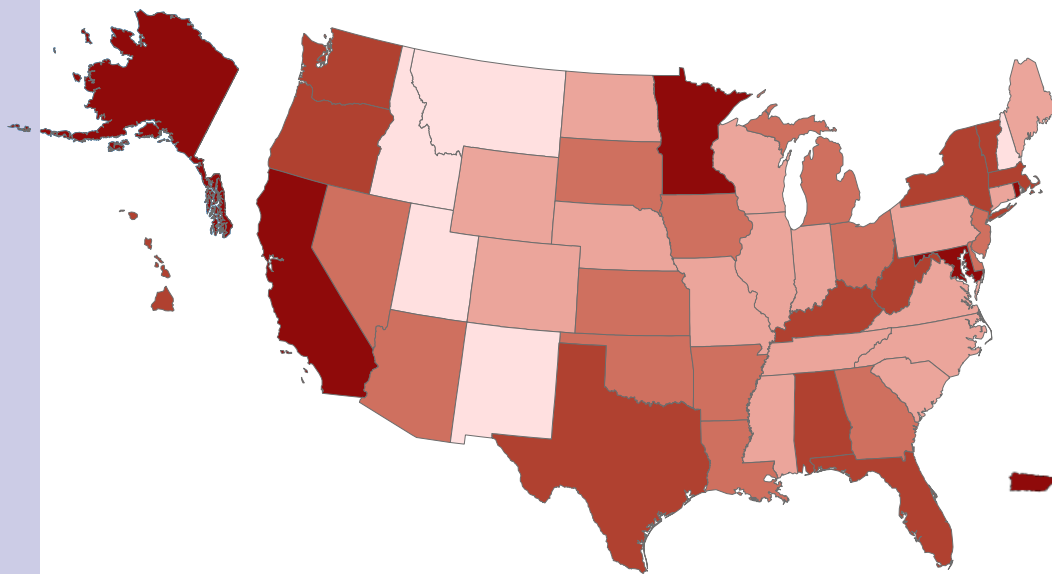


**Nutrition Assistance Program Report Series  
Office of Research and Analysis**

Special Nutrition Programs

Report No. WIC-13-ELIG



**Volume I**

**National and State-Level Estimates of  
Special Supplemental Nutrition  
Program for Women, Infants, and  
Children (WIC) Eligibles and Program  
Reach, 2010**

**Final Report**



January 2013

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Food and Nutrition Service  
U.S. Department of Agriculture

January 2013  
Special Nutrition Programs  
Report No. WIC-13-ELIG

## Volume I

# National and State-Level Estimates of Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) Eligibles and Program Reach, 2010

## Final Report

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## **Executive Summary**

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) provides supplemental nutritious foods, nutrition education (including breastfeeding promotion and support), and referrals to health care and other social services at no charge. WIC serves low-income pregnant, postpartum, and breastfeeding women, infants, and children up to age 5 who are at nutritional risk. Because WIC is a Federal grant program for which Congress authorizes a specific amount of funds each year, the Food and Nutrition Service (FNS) requires estimates of the total number of individuals eligible for the program to anticipate funding needs.

This report provides estimates of the population that met WIC eligibility criteria in 2010. National eligibility is shown by categorical subpopulations including infants, children age 1 through 4 by single year of age, pregnant women, postpartum women who are breastfeeding, and postpartum women who are not breastfeeding. The ratios of program participants to eligibles, defined as the coverage rate, are provided for 2010. The report also shows trends in the estimated growth in WIC eligible and coverage rates from 2000 through 2010. Estimates of WIC eligibility are provided for the seven FNS regions and each State for 2010.

## **Methods**

The estimation procedures build on methodology recommended by the Committee on National Statistics of the National Research Council (CNSTAT) in 2003. National eligibility estimation requires nationally representative data and numerous assumptions that take into account program certification periods, enrollment in other programs, and breastfeeding choices. The 2010 national estimates use the 2011 March Current Population Survey (the CPS Annual Social and Economic Supplement, or CPS-ASEC) as originally recommended by CNSTAT. The State estimates use the 2010 American Community Survey (ACS) and are converted to shares of the national estimates to produce State-specific eligibility estimates consistent with national totals. The number eligible in the territories is based on data from the ACS for Puerto Rico (the 2010 PRCS) and estimates of the population in other territories. Standard errors of estimate are calculated for national, regional, State, and Puerto Rico estimates.

The estimation requires numerous assumptions. Demographically eligible individuals are first identified in the surveys. These weighted counts are adjusted to match the Census 2010 population counts. Demographically-eligible individuals are income eligible if their families' annual cash income is less than 185 percent of the Federal poverty guideline, and they are adjunctively eligible if they participate in another safety net program. Individuals in families that participate in the Supplemental Nutrition Assistance Program (SNAP), Temporary Assistance for Needy Families (TANF), or Medicaid programs at any point during the calendar year are adjunctively eligible. Partial-year eligibility is estimated based on the ratio of monthly to annual income found in longitudinal data from the 2001 and 2004 Survey of Income and

Program Participation panels. The final adjustment for nutritional risk takes into account that a small share of otherwise-eligible individuals might not be found to be at nutritional risk.

## Results

In 2010, 14.6 million individuals were eligible for WIC benefits in an average month. During this year, 9.1 million individuals participated in the program in an average month, producing a total coverage rate (participants divided by eligibles) of 62.6 percent (Exhibit ES.1). These eligibility estimates are lower than those for 2009 because the 2010 Census population weights show fewer infants and young children than previous estimates that Census had extrapolated from the 2000 Census. The effects on total eligible infants and children, however, fall within the statistical confidence intervals. In 2010, children ages 1 through 4 comprised 63.4 percent of all eligible individuals, with approximately equal shares across the single years of age. The coverage rate for children was 52.4 percent, lower than the rates for other eligible groups. Post-partum breastfeeding women and infants had the highest coverage rates at 85.1 and 84.8 percent, respectively.

### Exhibit ES.1: WIC National-Level Eligibles and Coverage Rates by Participant Group: CY 2010

*NOTE: This table includes estimates for the territories*

<b>Participant Group</b>	<b>Number Eligible</b>	<b>Percent of All Eligibles</b>	<b>Number Participating</b>	<b>Coverage Rate</b>
Infants	2,535,074	17.4%	2,150,520	84.8%
Total Children Ages 1-4	9,224,455	63.4%	4,837,344	52.4%
Children Age 1 <sup>a</sup>	2,210,315	15.2%		
Children Age 2 <sup>a</sup>	2,341,191	16.1%		
Children Age 3 <sup>a</sup>	2,402,957	16.5%		
Children Age 4 <sup>a</sup>	2,269,991	15.6%		
Pregnant Women	1,304,322	9.0%	923,362	70.8%
Postpartum Women	1,486,265	10.2%	1,197,928	80.6%
Breastfeeding Women	664,619	4.6%	565,901	85.1%
Non-Breastfeeding Women	821,646	5.6%	632,028	76.9%
<b>All Participant Groups</b>	<b>14,550,116</b>	<b>100.0%</b>	<b>9,109,153</b>	<b>62.6%</b>

Source: 2011 CPS-ASEC for U.S. estimate, PRCS and Census for territories, WIC Administrative Data

Note:

<sup>a</sup> WIC coverage rates for children by single year of age are not provided because participation data are not available by single year of age.

Growth in the WIC-eligible population since 2000 has averaged 1.5 percent per year and 16.6 percent over the 2000-2010 period (Exhibit ES.2). Average annual growth in the eligible infant population has been 0.5 percent. During the same period, the number of births in the United States mainland and territories declined from 4,126 thousand in 2000 to 4,047 thousand

in 2010, suggesting that the share of all infants who are eligible for WIC has increased slightly over the decade.<sup>1</sup> Average annual growth rates for WIC-eligible pregnant and postpartum women were the same as for infants, and the average annual growth in the number of WIC-eligible children was much higher at 2.2 percent.

### Exhibit ES.2: Growth in WIC Eligible Population, 2000-2010

*NOTE: This table includes estimates for the territories*

<b>Participant Group</b>	<b>Cumulative Growth</b>	<b>Annual Average Growth</b>
Infants	4.9%	0.5%
Total Children Ages 1-4	24.6%	2.2%
Children Age 1	15.4%	1.4%
Children Age 2	25.9%	2.3%
Children Age 3	36.1%	3.1%
Children Age 4	22.0%	2.0%
Pregnant Women	4.8%	0.5%
All Postpartum Women	4.7%	0.5%
<b>All Participant Groups</b>	<b>16.6%</b>	<b>1.5%</b>

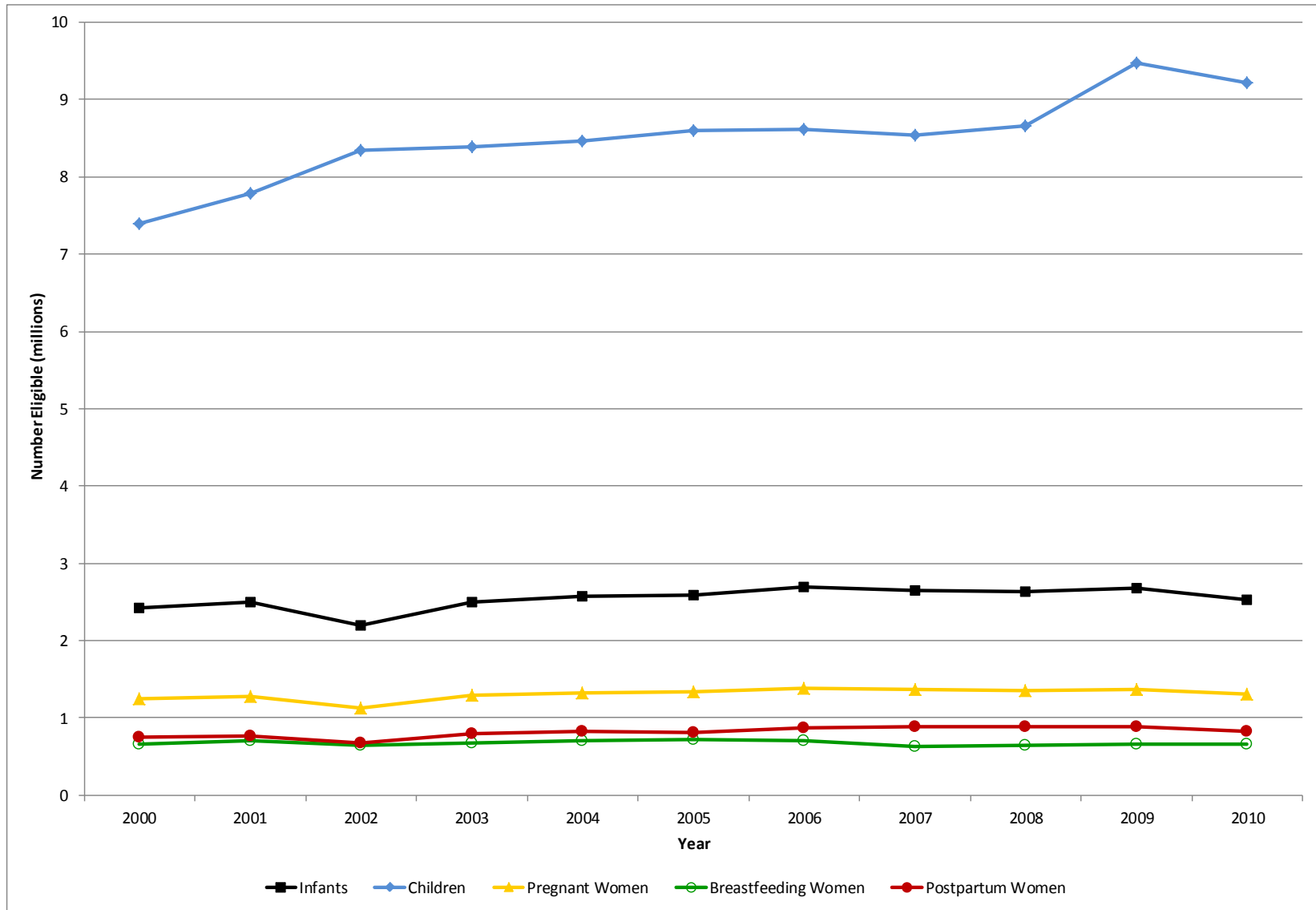
Source: CPS-ASEC, ACS, PRCS, Census International Data Base, WIC Administrative Data

While the number of children eligible for WIC has increased steadily throughout the 2000-2010 period, growth was particularly high in 2002 and 2009, representing two years just after economic recessions (Exhibit ES.3). Eligibility increases as the share of families with incomes below 185 percent of the poverty guidelines (the WIC eligibility level) increases and the number of low-income families enrolled in Medicaid or SNAP increases. Other eligible populations, especially pregnant and postpartum women, did not show similar growth, in part because the sizes of those subgroups also reflect patterns in birth rates.

Coverage rates fluctuate over this time frame for subpopulations (Exhibit ES.4). The coverage rate for infants, just under 80 percent in 2000, rose to about 88 percent in 2002 and then declined somewhat. These estimates are influenced by decennial Census population estimates that “correct” the published postcensal estimated numbers two years after the decennial Census and contribute to a substantial change in the estimated number of infants in that year. The pattern is similar for postpartum women since these estimates are calculated based on the number of infants. Coverage rates for children, while considerably lower than for other groups, have increased from about 48 percent to 52 percent during this time period.

<sup>1</sup> Data published by the Center for Disease Control, National Vital Statistics Reports, Volume 50, Number 5, Table 10, February 12, 2002 and Volume 60 Number 2, Table 6, November 17, 2011. (Estimates for 2010 are preliminary.)

Exhibit ES.3 Population Eligible for WIC Benefits, 2000-2010<sup>a</sup>

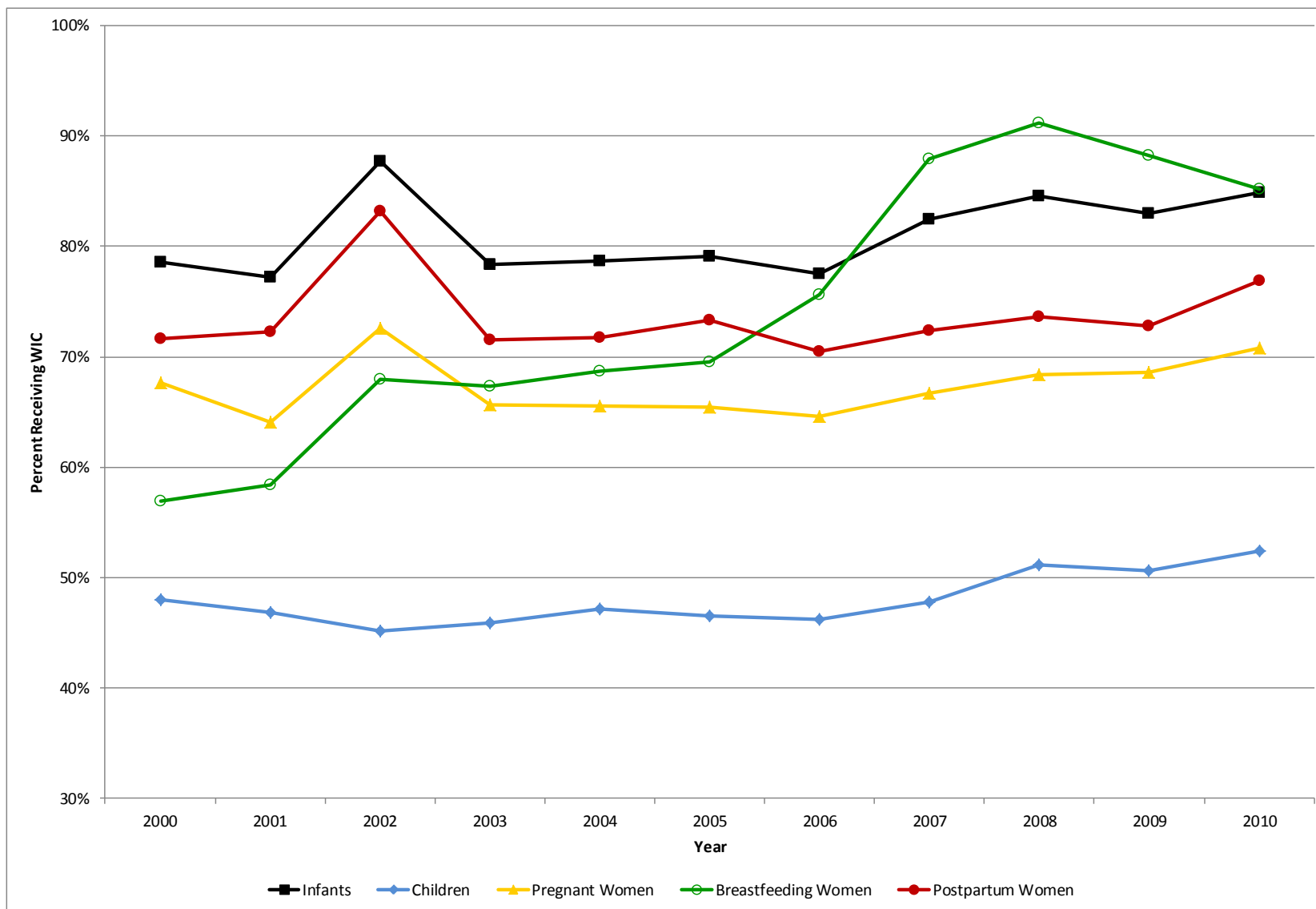


Notes:

<sup>a</sup>The decline in the number of WIC eligibles from 2009 to 2010 is likely due to new Census population estimates that incorporate information from the 2010 Census and reduce the estimated number of children. The decline does not indicate a lower percentage of the population being eligible for WIC in 2010.

See Appendix Table D.1 for source information.

**Exhibit ES.4 Coverage Rate: Percent of Eligible Population Receiving WIC Benefits, CY 2000 to CY 2010**



Notes:

<sup>a</sup> The upward trend in coverage rates between 2009 and 2010 reflects, in part, the decline in the number of eligibles in 2010 due to new Census population weights.

See Appendix Table D.2 for source information.

WIC coverage rates vary somewhat across the regions (Exhibit ES.5). The highest coverage rate is 72.5 percent in the Western region, and the lowest is 53.6 percent in the Mountain Plains.

Of course, all estimates reflect sampling error, and standard errors of estimates were derived using the generalized variance estimates provided by Census for the CPS-ASEC and the ACS (Exhibit ES-5). The standard errors for the regions range from 2.4 percent in the Southeast and Western regions to 3.2 percent in the Mountain Plains. The standard errors indicate relatively high precision in the estimates, given the large sample sizes of the underlying surveys.

### Exhibit ES.5: WIC Eligibles and Coverage Rates by FNS Region, CY 2010

*NOTE: This table includes estimates for the territories*

<b>FNS Region</b>	<b>Eligibles</b>	<b>Participants</b>	<b>Coverage Rate</b>	<b>Standard Error</b>
Northeast	1,234,404	777,815	63.0%	3.1%
Mid-Atlantic	1,633,452	1,026,289	62.8%	3.0%
Southeast	3,013,157	1,766,782	58.6%	2.4%
Midwest	2,241,261	1,287,459	57.4%	2.6%
Southwest	2,307,415	1,475,457	63.9%	2.6%
Mountain Plains	1,117,789	599,157	53.6%	3.2%
Western	3,002,637	2,176,194	72.5%	2.4%
<b>Total</b>	<b>14,550,116</b>	<b>9,109,153</b>	<b>62.6%</b>	<b>1.9%</b>

Source: 2011 CPS-ASEC, 2010 ACS, 2010 PRCS, Census International Data Base, WIC Administrative Data

### Summary

The WIC program provided nutritious foods, nutrition education (including breastfeeding promotion and support) health care referrals, and related services to an average of 9.1 million individuals per month in 2010. WIC eligibility has increased gradually over the 2000 through 2010 period, growing an average of 1.5 percent per year. In 2010, an average of 14.550 million individuals were estimated to be eligible for benefits per month.

The program covered 62.6 percent of the 14.550 million eligible per month in 2010. Infants and postpartum women had the highest coverage rates at 84.8 and 80.6 percent, respectively. The coverage rate for children ages 1 through 4 was 52.4 percent. Coverage rates also varied by region. The coverage rate for the Western region was 72.5 percent in 2010, compared with 53.6 percent for the Mountain Plains.



## **Introduction**

This project updates estimates of WIC eligibility for calendar year 2010 for the nation, the fifty States, the District of Columbia, and five U.S. territories (American Samoa, the Commonwealth of the Northern Mariana Islands, Puerto Rico, Guam, and the Virgin Islands). State estimates are aggregated for the seven FNS regions. National and territory estimates are produced for infants, children by single year of age, pregnant women, and breastfeeding and non-breastfeeding postpartum women. State and regional estimates are produced at more aggregate levels. The national estimates use the Current Population Survey, Annual Social and Economic Supplement (CPS-ASEC) data and generally follow methods originally developed by the Committee on National Statistics of the National Research Council (CNSTAT).<sup>2</sup> The territorial estimates use the Puerto Rico Community Survey (PRCS) to directly estimate the number of eligibles in Puerto Rico and the Census Bureau International Data Base to estimate WIC eligibility in other island territories. The State-level estimates are based on the American Community Survey (ACS). WIC eligibility is estimated in each State and then converted to the States' shares of WIC-eligible individuals. These shares are applied to the CPS-ASEC national estimates to produce a consistent set of national and State estimates.

The project uses the updates and extensions to the CNSTAT methods described in Betson et al. (2011). The updated methods revised the original approach for producing estimates for the U.S. territories and developed new methods to produce estimates at the State level and standard errors for all estimates.

This report begins by reviewing the specific methods and assumptions used to develop the estimates. Then estimates of the total WIC-eligible population in 2010 are presented. The results of each step in the national estimation process are discussed, followed by a summary of the characteristics of this population. The presentation of the national estimation process is followed by a discussion of the steps used to produce the territorial estimates. The 2010 total WIC eligible population then is compared with the 2009 results. The next section presents the State and regional level results. Appendix A presents all of the national tables for 2010, including more details on interim steps than are presented in the main report. Similarly, Appendix B provides more detailed results for the State estimates. Appendix C contains the maps showing the coverage rates for 2010. Appendix D provides the estimates of WIC eligibility and coverage rates from 2000 through 2010. Appendix E compares the Census population weights for 2010 with those from 2009 for each State.

## **Overview of Methods for Estimates for 2010**

There are three separate processes for developing the WIC national, territorial, and State eligibility estimates. The processes are interrelated and described below.

---

<sup>2</sup> See Ver Ploeg and Betson 2003 for the CNSTAT report.

## National Estimates

The national WIC eligibility estimates are based primarily on the recommendations of the CNSTAT Panel members. They recommended using the annual CPS-ASEC data for an initial count of eligible infants and children in the fifty States and the District of Columbia. Those figures are refined through a series of adjustment factors designed to more closely mimic WIC program procedures and to account for WIC eligibles in the territories. The estimates of eligible infants are used to estimate WIC-eligible pregnant and postpartum women. Postpartum women are divided into breastfeeding and non-breastfeeding mothers since certification and benefits vary for these two groups. Various data sets must be used to impute breastfeeding prevalence.

*Infants and Children:* The CPS-ASEC survey conducted each spring is used to count the number of infants (less than 1 year old) and children (age 1 through 4 years old). We use the CPS-ASEC data collected in March 2011 to estimate WIC eligibility during calendar year 2010.

As indicated in Table 1, the preliminary counts of infants and children are adjusted to compensate for differences between weighted counts of infants and children in the CPS data and Census population estimates. These population adjustment factors are annually recomputed and reflect the Census population estimates by age (five, one-year groups: age 0 through 4 years old), race (three groups: white, black, and other), and gender (two groups: female and male) over a four-year period relative to the weighted counts in the CPS-ASEC for the same period. For the CY 2010 WIC eligibility estimates using the 2011 CPS-ASEC data, the adjusted factors are computed using population data for 2008, 2009, 2010, and 2011. The adjustment makes the weighted CPS-ASEC counts consistent with the Census population estimates, correcting the CPS weighting for any undercount or overcount for a particular subgroup of infants or children.

The population adjustment factors incorporate new population data from the 2010 Census. Once a decade, the Census Bureau uses the new Census data to revise population estimates made between the current and previous Census. Since 2010 was a Census year, the usual postcensal population estimates that include the detail by race, gender and age were not produced. Instead, the Census Bureau published detailed intercensal population estimates for June of each year from 2000 to 2010. The Census Bureau's intercensal estimates are based on information from the 2010 Census and essentially revise all previous postcensal estimates made between two Censuses. We imputed estimates for March of each year—using the intercensal data for 2008 through 2010 and postcensal estimates for 2011—to maintain consistency with the timing of the March CPS and previous WIC estimates methodology. For example, we used linear interpolation between the intercensal estimates for July 2007 and July 2008 to impute population estimates for March 2008.

**Table 1:  
Steps and Sources for 2010 Estimates of WIC Eligibility  
of Infants and Young Children**

Step	Description	Sources for 2010 Updates to Estimates and Adjustment Factors
Demographic eligibility	Identify individuals age 0, 1, 2, 3, or 4 in the survey.	2011 CPS-ASEC—National Estimates 2010 ACS—State Estimates 2010 PRCS—Puerto Rico Estimates Census Bureau International Data Base - Other Island Territories
Weight adjustment	Adjust sampling weights to account for under-count or over-count in the CPS relative to Census estimates, by exact age, gender, and race.	National Estimates: Updated intercensal population estimates from the Census Bureau (March 2008, 2009, 2010, and 2011) and the March CPS for 2007, 2008, 2009, and 2010) State and Puerto Rico Estimates: Updated population estimates from the Census Bureau intercensal estimates for CY 2010.
Income eligibility	Count as eligible if prior year's annual family income is $\leq$ 185 percent of the applicable poverty guideline—"family" for income purposes is the broadly defined family, with related subfamilies included in the primary.	2011 CPS-ASEC—National Estimates 2010 ACS—State Estimates 2010 PRCS—Puerto Rico Estimates
	Poverty guidelines are the blended poverty guidelines for the calendar year for which estimates are produced.	Blended FY 2009 and FY 2010 poverty guidelines (\$18,310 for a family of three).
Adjunctive eligibility	Add in as eligible those infants/children whose household reports food stamps, family reports TANF, or who are themselves reported as being enrolled in Medicaid at any point during the prior calendar year.	2011 CPS-ASEC 2010 ACS—State Estimates 2010 PRCS—Puerto Rico Estimates
	For TANF receipt, "family" on the CPS is the narrowly defined family and also includes any related children whose parents are not present in the household. On the ACS and PRCS this is just the narrowly defined family, with subfamilies separate.	
Adjust for fluctuations in monthly income and certification periods	Multiply the estimates by a factor of 1.18 for infants and 1.01 for children to account for the impact of monthly fluctuations in income and program participation, and for the impact of 6 and 12 month certification periods.	SIPP panels from 2001 and 2004.
Adjust for nutritional risk	Multiply the infant estimates by 0.97 and the child estimates by 0.99 to account for the fact that some otherwise-eligible infants and children might not be found to be at nutritional risk.	No update.
Adjust for Eligibles in Territories	Eligibility in Puerto Rico is based on the PRCS and is estimated with the same methods as outlined above. Eligibility in the other island territories is based on a proportion of the estimated population of infants and children.	PRCS 2010—Puerto Rico  Census Bureau International Data Base—Other Island Territories

The new Census data indicate that previous weights were over-estimating the number of infants and young children in the U.S. (Table 2). For example, compared with prior population estimates using the Census 2000 data extrapolated to 2010, the weights based on the 2010 Census indicate 7.67 percent fewer male infants. The differences between the old and new Census estimates for 2010 decline with each single year of age and vary within the subcategories. However, the new Census estimates are smaller than the older Census estimates for all of the subcategories. The use of the updated Census weights for 2010 to adjust the initial estimates from the CPS-ASEC means that total WIC eligibility will be lower and that the total WIC coverage rate will be higher, all else being equal.

The WIC eligibility estimates begin by tabulating the subset of infants and young children living in families with cash income in the prior calendar year (2010) that is less than 185 percent of the Federal poverty guideline (the threshold for WIC income eligibility). Individuals also are considered eligible for WIC through adjunctive eligibility. An individual is adjunctively eligible if the person receives benefits from the SNAP, TANF, or Medicaid program, if the person's family receives benefits from TANF, or if the person's household includes a pregnant woman or infant who is enrolled in Medicaid.<sup>3, 4</sup> The CPS-ASEC asks about enrollment in each of these programs during the prior year. However, adjunctive eligibility is likely underestimated due to the underreporting of benefit receipt in survey data.<sup>5</sup>

Two proportional adjustments are made to these initial eligibility estimates as summarized in Table 1. The first adjustment accounts for differences between annual and monthly income. The annual-to-monthly adjustment attempts to address the difference between a family's income as a percentage of the poverty guideline when assessed using annual income as opposed to the time period used by the program—sometimes a month or less. It also reflects the impact of certification periods. This adjustment factor differs for infants and children, reflecting the fact that eligible infants are certified for a year while eligible children are certified for only six months.<sup>6</sup> After the certification period ends, income or adjunctive eligibility must again be demonstrated. The Survey of Income and Program Participation (SIPP) is used to construct proportional adjustments by comparing eligibility based

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<sup>3</sup> Enrollment in a State's Medicaid-expansion program funded through the Children's Health Insurance Program (CHIP) also confers adjunctive eligibility, but enrollment in a separate State health program funded by CHIP does not. However, if eligibility in a separate State health program is limited to individuals with incomes at or below the WIC income threshold, *and* the program collects income information in the enrollment process, then participation in such a program can serve as evidence of income eligibility for WIC. Because the CPS-ASEC data do not separately identify the two types of CHIP programs, enrollment in CHIP is not counted as conferring adjunctive eligibility; this may lead to a slight underestimate of the count of adjunctively eligible infants and children.

<sup>4</sup> Note that implementation of the adjunctive eligibility rules in the eligibility estimation is restricted by the available data in the CPS-ASEC data. These data do not indicate whether each person receives SNAP, only if the household receives SNAP. Since most households file together for SNAP, this should not introduce much error. See table 1 for the definition of how adjunctive eligibility is implemented using the CPS-ASEC.

<sup>5</sup> All surveys underestimate enrollment because some individuals fail to report participation (Wheaton 2007). The CNSTAT-recommended methods do not attempt to correct for the impacts of program underreporting.

<sup>6</sup> The Hunger-Free Kids Act of 2010 (PL 111-296) allows States to certify children for 12 months beginning in October 2011.

upon monthly data and including certification periods with the results based upon a single annual determination. To date, estimates of the annual-to-monthly adjustment have been produced for different years using the 1996, 2001, and 2004 panels of the SIPP.<sup>7</sup>

The final step in estimating WIC eligibility for infants and children in the fifty States and the District of Columbia is to adjust for nutritional risk. (WIC eligibility estimates for infants and children in the territories are discussed below.) A constant nutritional risk adjustment factor, calculated in the original CNSTAT panel report, has been used in all recent WIC eligibles estimates. Using data from the 1994-1998 Continuing Survey of Food Intake by Individuals (CSFII), the CNSTAT Panel found that at least 97 percent of income-eligible pregnant women were at nutritional risk. Since an infant whose mother would have qualified for WIC during pregnancy is automatically considered at-risk, the nutritional risk adjustment factor for infants has been 0.97. The CSFII data also suggested that more than 99 percent of young children failed to meet dietary guidelines, leading to a 0.99 nutritional risk adjustment for children.

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<sup>7</sup> The details of these procedures are summarized in Betson et al. (2011).

**Table 2: Example Difference between Population Estimates Based on the 2000 Census and 2010 Census**

	Females				Males				Total
	White	Black	Other	Total	White	Black	Other	Total	
<b>March 2010 (based on projected 2000 census data)</b>									
Age 0	1,555,185	370,905	174,392	2,100,482	1,627,417	387,611	181,757	2,196,785	4,297,267
Children (Age 1-4)	6,229,636	1,452,818	698,866	8,381,320	6,537,931	1,498,732	725,164	8,761,827	17,143,147
Age 1	1,546,282	365,666	174,567	2,086,515	1,620,503	377,742	181,962	2,180,207	4,266,722
Age 2	1,571,028	370,450	179,389	2,120,867	1,647,219	381,561	186,343	2,215,123	4,335,990
Age 3	1,572,805	366,049	175,520	2,114,374	1,651,023	379,322	181,607	2,211,952	4,326,326
Age 4	1,539,521	350,653	169,390	2,059,564	1,619,186	360,107	175,252	2,154,545	4,214,109
<b>March 2010<sup>a</sup> (based on actual 2010 census data)</b>									
Age 0	1,442,857	341,374	159,059	1,943,290	1,508,580	353,077	166,618	2,028,275	3,971,565
Children (Age 1-4)	5,977,118	1,355,665	654,371	7,987,154	6,266,210	1,396,474	676,850	8,339,534	16,326,688
Age 1	1,446,168	338,011	160,018	1,944,198	1,512,174	347,572	166,193	2,025,940	3,970,138
Age 2	1,499,465	344,589	165,932	2,009,986	1,570,697	354,825	171,338	2,096,860	4,106,846
Age 3	1,523,278	341,806	166,106	2,031,190	1,598,576	352,593	171,494	2,122,663	4,153,853
Age 4	1,508,206	331,259	162,315	2,001,780	1,584,762	341,484	167,824	2,094,071	4,095,851
<b>Difference between weights (based on 2000 and 2010 census data)</b>									
Age 0	-112,328	-29,531	-15,333	-157,192	-118,837	-34,534	-15,139	-168,510	-325,702
Children (Age 1-4)	-252,518	-97,153	-44,495	-394,166	-271,721	-102,258	-48,314	-422,293	-816,459
Age 1	-100,114	-27,655	-14,549	-142,317	-108,329	-30,170	-15,769	-154,267	-296,584
Age 2	-71,563	-25,861	-13,457	-110,881	-76,522	-26,736	-15,005	-118,263	-229,144
Age 3	-49,527	-24,243	-9,414	-83,184	-52,447	-26,729	-10,113	-89,289	-172,473
Age 4	-31,315	-19,394	-7,075	-57,784	-34,424	-18,623	-7,428	-60,474	-118,258
<b>Percentage Difference</b>									
Age 0	-7.22	-7.96	-8.79	-7.48	-7.30	-8.91	-8.33	-7.67	-7.58
Children (Age 1-4)	-4.05	-6.69	-6.37	-4.70	-4.16	-6.82	-6.66	-4.82	-4.76
Age 1	-6.47	-7.56	-8.33	-6.82	-6.68	-7.99	-8.67	-7.08	-6.95
Age 2	-4.56	-6.98	-7.50	-5.23	-4.65	-7.01	-8.05	-5.34	-5.28
Age 3	-3.15	-6.62	-5.36	-3.93	-3.18	-7.05	-5.57	-4.04	-3.99
Age 4	-2.03	-5.53	-4.18	-2.81	-2.13	-5.17	-4.24	-2.81	-2.81

Source: Census Bureau 2009 postcensal and 2000-2010 Intercensal population estimates.

Notes:

<sup>a</sup> Estimates for the month of March were imputed based on Census Bureau estimates for July.

*Pregnant and Postpartum Women:* Estimates of the number of WIC-eligible women (pregnant, postpartum breastfeeding, and postpartum non-breastfeeding) are based upon adjusted counts of WIC-eligible infants rather than separate counts of the CPS-ASEC data. (The CPS-ASEC does not identify pregnancy or breastfeeding status.) The proportional adjustments made to the infant estimates to arrive at the final estimates for women are summarized in Table 3.

The first adjustment to the count of WIC-eligible infants accounts for the lack of a one-to-one ratio between mothers and infants. The number of pregnant and postpartum women can be less than the number of infants due to multiple births. However, the number of pregnant and postpartum women can be greater than the number of infants in the CPS-ASEC due to fetal and infant deaths (the infants are absent in the CPS-ASEC). The adjustment that accounts for both of these factors is small (0.9966 from 2000 through 2003 and 0.9961 from 2004 through 2010).

The eligibility estimates for pregnant women take into account that some mothers of WIC-eligible infants were not themselves eligible during pregnancy. (It is also possible that a woman could be WIC-eligible during pregnancy but not WIC-eligible after the birth.). Estimates from the 1990 through 1996 panels of SIPP found that women whose infants were eligible for WIC were themselves eligible in an average of 6.4 months of pregnancy, or 71 percent of the maximum nine months of pregnancy eligibility.<sup>8</sup> Thus, the gestation adjustment factor used consistently since 1994 has been 0.5330 (0.71 x 0.75). After this adjustment for gestation, the number of pregnant women is reduced by an additional 3 percent to reflect that an otherwise-eligible pregnant woman may not be at nutritional risk. The estimates assume that all postpartum women are at nutritional risk.

For a postpartum woman, the duration of WIC eligibility depends on the extent to which she breastfeeds her child as well as the other factors. A new mother can be certified to receive benefits for up to 12 months, if she is breastfeeding and her child is not receiving the fully formula fed food package. If the mother is not breastfeeding or her child receives the fully formula fed food package, then she can be eligible for benefits as a postpartum woman until her infant turns six months old. To account for the fact that the mother's WIC eligibility may differ from the infant's eligibility, breastfeeding adjustments are applied to the count of mothers whose infants are WIC-eligible.

The breastfeeding adjustments combine data from three sources: the Ross Labs Mothers Survey (RLMS, now named the Infant Feeding Survey or IFS), the National Health and Nutrition Examination Survey (NHANES), and the SIPP. Ross Labs annually releases their estimates of the percentage of WIC mothers who breastfeed their infant in the hospital and the percentage who are breastfeeding at six months.<sup>9</sup> For 2010, for example, the Ross Labs data

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<sup>8</sup> See Yelowitz (2002)

<sup>9</sup> Appendix Table A.4 provides the time series for the RLMS and the NHANES data as well as the adjustment factors calculated from these data.

show 53.3 percent of WIC mothers breastfeeding in the hospital, and 18.5 percent breastfeeding at six months. Since estimates show that mothers who are eligible but not participating in WIC have higher rates of breastfeeding than WIC participants, the rates reported in RLMS for WIC participants will underestimate rates for all WIC-eligible mothers. The 2005-2006 NHANES data are used to adjust for this difference. The NHANES ratios of breastfeeding rates for WIC-eligible to WIC-participating mothers in the hospital and at six months are applied to the Ross Labs annual estimates to reflect the rates expected in the eligible population. The most recent analysis of NHANES data showed that the breastfeeding rate of WIC-eligible mothers in the hospital was 5.6 percent higher than for WIC participants. At six months, WIC-eligible mothers were 15 percent more likely to breastfeed than WIC participants.

The estimation of postpartum WIC eligibility is complicated by the decline in breastfeeding throughout the first year. Although the CNSTAT Panel did not discuss an adjustment factor to address this issue, subsequent estimates have used SIPP-based simulations to adjust for breastfeeding cessation. The simulations assume that mothers inform WIC staff members as soon as they stop breastfeeding so that they can qualify for infant formula. The simulations assign a breastfeeding status and duration to each postpartum mother of a WIC-eligible infant, using breastfeeding rates for WIC-eligible mothers from NHANES. Eligibility is then simulated month-by-month, using each woman's monthly income, program participation, breastfeeding status, and appropriate certification periods. One simulation uses the in-hospital breastfeeding status for the first six months and the status at six months for the remainder of the year, while a second simulation uses the monthly status. In the second simulation, fewer eligible women are counted as breastfeeding, and the total number of WIC-eligible postpartum women is also lower. The ratio of the second set of estimates to the first provides an additional adjustment factor. In the most recently published WIC eligibility estimates, the SIPP-based factor reduced the previous estimates of postpartum breastfeeding mothers.



**Table 3:  
Steps and Sources for 2010 Estimates of WIC Eligibility  
of Pregnant and Postpartum Women**

<b>Step</b>	<b>Description</b>	<b>Sources for 2010 Updates to Estimates and Adjustment Factors</b>
Starting point	Use as a starting point the final average monthly eligibility estimate for infants.	Infants as estimated using methods outlined in table 1.
Adjust for multiple births and infant deaths	Multiply by a factor of 0.9961 to account for the impact of multiple births and infant deaths (so the number of pregnant women/mothers is not exactly equal to the number of infants).	Multiple birth, infant and fetal death data from 2004 vital statistics data. March 2004 census estimates for count of infants.
<i>For pregnant women:</i> Adjust for length of pregnancy and difference in income during pregnancy vs. after birth	Multiply by 0.533 to account for 9 months of pregnancy (0.75 factor) and to account for lower likelihood of financial eligibility during pregnancy vs. after birth (additional 0.71).	No update.
<i>For postpartum mothers:</i> Separately estimate the average monthly number eligible as breastfeeding mothers and the number eligible as postpartum non-breastfeeding mothers	<ol style="list-style-type: none"> <li>1) To estimate eligible breastfeeding mothers before and after the 6-month point, use Ross Labs Mothers Survey (RLMS) rates of breastfeeding by WIC participating mothers in-hospital and at 6 months (53.3 percent and 18.5 percent in 2010).</li> <li>2) Adjust these estimates to apply to WIC-eligible mothers, using multiplicative factors derived from NHANES (1.056 and 1.150 for in-hospital and at 6 months, respectively).</li> <li>3) Multiply estimates from step 2 to account using SIPP based factors that account for the interaction between women's certification periods, breastfeeding cessation, and the fact that women may not be income or adjunctively eligible throughout the year (0.620, 0.832).</li> <li>4) Use above information to divide postpartum women between breastfeeding and not breastfeeding in first half of the year; and to estimate eligible breastfeeding women in second half of the year.</li> </ol>	<p>2010 Ross Laboratories Mothers Survey (RLMS); 2001-2002, 2003-2004, and 2005-2006 waves of National Health and Nutrition Examination Survey (NHANES); 1996, 2001, and 2004 SIPP panels.</p> <p>Territorial estimates assume the national breastfeeding rates.</p>
Adjust for nutritional risk	Multiply the estimate for pregnant women by 0.97 to account for the fact that some otherwise-eligible pregnant women might not be found to be at nutritional risk. Assume all postpartum women are at nutritional risk (factor of 1.0).	No update.
Adjust for eligibles in territories	As with estimates for children, estimate eligible women directly for Puerto Rico using procedures outlined above.	PRCS—2010—Puerto Rico Census Bureau International Data Set.

## Territories

Estimates of infants and children eligible for WIC in Puerto Rico are calculated directly using the 2010 Puerto Rico Community Survey, and applying the same methods used for the U.S. population. Since Puerto Rico accounts for 89 percent of WIC eligibles in the territories, this direct estimation that uses recent demographic and income data for Puerto Rico provides a more accurate estimate than the original CNSTAT territorial adjustment that simply increased the national estimates to account for WIC eligibles in the territories based on decennial Census data. Estimates for the other territories are still based on simple population adjustments from the Census.

Estimates for pregnant and postpartum women in Puerto Rico and the other island territories (American Samoa, the Commonwealth of the Northern Mariana Islands, Guam, and the Virgin Islands) are determined using a method that parallels the method used to estimate the number of WIC eligibles in the fifty States and the District of Columbia. The estimates begin with the number of fully eligible infants in the territories. The estimates for pregnant women are adjusted for length of pregnancy, income, fetal and infant deaths, multiple births, and nutritional risk. All adjustments are the same as those applied at the national level. The estimates for postpartum women are adjusted for fetal and infant deaths, multiple births, breastfeeding, and nutritional risk. Since the RLMS does not provide breastfeeding rates for Puerto Rico or the other island territories, the national breastfeeding rates were assumed.

## States

The State estimates begin with the ACS data for 2010. As explained earlier, the CNSTAT Panel recommended that all members of a household related by blood, marriage, or adoption be considered as one family unit for the purposes of determining WIC eligibility. The only information the ACS provides on family relationships is each individual's relationship to the reference person (householder). In complex households, WIC eligibility requires understanding relationships across all members of the household. For example, an unmarried partner of the householder with a child from a prior relationship would be considered a separate filing unit. Since the Minnesota Population Center's IPUMS-USA provides researchers with educated conjectures about the relationships between persons not related to the householder, we use the ACS with these imputations.<sup>10</sup> For each State, the numbers of infants and children who are income-eligible or adjunctively-eligible for WIC (enrolled in SNAP, TANF, or public health insurance<sup>11</sup>) are estimated using the ACS data.

Like the process for estimating national-level WIC eligibility from the CPS-ASEC data, the process for estimating State-level eligibility from the ACS data involves the use of adjustment

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<sup>10</sup> Ruggles, Alexander, Genadek, Goeken, Schroeder, and Sobek 2010.

<sup>11</sup> "Public health insurance" is the term used in the ACS to indicate government-sponsored health insurance coverage including Medicaid and CHIP.

factors. State-specific data were used in two of the adjustments—for population and for breastfeeding. The adjustments to the ACS weights mirror the adjustments that are made to the CPS national data.<sup>12</sup> Using Census Bureau State population estimates by age, the 2010 ACS person weights for infants and children are proportionally adjusted so that the sum of the persons of a given age are equal to the Census population estimates for each State.

As explained above, the breastfeeding adjustment includes three components—the in-hospital and six-month breastfeeding rates for women participating in WIC, the adjustment for differences between WIC participants and WIC-eligible women, and the adjustment for the fact that breastfeeding declines from each month to the next. For the State-level WIC eligibility estimates, the second and third components of the adjustment remain as in the national estimates, but the first component—breastfeeding rates in the hospital and at six months—is modified to capture State-level variation in breastfeeding rates.<sup>13</sup> Ross Labs publishes both in-hospital and at-six-month breastfeeding rates for women participating in WIC by State.

For other adjustment factors—addressing annual-to-monthly income differences and nutritional risk—the national factors were used in each State.

Estimates for pregnant and postpartum women are derived from the infant estimates as with the national estimates, with the exception that the breastfeeding adjustments incorporate State variation in breastfeeding rates.

A top down approach to the estimation is applied by using the ACS to allocate the national estimates of WIC eligibility to individual States. This way the accepted methodology for producing national estimates and a consistent time series of estimates can be maintained. The nationally representative CPS-ASEC sample is well suited for WIC eligibility determination compared to the ACS due to its more complete income and program participation data. Also, the CPS asks respondents for their income during the calendar year, while the ACS's income covers not only the calendar year for which the estimate is being made but also income from the previous time period.<sup>14</sup> Consequently, the ACS is less likely to detect increases in eligibility as the economy falters or decreases in eligibility when the economy improves.

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<sup>12</sup> One difference between the methodology used for the ACS population adjustments and the CPS-ASEC population adjustments is that the ACS adjustments are based on one year of Census Bureau estimates and one year of ACS data, while the CPS-ASEC adjustments are based on four-year accumulations of population estimates and survey data. For the CY 2010 State estimates, the Census 2010 intercensal data by State were used—these data had the same level of detail by age and sex regularly reported in the postcensal data.

<sup>13</sup> For example, in 2010 the in-hospital breastfeeding rate for all infants (not just infants enrolled in WIC) ranged from 41 percent in Mississippi to 84 percent in Oregon; the six-month estimates were 12 and 45 percent for Mississippi and Oregon, respectively, according to the Ross Labs data.

<sup>14</sup> Respondents provide their income over the 12 months preceding the month they are surveyed; households surveyed in January 2010 thus provided their 2009 income, households surveyed in July 2010 provided their income from July 2009 through June 2010, and so on.

We calculate State shares for each subgroup, which are applied to the CPS-ASEC national estimates. This produces estimates by subgroup at the FNS regional level and total WIC eligibility estimates at the State level. While estimates for subpopulations help to build total WIC eligibility variation across the States, they are not sufficiently reliable to publish individually, as eligibility subgroups are relatively small in many States, leading to high variance in these estimates.

### **National Eligibility Estimates: 2010**

This section presents the 2010 national estimates, first describing the total estimates, including the estimates for the territories. Then it addresses the results specific to the U.S. mainland, including the results of the individual steps used to produce the estimates, the standard errors of the estimates, and the characteristics of the WIC-eligible population. Subsequently, we present the results of the individual steps used to produce the estimates for the island territories. Total WIC eligibility results for 2010 are compared with 2009.

Table 4 shows that 14.550 million individuals are estimated to have been eligible for WIC in the average month of CY 2010, across the fifty States, the District of Columbia, Puerto Rico, and four other island territories.<sup>15</sup> The estimate includes 2.535 million infants (64 percent of all infants in the United States and territories) and 9.224 million children age 1 through 4 (56 percent of all young children). The number of children eligible for WIC fluctuates somewhat across each year of age, as does the total number of children. The estimated average monthly number of pregnant women eligible for WIC, 1.304 million, is derived directly from the number of eligible infants (adjusted for multiple births and differences in income and adjunctive eligibility between infants and mothers, and adjusted for a maximum of nine months of benefits). The average monthly number of WIC-eligible postpartum women also derives from the number of eligible infants and the estimates of breastfeeding rates calculated as summarized in table 3 above. There are an estimated 0.664 million women eligible as breastfeeding mothers in the average month of CY 2010, and an estimated 0.821 million eligible non-breastfeeding postpartum women.

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<sup>15</sup> Table 4 and other tables provide the unrounded eligibility estimates in order to show the precise impact of each adjustment. However, all the estimates are subject to sampling variability.

**Table 4. Estimates of the Total Average Monthly Number of Individuals Eligible for WIC by Participant Group, CY 2010**

Participant Group	2010		
	Eligibles <sup>a</sup>	Non-Eligibles <sup>b</sup>	Total
Infants	2,535,074	1,436,057	3,971,131
Total Children Ages 1-4	9,224,455	7,362,605	16,587,060
Children Age 1	2,210,315	1,786,303	3,996,618
Children Age 2	2,341,191	1,786,056	4,127,247
Children Age 3	2,402,957	1,863,175	4,266,132
Children Age 4	2,269,991	1,927,072	4,197,062
Pregnant Women	1,304,322		
Postpartum Breastfeeding Women	664,619		
Postpartum Non-Breastfeeding Women	821,646		
All Postpartum Women	1,486,265		
<b>Total WIC Eligibles</b>	<b>14,550,116</b>		

Source: 2011 CPS-ASEC for U.S. estimate, PRCS and Census for territories

Notes:

<sup>a</sup> The eligibility estimates represent the average monthly number of individuals income or adjunctively eligible for WIC in 2010, taking into account all adjustments as explained in Table 1.

<sup>b</sup> The non-eligible infants and children represent the difference between the total estimates of infants and children age 1 to 4 in the total United States and the WIC-eligible infants and children.

As described above, the national totals are derived from numerous factors. The results of each step in the estimation process are presented in Table 5. The estimation process begins by adjusting the counts of the number of infants and children from the 2011 CPS-ASEC (reflecting income in CY 2010) to compensate for differences between CPS-ASEC weighted population counts and Census Bureau population counts. This adjustment decreases the numbers of infants and children in each age category. For example, the number of infants is adjusted downward from 4.105 to 3.920 million (5 percent). The total number of children is adjusted downward from 17.159 million to 16.380 million (5 percent). The numbers of income-eligible infants and children, based on 185 percent of a two-year average of the federal poverty guidelines, are shown—1.767 million infants and 7.366 million children.

Adjunctive eligibility due to enrollment in SNAP, TANF, or Medicaid increases the infant eligibility estimate by 23 percent (2.172 million compared with 1.767 million) and also increases

the estimate for young children by 23 percent (9.059 million compared with 7.366 million). Medicaid accounts for most of those adjunctively eligible for WIC in 2010 (0.286 million infants and 1.258 million children age 1 to 4). These patterns reflect program eligibility policies and caseload sizes. More children are enrolled in Medicaid than the other two programs,<sup>16</sup> as many States have expanded eligibility for Medicaid to income levels above 185 percent of poverty.<sup>17</sup>

The next adjustment accounts for intra-year income fluctuation and the fact that individuals are certified eligible for a number of months. The number of infants who appear eligible based on annual income and program participation is increased by 18 percent and the number of children by 1 percent. The final adjustment to the number of infants and children reduces the estimates slightly to reflect the fact that some may meet all other criteria but not be considered at nutritional risk. The estimate is reduced by 3 percent for infants and 1 percent for children as shown in table 1. Total WIC eligibility in the U.S. (not including territories) in 2010 is estimated at 2.486 million for infants and 9.058 million for children; with the territories included 2.535 million infants and 9.224 million children are estimated to be eligible for WIC.

The estimates for pregnant women begin from the final estimate of 2.486 million total infants for the U.S. in the average month of CY 2010. As explained above, this figure is adjusted for the length of pregnancy and the fact that a woman may have higher income during pregnancy than after birth (the factor is 0.533 as shown in table 3). The next adjustment (0.9961) compensates for the fact that the count of infants very slightly overstates the count of pregnant women, and the final adjustment (0.97) reflects the assumption that 3 percent of otherwise-eligible pregnant women are not at nutritional risk. The final estimate is 1.279 million women eligible for WIC during pregnancy in the average month of CY 2010.

The estimates for postpartum women—breastfeeding and non-breastfeeding—also begin from the estimate of 2.486 million WIC-eligible infants. Matching the estimation process for pregnant women, this figure is adjusted by 0.9961 to adjust for fetal and infant deaths and multiple births. The next three adjustments take into account that mothers who receive WIC may not receive it for as many months as their infants, and that breastfeeding status affects eligibility. The average monthly estimate of postpartum breastfeeding women eligible for WIC in the U.S. in 2010 is 0.652 million, and the estimate of postpartum non-breastfeeding women is 0.806 million.

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<sup>16</sup> In 2009, 31 million children (age 18 and under) were enrolled in Medicaid and 15.6 million children (under age 18) were enrolled in SNAP. Medicaid caseload from Kaiser (2009) and SNAP caseload from Leftin, Gothro, and Eslami (2010).

<sup>17</sup> In 2010, for example, 28 States offered either regular Medicaid or CHIP coverage to infants in families with incomes above 185 percent of poverty; 15 of these States offered this coverage to children through age 5. Tabulated from Kaiser Family Foundation, Statehealthfacts.org, <http://www.statehealthfacts.org/comparecat.jsp?cat=4&rgn=6&rgn=1>.

**Table 5: Adjustments for Calculating the Average Monthly Number of Individuals Eligible for WIC by Participant Group, CY 2010**

<b>U.S. States and D.C. (2011 CPS-ASEC)</b>	<b>Infants</b>	<b>Children Age 1</b>	<b>Children Age 2</b>	<b>Children Age 3</b>	<b>Children Age 4</b>	<b>Total Children Age 1 to 4</b>	<b>Pregnant Women</b>	<b>Postpartum Breastfeeding Women</b>	<b>Postpartum Non-Breastfeeding Women</b>	<b>Total</b>
Total number of infants/children in the 2011 CPS-ASEC	4,104,900	4,219,551	4,213,557	4,408,061	4,318,678	17,159,847				21,264,747
Number with annual income <185% FPG	1,766,750	1,807,671	1,832,268	1,947,736	1,778,303	7,365,978				9,132,728
Number of additional people adjunctively eligible above 185% FPG	405,278	366,342	466,592	410,447	449,228	1,692,609				2,097,887
Through Food Stamps	116,872	84,234	121,402	104,717	108,607	418,960				535,832
Through TANF	2,512	3,907	1,677	3,619	6,599	15,802				18,314
Through Medicaid	285,894	278,201	343,513	302,111	334,022	1,257,847				1,543,741
Total number income and adjunctively eligible	2,172,028	2,174,013	2,298,860	2,358,183	2,227,531	9,058,587				11,230,615
Number after monthly income adjustment	2,562,993	2,195,753	2,321,849	2,381,765	2,249,806	9,149,173				11,712,166
<b>Total Eligibles - Number after adjustment for nutritional risk (infants and children)</b>	<b>2,486,103</b>	<b>2,173,795</b>	<b>2,298,630</b>	<b>2,357,947</b>	<b>2,227,308</b>	<b>9,057,681</b>				<b>11,543,784</b>
Starting point for estimates of women is fully eligible infants							2,486,103	2,486,103	2,486,103	7,458,309
Number after adjustment for length of pregnancy and income of woman during pregnancy							1,323,850			1,323,850
Number after adjustment for multiple births and infant deaths							1,318,687	2,476,407	2,476,407	6,271,501
Number after adjustment for breastfeeding								651,780	805,774	1,457,554
<b>Total Eligibles - Number after adjustment for nutritional risk (pregnant and postpartum women)</b>							<b>1,279,126</b>	<b>651,780</b>	<b>805,774</b>	<b>2,736,681</b>

Source: 2011 CPS-ASEC

<b>CY 2010 - Eligibles in the U.S. Territories</b>	<b>Infants</b>	<b>Children Age 1</b>	<b>Children Age 2</b>	<b>Children Age 3</b>	<b>Children Age 4</b>	<b>Total Children Ages 1-4</b>	<b>Pregnant Women</b>	<b>Postpartum Breastfeeding Women</b>	<b>Postpartum Non-Breastfeeding Women</b>	<b>Total</b>
<b>Total Eligibles in the U.S. Territories</b>	48,971	36,520	42,561	45,010	42,683	166,773	25,196	12,839	15,872	269,650

Source: 2010 PRCS and Census International Data Base

See Table 8 for details.

**Total Eligibles - States and Territories U.S. Total**      **2,535,074**    **2,210,315**    **2,341,191**    **2,402,957**    **2,269,991**    **9,224,455**    **1,304,322**    **664,619**    **821,646**    **14,550,116**

Note: <sup>a</sup> See Tables 1 and 3 for adjustment factors applied.

## Characteristics of WIC Eligibles in the U.S.

The characteristics of WIC income-eligible and adjunctively eligible infants and children provide a profile of children eligible for WIC in 2010 (Table 6). Infants and children that are income-eligible for WIC are predominantly white (about 33 percent of infants and 35 percent of children) and Hispanic (about 37 percent of infants and children). Most (60 percent of infants and 55 percent of children) live in two-parent families. One quarter live in large households (with six or more persons). Most WIC-eligible children also live with working parents (57 percent of infants and 64 percent of children). Among those who are estimated to be eligible based on income, 58 percent of infants and children live in families with annual incomes below the poverty threshold.<sup>18</sup>

The table also provides some insight into the characteristics of infants and children who become eligible through adjunctive eligibility. The data show that children who are eligible due only to adjunctive eligibility live in families with higher economic status than children income-eligible for WIC. More of these children have two parents and working parents. Also, their families tend to have higher incomes. Among those only eligible through adjunctive eligibility rules, about 56 percent of infants and 59 percent of children live in families that have annual income of 250 percent of the poverty threshold and higher. Even though annual income among these eligibles seems relatively high, they may have experienced drops in income during the year that caused the family to enroll in TANF, SNAP, or Medicaid. In that case, their eligibility for WIC would depend on their income and program participation at the point they applied for benefits. Some of the WIC-eligible children at higher annual income levels may be adjunctively eligible because the TANF, SNAP, and Medicaid programs do not necessarily count all the income of all members of the family. For example, when a child's caretaker is his or her grandparent, the grandparent's income is typically not a factor in the child's eligibility for Medicaid.

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<sup>18</sup> The table shows family income relative to the poverty threshold, the measure used for the Census Bureau's tabulations of poverty status for research purposes (as opposed to the poverty guidelines, used for program administrative purposes).



**Table 6: Estimates of the Average Monthly Number of Infants and Children Eligible for WIC by Income and Adjunctive Eligibility in the 2011 CPS-ASEC by Demographic Characteristics, CY 2010**

Demographic Characteristics	WIC-Eligible Infants			WIC-Eligible Children Ages 1-4			WIC-Eligible Children Age 0 to 4		
	Family income	Adjunctively eligible <sup>c</sup>	Total	Family income	Adjunctively eligible <sup>c</sup>	Total	Family income	Adjunctively eligible <sup>c</sup>	Total
	<185% FPG <sup>b</sup>			<185% FPG <sup>b</sup>			<185% FPG <sup>b</sup>		
Total	2,022,222	463,882	2,486,103	7,365,242	1,692,440	9,057,682	9,387,463	2,156,322	11,543,785
Gender									
Male	53.2	51.3	52.9	0.51	0.51	0.51	51.8	51.2	51.7
Female	46.8	48.7	47.1	0.49	0.49	0.49	48.2	48.8	48.3
Race/ethnicity									
White, non-Hispanic	33.1	48.5	36.0	35.0	47.9	37.4	34.6	48.0	37.1
Black, non-Hispanic	24.2	21.3	23.7	23.5	17.8	22.4	23.7	18.6	22.7
Other, non-Hispanic	5.9	5.3	5.8	4.9	6.0	5.1	5.2	5.9	5.3
Hispanic	36.8	24.9	34.6	36.5	28.3	35.0	36.6	27.5	34.9
Living arrangement									
Two-parent family	60.3	71.7	62.5	55.4	67.4	57.6	56.5	68.3	58.7
Single-parent family	35.6	25.1	33.7	39.7	28.2	37.6	38.8	27.5	36.7
No-parent family	4.0	3.3	3.9	4.9	4.4	4.8	4.7	4.1	4.6
Related non-parent caretaker	2.9	3.3	3.0	3.6	4.4	3.7	3.4	4.1	3.6
Unrelated non-parent caretaker	1.1	0	0.9	1.3	0	1.1	1.3	0.0	1.0
Household size (number of persons)									
2	6.1	2.0	5.3	5.0	3.3	4.7	5.2	3.0	4.8
3	21.8	25.3	22.4	18.7	19.9	18.9	19.3	21.1	19.7
4	27.6	31.3	28.3	29.2	31.0	29.5	28.8	31.1	29.3
5	21.7	17.0	20.8	21.4	21.8	21.5	21.5	20.8	21.4
6 or more	22.9	24.5	23.2	25.7	23.9	25.4	25.1	24.1	24.9
Number with working parent(s)	1,143,992	353,025	1,497,016	4,721,152	1,401,993	6,123,144	5,865,143	1,755,017	7,620,161
Annual family income relative to poverty <sup>b</sup>									
Less than 50% FPL	30.5	0	24.8	27.5	0	22.3	28.1	0	22.9
50% to <100% FPL	30.0	0	24.4	30.2	0	24.5	30.1	0	24.5
100% to <130% FPL	13.5	0	11.0	15.9	0	12.9	15.3	0	12.5
130% to <185% FPL	25.3	2.5	21.0	25.7	2.2	21.3	25.6	2.3	21.3
185% to <200% FPL	0.7	12.2	2.9	0.7	10.9	2.6	0.7	11.2	2.7
200% to <250% FPL	0.1	29.4	5.5	0	28.0	5.3	0	28.3	5.3
250% FPL and above	0	56.0	10.4	0	58.8	11.0	0	58.2	10.9
Benefit receipt									
No benefit receipt	22.6	0	18.4	26.2	0	21.3	25.4	0	20.7
FSP, TANF, & Medicaid	7.6	1.7	6.5	6.3	0.7	5.2	6.6	0.9	5.5
FSP & TANF	0	0	0	0	0	0	0	0	0
FSP & Medicaid	32.4	20.6	30.2	36.0	19.2	32.9	35.2	19.5	32.3
TANF & Medicaid	0.8	0.6	0.8	1.4	0.9	1.3	1.3	0.9	1.2
FSP only	6.7	6.6	6.7	6.0	4.9	5.8	6.1	5.2	6.0
TANF only	0	0	0	0	0	0	0.0	0	0
Medicaid only	29.9	70.5	37.5	24.1	74.3	33.5	25.4	73.5	34.3

Source: 2011 CPS-ASEC

Notes for Table 6:

FPG - Federal Poverty Guidelines

FPL - Federal Poverty Level

<sup>a</sup> These estimates are tabulated from the unadjusted person weights on the 2011 CPS-ASEC. They are not adjusted to account for the under or over count of infants and children in the CPS relative to Census estimates, eligibility in the U.S. Territories, monthly income, or nutritional risk. See Appendix Tables A.3a/b and A.6 for the adjustment factors.

<sup>b</sup> This table uses both the Federal Poverty Guidelines (FPG) and the Federal Poverty Thresholds or "Levels" (FPL). The thresholds are used to calculate the ratio of annual family income to the poverty threshold for their family size. The guidelines are used in determining WIC eligibility.

<sup>c</sup> Infants and children adjunctively eligible are those whose family income was not below 185% FPG but who reported receipt of Food Stamps, Medicaid, or TANF. Therefore, the two categories are mutually exclusive.

## Territories

We computed the number of infants and children (age 1 to 4) residing in Puerto Rico from the 2010 PRCS and adjusted the number for the 2010 Census under/overcount (Table 7).<sup>19, 20</sup> The estimated number with income below 185 percent of the poverty guidelines shows that 83 percent of the adjusted count of infants (37,000) and 80 percent of the adjusted count of children (142,116) were eligible for WIC based on annual income alone—higher than the percentages of infants and children in the fifty States and the District of Columbia who appear eligible based on annual income. Adjunctive eligibility increases estimated WIC eligibility by 3 percent for infants (1,238) and by 4 percent for children (6,064). Given the high proportions of infants and children who are income-eligible, it is reasonable that adjunctive eligibility due to program enrollment matters less in Puerto Rico than in the fifty States and the District of Columbia.

An adjustment must be applied to the direct estimates from the 2010 PRCS to take into account monthly income and certification periods. The SIPP-estimated annual-to-monthly adjustment factors (1.18 for infants and 1.01 for children) do not reflect data for Puerto Rico. Since a high proportion of infants and children are income-eligible in Puerto Rico, it is possible that the true factors should be lower. However, in the absence of other data, the SIPP annual-to-monthly factors are applied to derive the Puerto Rico eligibility estimates. The nutritional risk adjustment factors of 0.97 for infants and 0.99 for children also are applied for comparability with prior estimates. The final average monthly eligibility estimates for Puerto Rico equal 99 percent of the total adjusted infant population and 83 percent of total children age 1 to 4.

For infants and children residing in other island territories (American Samoa, Guam, the Northern Mariana Islands, and the U.S. Virgin Islands), the only data available are annual population estimates (from the 2010 Census Bureau's International Database) for the combined age group of 0 to 4 years and the 2000 estimates of the number of infants and children who are income and adjunctively eligible (from the 2000 decennial Census data).<sup>21</sup> Our methods therefore use the 2010 population estimates, but assume that the percentage of the population that is WIC-eligible is the same as in 2000. Because the available population data pertain only to the combined age group, we use 2005 through 2009 vital statistics data for these territories to allocate the 2010 total population estimate to the number of infants and to each of the four years of children (age 1 to 4).

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<sup>19</sup> Population adjustments for Puerto Rico are based on the 2010 Census intercensal population estimates for July of 2010 and assume the same distribution by age as in the most recent postcensal estimates.

<sup>20</sup> A small technical error was discovered in the 2009 estimates of WIC eligibles in the territories. The number of WIC-eligible persons in the other island territories was overestimated by 73. This error was corrected in the 2010 estimates, but this implies a slight inconsistency when comparing the 2009 and 2010 estimates.

<sup>21</sup> Estimates for income eligibility from the 2010 decennial Census are not yet available.

**Table 7: Adjustments for Calculating the Average Monthly Number of Individuals Eligible for WIC in Puerto Rico and the Other Island Territories by Participant Group, CY 2010**

	Infants	Children Age 1	Children Age 2	Children Age 3	Children Age 4	Total Children Ages 1 to 4	Pregnant Women	Postpartum Breastfeeding Women	Postpartum Non- Breastfeeding Women	Total
<b>Puerto Rico</b>										
Total number of infants/children in the 2010 PRCS	44,377	39,199	45,650	49,329	44,551	178,729				223,106
Number after adjustment for PRCS under/overcount	44,366	39,189	45,639	49,317	44,540	178,685				223,051
Number with annual income <185% FPG	37,000	30,758	36,196	38,629	36,533	142,116				179,116
Number of additional people adjunctively eligible above 185% FPG	1,238	1,020	1,745	1,738	1,562	6,064				7,301
Through Food Stamps <sup>b</sup>	792	662	751	1,019	779	3,210				4,002
Through TANF	0	0	0	0	0	0				0
Through Medicaid	446	358	994	719	783	2,853				3,299
Total number income and adjunctively eligible	38,238	31,778	37,941	40,366	38,095	148,180				186,417
Number after monthly income adjustment	45,120	32,096	38,320	40,770	38,476	149,661				194,782
<b>Total Eligibles - Number after adjustment for nutritional risk (infants and children)</b>	43,767	31,775	37,937	40,362	38,091	148,165				191,931
Starting point for estimates of women is fully eligible infants							43,767	43,767	43,767	131,300
Number after adjustment for length of pregnancy and income of woman during pregnancy							23,306			23,306
Number after adjustment for multiple births and infant							23,215	43,596	43,596	110,407
Number after adjustment for breastfeeding								11,474	14,185	25,660
<b>Total Eligibles - Number after adjustment for nutritional risk (pregnant and postpartum women)</b>							22,518	11,474	14,185	48,178
Source: 2010 PRCS										
<b>Other Island Territories</b>										
Territories Age 0-4 distributed by Puerto Rico's age demographics	6,784	7,230	7,045	7,081	6,996	28,353				35,137
Number after the other islands full-eligibility factor	4,547	4,746	4,624	4,648	4,592	18,610				23,157
Number after monthly income adjustment	5,365	4,793	4,670	4,695	4,638	18,796				24,161
<b>Total Eligibles - Number after adjustment for nutritional risk (infants and children)</b>	5,204	4,745	4,624	4,648	4,592	18,608				23,812
Starting point for estimates of women is fully eligible infants							5,204	5,204	5,204	15,612
Number after adjustment for length of pregnancy and income of woman during pregnancy							2,771			2,771
Number after adjustment for multiple births and infant							2,760	5,184	5,184	13,128
Number after adjustment for breastfeeding								1,364	1,687	3,051
<b>Total Eligibles - Number after adjustment for nutritional risk (pregnant and postpartum women)</b>							2,678	1,364	1,687	5,729
Source: Census Bureau International Data Base										
<b>Total Eligibles - U.S. Territories Total</b>	<b>48,971</b>	<b>36,520</b>	<b>42,561</b>	<b>45,010</b>	<b>42,683</b>	<b>166,773</b>	<b>25,196</b>	<b>12,839</b>	<b>15,872</b>	<b>269,650</b>

Note: <sup>a</sup>See Tables 1 and 3 for adjustment factors applied.

Based upon 2000 Census data, 56.8 percent of infants and children in the other island territories were income-eligible for WIC in 2010. While this percentage represents the most recently available evidence on income eligibility in the other island territories, it does not account for adjunctive eligibility.<sup>22</sup> To estimate the additional number of infants and children who would gain eligibility through participation in other safety net programs, we examined the relationship between adjunctive eligibility and income eligibility in Puerto Rico and the mainland in 2010. That information implies roughly an increase of 18 percent in the number of WIC-eligible infants, and an increase of 15 percent in the number of WIC-eligible children, due to adjunctive eligibility. In 2010, we estimated the number of WIC-eligible infants in American Samoa, Guam, the Northern Mariana Islands, and the U.S. Virgin Islands to be 67 percent of the population estimates for each area, and the number of WIC-eligible children in these areas is 66 percent of the population estimates.

As with the estimates for Puerto Rico, the final steps in the estimation of WIC-eligible infants and children in the other island territories are to apply the annual-to-monthly adjustment factors and the nutritional risk adjustment factors. The final eligibility estimates suggest that in the other island territories combined, the average monthly number of eligible infants is 5,204 (77 percent of total infants), and the average monthly number of eligible children is 18,608 (66 percent of total children).

As described earlier, estimates for pregnant and postpartum women in Puerto Rico and the other island territories are determined using a method that parallels that used for the estimates for the fifty States and the District of Columbia. The estimates begin with the number of fully eligible infants in the territories (48,971, including Puerto Rico and the other island territories). After adjustments for length of pregnancy, income during pregnancy, and multiple births, we estimate that in 2010 that there were 25,196 WIC-eligible pregnant women, 12,839 WIC-eligible postpartum breastfeeding women, and 15,872 WIC-eligible non-breastfeeding women (Table 7).

### **Comparing 2010 to 2009**

Estimates of the number of people in all categories of WIC-eligible children and women decreased between 2009 and 2010 (Table 8). The total number of infants declined by 8.3 percent between 2009 and 2010, but the number of infants eligible for WIC declined by 5.2 percent. The numbers of children ages 1 through 4 declined by 5.3 percent in the same period, and the number eligible for WIC declined by 2.58 percent. As explained in the section on the population weight adjustments on page four, the weights based on the 2010 Census show fewer infants and young children than previous estimates that Census had extrapolated from the 2000 Census. Compared to the population declines, the relatively smaller declines in the number of infants and children eligible for WIC indicate that the shares of infants and children eligible for WIC increased between 2009 and 2010. As shown, the percent of infants eligible for

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<sup>22</sup> The 2010 Census data for these territories are expected towards the end of 2012 or early 2013.

WIC was 63.8 percent in 2010, compared to 61.7 percent in 2009, and the share of young children eligible for WIC was 55.6 percent in 2010, compared to 54.1 percent in 2009.

The decrease in the estimated number of pregnant women eligible for WIC follows the decrease for infants (since this estimate begins with the number of infants). However, the estimated number of postpartum breastfeeding women eligible for WIC decreased by only 0.33 percent, reflecting higher estimates of breastfeeding among WIC mothers for 2010.

**Table 8: Estimates of the Total Average Monthly Number of Individuals Eligible for WIC by Participant Group: A Comparison of CY 2009 and 2010**

*NOTE: This table includes estimates for the territories.*

Participant Group	Total		Percent Change	Total Eligibles <sup>a</sup>		Percent Change	Eligibility Rate		
	2010	2009		2010	2009		2010	2009	Change
Infants	3,971,131	4,330,068	-8.3%	2,535,074	2,673,683	-5.2%	63.8%	61.7%	2.1%
Total Children Ages 1-4	16,587,060	17,508,808	-5.3%	9,224,455	9,469,217	-2.6%	55.6%	54.1%	1.5%
Children Age 1	3,996,618	4,369,256	-8.5%	2,210,315	2,430,554	-9.1%	55.3%	55.6%	-0.3%
Children Age 2	4,127,247	4,426,272	-6.8%	2,341,191	2,398,905	-2.4%	56.7%	54.2%	2.5%
Children Age 3	4,266,132	4,400,798	-3.1%	2,402,957	2,373,651	1.2%	56.3%	53.9%	2.4%
Children Age 4	4,197,062	4,312,482	-2.7%	2,269,991	2,266,106	0.2%	54.1%	52.5%	1.5%
Pregnant Women	-	-	-	1,304,322	1,375,638	-5.2%	-	-	-
Postpartum Breastfeeding Women	-	-	-	664,619	666,796	-0.3%	-	-	-
Postpartum Non-Breastfeeding Women	-	-	-	821,646	889,257	-7.6%	-	-	-
<b>Total WIC Eligibles</b>				<b>14,550,116</b>	<b>15,074,591</b>	<b>-3.5%</b>			

Source: 2010 and 2011 CPS-ASEC for U.S. estimate, PRCS and Census for territories

Notes:

<sup>a</sup> The eligibles estimates represent the average monthly number of individuals eligible for WIC in 2010 and 2009 taking into account all adjustments explained in Table 1.

## Regional and State Estimates of WIC Eligibility: 2010

The estimated distribution of WIC eligibility by FNS region (Table 9) shows the greatest portions of WIC eligibles in the Southeast and Western regions (each with approximately 21 percent of all WIC eligibles), while the Northeast and Mountain Plains regions have the fewest WIC-eligible individuals (about 8 percent). The distribution of estimated eligibility across regions is approximately the same for each subgroup of WIC-eligible individuals. By State (Table 10), California has the largest share of WIC eligibles, with an estimated 13 percent of all WIC-eligible individuals. Other States with large shares of total WIC eligibility are Texas (11 percent), Florida (6 percent), and New York (5 percent).

**Table 9: Distribution of WIC Eligibles by FNS Region for each Participant Group, CY 2010**

	Infants	Children (age 1 to 4)	Pregnant Women	All Postpartum Women	Total
<b>Distribution of Eligibles</b>					
Northeast	8.5%	8.4%	8.5%	8.7%	8.5%
Mid-Atlantic	11.1%	11.3%	11.1%	11.1%	11.2%
Southeast	20.8%	20.8%	20.8%	20.1%	20.7%
Midwest	15.3%	15.5%	15.3%	14.9%	15.4%
Southwest	16.2%	15.7%	16.2%	15.9%	15.9%
Mountain Plains	7.7%	7.7%	7.7%	7.7%	7.7%
Western	20.3%	20.6%	20.3%	21.5%	20.6%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Source: 2011 CPS-ASEC, 2010 ACS, 2010 PRCS, Census International Data Base

Notes:

<sup>a</sup> Estimates for the other island territories (territories other than Puerto Rico) are included in regional totals but not shown separately due to small sample constraints.

**Table 10: Distribution of WIC Eligibility by State and FNS Region, CY 2010**

	<b>Percent Share of National WIC Eligibles</b>		<b>Percent Share of National WIC Eligibles</b>
<b><u>State</u></b>			
Alabama	1.6	New York	5.4
Alaska	0.2	North Carolina	3.3
Arizona	2.5	North Dakota	0.2
Arkansas	1.1	Ohio	3.5
California	12.6	Oklahoma	1.5
Colorado	1.4	Oregon	1.2
Connecticut	0.8	Pennsylvania	3.2
Delaware	0.3	Puerto Rico	1.7
D.C.	0.2	Rhode Island	0.2
Florida	5.6	South Carolina	1.6
Georgia	3.7	South Dakota	0.3
Hawaii	0.4	Tennessee	2.2
Idaho	0.7	Texas	10.5
Illinois	3.9	Utah	1.1
Indiana	2.2	Vermont	0.2
Iowa	0.8	Virginia	2.0
Kansas	0.9	Washington	2.1
Kentucky	1.5	West Virginia	0.5
Louisiana	1.8	Wisconsin	1.6
Maine	0.3	Wyoming	0.2
Maryland	1.4		
Massachusetts	1.3	<b><u>FNS Region<sup>a</sup></u></b>	
Michigan	3.0	Northeast	8.5
Minnesota	1.2	Mid-Atlantic	11.2
Mississippi	1.3	Southeast	20.7
Missouri	1.9	Midwest	15.4
Montana	0.3	Southwest	15.9
Nebraska	0.6	Mountain Plains	7.7
Nevada	0.9	Western	20.6
New	0.2		
New Jersey	1.9	<b>Total</b>	<b>100.0</b>
New Mexico	0.9		

Source: 2011 CPS-ASEC, 2010 ACS, 2010 PRCS, Census International Data Base

Notes:

- <sup>a</sup> Estimates for the other island territories (territories other than Puerto Rico) are included in regional totals but not shown separately due to small sample constraints.



WIC eligibility rates increased between 2009 and 2010 for each subgroup in most of the regions (Table 11). The increase in eligibility rates is due, in large part, to a reduction in the estimated numbers of infants and children for 2010 compared to 2009. As discussed earlier in the section on population weights on page four, the 2010 Census weights reduced the estimates of infants and children in the U.S. compared with prior weights used in the 2009 estimation. The population weight changes for the individual States varied. Nearly all States experienced declines in the estimated numbers of infants and children between 2009 and 2010, but the declines ranged from 0.4 to 12.0 percent. One State (Kansas) experienced no change in the total numbers of infants and children between 2009 and 2010, and two States (South and North Dakota) experienced increases in the numbers of infants and children. The changes in the population weights by State are provided in Appendix E.

The national WIC eligibility rate for infants increased by 2.1 percent between 2009 and 2010, but the rate for the mid-Atlantic region increased by 0.6 percent compared to 4.1 percent in the Northeast. The national eligibility rate for children (age 1 through 4) increased by 1.5 percent between 2009 and 2010, and the variation across the regions ranged from 1.1 percent in the Southeast to 2.0 percent in the Midwest. The regional pattern of change in the eligibility rates for pregnant women follows that for infants, although the percent changes are smaller for pregnant women than infants. The changes in eligibility rates for postpartum women between 2009 and 2010 reflect the changes in the Census weights and fluctuations in the Ross Labs breastfeeding estimates at the State level.

The regional and State level eligibility estimates allow the computation of regional and State coverage rates, defined as the number of individuals enrolled in the WIC program divided by the number eligible in each State. (These are alternately referred to as participation rates.) Considering all WIC-eligible individuals combined, the overall WIC coverage rate is lowest in the Mountain Plains region, at 53.6 percent in 2010 (Figure 1 and Table 12). The overall WIC coverage rate is highest in the Western region (72.5 percent in 2010). Some regions have higher coverage rates than the national average for some but not all subgroups. In 2010, for example, the Mid-Atlantic, Southwest, and Western regions have higher than average infant coverage rates, while coverage rates are higher than average for postpartum women in the Northeast, Southwest, and Western regions. Coverage rates for infants and pregnant women are substantially higher than the national averages only in the Western region (88.6 and 78.4 percent, respectively, compared with the 84.6 and 70.8 percent national averages).

Coverage rate estimates for 2010 show substantial variation between States (Table 13 and Figure 6).<sup>23</sup> In 2010, the State coverage rates range from 47 percent in Utah to 80 percent in California and Puerto Rico. Focusing on the four States with the largest numbers of WIC eligibles, California's coverage rate is well above the national average; the coverage rates in

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<sup>23</sup> The State coverage rates for 2010 differ from rates in 2009 in part due to the updates to the 2010 Census weights. As shown in Appendix E, the Census population weight changes result in substantial declines in the number of infants and children in most States between 2009 and 2010, but the declines range from 0.4 in Wyoming to 12.0 percent in Arizona. There was no change in the number of infants and children in Kansas between 2009 and 2010, and increases in South Dakota and North Dakota of 0.1 and 2.9 percent, respectively.

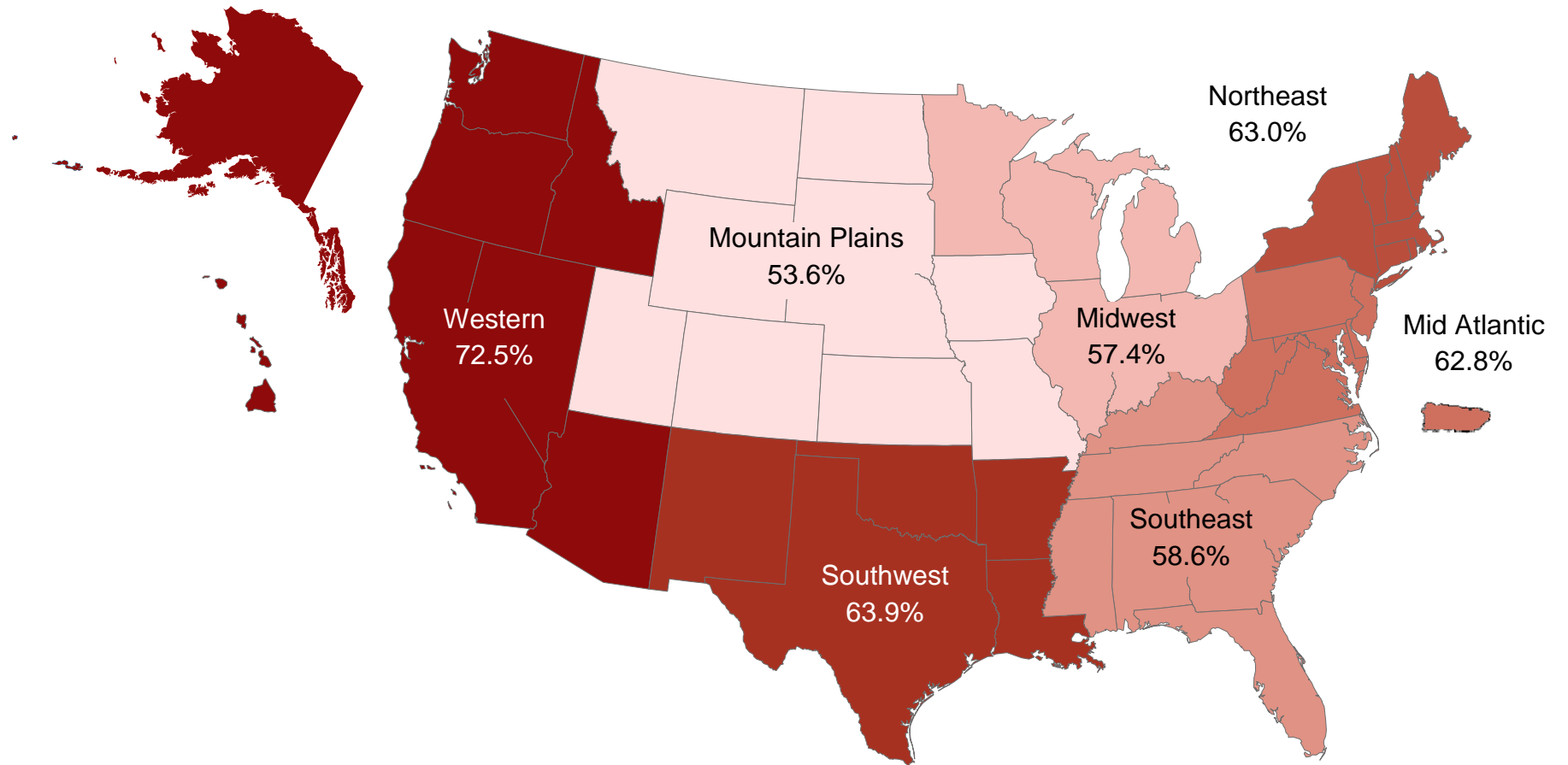
Florida and Texas are close to the national average; and the coverage rate in New York is slightly above the national average (65 percent). The State map (Figure 6) shows a contiguous area of low WIC participation rates from Montana in the north through Idaho to Utah, Colorado, New Mexico, and Arizona. The high overall rate in the Western region is especially due to high rates in the States on the west coast, including Washington, Oregon, and California. The Northeast includes a mix of States with higher than average rates (Massachusetts, New York, and Vermont) and States with lower than average rates (Connecticut and Maine).

**Table 11: WIC Eligibility Rate, CY 2009 and CY 2010**

	Infants	Children (age 1 to 4)	Pregnant Women	All Postpartum Women	Total
<b>Eligibles, 2009</b>					
Northeast	52.7%	47.6%	36.3%	30.5%	44.6%
Mid-Atlantic	55.7%	48.2%	38.4%	31.6%	45.8%
Southeast	68.6%	59.3%	47.2%	39.0%	56.4%
Midwest	59.0%	51.4%	40.6%	33.9%	48.7%
Southwest	70.5%	61.3%	48.5%	39.5%	58.1%
Mountain Plains	56.3%	48.8%	38.8%	35.4%	46.8%
Western	61.7%	55.0%	42.5%	38.3%	52.1%
<b>Total</b>	<b>61.7%</b>	<b>54.1%</b>	<b>42.5%</b>	<b>36.1%</b>	<b>51.3%</b>
<b>Eligibles, 2010</b>					
Northeast	56.8%	49.4%	39.1%	34.3%	47.2%
Mid-Atlantic	56.4%	49.9%	38.8%	33.0%	47.2%
Southeast	69.9%	60.4%	48.2%	39.7%	57.5%
Midwest	61.3%	53.4%	42.2%	35.0%	50.7%
Southwest	73.5%	62.7%	50.6%	42.6%	60.0%
Mountain Plains	57.2%	50.1%	39.4%	34.0%	47.6%
Western	64.2%	56.8%	44.2%	40.0%	54.1%
<b>Total</b>	<b>63.8%</b>	<b>55.6%</b>	<b>44.0%</b>	<b>37.6%</b>	<b>52.9%</b>
<b>Change in Percentage Points, 2010 vs. 2009</b>					
Northeast	4.1%	1.9%	2.8%	3.8%	2.6%
Mid-Atlantic	0.6%	1.6%	0.4%	1.5%	1.4%
Southeast	1.3%	1.1%	0.9%	0.8%	1.1%
Midwest	2.3%	2.0%	1.6%	1.1%	2.0%
Southwest	3.1%	1.4%	2.1%	3.1%	2.0%
Mountain Plains	0.8%	1.3%	0.6%	-1.5%	0.8%
Western	2.6%	1.8%	1.8%	1.7%	2.0%
<b>Total</b>	<b>2.1%</b>	<b>1.5%</b>	<b>1.4%</b>	<b>1.5%</b>	<b>1.7%</b>

Source: 2011 CPS-ASEC, 2010 ACS, 2010 PRCS, Census International Data Base

Figure 1: WIC Coverage Rate for All Participants by FNS Region, CY 2010



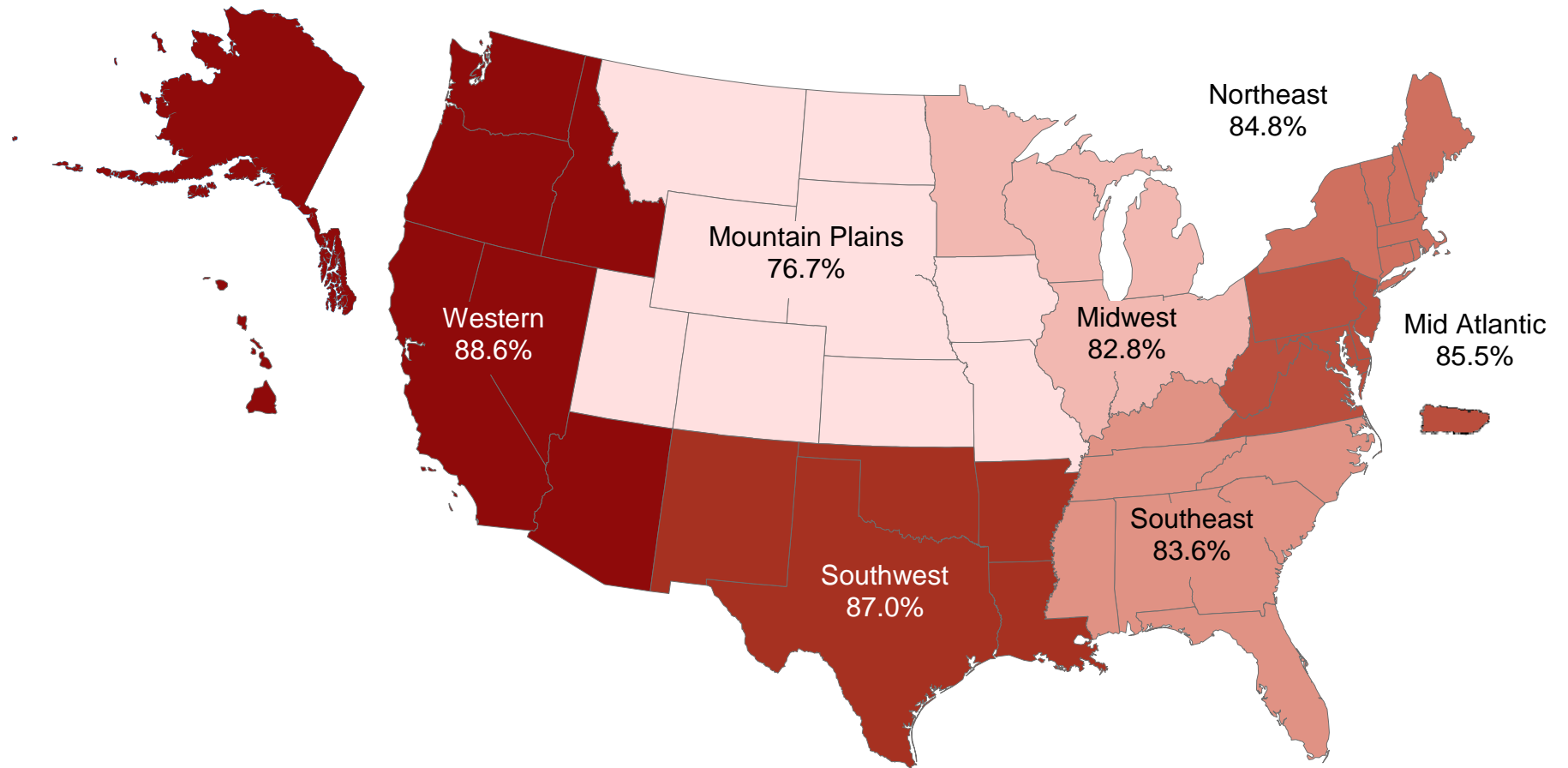
Source: 2011 CPS-ASEC, 2010 ACS, 2010 PRCS, WIC Administrative Data

**Table 12: WIC Eligibles and Coverage Rates by FNS Region and Participant Group, CY 2010**

	Infants	Children (1-4)	Pregnant Women	All Post-Partum Women	Total
<b>Eligibles</b>					
Northeast	215,367	778,660	110,809	129,569	1,234,404
Mid-Atlantic	282,589	1,040,547	145,395	164,921	1,633,452
Southeast	527,937	1,914,622	271,629	298,969	3,013,157
Midwest	389,118	1,430,618	200,205	221,320	2,241,261
Southwest	410,328	1,449,034	211,118	236,935	2,307,415
Mountain Plains	194,552	708,010	100,099	115,128	1,117,789
Western	515,184	1,902,964	265,067	319,422	3,002,637
<b>Total</b>	<b>2,535,074</b>	<b>9,224,455</b>	<b>1,304,322</b>	<b>1,486,265</b>	<b>14,550,116</b>
<b>Participants</b>					
Northeast	182,702	411,125	77,598	106,390	777,815
Mid-Atlantic	241,748	554,305	100,576	129,659	1,026,289
Southeast	441,539	909,179	186,912	229,152	1,766,782
Midwest	322,263	672,750	137,102	155,345	1,287,459
Southwest	356,861	756,149	154,643	207,804	1,475,457
Mountain Plains	149,155	309,091	58,726	82,185	599,157
Western	456,252	1,224,745	207,805	287,393	2,176,194
<b>Total</b>	<b>2,150,520</b>	<b>4,837,344</b>	<b>923,362</b>	<b>1,197,928</b>	<b>9,109,153</b>
<b>Coverage Rates</b>					
Northeast	84.8%	52.8%	70.0%	82.1%	63.0%
Mid-Atlantic	85.5%	53.3%	69.2%	78.6%	62.8%
Southeast	83.6%	47.5%	68.8%	76.6%	58.6%
Midwest	82.8%	47.0%	68.5%	70.2%	57.4%
Southwest	87.0%	52.2%	73.2%	87.7%	63.9%
Mountain Plains	76.7%	43.7%	58.7%	71.4%	53.6%
Western	88.6%	64.4%	78.4%	90.0%	72.5%
<b>Total</b>	<b>84.8%</b>	<b>52.4%</b>	<b>70.8%</b>	<b>80.6%</b>	<b>62.6%</b>

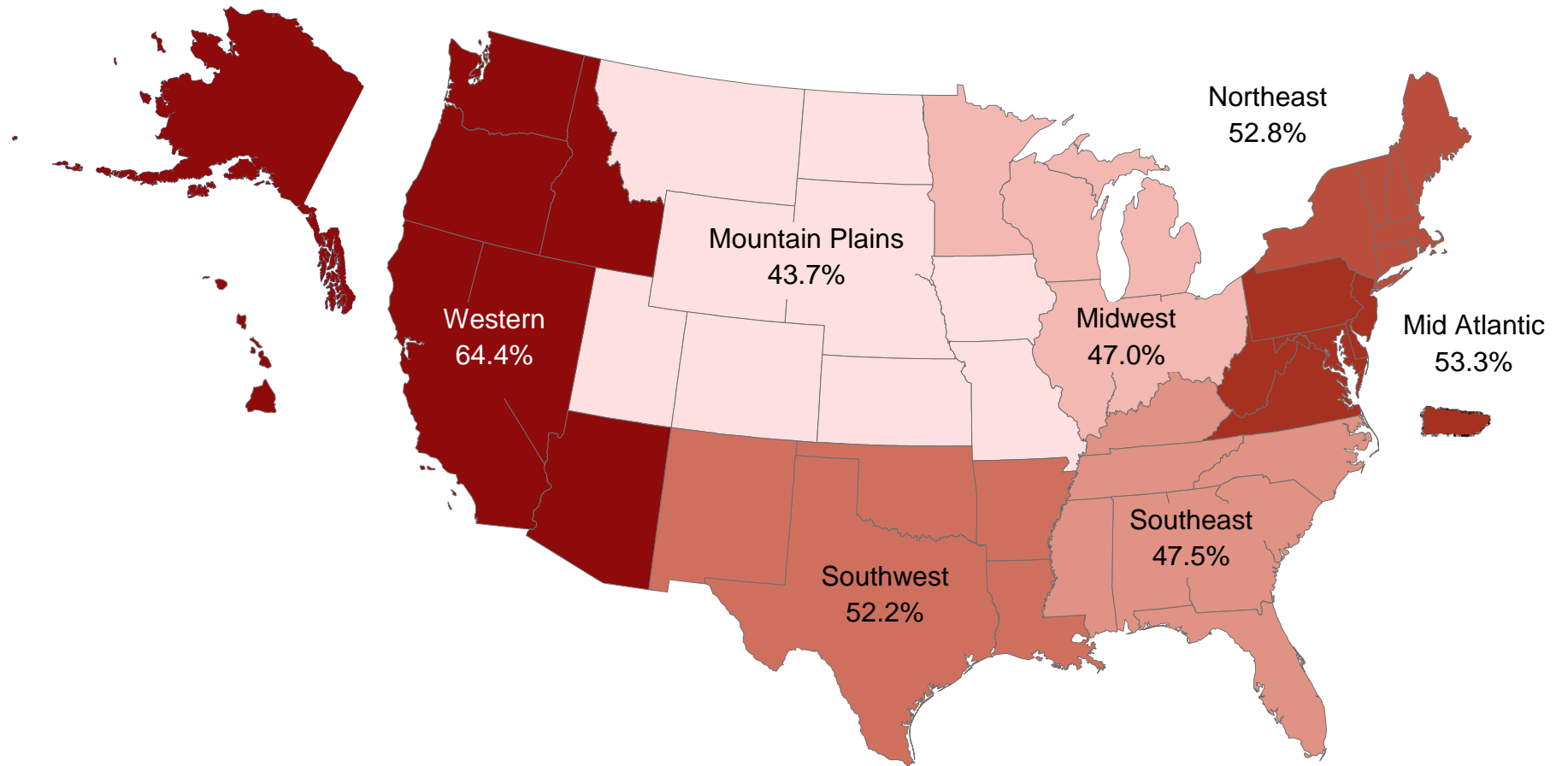
Source: 2011 CPS-ASEC, 2010 ACS, 2010 PRCS, Census International Data Base, WIC Administrative Data

Figure 2: WIC Coverage Rate for Infants by FNS Region, CY 2010



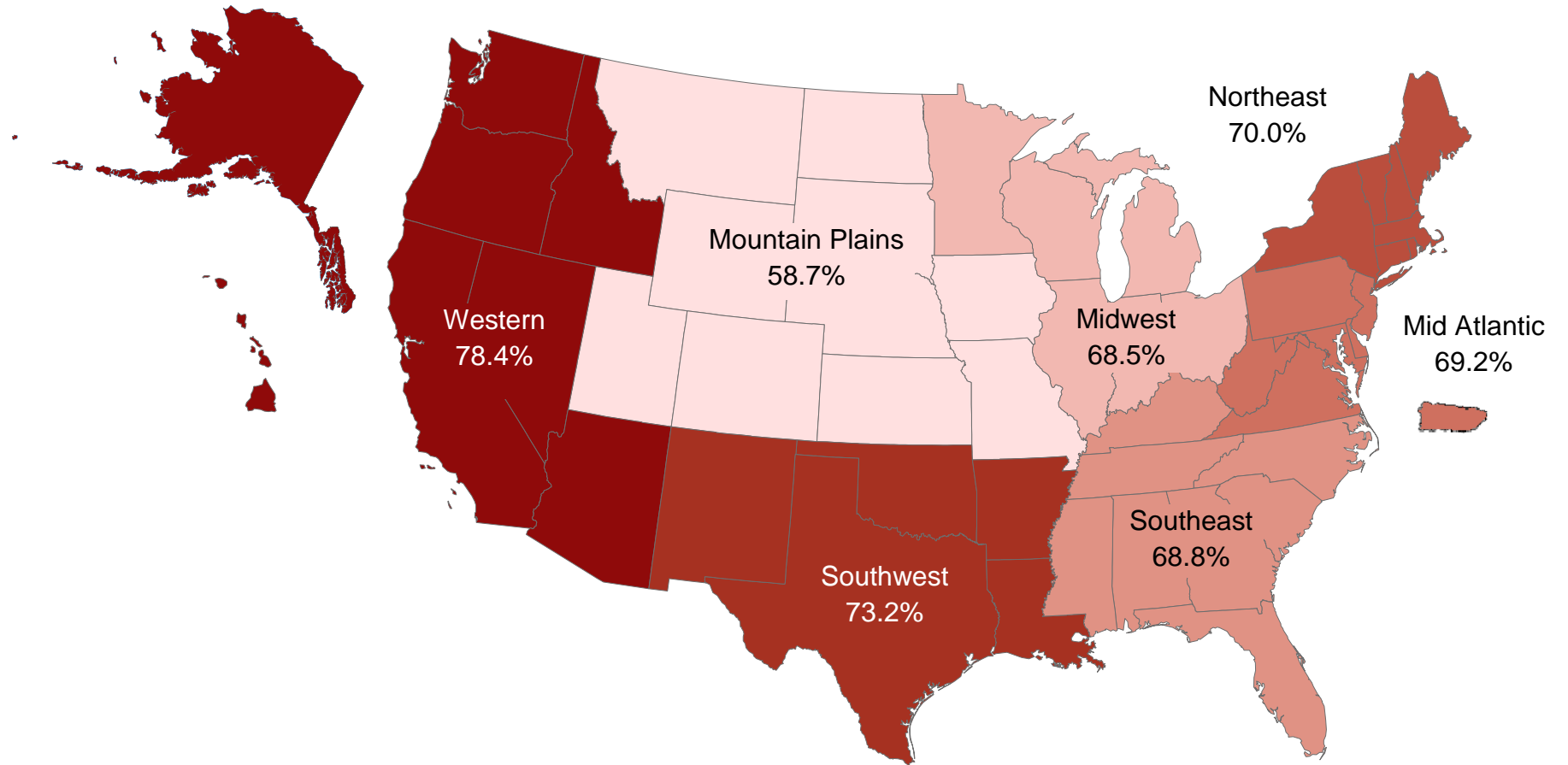
Source: 2011 CPS-ASEC, 2010 ACS, 2010 PRCS, WIC Administrative Data

Figure 3: WIC Coverage Rate for Children by FNS Region, CY 2010



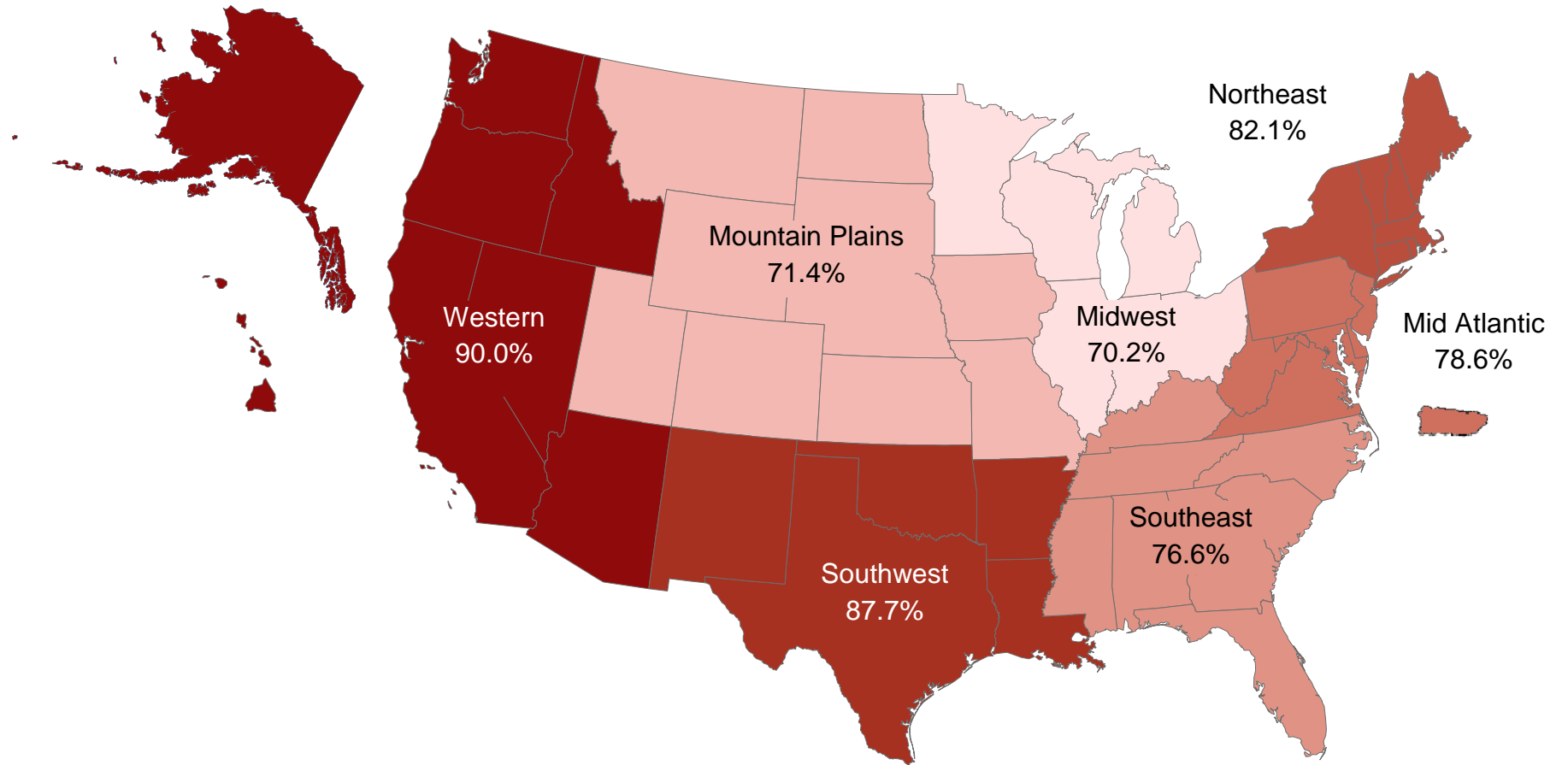
Source: 2011 CPS-ASEC, 2010 ACS, 2010 PRCS, WIC Administrative Data

Figure 4: WIC Coverage Rate for Pregnant Women by FNS Region, CY 2010



Source: 2011 CPS-ASEC, 2010 ACS, 2010 PRCS, WIC Administrative Data

Figure 5: WIC Coverage Rate for All Postpartum Women by FNS Region, CY 2010



Source: 2011 CPS-ASEC, 2010 ACS, 2010 PRCS, WIC Administrative Data



**Table 13: WIC Eligibles and Coverage Rates by State and FNS Region, CY 2010**

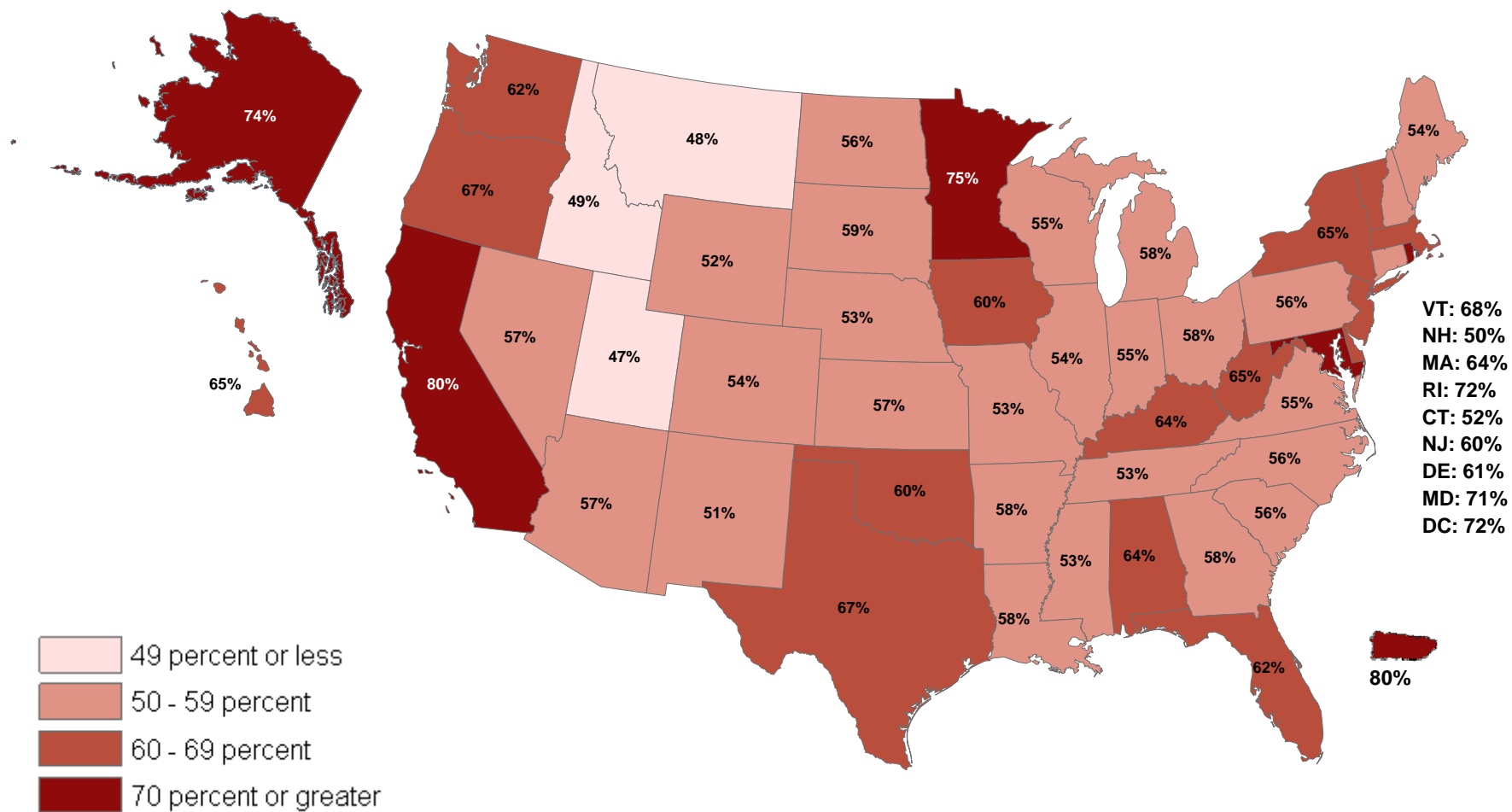
<u>State</u>	<u>Eligibles</u>	<u>Participants</u>	<u>Coverage Rate</u>		<u>Eligibles</u>	<u>Participants</u>	<u>Coverage Rate</u>
Alabama	227,976	145,259	63.7%	New York	788,825	511,468	64.8%
Alaska	36,257	26,947	74.3%	North Carolina	483,735	271,158	56.1%
Arizona	360,219	204,018	56.6%	North Dakota	25,988	14,489	55.8%
Arkansas	167,266	97,424	58.2%	Ohio	508,579	293,129	57.6%
California	1,827,214	1,462,214	80.0%	Oklahoma	217,954	131,742	60.4%
Colorado	201,037	108,375	53.9%	Oregon	168,772	113,085	67.0%
Connecticut	110,953	57,513	51.8%	Pennsylvania	463,474	260,784	56.3%
Delaware	38,238	23,202	60.7%	Puerto Rico	240,109	193,084	80.4%
D.C.	23,459	16,792	71.6%	Rhode Island	35,394	25,352	71.6%
Florida	807,749	501,620	62.1%	South Carolina	238,183	133,167	55.9%
Georgia	537,340	309,514	57.6%	South Dakota	38,594	22,803	59.1%
Hawaii	56,859	36,891	64.9%	Tennessee	315,841	168,140	53.2%
Idaho	95,343	46,262	48.5%	Texas	1,528,798	1,026,200	67.1%
Illinois	567,053	303,882	53.6%	Utah	158,914	74,900	47.1%
Indiana	315,045	172,778	54.8%	Vermont	24,488	16,569	67.7%
Iowa	122,067	73,498	60.2%	Virginia	287,552	158,890	55.3%
Kansas	135,201	76,785	56.8%	Washington	310,784	192,284	61.9%
Kentucky	213,549	137,677	64.5%	West Virginia	78,669	50,787	64.6%
Louisiana	265,472	154,987	58.4%	Wisconsin	227,423	125,026	55.0%
Maine	49,381	26,901	54.5%	Wyoming	25,941	13,488	52.0%
Maryland	206,712	147,184	71.2%				
Massachusetts	190,089	122,379	64.4%	<b>FNS Region<sup>a</sup></b>			
Michigan	441,310	255,547	57.9%	Northeast	1,234,404	777,816	63.0%
Minnesota	181,852	137,097	75.4%	Mid-Atlantic	1,633,452	1,026,289	62.8%
Mississippi	188,783	100,247	53.1%	Southeast	3,013,157	1,766,782	58.6%
Missouri	282,974	149,440	52.8%	Midwest	2,241,261	1,287,459	57.4%
Montana	42,986	20,511	47.7%	Southwest	2,307,415	1,475,457	63.9%
Nebraska	84,088	44,869	53.4%	Mountain Plains	1,117,789	599,157	53.6%
Nevada	131,224	75,006	57.2%	Western	3,002,637	2,176,194	72.5%
New	35,274	17,633	50.0%				
New Jersey	281,663	170,096	60.4%	<b>Total</b>	<b>14,550,116</b>	<b>9,109,153</b>	<b>62.6%</b>
New Mexico	127,926	65,104	50.9%				

Source: 2011 CPS-ASEC, 2010 ACS, 2010 PRCS, Census International Data Base, WIC Administrative Data

Notes:

<sup>a</sup> Estimates for the other island territories (territories other than Puerto Rico) are included in regional totals but not shown separately due to small sample constraints.

Figure 6: WIC Coverage Rates for All Participants, by State, CY 2010



Source: 2011 CPS-ASEC, 2010 ACS, 2010 PRCS, WIC Administrative Data

## Standard Errors: 2010

Standard errors of estimates were produced for the 2010 national, State, and regional estimates.<sup>24</sup> The national-level estimates are all derived from the CPS-ASEC using the generalized variance estimates described in the annual P-60 report entitled “Income, Poverty, and Health Insurance Coverage in the United States” (Census Bureau, 2010).<sup>25</sup> The standard errors for the State-level estimates were derived using a generalized variance model described in the annual ACS report based on one year accuracy of the data.<sup>26</sup>

The coefficients of variation for the 2010 national eligibility estimates for infants and pregnant women are the highest among all participant groups at 4.6 percent (Table 14). While the coefficient of variation for postpartum women is slightly lower at 3.3 percent, the relative error for the estimate for all children drops to 2.4 percent, reflecting the larger sample size for this estimation group. The greatest precision of eligibility estimates is for the total of all WIC eligibles (1.9 percent).

At the State level, the precision of the estimates is considerably lower than at the national level (Table 15). Given the large range of coefficient of variation (2.6 percent for Texas to 16.7 percent for the District of Columbia), caution should be exercised when using the State estimates, especially for smaller States. At the regional level, however, the relative precision of the estimates is quite high.

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<sup>24</sup> Estimates of WIC eligibility in the other island territories are not based upon samples but on Census Bureau estimates of the population by age and are not subject to sampling variability. While non-sampling error can still be present in the other island estimates, standard errors for the other island territories cannot be computed because of the non-sample based methodology used in the estimation.

<sup>25</sup> These reports can be found at <http://www.census.gov/prod/www/abs/p60.html>.

<sup>26</sup> These reports can be found at [http://www.census.gov/acs/www/data\\_documentation/documentation\\_main/](http://www.census.gov/acs/www/data_documentation/documentation_main/).

**Table 14: WIC Eligibles and Standard Errors by FNS Region and Participant Group, CY 2010**

	Infants	Children (1-4)	Pregnant Women	All Post-Partum Women	Total
<b>Eligibles</b>					
Northeast	215,367	778,660	110,809	129,569	1,234,404
Mid-Atlantic	236,380	883,936	121,620	137,830	1,379,767
Southeast	527,937	1,914,622	271,629	298,969	3,013,157
Midwest	389,118	1,430,618	200,205	221,320	2,241,261
Southwest	410,328	1,449,034	211,118	236,935	2,307,415
Mountain Plains	194,552	708,010	100,099	115,128	1,117,789
Western	512,421	1,892,802	263,646	317,803	2,986,672
<b>Total</b>	<b>2,486,103</b>	<b>9,057,681</b>	<b>1,279,126</b>	<b>1,457,554</b>	<b>14,280,465</b>
<b>Standard Error</b>					
Northeast	16,657	30,519	8,570	7,189	38,427
Mid-Atlantic	17,696	33,189	9,105	7,630	41,347
Southeast	31,101	57,646	16,002	12,742	71,994
Midwest	24,878	46,413	12,800	10,070	57,843
Southwest	25,842	46,846	13,296	10,871	59,072
Mountain Plains	15,607	28,690	8,030	6,621	36,038
Western	30,414	57,145	15,648	13,469	71,515
<b>Total</b>	<b>114,134</b>	<b>215,518</b>	<b>58,723</b>	<b>47,579</b>	<b>268,258</b>
<b>Coefficient of Variance</b>					
Northeast	7.7%	3.9%	7.7%	5.5%	3.1%
Mid-Atlantic	7.5%	3.8%	7.5%	5.5%	3.0%
Southeast	5.9%	3.0%	5.9%	4.3%	2.4%
Midwest	6.4%	3.2%	6.4%	4.5%	2.6%
Southwest	6.3%	3.2%	6.3%	4.6%	2.6%
Mountain Plains	8.0%	4.1%	8.0%	5.8%	3.2%
Western	5.9%	3.0%	5.9%	4.2%	2.4%
<b>Total</b>	<b>4.6%</b>	<b>2.4%</b>	<b>4.6%</b>	<b>3.3%</b>	<b>1.9%</b>

Source: 2011 CPS-ASEC, 2010 ACS

Notes:

- <sup>a</sup> Estimates for the territories, including Puerto Rico, are not included in regional totals or standard errors.

**Table 15: WIC Eligibles Standard Errors by State and FNS Region, CY 2010**

	Eligibles	Standard Error	Coefficient of Variance		Eligibles	Standard Error	Coefficient of Variance
<b>State</b>							
Alabama	227,976	12,709	5.6%	New York	788,825	25,900	3.3%
Alaska	36,257	4,852	13.4%	North Carolina	483,735	19,291	4.0%
Arizona	360,219	16,266	4.5%	North Dakota	25,988	4,057	15.6%
Arkansas	167,266	10,761	6.4%	Ohio	508,579	19,897	3.9%
California	1,827,214	45,632	2.5%	Oklahoma	217,954	12,318	5.7%
Colorado	201,037	11,879	5.9%	Oregon	168,772	10,791	6.4%
Connecticut	110,953	8,623	7.8%	Pennsylvania	463,474	18,892	4.1%
Delaware	38,238	4,982	13.0%	Puerto Rico	240,109	12,978	5.4%
D.C.	23,459	3,909	16.7%	Rhode Island	35,394	4,817	13.6%
Florida	807,749	26,424	3.3%	South Carolina	238,183	12,948	5.4%
Georgia	537,340	20,611	3.8%	South Dakota	38,594	4,965	12.9%
Hawaii	56,859	6,086	10.7%	Tennessee	315,841	15,132	4.8%
Idaho	95,343	7,965	8.4%	Texas	1,528,798	40,152	2.6%
Illinois	567,053	21,354	3.8%	Utah	158,914	10,374	6.5%
Indiana	315,045	15,061	4.8%	Vermont	24,488	3,990	16.3%
Iowa	122,067	9,005	7.4%	Virginia	287,552	14,341	5.0%
Kansas	135,201	9,566	7.1%	Washington	310,784	14,924	4.8%
Kentucky	213,549	12,211	5.7%	West Virginia	78,669	7,195	9.1%
Louisiana	265,472	13,777	5.2%	Wisconsin	227,423	12,694	5.6%
Maine	49,381	5,640	11.4%	Wyoming	25,941	4,110	15.8%
Maryland	206,712	11,999	5.8%				
Massachusetts	190,089	11,504	6.1%	<b>FNS Region<sup>a</sup></b>			
Michigan	441,310	18,297	4.1%	Northeast	1,234,404	38,427	3.1%
Minnesota	181,852	11,223	6.2%	Mid-Atlantic	1,379,767	41,347	3.0%
Mississippi	188,783	11,468	6.1%	Southeast	3,013,157	71,994	2.4%
Missouri	282,974	14,253	5.0%	Midwest	2,241,261	57,843	2.6%
Montana	42,986	5,291	12.3%	Southwest	2,307,415	59,072	2.6%
Nebraska	84,088	7,467	8.9%	Mountain Plains	1,117,789	36,038	3.2%
Nevada	131,224	9,443	7.2%	Western	2,986,672	71,515	2.4%
New	35,274	4,788	13.6%				
New Jersey	281,663	14,279	5.1%	<b>Total</b>	<b>14,280,465</b>	<b>268,258</b>	<b>1.9%</b>
New Mexico	127,926	9,285	7.3%				

Source: 2011 CPS-ASEC, 2010 ACS, 2010 PRCS

Notes:

<sup>a</sup> Estimates for the territories, including Puerto Rico, are not included in regional totals or standard errors.

## **Validating the Results**

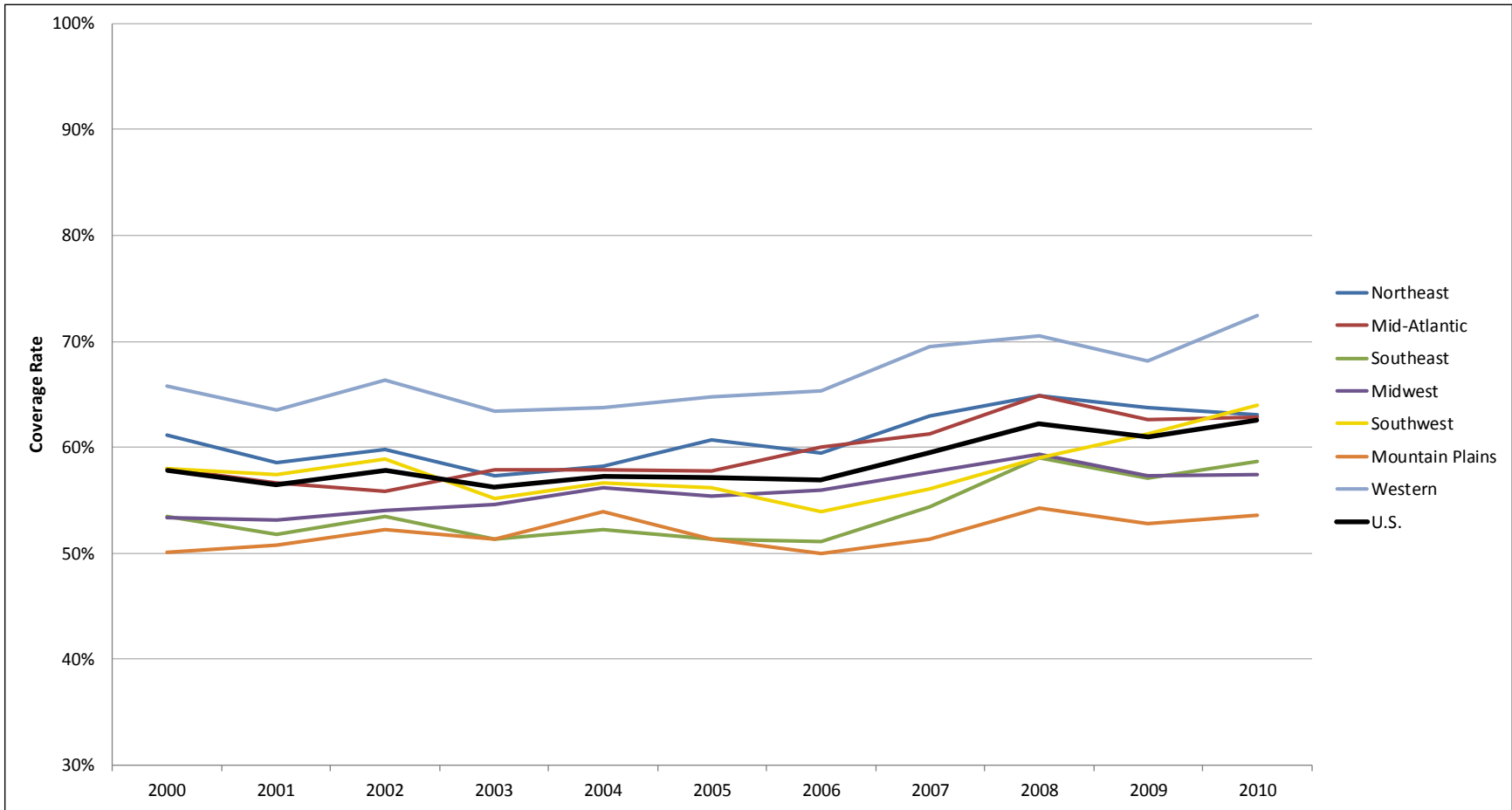
While one would like to assess the accuracy of the eligibility estimates, this cannot be known with certainty since it is impossible to observe eligibility. However, it is important that the estimates are reasonable. One comparison that can produce confidence in the eligibility estimates is to examine whether the FNS participation estimates ever exceed the eligibility estimates by State or region. While it is quite possible that some ineligible individuals do participate, there also are eligible individuals who fail to enroll in the program or who have been inappropriately denied benefits. Thus, any occurrences where the number of participants exceeds the estimated count of eligibles would lead to concerns about the estimation methods.

Both the FNS estimates of participation and the estimates of eligibility are likely to be subject to measurement error and potential bias. However, the eligibility estimates are based upon a sample and hence subject to sampling variability, while the FNS participation estimates are not subject to sampling variability. Consequently, even if a participation estimate exceeds the eligibility estimate, one cannot conclude there is something fundamentally wrong with the methodology. A different sample could lead to a different conclusion about the relationship between participation and eligibility. At the level of detail shown in this report, there are no cases where estimated eligibility falls short of FNS participation figures.

## **National Trends: 2000 – 2010**

Considering all WIC subgroups together (Figure 7), the coverage rates in the Western region have been consistently higher than in any other region across the entire period from 2000 to 2010, while the coverage rates in the Mountain Plains have been consistently lower than in other regions. Coverage rates have risen slightly since the middle part of the decade in some regions. The regional-level coverage rates for infants across the decade (Figure 8) show a spike in the rate in 2002; this is due to a drop in the national-level infant eligibility estimate for that year (2.2 million for 2002, relative to 2.5 million in both 2001 and 2003).

Figure 7: All Participants Coverage Rate by FNS Region, 2000–2010<sup>a</sup>

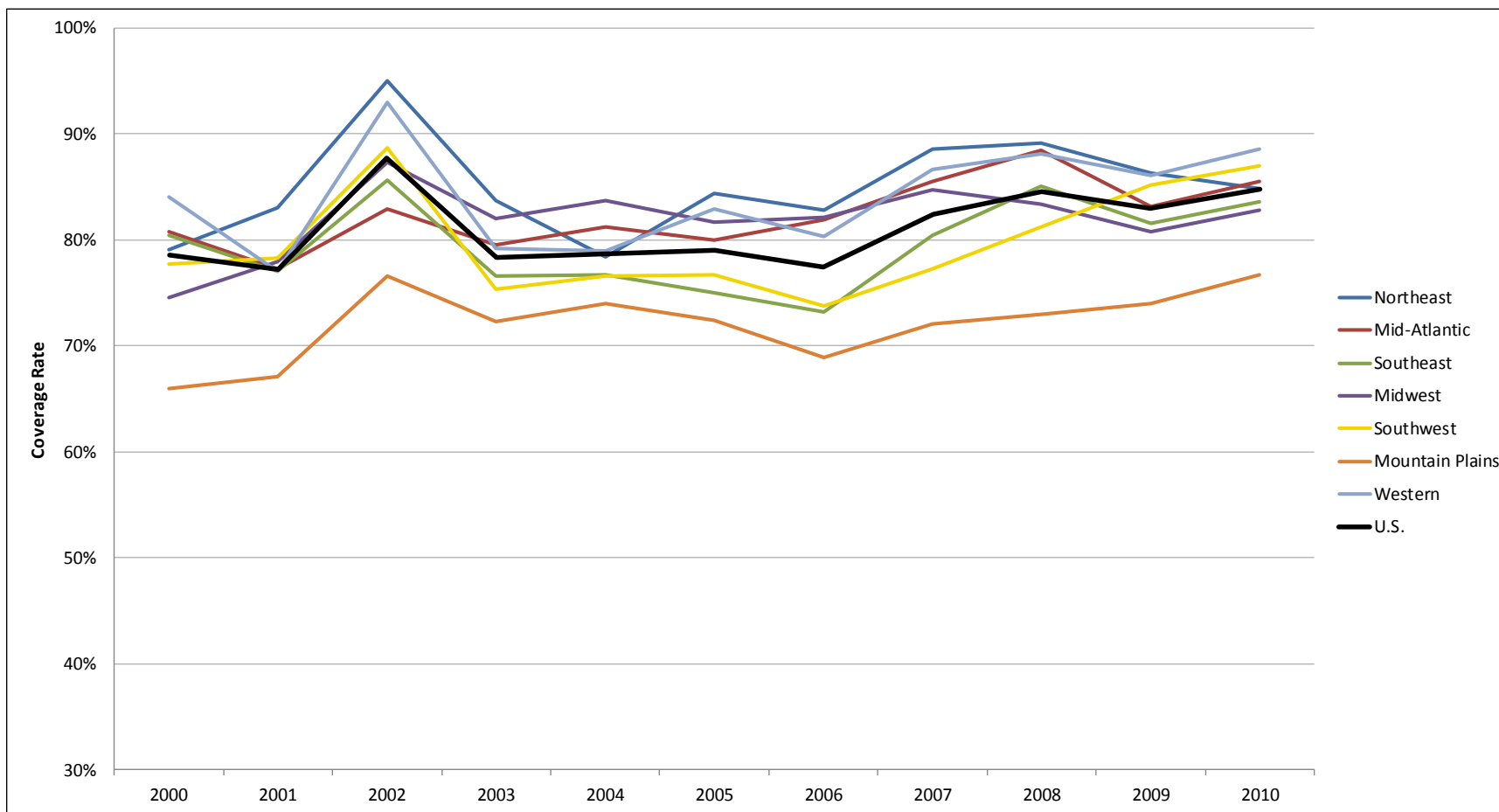


Notes:

<sup>a</sup> The upward trend in coverage rates between 2009 and 2010 reflects, in part, the decline in the number of eligibles in 2010 due to new Census population weights.

See Appendix Table D.2 for source information.

Figure 8: Infants Coverage Rate by FNS Region, 2000–2010<sup>a</sup>



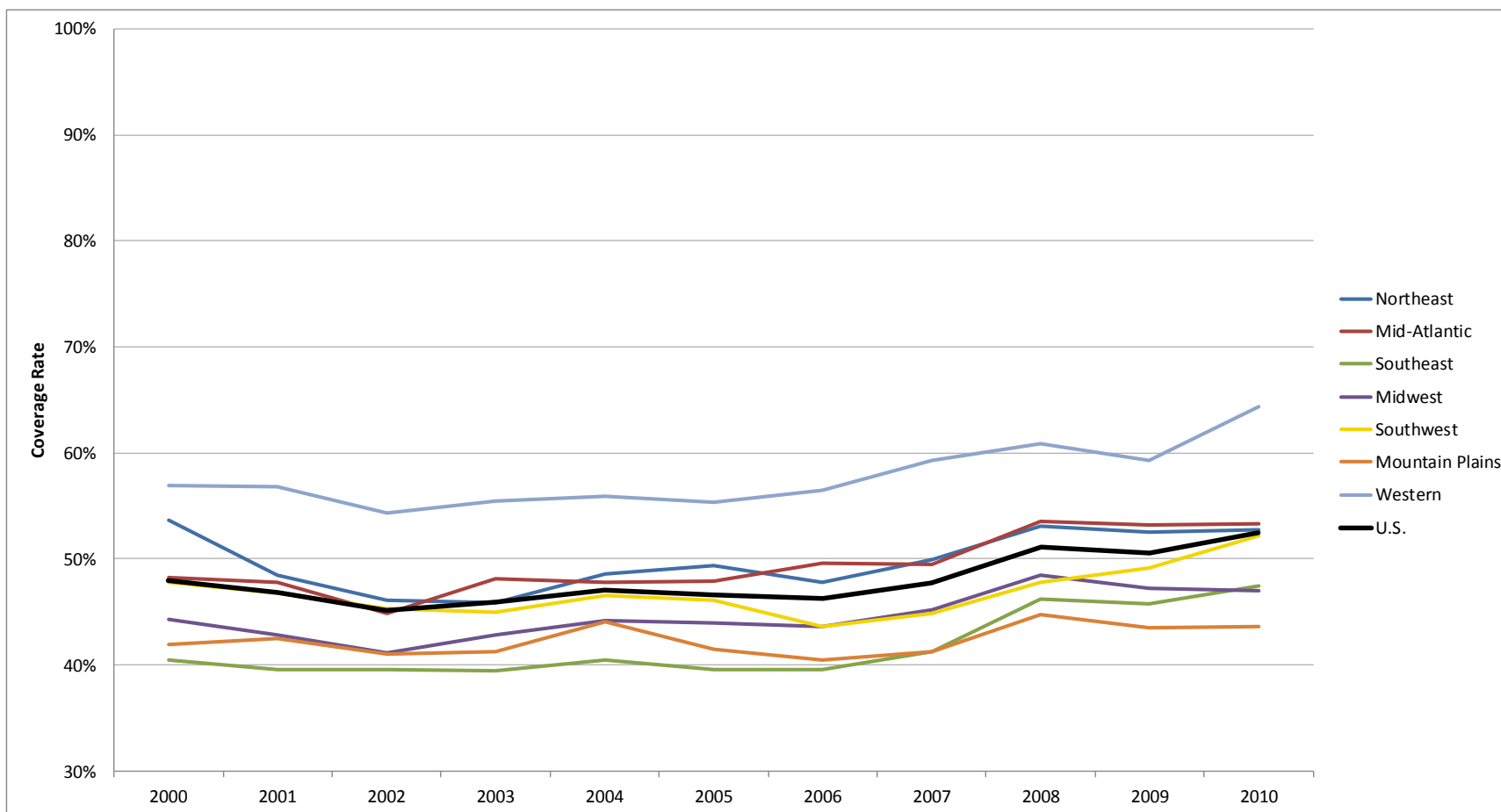
Notes:

<sup>a</sup> The upward trend in coverage rates between 2009 and 2010 reflects, in part, the decline in the number of eligibles in 2010 due to new Census population weights.

See Appendix Table D.2 for source information.



Figure 9: Children Coverage Rate by FNS Region, 2000–2010<sup>a</sup>

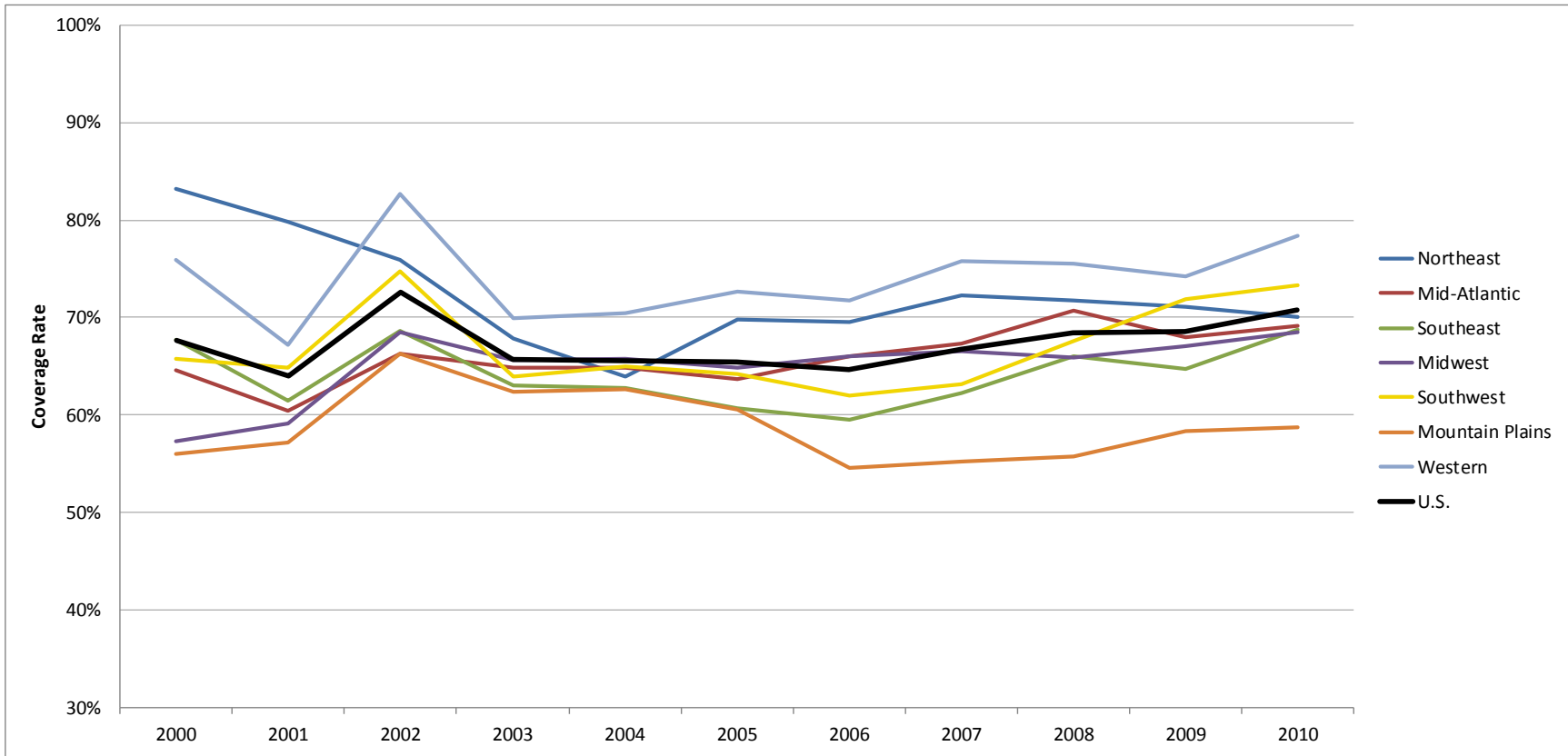


Notes:

<sup>a</sup> The upward trend in coverage rates between 2009 and 2010 reflects, in part, the decline in the number of eligibles in 2010 due to new Census population weights.

See Appendix Table D.2 for source information.

**Figure 10: Pregnant Women Coverage Rate by FNS Region, 2000–2010<sup>a</sup>**

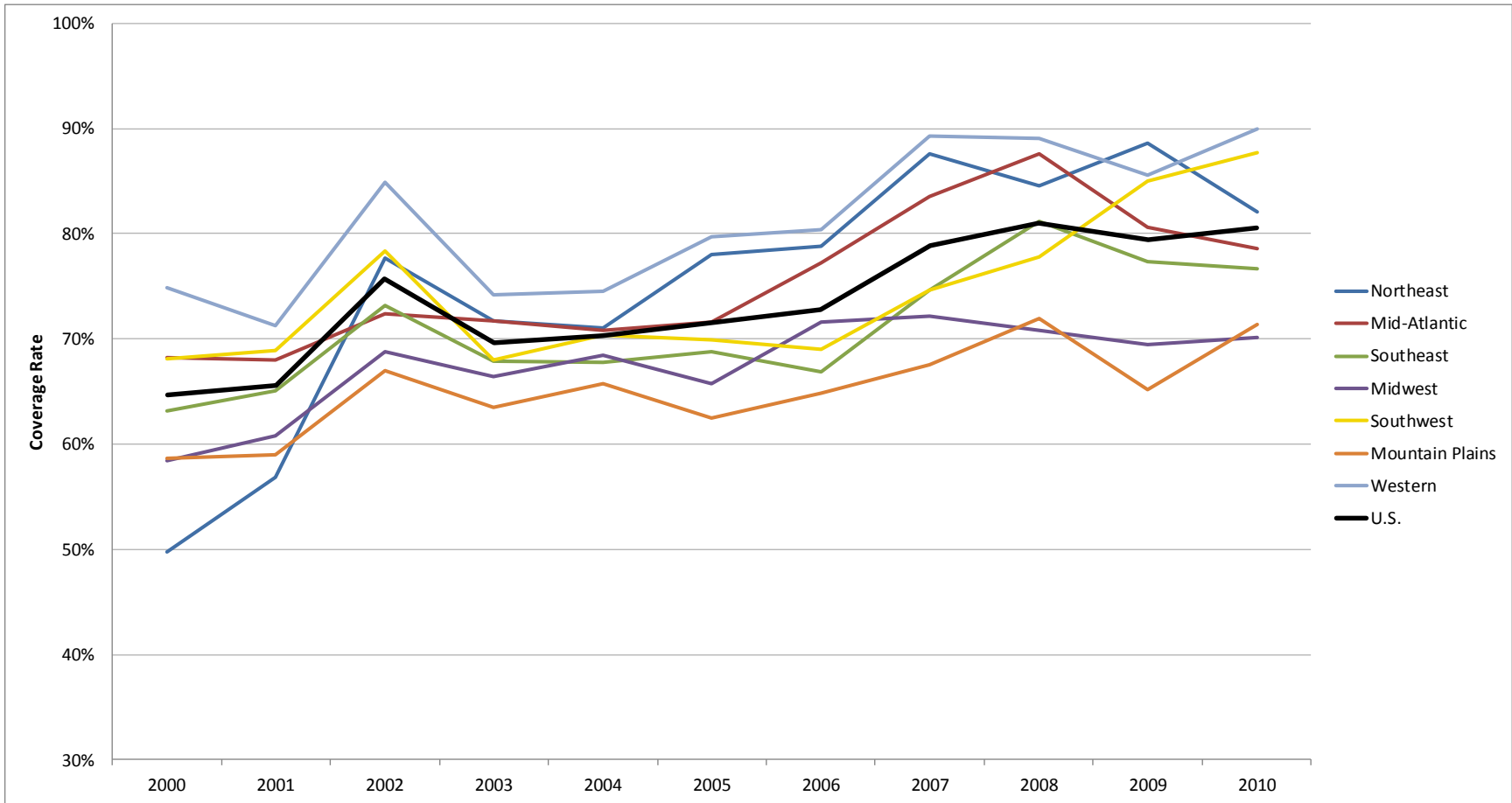


**Notes:**

<sup>a</sup> The upward trend in coverage rates between 2009 and 2010 reflects, in part, the decline in the number of eligibles in 2010 due to new Census population weights.

See Appendix Table D.2 for source information.

Figure 11: Postpartum Women Coverage Rate by FNS Region, 2000–2010<sup>a</sup>



Notes:

<sup>a</sup> The upward trend in coverage rates between 2009 and 2010 reflects, in part, the decline in the number of eligibles in 2010 due to new Census population weights.

See Appendix Table D.2 for source information.

## Summary

These results show that 14.550 million individuals were eligible for WIC during an average month of 2010 across the fifty States, the District of Columbia, Puerto Rico and four other island territories. The estimate includes 2.535 million infants (approximately 64 percent of all infants in the United States and territories), 9.224 million children age 1 through 4 (56 percent of all young children), 1.304 million pregnant women, and 1.487 million postpartum women.

The 2010 estimates reflect new population counts from the Census Bureau derived from the 2010 decennial Census. The new Census data indicated 8.3 percent fewer infants and 5.3 percent fewer children age 1 through 4 in the United States relative to Census estimated weights for 2010 based on the 2000 Census. Since Census weights based on the 2000 Census were used to produce prior WIC eligibility estimates, this change resulted in a lower estimate of WIC eligibles relative to 2009. The 2010 number of infants eligible for WIC decreased by 5.2 percent and the number of WIC-eligible children age 1 to 4 decreased by 2.6 percent compared with 2009 estimates. Readers must keep this in mind when considering the estimates of WIC eligibles over time.

Estimates of eligibles across the regions vary, with the largest shares of infants eligible in the Southeast and Western regions and the lowest in the Mountain Plains and Northeast regions. The eligibility rates reflect population and income differences, as well as differences in adjunctive eligibility (due to participation in Medicaid, SNAP, and TANF). Eligibles in California and Texas comprise 12.6 percent and 10.5 percent of all eligibles, respectively.

The WIC coverage rate (the share of participants relative to eligibles) was 62.6 percent in 2010. Nationwide, infants have the highest coverage rate at 84.8 percent and children age 1 through 4 have the lowest rate at 52.4 percent. Coverage rates also vary across the regions with a coverage rate of 72.5 percent in the Western region and 53.6 percent in the Mountain Plains.

There are five appendices to this report. The first provides more detailed tables for the national and territorial estimates, and the second provides more detailed tables for the State eligibility estimates. The third appendix provides coverage rate maps for all regions. The fourth appendix shows the WIC eligibility and coverage results for 2000 through 2010, and the fifth compares the Census weights for 2009 with those for 2010 by State. As noted in this report, interested readers should consult Betson et al. (2011) for more details on all methods used to produce these estimates.

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