

WIC provides food, nutrition counseling, and access to health services to low-income women, infants, and children. The program began as a pilot in 1972 and was made permanent in 1974. Pregnant or postpartum women are eligible, as are infants and children up to age 5, if they meet income guidelines and are determined to be at “nutritional risk” by a health professional. The income cutoff is 185 percent of the U.S. poverty threshold, somewhat higher than the cutoff for the FSP. The “nutritional risk” determination takes account of both medically based risks such as anemia or underweight, and diet-based risks such as an inadequate dietary pattern.

WIC participants generally receive a voucher or credit, for use in purchasing specific authorized foods selected for their nutritional content. WIC foods are high in one or more of the following nutrients: protein, calcium, iron, vitamin A, or vitamin C. WIC foods include infant formula, cereals, dairy products, peanut butter, and other foods high in the target nutrients. The WIC program also offers a substantial nutrition education program and serves as a gateway to other forms of health services (USDA Food and Nutrition Service, 1999).

Research on Nutrition Programs and Dietary Quality

In a recent article on the U.S. nutrition safety net, Eileen Kennedy observes that the major nutrition problems in the United States have changed over the last 50 years:

Problems of over-consumption and excesses and imbalances are now, on average, more prevalent than problems of under-consumption and deficiency. For example, childhood obesity is now more common than growth retardation. This is true across all income strata, although the nutrition-related disease burden is substantially greater in low-income groups (Kennedy, 1999, p. 331).

These low-income groups are the target population for the FSP and WIC. Levedahl and Oliveira (1999) note how little is known about the effect of nutrition assistance programs specifically on dietary quality: “[T]heir effect on the quality of the recipient’s diet has so far been uncertain” (Levedahl and Oliveira, 1999, p. 322).

A substantial body of applied research has attempted to measure this “uncertain” effect. The line of research pursued most frequently has been to estimate

regression models, using survey data, to explain the effects of economic and demographic variables — including program participation and benefit levels — on one or more food consumption variables. Devaney and Moffitt (1991) found that food stamps have a significant and positive effect on the availability of food energy, protein, and nine micronutrients. Rose, Habicht, and Devaney (1997) found that food stamps and WIC both have positive and significant effects on iron and zinc intake for preschool children. By contrast, Butler and Raymond (1996) reported that food stamps have no positive effect on intake of several nutrients, after controlling for endogenous self-selection into the program.

In the 1990’s, nutrition scientists with expertise in survey research developed a new method for measuring dietary quality using the same commonsense terms that are employed by the Federal Government in its dietary recommendations and the Food Guide Pyramid (Cleveland and others, 1997a). Krebs-Smith and others (1995) used this type of pyramid servings data to study fruit and vegetable intake. Another study, Krebs-Smith and others (1996) used such data to study food intake by children and adolescents. For adults, Cleveland and others (1997b) found that intake of each of the five main food groups increased as income increased from below 131 percent of the poverty line to 131-350 percent of the poverty line.

The one previous food assistance study that drew on these methods for measuring intake in pyramid servings was by Basiotis and others (1998). That study investigated how economic and demographic characteristics of families influence scores on the USDA’s “Healthy Eating Index” (HEI) -- a measure of how well diets adhere to the Federal Government’s dietary guidelines. Using data from the 1989-91 CSFII, Basiotis and others found that the HEI increased with food stamp participation if household weekly benefits exceeded \$17.54. The HEI increased strongly with WIC participation.

Data and Methods

The study reviewed here and in Wilde, McNamara, and Ranney (1999) employed data from the 1994-96 CSFII. That nationally representative survey collected basic demographic information for all members of each household and used a randomization strategy to select certain members to participate in a complete food intake survey. These “sample persons” were administered two 1-day survey modules about their food