

Chapter 1

Introduction

Commenting on the health workforce in general, Ray (1987) has identified uneven geographic or spatial distribution of health care providers as the first of four “distributional imbalances”, the others being occupational imbalance, imbalance among specialties and institutional imbalance. Geographic distribution of physicians, which has received most attention, is a major health care issue in many countries, both developed and developing. In many developing nations, the concern is both with the overall shortage of physicians and the uneven distribution of the available stock of medical practitioners. On the other hand, there is a general belief that in most developed nations, the overall supply of physicians is adequate, or even excessive as in the case of Italy or Israel, but there is a uneven distribution of physicians, with rural, small and remote areas having an inadequate supply.

There are at least two reasons why the uneven distribution of physicians is a concern to health care consumers, practitioners, planners and researchers, as well as politicians. First, there is the issue of equity and social justice, particularly in countries with a publicly funded health care system. If access to health care is seen as a right of citizenship, those who have difficulty accessing health care can justifiably claim that they are not being treated equitably. It is, therefore, not a mere coincidence that in Ontario, both the Ontario Health Insurance Plan (OHIP¹) and the Underserved Area Program (UAP) were established in the same year - 1969. OHIP reimburses physicians, as well as other practitioners, for providing services to patients under the universal medicare system. UAP is one of the largest and longest-running programs in North America designed to help recruit and retain physicians, as well as other practitioners, to work in “underserved” communities in Ontario. Universal medicare is an empty promise or a meaningless catch phrase if residents in certain communities or regions have no ready access to the providers of medical care. Like Ontario, other provinces and territories have introduced physician recruitment and retention programs with a view to solving or alleviating the problem of uneven distribution of physicians.

The other reason is rooted in the belief that there are linkages between physician availability, medical care utilization and health status. In order to improve the health status of a population, according to this argument, people must have adequate access to needed medical care. People will not have access to needed medical care if physicians are not available in a community. For instance, the methodology for identifying Health Professional Shortage Areas in the United States (US), according to Taylor et al. (1994), is based on the assumption that “not having enough primary care physicians in an area means that the persons living in that area will be hindered in obtaining the primary care that they need” (p. 13). This may be abetted by concerns over the so-called “inverse care law” which postulates that health needs and service availability tend to vary inversely. Thus, one of the first tasks in achieving optimal health status is to ensure

¹ A list of acronyms can be found in Appendix VII.

that physicians are located where people reside. But, as will be discussed in greater detail later on, the relationships between physician availability, medical care utilization and health status are much more complex and tenuous than most people realize. In light of the concerns over the uneven distribution of physicians, Health Canada has commissioned the Centre for Rural and Northern Health Research (CRaNHR) at Laurentian University to undertake a study, the general objective of which is to describe and analyze the geographic distribution of physicians in Canada, with particular attention to rural and remote areas. In addition, Health Canada is interested in a number of more specific questions:

- " Which methods have been used to define physician shortages? Which methods have been used to determine where in Canada access to physician services is problematic? What are the relative strengths and weaknesses of these methods? Using these methods, where in Canada have shortages of physician services been identified?
- " What proportion of the Canadian population experiences difficulties in accessing physicians' services? Where are these populations located? Is the problem confined to particular sections of society? Is the problem widespread, or confined to certain "hot spots"?
- " Is there a more serious shortage of specialists than of general practitioners? If so, which specialists' services are more lacking in rural and remote areas?
- " Is there any documented evidence of social or economic impacts arising from difficulty accessing or lack of access to physician services? ²

Needless to say, not all of these questions can be answered, given the nature of this study and the methodology and data used in the analysis, as well as the limited time frame and budget. Information and knowledge gaps and suggestions for further investigation will be briefly discussed in the final chapter of the report.

Health Canada has specified that the study should include a literature review and a statistical analysis of physician supply using data provided by the Canadian Institute for Health Information (CIHI). Given the overall objectives of the study and the methodology to be employed, this report has three goals:

1. To review and synthesize the literature on the geographical distribution of physicians with a particular focus on rural Canada;
2. To enumerate and map the locations of Canada's physicians, illustrating, data permitting, some of the various methodologies that are highlighted in the literature review; and,
3. In spotlighting data deficiencies, to propose future research projects that may assist researchers and policy makers in evaluating the geography(ies) and measuring the "fairness" and/or "maldistribution" of physicians in Canada.

² These general objective and specific questions are specified in the Request for Proposals.

The structure of this report closely follows these three goals. In Chapter 2, the review and synthesis of the literature focuses on studies that *describe* the geographic distribution of physicians. It examines both traditional and more novel measures of distribution in terms of identifying or measuring the *geographies* of physicians. The enumeration and mapping of physicians is presented in Chapter 3. It focuses on the numbers and locations of physicians, by specialty, in the years 1986, 1991 and 1996. Use is made of the Southam Database and the National Physician Database acquired from CIHI and those provinces that agreed to provide data. At this stage of the analysis, the emphasis is on the questions: “*Where are Canada’s physicians located? Can one identify or relate associations of those locations in terms of a limited number of definitions of rurality?*” It does not deal with the important issue of explaining the geographical distributions. Contrasting the text-based analyses in Chapter 2, the *where* and the *associations* are portrayed in Chapter 3 (and appendices) primarily in tabular and mapped form. Chapter 4, the concluding part of the report, summarizes our observations of the extant literature and geographical distribution of Canada’s physicians and the difficulties (especially with respect to data acquisition and availability) of undertaking such analyses. The final chapter contains a brief discussion of what is known and what is still uncertain. It concludes with a series of recommendations about how to fill these knowledge gaps and proposes a series of studies to evaluate these recommendations.