

## WIC Farmers' Market Nutrition Program

The WIC Farmers' Market Nutrition Program (FMNP) provides low-income women and their children with coupons that can be used to buy fresh fruits and vegetables from authorized farmers and farmers' markets. The program primarily serves women, infants over 4 months of age, and children up to the age of 5 who are certified to receive program benefits from the Special Supplemental Program for Women, Infants, and Children (WIC) or are on a waiting list. States may choose to provide FMNP coupons to other groups of participants, most often low-income elderly or children over the age of 5. Costs for additional participants must be met by State matching funds.<sup>159</sup>

Very little research has been conducted on the FMNP, and the available literature offers no firm conclusions about the impact of the program on nutrition-related outcomes.

### Program Overview

The FMNP is intended to encourage WIC participants to eat more fresh, unprepared, locally grown fruits and vegetables and to help small farmers by promoting farmers' markets.<sup>160</sup> The program began in 1989 as a pilot program in 10 States and was formally authorized in 1992, with mandated set-aside funding within the WIC program appropriation (*Nutrition Week*, 1991).

State participation occurs through an annual application process. Each year, States interested in participating in

the program submit to their Food and Nutrition Service (FNS) regional office an application that outlines how the FMNP will operate in that State for the following year. Federal funds cover up to 70 percent of the cost of the program, and States are required to cover at least 30 percent.<sup>161</sup> The State's share of funds can come from State, local, or private sources.

States decide individually how they will determine which WIC participants will also receive FMNP coupons. Some States select coupon recipients based on the State priority system for allocating WIC benefits (for example, limiting participation to pregnant and breast-feeding women). Other States distribute coupons on a first-come, first-served basis. WIC participants can receive farmers' market coupons totaling \$10 to \$20 per year—in \$1 or \$2 denominations—at the beginning of the fruit- and vegetable-growing season (usually in June). States may limit the FMNP to specific fruits and vegetables that are grown locally.

Farmers' markets or individual farmers who wish to participate in the FMNP apply to the State agency that administers the program, or in some cases, to a sub-agency that handles regulatory or other issues related to farmers' markets. Criteria used to approve farmers' markets or individual farmers include membership in the local Farmers' Market Association, evidence of nondiscrimination, hours of market operation, market location, and the amount and proportion of sales involving fresh, unprocessed fruits and vegetables covered by the FMNP. Farmers can redeem coupons for cash either via the farmers' market manager or through a central processing office. In some States, the FMNP coupons are negotiable checks that the farmer can deposit in a bank. Coupons are good only for the growing season in which they are issued.

In FY 2003, the FMNP operated in 36 States, Guam, the District of Columbia, Puerto Rico, and 5 Indian Tribal Organizations. More than 13,000 farmers and 1,911 farmers' markets were authorized to participate in the program. In FY 2002, 2.1 million participants redeemed FMNP coupons. In FY 2002, \$15 million of the Federal appropriation for the WIC program was

<sup>159</sup>In January 2001, USDA's Commodity Credit Corporation (CCC) launched the Senior Farmers' Market Nutrition Program (SFMNP) as a pilot program. The SFMNP is essentially the same as the WIC version of the program but is targeted toward low-income elderly. Total costs for the program were about \$13 million in its first year of operation (\$2 million of the initial appropriation of \$15 million were carried over to FY 2002) (USDA/FNS, 2003a). In FY 2003, the SFMNP was operating in 35 States, the District of Columbia, Puerto Rico, and 3 Indian Tribal Organizations. A total of \$17 million in funding was available, including the FY 2003 appropriation (\$15 million) and unspent funds from FY 2002 (approximately \$2 million) (USDA, FNS, 2003a).

<sup>160</sup>When Congress formally approved the FMNP, USDA officials were concerned that, because farmers' markets are also accepted in the Food Stamp Program (FSP), the FMNP might represent duplicate coverage. At the time, USDA favored strengthening efforts to bring farmers' markets into the FSP rather than continuing to promote the FMNP. Some Congressional representatives, on the other hand, expressed support for the FMNP because the FMNP had the additional purpose of increasing consumer awareness of farmers' markets and thus enhancing marketing opportunities for small farmers (House Committee on Agriculture, 1992).

<sup>161</sup>If approved by FNS, Indian Tribal Organizations that operate the FMNP may be approved for a lower matching rate, but not less than 10 percent.

earmarked for the FMNP. This figure increased to \$20 million for FY 2001 and \$25 million for FY 2003 (U.S. Department of Agriculture (USDA)/FNS, 2003b).

## Research Review

Very little research has been conducted on the FMNP. Three studies have attempted some form of impact analysis. All three studies focused on consumption of fresh fruits and vegetables as the principal outcome of interest. Results were mixed, and design limitations make it impossible to draw meaningful conclusions about the program's effects.

The largest evaluation of FMNP was a USDA-funded study reported in Galfond et al. (1991). This study, conducted when the program was in its demonstration phase (the 1990 growing season), included an impact evaluation based on a cross-sectional sample of WIC participants drawn from several States. A telephone survey was completed with 1,503 women who received FMNP coupons during the 1990 growing season ("recipients"), 96 women who did not receive 1990 coupons but had received them in a prior year, and 1,126 women who never received FMNP coupons ("nonrecipients"). The women were randomly selected from lists of WIC participants in four States (Iowa, Massachusetts, Pennsylvania, and Vermont) and from WIC participant lists from a few WIC clinics in Texas and Washington.

Respondents were asked to report the kinds of fruits and vegetables they had eaten the previous day and how many servings of each they had eaten. Also, for specific fruits and vegetables, respondents were asked to report how many servings they ate in a typical week. The analysis, based on bivariate comparisons, found that recipients reported eating significantly more servings of fruits and vegetables than nonrecipients. Recipients were also significantly more likely than nonrecipients to report that their fruit and vegetable consumption was greater than it had been the previous year.

The study had several limitations, which the authors duly noted. First, the sampling method may have led to bias with respect to prior access to farmers' market because clinics offering FMNP tended to be those with a farmers' market nearby. Thus, WIC participants in areas with farmers' markets could have been more likely to eat fresh fruits and vegetables than even without the FMNP than WIC participants in areas without farmers' markets. Also, the authors found that recipients differed from nonrecipients at statistically significant levels

with respect to several background characteristics: Recipients were more likely to be Black or Hispanic and to be college graduates than were WIC recipients. The analysis did not control for these differences.

Participant satisfaction with the FMNP was high. At least half of the recipients indicated that they would continue to shop at farmers' markets even after they stopped receiving coupons, although the study did not include any followup to ascertain whether this actually happened. Ninety-two percent were "very" or "somewhat" satisfied with the program, and 80 percent identified some benefit they had derived from the program. A survey of participating farmers also found enthusiastic support for the program.

An interesting theoretical exploration based on Galfond et al. is provided by Just and Weninger (1997). Traditionally, Just and Weninger point out, economists would say that a WIC participant who chooses not to buy fresh fruits or vegetables does so because she perceives the benefit she will derive from those fruits and vegetables to be lower than the price being asked for them. Coupons can induce her to make the purchase because they lower the effective price to a level equal to or lower than the benefit she perceives. In this view, coupons represent a net loss to society in the amount of the difference between market price of the fruit or vegetable and the price that the consumer would be willing to pay in the absence of the coupon.

The FMNP experience, Just and Weninger argue, illustrates an economic effect of combining food program coupons with nutrition information—that is, to change the consumer's perceptions about the benefit she is likely to derive from the same fruits and vegetables. In the FMNP, the recipient receives not only coupons but also information about the nutritional benefits of the fruits and vegetables that a participant can buy with her coupons. Galfond et al. observed that coupon recipients reported greater future intentions to shop at farmers' markets than nonrecipients. Just and Weninger reason that this difference in intentions reflects a change in recipients' perceptions of the economic value of the fruits and vegetables they can get at the markets. This change in perceived value results in higher demand for the fruits and vegetables, resulting in a higher equilibrium price and inducing farmers to bring more fruits and vegetables to market.

Just and Weninger go on to estimate this economic benefit by deriving equations to describe the supply and demand of fruits and vegetables and to quantify

benefits to consumers and to society. Using data reported by Galfond et al., they estimate that the net gain to society of the FMNP amounts to about 21 percent of the value of coupons redeemed. Without nutrition information (that is, as an ordinary subsidy), they estimate a net loss to society equal to 7 to 18 percent of the value of coupons redeemed.

The second study to estimate FMNP impacts was a small study reported by Anliker et al. (1992). The study, conducted in 1989, during the program's pilot phase, included interviews with randomly selected participants in nine WIC programs in Connecticut. Six of the WIC programs distributed FMNP coupons. Participants from these programs constituted the treatment group, which contained 411 respondents. Participants from the three WIC programs that did not distribute FMNP coupons were designated as the control group, which contained 78 respondents.

At the time that subjects were recruited into the study—that is, before the treatment group had a chance to use their FMNP coupons—they were asked how often they ate fruits and vegetables or drank juices. A followup survey, completed approximately 2 months later, asked the same food consumption questions plus questions about use of farmers' markets and FMNP coupons. The final analysis sample (including respondents who completed both pretest and post-test surveys) include 172 FMNP participants and 44 non-participants. The authors report that individuals who responded to the followup survey and those who did not differed significantly on several characteristics.

The analysis of program impacts used analysis of covariance and controlled for baseline responses on frequency of fruit, vegetable, and juice consumption. The authors found no statistically significant relationship between receiving FMNP coupons and the reported frequency of fruit and vegetable consumption. Nonetheless, the authors conclude that the "...Farmers' Market Project has been generally successful in meeting its objectives." This conclusion appears to be based principally on the finding that, "more than three-fourths of the participants who received Farmers' Market coupons went to the farmers' markets and used their coupons to purchase fresh, locally grown produce."

The third and most limited study was conducted by the National Association of Farmers' Market Nutrition Programs (NAFMNP), an advocacy group in favor of strengthening and expanding the FMNP. The study included FMNP participants' only and collected infor-

mation on participants' perceptions about the program's impact on their behavior (NAFMNP, 1996; *Nutrition Week*, 1995). The NAFMNP developed a set of questions for assessing the program from the point of view of farmers and recipients, and USDA distributed these questions for States to use. States that conducted surveys provided the data to NAFMNP. The survey and sampling procedures apparently differed from State to State but are not described in the publications. Questionnaires also differed from State to State, but study organizers were able to aggregate responses for questions that were asked across States.

Results are based on data from 24 States and 2 Indian Tribal Organizations collected in 1995. Responses were obtained from 2,670 farmers (representing 33.2 percent of participating farmers) and 24,812 recipients (representing about 3 percent of FMNP coupon recipients) who participated during the 1995 growing season. The data showed that FMNP participants generally had positive impressions of the program's impact on their consumption of fresh produce: 71 percent of coupon recipients said that, because of the FMNP, they ate more fresh produce than usual during the summer. In addition, 77 percent said they planned to eat more fresh produce year-round, and 66 percent said they would continue to shop at farmers' markets even if they did not receive additional coupons.

## Summary

The limited available research permits no firm conclusion about the impact of the FMNP on participants' consumption of fresh produce or on any associated nutrition-related effects. Of the two studies that used quasi-experimental designs to examine FMNP impacts, one found a positive impact on participants' consumption of fresh fruits and vegetables and the other found no significant effect. Both studies had severe methodological limitations, however—likely selection bias in the first case and possible selection bias combined with a very small sample size in the second—and both report on a very early time period in the program's history.

The small dollar value of the FMNP benefit—no more than \$20 per year—suggests that any impact on nutrition and health status is likely to be so small that it would be extremely costly to measure. Research might better be directed toward effects on participants' awareness and use of farmers' markets.

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