I. INTRODUCTION

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) serves low-income pregnant, breast-feeding, and postpartum women; infants; and children younger than age 5. Its objective is to provide supplemental, nutritious food as an adjunct to good health care during critical periods of growth and development, to prevent health problems and improve the health status of participants. The WIC program has three components: (1) food packages tailored to the needs of each participant group, (2) nutrition education, and (3) health and social service referrals. The food packages include supplemental foods rich in protein, vitamins A and C, calcium, and iron. Nutrition education is offered to all women participants and parents of child participants to improve their knowledge of the relationship between diet, nutrition, and good health. Health and social service referrals help participants find needed services.

Since its inception, the WIC program has grown dramatically. In fiscal year 1980, WIC served 1.9 million women and children, at a cost of $728 million. By fiscal year 2002, WIC was serving 7.5 million women and children, at a cost of $4.3 billion (U.S. Department of Agriculture 2003a). From 1988 to 1998, WIC monthly enrollment levels more than doubled, and participation among children increased as a percentage of all WIC participants (Cole 2001).

In recent years, WIC has come under scrutiny as the program expanded rapidly. WIC is up for reauthorization by Congress in 2004, so it is an appropriate time to consider new directions for the program. A substantial body of evidence exists on the effectiveness of WIC (Rush et al. 1988; Devaney et al. 1992; Gordon and Nelson 1995; and Rose et al. 1998). However, a recent critique of this research questioned the extent to which the empirical evidence supports the WIC program expansion (Besharov and Germanis 2001). Besharov and Germanis also suggested program design and operational options, including the six listed here:

1. Targeting benefits and services to fewer, needier families
2. Adding a focus on overweight and obesity prevention
3. Offering more intensive WIC services (such as home visits) and higher levels of benefits for selected groups
4. Serving children older than age 4
5. Using alternative service providers and co-locating WIC and other health care services
6. Increasing directive counseling to bring about behavioral change

The first recommendation (to the extent it calls for serving fewer families), the third recommendation (where it refers to benefits), and the fourth recommendation refer to options that current WIC rules do not allow. Similarly, WIC rules do not allow agencies to require participation in specific services as a condition for receiving benefits (part of what Besharov and

Germanis mean by directive counseling). Nonetheless, at the March 2002 meeting of the National WIC Association, where Besharov and Germanis presented these ideas, many state and local WIC directors reported that some local WIC programs were already implementing innovative nutrition services along the lines of recommendations 1 (targeting services to high-risk groups), 2 (obesity prevention), 3 (more intensive services), 5 (coordination and co-location), and 6 (more focus on behavioral change). However, policymakers have little information about many of these innovative WIC practices. As a result, Mathematica Policy Research, Inc. (MPR) proposed to the Economic Research Service (ERS) of the U.S. Department of Agriculture (USDA) that MPR could help fill this gap by documenting and disseminating information on the design and operation of a range of WIC innovations.

The Besharov and Germanis critique occurred when federal WIC policy had already moved to improve WIC nutrition services in several areas. It had (1) targeted funds for breast-feeding promotion and support, (2) started an initiative to revitalize nutrition education, and (3) funded a large research study of obesity prevention programs.

Since 1989, a portion of WIC Nutrition Services and Administration (NSA) funding has been designated by law for breast-feeding promotion and support. The existence of this assured funding stream for more than a decade implies that breast-feeding programs, including the most innovative, tend to be more fully developed and implemented than other types of nutrition education reforms. Core services related to breast-feeding promotion and support include (1) designating breast-feeding coordinators at the state and local levels; (2) training staff in breast-feeding promotion and support; (3) integrating breast-feeding promotion into prenatal education contacts and assessing women's knowledge, concerns, and attitudes about breast-feeding; and (4) making all prenatal participants aware of the special food packages for breast-feeding women.[1] Core services postpartum include the food packages and provision of, or referral to, support for breast-feeding mothers. Many local WIC agencies also have at least one certified lactation consultant or educator on staff.

In 1999, USDA's Food and Nutrition Service (FNS) began an initiative for "Revitalizing Quality Nutrition Services" (RQNS) in WIC. This initiative has two key components. First, FNS worked with the WIC community to update the Nutrition Services Standards to provide a tool for state and local staff to monitor the quality of their services (U.S. Department of Agriculture 2001). Second, FNS has targeted annual Special Project Grants to state agencies since fiscal year 1995 to plan and implement model programs and share materials from these programs with others. The WIC Works Web site [www.nal.usda.gov/wicworks] is also part of this effort—it provides resources for WIC nutrition educators online and allows state and local staff to share their experiences.

USDA has also recognized growing concerns about child obesity. In fiscal year 1999, FNS awarded Special Project Grants to five states to develop and test WIC programs that targeted prevention of childhood obesity. We did not study these "FIT WIC" projects for this report,

[1] We include as "core" WIC services those that the WIC Nutrition Services Standards identify as mandatory or recommended.

since an implementation report on them was recently completed (U.S. Department of Agriculture 2003) and a final report is forthcoming.

A. GOALS OF STUDY

The primary objective of this study was to learn about the innovations currently in place in state and local WIC agencies. We sought to identify innovative practices at 20 state or local WIC agencies and to study 5 promising programs in more depth through site visits. We focused on WIC practices that (1) promote breast-feeding and appropriate infant feeding practices (such as proper use of special formulas, appropriate timing for introduction of solid foods, and healthy feeding relationships); (2) improve nutrition and preventive health education through new approaches and staff training in these approaches; and (3) use innovative service delivery approaches, such as home visits. Many of the programs studied are innovative in more than one of these areas. In addition, we looked for some programs that serve high-risk groups, such as teenagers, premature infants, immigrants, and those with alcohol or drug abuse problems.

For this study, we defined "innovative" as programs that are different from services that WIC has traditionally offered (a somewhat deliberately vague definition, because we wanted WIC officials we contacted for nominations to give us their perspective on what was innovative). The initiatives we ultimately identified as innovative include those that the WIC Nutrition Services Standards (U.S. Department of Agriculture 2001) would consider "best practices"—for example, peer counseling for breast-feeding; services that go beyond typical WIC nutrition services (sometimes referred to as "WIC Plus")—such as dental education; and innovations that significantly change how core WIC services are delivered (such as training in facilitated group discussion).[2] Preferably, the program would have operated for at least one year, have demonstrated some evidence of its effectiveness, and have potential for being replicated. In terms of potential effectiveness and replicability, we were looking for preliminary indications that suggested the programs were worth investigating, while recognizing that further investigation of the programs would be needed to assess these issues more fully. Furthermore, we were judging effectiveness in terms of clear goals, adequate resources to achieve these goals, and progress toward implementing the intended services, not in terms of the ultimate impacts of the program on the health of mothers and children.

An important caution is that this definition of "innovative" *does not* imply that these programs have been evaluated and found to be effective in improving health outcomes for targeted groups. Instead, this preliminary study sought to identify promising initiatives that may be worthy of future evaluation.

The following core research questions guided our work:

- What innovative WIC programs and services currently exist?

[2] We would also consider services delivered to a broader population than WIC participants (for example, a breast-feeding hotline available to all new mothers) to be "WIC Plus."

- Under what circumstances are promising WIC programs being implemented?
- Are the programs replicable in other service areas? Is there evidence to support their effectiveness?

Table I.1 lists these overarching questions, along with specific topics covered in the interviews and site visits that are related to each question.

B. RESEARCH METHODS

Limited information is available on innovative practices that local agencies use, or, indeed, on what constitutes WIC program services "as usual." Therefore, this study is exploratory. The programs selected are *not* intended to indicate the "best" programs nationally, as our time to find programs and our sources were limited, and the programs nominated are not necessarily

TABLE I.1

RESEARCH QUESTIONS AND TOPICS

Research Questions	Specific Topics
What innovative WIC programs and services currently exist?	• Program history and goals • Services provided • Target population(s) • Frequency and intensity of services • Reasons for innovation
Under what circumstances are promising WIC programs being implemented?	• Community contexts • Start-up efforts and development • Types of staff and necessary training • Eligibility requirements • Outreach efforts • Participation rates • Associated costs and funding sources
Are the programs replicable in other service areas? Is there evidence to support their effectiveness?	• Applicability in a range of settings • Critical factors for success • Implementation challenges and lessons learned • Evidence of promising outcomes • Evaluation possibilities

representative. They are interesting programs, however, and suggest practices that may be worthy of further study and may be useful for WIC policymakers and program officials to explore.

To select programs to profile, we first contacted the FNS regional offices, state and tribal WIC directors, and other experts to gather suggestions on promising programs. Based on their feedback and consultation with USDA staff, we selected about 20 programs to contact by telephone to gather detailed information on their scope, services, and probability of replication in other settings. The telephone interviews were conducted by senior project staff and generally involved interviewing the program's senior manager or managers. The interviews followed a detailed protocol and took one to two hours.

After completing these interviews and preparing detailed notes on the programs, we selected five of the programs to study in depth through site visits, which included interviews with program staff and observations of program activities. One or two MPR staff members conducted the site visits, which lasted one to two days, depending on the complexity and geographical scope of the program. Programs selected for site visits represented the major topic areas: they included two breast-feeding programs, one preventive health education initiative, one nutrition education program that focused on obesity prevention, and one service delivery initiative. In each case, the programs were sufficiently complex that a site visit could help us to understand them better. Three of the visited programs were statewide programs, for which we sought to visit several locations and interview both state and local staff.

Appendix A describes in more detail the steps we took to obtain an initial set of programs for consideration, the criteria we used in selecting programs, and the procedures we used in collecting data on the programs. Table I.2 provides an overview of the selected programs.

C. PREVIEW OF MAJOR THEMES

The next three chapters describe three groups of innovative programs: those concerned with breast-feeding promotion, with other aspects of nutrition education, and with innovative service delivery approaches. In each of these areas, we distinguish several major themes.

Innovations in breast-feeding promotion described in Chapter II fall into four major groups: (1) peer counseling programs, (2) multifaceted programs with a strong focus on outreach to health providers, (3) breast pump programs that go beyond what most WIC agencies provide, and (4) programs that target teenage WIC mothers. Peer counseling programs are widespread but vary greatly. We describe three long-standing programs (in California, Pennsylvania, and Texas) that illustrate variation in the use of paid versus volunteer counselors and in the specific roles that peer counselors fill. Some large WIC agencies offer a wide range of breast-feeding services but focus on telephone helplines and extensive outreach to community health professionals (Riverside County, California, and Miami-Dade County, Florida). Increasing access to breast pumps for high-risk groups is the focus of an Arkansas program for mothers of premature or ill babies and a Hawaii program to provide breast pumps in schools for teenage mothers. In Ohio, another program for teenagers provides special infant feeding classes for pregnant teenagers both in and outside of school.

TABLE I.2

SELECTED PROGRAMS AT A GLANCE

Topic Area and Program Name	State	Program Scope: State-Level	Program Scope: Local-Level	Selected for Site Visit
Breast-Feeding Promotion (Chapter II)				
Peer Counseling				
Breast-Feeding Peer Counselor Program	TX	✓	✓	✓
Expanded Breast-Feeding Peer Counselor Program—Berkeley Area	CA		✓	
Telephone Peer Counseling by Volunteers	PA		✓	
Multifaceted Programs				
Loving Support Breast-Feeding Helpline—Riverside County	CA		✓	✓
Lactation Consultant Services—Sacramento County	CA		✓	
Breast-Feeding Promotion and Support Program—Miami-Dade County	FL		✓	
Programs for High-Risk Groups				
Breast Pumps for Mothers of Premature or Seriously Ill Infants	AR	✓		
Pumps in the Schools (PITS)	HI	✓		
Infant Feeding Classes for Pregnant Teens	OH		✓	
Nutrition and Health Education (Chapter III)				
Obesity Prevention				
Get Fit With WIC	OK	✓		✓
Obesity Prevention Modules	PA	✓		
Mooove to Lowfat or Fat Free Milk Campaign	FL	✓		
Preventive Health Care				
WIC Nutrition Education Model for Prevention of Early Childhood Caries	AL	✓		✓
Cease Alcohol Related Exposure (CARE)—Los Angeles area	CA		✓	
Staff Training				
The Learn Together Approach	MI	✓		
WIC RD: Adjunct to Pediatric Health Care	CA	✓		
Bilingual Training Program	WI	✓		
Service Delivery (Chapter IV)				
Coordination of WIC with Maternal and Infant Support Services—northwest lower Michigan	MI		✓[a]	✓
Steps Ahead/WIC Coordination—Cullman County	AL		✓	
WIC Services in the Workplace—Eastern Band of Cherokee Indians	NC		✓	

[a] The program is in several counties, so telephone respondent was a state WIC staff member with responsibility for the area.

Other types of innovations in nutrition education, described in Chapter III, cover three major areas: obesity prevention initiatives, initiatives that coordinate with or provide preventive health services, and new or enhanced staff training. Nutrition education in WIC has traditionally focused on providing information to pregnant women and mothers as the first step to achieving behavioral change. In most cases, information was presented through brief, individualized counseling (generally 15 minutes or less) or lecture-style classes. The innovative programs presented in this chapter typically include one or more of the following:

- ***New Methods.*** Some programs focus on motivating client behavior change through facilitated group discussion and other interactive approaches. In some situations, incentives are used to reinforce program messages (see box below).
- ***Updated Content.*** Several innovative programs focus on obesity prevention; others add material on nutrition-related health behaviors, such as alcohol consumption during pregnancy and preventive dental care.
- ***Broader Target Audience.*** Interventions that target the entire family, or specifically the preschool children, are expanding nutrition education's audience.
- ***More Staff Training.*** Many states are providing more in-depth, ongoing training for staff or providing more training in special topics such as breast-feeding promotion or obesity prevention.

A Note for WIC Staff: The Use of Incentives in WIC

Incentives for Participants

Some of the programs described in this report use incentive items to reinforce healthy behaviors in WIC participants. These inexpensive items, such as water bottles or balls, are given for the accomplishment of specific tasks, or to reinforce learning in the nutrition education elements of the programs. FNS wishes readers of this report to understand WIC policy with regard to such incentives. WIC Policy Memorandum #95-5, issued 12-21-94, provides guidelines on purchasing such items with WIC funds. Program incentive items for participants and/or staff are allowable if they are considered to be reasonable and necessary costs that promote the specific program purpose.

Incentives for Staff

In some programs, clinic staff may occasionally receive *the same items* as participants, because the staff may participate in cooperative functions with the WIC target population. According to WIC Policy Memorandum #95-5, "…it may occasionally be appropriate to distribute some types of program incentive items to program staff. The items must present a WIC outreach or nutrition education message as opposed to an agency logo, and must be ones which would be expected to be widely seen by the general population or the target population."

Need More Information?

The State agency should refer to WIC Policy Memorandum #95-5, as well as to OMB Circulars A087 and A-122, and check with the Regional FNS office if it has any questions regarding the use of program incentive items. Local agencies should contact their State agencies for assistance.

The final three programs (described in Chapter IV) are innovative in where services are provided and how they are coordinated with other programs. All three are in rural areas, where lack of transportation can be a barrier. In particular, we studied two programs that integrate WIC services with Medicaid-funded care coordination for low-income pregnant women. Because the Medicaid program supports home visits, some WIC services can be provided through home visits in these areas. Another program provides WIC services at worksites, with cooperation from employers.

The concluding chapter discusses cross-cutting issues—the sources of the ideas and funding for these programs, implementation lessons learned, their potential for replication, the strength of evidence for their success, and possibilities for further evaluation.