

AN ECONOMIC INTERPRETATION OF THE SPATIAL DISTRIBUTION OF PHYSICIANS IN THE U. S.*

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I. INTRODUCTION

The number of physicians in relation to population varies widely between localities and regions in the United States. This pattern of distribution is related to differences in regional per capita income levels and raises questions not only from a public health but also from an economic point of view. To what extent and in what manner do economic factors influence the distribution of physicians? What kind of economic behavior of physicians is suggested by their spatial distribution? Do the economic forces at work within the given institutional arrangement tend toward a distribution that is consistent with efficient use of health manpower resources?

The purpose of this article is to seek an answer to these questions.¹ It begins with a description of the empirical relationship between the ratios of physicians to population and regional per capita incomes. Several hypotheses are then developed to explore the economic variables that may account for the observed relationship. Finally, the

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¹ Similar questions may be raised with regard to distribution between specialties. None of these questions has been adequately explored by economists. See, however, Rashi Fein, "Studies on Physician Supply and Distribution," *American Journal of Public Health*, May 1954, pp. 615-624; and M. Friedman and S. Kuznets, *Income from Independent Professional Practice* (New York: National Bureau of Economic Research, 1954).

hypotheses are subjected to empirical tests, insofar as is possible with the data available on physician incomes, physician visits, and medical expenditures. Although relevant data in this area are limited, the article does bring together in a concise form a large amount of statistical information from both public and private sources.

II. THE DISTRIBUTION OF PHYSICIANS

Any analysis of the spatial distribution of physicians poses the problem of defining the geographic area served by physicians. Following the practice of the Health Manpower Survey,² we shall assume that the "county group" is the relevant economic area. A county group combines counties with similar population concentrations within a state; these counties are often but not always geographically contiguous.³ The

² The Health Manpower Surveys used in this study are in M. Y. Pennell and M. E. Altenderfer, *Health Manpower Source Book*, Section 4, U. S. Public Health Service (Washington, D. C.: U. S. Government Printing Office, 1954); M. Y. Pennell and M. E. Altenderfer, *Health Manpower Source Book*, Section 5, U. S. Public Health Service (Washington, D. C.: U. S. Government Printing Office, 1954); and in W. H. Stewart and M. Y. Pennell, *Health Manpower Source Book*, Section 10, U. S. Public Health Service (Washington, D. C.: U. S. Government Printing Office, 1960).

³ Five groups are used and they are designated as follows: (1) greater metropolitan, where the populations exceed one million; (2) lesser metropolitan, where populations range from 50,000 to one million; (3) adjacent counties, those which are contiguous to metropolitan areas; (4) isolated semirural areas, for counties with at least one city of 2,500 people; and (5) isolated rural areas, for the remaining rural counties. Residents of adjacent areas are no doubt served on occasion by