

Food Insecurity, Health Care Costs, and Economic Instability: A Panel Study of Household Financial Well-being Before, During, and After the Great Recession

Jinhee Kim, University of Maryland¹
Swarn Chatterjee, University of Georgia²
Yunhee Chang, University of Mississippi³

The primary objective of this study is to determine the effects of health care spending on food insecurity of low-income, low-asset families during the 2003-2015 period. Specifically, using nationally representative longitudinal data (Panel Study of Income Dynamics), we investigate how changes in individuals' out-of-pocket medical expenditure as well as adverse changes in their health conditions might have increase the likelihood of food insecurity among these households; and whether such influences, if any, have been associated with the low asset holdings and inability to borrow. This study investigates whether liquidity constraint is a mediator that aggravates the association between health and food insecurity, and whether there is a difference between those that have health insurance and those that do not. SNAP participation will also be included in the analysis.

Food insecurity has been linked to various health outcomes as well as health care utilization and expenditures (Berkowitz, Bsau, Meigs, & Seligman, 2017; Tarasuk, Cheng, de Oliveira, Dachner, Gundersen, & Kurdyak, 2015). There may be bi-directional relationships between health care spending and food security. Burden of health care spending can strain many low to moderate income families financially, leading to increased food insecurity. On the other hand, research has also found that food insecurity can increase health care spending by poorer diet, trade-offs between food and health care such as prescription and doctors' visits and worsened mental health such as depression and anxiety (Berkowitz, Basu, Meigs, & Seligman, 2017).

Households that experience poverty and financial strains were likely to be food insecure (Purtell, Gershoff, & Aber, 2012). Among household level predictors that impact household income streams, unemployment status, employment changes, or job stability were associated with food insecurity (Mabli & Ohis, 2012; Yen, Bruce & Jahns, 2012).

While the association between household income loss and food insecurity has been widely studied, unexpected major expenses such as medical bills have rarely been studied in relationship to food insecurity. Medical expenses have become a major cause of households' economic instability. Many Americans are struggling to pay their medical bills and accumulating medical debts. About a quarter of those who were uninsured in the previous year were unable to pay their medical bills (Collins et al., 2008). A third of Americans experienced financial burden from health care in 2011 according to a recent report from Centers for Disease Control and Prevention. Having private health insurance offers households little protection from financial stress for the medical bills due to high premium and out-of-pocket costs (Cohen, Gindi, & Kirzinger, 2012). The highest amount of financial burden was found in poor (below federal poverty level) and near-poor families (100-200% poverty level) (Cohen et al., 2012). With the Affordable Care Act, health insurance coverage has improved. However, financial burdens of health care may continue for a while due to the high costs of premiums and out-of-pocket costs. Despite the adverse impacts of medical expenses on households' financial well-being, their effects on food insecurity have rarely been studied. The rationale for the current study is that health care costs will predict food insecurity. Financial burden of health care could increase economic constraints and reduce purchasing

¹ Professor, Department of Family Science, 1142 SPH Building, University of Maryland, College Park, MD, 20742, USA. Phone: 301-405-3500. Email: jinkim@umd.edu.

² Associate Professor, Department of Financial Planning, Housing and Consumer Economics, 415 Sanford Drive, University of Georgia, Athens, GA, 30602, USA. Phone: 706-542-4722. Email: swarn@uga.edu.

³ Associate Professor, Department of Nutrition and Hospitality Management, PO Box 1848, University of Mississippi, University, MS, 38677, USA. Phone: 662-915-1352. Email: chang@olemiss.edu.

power of low-income people. However, there is a paucity of literature on the issue. Using the nationally representative panel data set, the current study will fill in the gap of literature in the effects of health care costs on food insecurity of households.

Research Question 1: Are out of pocket medical expenses associated with food insecurity and SNAP participation among households?

Research Question 2: Are liquidity constrained households more likely to report food insecurity?

Research Question 3: Can the effect of out of pocket medical expenses upon food insecurity be reduced through SNAP participation?

Data will be drawn from the 2003-2015 Panel Study of Income Dynamics (PSID). We use the PSID panel data because it includes detailed information on wealth, health, household expenditures, insurance, and program participation of each household. The longitudinal aspect of the data not only allows us to examine whether and how changes in a household's health conditions, medical expenditures, and asset holdings are associated with the likelihood of being food insecure in the subsequent period, but it also enables us to account for macroeconomic dynamics in time fixed effects models. State-level variations in policy environment are also controlled through state fixed effects. The knowledge gained should lead to more effective interventions and informed policy decisions for low-income households including food, health insurance, and asset building programs.

Some previous research indicates that out of pocket medical expenses can also lead to financial strain among households that have inadequate reserves of emergency funds and lead to financial strain among households (Kim, Yoon, & Zurlo, 2012; Kim & Lyons, 2008). However, very little research has been done to examine the association between out of pocket medical expenses of liquidity constrained households and its impact on food insecurity. In this study we examine the association between the interaction of liquidity constraints in the previous period with increased health care costs and their combined effect on food insecurity among households after controlling for a number of socioeconomic, demographic and program participation related factors. This study also controls for the yearly fixed effects using a panel data approach.

Methods

Data

This study uses the 2003-2015 waves of the Panel Study of Income Dynamics (PSID). PSID is one of a few nationally representative surveys that include participant data on food insecurity and health care spending. The longitudinal nature of the data allows us to look at the changes in the period around the recent financial crisis and recession. It also includes detailed information on wealth, health, household expenditures, and insurance of each household, based on which we construct liquidity constraint measures. State-year-level variables such as statewide annual unemployment rates, average SNAP benefit amounts, and other SNAP rules will be added to our data. We exclude households whose primary respondent is 65 or older because financial ratios for retired households should be interpreted differently.

Variables

The dependent variable is whether the respondent is food insecure or experience very low food security. Both of these measures are constructed as binary variables. At the baseline, we estimate regression of participation on demographic and socioeconomic characteristics of the households. Then, we add our variables of interest – household liquidity constraints; health status, health problems and related expenses, and job loss – to the baseline model and see how the coefficients explained variance change.

Findings

Findings from this study may unveil health care-related reasons for food insecurity among those affected. If negative health shocks are found to result in increased food insecurity, and furthermore, if the lack of insurance leads to greater dependence on food assistance programs, it could be concluded that food

assistance programs are serving financially-disadvantaged families and individuals as a safety net in place of insurance or precautionary savings. Also, if we find the effect of the individual health decline on food insecurity to be greater for those that are liquidity constrained, policy changes that promote asset building at the household and community levels would be called for.

The association between health expenditures and food insecurity suggests the need for more integrated government assistance programs addressing food insecurity and health for low-income families. Findings suggest that managing health and money wisely is very important for low-income individuals as money and health problems could lead to economic instability, eventually increasing food insecurity. A recent study found a relationship between financial management skills and food insecurity (Gundersen & Garasky, 2012). Low-income families have little access to financial education programs while money management skills could help low-income families manage their money better to stretch their food dollars, have appropriate insurance protection, and create precautionary savings. Precautionary savings can be used to smooth income shocks or unexpected expenses for low-income families.

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