to the other areas of the city. The representation of physicians in the Glebe, on the other hand, became increasingly significant after 1910. Although in that year it supported only three percent of the city's physicians, in 1915 the

Figure 5.11 : Ottawa, Annual Population of Physicians 1875 - 1915

(compiled from annual city directories, Ottawa, 1875 - 1915)

Physicians

Figure 5.12 : Ottawa : Annual Population of Physicians by Area 1875 - 1915

5 - 13 Ottawa : Annual Percentage Population of Physicians by Area 1875 - 1915

(compiled from annual city directories, Ottawa, 1875 - 1915)

figure had grown to eight percent, suggesting that as the city continued to expand to the south, the area would grow in attraction as a centre for physicians' practices.

Throughout the study period, and most particularly from 1886 to 1915, the greatest percentage of Ottawa's physicians were located in Centre Town. Of greater significance, however, was the very dramatic decline of Lower Town as an area supporting a large percentage of the city's physicians. This pattern, in fact, suggested that with time, the population of physicians had shifted dramatically from Lower Town to Centre Town. From supporting a relatively respectable 46 percent of Ottawa's physicians in 1875, Lower Town, by 1915 supported only eight percent. Centre Town, on the other hand, while supporting 43 percent of the city's physicians in 1875 had, by 1915, grown in significance to the point where it supported nearly 60 percent of the total population of physicians in the city.

A more detailed examination of the percentage representation of physicians in Centre Town between 1875 and 1915 (Figure 5.14) provides additional insight into how the distribution patterns evolved through time in this very important area of the city. From 1875 to approximately 1890 the north-west and north-east sectors supported the largest percentage of the area's physicians. After 1890, and presumably because of the southward expansion of the city, the centre-east sector and, a few years later, the centre-west sector became increasingly significant as areas in which to locate a practice. Meanwhile the north-west and north-east sectors experienced a gradual decline. By 1915 they supported only three percent and seven percent respectively of the total number of physicians in the area. In this same year the centre-west sector supported nine percent while the center-east sector supported

Figure 5.14 Ottawa : Percentage Annual Population of Physicians by Centre Town Sector 1875 - 1915

(compiled from annual city directories, Ottawa, 1875 - 1915)

38 percent of the population. The south-east and south-west sectors supported only a small percentage of the area's physicians. The first physician to locate in the south-west sector began his practice in 1893. Until 1915, however, the sector never supported more than three percent of the area's physicians. Similarly, in the south-east sector the first physician began his practice in 1896, but the total percentage representation of physicians in the sector never exceeded six percent.

Based on this closer examination of the representation of physicians in Centre Town it is clear that the central-east sector of this area of the city had, by 1915, evolved into an extremely significant focal point for physicians' practices. As indicated previously, the advancing central business district, gradually pushing southward through the years, forced the population of physicians in this area to concentrate in the central sectors. The mixed industrial residential sectors located to the south were presumably unattractive and thus presented a barrier to the establishment of additional practices in these sectors.

5.6 Mobility

This section of the thesis has reviewed changing distribution patterns and shifting populations of physicians through time. An important factor affecting these patterns, however, is the degree to which physicians moved about the city. The issue of mobility is central to an understanding of the extent to which physicians related to the attributes of the particular areas in which they located. If a great deal of movement occurred it might suggest that either the profession as a group was not stable or the city itself was not sufficiently established in terms of the development of acceptable areas in which to locate a practice. The direction

of movement, if studied over time, can also contribute to a greater understanding of the potential for some city areas to support physicians' practices.

On the other hand, the degree to which physicians remained fixed in certain areas of the city could be a statement on the stability of the profession in terms of its adherence to a common set of location requirements shared by all physicians. It may, as well, be a statement on the maturity of the city in terms of the development of stable, well-defined areas displaying universal qualities which would be suitable for the location of physicians' practices.

Figure 5.15 describes the percentage population of physicians who either remained at one location, moved to another location, were new arrivals or completely disappeared from the city directories listings of physicians. The information for this figure was obtained through calculations made of data obtained from the Ottawa City Directories on an annual basis from 1875 to 1915. Throughout the study period little movement occurred from year to year and the number of disappearances of physicians was balanced by a relatively equal number of appearances. During the early years of the study period, however, particularly from 1875 to 1880, there was considerable activity relative to the rest of the study period. Of the 31 physicians in Ottawa in 1875, for instance, 61 percent remained at the same addresses through the one-year period 1875-1876, 17 percent moved to some other location, and 22 percent disappeared. Eighteen percent of the total number of physicians practicing in Ottawa in 1876 were new arrivals. By 1883, however, this activity had moderated somewhat; of the 25 physicians located in the city in this year, 92 percent remained at the same location through the year. Only four percent moved to another location and only four percent disappeared. Twelve percent of the physicians who practiced in 1884 were new arrivals.

Figure 5:15 Ottawa Mobility of Physicians 1875 - 1915

(compiled from annual city directories, Ottawa, 1875 - 1915)

The year of greatest stability was from 1896 to 1897 when all of the city's physicians remained at the same addresses throughout the year. For those years in which movement was significant it was found that most of the movements were directed to Centre Town. Until 1915, however, the overall pattern of mobility was relatively stable.

In summary, therefore, although it was found that some movement occurred in the early years of the study period, by 1885 and in subsequent years thereafter the profession remained relatively established in certain areas of the city. Most of the 'movement' in fact resulted from either new physicians establishing practices or established physicians closing their practices. The movement of physicians from one area of the city to another was relatively small compared to the overall stability of the profession from year to year. This phenomenon was thought to be generally indicative of the growing stability of the profession and the maturity of the city (i.e. defined, established city areas) particularly in the period after 1890.

5.7 Discussion

Based on a knowledge of the characteristics of both the medical profession and the growth of the city and based on an examination of the annual location data provided in the city directories, a number of factors were identified to account for the supply and distribution of physicians throughout the study period.

One important conclusion was that Centre Town had developed into a particularly significant area for the location of Ottawa's medical profession. The two central sectors of this area, in

particular, attracted large numbers of physicians, especially in the later years of the study period.

In evaluating these distribution patterns a number of factors were suggested and either discussed or substantiated in accordance with the knowledge gained of the nature of both the profession and the city. The location of hospitals for instance did not influence the location decision of most physicians. The location of the General may have attracted one physician but the locations of St. Luke's and the Carleton Protestant did not appear to have influenced the location of other physicians. Although a number of specialists were identified in the later years of the study period this development was not considered a major factor affecting the location decision. It could not be clearly established if affiliation to a particular medical school had any influence on the location decision.

As part of the discussion on the distribution of physicians throughout the period 1875 to 1915, a number of factors which affected the decision made by individual physicians were suggested. Though requiring further substantiation, Dr. Bell's long established practice in New Edinburgh and Dr. Valade's long tenure in Lower Town were both suggested as examples of how the stability of individual practices could have negatively affected the location of other physicians in these areas. The Great fire of 1900 was also seen as a negative force affecting the location of physicians in the Chaudière Falls area. The expanding city core in Centre Town was seen as a negative force which contributed to a gradual decline in the number of physicians in the north-east and north-west sectors of this area. The appearance of physicians in such recently developed areas as Ottawa South, Ottawa East and Ottawa West was directly related to the expansion of the city, particularly to the south and west.

A physician's decision to locate in particular areas, however, is presumably based, not only on the attractiveness of the area in which he wishes to practise, but also on the type of street upon which he must specifically locate. If, in a given area, physicians tended to locate on particular streets, then this may be one clue to the criteria used in the decision-making process. Somerset Street, for instance, attracted a large number of practices, particularly from 1900-1915. To only a slightly lesser extent, Metcalfe, O'Connor, Laurier, and Elgin Streets attracted large numbers of physicians. Together, these streets formed the centre-east sector of Centre Town which in the early 1900's was represented by a greater number of physicians than any other area in the city. As well as being generally prestigious in nature, these streets were also main city thoroughfares. In a number of cases, such as Bank and Somerset Streets, they linked various other areas of the city. Several also supported electric street railway lines. As will be suggested in the next chapter, therefore, location on these streets and the areas within which they were located could have been in response to both the need to satisfy their perceptions of prestige and status and their need to maintain close communications with major segments of the city's population.

FOOTNOTES

- Chapter 5 -

- 1 H. Prince, Real, Imagined and abstract worlds of the Past, in Progress in Geography, edtrs C. Boards, R.J. Charley, P. Haggett, D. Stoddart, (London: Edward Arnold Ltd, 1971), pages 1-86;
A.H. Clarke, Historical Geography, in American Geography: Inventory and Prospect, edtrs P.E. James, C.F. Jones, (Syracuse: Syracuse, 1954); H. Darby, The Problem of Geographical Description, Trans. Brit. Geog. Pub. No. 30, pgs. 1-13.
- 2 Ottawa City Directories, 1875-1915; see bibliography for complete citation.
- 3 Ottawa City Directories, 1875-1915; see bibliography for complete citation.

Chapter 6

FORCES AFFECTING THE LOCATION DECISION

6.1 Introduction

The emphasis of the previous chapter was on achieving a greater understanding of the forces which affected the geographical distribution of physicians throughout various areas of the city. This was accomplished through an evaluation of the distribution, mobility and population of physicians in relation to the evolving form and changing dynamic forces displayed by the city between 1875 and 1915. Although a number of significant patterns were identified (e.g. the growth in importance of Centre Town as a focus for establishing physicians' practices) and a number of factors affecting these patterns were suggested, an overall statement on the central forces affecting a physician's decision to locate has yet to be made. This chapter seeks to develop such a statement. It does so by investigating more fully the relationships between the distribution patterns described in the previous chapter and a number of forces which are suggested in this chapter.

It would seem from Chapter five that the need to establish a practice in a prestigious area of the city combined with proximity to the market place (i.e. access by potential patients to their services) were the two central motivating factors which, at least generally, affected the location decisions made by physicians. To substantiate this, a two stage approach is adopted. The first stage involves an investigation into how physicians related to their marketplace. Were their practices established in areas of the city in numbers proportional to the populations of these

areas? Or were they satisfied with establishing their practices near major transportation arteries where the inconvenience of distance travelled by their patients could be offset by the financial gain to themselves in terms of the greater market area they could draw upon. The second stage, which is based on the results of the first, evaluates the extent to which their location decisions, regardless of their concern for access to their marketplace, was determined by a need to locate either within or in close proximity to prestigious residential areas of the city. Was their perceived sense of status a strong motivating factor directing them to locate in areas which properly reflected this perception? Or was this only of marginal significance when compared with the effects of other perhaps stronger forces on the location decision? Were prestige and status, indeed, powerful influences on the location decisions made by most of Ottawa's physicians?

In 1915, Ottawa was a relatively mature city supporting readily identifiable city areas, clearly defined residential sectors and a well established transportation system. The profession itself was felt to be homogeneous (i.e. displaying common attributes), at its most mature with respect to the study period and its members were considered sufficiently large in number to permit an effective evaluation. Unlike other years covered by the study period, adequate and relevant data could be obtained from Holt which contains numerous charts, maps and statistics relating to the city for 1913.¹ As a result, the availability of data, and the opportunity to measure a mature occupation, together with a clearly defined set of spatial areas upon which measurements could be made, contributed greatly to the decision to evaluate these hypotheses for the sample year 1913.

6.2 Accessibility of Marketplace

Physicians were assumed to be concerned about their geographical relationship to their patients. Regardless of the motivating factors affecting their location decision, physicians were expected to have had to consider their location in the context of the potential patients available in specific areas. The approach employed here is to establish two hypotheses and test each one for the degree to which it accurately portrayed the physicians' relationship with these patients.

In the first hypothesis, the proportional representation of physicians with respect to the density of the population in various areas of the city was thought to be a statement on the degree to which physicians adhered to a moral responsibility to physically locate in close proximity to their potential patients. If 'concern' governed location, the ratio of physicians to residents in each city area should be the same as that for the city overall. The population of each area should receive physicians' services equal in proportion to those received by every other city area. In short the number of physicians should be equal to the number required to support the population of that area.

In order to test the degree to which this statement was valid, it was necessary to calculate, for each area, the number of physicians as a ratio of the area's total population. The series of maps which describe the density of population for the city for each ten year period from 1880 to 1910 as well as 1913 (Figure 4.4), was used, together with the map describing city areas (Figure 4.1), to calculate the total population for both the city and for each city area (Figure 6.1). The total number of dots appearing in each city area was calculated and multiplied by 100 (one dot

Fig. 6.1 Ottawa: Total Population by Area and Centre Town Sector

Fig. 6.1 (A) Ottawa: Total Population by Area and Centre Town Sector 1880

J. Holt, Federal District Plan for Ottawa and Hull, 1915, (Ottawa: Federal Plan Commission, 1915)

Fig. 6.1 (B) Ottawa: Total Population by Area and Centre Town Sector 1890

J. Holt, Federal District Plan for Ottawa and Hull, 1915, (Ottawa: Federal Plan Commission, 1915)

Fig. 6.1 (C) Ottawa: Total Population by Area and Centre
Town Sector 1900

J. Holt, Federal District Plan for Ottawa and Hull,
1915, (Ottawa: Federal Plan Commission, 1915)

Fig. 6.1 (D) Ottawa: Total Population by Area and Centre
Town Sector 1910

J. Holt, Federal District Plan for Ottawa and Hull,
1915, (Ottawa: Federal Plan Commission, 1915)

Fig. 6.1 (E) Ottawa: Total Population by Area and Centre
Town Sector 1913

J. Holt, Federal District Plan for Ottawa and Hull,
1915, (Ottawa: Federal Plan Commission, 1915)

equals 100 persons) to determine the total population for each area. In 1913, for instance, it was calculated that 3500 persons lived in New Edinburgh and that 7,000 lived in the Glebe. Similar calculations were performed for each of the other areas for each of 1880, 1890, 1900 1910, and 1913. The ratios of physicians to population were then calculated by superimposing the distribution of physicians for these years (Figures 5.3, 5.5, 5.7, 5.9 and 6.5), adding the total number of physicians in each area and describing the relationship between physician and population as a ratio of one physician to 'n' individuals.

The results (Figure 6.2) suggested that Centre Town's population was served by a proportionally higher number of physicians than was the case in other city areas. Only Sandy Hill was represented by a number of physicians proportionally equal to the city average. Although in 1880 Lower Town supported a ratio of physicians to population which was generally equal to that supported by the city overall, a disparity had occurred by 1890 when it supported a ratio of only 1:1300. In 1900 the ratio was 1:2666, in 1910 only 1:2571, and by 1913 the ratio had slipped to 1:2528.

Mechanicsville also supported proportionally fewer physicians than was supported by the city overall. In 1880 the area supported a ratio of physicians to population which was generally equal to the city average. By 1890, however, this ratio had shifted to 1:2150 and in 1900 to 1:2500. Although by 1910 the situation had improved somewhat (1:1680), the rate had begun to decrease again by 1915 (1:1900).

Between 1910 and 1915 both New Edinburgh and Ottawa East supported only one physician each. The ratios for these two areas, however, were also lower than the city average. Similarly,

Figure 6.2 : Ratio of Physicians to Population in
Ottawa by Area 1880, 1890, 1900, 1910, 1913

(compiled from the city directories, Ottawa, 1880, 1890, 1900, 1910, 1913;
also; J.Holt, Federal District Plan for Ottawa and Hull, 1915, Ottawa:
Federal Plan Commission, 1915)

during the same period the representation of physicians in Ottawa West was very poor relative to the population supported in the area.

In 1900 the Glebe supported a small number of physicians compared to the total population of the area. By 1910, however, their numbers had increased to the point where their proportional representation was higher than the overall ratio for the city as a whole. Thus, although the ratio was only 1:3600 in 1900 this figure had improved rapidly to 1:1125 by 1910 and to 1:777 by 1915.

Ottawa South was also well represented by physicians. Though development of the area began only in the early 1900's, the proportional representation of physicians supported by the area was equal to that supported by the city overall. As the area continued to develop, however, the proportional representation improved until by 1915 the ratio of physicians to the sector's population had reached 1:600.

The area which deserves particular attention, however, is Centre Town. From 1880 to 1915, the proportional representation of physicians in the area remained relatively constant and was always lower than the city average. In 1880, one physician served 607 residents. By 1910 the proportional representation had further improved to 1:422. In 1910 the ratio was 1:329, a figure which five years later only slightly declined to 1:371. Clearly, in terms of immediate accessibility to physicians' services, Centre Town's citizens were in a much better position than their counterparts in other areas of the city.

The significance of Centre Town as an area capable of supporting

large numbers of physicians relative to its population, prompted a closer examination of each of the area's sectors (figure 6.3). Between about 1880 and 1900, the south-east and south-west sectors were sparsely developed and consequently did not support any physicians' practices. After 1900, however, the proportional representation of physicians fluctuated dramatically. In the south-west sector in 1900, one physician supported 3,000 persons. Although ten years later the ratio had improved to one for every 900 residents, by 1915 the number of physicians relative to population had declined to only one for every 1566 residents. In the south-east sector the pattern was the reverse. While in 1900 the ratio was 1:1600, by 1910 the ratio had declined dramatically to 1:5000, a figure which improved in an equally dramatic manner to 1:933 in 1915.

The north-east and north-west sectors were well represented by physicians until about 1905, after which their proportional representation, particularly in the north-west sector, declined. After supporting a physician to resident ratio of 1:322 in 1900, this sector experienced a decline to 1:1000 in 1910, and 1:1125 in 1915. The north-east sector, however, experienced only a moderate decline in comparison. The sector generally supported a very high ratio of 1:200 in 1880 which decreased slightly to 1:260 in 1890 but increased to 1:76 in 1900. By 1910, however, the ratio had declined again to 1:250 and by 1915 to 1:550. Although they had supported the highest ratio of physicians in 1880, these two sectors, by 1915, had lost a great deal of their influence to the two sectors immediately to the south.

These two sectors, the centre-east and centre-west sectors were, in fact, the two most influential sectors of not only Centre Town but of the entire city. Their influence grew as the city

Figure 6.3 : Ratio of Physicians to Population in Centre Town
by Sector 1880, 1890, 1900, 1910, 1913

(compiled from the city directories, Ottawa, 1880, 1890, 1900, 1910, 1913;
also: J. Hott, Federal District Plan for Ottawa and Hull, 1915, Ottawa:
Federal Plan Commission, 1915)

became more established, as the central business district advanced to the south and as the number of physicians increased. Both sectors followed essentially the same pattern - that is, as the two sectors to the north declined in significance, the centre-west and centre-east sectors grew as new medical practices appeared in what eventually became an essentially high class residential area. The centre-east sector was more influential and although only supporting a physician to population ratio of 1:1238 in 1880, very quickly enhanced its position as a centre for physicians locations by supporting a ratio of 1:283 in 1900 and 1:110 in 1910. The centre-east sector established its position in an only slightly less dramatic manner. From supporting a ratio of only 1 physician to 2413 residents in 1880 this sector quickly improved its position to 1:935 in 1900 and 1:380 in 1910.

For the period 1875-1915 it was found that physicians did not share a uniform commitment to locate in numbers proportional to the population of a particular area. Centre Town, a generally affluent area of the city, was identified as an area supporting a disproportionately high number of physicians relative to its population. Lower Town, a poorer area of the city, was identified as an area supporting a disproportionately lower number of physicians relative to its population. The Glebe and Ottawa South, which were both generally affluent in nature, were identified as having supported proportionally higher numbers of physicians than the other poorer areas such as Ottawa East and Mechanicsville. Sandy Hill was the only area which supported a number of physicians which was proportionally equal to that supported by the city overall.

An analysis of the distribution of physicians relative to the population of each area of the city revealed that the need to

locate in numbers proportional to the population was not a decision-making criterion commonly shared by all physicians. In fact, the decision by physicians to locate in such great numbers in the high class residential areas of the centre-east and centre-west sectors of Centre Town, both of which, in later years of the study period, were located in close proximity to major transportation routes and the central business core, is considered one of the major keys to an understanding of the criteria used by physicians in their decision to locate.

If service to the wider community was not the prime motive of physicians, was profit? Perhaps physicians at this time were little different from other occupational groups. Given that their workplace and residence were the same, physicians might be expected to generally locate on, or within close proximity to, the most heavily travelled transportation arteries, along which would flow the highest volume of clients. The only data available to describe the volumes of traffic along various city routes were those described on a map provided in Holt.² Volumes of passenger flow, as described on the map, were divided into four categories (Figure 6.4), from category one (highly travelled downtown arteries) to category four (less travelled thoroughfares extending into the fringe areas of the city). If the most economically attractive areas of the city were located along the major traffic arteries perhaps that is where physicians would be found. Accordingly, the greater the traffic flow the greater the number of physicians to be expected. A well travelled category 3 or 4 passenger route might be strong enough to influence a physician to locate up to about three blocks away and still receive the economic advantages associated with a high flow route. Conversely a category 1 or category 2 passenger route, might benefit a physician only if he/she located within one block of the route.

Fig. 6.4 Ottawa: Passenger Flow, 1913

Passenger Flow (Daily)

J. Holt, Federal District Plan for Ottawa and Hull, 1915, (Ottawa: Federal Plan Commission, 1915)

Based on the superimposition of the location data from the 1913 distribution map (Figure 6.5 with figure 6.4) it was determined that of the 111 physicians identified in 1913, 81 were located within 3 blocks of a route supporting either category 3 or category 4 passenger flows (Figure 6.6). Twenty-nine physicians were located within 1 block of category 1 or category 2 routes and the remaining one physician was located in an area removed from the main arteries of passenger flow.

In 1913, physicians generally shared a common desire to locate within or in close proximity to the major traffic routes of the city. The economic advantages associated with location along these routes was a strong motivating force shared by most physicians. Although insufficient data were available to properly test the degree to which this statement was true for earlier periods it is suggested that during and after the electric street rail system was built (1890-1902), passenger flow increased along certain routes, and as the downtown core area in Centre Town matured, physicians, influenced by a common concern for financial gain, located their practices near those arteries supporting large volumes of vehicular and pedestrian traffic. It is also suggested that prior to the construction of the electric street railway physicians were still influenced by the economic advantages associated with location along major traffic arteries (e.g. Bank, Sussex and Rideau Streets). The superimposition of the distribution pattern for the year 1880 (Figure 5.3) on Figure 6.7 describing the streets known to support large volumes of passenger traffic (e.g. based on the horse drawn tramways) suggest that, indeed, their influence was generally shared by many of Ottawa's early physicians.

6.3 Status

The first stage of the evaluation into the overall forces

Fig. 6.5 Ottawa: Physicians' Locations 1913

compiled from City of Ottawa Directory,
(Might's Directory Co.: Ottawa, 1913)

Fig. 6.6 Ottawa: Passenger Flow and Physicians' Locations
Passenger Flow (Daily)

Fig. 6.7 Ottawa: Main Transport Routes and Physicians' Locations 1880

J. Trotman, "An analysis of land uses in Ottawa, 1878", unpublished M.A. thesis, Carleton University, 1977, p. 22.

affecting a physician's decision to locate established that the relationship between physician and patient was based on the potential for financial gain through accessibility to a wide marketplace. The contrary, that a relationship based on the potential for satisfying social needs through the provision of services in proportion to the populations of various areas of the city, could not be determined.

Yet a physician might also seek to maximize not only his financial returns but his sense of the aesthetic and well being by living in areas that he perceived to be pleasant and in keeping with his perceptions of his status. By the nature of his work he could in effect live and work in the same socially desirable area.

Therefore, as soon as the city began to develop into a set of clearly defined residential sectors, physicians, for the most part, might be expected to strive to live and work in the more affluent areas of the city. In 1875, the only recognized sectors were in the upper class areas of Sandy Hill and Upper Town and the lower class area of Lower Town. By the late 1880's, however, and as the city continued to grow, other areas, particularly in Centre Town around Somerset Street, developed into high class residential areas. Lower Town continued to support generally lower class residences as did Mechanicsville. After 1890 and particularly after 1900, the Glebe developed into a high class area while Ottawa South and later, Ottawa East, became areas of generally middle class residences.

In order to test this hypothesis it was necessary to examine the spatial distribution of the various classes of residences found in the city throughout this period. Unfortunately these data were difficult to obtain for the first years of the study period. In Holt, however, a map (Figure 6.8) was available which

described each of the residential areas in terms of either high, medium or low class.³ Combined with an understanding of the growth of the city throughout the study period, these data were thought to be sufficient to suggest the nature of Ottawa's residential areas for the ten year period from approximately 1905 to 1915. If the distribution of physicians were superimposed on this map, then it was thought that the results would be an indication of the degree to which the statement concerning status was valid. Consequently, the data describing the distribution of physicians for 1913 (Figure 6.5) were superimposed on the map describing the residential sectors of the city (figure 6.8) and the total number of physicians residing in each of the high, medium and lower class areas was calculated (Figure 6.9).

Of the 111 physicians identified in 1913, 60 were located in high class residential areas, 46 in middle class residential areas and only one was located in a poorer area of the city. Four physicians were located in commercial areas of the city. Significantly, of those physicians located in the middle class areas, most were situated in close proximity to high class residential sectors. In the period 1905 to 1915 physicians seem to have generally shared a common desire to locate in affluent areas of the city. Status appears to have been a strong motivating force shared by most of the physicians who practised in the city at this time. Although insufficient data were available to properly test the degree to which this statement was true for earlier periods it is suggested that as various residential areas in the city became more clearly defined, physicians, influenced by their own sense of status, were inclined to locate in the higher class areas.

Ottawa

Fig. 6.8 Ottawa: Class of Residence 1913

- high class
- medium class
- poor class

one inch = 1/2 mile

FOOTNOTES

- Chapter 6 -

- 1 J. Holt, Federal District Plan for Ottawa and Hull, 1915,
(Ottawa: Federal Plan Commission, 1915), passim.
- 2 J. Holt, Ibid., plate 24.
- 3 J. Holt, Ibid., plate 19.

Chapter 7

SUMMARY

This thesis described and evaluated the degree to which various forces affected the decision, by physicians, to locate in various areas of the city. In order to conduct a meaningful analysis of these forces the nature of both the profession and the city had to be established. Without this necessary background information, various conclusions regarding the ways in which certain forces operated would have been difficult to develop.

Chapter 2 established that on an increasing scale between 1875 and 1915 most physicians shared a common set of attributes which were manifest in what eventually became a mature well established and defined profession. Chapter 3 established that the common backgrounds shared by physicians during the study period (for example, education and class), the lack of specialization and the common approach most adopted to the establishment of their practices (i.e. residence combined with workplace), were indications that physicians behaved in a homogeneous way in reacting to a given set of forces.

Had the study covered an earlier time period when the profession was more poorly defined, then the disparity in the backgrounds and qualifications of Ottawa's physicians would have made the identification of common decision-making forces extremely difficult. Such an identification would have been equally difficult if the study had covered a later time period. In this period, additional factors linked to the evolution of the profession would have introduced a substantial element of complexity. Some of these

would include the effects of the first World War (for example, the abandonment of practices by physicians joining the war effort), the growth of specialization, the beginnings of a class structure within the profession, the enhanced role of the hospital, the increase in the number of joint practices, the growing separation of workplace from residence, the advancements made in medical science and treatment, and the increased significance of the dollar in physician-patient relationships. Given these limitations the choice of the period appeared sensible.

An understanding of the growth of the city was also thought to be critical if a proper evaluation of these forces was to be made. Chapter 4 established, that from 1875 to 1915, Ottawa was transformed from a medium sized, single industry town to a mature multi-functional city. Most of the growth occurred after 1885 during a period which was one of rapid growth in the expansion of the city, in the development of the railways, in the growth of the population and in the continued expansion of the street railway system. Knowledge of the changing nature of the city, its changing economic base (lumber to government), the stratification of its population, the development of clearly defined residential areas, the expansion of its business core, the development of its services, and the growth of its cultural identity, all set the background upon which meaningful and substantial conclusions were made.

As established in Chapter 4, the city, by 1900, had matured substantially and residential and business sectors could be clearly defined. Segregation by class had become a significant phenomenon as high class residential areas became identifiable, particularly in the areas of Sandy Hill and Centre Town. Variations in the density of the population had become greater and the economic base of the city had become stronger and more stable. Although the chapter did not fully explore the impact of ethnicity, it did

establish that, although immigration to the city from elsewhere in the country, the United States and overseas, was significant these immigrants did not settle "en masse" in specific areas of the city. Thus segregation according to either ethnicity or affiliation with an immigrant group was not a factor in Ottawa's growth at this time. Thus neither ethnicity nor the nature of immigration were considered to have had an impact on the location of physicians in the city (e.g. an East European physician establishing a practice in an East European quarter of the city).

The chapter also indicated that the canal, the railway lines and the street railway system had both negative as well as positive effects on the growth and establishment of various city sectors. The development of such city services as water, electricity, health, and the telephone were clear indications of the degree to which the city had matured. As a result the city was shown to have developed into a relatively stable, well defined set of functional areas. These, in themselves, were easily classified according to both prestige and relative significance to the overall function of the city.

This relative stability, however, was shattered by events after the first World War. New forces of modernization, manifest in technology, together with a changing and shifting economic and demographic base transformed the city. The transformation itself resulted in a city which was in itself large and complex. These factors, in turn, would add a substantial element of complexity to the understanding of the decision making criteria affecting the location decision. As a result the period 1875 to 1915 and particularly the last fifteen years of this period, was found to reflect the city at its most mature and stable. Thus a meaningful appreciation of the forces affecting the distribution patterns of physicians throughout this period could be obtained.

Chapter 5, which was essentially based on the knowledge obtained of both the city and the profession, examined the relationship between certain forces and the distribution patterns of physicians' practices. Although several of these forces were described in this chapter, chapter 6 established that financial gain and status were the most significant forces affecting the location decision. A marked degree of association for instance, existed between the location of physicians' practices and the upper class high status areas of the city. Nevertheless, not all physicians chose to practice in these areas. Some chose a location in the middle class areas of the city. The need to reflect their perception of status, therefore, was qualified by the need to maximize their accessibility to paying patients. Indeed their close proximity to the electric street railway lines and the excellent opportunities this presented with respect to patient accessibility, suggested that the desire for financial gain could also have been upper most in the minds of physicians with respect to their location decision. An additional factor arising from this decision and one which could have promoted a clustering of physicians locations in these areas, was the ongoing desire by physicians to consult with one another. Such a desire, together with the desire to maximize their financial advantage could have led to the grouping of physicians in high class and upper middle class areas of the city.

The area of Ottawa supporting the largest concentration of physicians, for instance, was in Centre Town, an area of high class residences situated in very close proximity to a large well developed transportation network. The centre-east and centre-west sectors of this area were particularly significant, especially during the latter years of the study period. Of substantially less concern was the need to locate in numbers proportional to the

population of various areas of the city, thus guaranteeing good accessibility to all potential patients. High density poorer areas of the city for instance, suffered from this lack of concern.

In summary, physicians were shown to have responded in a generally uniform manner to the same decision making criteria used by most businessmen. As a result most located in areas of the city which would maximize their financial status and reflect their perceptions of class and prestige. As well as being desirable areas in which to locate they also encouraged greater inter-physician consultation through the close proximity of individual practices to one another. The opportunity for greater professional contact between physicians was presumably related to their distance from each other. The closer the distance the greater the opportunity.

Thus, although the existence of physicians as benevolent 'good doctors' serving the needs of rich and poor alike is not disputed, the location of most physicians near major transportation routes, in high class areas of the city suggests that, in the majority of cases, they considered their financial, social and professional needs before the needs of their patients. That this thesis has set the basis for future research in this area by providing important insights into the economic and social behaviour of physicians in an urban setting, is one of its major accomplishments.

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