

## Introduction and Summary

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) provides food, nutrition education, breastfeeding support, and health care and social service referrals to nutritionally at-risk low-income pregnant women, new mothers, infants, and children through age 4.

This report offers updated estimates of the population that met these criteria and was eligible for WIC benefits in each of the years 1994 through 2007. These revise a set of estimates published by the USDA Food and Nutrition Service (FNS) in 2006. The new series builds on the methodology recommended by the Committee on National Statistics of the National Research Council (CNSTAT) and more accurately captures changes in the breastfeeding practice of new mothers during their period of WIC eligibility.

In 2007, 14.2 million individuals were eligible for WIC benefits in an average month. The program served 8.4 million, or 59 percent of those eligible.

## Eligibility versus Participation

WIC is a discretionary grant program, not an entitlement. As a result, participation can be constrained by appropriated funds or cost increases, and accurate projections of the demand for WIC services are critical to budgetary planning. Although projections of demand and estimates of the population eligible for WIC services are not the same, they are related. Both rely, at least in part, on the demographic factors described below.

The USDA Food and Nutrition Service (FNS), which administers WIC at the Federal level, refers to the percent of the eligible population that receives WIC benefits as the program “coverage rate.” Development of a reliable estimate of eligibility, and recognition of trends in the coverage rate, permit FNS to make more informed projections of participant demand and better understand program access.

## Methodology

FNS contracted with CNSTAT to review data sources and methodologies for estimating the WIC eligible population; CNSTAT published its findings in 2003 (National Research Council, 2003). CNSTAT offered two alternatives, one based on the annual March Supplements of the Current Population Survey (CPS), a product of the Bureau of the Census, and the other based on the Survey of Income and Program Participation (SIPP), also a Census product. FNS published a set of annual estimates in 2006 using CNSTAT’s CPS-based methodology. The relative merits of the CPS and SIPP approaches are discussed in the 2006 publication (USDA, Food and Nutrition Service 2006).

With some refinement, FNS again uses CNSTAT’s CPS methodology for this report’s estimates. At a high level, the CPS methodology can be summarized as follows:

### Infants and children

- Sum CPS estimates of infants and children under age 5 with annual family incomes at or below 185 percent of the federal poverty thresholds.
- Adjust CPS sampling weights to reconcile CPS counts by age, gender, and race, with Census Bureau population estimates.
- Add higher income infants and children who are adjunctively eligible for WIC benefits through their enrollment in Medicaid, or their families’ participation in the Supplemental Nutrition Assistance Program (SNAP) or the Temporary Assistance for Needy Families (TANF) program.
- Add infants and children whose annual incomes exceed 185 percent of the poverty threshold, but whose monthly incomes, from SIPP, indicate part-year WIC eligibility. Adjust these part-year estimates consistent with program rules that certify infants for 12-month periods, and children for 6 months.

- Reduce the count of otherwise eligible infants and children to exclude those who are not at nutritional risk.

### Pregnant and postpartum women

- Begin with the population of eligible infants, estimated as described above, before the adjustment for nutritional risk.
- Adjust this total for the incidence of multiple births and infant deaths.
- For pregnant women, multiply by 0.75 (9 months divided by 12 months) to account for the duration of pregnancy. Also adjust for the likelihood of higher income during pregnancy than after delivery.
- For postpartum women, adjust separately for the incidence and duration of breastfeeding in the first 6 months postpartum, and in the second 6 months.
- Reduce the count of pregnant women to exclude those estimated not to be at nutritional risk. (All income-eligible breastfeeding and postpartum women are assumed to meet WIC’s nutritional risk criterion.)

### Recent Refinement of Methodology

FNS, with contracted assistance from Mathematica Policy Research (MPR), has updated the adjustment factors described above with new data on multiple births, infant deaths, and Medicaid, SNAP, and TANF participation.

This report also refines the methodology behind the breastfeeding adjustment factor to better reflect actual breastfeeding practice and reported cessation among postpartum women. Previous FNS estimates of eligible breastfeeding and non-breastfeeding mothers did not fully account for the decline in breastfeeding rates in the weeks after delivery. Instead, breastfeeding practice recorded at the time of a new mother’s initial WIC certification was held constant in the model until the mother’s next certification, 6 months after delivery. Similarly, breastfeeding status reported at 6 months was assumed to hold until the infant’s first birthday. This overstated the number of breastfeeding mothers relative to those who never

breastfed or who stopped breastfeeding at some point in their infants’ first year.

WIC program regulations require women to promptly report a change in breastfeeding status, rather than wait until their next recertification. And, given the retail cost of infant formula, mothers have an economic incentive to comply with that rule.

The refined breastfeeding adjustment factor, like the factor it replaces, makes use of reported breastfeeding practice from national surveys of WIC-eligible women and the broader population of all new mothers: the Ross Laboratories Mothers Survey (Ross, 2007), and the National Health and Nutrition Examination Survey (NHANES, 2005-2006). Both factors rely on in-hospital surveys and follow-up surveys conducted 6 months postpartum. These surveys record breastfeeding practice at or near the time of initial WIC certification and re-certification of new mothers. Two data points, however, cannot fully capture the pattern of breastfeeding cessation over time. The new adjustment factor supplements these survey results with estimates of monthly breastfeeding status, through the infants’ first year. Monthly breastfeeding status is simulated with data from NHANES.

### Results

#### WIC-Eligible Population

*FNS estimates that the average monthly WIC eligible population totaled 14.2 million individuals in 2007* (see Table 1). Children ages 1 to 4 made up more than 60 percent of the eligible population. Infants made up an additional 19 percent. Ten percent of WIC eligibles in 2007 were pregnant women; the remaining 11 percent were new mothers.

**Table 1: Population Eligible for WIC Benefits, CY 2007**

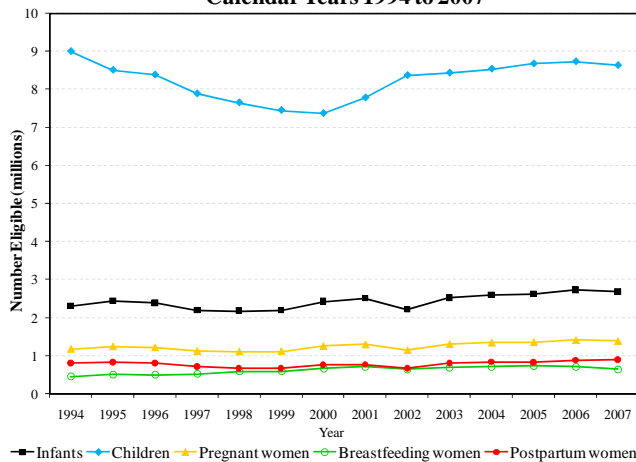
Population Subgroup	Number Eligible	Percent of Total Eligible
Pregnant Women	1,384,468	9.7%
Breastfeeding Women	642,914	4.5%
Postpartum Women	901,144	6.3%
Infants	2,688,320	18.9%
Children	8,629,883	60.6%
<b>All WIC Eligibles</b>	<b>14,246,729</b>	<b>100.0%</b>

Growth in the overall WIC-eligible population since 1994 has been modest, averaging just 0.3 percent per year. But growth varies substantially by subgroup. Over the 1994 to 2007 period, the eligible population of breastfeeding women increased at an average annual rate of 2.8 percent. The population of WIC-eligible breastfeeding women was 43 percent larger in 2007 than in 1994. By contrast, the population of WIC-eligible children ages 1 to 4 declined at an average annual rate of 0.3 percent. Four percent fewer children were eligible for WIC benefits in 2007 than in 1994.

Population Subgroup	Cumulative Growth	Annual Average Growth
Pregnant Women	17.7%	1.3%
Breastfeeding Women	42.9%	2.8%
Postpartum Women	11.9%	0.9%
Infants	16.3%	1.2%
Children	-4.1%	-0.3%
<b>All WIC Eligibles</b>	<b>3.7%</b>	<b>0.3%</b>

Note, however, that growth in the WIC-eligible population is marked by considerable short-term fluctuation (see Figure 1). From 2000 to 2007, the populations of eligible children and non-breastfeeding postpartum women expanded at the fastest rates, while growth in the eligible population of

**Figure 1: Population Eligible for WIC Benefits  
Calendar Years 1994 to 2007**



breastfeeding women lagged all subgroups.

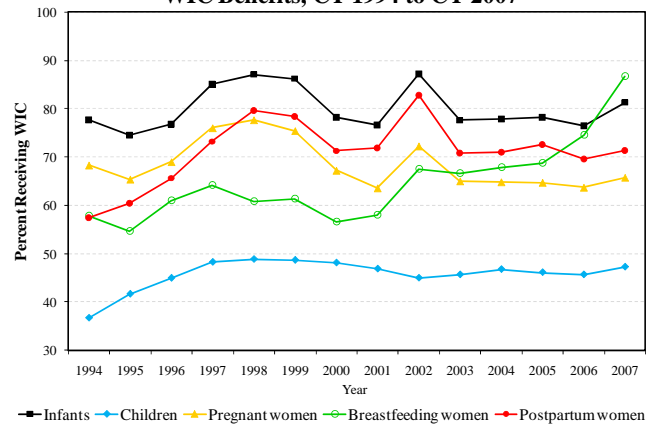
**Coverage Rates**

Table 3 displays average monthly WIC participant counts for 2007 alongside estimates of the eligible population. These figures are used to compute the coverage rates in the rightmost column. More than 80 percent of WIC-eligible infants and breastfeeding women received program benefits in 2007. The coverage rate of WIC-eligible children was the lowest among participant subgroups, at just 47 percent. **Overall, WIC served an estimated 59 percent of the population eligible for program benefits in 2007.** This is unchanged from 10 years earlier, but is up from 48 percent in 1994.

Participant Category	Number Eligible	Number Participating	Coverage Rate
Pregnant Women	1,384,468	909,824	65.7%
Breastfeeding Women	642,914	557,743	86.8%
Postpartum Women	901,144	642,848	71.3%
Infants	2,688,320	2,185,451	81.3%
Children	8,629,883	4,080,125	47.3%
<b>All WIC Eligibles</b>	<b>14,246,729</b>	<b>8,375,991</b>	<b>58.8%</b>

Over the last 5 years, the coverage rate of breastfeeding women has increased rapidly in both absolute terms and relative to the other participant subgroups (see Figure 2). WIC coverage of eligible breastfeeding women grew by half from 1994 to 2007.

**Figure 2: Coverage Rate  
Percent of Eligible Population Receiving  
WIC Benefits, CY 1994 to CY 2007**



As recently as 2002, WIC coverage of breastfeeding women fell below that of all subgroups other than children. By 2007, WIC was serving a greater share of eligible breastfeeding women, at 87 percent, than any other subgroup<sup>1</sup>.

***Although WIC participation grew by 1 million between 1997 and 2007, the coverage rate did not increase because the number of eligible individuals also increased.***

Coverage rates among the remaining subgroups have shown no clear trend, up or down, in 10 or more years. Because these subgroups account for more than 93 percent of WIC participants, the 10-year trend in overall WIC coverage is also flat. Despite increases in WIC participation, coverage has remained in a narrow 56 to 61 percent range since 1997 (see Table 4).

**Table 4: Population Eligible, Number of Participants, and Coverage Rates, CY 1994-2007**

Year	Number Eligible	Participants	Coverage Rate
1994	13,739,340	6,618,898	48.2%
1995	13,523,370	6,947,895	51.4%
1996	13,296,977	7,279,085	54.7%
1997	12,439,379	7,385,265	59.4%
1998	12,183,464	7,378,499	60.6%
1999	12,032,746	7,258,024	60.3%
2000	12,485,875	7,211,494	57.8%
2001	13,071,772	7,363,287	56.3%
2002	13,043,938	7,514,184	57.6%
2003	13,749,869	7,684,367	55.9%
2004	14,028,684	7,965,064	56.8%
2005	14,207,283	8,030,466	56.5%
2006	14,476,415	8,125,552	56.1%
2007	14,246,729	8,375,991	58.8%

<sup>1</sup> The significance of any subgroup's single year coverage estimate should not be overstated; estimates of eligibility are subject to measurement error and tend to fluctuate from year to year. The estimates presented here indicate that program coverage of breastfeeding women increased 12 percentage points from 2006 to 2007. Even if the 2007 estimate is overstated, the strong longer-term growth in WIC coverage of this group is unmistakable.

## Summary and Conclusions

The population of women, infants, and children eligible for WIC benefits reached an estimated 14.2 million in 2007. This is 1.6 percent below the eligible population estimated for 2006. Over the 13 years since 1994, growth in the WIC-eligible population has averaged a modest 0.3 percent.

The population of eligible breastfeeding women increased 43 percent since 1994, the most of any WIC subgroup. The population of eligible children ages 1 to 4 decreased 4 percent over the same period.

For more than a decade, WIC's estimated coverage rate has fluctuated in a narrow range from 56 to 61 percent. ***In 2007, WIC served an estimated 59 percent of the population eligible for program benefits. Although WIC participation grew by 1 million between 1997 and 2007, the coverage rate did not increase because the number of eligible individuals also increased.***

Within participant subgroups, coverage rates have followed different trends. The trend in coverage of eligible infants and pregnant women has been essentially flat over the past 13 years, although both series are marked by considerable annual variation.

Gains in coverage of children and non-breastfeeding postpartum women were realized in the mid to late 1990s. Although growth in coverage of these subgroups has been flat in recent years, the gains recorded earlier have been sustained.

WIC realized its most significant gains in program coverage in recent years among the population of eligible breastfeeding women. WIC served 58 percent of eligible breastfeeding women in 1994; by 2007, the program served 87 percent of that population.

## Acknowledgements

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under contract AG-3189-D-08-009 / GS-10F-0050L following the methodology approved by FNS.

WIC participation estimates are taken from FNS routine monthly administrative reporting data provided by the State WIC Agencies.

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<http://www.fns.usda.gov/ora/MENU/Published/WIC/FILES/WICEligibles.pdf>

## Appendix

<b>Population Eligible for WIC Benefits, Average Monthly Participation, and Coverage Rates</b>														
<b>Calendar Years 1994 - 2007</b>														
<b>Eligible population (millions)</b>														
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Infants	2.311	2.440	2.389	2.195	2.174	2.193	2.431	2.512	2.214	2.525	2.607	2.625	2.739	2.688
Children	8.996	8.505	8.382	7.887	7.654	7.452	7.375	7.782	8.368	8.430	8.534	8.674	8.730	8.630
Pregnant women	1.176	1.242	1.216	1.117	1.106	1.116	1.252	1.294	1.141	1.301	1.342	1.352	1.411	1.384
Breastfeeding women	0.450	0.505	0.497	0.518	0.581	0.591	0.671	0.712	0.645	0.686	0.706	0.734	0.710	0.643
Postpartum women	0.805	0.832	0.814	0.721	0.669	0.680	0.757	0.771	0.675	0.807	0.839	0.823	0.886	0.901
<b>Total</b>	<b>13.739</b>	<b>13.523</b>	<b>13.297</b>	<b>12.439</b>	<b>12.183</b>	<b>12.033</b>	<b>12.486</b>	<b>13.072</b>	<b>13.044</b>	<b>13.750</b>	<b>14.029</b>	<b>14.207</b>	<b>14.476</b>	<b>14.247</b>
<b>Average monthly participation (millions)</b>														
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Infants	1.796	1.817	1.835	1.869	1.893	1.892	1.900	1.926	1.932	1.959	2.028	2.053	2.094	2.185
Children	3.298	3.542	3.769	3.808	3.741	3.629	3.551	3.649	3.764	3.850	3.992	4.002	3.988	4.080
Pregnant women	0.803	0.811	0.838	0.849	0.859	0.841	0.841	0.822	0.824	0.845	0.870	0.874	0.898	0.910
Breastfeeding women	0.260	0.276	0.303	0.332	0.354	0.363	0.380	0.413	0.436	0.458	0.480	0.505	0.530	0.558
Postpartum women	0.462	0.502	0.534	0.528	0.532	0.533	0.540	0.553	0.559	0.572	0.595	0.596	0.616	0.643
<b>Total</b>	<b>6.619</b>	<b>6.948</b>	<b>7.279</b>	<b>7.385</b>	<b>7.378</b>	<b>7.258</b>	<b>7.211</b>	<b>7.363</b>	<b>7.514</b>	<b>7.684</b>	<b>7.965</b>	<b>8.030</b>	<b>8.126</b>	<b>8.376</b>
<b>Coverage rates</b>														
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Infants	77.7%	74.5%	76.8%	85.1%	87.1%	86.2%	78.2%	76.7%	87.2%	77.6%	77.8%	78.2%	76.4%	81.3%
Children	36.7%	41.6%	45.0%	48.3%	48.9%	48.7%	48.2%	46.9%	45.0%	45.7%	46.8%	46.1%	45.7%	47.3%
Pregnant women	68.2%	65.3%	68.9%	75.9%	77.6%	75.4%	67.2%	63.5%	72.2%	65.0%	64.8%	64.7%	63.7%	65.7%
Breastfeeding women	57.8%	54.7%	61.1%	64.2%	60.8%	61.5%	56.6%	58.0%	67.6%	66.7%	67.9%	68.8%	74.6%	86.8%
Postpartum women	57.4%	60.4%	65.6%	73.2%	79.6%	78.4%	71.2%	71.8%	82.8%	70.8%	71.0%	72.5%	69.5%	71.3%
<b>Total</b>	<b>48.2%</b>	<b>51.4%</b>	<b>54.7%</b>	<b>59.4%</b>	<b>60.6%</b>	<b>60.3%</b>	<b>57.8%</b>	<b>56.3%</b>	<b>57.6%</b>	<b>55.9%</b>	<b>56.8%</b>	<b>56.5%</b>	<b>56.1%</b>	<b>58.8%</b>

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