PART ONE

Rethinking WIC

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Introduction

"WIC works, perhaps better than any other government program in existence," former Agriculture Secretary Dan Glickman declared.[1] Former Health and Human Services Secretary Louis Sullivan made a similar claim: "The WIC Program results in significant Medicaid savings that far outweigh the program's costs by a ratio of 3 to 1. . . . That is clearly an overwhelming return on a small national investment."[2] Such statements testify to the extraordinary bipartisan support enjoyed by WIC, the Special Supplemental Nutrition Program for Women, Infants, and Children.

Congress established WIC in 1972 as a two-year pilot program partially in response to the 1969 White House Conference on Food, Nutrition, and Health. The conference report concluded that nutritional deficiencies among low-income women and children threatened their health and led to higher medical costs.[3] To avoid preventable physical or medical conditions, WIC seeks to improve the diets and, therefore, the health of low-income pregnant, breastfeeding, and postpartum women as well as their infants and children up to age five.

Current WIC regulations, tracking the underlying legislation, describe the "general purpose and scope" of the WIC program as follows:

> Section 17 of the Child Nutrition Act of 1966, as amended, states in part that the Congress finds that substantial numbers of pregnant, postpartum, and breastfeeding women, infants and young children from families with inadequate income are at special risk with respect to their physical and mental health by reason of inadequate nutrition or health care, or both. The purpose of the Program is to provide supplemental foods and nutrition education through

> payment of cash grants to State agencies which administer the Program through local agencies at no cost to eligible persons. The Program shall serve as an adjunct to good health care during critical times of growth and development, in order to prevent the occurrence of health problems, including drug and other harmful substance abuse, and to improve the health status of these persons.[4]

Among the conditions WIC is intended to ameliorate are prematurity and low birthweight among pregnant women and compromised development among infants and children. Peter H. Rossi explained:

> The main rationale for the WIC program is that significant numbers of poor pregnant and postpartum women, infants, and children have nutritional deficiencies that endanger the proper development of fetuses, infants, or children, leading to conditions such as prematurity, neonate mortality, low birthweight, slow development, and anemia.[5]

Currently, WIC is a $5.4 billion per year program and serves about 7.3 million women and children. Although WIC is a program of the U.S. Department of Agriculture, most of its grantees are state health departments. Those state agencies, in turn, fund WIC services though local health-related agencies such as health departments, hospitals, public health clinics, and community health centers.

WIC's popularity stems from the widespread belief that research studies have proved that WIC "works." Although some studies suggest real improvements in the diets and health of recipients, the extensive benefits cited by Glickman and Sullivan relate only to research conducted on WIC's prenatal program (which involves only about 12 percent of program participants). Even there, the evidence suggests that WIC's benefits are modest at best.

Some observers argue that the exaggeration is for a good cause: It helps support the allocation of $5.4 billion a year in additional food, nutrition education, and counseling services for low-income infants and children, pregnant women, and breastfeeding or postpartum mothers. But overstating WIC's effectiveness undermines support for the research and programmatic flexibility needed to increase the program's beneficial impact. For example, over the past decade, additions to WIC's funding have had the effect of expanding the program into the lower middle class—when the increases probably could have been much more effectively used to improve or intensify services for generally needier families (a point to which we return later). WIC's rigid spending rules,

for example, effectively prevent local programs from spending more than about thirty minutes for nutrition education every six months with clients and preclude enriching food packages with such items as iron supplements.

The need to improve the WIC program is crucial. Even if WIC were as effective as its advocates claim, the program must do much more to improve diet-related health outcomes for low-income Americans. In 1998 America's infant mortality rate was .7 percent of live births, or about 28,000 babies. The low-birthweight rate was about 7.6 percent of live births (up 12 percent since 1986), or about 300,000 babies.[6] Surely, we should strive for a WIC program that is as effective as possible.

Moreover, Congress developed WIC almost thirty years ago, when hunger was the major nutrition-related problem facing disadvantaged Americans. Since then, overweight has superseded hunger as our most serious nutrition-related health problem. We must now consider updating WIC's mission by adding a specific focus on preventing overweight.

Key Points

In the following pages we describe in detail the major WIC evaluations and the reasons why they show little about the program's effectiveness. On the basis of not just this body of research, but also of what we know about the impact of similar programs, we draw seven conclusions.

• Studies of WIC's impact are almost entirely nonexperimental; in other words, they are based on statistical comparisons made between those who received WIC benefits and those who did not. As a result, many are subject to severe problems of selection and simultaneity bias. Moreover, most studies are of limited applicability to assessing the current program because they are based on the program as it existed more than a decade ago and thus do not reflect the composition of the caseload today.

• WIC probably makes at least a small improvement in the diets and behaviors of some pregnant women, especially the most disadvantaged; that improvement, in turn, may improve the birth outcomes for some infants.

• WIC probably increases the nutritional intake of some infants, especially those who would not have been breastfed, but the health consequences of the increases are not clear. Moreover, WIC may reduce breastfeeding, which can have negative health consequences.

• In all, WIC probably makes little significant difference in the diets of one- to four-year-old children, but it may affect some subgroups more noticeably, especially those comprising children whose intake of nutrients one might otherwise consider inadequate.

• WIC has expanded beyond the truly disadvantaged, even though new participants are unlikely to need or benefit from the services it provides.

• WIC is largely irrelevant to the most serious nutritional problem facing disadvantaged Americans: overweight.

• WIC does not result in the major cost savings that its advocates claim, and it may not even pass a basic benefit-cost test.

As those points suggest, existing WIC research, at least when read in the most favorable light, provides some (and perhaps substantial) support for the proposition that WIC has significant social and policy effects on particular subgroups of participants. The research has not clearly established the makeup or identity of those subgroups, but they seem to comprise the neediest families—the poorest of the poor.

In the future, policymakers should pay much greater attention to such differential effects, especially because they might suggest more focused service strategies. As Peter H. Rossi noted in *Feeding the Poor: Assessing Federal Food Aid*, that lack of focus on subgroups is one of the shortcomings of most current research: "[C]urrently available evaluation studies place too much emphasis on central tendencies—means and medians—and do not give enough attention to measures of the distributions of responses and differentials among subgroups."[7]

To increase WIC's positive impacts, we propose a series of possible reforms, each to be thoroughly evaluated. To emphasize the tentative nature of our recommendations, we state them in the form of questions. Should we target WIC benefits to more needful families? Should we selectively intensify WIC benefits? Should we add a focus on preventing overweight? Should we serve children over age four? Should we increase directive counseling? Should we use alternative service providers?

Reforms along those lines have a good chance of making WIC more effective. Even if they do not, that does not mean that such expansions of the program are not socially worthwhile, *so long as they are more carefully targeted than current services*. Making even a small number of children, especially poor children, healthier—without harming others and without exorbitant spending—would be an ethical benefit not captured

in purely economic benefit-cost calculations. As Jane Huntington and Frederick A. Connell wrote in the *New England Journal of Medicine:*

> [W]e should consider whether cost savings is the appropriate criterion by which to judge prenatal care programs. It is tempting to assume that in order for these programs to be valuable, they really should save more than they cost. Yet when we require prenatal care, and other preventive health care, to pay for itself, we may be inadvertently denying valuable benefits to society. It may be better to ask not "How much does this save?" but, rather, "How much is this worth?"[8]

Hence, this volume does not argue that WIC's weaknesses justify abandoning or even cutting the program. On the contrary, we argue that policymakers should undertake a sustained effort to make the program more effective. Of special importance is the need to add to WIC's objectives the reduction of overweight among disadvantaged Americans—a worsening problem that is now all but ignored. Congress should begin that effort by debating the role and impact of WIC and by granting greater flexibility to state and local WIC agencies to open the program to innovation and experimentation. In addition, as we describe in our conclusions, policymakers should carefully evaluate any changes. Furthermore, even in the absence of a waiver-based experimental strategy, the federal government should conduct a series of randomized demonstrations to determine more definitively the impact of each of WIC's program components—with particular attention paid to key subgroups. If evaluations prove those ideas sound, the result could be a major shift in who gets served and how. But that consideration should not prevent needed reform.

Chapters 2 and 3 of this volume describe the WIC program. Chapters 4, 5, and 6 review and assess the research on the program's impact. Chapter 7 recommends state-based experimentation along the lines of the policy reforms listed above. Chapter 8 calls for a series of randomized experiments to evaluate the program and any changes made to it, and chapter 9 briefly presents our conclusions. The essential descriptive points made in part 1 of this volume appear in table 1-1.

Part 2 of this volume includes comments on our study by five leading experts of WIC program research. Michael J. Brien of the University of Virginia and Christopher A. Swann of the State University of New York at Stony Brook describe their efforts to address the selection-bias problem and the implications of their findings for program targeting and

Table 1-1 WIC at a Glance

Target Group	Commonly Reported Nutritional Risks[a]	Benefits[b]	Coverage[c]	Funding FY 1999[d]	Range of Evaluation Findings[e]
Pregnant women	General obstetrical risks, inappropriate growth or weight-gain pattern, pre-pregnancy high weight for height, hematocrit or hemoglobin below state criteria, and inadequate or inappropriate nutrient intake.	Food: milk, eggs, iron-fortified dry cereal, vitamin C–rich juice, and dry beans or peanut butter. Services: nutrition education and referrals to substance-abuse counseling, OB/GYN care, family planning services, and other health and social services.	845,000 69% of eligibles 28% of pregnant women	$510 million Average food package: $38	Average birthweight: 0 to 4% (6% for blacks); after correcting for selection bias: –11 to 14% (for blacks only) Low-birthweight rate: 0 to –30% (–40% for blacks) Very low birthweight rate: 0 to –55% Preterm birth rate: 0 to –30% Infant mortality rate: 0 to –66% Neonatal mortality rate: 0 to –66% Postneonatal mortality rate: 0
Breastfeeding and postpartum women	General obstetrical risks, hematocrit or hemoglobin below state criteria, inadequate or inappropriate nutrient intake, and high weight for height.	Food: cheese, milk, juice, dried beans or peas, peanut butter, canned tuna fish, and carrots. Services: nutrition education, breastfeeding promotion, and referrals to family planning services and other health and social services.	899,000 122% of eligibles 22% of women with infants	$490 million Average food package: $33	Breastfeeding initiation and duration: insufficient evidence Postpartum women; subsequent birthweight: 3 to 4% (1 study)
Infants (0–12 months)	Infant of a WIC-eligible mother or mother at risk during pregnancy and breastfeeding mother and infant dyad.	Food: concentrated, liquid, iron-fortified formula (or powdered or other formula), iron-fortified dry infant cereal, and vitamin C–rich infant juice. Services: referrals to pediatric care, immunization services, and other health services.	1,898,000 122% of eligibles 49% of infants	$900 million Average food package: $27 ($89 before rebate)	Anemia: reduction; not possible to quantify Adequately immunized: 0 to 36% (1 study) Mean nutrient intake: vitamin C (59%) and iron (32%) (1 study)

Children (1–4 years)	Inadequate or inappropriate nutrient intake, hematocrit or hemoglobin below state criteria, and high weight for height.	Food: milk, eggs, iron-fortified dry cereal, vitamin C–rich juice, and dry beans or peanut butter. Services: nutrition education and referral to EPSDT and other health services.	3,670,000 75% of eligibles 25% of children	$2,050 million Average food package: $34	Anemia: reduction; not possible to quantify Adequately immunized: 0 to 25% (1 study) Mean nutrient intake: positive for 1/3 to 2/3 of nutrients studied, most notably iron (about 20%) (2 studies)

a. This table reports the most commonly reported nutritional risks, affecting at least 15 percent of WIC participants in 1996 (Randall, Bartlett, and Kennedy 1998, 85).

b. Food packages are tailored to meet the individual needs of participants, so the food packages described identify the foods most commonly provided for each target group. The services provided reflect those offered in WIC clinics.

c. The percentage of eligibles was last reported for 1997 in U.S. Department of Agriculture, Food and Nutrition Service (1999). Because pregnant women are unlikely to participate in WIC for a full forty weeks, their participation rate is expected to be less than 100 percent. For example, if all eligible pregnant women enrolled in WIC for six months, their participation rate would be 65 percent. According to the USDA, the high participation rates for some groups are due to differences between the way the number of income-eligibles is estimated and the certification practices applied in local WIC agencies. In addition, some imprecision is present in any survey-based estimate. But according to the USDA report, "[T]hese data do strongly suggest that the program has likely achieved virtually full coverage of persons in this category at the national level." The percentage of the population covered was estimated by using population data from the U.S. Bureau of the Census. The number of pregnant women was estimated by assuming that they equal three-fourths of the number of infants, because pregnancy lasts nine months, while infancy lasts twelve months.

d. U.S. Department of Agriculture, Food and Nutrition Service (2000). Funding for each target group was estimated by adding the average administrative cost of $12 per participant to the average cost of food for each target group and then multiplying by the average monthly number of recipients. That is then multiplied by twelve to arrive at an annual cost.

e. Findings for birth outcomes are from Devaney, Bilheimer, and Schore (1990); Devaney (1992); Gordon and Nelson (1995); Gordon (1993); and Brien and Swann (1997, 1999b). Findings for breastfeeding women are not presented, because the only available research is not representative of the current WIC program. Findings for postpartum women are from Caan et al. (1987). Findings for infant outcomes are from Rush, Leighton, et al. (1988). Findings for children's immunization status are from Rush, Leighton, et al. (1988). Findings for children's nutrient intake were calculated by using data from Rose, Habicht, and Devaney (1998) and Oliveira and Gunderson (2000). Findings for the decline in prevalence of anemia are from Yip et al. (1987).

design. Nancy R. Burstein of Abt Associates explains the methodological problems encountered in dealing with selection bias and then describes an incremental approach to testing the efficacy of WIC with randomized experiments. Barbara Devaney of Mathematica Policy Research offers a defense of the existing research by arguing that we have overstated the research problems in assessing WIC's effectiveness. She does, however, offer support for some of the policy options we present. Robert Greenstein of the Center on Budget and Policy Priorities also argues that we have overstated the research problems affecting WIC and concludes that we are overly pessimistic about the program's impact. Like Devaney, he believes that some of the policy ideas deserve "serious consideration" but considers others to be "troubling" and likely to reduce WIC's effectiveness.

Instead of attempting to address the disagreements that exist between us and the commentators in a separate response, we have done our best to reflect the basis of our conclusions in the main text.