Individual vs. Household Determinants of the Demand for Medical Care: A Study of Rural Families

Laurence Miners
Fairfield University

ABSTRACT: This article investigates, from a household perspective, the demand for medical care. Earlier (economic) studies have typically focused on individual utilization patterns; however, the data set employed here allows for an investigation of the role of other family members on individual demand. The theoretical results suggest that the labor force status (via the wage rate) of one family member may, in addition to influencing that person's rate of medical care use, effect the utilization of other household members. Separate physician visit demand equations are estimated for husbands, wives, and the household unit. The empirical results indicate that the wife's (full) cost of receiving medical care is a significant determinant of utilization by both the husband and other family members. Overall, the findings suggest that demand studies should take the presence of other household members and family structure into consideration when analyzing the determinants of individual medical care utilization.

The main purpose of this paper is to formulate and estimate a household model of the demand for medical care that explicitly considers the interaction effects that may exist among household members. Concern with interpersonal relationships stems from the public nature of many medical goods and services, the communicability and hereditary aspects associated with many diseases, the large size of many rural households, and the long distances many families must travel to receive medical care, which greatly increase the total (opportunity) cost of individual visits.

It is often necessary for an adult to accompany young progeny on medical visits. For this reason the utilization of medical visits by various household members may be closely related to the opportunity cost of time and hence the wage and labor force participation rates of the parents. Changes in the wage rate of one family member may not only influence that person's utilization of medical services, but also the demand of other family members.

This study was supported in part by grant no. 1R03 HSO 2417-01 from the National Center for Health Services Research, HHS.

Laurence Miners received his Ph.D. in economics from the University of North Carolina at Chapel Hill. He is currently an Associate Professor at Fairfield University and his research interests are focused mainly in the areas of health and labor economics. Correspondence concerning this article should be addressed to Laurence Miners, Department of Economics, Fairfield University, Fairfield, CT 06430.
This suggests that a whole host of *household* characteristics—including variables that are economic and demographic in nature, as well as those related specifically to household health status—may influence *individual* health care use. Furthermore, given appropriate economic (or noneconomic) models, it may be preferable to treat the household, rather than the individual, as the primary unit of analysis. The main purposes here are: to determine when, and if, the household may be considered a more logical unit of analysis; and to develop a realistic approach to test for the significance of family characteristics when studying patterns of medical care use.

The theoretical issues section of this paper formulates a household model of the demand for medical care highlighting the importance of cross-individual price effects. The following section compares individual and household empirical results obtained from a rural community in North Carolina. The final section provides a conclusion and discussion of the policy implications of this research.

**Theoretical Issues**

The justification for developing a household model of the demand for medical care is based on the work of Andersen (1974), Andersen and Kasper (1973), Becker (1974), Samuelson (1956), and Lancaster (1975). The family is viewed as maximizing a utility function consisting of family members' utilization of various medical goods and services and a composite bundle of other goods. More formally, the utility function is given as:

\[ U = U(M_j, N_j, D, Z) \quad (j = 1, \ldots, n) \]

where \( M_j \) represents medical goods and services purchased and consumed outside the household by the \( j \)th individual family member. Examples of \( M_j \) include private physician visits, group-practice or clinic visits, and visits to hospital outpatient departments. \( N_j \) measures the individual's utilization of medical goods and services solely within the household. Examples of \( N_j \) include nonprescription drugs and remedies, and home care. \( D \) is a composite good reflecting sanitary conditions within the home, and \( Z \) is a vector of all other goods and services consumed by the household. While earlier researchers have recognized the need for incorporating medical goods and services other than health care visits into the utility function, it has generally not been possible to implement such approaches empirically (Grossman, 1972). The data used in this study include information on individual utilization of nonpres-