An Approach to Locating a Family Practice Office in a Metropolitan Area

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A simple, economically feasible approach to locating a family practice office within a metropolitan area is presented. The Grand Rapids area serves as the population base for this investigation. An Office Location-Population Profile is determined from census tract population data and known physician office distribution. Based on this information, a subsegment of the total area is delineated as a possible neighborhood for an office location and a physician-population ratio for this subsegment is determined. This is compared with recommended ratios. A statistical profile of the population, within the area considered as a possible site location, is developed using information available through census bureau statistics. Finally, a direct survey of a random sample of households within the selected area is performed.

This format provides an objective approach to facilitate rational decision making in locating a family practice office in a metropolitan area.

The problem of locating a family practice within an urban area is faced by many physicians each year. The ultimate decision will affect the health care services for many of an area's population and requires the mobilization of significant financial resources. The purpose of this paper is to present a simple and economically feasible approach to locating a family practice office within a metropolitan area.

As a result of the recent growth of family practice training programs in the United States, there are increasing numbers of residency-trained family physicians seeking a practice location. Many of these physicians will locate in an urban metropolitan area.[1] This decision is generally based on such factors as the opportunity to join an established group, word-of-mouth recommendations from other physicians within the community, advertisements, recruiting agencies, and the availability of office space. The medical literature provides some broad guidelines for setting up a practice,[2,3] and the public health literature gives a perspective of the factors which correlate with practice location.[4-9] However, there are no specific guidelines to aid the physician in an objective decision-making process toward practice location.

Family practice, like other primary care specialties, is community rather than hospital-based.[9] As less than 25 percent of a family physician's services are provided within the hospital, his/her office should be located so as to conveniently provide services to a given community or neighborhood. Therefore, an approach to office location must consider the geographic distribution of the population within the metropolitan area and the access to primary care providers. A feasibility

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Table 1. Statistical Population Profile for Census Tracts 133-145*

	Census Tracts 133-145	Grand Rapids
Percent of families with child less than 18 years of age	56	45
Average number persons per household	3.4	3.0
Mean income	$11,082	$11,242
Percent unemployed	4.4	6.5
Percent white-collar workers	9.2	13.7
Percent blue-collar workers	42.1	31.6
Percent auto workers	4.35	2.85
Percent high school graduates	49.6	52.8
Percent college graduates	14.2	22.5
Percent own home	80.8	60.7

*US Department of Commerce, Bureau of the Census (Suitland, Md): 1970 Census of the Population: Michigan Population Statistics, Government Printing Office, 1970

study for locating a practice site within a metropolitan area needs to address three specific questions: (1) Is there a sufficient population base to support a family practice? (2) Is there an inadequate physician-population ratio within the area to be served? (3) What are the present health care needs of this population?

Methods

Developing an Office Location-Population Profile

The greater Grand Rapids Metropolitan Area was the population base for the present study. The urban *Medical Directory* and the Grand Rapids Metropolitan *Telephone Directory* were used to determine the office locations of primary care providers within the metropolitan area. For the purpose of this investigation, primary care providers are defined as those physicians providing services in general or family practice, internal medicine, and pediatrics. Office location was plotted on a map of the metropolitan area. The locations of four major hospitals were also plotted.

The population distribution was plotted according to census tracts. This information was obtained from the US Bureau of the Census, 1970 Census of the Population.

Developing a Physician-Population Ratio

A visual assessment of the Office Location-Population Profile helps to define a subsegment of the total metropolitan area which may be considered as a possible site for locating an office. The geographic area delineated by census tracts 133 to 145 was selected for further investigation. The number of primary care physicians within this area was determined and placed in a proportion to the population within these census tracts.

Developing a Statistical Population Profile

A demographic profile of the population within a given subsegment of the metropolitan area was developed. Data from the 1970 Bureau of the Census survey provide an overview of the population composition. Information was obtained on age distribution, employment, median income, family composition, and housing age and cost.

Table 2. Patterns of Medical Care in 157 Households

Sources of Health Care	Number of Households Surveyed	Percent of Population Surveyed
Within census tracts 133-145	44	28.0
Outside census tracts 133-145	107	68.2
Both within and outside census tracts 133-145	6	3.8
Family physician	75	47.8
No family physician	82	52.2

The Neighborhood Health Care Survey

A direct survey of the households within census tracts 133 to 145 was performed. Households to be surveyed were picked from the Grand Rapids Metropolitan Urban Directory on a random basis. This survey was performed via telephone canvassing. Questions were phrased in a Yes/No format, in order to allow statistical assessment using a binomial distribution. Questions asked related to present patterns of health care utilization, definition of specific health care needs, and whether the household members would use a new family physician located in their neighborhood.

Results

The Office Location-Population Profile for the Grand Rapids Metropolitan Area showed that the majority of offices are located so as to provide immediate access to the four hospitals. There are relatively few offices located so as to provide immediate geographic access to the population. From this profile, it was apparent that the area defined by census tract 133 to 145 contained a large segment of the metropolitan population and only a small number of physician offices.

The Physician-Population Ratio for census tracts 133 to 145 is 1:5,500. That is, there is one primary care physician available for every 5,500 people. Recommended ratios for family physicians vary from 1:2,000 to 1:3,000.[10] This area has essentially one half the ideal number of physicians necessary to provide for the health care needs of the population.

Table 1 shows, in part, the Statistical Population Profile for census tracts 133 to 145 as compared with the entire metropolitan area. The population within this area at the time of the 1970 Census is characterized by young families with parents aged 25 to 34 years and children less than nine years old. There is a low proportion of older families when compared with the metropolitan area. Only 5.7 percent of the population is age 62 or older compared with 11.5 percent for the entire metropolitan area. A review of income distribution shows a high proportion of families in the low income category. Of the families within the area, only 30.9 percent had incomes of less than $8,500. Only 18.4 percent had incomes of over $15,000 annually.

Additional information about health care patterns was obtained through the Neighborhood Health Care Survey mentioned earlier. Tables 2 and 3 show the results of this survey. Of those surveyed, approximately 68 percent obtained their health care outside of the immediate geographic area and greater than 50 percent stated that they did not presently have a family physician. Over half the people surveyed stated that they would use the services of a new family physician located so as to provide ready access to their immediate area.

Discussion

The analysis of the Grand Rapids Metropolitan Area provides a format for gathering objective information upon which to base the decision of practice location. It is a simple and inexpensive approach. The only resources required are time and interest on the part of the physician. The literature provides more sophisticated approaches, but these require considerable financial resources.[7] In general, the physician considering an

Table 3. Potential Use of Family Physician Located in Area Surveyed		
	Number of Households Surveyed	Percent of Population Surveyed
Would utilize	88	56.1
Would not utilize	69	43.9

office location does not have access to these more sophisticated means of analysis.

This approach to the Grand Rapids Metropolitan Area defines a geographic subsegment of the total area which can be considered as a possible site location for a family practice office. The physician-population ratio for this area showed a deficit of primary care physicians. It should be emphasized that this is a simplistic approach and some factors are not considered. It is recognized that some physicians in the specialties of obstetrics-gynecology and general surgery may be providing variable amounts of primary health care. The assumption is made that most primary care provided within a neighborhood will be provided within the immediate geographic confines of that neighborhood. Patient preference for an individual physician may alter this pattern.

The use of a statistical profile and neighborhood health care survey provides a perspective on the population from which one can anticipate health care needs. In examining the data from census tracts 133 to 145, one can see that this area is composed of young families with children and a low to middle income. Only half have family physicians, and over half would use the services of a new family physician located within their neighborhood. The health care needs of this population will be quite different from those of a population with a significant proportion of people in a geriatric age group. Services to be provided should emphasize prenatal and obstetric care and developmental pediatric care, as well as general medical care provided within the context of the family unit. Lower income families may require greater access to nutritional services, and blue-collar workers may require access to services with evening rather than daytime hours. The objective data are helpful in health care planning as well as site location.

Conclusion

In recent years, increasing concern on the part of health care consumers regarding access to health care services has resulted in an emphasis on health care planning. Regional Health Systems Agencies are responsible for the assessment and planning necessary to provide for the health care needs of their areas. A look toward the future may predict the eventual requirement of a "certificate of need" prior to construction of a new office. It is the authors' hope that the relatively simple format presented in this paper will prove useful as a basis for gathering the information necessary to aid a physician in a more objective decision-making process in locating his/her practice.

References

1. Kennedy B: Preliminary report on health manpower resources: Republican Caucus Task Force on Health Manpower Resources, House of Representatives, Room 104½, The Capitol, Lansing, Mich, August 1977
2. Leif CB, Kalogredis JD: In forming group practice, planning spells success. Pa Med 79:43, 1976
3. Leif CB, Kalogredis JD: Selecting and obtaining the best office. Pa Med 78:49, 1975
4. Guzick DS, Jahiel RI: Distribution of private practice offices of physicians with specified characteristics among urban neighborhoods. Med Care 14:469, 1976
5. Kaplan RS, Leinhardt S: Determinants of physician office location. Med Care 11:406, 1973
6. Evashwick CJ: The role of group practice in the distribution of physicians in non-metropolitan areas. Med Care 14:808, 1976
7. Shuman J, Hardwick CP, Huber GA: Location of ambulatory care centers in an urban metropolitan area. Health Serv Res 8:121, 1973
8. Schneider JB: Measuring and evaluating and redesigning hospital-physician-patient special relationships in metropolitan areas. Inquiry 5:24, 1968
9. Lubin JW, Reed IM, Worstell GL, et al: How distance affects physician activity. Modern Hosp 107(1):80, 1966
10. Michigan Health Council: Health manpower for Michigan. 9:5, 1977