

# *Are WIC Nonrecipients at Less Nutritional Risk Than Recipients? An Application of the Food Security Measure\**

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The goal of the Supplemental Nutrition Program for Women, Infants, and Children (WIC) in the U.S. social safety net is to "... provide supplemental nutritious food as an adjunct to good health during such critical times of growth and development [during pregnancy, the postpartum period, infancy, and early childhood] in order to prevent the occurrence of health problems" (P.L. 94–105). The perceived success of WIC in meeting this goal has led to program growth over time, from 5.7 million enrollees in 1992 to nearly 8 million in 2000 (Bartlett et al.). Despite this increased enrollment, the U.S. Department of Agriculture and state WIC offices express concern that a larger share of the eligible population does not receive WIC. For example, more than six in ten eligible children do not receive WIC (Bitler, Currie, and Scholz).

The level of concern about nonparticipation among eligibles depends upon who is not receiving WIC. Policymakers and program administrators want to ensure WIC is being received by those most in need. Some have speculated that WIC recipients are better off than eligible nonrecipients, suggesting that the

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beneficial impacts of WIC are due to selection rather than the food assistance and nutrition education WIC provides (Besharov and Germanis). However, some recent papers have shown that contrary to the positive selection story, WIC recipients are less well-off than eligible nonrecipients (Bitler and Currie; Gundersen). That WIC is reaching economically worse-off households is not surprising—a similar pattern is observed in other assistance programs where participation rates fall as income increases even among eligible groups.

While eligible nonrecipients are better off than recipients across a wide array of economic measures, ultimately WIC program administrators' and policymakers' main concern is whether WIC is reaching those at nutritional risk. Previous work has assessed WIC targeting according to economic criteria. However, ours is the first, of which we are aware, to examine whether WIC is reaching those at nutritional risk as measured by household access to food. The structure of the WIC program makes this analysis difficult, as does possible selection in who participates in WIC. The program's packages are limited to foods rich in specific nutrients. Any comparison of nutrient intake by recipients and nonrecipients may show that recipients are better off due to the specific nutrients they get from WIC foods, due to positive selection into the program, or due to some combination of both.

We bypass this comparison of WIC-targeted nutrients, and instead use a measure of nutritional risk—food insecurity—not specifically targeted by WIC. Alleviating food insecurity—the central goal of the Food Stamp Program—is not one of the goals of WIC. (We return to the question of whether WIC alleviates food insecurity below.)

### **Supplemental Nutrition Program for Women, Infants, and Children (WIC)**

WIC was established as a pilot program in 1972 and made permanent in 1974. WIC food packages are restricted to foods high in five nutrients—protein, calcium, iron, vitamins A and C—and high in vitamin D, folate, and vitamin B-6. Along with nutritious foods, WIC service providers are required to offer nutrition education sessions and participants are given referrals as needed to other social services and health care providers. In 2000, nearly 8 million people were enrolled in WIC—1.9 million women, 2.1 million infants, and 3.9 million children.

As with all assistance programs, policymakers made decisions about who would be eligible for WIC. The first WIC eligibility criterion is categorical; only pregnant and postpartum women, infants, and children under the age of five years are eligible. In addition to categorical eligibility, WIC regulations state that maximum allowable family gross income must not exceed the guidelines for reduced-price school meals (185% of poverty). States may set the income cutoff equal to state or local guidelines for free or reduced-price health care, as long as the cutoff is equal to or less than 185% of poverty and greater than the poverty line. (All states use the 185% cutoff.) State WIC agencies allow local providers to determine eligibility with either family income during the previous twelve months or current family income. All Food Stamp, Medicaid, and TANF recipients are automatically (“adjunctively”) eligible for WIC. The third and

final criterion for WIC is that recipients must be at nutritional risk, as determined by a health care professional such as a physician, nutritionist, or nurse. While, in principle, this requirement should restrict receipt to those truly in need, in practice, when there have been ample WIC funds, this restriction has not been very binding. At the same time, WIC is not an entitlement. Thus, if demand exceeds available funds, a person meeting all three criteria still may not receive benefits if further targeting is needed. (For a listing of the priority categories, see Institute of Medicine; Box 1–2.)

## Data

We use data from the 1996 panel of the Survey of Income and Program Participation (SIPP). The SIPP is a multipanel longitudinal survey of the noninstitutional population of the United States administered by the U.S. Census Bureau. We use data from the core and topical modules of wave 8 (when the food insecurity questions were asked), supplemented with information from the core modules of waves 6 and 7 (to identify WIC eligibles based on annual income) and waves 9 and 10 (to identify women who were pregnant in wave 8). Our analyses are at the individual level but we assign all individuals in a household the same level of food insecurity, as is done by the U.S. Department of Agriculture in their calculation of official food security measures.

The SIPP data are well suited for our analyses for several reasons. First, these data contain detailed information about participation in assistance programs. While most large survey datasets fail to collect information about WIC participation, the SIPP has monthly WIC participation data. Given the importance of adjunct eligibility for WIC, we also need data about participation in other government assistance programs. This is especially relevant for Medicaid, which is available to some families with incomes as high as 300% of poverty. Second, the SIPP collects monthly data on program participation, income, and family composition. Thus, we can use the SIPP to ascertain WIC eligibility at both the monthly and annual level. In light of the considerable flexibility granted to case workers in establishing income eligibility, using only monthly or annual income and program participation data means a large share of WIC recipients might inaccurately be portrayed as ineligible. Finally, in the SIPP, we observe both contemporaneous food insecurity status and WIC participation.

## Empirical Strategy and Results

To examine the effectiveness of the WIC program in reaching those most in need, we use three questions related to household access to food to define and compare food insecurity status of WIC recipients and nonrecipients. Our measures of food insecurity (defined below) do not correspond to the official U.S. Department of Agriculture food security scale; however, they are the only measures available for the bulk of our sample. The first is the oft-used food insufficiency question: *Which of these statements best describe the food eaten in your household in the last month?—Enough of the kinds of food we want to eat; enough but not always the kinds of food we want to eat; sometimes not enough to eat; or often not*

**Table 1. Rates of food insecurity for WIC recipients and eligible nonrecipients**

	On WIC	Eligible, No WIC
	Food Insufficient	
Pregnant and postpartum women	6.86	5.56
Infants	5.17	5.33
Children ages 1–4	8.26**	5.53
	Food Bought Did Not Last	
Pregnant and postpartum women	35.16*	25.61
Infants	35.63***	16.77
Children ages 1–4	34.91***	25.63
	Did Not Eat Balanced Meals	
Pregnant and postpartum women	24.10	19.38
Infants	27.27***	15.24
Children ages 1–4	26.04***	19.45

Notes: Data are from the 1996 Survey of Income and Program Participation.

Superscripts \*, \*\*, or \*\*\* are used if the *p*-value of the difference between the variables is less than 0.10, 0.05, or 0.01, respectively. Among pregnant and postpartum women, there are 143 recipients and 283 eligible nonrecipients; among infants, there are 294 recipients and 175 eligible nonrecipients and among children there are 784 recipients and 1,466 eligible nonrecipients. The statistics are weighted.

*enough to eat*. The second asks the reference person if *The food you bought did not last for the entire month and you had no money to buy more*. The third asks the reference person if *You could not afford to eat balanced meals*. Households reporting that they sometimes or often do not get enough to eat, run out of food, or could not afford a balanced meal are considered food insecure. The latter two questions are part of the set of eighteen questions on the Core Food Security Module, used to establish official rates of food insecurity in the United States.

Table 1 displays rates of food insecurity under each of these three definitions for the sample of persons eligible for WIC, broken down by WIC participation status. For the most severe food insecure category, whether a household is food insufficient—sometimes or often did not have enough to eat—there is no statistically significant difference between women or infants receiving and not receiving WIC. However, children who receive WIC are slightly more likely to be food insufficient than children not receiving WIC. For the second measure—food bought sometimes or often did not last—WIC women, children, and infants are much more likely to be food insecure. For the third measure—sometimes or often did not eat balanced meals—WIC infants and children are much more likely to be food insecure. For infants, the gap is especially large, with WIC infants being over twice as likely to be in households that have run out of food and almost twice as likely to be in households that did not eat balanced meals. The results in table 1 demonstrate that WIC, in a relative sense, is reaching individuals at greater nutritional risk. However, a large number of nonrecipients are at nutritional risk (under these criteria) but are not

**Table 2. Rates of food insecurity for WIC recipients and eligible nonrecipients, by economic status and adjunctive eligibility**

	Women		Infants		Children 1–4	
	WIC	No WIC	WIC	No WIC	WIC	No WIC
	Food Insufficient					
Below poverty	11.67	4.50	6.05	4.45	9.83	7.68
Food stamp recipient	6.83	6.72	6.57	16.36	9.08	10.35
Medicaid recipient	8.05	4.12	7.06***	0.00	9.90**	5.32
	Food Bought Did Not Last					
Below poverty	40.84	35.67	37.81**	17.43	41.37*	35.42
Food stamp recipient	40.13	35.75	40.84	38.40	40.32	45.11
Medicaid recipient	35.37	34.06	36.63***	16.59	36.69	31.68
	Did Not Eat Balanced Meals					
Below poverty	35.88	28.32	33.86**	14.84	31.74	28.22
Food stamp recipient	22.75	31.15	32.69	31.71	29.48	34.19
Medicaid recipient	24.28	22.65	26.00*	14.23	27.18	25.16

Notes: Data are from the 1996 Survey of Income and Program Participation. Superscripts \*, \*\*, or \*\*\* are used if the *p*-value of the difference between the variables is less than 0.10, 0.05, or 0.01, respectively. Columns 1 and 2 are results for pregnant or postpartum women, column 3 and 4 for infants, and columns 5 and 6 for children ages 1–4. The statistics are weighted.

being served by WIC. For example, over one-in-four income-eligible, nonrecipient children live in households where the food bought did not last.

Food insecurity is more common among those with lower incomes (e.g., Gundersen and Oliveira) as is participation in WIC (e.g., Bitler, Currie, and Scholz). As a consequence, our findings in table 1 may not be surprising. Thus, we consider whether food insecurity rates are higher when we restrict our attention to WIC-eligible individuals in greater economic need of benefits. Specifically, we concentrate on individuals in households with incomes below the poverty line and in households with food stamp or Medicaid recipients (table 2).

As expected (given the small difference in food insufficiency across WIC-recipient status in table 1), WIC recipients and nonrecipients are equally likely to be food insufficient across all the categories with two exceptions: children and infants receiving WIC and Medicaid are more likely to be food insufficient than those receiving only Medicaid. For the two less severe measures of food insecurity, poor infants and children receiving WIC are more likely to experience these problems than poor nonrecipients. The distinction is particularly stark for infants, who are more than twice-as-likely to be in households where food bought did not last if on WIC. Among households who are adjunctively eligible through food stamp or Medicaid participation, there is no difference between WIC recipients and nonrecipients getting food stamps and only sometimes a difference for Medicaid recipients.

Our results demonstrate that WIC is reaching those in greater need as proxied by the food insecurity measures, suggesting that concerns of critics about

targeting may be misplaced. At the same time, a large share of income-eligible persons at nutritional risk are not entering the program, including about a third of food stamp recipients who are categorically eligible for WIC but are not on WIC despite having their food not last or not eating balanced meals.

We conclude with two caveats. The interpretation of the differences between WIC recipients and nonrecipients depends on our assumption that WIC has no influence on a household's food insecurity. If WIC does ameliorate food insecurity, the gaps found between WIC recipients and nonrecipients understate the differences in food insecurity in the absence of WIC. For children and women, whose average WIC benefit level is about \$30 a month, the effect of WIC on food insecurity is likely minimal, even if the receipt of WIC resulted in higher food consumption levels of the entire household. In contrast, the average monthly household food stamp benefit level is \$276. The assumption that WIC has no influence on food insecurity for households with infants may be more tenuous since the dollar value of receiving infant formula is quite high.

Our results also depend on the assumption that WIC recipients and nonrecipients report their food insecurity status in similar ways. If WIC recipients tend to report higher levels of food insecurity because, say, they believe to report otherwise may jeopardize their receipt of WIC, then the gap between WIC recipients and nonrecipients will be overstated. The converse would hold if WIC recipients underreport food insecurity.

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