Intra-Household Allocation and Consumption of WIC Approved Foods

Ariun Ishdorj, Helen H. Jensen and Justin Tobias, Iowa State University

Background

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) is one of USDA's major food assistance programs with benefits targeted to the needs of qualifying women, infants and young children in the household. Vouchers provide for specific amount and types of foods designed to enhance the intake of key nutrients needed by the targeted individuals. Although the vouchers are issued to an individual, once acquired, the food items are available to share in the household. Reallocation of program benefits in response to a program targeted towards individuals would lead to smaller than expected gains to the recipient of the transfer and larger than expected intake by non-targeted individuals in the program household.

The overall goal of the research reported here is to carefully examine intake of program-determined foods by household members in order to better understand targeting of food benefits and spillover of WIC program effects within the household. In order to clearly identify the effect of the food program, it is important to account for endogenous program participation – that is, an eligible household's choice to participate in the program. The specific application is to household allocation of WIC approved foods, and uses dairy products as the example food.

Methods

The empirical analysis used data from the USDA Continuing Survey of Food Intake by Individuals (CSFII) 1994-96. These data allowed tracking food consumption of targeted WIC recipients and other members of the same household. All individuals who lived in households that had income less than or equal to 200 percent of the poverty income level and that included at least one member of a WIC targeted group (pregnant, lactating or post-partum women and children of age 1 through 4 years old) were included in the analyses. The threshold of 200 percent of the poverty income level was selected to account for some variability in income that makes it more likely that a household may become income eligible. Infants were not included in the analysis. This selection process led to an analytical data set that included 1018 program-eligible households with 2421 individuals.

All individuals in the selected households were assigned to one of the four mutually exclusive groups: targeted individuals in WIC households, non-targeted individuals in the same households, targeted individuals in non-WIC households and non-targeted individuals in non-WIC households. The WIC targeted group included children of age 1 through 4 years old and pregnant, lactating or postpartum women; the non-targeted group includes other adults and children of age five and older. Households in the sample were identified as WIC eligible by meeting the income criterion and having at least one targeted individual living with them. Although several foods are included in the program packages, only intake of milk and cheese, measured in calcium-equivalence, was used here. The dairy products were widely consumed and represent a significant share of the foods provided in the WIC package for children and women.

The estimation model accounted for the household's decision to participate in the WIC program, included as a probit equation, and the calcium intake of the individuals in the household, included as a tobit equation. The system with the two equations was estimated jointly using Bayesian methods. Demographic variables for age, gender, race/ethnicity, education level, and other variables useful in determining the WIC participation decision such as household size and income, were also included. The estimation resulted in predicted intake values for calcium conditioned on being in one of the four assigned groups based on program participation and target group status. The predicted values allowed comparison between intake of individuals in the four groups and assessment of likely redistribution of program foods.

Findings/Discussion

Several factors play a role in determining household participation in WIC. Large households, households with infants, those that participate in the Food Stamp Program, and those in the South were more likely to participate in the program. Preliminary results of the joint estimation for consumption of calcium from dairy

products show that targeted individuals in WIC households consumed higher amounts of calcium from dairy products than did individuals in the other three groups. This outcome supports the objective of the WIC program to increase intake of targeted foods. Another finding was that the consumption of dairy foods by non-targeted individuals in WIC households was no greater than the consumption of similar non-targeted individuals in non-WIC households. Hence there was no evidence that the WIC program improved the intakes of the non-targeted WIC household members.

The WIC program is designed to improve diets of participating individuals in order to assure better health. The preliminary evidence suggests that in the period of study (1994-96), program participants did have greater intakes of dairy foods. Were there other program-induced effects for others in the household? These effects might have come from reallocation of program-provided foods within the household, from the indirect effect of providing increased resources to the household that resulted in changes in foods consumed by all members of the household, or from changes in diets due to nutrition education. In the case of dairy products, there is no evidence that the program benefits were reallocated or enhanced calcium intake of individuals not targeted by the program. Further examination of the case of dairy products and of different foods will help to clarify the source and types of intra-household allocation of other program benefits.