

## Meeting Basic Consumption Needs: A Joint Examination of Food and Medical Care

Robert B. Nielsen, University of Georgia<sup>1</sup>  
Steve Garasky, Iowa State University<sup>2</sup>

Over one-in-ten U.S. households are food insecure. That is, these households include members who do not always have access to enough food for active, healthy living because their household lacks money or other resources for food. Children (18.2%) are far more likely than adults (10.8%) to be in households suffering from food insecurity (Nord, Andrews & Carlson, 2005). At the same time, approximately 46 million Americans, or 16% of the population, are without health insurance (DeNavas-Walt, Proctor & Lee, 2006). Research suggests that spells without insurance are usually relatively short in duration, but can be relatively frequent (Nelson, 2003). Children are most likely to experience repeated spells without health insurance, whereas adults age 55-64 experience the most frequent insurance coverage transitions. In addition, health care costs continue to increase both in nominal amount and as a share of household expenditures (U.S. Bureau of Labor Statistics, 2007). One of the largest components of out of pocket medical expenditures, prescription drugs, is driving much of the increase in out of pocket expenditures (Kaiser Family Foundation, 2006; U.S. Bureau of Labor Statistics, 2007). Despite an extensive network of private and public food assistance programs and public health insurance options, these statistics demonstrate that it is difficult for millions of families to meet these basic needs. There is some evidence that family resource allocation decisions involve tradeoffs between basic needs (Long 2003; Sharpe, Fan & Hong, 2001), but there is little research that moves beyond cross-sectional estimates to examine family-level economic outcomes associated with the acquisition of food and medical care over time.

### Data and Analyses

This study of the relationship between health insurance, medical expenditures and food insecurity examined panel data from the 2001 Survey of Income and Program Participation (SIPP). The SIPP is a nationally representative survey of the non-institutionalized United States population conducted by the U.S. Census Bureau. The three-year 2001 panel collects a "core" set of questions that are collected from respondents every four months. The SIPP also consists of "topical" modules for questions that are not asked each wave. The timing and frequency of the topical modules varies, as does the duration of the reference period to which the questions refer. The data used here were collected from January, 2003 to December, 2003 (waves 7, 8, and 9) and, depending on the rotation group of the respondent, refer to a continuous 12 months that began as early as October 2002 and ended as late as December, 2003. It was from this 12-month period that health insurance status, employment, sociodemographic information, and family composition data were drawn. The analytic sample included 49,989 people age 0 to 87 who were members of 16,236 families in 2003. When weighted, this sample represented 170.3 million people who were members of 70.8 million families.

The multivariate analyses focused on the relationship between food insecurity and medical out of pocket expenditures while explicitly controlling for the potential endogeneity of the two variables. Specifically, a two stage probit least squares estimation (2SPLS) that simultaneously fit the probit and least squares equations was used. This approach allowed us to account for the joint decision making made by households about food and medical expenditures. A 2SPLS estimation, rather than single-equation estimation methods, allowed food insecurity status to be included among the explanatory variables in the medical out of pocket expenditure equation, and medical out of pocket expenditures to help explain food insecurity.

### Results and Discussion

The results from this nationally-representative sample of families found no evidence that food and medical expenditures crowd out one another. That is, when considering the economic circumstances of families, there was little evidence that food and medical expenditures were an either/or decision for families. Rather, as families' medical out of pocket expenditures decreased, they were more likely to experience food insecurity. Similarly, as medical out of pocket expenditures increased, families' risk of food insecurity lessened.

A secondary research question addressed how varying health insurance coverage across family members and over time (e.g., everyone was continuously-insured over the study period, at least one member was uninsured at

some point in time) was associated with a medical out of pocket expenditures. The results indicated that families with a higher percentage of family members covered by health insurance also had higher medical out of pocket expenditures. Similarly, families with a lower percentage of family members covered by health insurance had lower medical out of pocket expenditures.

A final research question addressed how varying health insurance coverage across family members and over time (e.g., everyone was continuously-insured over the study period, at least one member was uninsured at some point in time) was associated with families' food insecurity status. The results indicated that the likelihood of all family members being uninsured for all 12 months was more than double for food insecure families (3.9%) compared to food secure families (1.9%). Similarly, the percentage of food insecure families with at least one family member uninsured at some point during the study period was more than double that of food secure families (58.7% versus 28.2%).

Several strengths of this research are worth noting. First, the use of families as the unit of analysis recognizes that food allocation, insurance procurement, and medical expenditure decisions do not typically take place at the individual level. Families generally pool resources and allocate these resources to maximize the well-being of its members. Second, the simultaneous estimation of food insecurity and medical care expenditures provides greater confidence about the nature of the relationship than single-stage estimations. Finally, our consideration of the relationship between family-level food insecurity and medical care expenditures, over a one-year period, using nationally-representative data, is an advancement over individual-level, cross sectional analyses.

The results of this research are contrary to findings from smaller studies that suggest that individuals and families make choices between food and medical care or services (Biros, Hoffman, & Resch, 2005; Kersey et al., 1999). Because the literature is not clear on the relationship between expenditures on food and medical care, future research will investigate the unique economic situations of those who have low incomes. Similarly, although seniors residing in families are included in this research, seniors who live alone and/or not with a family are excluded. An extension of this work will include separate analyses of senior families and senior households to investigate the unique challenges faced by the elderly, especially the elderly who are in poverty or who have low incomes.

The results of this research suggest that programs that seek to help families to obtain food or health care actually may be generating benefits beyond meeting that specific need if one considers cross-program gains. When resources available for one basic need, such as food, are increased, resources for other basic needs are more readily available. As policymakers and program administrators continue to devise ways to help families meet their needs, they should consider the overlapping benefits of food assistance and health insurance programs.

## References

- Biros, M., Hoffman, P., & Resch, K. (2005). The prevalence and perceived health consequences of hunger in emergency department patient populations. *Academic Emergency Medicine*, 12(4), 310-317.
- DeNavas-Walt, C., Proctor, B., & Lee, C. (2006). *Income, poverty, and health insurance coverage in the United States: 2005*. Washington, DC: U.S. Department of Commerce, U.S. Census Bureau.
- Kaiser Family Foundation. *Distribution of out-of-pocket spending for health care services*. Retrieved April 4, 2007 from <http://www.kff.org/insurance/snapshot/chcm050206oth.cfm>
- Kersey, M., Beran, M., McGovern, P., Biros, M., & Lurie, N. (1999). The prevalence and effects of hunger in an emergency department patient population. *Academic Emergency Medicine*, 6(11), 1109-1114.
- Long, S. (2003). *Hardship among the uninsured: Choosing among food, housing, and health insurance*. Washington, DC: The Urban Institute.
- Nelson, L. (2003). *How many people lack health insurance and for how long?* Washington, DC: Congressional Budget Office.
- Nord, M., Andrews, M., & Carlson, S. (2005). *Household food security in the United States, 2004*. Washington, DC: United States Department of Agriculture, Economic Research Service.
- Sharpe, D., Fan, J. & Hong, G. (2001). Household out-of-pocket health care expenditure trends: 1980-95. *International Journal of Consumer Studies*, 25(2), 114-122.
- U.S. Bureau of Labor Statistics. (2007). *Consumer expenditures in 2005*. Washington, DC: U.S. Department of Labor.

## Endnotes

<sup>1</sup>Assistant Professor, Housing and Consumer Economics, University of Georgia, Athens, GA.

<sup>2</sup>Associate Professor, Human Development and Family Studies, Iowa State University, Ames, IA.