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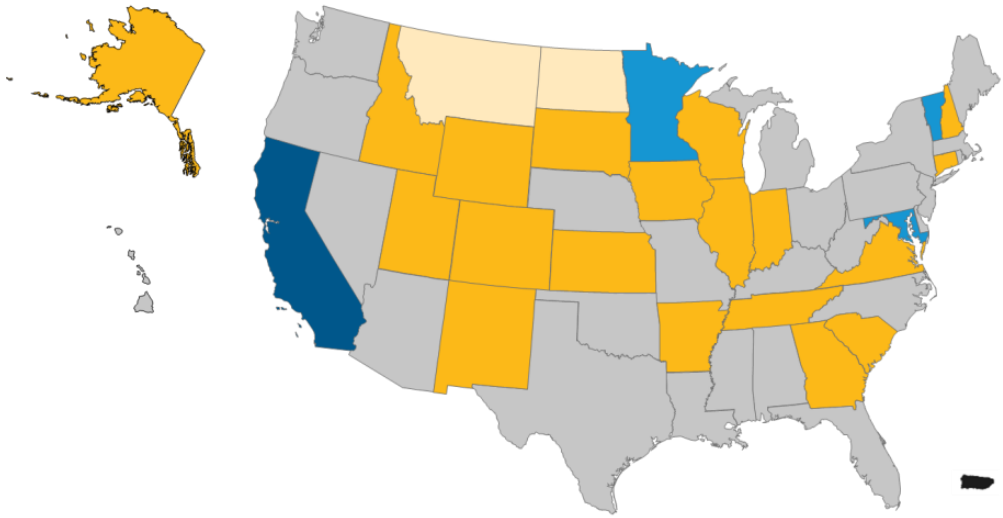

Volume I

National- and State-Level Estimates of Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) Eligibles and Program Reach in 2014, and Updated Estimates for 2005–2013

September 2017

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National- and State-Level Estimates of Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) Eligibles and Program Reach in 2014, and Updated Estimates for 2005–2013

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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. WIC is a federally funded program, but the funding is discretionary, meaning that Congress authorizes a certain amount of funds each year. The Food and Nutrition Service (FNS), which administers WIC, needs accurate estimates of how many people are eligible for WIC in each year to help gauge future needs. FNS also has a strong interest in looking at the percentage of eligible people who are receiving WIC benefits (the program's "coverage rates")—in total, across States and regions, and for different subgroups—to understand how the program is working and how it can improve.

This report provides estimates of the number of people who met WIC eligibility criteria in 2014, as well as updated estimates for each year back to 2005. The goal is to estimate WIC eligibility in the "average month" of the year, for conceptual consistency with the way in which program enrollment is measured. The methods used to generate the estimates, while largely following past methods, include several updates and improvements, which were applied to the historical estimates to create a consistent ten-year series.

National eligibility is shown for each of eight participant subgroups: infants, children ages 1 through 4 by single year of age, pregnant women, postpartum women who are breastfeeding, and postpartum women who are not breastfeeding. The eligibility figures are used to estimate the coverage rate for the program overall and for each subgroup.

Estimates of WIC eligibility and coverage rates in 2014 are provided for the seven FNS regions overall and for the eight participant subgroups. For the first time in this series, coverage rates are also examined by race and ethnicity. Eligibility and coverage rate estimates are also provided for each State for 2014. This report expands on the State-level information shown in previous reports, providing State-level coverage-rate information for most of the participant subgroups.

Methods

The estimation procedures used in this report build on the methodology recommended by the Committee on National Statistics of the National Research Council (CNSTAT) in 2003.[1] National eligibility estimation requires nationally representative data and numerous assumptions that take into account program certification periods, individuals' enrollment in other programs, and mothers' breastfeeding choices. The 2014 national estimates use the 2015 Current Population Survey, Annual Social and Economic Supplement (the CPS-ASEC, formerly referred to as the March supplement), as originally recommended by CNSTAT. The State estimates use the 2014 American Community Survey 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 2014

[1] See Ver Ploeg and Betson (2003) for the CNSTAT report.

Puerto Rico Community Survey (PRCS) and estimates of the population in other territories. Standard errors of the estimates are calculated for national, regional, State, and Puerto Rico estimates.

The estimation requires numerous steps and assumptions. Infants and children are first identified in the surveys. These weighted counts are adjusted based on recent Census population estimates. Demographically eligible individuals are income-eligible if their families' annual cash incomes are less than 185 percent of the federal poverty guideline, or they are adjunctively income-eligible if they participate in another safety net program. Specifically, individuals in families that participate in the Supplemental Nutrition Assistance Program, the Temporary Assistance for Needy Families program, or the Medicaid program (either directly or as a member of a family in which a pregnant woman or an infant is certified as eligible to receive Medicaid benefits) are adjunctively eligible for WIC.[2] The initial eligibility estimates from the surveys are adjusted based on longitudinal data from the Survey of Income and Program Participation, capturing the impacts of intrayear income and benefit changes and the impacts of the WIC program's certification periods. An adjustment for nutritional risk takes into account that a small share of otherwise-eligible individuals might not be found to be at nutritional risk. The number of eligible women is estimated by starting from the infant eligibility estimates and applying various adjustments. In particular, eligibility estimation for postpartum mothers requires data on the portion of WIC-eligible mothers who begin breastfeeding, as well as the portion breastfeeding at six and twelve months.

The structure of the methodology is the same as in past years. However, the following refinements and improvements are included in this year's work, both for purposes of the 2014 estimates and the revisions to the 2005 through 2013 estimates:

- When adjusting the sampling weights of infants and children for consistency with Census Bureau population estimates, the number of racial and ethnic categories is expanded from three to four, to allow for separate adjustments for Hispanic infants and children. Also, the most recent Census Bureau population figures are used for all years.
- The procedures that use the survey data for initial estimates of WIC-eligible infants and children now count a parent's unmarried partner and the partner's dependents as being members of the economic unit. (Unmarried partners were previously not counted as members of the economic unit in these estimates.)
- The adjustment factor that compensates for the limitations of annual survey data in estimating average monthly program eligibility (the "annual-to-monthly" factor) was re-estimated to use newer data and to capture differences by race and ethnicity. Also, a method was imposed to avoid abrupt year-to-year changes in the factors.
- The key adjustment factor used in estimating the average monthly number of WIC-eligible pregnant women was re-estimated in a way that is consistent with the program's current policy to count the fetus in the size of the economic unit.

[2] Participation in one of these programs is taken as proof that a person is income eligible for WIC. State and local agencies may also accept an applicant's documented participation in certain other means-tested programs as evidence of being income-eligible for WIC, if the other program routinely requires income documentation and has income guidelines at or below those of WIC.

- Methods for estimating postpartum eligibility were modified to use the National Immunization Survey—a survey conducted by the Centers for Disease Control and Prevention (CDC)—as the source for national-level breastfeeding rates. (Previously, the Abbott Laboratories' Infant Feeding Survey (IFS) provided the national-level breastfeeding rates.) Also, the process now uses national-level breastfeeding rates that vary by race and ethnicity.
- To estimate State-level breastfeeding rates, a three-year average of State-level breastfeeding rates from the IFS is used. (Previously, single-year State-level estimates from IFS were used.)
- The method used to adjust for the gradual cessation of breastfeeding was modified.
- Due to the widespread implementation of 12-month certification for breastfeeding women, as of 2014, no woman who is still breastfeeding at midyear is assumed to lose eligibility due to recertification. For the years 2005 through 2013, the assumed percentage of breastfeeding women who are no longer eligible at six-month recertification is reduced gradually.

These refinements incorporate additional data sources, allow greater focus on results by race and ethnicity, and make other technical improvements. Additionally, the 2013 estimates were modified to use a more comprehensive version of the CPS-ASEC data.

RESULTS

How Many People Were Eligible for WIC in the Average Month of 2014, and What Portion Received Benefits?

In calendar year (CY) 2014, the methods described above suggest that 15 million individuals were eligible for WIC benefits in an average month (exhibit ES.1). This is an estimate and could differ from the true number of WIC-eligible individuals because of methodological limitations (for example, the adjustment for the impact of intrayear income changes is an approximation) and because the estimate is based on a sample of the population (different samples could lead to different estimates). Considering the uncertainty due to the fact that the estimates are based on survey data (sample variability), there is a 90 percent likelihood that the true number of WIC-eligible individuals falls in the range from 14.5 million to 15.5 million.

Infants accounted for 16.3 percent of the total WIC-eligible individuals; children ages 1 through 4 comprised 62.3 percent of all eligible individuals (with approximately equal shares across the single years of age); pregnant women accounted for 10.7 percent; and the remaining 10.7 percent were postpartum women.

The number of people who are estimated to be *eligible* for WIC can be compared to the number who *participated* in WIC in order to compute WIC coverage rates. Specifically, the coverage rate equals the average monthly number of WIC participants (according to program administrative data) divided by the estimated average monthly number of people who are eligible for WIC, overall or in a subgroup. During CY 2014, 8.2 million individuals participated in the program in an average month, producing a

total coverage rate of 54.8 percent.[3] Coverage rates vary across the subgroups. Infants and postpartum non-breastfeeding women had the highest coverage rates at 80.0 and 94.1 percent, respectively. Among young children, the coverage rate appears to decline with age, from an estimated 68.2 percent for 1-year-olds to 25.9 percent for 4-year-olds.

Exhibit ES.1: WIC National-level Eligibles and Coverage Rates by Participant Group, CY 2014

NOTE: This table includes estimates for the territories.

Participant Group	Number Eligible	Percent of Total Eligible	Number Participating	Coverage Rate
Infants	2,451,750	16.3%	1,961,762	80.0%
Total Children Ages 1-4	9,347,672	62.3%	4,296,463	46.0%
Children Age 1[a]	2,312,140	15.4%	1,577,038	68.2%
Children Age 2[a]	2,318,334	15.5%	1,114,790	48.1%
Children Age 3[a]	2,357,342	15.7%	994,159	42.2%
Children Age 4[a]	2,359,857	15.7%	610,476	25.9%
Pregnant Women	1,599,023	10.7%	802,892	50.2%
Postpartum Women	1,606,863	10.7%	1,166,655	72.6%
Breastfeeding Women	998,025	6.7%	593,826	59.5%
Non-Breastfeeding Women	608,838	4.1%	572,829	94.1%
All Participant Groups	**15,005,308**	**100.0%**	**8,227,771**	**54.8%**

Source: 2015 CPS-ASEC for U.S. estimate, PRCS and Census for territories, WIC Administrative Data, 2014 WIC Participant and Program Characteristics Report

Notes:

[a] WIC participant figures for children by single year of age are not available. The figures in this table are derived from the total number of children participating using the ratio of child enrollees by single year of age to the total number of children enrolled as reported in Johnson et al. (2013), figure E.1.

This year's updates to the methods for estimating eligibility also affect the coverage rate estimates. The new methods result in lower coverage rate estimates for pregnant women and breastfeeding women and higher coverage rate estimates for non-breastfeeding postpartum women.

Does the WIC Coverage Rate Vary by Race and Ethnicity?

The improvements to the methods strengthen our ability to estimate WIC coverage rates by race and ethnicity. The results (exhibit ES.2) suggest that the WIC coverage rate is lowest for whites who are not Hispanic (44 percent), and highest for Hispanics (67 percent). The estimated coverage rate for blacks who are not Hispanic is 57 percent, and the estimated coverage rate for non-Hispanic individuals who report multiple races or a different race (Asian, American Indian or Alaskan native, native Hawaiian or Pacific Islander) is 48 percent.

[3] Participants include all people who receive a food package plus fully breastfeeding infants whose mothers receive a food package.

Exhibit ES.2: WIC Coverage Rates by Race, CY 2014

NOTE: This table includes estimates for the 50 states, D.C., and Puerto Rico.

Participant Group	Number Eligible	Number Participating	Coverage Rate
White-only, non-Hispanic	5,742,713	2,549,244	44.4%
Black-only, non-Hispanic	2,776,182	1,591,602	57.3%
Other, non-Hispanic	1,386,702	665,619	48.0%
Hispanic	5,069,813	3,399,197	67.0%
All races	**14,975,410**	**8,205,661**	**54.8%**

Sources: 2015 CPS-ASEC for U.S. estimate, WIC Administrative Data

Did WIC Eligibility Change from 2013 to 2014?

Our best estimate of total WIC eligibility in 2014 is 4.1 percent higher than our updated estimate for 2013 (exhibit ES.3). The eligibility estimates increased for every participant group.

The estimated increases in eligibility for infants (2.9 percent) and children (4.7 percent) are due in part to increases in the "eligibility rate"—the percentage of the total group who appear to be either income-eligible or adjunctively eligible. In particular, there is an increase in adjunctive eligibility that is due primarily to more infants and children being covered by Medicaid. For children, another factor contributing to the higher eligibility rate is the increased number of States using 12-month certification periods for children, as allowed by the Healthy, Hunger-Free Kids Act of 2010.

Turning to the results for women, the percentage change in pregnant women's eligibility from 2013 (the revised estimate) to 2014 is the same as the percentage change for infants (2.9 percent), since the pregnant women's estimate is derived from the infant estimate, and other factors used in estimating pregnant women's eligibility did not change between the 2013 (revised) estimates and the 2014 estimates. The estimates for postpartum women are also affected by the changes in the infant estimates, but in addition, they are affected by two other factors. First, the National Immunization Survey shows increases in breastfeeding between 2013 and 2014. Second, for 2013 we assume that a small portion of breastfeeding women lose eligibility at the six-month point due to recertification, while by 2014 we assume that no breastfeeding women lose eligibility midyear due to loss of income or adjunctive eligibility (due to near-complete adoption of 12-month certification for breastfeeding women). The combined impact of these factors is a 2013 to 2014 increase of 6.4 percent in the average monthly number of postpartum breastfeeding women who are eligible for WIC, and an increase of 0.4 percent for postpartum non-breastfeeding women.

Exhibit ES.3: Estimates of the Average Monthly Number of Individuals Eligible for WIC by Participant Group: A Comparison of the Change from CY 2013–14

NOTE: This table includes estimates for the territories.

Participant group	Total Eligibles, 2014	Total Eligibles, 2013	Percent change
Infants	2,451,750	2,383,446	2.9%
Total children ages 1–4	9,347,672	8,929,389	4.7%
Pregnant women	1,599,023	1,554,475	2.9%
Postpartum breastfeeding women	998,025	938,157	6.4%
Postpartum non-breastfeeding women	608,838	606,333	0.4%
Total WIC eligibles	**15,005,308**	**14,411,800**	**4.1%***

Sources: 2014 and 2015 CPS-ASEC; 2004 and 2008 SIPP panels

*** Note:** We are 90 percent confident that there was an actual increase in total average monthly WIC eligibility. Changes for the subgroups could be due to sampling variability. The statistical uncertainty in the eligibility estimates is discussed in the body of this report.

As with any estimates derived in part from survey data, there is a degree of uncertainty. In this case, we have at least 90 percent confidence that there was a true increase in total WIC eligibility between 2013 and 2014. However, for the specific subgroups, the changes could be due solely to sampling variability in the survey.

Since 2005, How Has Eligibility Changed On Average?

Over the period from 2005 through 2014, and using the updated eligibility estimates for 2005 through 2013, growth in WIC eligibility has averaged 0.5 percent per year, resulting in a total 2014 eligibility estimate 5.5 percent higher than the 2005 estimate (exhibit ES.4). Most of the increase in total WIC eligibility since 2005 is due to a 10.8 percent increase in the estimated number of children eligible for the program. The number of eligible infants and eligible pregnant women has decreased over the past 10 years and is estimated to be 4.2 percent lower in 2014 than in 2005. During the same period, the number of annual births in the United States mainland and territories declined by about 3.6 percent;[4] the fact that estimated eligibility increased for children suggests that the share of all young children who are eligible for WIC has increased over the decade. The number of postpartum women eligible for WIC in the average month of the year has increased by an estimated 3.3 percent since 2005, due to increases in breastfeeding that result in more postpartum women being eligible for a full year instead of the maximum six months of eligibility allowed for non-breastfeeding mothers.

[4] Data published by the CDC, National Vital Statistics Reports, Volume 64, Number 12, table 1, December 23, 2015.

Exhibit ES.4: Growth in WIC Eligible Population, 2005–14

NOTE: This table includes estimates for the territories.

Participant Group	Cumulative Growth	Average Annual Growth
Infants	-4.2%	-0.4%
Total children ages 1–4	10.8%	0.9%
Pregnant women	-4.2%	-0.4%
All postpartum women	3.3%	0.3%
All participant groups	**5.5%**	**0.5%**

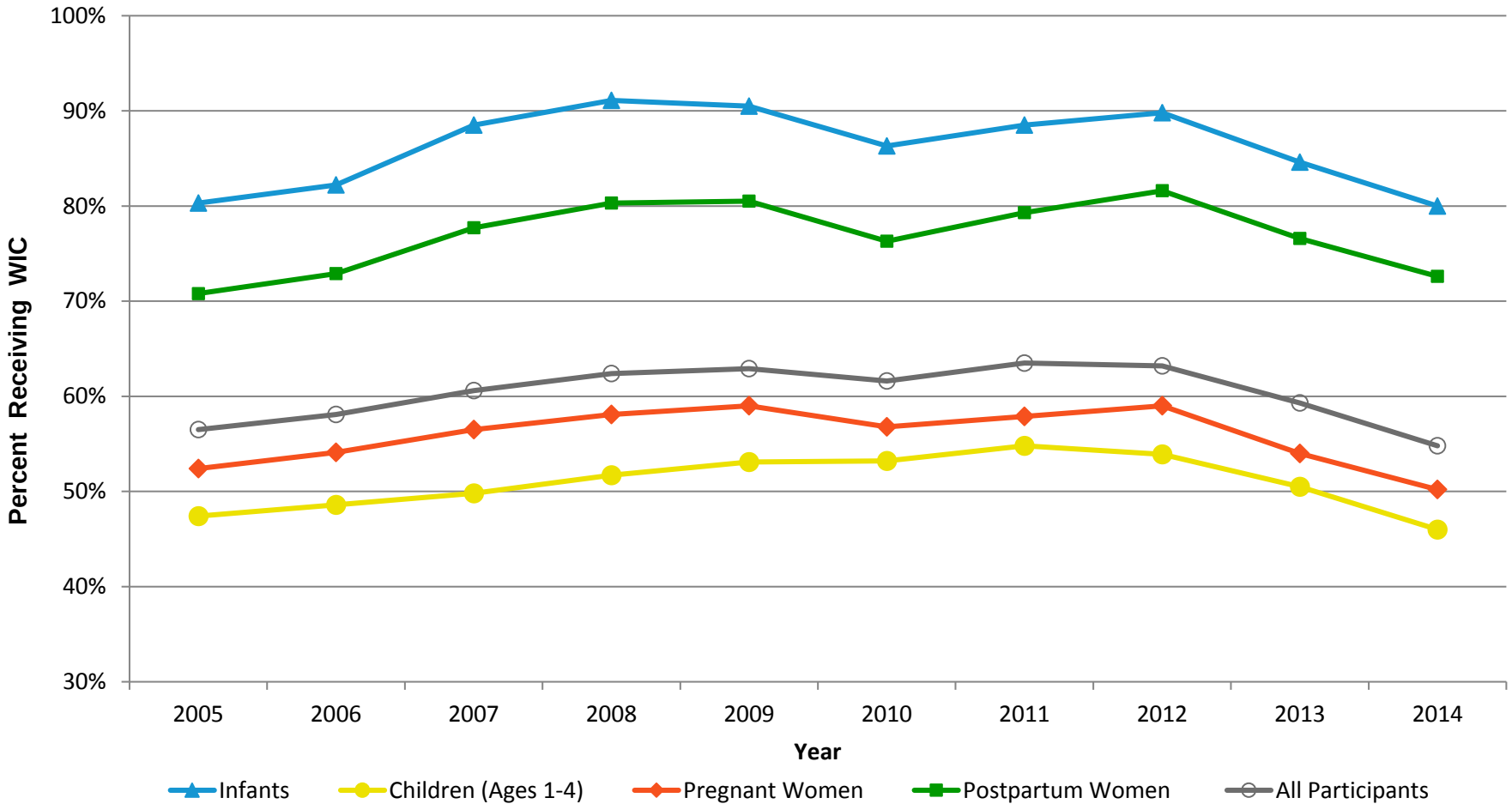
Sources: 2006-2015 CPS-ASEC; 2005-2014 ACS and PRCS; Census International Data Base

How Does the Coverage Rate Vary over Time?

Estimated coverage rates show some variation over the 2005 to 2014 time frame (exhibit ES.5). (Note that this comparison uses the updated estimates for 2005 through 2013, so the methodology is consistent across the years.)

In general, the coverage rates increased from 2005 to 2008 or 2009, stabilized from that point to about 2012, and then declined. For example, for infants, the estimated coverage rate has fallen from 90 percent in 2012 to 80 percent in 2014. For each of four subgroups—infants, children, pregnant women, and postpartum women (considering breastfeeding and non-breastfeeding women together)—the 2014 coverage rates are very similar to the 2005 rates. When breastfeeding and non-breastfeeding women are considered separately, the coverage rates for non-breastfeeding postpartum women appear to have increased across the period; the 2014 estimate of a 94.1 percent coverage rate for non-breastfeeding postpartum women is higher than the 2005 estimate of just over 80 percent.

Exhibit ES.5: Coverage Rate: Percent of Eligible Population Receiving WIC Benefits, CY 2005–14



Has the Coverage Rate Changed Since 2013?

The analysis suggests that the WIC coverage rate declined between 2013 and 2014. The administrative data show that the caseload fell by 3.7 percent, while we are 90 percent confident that total eligibility increased for all subgroups. Although we cannot be certain that eligibility increased for each participant subgroup (i.e., it is possible that for some subgroups the measured change was due to sampling variability), a reduction in actual caseload combined with either unchanging or increased eligibility suggests lower coverage rates.

How Does the Coverage Rate Vary across Regions of the Country?

WIC coverage rates for all participants vary somewhat across the regions (exhibit ES.6). The highest coverage rate is 64.0 percent in the Western region, and the lowest is 45.5 percent in the Mountain Plains. These regions also had the highest and lowest estimated coverage rates, respectively, in our analyses of WIC eligibility and program reach for the years 2005 through 2013. As mentioned above in the context of the national estimates, all the WIC eligibility estimates are affected by sampling variability. For example, while our best estimate of eligibility in the Northeast is 1.344 million people, we can say with 90 percent confidence that the actual number of eligible people is in the range from 1.275 to 1.414 million. Thus, the actual coverage rates could be somewhat higher or lower than shown.

Exhibit ES.6: WIC Eligibles and Coverage Rates by FNS Region, CY 2014

NOTE: This table includes estimates for the territories.

FNS region	Eligibles	Participants	Coverage rate	Lower Bound Confidence Interval for Eligibility Estimate[a]	Upper bound Confidence Interval for Eligibility Estimate[a]
Northeast	1,344,230	721,848	53.7%	1,274,801	1,413,659
Mid-Atlantic	1,674,270	948,423	56.6%	1,580,811	1,767,729
Southeast	3,187,936	1,605,968	50.4%	3,056,786	3,319,087
Midwest	2,238,901	1,152,317	51.5%	2,138,928	2,338,874
Southwest	2,323,025	1,299,075	55.9%	2,220,254	2,425,796
Mountain Plains	1,150,384	523,508	45.5%	1,087,882	1,212,885
Western	3,086,562	1,976,632	64.0%	2,959,497	3,213,628
Total	15,005,308	8,227,771	54.8%	14,507,766	15,502,851

Source: 2015 CPS-ASEC, 2013 ACS, 2013 PRCS, Census International Data Base, WIC Administrative Data.

[a] We are 90 percent confident that the true number of eligibles falls within this range. The confidence interval is computed using the standard error associated with each estimate; see the body of the report for more information.

What Portion of All Infants, Children, and Mothers Receive WIC?

WIC program benefits are received by substantial portions of the population groups targeted by the program (exhibit ES.7). About half of all infants receive WIC benefits, 27 percent of young children and pregnant women receive WIC, and 30 percent of postpartum women receive WIC. Overall, 31 percent

of the people in demographic groups covered by WIC are not only eligible for the program but are also receiving benefits.

The portion of the total population group served by the program is the product of two factors—the portion who are eligible and the coverage rate (the portion of the eligibles who participate). For example, in the case of infants, 62 percent are eligible and 80 percent of those participate (exhibits ES.1 and ES.7), leading to the result that 50 percent of all infants are receiving program benefits.

Exhibit ES.7: WIC National-Level Participants Compared to the Total Population, by Participant Group, in an Average Month, CY 2014

NOTE: This table includes estimates for the territories.

Participant Group	Number Participating	Total Population	Participants as a Percent of Total Population
Infants	1,961,762	3,958,480	49.6%
Total children ages 1–4	4,296,463	16,141,207	26.6%
Children age 1[a]	1,577,038	4,030,564	39.1%
Children age 2[a]	1,114,790	4,005,410	27.8%
Children age 3[a]	994,159	4,065,415	24.5%
Children age 4[a]	610,476	4,039,819	15.1%
Pregnant women	802,892	2,957,281	27.1%
Postpartum women	1,166,655	3,943,041	29.6%
Breastfeeding women	593,826	2,087,752	28.4%
Non-breastfeeding women	572,829	1,855,289	30.9%
All Participant Groups	**8,227,771**	**27,000,009**	**30.5%**

Source: 2015 CPS-ASEC for U.S. estimate, PRCS and Census for territories, WIC Administrative Data, 2014 WIC Participant and Program Characteristics Report

Notes:

[a] WIC participant figures for children by single year of age are not available. The figures in this table are derived from the total number of children participating using the ratio of child enrollees by single year of age to the total number of children enrolled as reported in Johnson et al. (2013), figure E.1.

SUMMARY

In the average month of 2014, an estimated 15 million people were eligible for WIC benefits. The eligibility estimate is 4.1 percent higher than it was for 2013, due to a combination of factors—in particular more adjunctive eligibility for infants and children, greater adoption of 12-month certification periods for children, and higher breastfeeding rates. The program provided benefits to 54.8 percent of the WIC-eligible individuals—approximately 8.2 million people. That percentage—the program's "coverage rate"—appears to have declined somewhat from 2013 to 2014 (and also from 2012 to 2013). Infants and non-breastfeeding postpartum women had the highest coverage rates at 80.0 and 94.1 percent, respectively. The coverage rate for children ages 1 through 4 was 46.0 percent. Coverage rates also varied by region. The estimated regional coverage rates ranged from a high of 64.0 percent in the Western region to a low of 45.5 percent in the Mountain Plains.

The work conducted for this report also included re-estimating WIC eligibility for all the years from 2005 through 2013, creating a consistent 10-year series from 2005 through 2014. Numerous methodological changes were made, so the eligibility and coverage rates presented in this report should not be directly compared with previously-published estimates.

INTRODUCTION

This report presents updated estimates of the number of people eligible for the Special Supplemental Nutrition Program for Women, Infants, and Children—commonly referred to as WIC. Eligibility estimates allow Food and Nutrition Service (FNS) to better predict future funding needs for the WIC program. Eligibility estimates can also be compared to the number of participants to estimate coverage rates—the portion of eligible people who are receiving WIC benefits. Estimates of coverage rates help gauge the program's effectiveness in supporting the nutrition of eligible women, infants, and children. WIC participation data can also be compared to the total numbers of infants, children, and pregnant and postpartum women to generate participation rates.

This report—the latest in a series—has two key goals. The first is to provide estimates of WIC eligibility and related data for 2014—as of this writing, the most recent year for which the data are available to estimate eligibility. The second goal is to provide updated estimates for 2005 through 2013. In the course of producing the 2014 eligibility estimates, several refinements were made to the estimation methods, and these modified methods were used to re-estimate WIC eligibility and program reach back to 2005.

The 2014 WIC eligibility estimates are presented for the nation: the 50 States, the District of Columbia (D.C.), 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 to produce estimates for the seven FNS regions. National estimates are shown for each WIC participant subgroup—infants, children ages 1 through 4 (by single year of age), pregnant women, and breastfeeding and non-breastfeeding postpartum women. Regional and State estimates are presented in a somewhat more aggregated way.

Coverage rates are examined nationally, regionally, and at the State level. For the first time in this series of reports, State coverage rate estimates are analyzed for seven subgroups—infants, children ages 1 through 4 (by year of age), pregnant women, and all postpartum women. Another new item of information in this report is the presentation of coverage rates by race and ethnicity.

The estimates use multiple data sources. 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).[5] 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 use data from the American Community Survey (ACS), but in a way that maintains overall consistency with the CPS-based national estimates. Breastfeeding rates—which are important in determining WIC eligibility since non-breastfeeding women are eligible for only six months—are obtained from two different sources—the National Immunization Survey (NIS) conducted by the Centers for Disease Control and Prevention (CDC) and the Infant Feeding Survey (IFS) conducted by Abbott Laboratories. Various

[5] See Ver Ploeg and Betson (2003) for the CNSTAT report.

"adjustment factors" compensate for aspects of WIC eligibility that cannot be directly estimated with the CPS and ACS survey data.

Although the methods used for the eligibility estimates rest on the strong foundation developed by the CNSTAT panel, various refinements have been incorporated since the panel's work was completed. Most notably, under a project between the Urban Institute and FNS, beginning in 2010, methods were developed to generate State-level estimates, and the methods for territorial estimates were refined.[6] Other methodological refinements made in past work include an enhancement to the methods for adjusting population weights (first used for 2011 estimates),[7] and a procedure that incorporates the impact of when and whether States adopted a 12-month certification period for children (first used for the 2013 estimates).[8] However, very similar methods were used to generate the WIC eligibility estimates for 2000 through 2013 that have been published in previous reports.

This year's work, however, began with a review and assessment of the current methods, leading to decisions by FNS to implement numerous refinements. The refinements fall in three categories—using new data sources, incorporating racial and ethnic variations, and making technical improvements. The first category of refinements makes use of data that was not available when the CNSTAT panel conducted its work. Specifically, the methods were modified this year to include unmarried partners in the operationalized definition of the economic unit, and to use the NIS (instead of the IFS) as the source of national-level breastfeeding rates. (The IFS is still used for State-level breastfeeding rates.) At the time of the CNSTAT panel, the CPS data on unmarried partners was not as complete as it is now, and the NIS had just begun to ask about breastfeeding.

The second category of refinements allows estimates to be produced by race and ethnicity. Specifically, variations by race and ethnicity are taken into account in adjusting the infants' and children's estimates to compensate for the impacts of intrayear fluctuations in income and program participation, and in using breastfeeding rates in the construction of the postpartum eligibility estimates. Also, the process of reweighting the survey population to come closer to Census Bureau population estimates for infants and children now uses four racial/ethnic groupings instead of three.

The third set of refinements includes other updates to various methods, including correcting an outdated assumption previously used in estimating the eligibility of pregnant women, avoiding abrupt year-to-year changes in a key adjustment factor related to infants' and children's eligibility, and using the most recent population data in revising the 2005–13 estimates. A final technical improvement was to use a more comprehensive version of the CPS-ASEC data for the revised 2013 estimates than was used for the initial 2013 estimates.

The report is presented in five main sections. First, we describe the eligibility estimation methods, highlighting this year's methodological changes. Second, we show the results of applying the modified methods to obtain updated estimates of eligibility for 2005 through 2013.[9] Third, we present the 2014 eligibility results in detail—including national, regional, and State estimates; discussion of the characteristics of the WIC-eligible population; and comparison of the 2014 estimates to the revised

[6] These methods are described in Betson et al. (2011).
[7] See Johnson et al. (2014).
[8] See Johnson et al. (2016).
[9] See U.S. Department of Agriculture (2006) for national-level estimates of WIC eligibility for 1994 through 2003 that are also based on the CNSTAT methodology.

2013 estimates. The fourth section looks in-depth at the coverage rates implied by the eligibility estimates—for different population subgroups, at different levels of geography, and considering variations by race and ethnicity. The final section considers the reliability of the estimates.

Additional details are provided in appendices in Volume II of this report. Appendix A presents all of the national tables for 2014, including more details on interim steps than are presented in the main report. Appendix B provides more detailed results for the State estimates for 2014. Appendix C contains maps of 2014 WIC coverage rates—defined as the number of WIC participants divided by the estimated number of individuals eligible for the program. Appendix D provides more information on the changes in the WIC eligibility estimates over the period 2005 through 2013, due to the updated methods. Appendix E provides details regarding the procedures related to State variation in children's certification period. Appendix F gives details on the derivation of the new national-level estimates for 2005 through 2013. Appendix G compares the postpartum and total WIC eligibility estimates for 2014 that are shown in the body of the report (which use the NIS as the source for national-level breastfeeding rates) with an alternate set of estimates that use the IFS as the source for the national-level rates. Finally, Appendix H provides the data that underlie various figures.

ESTIMATION METHODS, INCLUDING THIS YEAR'S CHANGES

The basic eligibility criteria for WIC are relatively straightforward. An infant, young child, pregnant woman, or postpartum woman is eligible for WIC if the family's income is under 185 percent of the applicable poverty guideline or if the person is adjunctively income-eligible due to receipt of benefits from the Temporary Assistance for Needy Families program (TANF), the Supplemental Nutrition Assistance Program (SNAP), or Medicaid. However, the limitations of available survey data (such as the fact that the main government household surveys do not identify pregnancy) as well as some aspects of the program's policies (such as the use of six-month and twelve-month certifications and the fact that a postpartum woman's eligibility depends in part on whether she is breastfeeding) make it challenging to estimate average monthly WIC eligibility in a reliable way for all subgroups using a single data source. To address those challenges, multiple data sources and methods are used. We describe the methods in detail so that readers can understand the various assumptions and thereby make better use of the estimates.

The national, territorial, and State estimates of WIC eligibility are developed through separate but interrelated procedures. The national estimates use CPS-ASEC data for an initial estimate of WIC-eligible infants and children and a series of adjustment factors to create final average monthly eligibility estimates for infants, children, and pregnant and postpartum women. The State estimates are created by applying approximately the same procedures using ACS data, computing each State's share of the ACS-based estimate, and then applying those shares to the national estimates. Estimates for Puerto Rico use the PRCS, and estimates for the other territories incorporate decennial census data. The eligibility estimates are intended to represent average monthly figures—the numbers of people

eligible for WIC in the average month of a calendar year (CY)—so that they can be compared with program participation data which are also measured in average monthly terms.

For this year's work, numerous refinements were made, in three categories—using data not available at the time of the CNSTAT panel, incorporating racial and ethnic variations, and making technical improvements. The refinements related to new surveys or new survey data elements are as follows:

- National-level breastfeeding rates are now obtained from the CDC National Immunization Survey (NIS). (The NIS data on breastfeeding was very new at the time of the panel's work.)[10]
- Unmarried partners are now considered to be members of the economic unit when estimating the WIC eligibility of infants and children using survey data. (The CPS data provided only partial data on unmarried partners at the time of the panel's work.)

Three refinements focus on racial and ethnic variations, as follows:

- When adjusting the sampling weights of infants and children for consistency with Census Bureau population estimates, the number of racial and ethnic categories is expanded from three to four, to allow for separate adjustments for Hispanic infants and children.
- The adjustment factor that compensates for the limitations of annual survey data in estimating average monthly program eligibility (the "annual-to-monthly" factor) now incorporates differences for two race/ethnicity groups.
- The estimation of postpartum eligibility now takes into account variations in breastfeeding rates by race and ethnicity.

The technical improvements affecting the 2014 and prior estimates are below:

- The "annual-to-monthly" factor was updated to use the most recently available data from the Survey of Income and Program Participation (SIPP). Also, a method was imposed to avoid abrupt year-to-year changes in these factors across the period.
- The key adjustment factor used in estimating the average monthly number of WIC-eligible pregnant women was re-estimated in a way that is consistent with the program's current policy to count the fetus in the size of the economic unit.
- To estimate State-level breastfeeding rates, a three-year average of State-level breastfeeding rates from the Abbott Labs' IFS is now used, to reduce volatility.
- The method used to adjust for the gradual cessation of breastfeeding across the year was modified.
- Due to widespread implementation of 12-month certification for breastfeeding women, the 2014 estimates assume that no woman who is breastfeeding at midyear will lose eligibility due to recertification. Across the years 2005 through 2013, the percentage of breastfeeding women assumed to become ineligible at six-month recertification is reduced gradually.

[10] The NIS added breastfeeding questions starting in July 2001.

- For the revised 2013 estimates, we use a more comprehensive version of the CPS-ASEC data.
- For all of the revised estimates, we use the most recent Census Bureau population estimates.

All of these changes are discussed in more detail in this section, in the context of the overall methods. (Changes are highlighted with this symbol: ⇨.) We also mention a previously implemented change (related to 12-month certification for children) that we have applied to the revised historical estimates.

We first describe the national methods for each demographic subgroup, then the territorial estimates, and finally the methods for estimating State-level WIC eligibility.

National Estimates (without the Territories)

The national WIC eligibility estimates use the annual CPS-ASEC data for an initial count of eligible infants and children in the 50 States and the District of Columbia. Those figures are refined through a series of adjustment factors designed to more closely mimic WIC program procedures. The estimates of eligible infants are used to estimate WIC-eligible pregnant and postpartum women. For postpartum women, separate estimates are produced for breastfeeding and non-breastfeeding mothers since certification periods and benefits vary for these two groups.

Infants and Children, Initial and Adjusted Counts

The first step in estimating WIC eligibility in the United States, excluding the territories, is to count the total number of infants (younger than 1-year-old) and young children (ages 1 through 4 years old) in the CPS-ASEC.[11] The CPS-ASEC, conducted annually by the Census Bureau, is the same survey used for official poverty estimates. The CPS-ASEC asks respondents to report their income and program participation in the prior calendar year, so we use the CPS-ASEC data collected in spring 2015 to estimate WIC eligibility during CY 2014, the CPS-ASEC data collected in spring 2014 to estimate WIC eligibility for 2013, and so on.

(The steps in the infant and child eligibility estimates are summarized in table 1, which also provides the specific data sources for the 2014 eligibility estimates. For the revised estimates for 2005 through 2013, we used the same methods as shown in table 1, but of course each year's estimates use the data and adjustments applicable to that year.)

The CPS-ASEC is generally a very stable survey in terms of sample size, sampling, questions, and so on. However, the Census Bureau recently instituted a revised set of questions for asking about annual income.[12] A main goal of the modified questions is to collect more complete data for some specific types of income, in particular interest income and pension income. The questions were tested in the survey conducted in spring 2014 (capturing CY 2013 income data), with the new questions used for three-eighths of the surveyed households, and the traditional questions used for five-eighths. The

[11] The survey was formerly known as the March CPS supplement. Interviews are conducted from February through April. Technical documentation of the CPS-ASEC is available from the Census Bureau Web site.
[12] For more information about the redesigned income questions, see the Census Bureau Web site at https://www.census.gov/content/dam/Census/library/publications/2014/demo/p60-249description.pdf.

initial 2013 eligibility estimates (Johnson et al. 2016) used only the five-eighths sample, since those were the data used by the Census for the 2013 poverty estimates released in fall 2014. However, based on Census Bureau analysis showing that the two portions of the full 2013 sample were not equivalent (the five-eighths portion appeared to have fewer low-income families than the three-eighths portion),[13] a different decision was made for the revised 2013 estimates presented in this report.

- ⇨ Change in data source for 2013: For the revised 2013 estimates, we use all of the CY 2013 CPS-ASEC households—those asked the traditional questions and those asked the new questions. (The 2013 SNAP eligibility estimates developed for FNS also used the full sample.)[14]

The 2015 CPS-ASEC, used for the 2014 WIC eligibility estimates, fully incorporates the revised set of income questions. Although the Census Bureau analysis found that the new questions did not have a statistically significant impact on the poverty rate,[15] the new questions could have resulted in the 2014 WIC eligibility estimates being somewhat different than they would have been without the revisions to the CPS-ASEC questionnaire.

[13] See Mitchell and Renwick (2015).
[14] See Eslami (2015).
[15] See DeNavas-Walt and Proctor (2015).

Table 1: Steps and Sources for 2014 Estimates of WIC Eligibility of Infants and Young Children (Ages 1–4)

Step	Description	Sources for 2014 Updates to Estimates and Adjustment Factors
Demographic eligibility	Identify infants and children (ages 1–4) in the survey.	2015 CPS-ASEC - National Estimates 2014 ACS - State Estimates 2014 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 4 race/ethnic categories (white-only non-Hispanic., black-only non-Hispanic, other non-Hispanic, and Hispanic)	National Estimates: 2014 Vintage Postcensal population estimates from the Census Bureau and the March CPS-ASEC for 2012, 2013, 2014, and 2015 State and Puerto Rico Estimates: 2014 Vintage Postcensal population estimates from the Census Bureau for July 2014
Income eligibility	Count as eligible if prior year's annual family income is <= 185 percent of the applicable poverty guideline--"family" for income purposes is defined as the broadly defined family, with related subfamilies included in the primary. Poverty guidelines are the blended poverty guidelines for the calendar year for which estimates are produced.	2015 CPS-ASEC - National Estimates 2014 ACS - State Estimates 2014 PRCS - Puerto Rico Estimates 2010 Census - Other Island Territories Estimates Blended FY 2013 and FY 2014 poverty guidelines
Adjunctive eligibility	Add in as eligible those infants/children whose household reports SNAP, family reports TANF, or who are themselves reported as being enrolled in Medicaid at any point during the prior calendar year. For TANF receipt, "family" on the CPS is defined as the narrowly defined family and also includes any related children whose parents are not present in the household. On the ACS and PRCS the definition is the narrowly defined family with subfamilies separate.	2015 CPS-ASEC 2014 ACS 2014 PRCS
Adjust for fluctuations in monthly income and certification periods	Adjust the income and adjunctive eligibility estimates to account for the impact of monthly fluctuations in income and program participation, and for the impact of 6 and 12 month certification periods. For infants, multiply the estimates by a factor of 1.20 for white-only non-Hispanic infants and 1.07 for all other infants. For children, multiply the estimates by a factor of 1.07 for white-only non-Hispanic infants and 1.02 for all other children. The factor for children takes into account that some states have a 6 month certification period while others have adopted the optional 12 month period.	Average of factors for 2010, 2011, and 2012, as computed from the 2008 SIPP panel.
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.
Territories	Eligibility in Puerto Rico is based on the PRCS and is estimated with the same methods as those used for the State estimates. Eligibility in the Other Island Territories is based on a proportion of the estimated population of infants and children.	PRCS 2014 - Puerto Rico Census Bureau International Data Base - Other Island Territories

The preliminary counts of infants and children from the CPS-ASEC data are adjusted to compensate for differences between weighted counts of infants and children in the CPS-ASEC data and the Census Bureau population estimates. The two sets of figures may differ because the Census Bureau's weighting procedures are not designed to meet population targets by exact year of age, and also because the Census Bureau's population estimates may change after the point that CPS-ASEC data are weighted. Thus, adjustment factors are computed to inflate or deflate the CPS-ASEC counts for a particular subgroup of infants or children to better reflect the Census Bureau estimate for that subgroup. The factors vary by three characteristics: age (separate factors are computed for each exact age, from birth through age 4), race and ethnicity (four groups: non-Hispanic white, non-Hispanic black, Hispanic, and other), and gender (two groups: female and male).

- ⇨ Change in methods for 2005–14: Separate weight adjustment for Hispanic infants and children. The use of four racial/ethnic categories represents a change from earlier methods. In earlier work, three categories were used for the infant and child weight adjustments at the national level: white, black, and other.

The adjustment factors are computed by comparing four years of Census Bureau population estimates and four years of CPS-ASEC weighted counts for each subgroup. A four-year period is used in order to minimize large year-to-year swings in the factors. For the CY 2014 WIC eligibility estimates, the population adjustment factors are computed using Census Bureau population estimates for 2012, 2013, 2014, and 2015 (from the most recent series of postcensal estimates), and CPS-ASEC data collected in those same four years.[16] Similarly, the population adjustment factors for each year 2005 through 2013 were calculated using the Census Bureau population estimates and CPS-ASEC weighted counts for the year in which the CPS-ASEC was administered and the three previous years. We used the most recent Census Bureau population data available for each year.

- ⇨ Change in Census Bureau population data for 2005–14: The Census Bureau population estimates used were the "intercensal" estimates for years 2005 through 2010 (created by the Census Bureau after the availability of the 2010 decennial census information) and the vintage 2014 "postcensal" estimates for years 2011 through 2014. The population adjustment factors for the revised estimates therefore differ from factors used previously not only due to the addition of a separate category for Hispanic infants and children, but also due to the use of updated Census Bureau population estimates. Of course, the population estimates used here would not have been available at the time that WIC eligibility was first estimated for all of these years; however, the use of the updated population estimates creates a smoother and more internally consistent series. In some cases, there was a substantial difference between the Census Bureau population estimates that were available at the time of the original WIC eligibility estimates for the earlier years and the currently-available intercensal estimates. For example, at the time that the 2009 WIC eligibility estimates were generated, the Census Bureau estimated the 2009 population of those less than 5 years old at about 21.3 million; but that estimate has fallen by almost 5 percent, to about 20.2 million, in the intercensal estimates.

[16] See Johnson et al. (2014) for more details on the weight adjustment procedures, including a refinement that was added as part of the 2011 update and retained for subsequent updates.

For purposes of defining racial subgroups for the population adjustment factors, the "white" and "black" groups include only infants and children for whom a single race was reported. Infants and children for whom more than one race was reported and those who are reported to be a race other than white or black are combined into the single group "other." This follows current federal guidelines by not tabulating individuals who report more than one race as being of only a single specific race.[17]

When these methods are applied for 2014, the adjustments range from a 7.8 percent reduction in weights (for non-Hispanic 3-year-old boys who are of a race other than white or black) to a 7.4 percent increase (for non-Hispanic black male infants).[18] (See table 2 for all of the factors.) Among the 40 subgroups, there are 12—including white boys ages 1 through 4, black girls under the age of 2, and some others—for whom no weight adjustment was performed (i.e. a factor of "1" was used). In general, the factors make the most difference for infants and children who are non-Hispanic and who are neither white-only nor black-only; across the 10 factors for infants and children who are non-Hispanic and neither white-only nor black-only, the average factor is 0.992, compared with averages of 1.002 for white-only non-Hispanic infants and children, 1.001 for black-only non-Hispanic infants and children, and 0.998 for Hispanic infants and children.

[17] See Office of Management and Budget (1997).
[18] See Ver Ploeg and Betson (2003) for a discussion of the CPS undercount of infants.

Table 2: Population Adjustment Factors Used for 2014 WIC Eligibility Estimates

Weight Adjustment Factors: Females

	White (NH)	Black (NH)	Other (NH)	Hispanic
Infants	1.006	1.000	1.042	1.000
Children (age 1)	1.002	1.000	0.945	0.986
Children (age 2)	1.003	1.000	1.000	1.005
Children (age 3)	1.006	0.973	0.957	0.985
Children (age 4)	1.006	1.004	1.000	1.013

Weight Adjustment Factors: Males

	White (NH)	Black (NH)	Other (NH)	Hispanic
Infants	1.002	1.074	1.049	1.000
Children (age 1)	1.000	0.930	1.000	0.981
Children (age 2)	1.000	1.037	1.018	1.005
Children (age 3)	1.000	1.019	0.922	1.000
Children (age 4)	1.000	0.970	0.981	1.001

Source: Authors' calculations using Census Bureau population estimates and CPS-ASEC data.
Notes: NH=Non-Hispanic. Factors are set to 1 unless both four-year accumulations and 2014 population figures show the same direction of difference between Census and CPS-ASEC data.

Infants and Children, Eligibility Estimates and Further Adjustments

After the adjustments to the CPS-ASEC weights, the next step is to tabulate the number of infants and young children living in families with cash income in the prior calendar year that is less than 185 percent of the applicable federal poverty guideline (the threshold for income eligibility). The WIC program specifies that the people living as one economic unit are treated as the family for eligibility determination, but the program does not explicitly operationalize the economic unit in terms of family relationships. Of course, the survey data do not indicate exactly how household members share resources, so assumptions must be made about which people would constitute the true economic unit in order to estimate eligibility. We first identify all persons living in the household who are related by birth, marriage, or adoption (the definition used for official poverty measurement). However, we then add in any individual who is identified by the Census Bureau as being the "unmarried partner" of any family member, plus any other dependents of that person. For example, if a surveyed household includes a woman who is living with her children, her boyfriend, and the boyfriend's child from a prior relationship, all of those individuals are considered as one economic unit for purposes of the WIC eligibility estimates in this report.

- Change in methods for 2006–14:[19] Inclusion of unmarried partners in the operationalized definition of the family unit. The inclusion of unmarried partners and their dependents in the family unit represents a change from prior assumptions. In all previous WIC eligibility estimates based on the CNSTAT methods, unmarried partners and their dependents have been

[19] Since the CPS did not fully identify unmarried partners until the data for CY 2006, this modification was not applied when we re-estimated WIC eligibility for 2005.

considered separate economic units. Even in a situation when two unmarried partners have a child in common, the current Census Bureau method for defining family composition places the child in a family with one parent, while the other parent is considered an "unrelated individual" and not included in that family; thus, under the prior WIC eligibility estimation methods, the second parent was not included in the economic unit. (When the CNSTAT panel conducted its work, the CPS-ASEC identified a "partner/roommate" of the household head, but did not fully identify all unmarried partners in the household.)

A decision was reached under this project to change the past practice and begin to include unmarried partners and their dependents in the operationalized definition of the family unit, regardless of whether or not the unmarried partner is also the second parent of one or more of the children in the family. For those cases in the survey data with an unmarried partner, the size of the economic unit is increased, and the income limits for WIC eligibility are raised, but the family's income may also be increased (if the unmarried partner has income). This change could therefore lead to some people in the survey data being estimated as eligible who would otherwise have been estimated as ineligible, while leading to other people in the survey data being estimated as ineligible who would otherwise have been estimated to be eligible. In our analysis, the second effect predominates, and counting the unmarried partners in the operationalized definition of the economic unit generally lowers the number of infants and children estimated to be eligible for WIC.

Note that there has been no change in actual WIC policy regarding the definition of the economic unit. The purpose of this change in estimation methods is to bring the operationalized definition of the economic unit for purposes of these estimates closer in line with program operations.

The poverty guidelines used in this step take into account the fact that the WIC program begins using a new set of guidelines at the start of July of each year. Therefore, to estimate 2014 WIC eligibility, we take the simple average of the poverty guidelines released in 2013 (which would have been used by WIC programs for the first half of CY 2014), and the guidelines released in 2014 (which would have been used by WIC programs in the second half of CY 2014). For each infant and young child in the survey, the family's 2014 income is compared to 185 percent of the average 2013–14 poverty guideline for the family's size. If the income is less than 185 percent of that poverty figure, the infant or child is counted as apparently eligible for WIC based on income.

Individuals also are considered eligible for WIC through adjunctive eligibility. An individual is adjunctively income-eligible for WIC if the person receives benefits from TANF, SNAP, or Medicaid; if the person's family receives benefits from TANF; or if the person's family includes a pregnant woman

or infant who is enrolled in Medicaid.[20,21,22] Thus, the next step is to count the infants and children who appear adjunctively eligible according to the CPS-ASEC data, which asks about enrollment in each of these programs during the prior year. Adjunctive eligibility may be somewhat underestimated due to the underreporting of benefit receipt in survey data.[23] That is, if there are infants or children in the survey with family incomes over 185 percent of poverty who actually received a benefit conferring adjunctive eligibility, but whose parents did not report that benefit, the methods will not identify those infants and children as eligible. Also, to the extent that infant eligibility is misestimated (for this reason or any other reasons), women's eligibility would also be misestimated.

Two proportional adjustments are made to these initial eligibility estimates (table 1). The first adjustment—the "annual-to-monthly" adjustment—accounts for three reasons why annual data on income and program participation can misestimate average monthly eligibility. First, family incomes may fluctuate during the year. Even if annual income appears above the income limit (so a child is not counted as eligible based on the CPS-ASEC data), the child could be eligible if the family applied in certain months of low income. Conversely, even if annual income is below the income limit, the child might have been eligible in only part of the year (for example, after a large drop in family income). A second reason that annual data misestimates average monthly eligibility is that participation in Medicaid, SNAP, and TANF may vary during a year. The initial counts consider an infant or child adjunctively eligible if program benefits are received at any point during the year; however, if the family only started receiving benefits at some point during the year, the infant or child would not have been adjunctively eligible at the start of the year. Third, annual data misestimates average monthly eligibility due to the WIC program's certification periods. Eligible infants are certified for a year, while eligible children are certified for either 6 or 12 months as decided by each State.[24] An infant or child who appears ineligible because annual income is above 185 percent of poverty and there is no apparent adjunctive eligibility may in fact have been eligible at the start of the year due to having been

[20] Participation in one of these programs is taken as proof that a person is income-eligible for WIC. Under an additional policy known as "automatic income eligibility", State and local agencies may accept an applicant's documented participation in certain other means-tested programs as evidence of being income-eligible for WIC, if the other program routinely requires income documentation and has income guidelines at or below those of WIC. We assume that any individuals found eligible through automatic income eligibility in their State/locality would be identified as income-eligible by the methods used for these estimates.

[21] 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.

[22] Note that implementation of the adjunctive eligibility rules in the eligibility estimation is restricted by the available data in the CPS-ASEC. These data do not indicate whether each person receives SNAP, only if the household receives SNAP and the total number of SNAP recipients. However, in the absence of more information, we treat all infants and children in SNAP-recipient households as if they are themselves in the SNAP assistance unit. See table 1 for additional information on how adjunctive eligibility is operationalized using the CPS-ASEC.

[23] 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.

[24] The option to extend the certification period to 12 months for children was enacted as part of the Healthy, Hunger-Free Kids Act of 2010, Public Law 111-296, passed in December 2010. Prior to this law, children could be certified for only six months.

certified in the prior year; conversely, a child who appears eligible based on annual income may have only been eligible part-year, if family income rose by the point they returned for recertification.

The annual-to-monthly adjustment factor is computed using data from the SIPP;[25] the SIPP, unlike the CPS-ASEC, allows month-by-month observation of family circumstances. Since in some States children have shorter certification periods than infants, the factor is computed separately for infants and children.

In general, the annual-to-monthly factors are computed by comparing two types of SIPP-based eligibility estimates. The first type of estimate uses the full monthly detail from the SIPP and models certification periods—12 months for infants and assuming 6 months for children—by determining eligibility month-by-month starting 11 months prior to the calendar year of interest. The second type of estimate mimics what can be computed with the CPS-ASEC's annual income and program participation data, and also uses infant and child ages as of the March following the estimation year.[26] The adjustment factor is computed as the ratio of the first estimate to the second. For example, for a particular subgroup and year, if the detailed average monthly estimate incorporating certification periods was 5 percent higher than the estimate using annualized data and no certification period modeling, the adjustment factor would be 1.05. In general, higher factors are computed for infants than for children. Due to 12-month certification for infants in all States, infants have a greater chance than children of being eligible in the current year due to a certification period that began in the prior year, even if they appear neither income-eligible nor adjunctively eligible based on annual data.

In earlier work, annual-to-monthly factors were computed for infants and children for various years of SIPP data from 1997 through 2010.[27] The prior 2013 WIC eligibility estimates used an average of the three most recent years of estimates available at the time—2005, 2006, and 2010. Under this project, we estimated new factors from 2011 and 2012 SIPP data, assessed variations by race/ethnicity, and updated the estimate of the impact of longer certification periods for children.

For infants, the overall annual-to-monthly factor estimated from 2012 SIPP data was similar to estimates for 2005, 2006, and 2010, while the 2011 factor was lower (table 3). For children, the 2012 factor (at 1.0) was identical to the 2005, 2006, and 2010 factors, and the 2011 factor was slightly higher. (Differences by race and ethnicity are discussed below.) The factors used for the 2014 WIC eligibility estimates were an average of the prior 2010 factors and the new 2011 and 2012 factors; this was done after developing a standard approach for determining the annual-to-monthly factors for each year's estimates, which was also applied when re-estimating the 2005 to 2013 eligibility figures.

[25] More information on the SIPP can be found at the Census Bureau Web site.
[26] The details of these procedures are summarized in Betson et al. (2011).
[27] Factors cannot be computed for every year due to the timing of SIPP panels, and because the estimation requires data from February of the year prior to the estimation year through March of the year following the estimation year.

Table 3: Individual-Year Estimates for Annual-to-Monthly Factors, Before Adjustments by Race/Ethnicity or for Implementation of 12-Month Certification for Children

	Previous Estimates				New Estimates	
	2005	2006	2010	2005–10 avg.	2011	2012
Infants	1.12	1.19	1.17	1.16	1.07	1.18
Children (6-mo. certification periods)	1.00	1.00	1.00	1.00	1.03	1.00

Source: Computations performed by project staff under this project and prior WIC eligibility estimation projects.

Thus, in addition to the update to the overall factors, there were three methods changes related to the annual-to-monthly factors: the standardized approach for averaging factors, incorporating racial/ethnic difference, and updating how we capture the impact of 12-month certification.

⇨ Change in methods for 2005–14: Standardized approach to averaging annual-to-monthly estimates across years. In prior years of WIC eligibility estimation, various approaches have been taken to averaging the annual-to-monthly factors across multiple years of SIPP data. For example, the 2006 estimates (prepared for FNS by Mathematica Policy Research) used a single year's factors. In contrast, the 2007 and 2008 estimates used an average across five years of annual-to-monthly estimates. Typically, three years of estimates have been averaged. This lack of consistency, combined with the irregular availability of new SIPP data, has led to some abrupt changes in the annual-to-monthly factors from year to year.

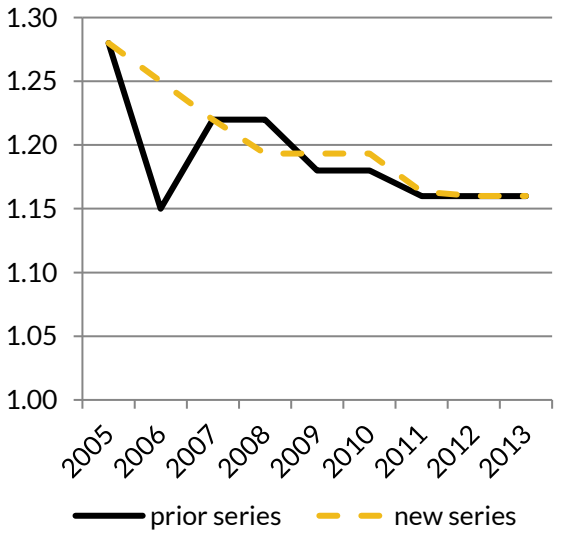
In the new approach, the three most recent years of available estimates will always be averaged. Thus, for the 2014 WIC eligibility estimates, we average the annual-to-monthly factors from the 2010, 2011, and 2012 SIPP data, obtaining overall factors of 1.14 for infants and 1.01 for children (assuming 6-month certification; 12-month certification is discussed below). Next, we limit the change from the prior year's factors to a maximum absolute change of 0.03 for infants and 0.02 for children. These limits were established by applying the new methods to develop factors for 2005 through 2014, and observing the limitation that smoothed the overall series while maintaining as much consistency as possible with the prior factors.[28]

For 2014, these methods produce factors of 1.14 for infants and 1.01 for children; these are the same as the simple averages of the 2010, 2011, and 2012 factors, since the differences from the 2013 factors (1.16 and 1.00) did not exceed the allowable limits. However, across the years 2005 through 2013, the new approach creates a smoother series, while still capturing variation (figures 1a and 1b).

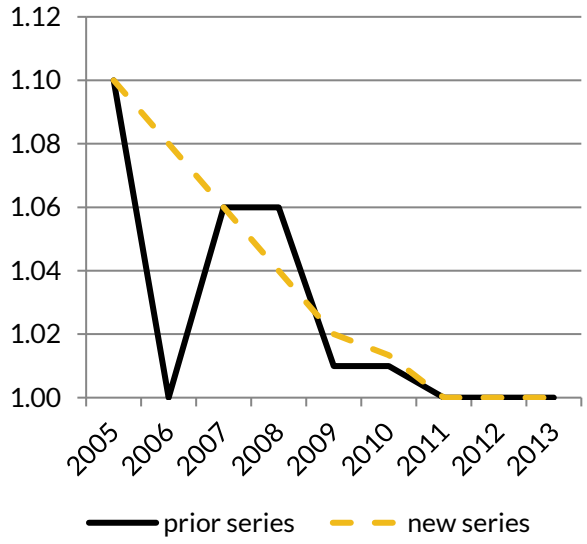
[28] Specifically, we chose limits that, when the new methods were applied starting with 2005, produced the same factors for 2007 as were used for the 2007 estimates.

Figure 1a: Revised Annual-to-Monthly Factor for Infants, 2005 to 2013 (Top) and Figure 1b: Revised Annual-to-Monthly Factor for Children, 2005 to 2013 (Assuming Six-Month Certification) (Bottom)

Factors for Infants



Factors for Children



⇨ Change in methods for 2005–14: Separate annual-to-monthly factors by race/ethnicity. Analysis of the 2008 panel of SIPP showed that in general, the annual-to-monthly factors are larger for infants and children who are white-only and non-Hispanic than for infants and children who are either non-white or Hispanic. When factors by race/ethnicity are averaged over the years 2010, 2011, and 2012, the average factor for white-only non-Hispanic infants is 6 percent higher than the overall factor, while the average factor for non-white or Hispanic infants is 6 percent lower than the overall infant factor. For children (assuming six-month

certification), the average for white-only non-Hispanic children is 2 percent higher than the overall average, and the average factor for non-white or Hispanic children is 1 percent lower than the overall average. (The data did not support computing these estimates for more than two racial/ethnic groups.) These findings suggest that white non-Hispanic families are either more likely to be "missed" when assessing WIC eligibility with annual data (perhaps because they are more likely to be eligible for only part of the year) and/or they are less likely to be incorrectly assessed as eligible from the annual data when they were in fact eligible only part of the year (due to differing patterns of income and program participation).

To improve WIC eligibility estimates by race and ethnicity, those variations were incorporated into the estimates for 2014 and for the revised 2005–13 estimates. Thus, for the 2014 eligibility estimates, instead of using the overall factor of 1.14 for infants, we used 1.20 for white-only non-Hispanic infants (6 percent higher) and 1.07 for non-white or Hispanic infants (6 percent lower). For children (assuming six-month certification) we used 1.03 for white-only non-Hispanics (2 percent higher than the overall factor of 1.01) and 1.00 for non-white or Hispanic children (1 percent lower than the overall average). For the 2005 through 2013 re-estimation, we use the same relative differences between racial/ethnic groups as described for 2014.

We also determined that the effect of 12-month compared to 6-month certification varies by race/ethnicity. On average across the 2010, 2011, and 2012 SIPP-based estimates, the annual-to-monthly factor for white non-Hispanic children is increased by 6 percent when there is 12-month certification, compared with 3 percent for non-white or Hispanic children.

The final step in developing the annual-to-monthly factors is to adjust the children's factors for the degree to which States have implemented 12-month certification. Previous analysis (reported in appendix E of the 2011 report) showed that if all States were assumed to use 12-month certification (and to have adopted it early enough to affect eligibility in all 12 months of the estimation year), the annual-to-monthly factor would be 4 percent higher than with the assumption of 6-month certification.

To reflect the impact of 12-month certification, the approach used starting with the original 2013 estimates was to create a type of weighted average children's factor. To compute the national-average factors for the 2014 estimates, we followed the same procedure as used for the original 2013 estimates, with the exception that separate factors were computed for the two race/ethnicity groups. For each race/ethnicity group within each State, a State-specific factor is assigned based on whether and when 12-month certification has been adopted. The 18 States that have not adopted the policy (or that adopted it too late for it to affect 2014 eligibility) are assigned the factors for 6-month certification, the 23 States that adopted the policy early enough for it to fully affect the entire year are assigned the factors for 12-month certification, and the remaining 9 States (and the District of Columbia) are assigned intermediate factors depending upon how many months in 2014 were affected by the longer certification period. To generate a national-level factor for each race/ethnicity group, the factors of all States were averaged, with each factor being weighted by the State's share of eligible children in that race/ethnicity category (e.g., the factor of a State that had twice as many eligible children as another State would be weighted twice as much). The final result for 2014 was a national-level factor of 1.07 for white-only non-Hispanic children and 1.02 for non-white or Hispanic children.

- ⇨ Change in methods for 2011–12: Modify annual-to-monthly factor for children to reflect partial implementation of 12-month certification. Few States implemented 12-month certification for children early enough for it to have a noticeable impact on WIC eligibility in 2011 or 2012. However, for consistency, we applied the same procedure described above to create "weighted average" annual-to-monthly factors for children for 2011 and 2012. In both years, the six-month factor was estimated at 1.02 for white-only non-Hispanic children and 0.99 for non-white or Hispanic children. For 2011, the national-average factors were unchanged from the 6-month factors, due to the very limited implementation of 12-month certification. For 2012, there was somewhat more impact from 12-month certification; the national average factor remains at the 6-month figure for white-only non-Hispanic children but rises to 1.00 for non-white or Hispanic children.

The second of the two proportional adjustments—and the final step in estimating WIC eligibility for infants and children in the 50 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.) Women, infants, and children who are not determined to be at nutritional risk are not eligible for WIC, regardless of their income. A constant set of nutritional risk adjustment factors, calculated in the original CNSTAT panel report, has been used in all recent WIC eligibles estimates. Using data from the 1994–98 Continuing Survey of Food Intake by Individuals, 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 Continuing Survey of Food Intake by Individuals 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.

Pregnant Women

Estimates of the number of WIC-eligible pregnant women are based upon adjusted counts of WIC-eligible infants rather than separate counts from the CPS-ASEC data. (The CPS-ASEC does not identify pregnancy.) The proportional adjustments made to the infant estimates to arrive at the final estimates for women are summarized in table 4.

The first adjustment to the count of WIC-eligible infants reflects the fact that the number of pregnant women can differ from the number of infants, for two reasons. The number of pregnant women can be lower than the number of infants seen in the CPS-ASEC survey data due to multiple births. However, the number of pregnant 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 and was very similar when estimated at two different points. A factor of 0.9966 was used from 2000 through 2003, and 0.9961 has been used from 2004 through 2014.

The eligibility estimates for pregnant women must also take into account that some mothers of WIC-eligible infants were not themselves eligible during pregnancy. (It is also possible, but less likely, that a woman could be WIC-eligible during pregnancy but not WIC-eligible after the birth.) For all WIC eligibility estimates from 1994 through 2013, the adjustment factor used to account for the possible

differences between an infant's eligibility and his or her mother's pregnancy eligibility was based on an analysis of the 1990 through 1996 panels of SIPP conducted for the CNSTAT panel. For this project, we re-estimated this factor using newer panels of SIPP data, and we improved the estimation procedure.

Table 4: Steps and Sources for 2014 Estimates of WIC Eligibility of Pregnant and Postpartum Women

Step	Description	Sources for 2014 Updates to Estimates and Adjustment Factors
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.
For pregnant women: Adjust for length of pregnancy and difference in income during pregnancy vs. after birth	Multiply by 0.675 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 0.9).	The 2001, 2004, and 2008 panels of SIPP data.
For postpartum mothers: Separately estimate the average monthly number who are eligible as breastfeeding mothers and the number eligible as postpartum non-breastfeeding mothers	Multiply by one set of year-specific factors to estimate the average monthly women eligible for WIC as breastfeeding mothers (0<12 months postpartum). Multiply the estimate by another set of factors to estimate the average monthly women eligible for WIC as non-breastfeeding women <6 months postpartum. Each set has 4 factors -- one for each of 4 racial/ethnic categories (white-only non-hispanic., black-only non-hispanic, other non-hispanic, and hispanic). The set of factors for breastfeeding mothers is (0.416, 0.317, 0.358, 0.468), and the set for non-breastfeeding mothers is (0.247, 0.294, 0.277, 0.218). Territorial estimates assume the national breastfeeding rates, but factors do not vary by race/ethnic category. For breast-feeding mothers the factor is 0.409, and for non-breastfeeding mothers the factor is 0.249.	NIS breastfeeding rates computed by the CDC for the 2012 birth cohort.
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.

Sources: The 2015 CPS-ASEC, 2014 ACS, 2014 PRCS, and Census Bureau International Data Base

- ⇨ Change in methods for 2005–14: Updated pregnancy adjustment factor. The new analysis showed that the prior estimate was too low for current use. In the estimates conducted for the CNSTAT panel, eligibility during pregnancy was assessed without counting the fetus in the family size—a practice that was instituted by FNS starting in 1994.[29] Counting the fetus means that the eligibility limit is higher, and, all else equal, women are more likely to be eligible. The prior analysis estimated that women whose infants were eligible for WIC were eligible for 71 percent of the maximum nine months of pregnancy eligibility.[30] However, our new analysis, using the 2001, 2004, and 2008 panels of SIPP, derives an average factor of 90 percent; there was some variation across time, but most of the difference from the prior 71 percent figure appeared due to whether or not the fetus was counted in the pregnant woman's family size. We use the new factor of 0.90 for the 2014 estimates and the revised estimates for 2005 through 2013. A factor of 0.75 is also applied, to adjust for the fact that women are pregnant for nine months (three-quarters of the year).

After these adjustments, the number of pregnant women is reduced by an additional 3 percent (the adjustment factor is equal to 0.97) 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.)

Postpartum Women

Like the estimates for pregnant women, the WIC eligibility estimates for postpartum women are based on adjusted counts of WIC-eligible infants rather than separate counts from the CPS-ASEC data. This ensures internal consistency across the estimates despite the fact that women and their babies can have different weight in the CPS. Also, breastfeeding status is key to estimating WIC eligibility for postpartum women, and the CPS-ASEC does not identify breastfeeding status.

To estimate the average monthly number of WIC-eligible postpartum women, the first adjustment is the same as the adjustment made in estimating WIC-eligible pregnant women. To reflect the fact that the number of postpartum women can differ from the number of infants, the factor of 0.9961 that was discussed above is applied to the estimated average monthly number of WIC-eligible infants (table 4).

Additional adjustments are then needed to take into account the extent of breastfeeding among WIC-eligible mothers and the duration of breastfeeding. A new mother can receive benefits for 6 months if she is not breastfeeding, but she is potentially eligible for 12 months if she is breastfeeding. Thus, adjustments are applied to the count of mothers whose infants are WIC-eligible to separately estimate eligibility for postpartum women certified as breastfeeding vs. non-breastfeeding. For this project, we modified a key data source, moved to using breastfeeding rates by race/ethnicity, and made other changes to the estimation procedures for postpartum mothers. (Note, however, that a set of postpartum estimates for 2014 using the prior methods is presented in Volume II, appendix G.)

[29] In WIC program operations, if a woman is pregnant with more than one child, the family size includes each one. For example, a woman living alone but pregnant with twins would have a family size of three.
[30] See Yelowitz (2002).

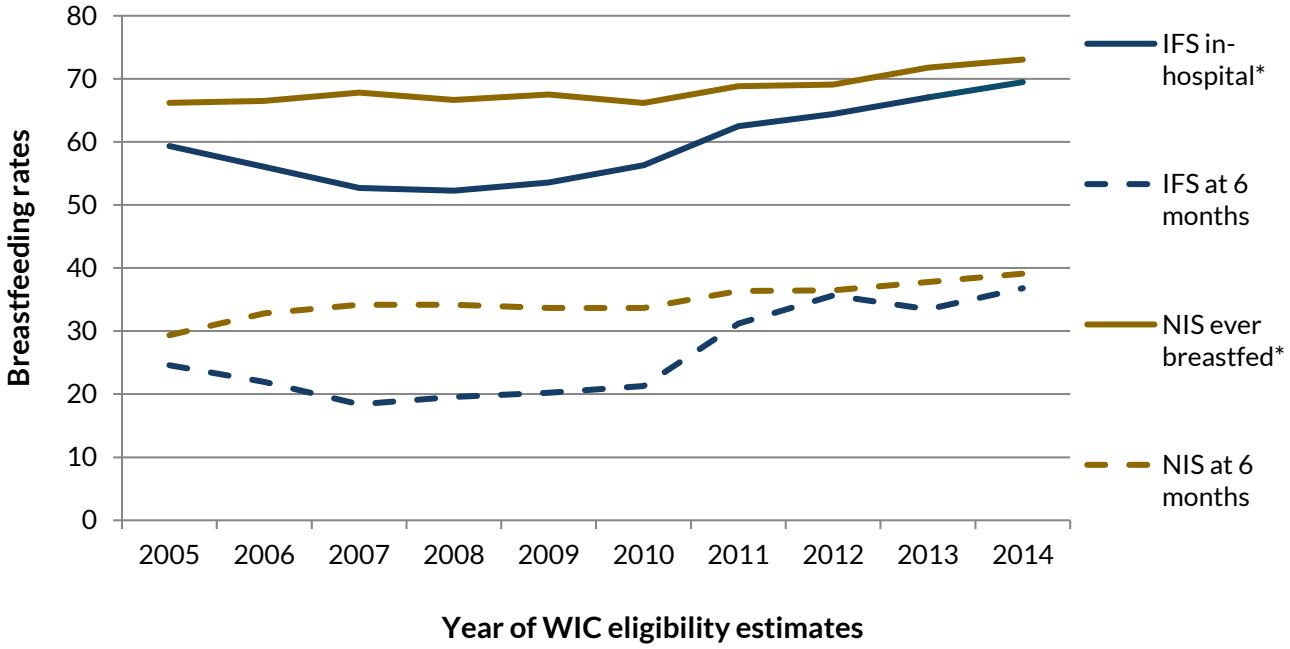
⇨ Change for 2005 through 2014: New source for national-level breastfeeding rates. Previously, the estimation of national-level WIC eligibility used data on breastfeeding from the Abbott Laboratories' IFS. Now, we have moved to using the NIS, a survey conducted by the CDC. The NIS is well documented, and the breastfeeding rates produced by the survey have moved smoothly over time. (Over some periods, the IFS showed large swings in breastfeeding rates that seemed inconsistent with other sources.) Also, the CDC supported this analysis by tabulating the needed breastfeeding rates. One of the many advantages of using the NIS is that it allows direct estimates of breastfeeding rates for WIC-eligible mothers, while the IFS only provides estimates for WIC-participating mothers, which must be adjusted to come closer to the likely rates for WIC-eligible mothers. [31] (Note, however, that we continue to use the IFS for State-level data, as discussed in the section on the methods for the State estimates.)

Specifically, CDC provided data for the percentage of infants ever breastfed,[32] the percentage breastfed at 6 months, and the percentage breastfed at 12 months, for 10 different birth cohorts. Because the NIS asks about breastfeeding retrospectively, the most recent information at the time of this work was for children born in 2012 (derived from the 2013 and 2014 NIS surveys). Thus, the use of the NIS for the national-level breastfeeding rates does mean that a particular year's WIC eligibility estimates are using the breastfeeding data for children born two years prior to that year, with the implication that changes in the breastfeeding rate will be incorporated into the estimates with a two-year lag. (It would be necessary to delay the production of each year's WIC eligibility estimates by two years in order for the NIS-based breastfeeding rates for a particular cohort of infants to be available for that year's WIC eligibility estimates.)

Figure 2 compares national-level breastfeeding rates from the IFS and NIS surveys. The IFS estimates were derived by taking that survey's figures for WIC-participating mothers, 2005 through 2014, and adjusting them by our current adjustment factors to account for the difference between the WIC-eligible and WIC-participating populations. The NIS figures are specific to WIC-eligible mothers, so required no further adjustment. For 2014, the graph shows the rates for the 2012 birth cohort (since those were the most recent available), and each preceding year in the graph shows the NIS breastfeeding rates for the preceding birth cohort; thus, the NIS data shown for years 2005 through 2014 in the graph are for the 2003 through 2012 birth cohorts. Despite the time lag, the NIS breastfeeding rates that are available for each year's estimates are uniformly larger than the previously used IFS breastfeeding rates, implying that holding all other factors constant, we would expect the new methodology to produce estimates of WIC-eligible breastfeeding mothers that are larger than those produced using the IFS estimates. While the difference between the two sets of breastfeeding rates has recently narrowed, the difference was substantial in the period from 2006 through 2010.

[31] An adjustment was developed from the National Health and Nutrition Examination Survey. It was initially developed when the methods were first implemented and was re-estimated once, with the newer figures applied starting with the 2007 estimates.
[32] We assume that the percentage of infants breastfed in the hospital is the same as the NIS "ever breastfed" figure, although there could be a slight difference between the two concepts.

Figure 2: Estimated Breastfeeding Rates (Ever Breastfed and Breastfed at Six Months)



Sources: IFS rates are from the Abbott Labs' Infant Feeding Survey, for years 2005 through 2014.
NIS rates are from the CDC's National Immunization Survey, for birth cohorts 2003 through 2012.
*We treat the IFS "in hospital" rates and the NIS "ever breastfed" rates as equivalent concepts, although the two could differ somewhat.

- Changes for 2005 through 2014: Breastfeeding rates by race and ethnicity. Because breastfeeding rates vary by race and ethnicity, and because FNS is interested in increased detail regarding eligibility by race and ethnicity, our updated methods use different postpartum adjustment factors for four racial/ethnic subgroups: white-only non-Hispanic, black-only non-Hispanic, Hispanic, and non-Hispanic women who are neither white-only nor black-only.

- Changes for 2005 through 2014: Adjustments for breastfeeding cessation. Although published breastfeeding data may apply to specific points in an infant's life (e.g., the percentage breastfed at six months), that type of information is insufficient for WIC eligibility estimation; what is needed is an estimate of average breastfeeding rates in the first and second halves of the postpartum year. Another complication is that when breastfeeding mothers are required to recertify at the six-month point, they may no longer be income-eligible or adjunctively eligible. For prior estimates, both of those complications were addressed using an adjustment factor constructed using SIPP data.[33]

[33] The "SIPP adjustment" was estimated when the methods were first implemented and then re-estimated prior to the preparation of the 2007 estimates. It was constructed by imputing breastfeeding spells to mothers in the SIPP sample and then computing eligibility two times—once using the month-by-month detail and a second time using only the in-

The previous methodology for obtaining average breastfeeding rates in each half of the year assumed that the average breastfeeding rate was always a constant percentage of the breastfeeding rate at the *beginning* of the six-month period. However, this assumption is problematic when mothers change how long they breastfeed their children.[34]

To address this potential problem and others in the previous methodology, the new approach initially assumes that mothers stop breastfeeding at a constant rate consistent with the estimated breastfeeding rates at the beginning *and end* of each six-month period. While this assumption seems to hold when considering all mothers as a group, WIC mothers appear to be more likely to stop breastfeeding in the first month after leaving the hospital. To account for earlier cessation, the initial estimate of the average breastfeeding rate among WIC-eligible mothers in the first six months is reduced by 13 percent.[35]

- ⇨ Changes for 2005 through 2014: Adjustment for loss of eligibility at recertification. Since the prior "SIPP factor" is no longer being used, a separate factor is needed to account for the fact that a postpartum woman who is breastfeeding and receiving WIC may have to be recertified at the six-month point, and may lose eligibility. Since the factor needs to be applied to an estimate of average monthly infant eligibility (across the entire year), we used SIPP data to compute the eligibility rate for postpartum women in months 7 through 12 as a percentage of the eligibility rate for infants in months 1 through 12. For the 2005 eligibility estimates, we use the value of this factor that we computed from 2004 SIPP data: 0.94. For the 2014 estimates, we use a value of 1.0, which recognizes that most States appear to have implemented 12-month certification for postpartum breastfeeding women.[36] For the intervening years, we interpolate between 0.94 and 1.0.

While the adoption of the NIS breastfeeding rate estimates is an important component that will affect WIC eligibility for postpartum mothers, the change in how the average breastfeeding rate is computed in each six-month period is equally important. Figure 3 depicts the computed average breastfeeding rates for WIC-eligible mothers using both the IFS breastfeeding rates and the previous method adjustment factor (so-called SIPP adjustment factor) in both six-month periods (blue lines) as well as the average breastfeeding rates based upon the NIS breastfeeding rates and the new methodology to estimate the average breastfeeding rate (gold lines). In both the first and second six-month periods, the average breastfeeding rate using the NIS breastfeeding rates and new

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hospital and six-month breastfeeding rates and assuming no loss of eligibility at six months for any breastfeeding mothers. The factor was the ratio of the first estimate to the second.

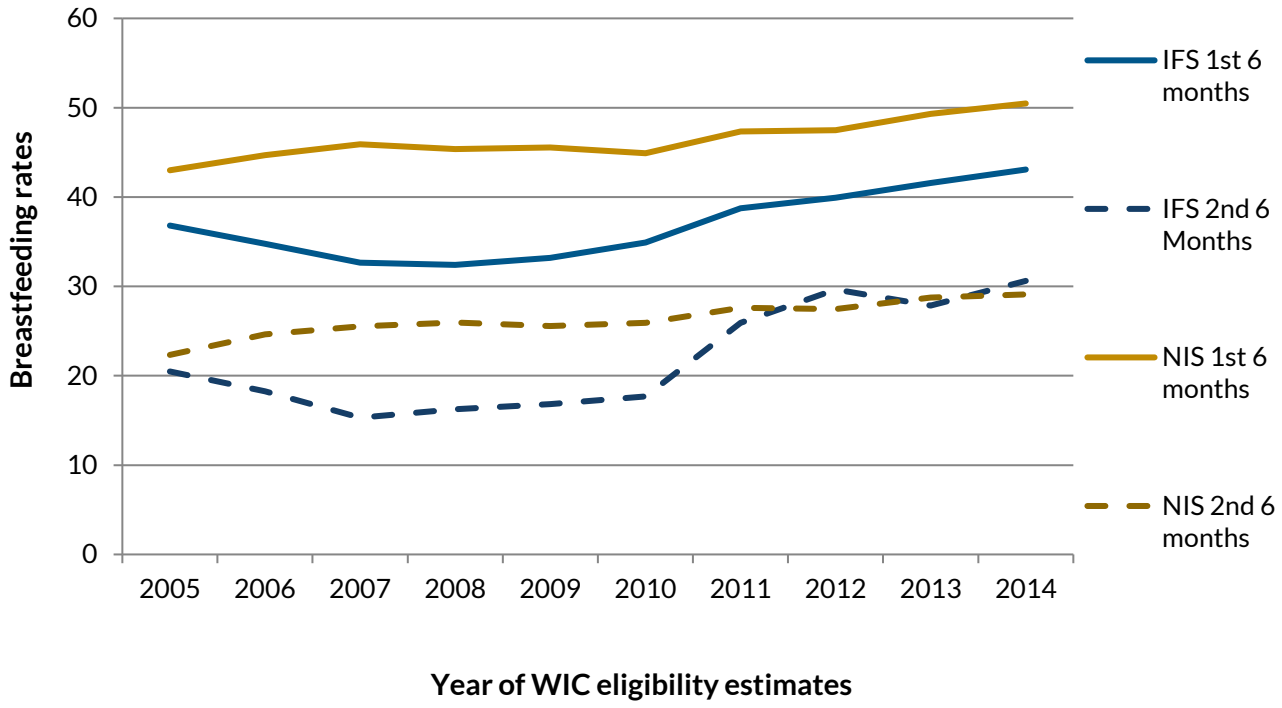
[34] For example, assume that the initial (in-hospital) breastfeeding rate remains constant between two years, but in the second year the average duration of breastfeeding is longer. Not only would we expect the breastfeeding rate at six months to increase but so too should the average breastfeeding rate during the first six months. However, the previous methodology would estimate the same average breastfeeding rate during the first six months.

[35] The adjustment is based on data from Wilde et al. (2011), exhibit 9.2, showing that 71.6 percent of ever-breastfed infants of WIC-participating mothers are still being breastfed after four weeks—a decline of over 28 percent in the first month. We assume the first-month decline would be slightly less—27 percent—for WIC-eligible mothers; we assume that for the remainder of the first six-month period, breastfeeding declines at a constant rate.

[36] P.L. 108-265—the "Child Nutrition and WIC Reauthorization Act of 2004"—gave States the option to implement 12-month certification for postpartum breastfeeding women. FNS does not maintain information on whether and when States have adopted this rule. However, review of numerous WIC caseworker manuals suggested that adoption is widespread.

methodology is larger than the average rate using the IFS breastfeeding rates and the prior adjustment factor methods.

Figure 3: Average Breastfeeding Rate in Each of the Six-Month Periods



Sources: IFS rates are from the Abbott Labs' Infant Feeding Survey, for years 2005 through 2014. NIS rates are from the CDC's National Immunization Survey, for birth cohorts 2003 through 2012.

This suggests that using the new methodology developed for the 2014 WIC eligibility estimates should lead to more breastfeeding postpartum women who will be found to be WIC-eligible in both six-month periods. During the first six months, if the infant is eligible, then the mother will also be eligible. Consequently if the new methodology estimates there to be more WIC-eligible mothers who are breastfeeding when using the new methodology, we should expect there to be fewer non-breastfeeding mothers. During the first six months, the total number of postpartum mothers who are WIC-eligible will be unaffected by the estimates of breastfeeding status of the mothers. Given that we have seen the new methodology lead to higher estimates of the number of breastfeeding mothers in the second six months, overall we would expect the estimate of the total number of WIC-eligible postpartum mothers to increase.

TERRITORIES

Estimates of infants and children eligible for WIC in Puerto Rico are calculated directly using the PRCS data and applying the same methods used for the U.S. population.[37] Puerto Rico is much larger than the other territories combined, so the availability of the PRCS is important to the accuracy of the overall territorial estimate. One limitation of the PRCS, however (also a limitation for the ACS), is that a particular year's PRCS captures a combination of that year's income and the prior year's income, since households are surveyed in each month of the year, and each household is asked to report income for the 12 months prior to the survey.

⇨Changes in Puerto Rico infant and child methods: 2005 through 2014. The 2014 Puerto Rico infant and child eligibility estimates, and the updated Puerto Rico estimates for 2005 through 2013, are also affected by the modifications that affect the national estimates, namely:

- Counting the unmarried partner in the family unit (starting in 2006)
- Updated annual-to-monthly estimates (but without adjustment by race/ethnicity)

Estimates of infants and children eligible for WIC in the other territories (American Samoa, the Commonwealth of the Northern Mariana Islands, Guam, and the Virgin Islands), are based on two adjustments to the Census Bureau's population estimates for those territories. The first adjustment uses a special tabulation of the 2010 decennial census to estimate the portion of the population that is income-eligible. The second adjustment uses the relationship between adjunctive eligibility and income eligibility in Puerto Rico and the mainland in 2014 to estimate the number of additional infants and children in the other island territories made eligible through adjunctive eligibility.

Estimates for pregnant and postpartum women in Puerto Rico and the other island territories are determined using a method that parallels the method used to estimate the number of WIC-eligible women in the 50 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, differences in income during pregnancy vs. after the birth, 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 use adjustments for fetal and infant deaths, multiple births, breastfeeding, and nutritional risk. Since surveys do not provide breastfeeding rates for Puerto Rico or the other island territories, the national breastfeeding rates are assumed.

⇨Changes in methods for women's eligibility in the territories: 2005 through 2014. The estimated eligibility of women in the territories is affected by the modifications that affect the national estimates, namely:

- Updated adjustment factor for pregnancy eligibility
- Use of NIS breastfeeding rates and other modifications to postpartum adjustment factors

[37] Information about the PRCS is available on the Census Bureau Web site, at https://www.census.gov/programs-surveys/acs/about/puerto-rico-community-survey.html.

STATES

The State estimates begin with the ACS data collected during 2014.[38] Like the 2014 PRCS, the 2014 ACS captures a combination of 2013 and 2014 income. This is not ideal for estimation of 2014 WIC eligibility; but the ACS is nevertheless the best data source for determining State shares of WIC eligibility due to its very large sample sizes in all States. Another limitation of the ACS is that for people not related to the householder, their relationships to each other are unknown. In complex households, WIC eligibility requires understanding relationships across all household members. Since the Minnesota Population Center's Integrated Public Use Microdata Series provides researchers with educated conjectures about the relationships between persons not related to the householder, we use the ACS with these imputations.[39]

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)[40] are estimated using the ACS data.

➪ Changes in methods for 2005–14: Unmarried partner included in the family. As with the national-level counts from CPS data, unmarried partners and their dependents were included in the family unit, to the extent they were identified in the ACS data. (The ACS identifies the unmarried partner of the household head, but not any other unmarried partners.)

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 factors. Three of the adjustments—the population adjustments, the annual-to-monthly adjustment for children, and the breastfeeding adjustments—use State-specific data. However, the same annual-to-monthly adjustments for infants and the same nutritional risk adjustments are used for all the States.

The ACS population weights are adjusted by State and by exact age, from birth through age 4. Specifically, the ACS person weights for infants and children are proportionally adjusted so that the sums of the persons by age are equal to the Census Bureau population estimates for each State. This method differs somewhat from the method used for the CPS-ASEC in that the ACS method only considers the Census and ACS population estimates for the current year, not for the prior three years as well. Also, the ACS weight adjustments vary only by State and exact age; they do not vary by gender or by race/ethnicity.

As with the national estimation process, the annual-to-monthly adjustments at the State level now vary by the two race/ethnicity groups, for 2014 and for the revised estimates for the prior years. Also,

[38] ACS documentation is available on the Census Bureau Web site.
[39] See Ruggles et al. (2010).
[40] The ACS asks whether individuals are enrolled in "Medicaid, Medical Assistance, or any kind of government assistance plan for those with low income or a disability". There is no separate identification of enrollment in Medicaid vs. CHIP. Thus, infants and children reported to be enrolled in government-assisted insurance according to this variable are counted as adjunctively eligible for WIC.

for children, for the years 2011 through 2014, the annual-to-monthly factors vary by when and whether the State adopted 12-month certification for children.

⇨ Changes in methods, 2005–14: Annual-to-monthly. The State-level annual-to-monthly factors are affected by the national-level changes discussed earlier, although the specific methods vary somewhat across the years:

- For 2005 through 2010: The State-level factors start from the national-level factors for infants and children, with adjustments to create separate factors for the two race/ethnicity groups. The adjustments are derived from the ratios of each subgroup's factor to the overall factor observed in the 2010–2012 SIPP data.
- For 2011 through 2013: The procedure is the same as for 2005–2010, with the addition that the children's factor varies by the State's implementation of 12-month certification.
- For 2014: Separate annual-to-monthly factors are computed for the two race/ethnicity groups, following the same procedures used to compute the national factors. The children's factors also vary by the State's implementation of 12-month certification.

State-level 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. As explained above, the breastfeeding adjustment includes three components—the breastfeeding rates for women participating in WIC at different points during the year, 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 is modified to capture State-level variation in breastfeeding rates. The State-level breastfeeding data continues to be obtained from the Abbott Labs' IFS. The IFS provides both in-hospital and at-six-month breastfeeding rates for women participating in WIC by State. Although State-level breastfeeding data for WIC participants (and WIC-eligible women) can also be obtained from the NIS, the information is not published on an annual basis; also, even when NIS data for three birth cohorts are combined, the State-level sample sizes are relatively small. Thus, even though the NIS data are used for the information on national-level breastfeeding rates for purposes of the estimates in this report, the information on State-level variation in breastfeeding rates is obtained from the IFS. However, instead of using a single year of IFS data, each year's WIC eligibility estimates now use a three-year average of State-level breastfeeding data from the IFS.

⇨ Changes in methods, 2005–14: State breastfeeding data. For this report, State-level breastfeeding data for a particular year's estimates are averaged across three years—the year for which eligibility is being estimated and the two prior years.

These procedures produce ACS-based WIC eligibility estimates for each State and the District of Columbia; however, the sum of these estimates is not the same as the national estimate produced from the CPS-ASEC data. The CPS-ASEC has been judged as the better source for a national WIC eligibility estimate, due to the fact that the CPS-ASEC has more complete income and program participation data. Also, the CPS asks respondents for their income during the calendar year, while the ACS surveys

households throughout the year and asks about income in the 12 months prior to the interview.[41] Consequently, the ACS is less likely to detect increases in eligibility as the economy falters or decreases in eligibility when the economy improves.

To create a consistent set of national and State WIC eligibility estimates, a top-down approach is used. Specifically, for each population subgroup, we compute each State's share of the total ACS-based eligibility estimate, and then allocate the national estimates computed from the CPS-ASEC according to those State shares. We show not only the total eligibility estimate for each State but also the estimates for subgroups within States. The State-level estimates are also summed to produce estimates at the FNS regional level.

REVISED WIC ELIGIBILITY ESTIMATES, 2005–13

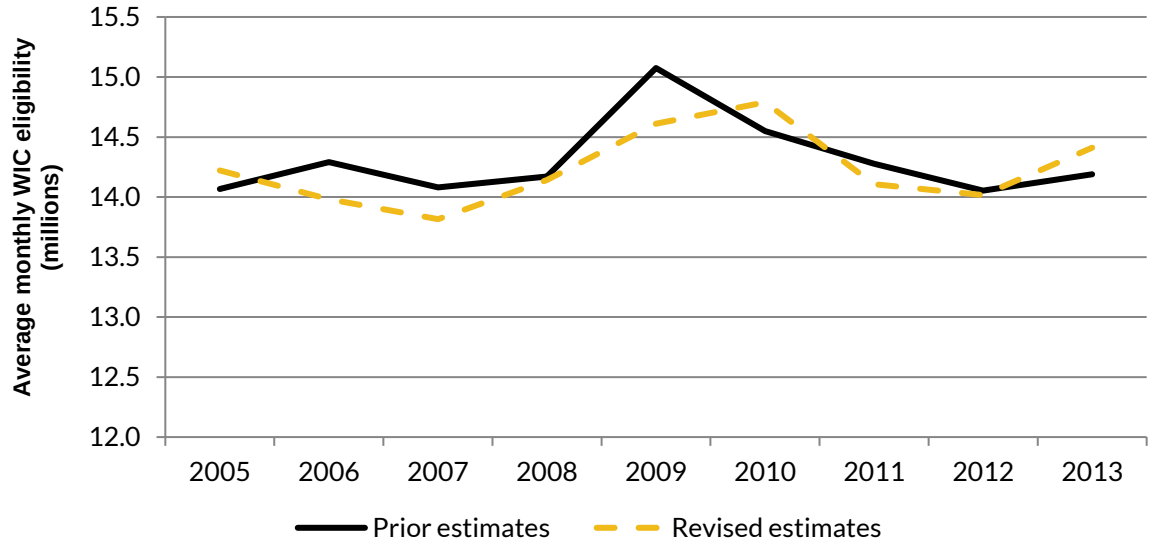
The modified methods discussed in the previous section were used to revise the WIC eligibility estimates for the period 2005 to 2013, as well as to estimate WIC eligibility for 2014. The revised estimates of infant and child eligibility differ from earlier estimates for a combination of reasons: the refinements to the weight adjustment procedures (using separate adjustment factors for infants and children who are Hispanic and using the newest Census Bureau population data), the inclusion of unmarried partners when estimating the composition of the economic unit in the tabulations using the survey data, and the refinements to the annual-to-monthly factors (using different factors for two racial/ethnic groups and using a standard procedure for averaging multiple estimates to create the factors for a particular year). The estimates for pregnant and postpartum women are indirectly affected by all the changes affecting infants, and are also affected by the large change in the pregnancy adjustment factor. Likewise, the postpartum estimates change due to the changes in infant eligibility and the changes in the data sources and methods related to breastfeeding. Finally, the 2013 estimates changed from the previous estimates since they are now based on all of the households in the CPS-ASEC for that year, rather than only the portion asked the traditional income questions.

REVISED ESTIMATES COMPARED WITH PREVIOUS ESTIMATES

Comparing the revised series to previous estimates, the changes in the total WIC eligibility estimates range from a reduction of 3.1 percent (for 2009) to an increase of 1.6 percent (for 2010 and 2013, as shown in figure 4). There were increases in estimated eligibility of at least 1 percent in three years (2005, 2010, and 2013), and reductions in eligibility of at least 1 percent in four years (2006, 2007, 2009, and 2011).

[41] Respondents provide their income over the 12 months preceding the month they are surveyed; households surveyed in January 2013 thus provided their 2012 income, households surveyed in July 2013 provided their income from July 2012 through June 2013, and so on.

Figure 4: Revised WIC Eligibility Estimates for 2005–13 Compared with Prior Estimates



The changes vary substantially by population subgroup. For infants (figure 4a), the revised estimate is very close to the prior estimate for 2005 (only 1.5 percent lower), but the differences increase in each year through 2009, due in part to the change to use Census Bureau population estimates that take into account the information from the 2010 decennial census, rather than the estimates that were produced for those years prior to the 2010 census. The largest difference in percentage terms is for 2009, when the new estimate is 8.3 percent lower than the prior estimate. The change in the way that the economic unit is operationalized for purposes of the estimates (counting an unmarried partner in the unit) also in general slightly reduced the eligibility estimates. The changes to the annual-to-monthly factors (figure 1a) affected different years in different ways; for example, in 2006 the revised annual-to-monthly factor for infants is larger than in the prior estimates, while for 2008 the revised factor is lower. Focusing on the 2013 estimates, the net effect of all of the methods changes plus the change to use the full-panel data was an infant eligibility estimate that was almost unchanged from the prior estimate (0.2 percent lower).

The children's eligibility estimates are also somewhat lower in the revised series than the previous series (figure 4b). The largest percentage difference is in 2006, when the revised estimate is 4.9 percent lower than the prior estimate. As with the infant estimates, the changes are due to the interaction of all of the methodological changes, with slightly different overall impacts in different years.

The nature of the changes is much different for pregnant women than for infants and children. Even though the pregnant women's eligibility estimate begins from the infant estimates, the revised eligibility estimates for pregnant women are all substantially higher than the prior estimates (figure 4c). This is due to the large change in the key adjustment factor used in estimating eligibility for pregnant women. Previously, we assumed that the mother of a WIC-eligible infant was on average eligible for 71 percent of the pregnancy months; our new analysis showed a likelihood of 90 percent when the fetus was included in the size of the unit. All else equal, that change would increase the pregnancy eligibility estimate by 27 percent (90 divided by 71). Since the infant eligibility estimates

also changed, the differences between the revised pregnancy estimates and the prior series ranged from an increase of 16 percent in 2009 to an increase of 27 percent in 2013. These large increases in the pregnancy eligibility estimates mean that the updated estimates of coverage rates for pregnant women—discussed later in this report—are lower than previous coverage rates for this group.

For postpartum women (figure 4d), the changes in infant eligibility and the changes specific to this group—the new source for national-level breastfeeding rates and the modified breastfeeding adjustment factors—combined in a way that the estimates of *total* postpartum eligibility are very close to the prior estimates. In 2005 through 2009 and in 2013, the new estimates are less than 2 percent higher or lower than the previous ones. The largest change is in 2010, when the revised postpartum eligibility estimate is 5.7 percent higher than the prior estimate.

Although the total postpartum eligibility estimates are not substantially different from the prior estimates, the balance between breastfeeding and non-breastfeeding has shifted. The new estimates show more women eligible as breastfeeding than non-breastfeeding (figures 4e and 4f). This shift means that, all else equal, the estimates of coverage rates will be lower for breastfeeding women and higher for non-breastfeeding, relative to prior estimates.

For additional discussion of how the new eligibility estimates compare to the prior estimates for 2005 through 2013, see appendix D.

Figure 4a: Revised WIC Eligibility Estimates for 2005–13 Compared with Prior Estimates—Infants

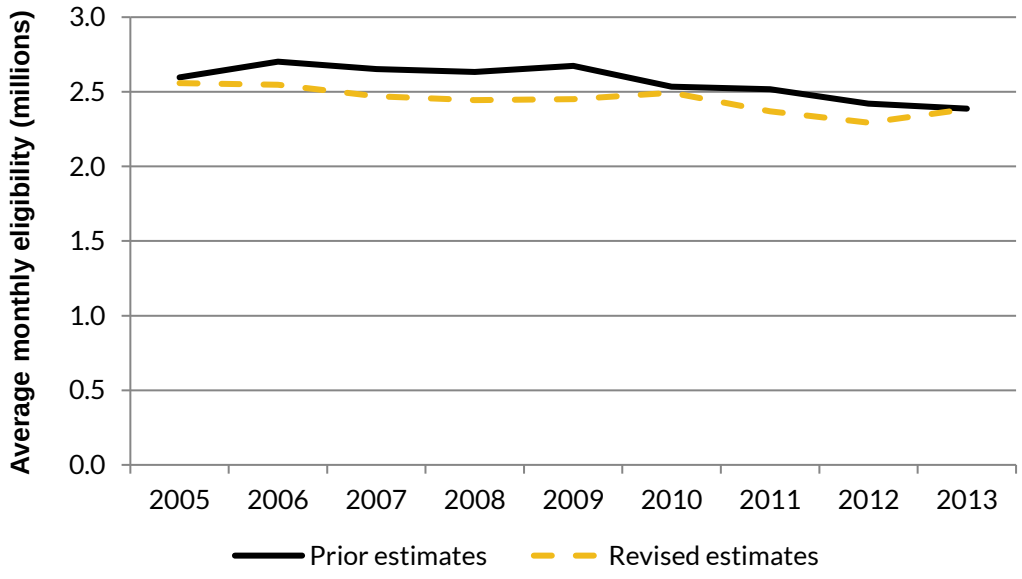


Figure 4b: Revised WIC Eligibility Estimates for 2005–13 Compared with Prior Estimates—Children

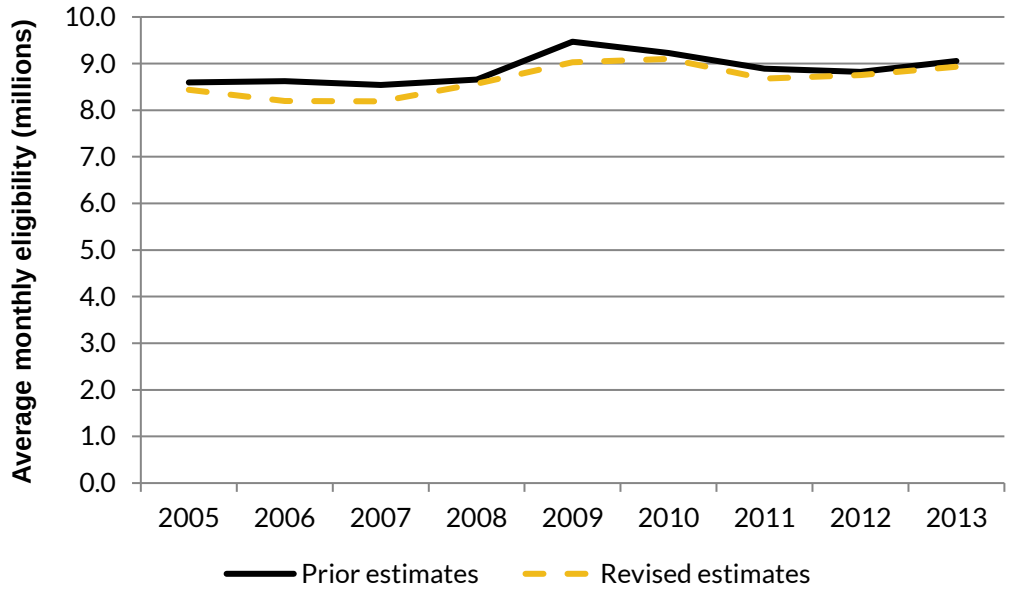


Figure 4c: Revised WIC Eligibility Estimates for 2005–13 Compared with Prior Estimates—Pregnant Women

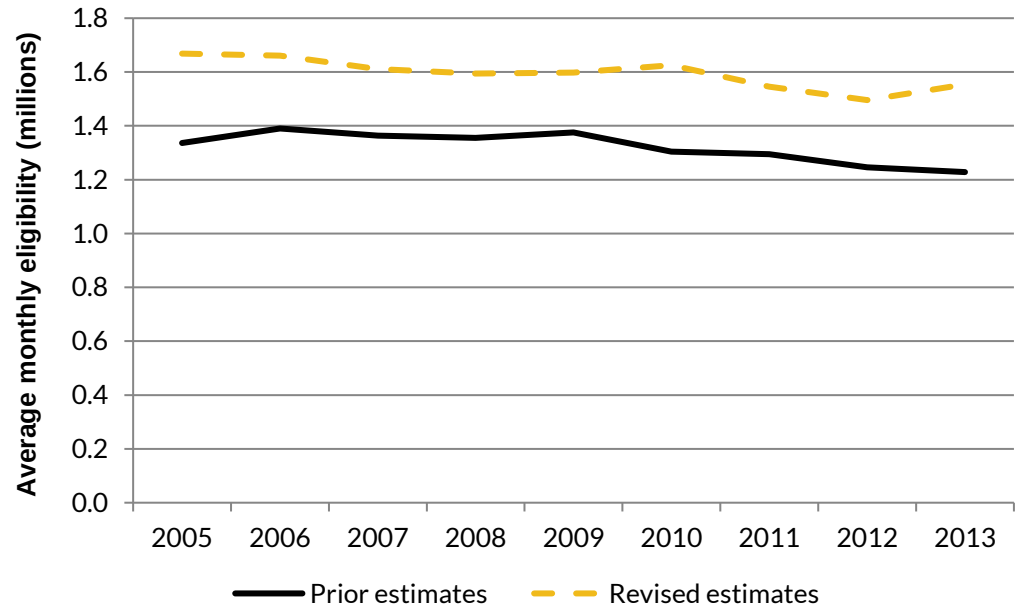


Figure 4d: Revised WIC Eligibility Estimates for 2005–13 Compared with Prior Estimates—All Postpartum Women

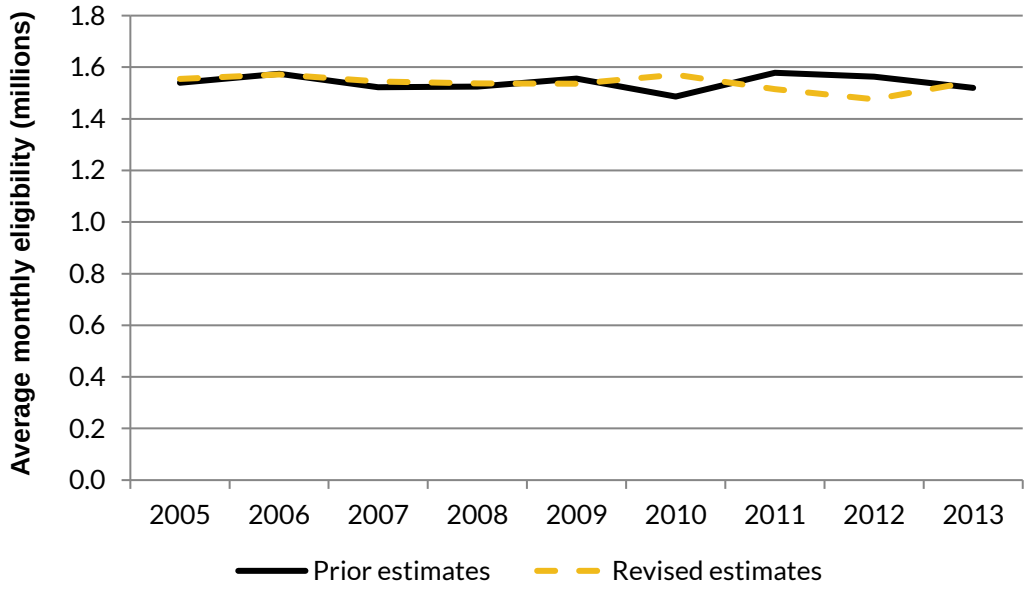


Figure 4e: Revised WIC Eligibility Estimates for 2005–13 Compared with Prior Estimates—Postpartum Breastfeeding Women

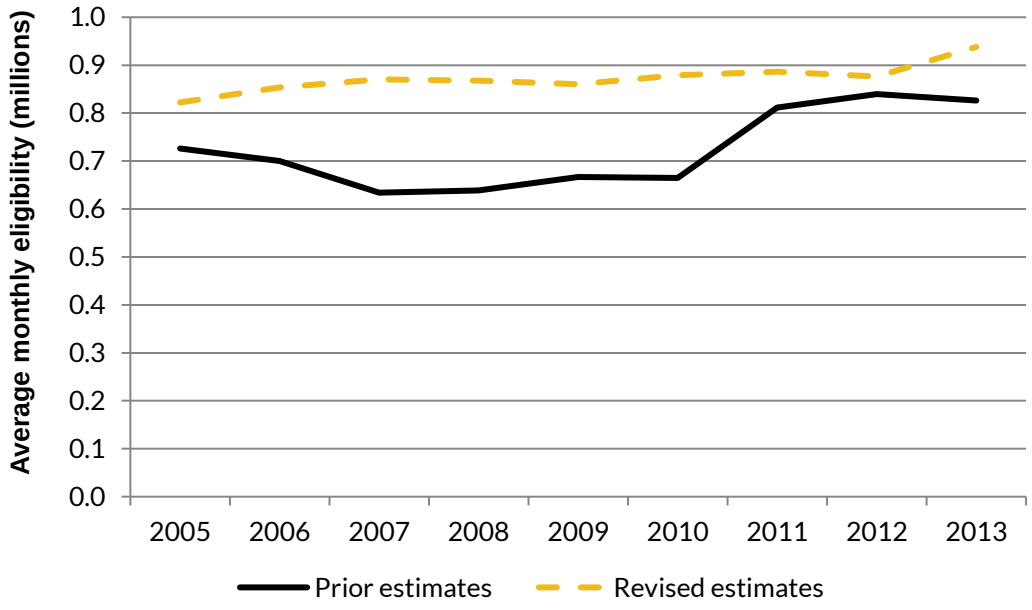
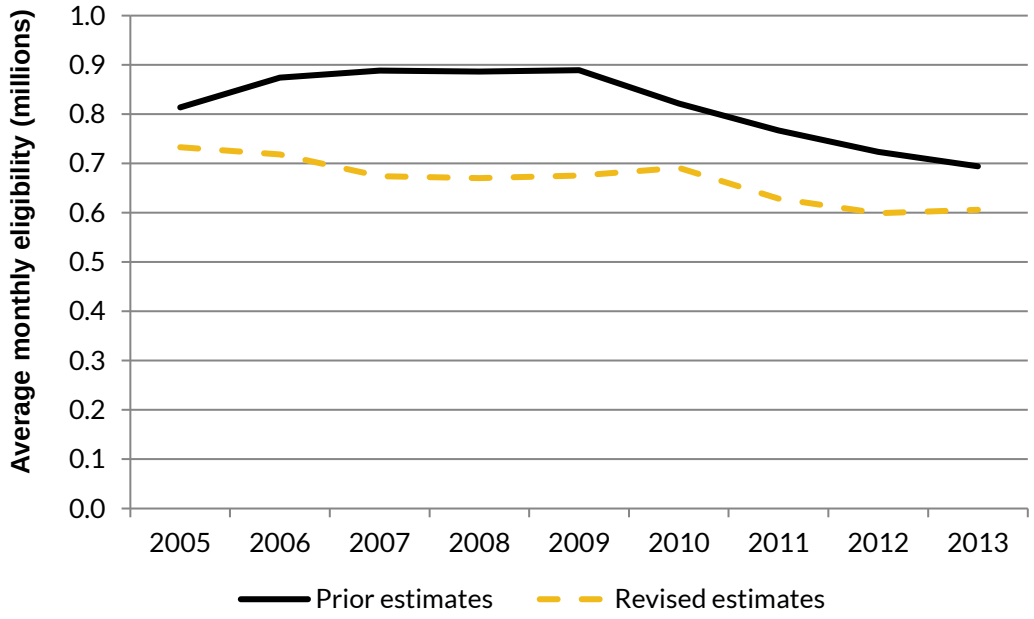


Figure 4f: Revised WIC Eligibility Estimates for 2005–13 Compared with Prior Estimates—Postpartum Non-Breastfeeding Women



ELIGIBILITY TRENDS, NEW ESTIMATES

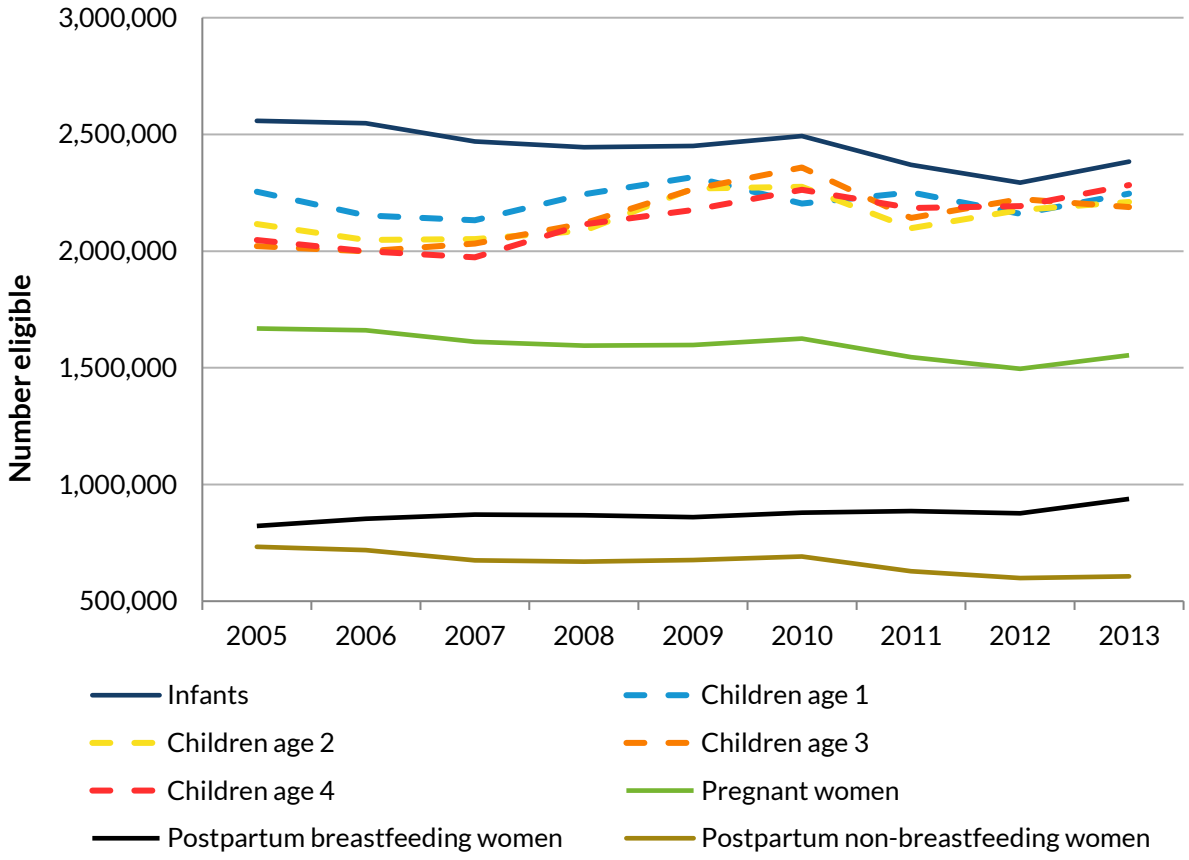
Focusing on the new estimates, total average monthly WIC eligibility is estimated at 14.2 million in 2005, falls to 13.8 million by 2007, increases to 14.8 million in 2010 (during the major recession), declines following the recession, and then increases again at the end of the period, reaching 14.4 million in 2013 (table 5). The trends across time vary somewhat by population subgroup (table 5 and figure 5). For infants, the eligibility estimates decline somewhat across the period, from 2.6 million in 2005 to 2.4 million in 2013. The estimates for pregnant women also decline, following the same trend as for infants. Conversely, for children, the estimates increase over the period, from 8.4 million in 2005 to 8.9 million in 2013. For postpartum women, the estimates move in different directions depending on breastfeeding status. The estimated number of postpartum women eligible as breastfeeding mothers increases over the period, from 0.8 million in 2005 to 0.9 million in 2013, while the estimates for non-breastfeeding mothers decline from 0.7 million in 2005 to 0.6 million in 2013.

Table 5: Estimated Average Monthly WIC Eligibility for 2005–13 with Updated Methods (Numbers in Millions)

	Infants	Total Children Ages 1–4	Pregnant Women	Postpartum Breastfeeding Women	Postpartum Non-Breastfeeding Women	Total
2005	2.558	8.439	1.668	0.822	0.733	14.221
2006	2.547	8.200	1.661	0.854	0.718	13.980
2007	2.470	8.190	1.611	0.870	0.675	13.816
2008	2.445	8.565	1.595	0.868	0.670	14.143
2009	2.450	9.026	1.598	0.860	0.676	14.610
2010	2.493	9.100	1.626	0.879	0.691	14.789
2011	2.369	8.676	1.545	0.886	0.629	14.106
2012	2.293	8.752	1.496	0.877	0.599	14.017
2013	2.383	8.929	1.554	0.938	0.606	14.412

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

Figure 5: National-Level WIC Eligibility by Eligibility Category, 2005 through 2013 (Revised Estimates)



New eligibility estimates were also computed for 2005 through 2013 at the State level, which can be aggregated to the regional level. For both infants (figure 6) and pregnant women (figure 7), the general decline in eligibility across the 2005–13 period that is seen at the national level appears in most of the regional estimates, but not all. For example, in the Northeast, infant eligibility is very flat across the period.

Figure 6: Regional-Level WIC Eligibility for Infants, 2005 through 2013 (Revised Estimates, Millions)

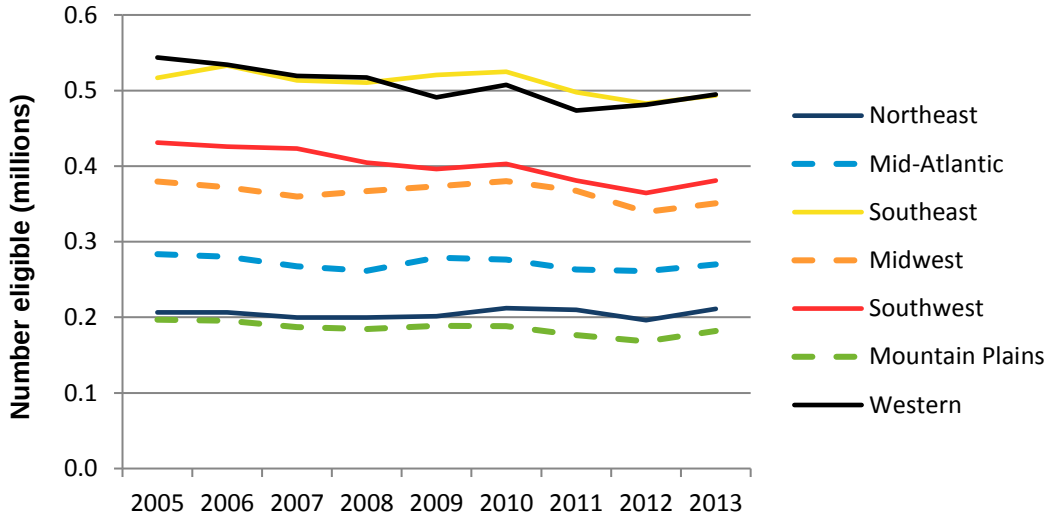
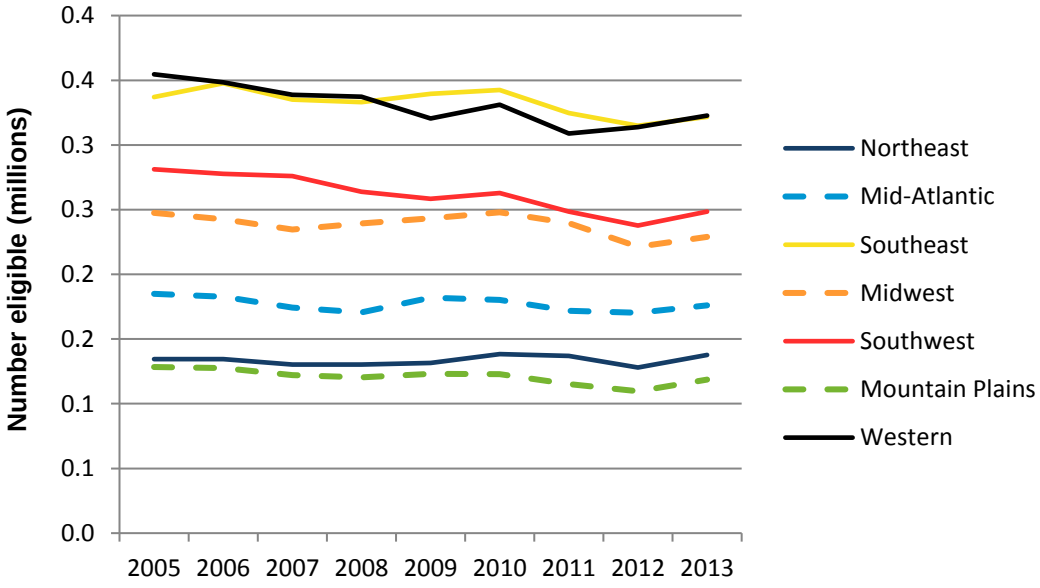
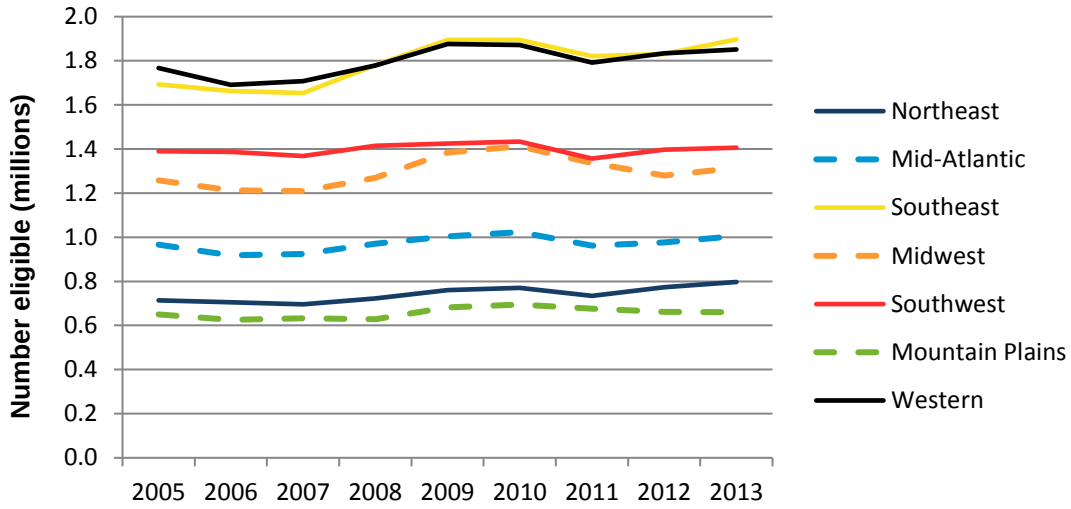


Figure 7: Regional-Level WIC Eligibility for Pregnant Women, 2005 through 2013 (Revised Estimates, Millions)



For children (figure 8) the general upward trend in eligibility at the national level is most pronounced in the Southeast and Western regions, while children's eligibility was relatively flat across the 2005–13 period in the Mountain Plains.

Figure 8: Regional-Level WIC Eligibility for Children, 2005 through 2013 (Revised Estimates, Millions)



For postpartum breastfeeding women, eligibility estimates are relatively flat in most regions, but increase in the Southeast and decrease in the Southwest (figure 9). For postpartum non-breastfeeding women (figure 10), the estimates show a downward trend in all of the regions, but it is most pronounced in the Southeast. The slight decline in WIC-eligible infants over the period means that there are fewer postpartum mothers in total; because of the increase in breastfeeding rates over the period (figure 2), a larger portion of postpartum mothers are eligible as breastfeeding mothers while a smaller portion are eligible as non-breastfeeding mothers.

Figure 9: Regional-Level WIC Eligibility for Postpartum Breastfeeding Women, 2005 through 2013 (Revised Estimates, Millions)

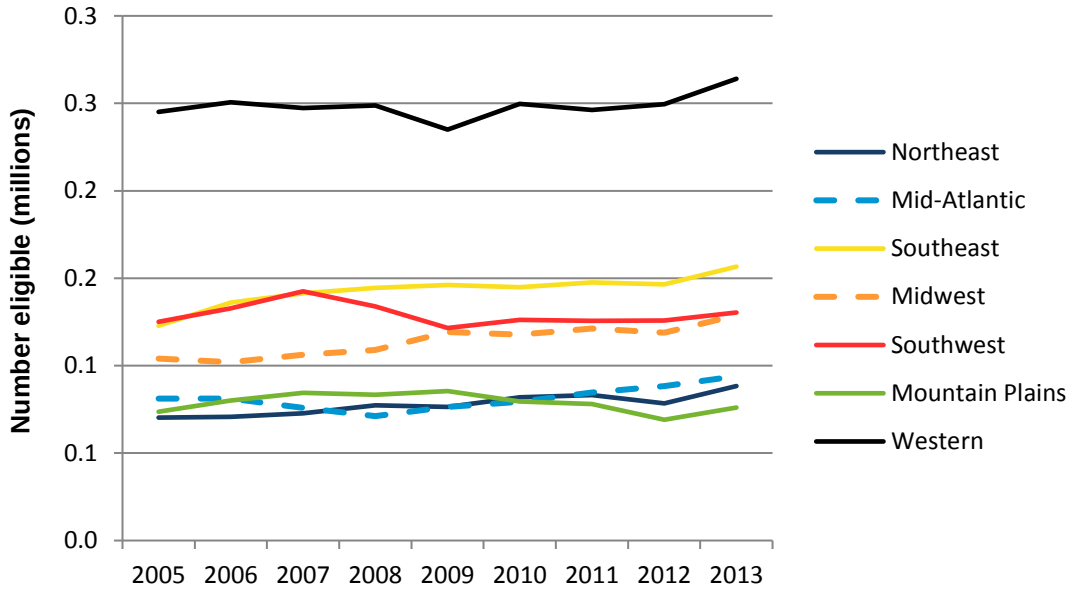
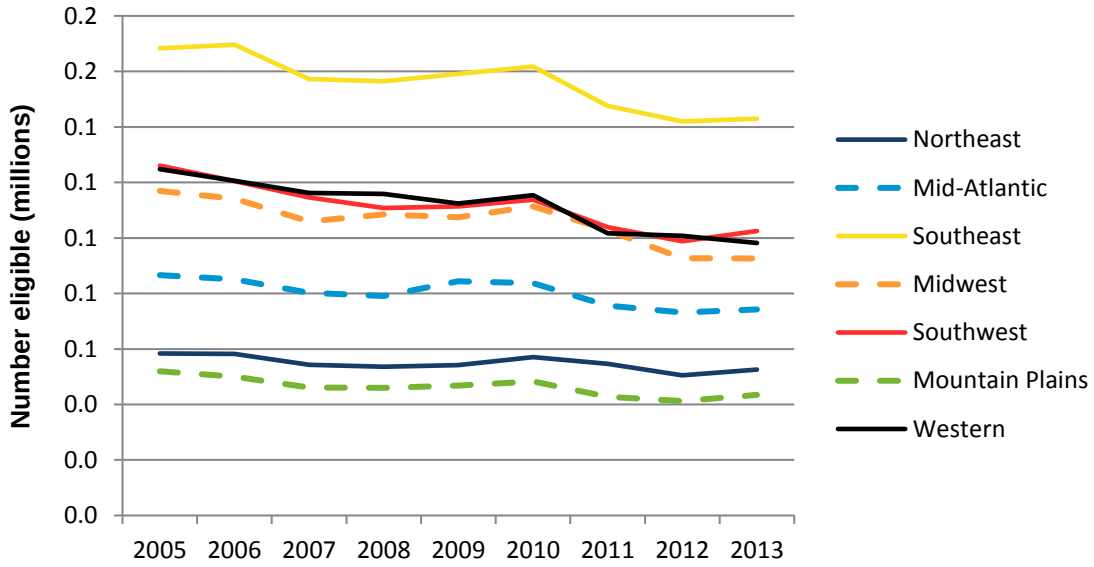


Figure 10: Regional-Level WIC Eligibility for Postpartum Non-Breastfeeding Women, 2005 through 2013 (Revised Estimates, Millions)



Updated coverage rates using the new series of historical estimates are included in the section of this report that focuses on coverage rates. As mentioned earlier, the new coverage rates are *lower* than previously estimated for pregnant women and for breastfeeding postpartum women, since the revised eligibility estimates for those groups are *higher* than the previous estimates. Conversely, the revised coverage rate estimates are *higher* than previously estimated for non-breastfeeding postpartum women, since the revised eligibility estimates for that group are *lower* than the previous estimates.

ESTIMATES OF WIC ELIGIBILITY IN 2014

This section presents the estimates of WIC eligibility for 2014—as of this writing, the most recent year for which estimates can be generated with the available survey data. We begin with an overview of the national-level eligibility estimates (including the territories), and then provide more detail on the estimates for the U.S. mainland, including the results of the individual steps used to produce 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 territories. Total WIC eligibility results for 2014 are compared with 2013 eligibility estimates. Lastly, the State and regional eligibility estimates are presented.

OVERVIEW OF NATIONAL WIC ELIGIBILITY IN 2014

The methods described earlier in this report—starting with the CNSTAT methods but incorporating numerous improvements to adjustment factors, counting unmarried partners in the economic unit, and changing the data source for breastfeeding information—result in an estimate of 15.005 million people eligible for WIC in the average month of CY 2014 across the 50 States, the District of Columbia, Puerto Rico, and the four other island territories (table 6).[42] Of course, this is an estimate and could differ from the true number due to differences between the survey and the full population and due to various methodological choices. Considering only the uncertainty due to using survey data, we are 90 percent confident that the true number of eligibles falls in the range from 14.5 million to 15.5 million.[43]

The overall estimate includes 2.452 million infants and 9.348 million children ages 1 through 4. The number of children eligible for WIC varies only slightly across each year of age, as does the total number of children. The estimated average monthly number of pregnant women eligible for WIC, 1.599 million, is derived directly from the number of eligible infants (adjusted for multiple births and fetal and infant deaths, differences in income and adjunctive eligibility between the pregnancy period and the first year after birth, and a maximum of nine months of benefits). The average monthly number of WIC-eligible postpartum women is also derived from the number of eligible infants and various

[42] Table 6 provides unrounded eligibility estimates for consistency with table 7, which shows the precise impact of each adjustment.
[43] This range—termed a confidence interval—is computed using the estimated "standard error"—a statistical measure of uncertainty; see the section of this report titled "Measures of Precision of the Estimates of Eligibility" for the standard errors and for information on the computation of confidence intervals.

adjustments; in particular, the postpartum estimates use estimates of breastfeeding rates calculated as summarized in table 4. There were an estimated 0.998 million postpartum women eligible as breastfeeding mothers in the average month of CY 2014, and an estimated 0.609 million eligible non-breastfeeding postpartum women.

Substantial portions of infants, young children, and pregnant and postpartum mothers are eligible for WIC. Overall, the estimates suggest that, in the average month of 2014, 56 percent of demographically eligible people were fully eligible. Looking at the results by broad participation categories, 62 percent of all U.S. infants (including those in the territories) were eligible, 58 percent of young children were eligible, 54 percent of pregnant women were eligible, and 41 percent of postpartum mothers were eligible.

Table 6: Estimates of the Total Average Monthly Number of Individuals Eligible for WIC by Participant Group, CY 2014

NOTE: This table includes estimates for the territories.

	2014			
Participant Group	Eligibles	Non-Eligibles[a]	Total[b]	Eligibility rate
Infants	2,451,750	1,506,730	3,958,480	61.9%
Total Children Ages 1–4	9,347,672	6,793,535	16,141,207	57.9%
Children Age 1	2,312,140	1,718,424	4,030,564	57.4%
Children Age 2	2,318,334	1,687,076	4,005,410	57.9%
Children Age 3	2,357,342	1,708,072	4,065,415	58.0%
Children Age 4	2,359,857	1,679,962	4,039,819	58.4%
Pregnant Women	1,599,023	1,358,259	2,957,281	54.1%
Total Postpartum Women	1,606,863	2,336,178	3,943,041	40.8%
Breastfeeding	998,025	1,089,727	2,087,752	47.8%
Non-Breastfeeding	608,838	1,246,451	1,855,289	32.8%
Total	15,005,308	11,994,701	27,000,009	55.6%

Sources: 2015 CPS-ASEC for U.S. estimate, 2014 PRCS, 2014 WIC Participant and Program Characteristics Report, and Census International Data Base for territories

Notes:

aThe non-eligible people represent the difference between the total estimates of people in each subgroup and the WIC-eligible people in each subgroup.

bThe total numbers of infants and children represent the sum of the March 2015 total number of infants and children adjusted for the under and over count of infants and children in the CPS relative to Census estimates plus the number of infants and children in Puerto Rico and the other island territories based on the 2014 PRCS and annual Census Bureau population estimates. The total numbers of women are estimated by applying to the total numbers of infants the same steps that are applied to WIC-eligible infants to obtain the estimates of WIC-eligible women in each subgroup.

As described earlier in this report, the national totals are the product of numerous data sources and adjustment factors. The results of each step in the estimation process are presented in table 7. The estimation process begins by adjusting the counts of infants and children from the 2015 CPS-ASEC (reflecting income in CY 2014) to compensate for the difference between CPS-ASEC weighted population counts and Census Bureau population estimates. The weighted number of infants in the CPS-ASEC is adjusted upward from 3.873 million to 3.917 million (1.1

percent), while the total number of children is adjusted downward from 16.029 million to 15.966 million (0.4 percent).[44] In total, the population of infants and children through age 4, as measured in the CPS-ASEC data, is almost unchanged by the adjustment factors, decreasing by 0.1 percent.

After the application of the population adjustment factors, the next step is to count the income-eligible infants and children by comparing their annual family incomes to 185 percent of a two-year average of the federal poverty guidelines. For CY 2014, the CPS-ASEC data (with adjusted weights) include 1.648 million infants and 6.595 million children with annual family income under that level. Adjunctive eligibility due to enrollment in SNAP, TANF, or Medicaid increases the infant eligibility estimate by 34.9 percent and increases the estimate for young children by 35.7 percent, resulting in estimates of 2.224 million for infants and 8.951 million for children. Medicaid accounted for most of those adjunctively eligible for WIC in 2014 (0.431 million infants and 1.847 million children ages 1 to 4).

The roles of Medicaid, SNAP, and TANF in adjunctive eligibility reflect program eligibility policies and caseload sizes. More children are enrolled in Medicaid than the other two programs,[45] as many States have expanded eligibility for Medicaid to income levels above 185 percent of poverty, with some Medicaid income limits for infants and young children at 300 percent of poverty.[46] The gross income limit for SNAP is generally 130 percent of poverty, but it may be higher in States offering broad-based categorical eligibility.[47] In contrast, income limits for TANF are much lower, but a few States have earned income disregard policies that temporarily allow higher incomes.[48]

[44] Note that because the weight adjustments use four years of data, the adjusted weighted figures do not exactly match Census Bureau population estimates for 2014. Also, because the decision to use the full 2013 CPS-ASEC sample was reached following the point when the 2014 estimates were finalized, the four-year accumulation of CPS-ASEC weighted counts used in the calculation of the 2014 weight adjustments uses weighted counts from the version of the 2013 CPS-ASEC based on only the five-eighths sample.
[45] In 2014, 36.1 million children were enrolled in Medicaid at some point during the fiscal year, 20.3 million children (under age 18) were enrolled in SNAP in the average month of the fiscal year, and 2.9 million children (generally age 18 and under) received TANF benefits in the average month. Medicaid caseload data are from Center for Medicare and Medicaid Services (undated), SNAP caseload data are from Gray and Kochhar (2015), and TANF caseload data are from Administration for Children and Families (2015).
[46] In 2014, for example, according to the Medicaid Web site, infants and children were offered either regular Medicaid or CHIP-expansion coverage with incomes up to 261 percent of poverty in California, up to 317 percent of poverty in Maryland, and up to 207 percent of poverty in Washington.
[47] See U.S. Department of Agriculture (2012).
[48] See table IV.A.6 in Huber et al. (2015).

Table 7: Adjustments for Calculating the Average Monthly Number of Individuals Eligible for WIC by Participant Group, CY 2014

	Infants	Children age 1	Children age 2	Children age 3	Children age 4	Total Children Ages 1–4	Pregnant Women	Postpartum Breastfeeding Women	Postpartum Non-Breastfeeding Women	Total
Total number of infants/children in the 2014 CPS-ASEC	3,872,501	4,037,918	3,941,155	4,056,176	3,993,313	16,028,562				19,901,063
Number (non-U.S. Territory) after adjustment for CPS under/over count	3,916,636	3,988,415	3,961,859	4,021,699	3,994,107	15,966,079				19,882,715
Number with annual income <185% FPG	1,648,315	1,592,044	1,670,411	1,682,423	1,650,491	6,595,368				8,243,683
Number of additional people adjunctively eligible above 185% FPG[a]	575,938	623,370	550,228	575,177	606,813	2,355,588				2,931,526
Through SNAP	145,173	142,407	113,402	120,629	118,230	494,668				639,841
Through TANF	0	6,301	423	3,825	3,601	14,151				14,151
Through Medicaid	430,764	474,662	436,403	450,722	484,982	1,846,770				2,277,534
Total number income and adjunctively eligible	2,224,253	2,215,414	2,220,638	2,257,599	2,257,305	8,950,956				11,175,209
Number after monthly income adjustment	2,485,987	2,300,163	2,306,870	2,344,857	2,345,503	9,297,393				11,783,380
Total eligibles - number after adjustment for nutritional risk (infants and children)	2,411,407	2,277,161	2,283,802	2,321,409	2,322,048	9,204,419				11,615,827

Table 7: Adjustments for Calculating the Average Monthly Number of Individuals Eligible for WIC by Participant Group, CY 2014 (continued)

	Infants	Children age 1	Children age 2	Children age 3	Children age 4	Total Children Ages 1–4	Pregnant Women	Postpartum Breastfeeding Women	Postpartum Non-Breastfeeding Women	Total
Starting point for estimates of women is fully eligible infants							2,411,407	2,411,407	2,411,407	7,234,222
Number after adjustment for length of pregnancy and income of woman during pregnancy							1,627,700			1,627,700
Number after adjustment for multiple births and infant deaths							1,621,352	2,402,003	2,402,003	6,425,358
Number after adjustment for breastfeeding								981,589	598,832	1,580,422
Total eligibles - number after adjustment for nutritional risk (pregnant and postpartum women)							1,572,711	981,589	598,832	3,153,133
Total eligibles in the U.S. territories	40,342	34,979	34,532	35,934	37,809	143,253	26,311	16,436	10,006	236,349
Total eligible – states and U.S. territories	**2,451,750**	**2,312,140**	**2,318,334**	**2,357,342**	**2,359,857**	**9,347,672**	**1,599,023**	**998,025**	**608,838**	**15,005,308**

Source: 2014 PRCS and Census International Data Base

Notes: Estimates for the territories are added at the bottom of this table. The top portion of this table does not include estimates from the territories.

See Tables 1 and 3 for adjustment factors applied.

a Adjunctive eligibility is counted by the first program that qualifies the person for WIC, in this order: SNAP, TANF, and Medicaid.

The next adjustment accounts for intrayear fluctuation in income, intrayear fluctuations in enrollment in the programs that confer adjunctive eligibility, and the fact that individuals are certified-eligible for 6 or 12 months. The number of infants who appear eligible based on annual income and program participation is increased by 11.8 percent while the number of children increases by 3.9 percent. (Although we show the overall effect of the annual-to-monthly adjustment factors, separate factors were applied for two race/ethnicity groups: white-only non-Hispanic and non-white or Hispanic.) 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 2014 is estimated at 2.411 million for infants and 9.204 million for children; with the territories included, 2.452 million infants and 9.348 million children are estimated to be eligible for WIC.

The estimates for pregnant women begin from the final estimate of 2.411 million WIC-eligible infants in the U.S. in the average month of CY 2014. 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 combined factor is 0.675 as shown in table 4). 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 1.573 million women eligible for WIC during pregnancy in the U.S. (excluding the territories) during the average month of CY 2014.

The estimates for postpartum women—breastfeeding and non-breastfeeding—also begin from the estimate of 2.411 million WIC-eligible infants in the U.S. As in the estimation process for pregnant women, this figure is adjusted by 0.9961 to adjust for fetal and infant deaths and multiple births. Further 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 2014 is 0.982 million, and the estimate of postpartum non-breastfeeding women is 0.599 million. (These figures exclude the territories.)

CHARACTERISTICS OF WIC-ELIGIBLE INFANTS AND CHILDREN IN THE STATES AND D.C.

The CPS-ASEC data—which underlie the estimates of WIC-eligible infants and children in the States and D.C.—can be used to provide a general sense of the characteristics of those infants and children. Specifically, among the infants and children whose families had income under 185 percent of the poverty guidelines or who received (during the year) a type of benefit that confers adjunctive eligibility, numerous demographic characteristics can be examined. It is important to note, however, that the characteristics of the infants and children who appear eligible based on the annual data might misestimate to some extent the characteristics of infants and children eligible in the average month of the year. That is because the adjustment factors that are applied in developing the final average monthly estimates are not sensitive to all of the demographic characteristics we would like to consider.

The nutrition-risk adjustment varies only between the broad groups of infants and children; the weight adjustment also varies by gender, exact age, and four racial/ethnic groups; and the annual-to-monthly adjustment varies by infant/child status and two racial/ethnic groups. However, to the extent that there are in fact variations in these factors by other characteristics (for example, if children in larger families or families in deep poverty are in fact more or less likely to be at nutritional risk or to have their average monthly WIC eligibility status misestimated by annual data), the characteristics of those who are apparently eligible based on annual data will misestimate the characteristics of those who are eligible in the average month of the year.

With that caveat in mind, table 8 presents key characteristics of the infants and children identified as eligible for WIC based on annual characteristics in 2014, across the States and D.C. (Regional-level information is provided in Volume II, appendix B.) Focusing first on basic demographics, the WIC-eligible infants and children are evenly divided between boys and girls, and are predominantly white (67 percent of infants and children), with most of the remainder being black (21 percent of infants and children); twelve percent of WIC-eligible children report another race or multiple races. Thirty-three percent of the WIC-eligible infants and children are Hispanic.

Turning to the family characteristics of the eligible infants and children, most live in two-parent families (63 percent of infants and 58 percent of children). Most of the remainder live in single-parent families (33 percent of infants and 37 percent of children), and a small portion live with a non-parent caretaker (5 percent overall). Large households are relatively common, with nearly one-quarter of WIC-eligible infants and children living in households with six or more persons. Most WIC-eligible infants and children live in families in which at least one parent works (69 percent of infants and 73 percent of children). Among infants and children who are estimated to be eligible based on annual income, 37 percent live in families with annual incomes below the poverty threshold.[49]

The table also provides some insight into the characteristics of infants and children who appear to be eligible through adjunctive eligibility compared with those who appear to be eligible based on income. The infants and children who are eligible due only to adjunctive eligibility are more likely to have two parents (67 percent of adjunctively eligible infants and children compared with 56 percent of those who are income-eligible) and more likely to live in a family with at least one working parent (85 percent vs. 68 percent).

[49] 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 8: Estimates of the Average Monthly Number of Infants and Children (Ages 1–4) Eligible for WIC by Income and Adjunctive Eligibility in the 2015 CPS-ASEC by Demographic Characteristics, CY 2014

	WIC-Eligible Infants			WIC-Eligible Children Age 1 to 4			WIC-Eligible Children Age 0 to 4		
Demographic characteristics	**Family income <185% FPG[b]**	**Adjunctively eligible[c]**	**Total**	**Family income <185% FPG[b]**	**Adjunctively eligible[c]**	**Total**	**Family income <185% FPG[b]**	**Adjunctively eligible[c]**	**Total**
Total	1,777,796	633,612	2,411,407	6,767,491	2,436,928	9,204,419	8,545,287	3,070,540	11,615,827
Gender (% distribution)									
Male	50.3	52.2	50.8	51.5	50.5	51.3	51.3	50.8	51.2
Female	49.7	47.8	49.2	48.5	49.5	48.7	48.7	49.2	48.8
Race (% distribution)									
White	65.4	72.2	67.2	63.5	75.0	66.5	63.9	74.4	66.7
Black	21.7	19.8	21.2	23.3	14.0	20.8	23.0	15.2	20.9
Other	12.9	8.0	11.6	13.2	11.1	12.7	13.2	10.4	12.4
Ethnicity (% distribution)									
Hispanic	36.0	22.7	32.5	35.0	27.3	33.0	35.2	26.3	32.9
Non-Hispanic	64.0	77.3	67.5	65.0	72.7	67.0	64.8	73.7	67.1
Living arrangement (% distribution)									
Two-parent family	59.9	71.9	63.1	55.4	66.3	58.3	56.3	67.4	59.3
Single-parent family	36.4	24.7	33.3	39.7	29.0	36.9	39.0	28.1	36.1
No-parent family	3.6	3.4	3.6	4.9	4.7	4.9	4.6	4.4	4.6
Related non-parent caretaker	1.7	3.4	2.2	3.1	4.7	3.6	2.8	4.4	3.3
Unrelated non-parent caretaker	1.9	0.0	1.4	1.8	0.0	1.3	1.8	0.0	1.3
Number of people in household (% distribution)									
2	5.0	1.2	4.0	5.5	3.1	4.9	5.4	2.7	4.7
3	21.5	31.7	24.2	18.7	23.2	19.9	19.3	25.0	20.8
4	28.8	28.7	28.8	27.7	30.2	28.4	27.9	29.9	28.4
5	19.8	17.8	19.2	21.8	23.7	22.3	21.3	22.5	21.6
6 or more	24.9	20.5	23.8	26.3	19.9	24.6	26.0	20.0	24.4
Number with working parent(s) (% distribution)	63.1	84.5	68.7	69.1	84.5	73.2	67.8	84.5	72.3

Table 8: Estimates of the Average Monthly Number of Infants and Children (Ages 1–4) Eligible for WIC by Income and Adjunctive Eligibility in the 2015 CPS-ASEC by Demographic Characteristics, CY 2014 (continued)

	WIC-Eligible Infants			WIC-Eligible Children Age 1 to 4			WIC-Eligible Children Age 0 to 4		
Demographic characteristics	**Family income <185% FPG[b]**	**Adjunctively eligible[c]**	**Total**	**Family income <185% FPG[b]**	**Adjunctively eligible[c]**	**Total**	**Family income <185% FPG[b]**	**Adjunctively eligible[c]**	**Total**
Annual family income relative to poverty[b] (% distribution)									
Less than 50% FPL	22.3	0.0	16.5	22.7	0.0	16.7	22.7	0.0	16.7
50% to <100% FPL	27.4	0.0	20.2	27.8	0.0	20.5	27.7	0.0	20.4
100% to <130% FPL	16.9	0.0	12.4	18.5	0.0	13.6	18.1	0.0	13.3
130% to <185% FPL	30.1	0.8	22.4	27.2	2.7	20.8	27.8	2.3	21.1
185% to <200% FPL	1.3	6.6	2.7	1.7	8.1	3.4	1.7	7.8	3.3
200% to <250% FPL	2.0	28.1	8.8	1.9	24.2	7.8	1.9	25.0	8.0
250% FPL and above	0.0	64.5	17.0	0.1	65.0	17.3	0.1	64.9	17.2
Benefit receipt (% distribution)									
No benefit receipt	19.9	0.0	14.7	21.1	0.0	15.5	20.9	0.0	15.4
SNAP, TANF, & Medicaid	5.8	0.4	4.4	6.2	1.5	4.9	6.1	1.3	4.8
SNAP & TANF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SNAP & Medicaid	40.1	21.0	35.1	40.5	15.5	33.9	40.4	16.6	34.1
TANF & Medicaid	0.2	0.0	0.2	0.4	0.6	0.5	0.4	0.5	0.4
SNAP only	7.8	3.5	6.7	5.7	3.9	5.2	6.1	3.8	5.5
TANF only	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Medicaid only	26.2	75.1	39.0	26.0	78.5	39.9	26.0	77.8	39.7

Source: 2015 CPS-ASEC

Notes: FPG - Federal Poverty Guidelines. FPL - Federal Poverty Level

[a] These estimates are tabulated from the fully adjusted person weights on the 2015 CPS-ASEC. They are adjusted to account for the under or over count of infants and children in the CPS relative to Census estimates, monthly income, and nutritional risk. See Appendix TablesA.3a/b and A.6 for the adjustment factors.

[b] 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.

[c] Infants and children adjunctively eligible are those whose family income was not below 185% FPG but who reported receipt of SNAP, Medicaid, or TANF. Therefore, the two categories are mutually exclusive.

[d] This table does not include territories.

Among the infants and children who appear to be eligible solely through adjunctive eligibility rules, 10 percent are in families with annual income under 200 percent of the poverty threshold, 25 percent have annual income from 200 to under 250 percent of the poverty threshold, and 65 percent live in families with annual income of 250 percent of the poverty threshold or higher.[50] There are various reasons for the relatively-high annual income levels among adjunctively eligible infants and children. One reason is that the Medicaid income limit for infants and children is as high as 300 percent of poverty in some States.[51] Another reason is that many lower-income families experience changes in income during a year, so a family could have enrolled in TANF, SNAP, or Medicaid at a point of lower income, even if annual income is somewhat higher. Further, the programs that confer adjunctive eligibility all use various types of income disregards, and they do not necessarily count the income of all members of the family as defined by the WIC program. 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.

The characteristics of the WIC-eligible infants can also be used to infer some information about the characteristics of women who are eligible for WIC in at least part of the year, since the mothers of virtually all WIC-eligible infants are eligible for at least the first six months of the postpartum period, and most were also eligible during pregnancy. However, since WIC eligibility for women is computed by applying proportional adjustments to the infant eligibility estimates (rather than by observing individual cases in the survey data) comparable characteristics data cannot be computed for the WIC-eligible women.

ELIGIBILITY IN THE TERRITORIES

The territorial estimates presented in total in table 7 were developed with separate procedures for Puerto Rico and the other island areas. We computed the number of infants and children (ages 1 to 4) residing in Puerto Rico from the 2014 PRCS and adjusted the number for the 2014 Census under/over count (table 9). Using the adjusted population counts, 86 percent of Puerto Rican infants (30,863) as well as 80 percent of children (120,785) were eligible for WIC based on having annual income under 185 percent of the poverty guideline—higher than the percentages of infants and children in the 50 States and the District of Columbia who appear eligible based on annual income. Factoring in adjunctive eligibility increased these eligibility estimates by about 3 percent for infants (849) and by about 4 percent for children (4,756). 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 50 States and the District of Columbia.

As with the national estimates, the annual-to-monthly adjustment factors are applied to the direct estimates from the 2014 PRCS to take into account the impact of certification periods and changes in income and program participation during a year. 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 national-level SIPP-based annual-to-monthly factors are applied to derive

[50] Note that while 28.5 percent of all WIC-*eligible* infants and children appear to have incomes above 185 percent of the poverty threshold, among actual WIC *participants* this percentage is reported to be much lower (1.3 percent in 2014 according to Thorne et al. (2015)).
[51] See Heberlein et al. (2013).

the Puerto Rico eligibility estimates. The nutritional risk adjustment factors of 0.97 for infants and 0.99 for children also are applied. The final average monthly eligibility estimates for Puerto Rico are 35,068 infants (98 percent of the total adjusted infant population) and 125,526 children ages 1 to 4 (83 percent of the total adjusted population). Note that these eligibility rates are considerably higher than those of the mainland U.S. (62 percent for infants and 58 percent for children).

For infants and children residing in other island territories (American Samoa, Guam, the Commonwealth of the Northern Mariana Islands, and the U.S. Virgin Islands), the only data available are annual population estimates for single year of age (from the Census Bureau's International Data Base) and the percent of infants and children who appear to be income-eligible (from the 2010 decennial census data). Our methods use the 2014 population estimates, but assume that the percentage of the population that is income-eligible for WIC is the same as in the 2010 decennial census (67.4 percent). While this percentage represents the most recently available evidence on income eligibility in the other island territories, it does not account for adjunctive eligibility. 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 2014. That information implies that in the other territories, there would be roughly an increase of 14.9 percent in the number of WIC-eligible infants, and an increase of 10.4 percent in the number of WIC-eligible children, due to adjunctive eligibility. These procedures result in an estimate of 87 percent of infants and 75 percent of children eligible for WIC in the other island territories due to annual income or program participation.

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 5,275 (88 percent of total infants), and the average monthly number of eligible children is 17,725 (75 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 50 States and the District of Columbia. The estimates begin with the number of fully eligible infants in the territories (40,343, including Puerto Rico and the other island territories). After adjustments for length of pregnancy, income during pregnancy, and multiple births, we estimate that in 2014 across the territories there were 26,311 WIC-eligible pregnant women, 16,436 WIC-eligible postpartum breastfeeding women, and 10,006 WIC-eligible non-breastfeeding women (table 9).

Table 9: Adjustments for Calculating the Average Monthly Number of Individuals Eligible for WIC in Puerto Rico and the Other Island Territories by Participant Group, CY 2014

Puerto Rico	Infants	Children Age 1	Children Age 2	Children Age 3	Children Age 4	Total Children Ages 1–4	Pregnant Women	Postpartum Breastfeeding Women	Postpartum Non-Breastfeeding Women	Total
Total number of infants/children in the 2014 PRCS	38,580	36,129	32,601	36,205	40,755	145,690				184,270
Number after adjustment for PRCS under/over count	35,820	36,161	37,625	37,854	39,911	151,551				187,371
Number with annual income <185% FPG	30,863	29,154	29,017	30,238	32,376	120,785				151,648
Number of additional people adjunctively eligible above 185% FPG[a]	850	1,326	1,063	1,291	1,074	4,755				5,604
Through SNAP	336	703	246	646	533	2,127				2,463
Through TANF	0	58	0	0	0	58				58
Through Medicaid	513	566	817	645	542	2,569				3,083
Total number income and adjunctively eligible	31,712	30,480	30,079	31,529	33,451	125,540				157,252
Number after monthly income adjustment	36,152	30,785	30,380	31,845	33,785	126,795				162,947
Total Eligibles - Number after adjustment for nutritional risk (infants and children)	35,068	30,477	30,076	31,526	33,447	125,527				160,595
Starting point for estimates of women is fully eligible infants							35,068	35,068	35,068	105,203
Number after adjustment for length of pregnancy and income of woman during pregnancy							23,671			23,671
Number after adjustment for multiple births and infant deaths							23,578	34,931	34,931	93,440
Number after adjustment for breastfeeding								14,287	8,698	22,985
Total Eligibles - Number after adjustment for nutritional risk (pregnant and postpartum women)							22,871	14,287	8,698	45,856

Table 9: Adjustments for Calculating the Average Monthly Number of Individuals Eligible for WIC in Puerto Rico and the Other Island Territories by Participant Group, CY 2014 (continued)

Other Island Territories	Infants	Children Age 1	Children Age 2	Children Age 3	Children Age 4	Total Children Ages 1–4	Pregnant Women	Postpartum Breastfeeding Women	Postpartum Non-Breastfeeding Women	Total
Total number of infants/children in the Other Island Territories age 0-4	6,024	5,988	5,926	5,862	5,801	23,577				29,601
Number after the other islands full-eligibility factor	4,770	4,503	4,456	4,408	4,362	17,728				22,498
Number after monthly income adjustment	5,438	4,548	4,500	4,452	4,406	17,905				23,343
Total eligibles - number after adjustment for nutritional risk (infants and children)	5,275	4,502	4,455	4,407	4,361	17,726				23,001
Starting point for estimates of women is fully eligible infants							5,275	5,275	5,275	15,824
Number after adjustment for length of pregnancy and income of woman during pregnancy							3,560			3,560
Number after adjustment for multiple births and infant deaths							3,547	5,254	5,254	14,055
Number after adjustment for breastfeeding								2,149	1,308	3,457
Total eligibles - Number after adjustment for nutritional risk (pregnant and postpartum women)							3,440	2,149	1,308	6,897
Total eligibles - U.S. territories total	**40,342**	**34,979**	**34,532**	**35,934**	**37,809**	**143,253**	**26,311**	**16,436**	**10,006**	**236,349**

Notes: See Tables 1 and 3 for adjustment factors applied. FPG = Federal poverty guidelines.
a Adjunctive eligibility is counted by the first program that qualifies the person for WIC, in this order: SNAP, TANF, and Medicaid.

COMPARING 2014 TO 2013

Overall, the number of people estimated as eligible for WIC in 2014 is 4.1 percent higher than the number estimated as eligible in 2013 (table 10). Estimated eligibility increased for all of the subgroups. The change in *overall* eligibility is statistically significant—we can be 90 percent certain that average monthly WIC eligibility did increase from 2013 to 2014. However, it is possible that some of the apparent increases for specific subgroups were due only to sampling variability in the CPS-ASEC survey data.[52] The changes in the CPS-ASEC income questions that were fully phased in with the CY 2014 data could have also affected the eligibility estimates to some extent.

Changes in the size of the eligible population occur as the net result of two other changes—change in total population size and change in the eligibility rate (i.e. the percentage of the total population estimated to be eligible). Table 10 displays the *percentage* changes in population size, estimated eligibility, and the eligibility rate (rather than *percentage point* changes) to aid in decomposing the changes in the eligibility estimates. For each subgroup, the percentage change in total eligibles is equal to the starting-point number of eligibles (in 2014), increased (or decreased) by the percentage change in total population, and increased (or decreased) again by the percentage change in the eligibility rate. Thus, for each change in eligibility, the relative contributions of the population change and the eligibility rate change can be easily observed.

In the case of infants, from 2013 to 2014, there is a 2.9 percent increase in estimated eligibility from 2013 to 2014, due to the combined impact of a 1.2 percent increase in the eligibility rate and a 1.6 percent increase in the total population of infants as defined by these procedures. Regarding the increase in the population of infants used for the estimates, the Census Bureau population estimates for infants in the States and D.C. were almost unchanged between the two years (3.948 million in spring 2014 and 3.949 million in spring 2015). However, the population adjustments that are used for the estimation procedures are based on four years of Census Bureau population data compared with four years of CPS-ASEC weighted counts. The procedures increased the 2013 CPS-ASEC count of 3.800 million to 3.853 million (1.4 percent) and also increased the 2014 CPS-ASEC count of 3.873 million to 3.917 million (1.1 percent), thus slightly narrowing the relative difference between the CPS-ASEC weighted infant counts between the two years but still leaving a higher number in the 2014 data.

[52] When tested at a 90 percent level of confidence, the change in total eligibility is statistically significant, but the changes for the subgroups are not. In other words, for any specific subgroup, we cannot be 90 percent certain that the change in eligibility is a true change, rather than being due to sampling variability in the surveys. See the section of this report titled "Measures of Precision of the Estimates of Eligibility" for more discussion regarding the estimation of statistical uncertainty.

Table 10: Estimates of the Total Average Monthly Number of Individuals Eligible for WIC by Participant Group: A Comparison of CY 2013–14

NOTE: This table includes estimates for the territories.

Participant group	Total, 2014	Total, 2013	Percent Change	Total Eligibles, 2014	Total Eligibles, 2013	Percent Change	Eligibility Rate, 2014	Eligibility Rate, 2013	Percent Change
Infants	3,958,480	3,895,916	1.6%	2,451,750	2,383,446	2.9%	61.9	61.2	1.2%
Total children ages 1–4	16,141,207	16,078,622	0.4%	9,347,672	8,929,389	4.7%	57.9	55.5	4.3%
Children age 1	4,030,564	4,038,984	-0.2%	2,312,140	2,246,216	2.9%	57.4	55.6	3.1%
Children age 2	4,005,410	3,966,516	1.0%	2,318,334	2,210,997	4.9%	57.9	55.7	3.8%
Children age 3	4,065,415	3,983,832	2.0%	2,357,342	2,189,298	7.7%	58.0	55.0	5.5%
Children age 4	4,039,819	4,089,290	-1.2%	2,359,857	2,282,879	3.4%	58.4	55.8	4.6%
Pregnant women				1,599,023	1,554,475	2.9%			
All postpartum women				1,606,863	1,544,491	4.0%			
Breastfeeding women				998,025	938,157	6.4%			
Non-breastfeeding women				608,838	606,333	0.4%			
Total WIC eligibles*				**15,005,308**	**14,411,800**	**4.1%**			

Sources: Eligibility estimates use information from the March 2013 and March 2014 CPS; 2004 and 2008 SIPP panels; and 2013 and 2014 IFS. Coverage rates use data on WIC participants from WIC administrative data; participant data by exact year of age for young children is estimated using enrollment data from Johnson et al. (2013), figure E.1.
Notes: We are 90 percent confident that there was an actual increase in total average monthly WIC eligibility. Changes for the subgroups could be due to sampling variability.

The increase in the eligibility rate for infants between 2013 and 2014 appears to be due to a combination of increased income eligibility and increased adjunctive eligibility. The increase in adjunctive eligibility can be clearly tied to increased Medicaid enrollment; the number of infants apparently eligible due to Medicaid enrollment (who are not otherwise eligible) equals 10.0 percent of the weight-adjusted infants in 2013 but 11.0 percent in 2014. The income eligibility rate for infants is 1.2 percentage points larger in 2014 than in 2013. Among infants in the States and D.C. (as captured in the CPS-ASEC data, and using the new methods for both years), 40.9 percent appeared eligible based on their annual income in CY 2013, while 42.1 percent appeared to be income-eligible in the CY 2014 data. The increase in the income-eligibility rate is somewhat surprising, since the unemployment rate fell between the two years, and the child poverty rate was viewed by the Census Bureau as essentially unchanged;[53] apparently, however, the portion of infants in families with annual income below WIC eligibility limits increased. The increase in the rate of income eligibility might also be related in some way to the full implementation of the new income questions in the CY 2014 survey; however, the new questions mostly affect a few types of income—specifically interest and pension income—so there is no clear reason for the new questions to increase the measured level of income eligibility. The increases in infants' eligibility based on annual income and benefit receipt from 2013 to 2014 were offset somewhat by lower annual-to-monthly factors for infants in 2014 than in 2013 (table 11).

Table 11: Annual-to-Monthly Factors for National-Level WIC Eligibility Estimates

	2013	2014
Infants		
White-only non-Hispanic	1.22	1.20
Non-white or Hispanic	1.09	1.07
Children		
White-only non-Hispanic	1.04	1.07
Non-white or Hispanic	1.01	1.02

For children, estimated eligibility was also higher in 2014 than in the revised 2013 estimates, and the magnitude of the increase was larger, at 4.7 percent. The total population of children (after applying the weight adjustments to the CPS-ASEC counts) was almost unchanged (0.4 percent), but the estimated eligibility rate increased by 4.3 percent, leading to a 4.7 percent increase in the eligibility estimate. The increase in the children's eligibility rate is due in part to the same two sources affecting the infants' eligibility rate; for children, there was a1.2 percentage point increase in adjunctive eligibility due to Medicaid, and an increase of 0.3 percentage points in the income-eligibility rate. However, for children, there was also a third factor contributing to a somewhat higher eligibility rate: an increase in the annual-to-monthly estimates (table 11), due to increases in the basic factors for children measured from the newest SIPP data (table 3) and increased adoption of 12-month certification. (See appendix E for the dates when various States began using 12-month

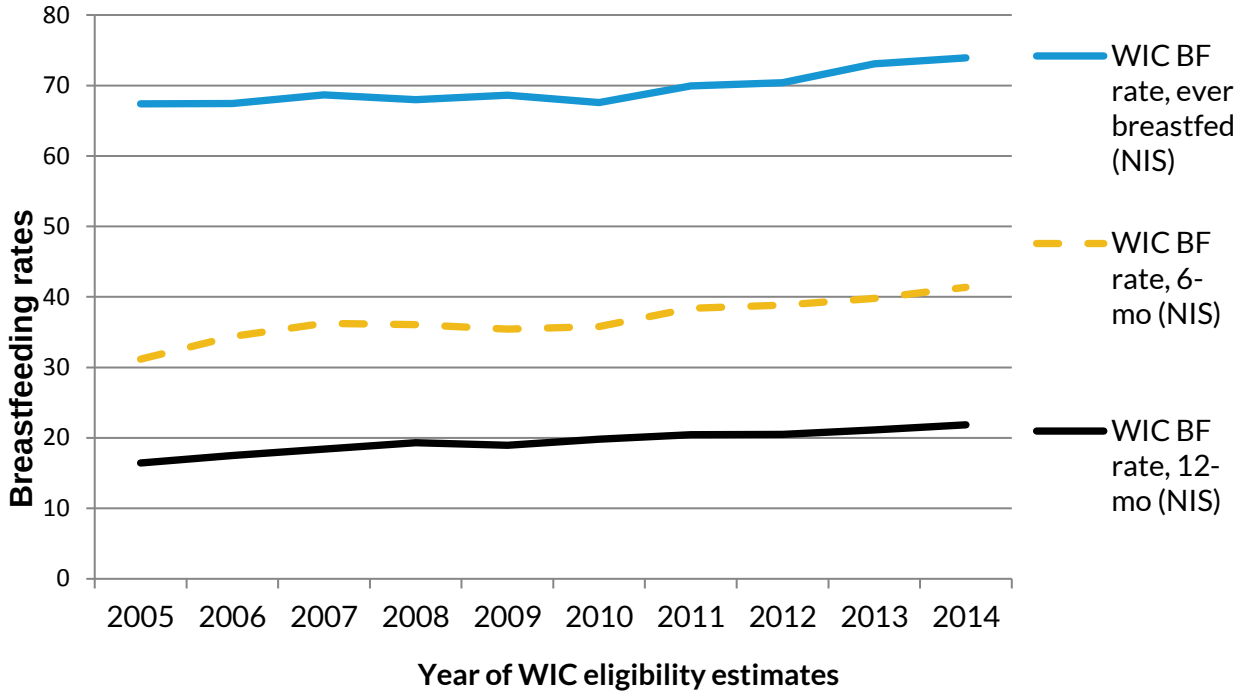
[53] See "Income, Poverty and Health Insurance Coverage in the United States: 2014", United States Census press release number CB15-157, September 16, 2015.

certification for children, and details on how 12-month certification affects the adjustment factor calculations.)

Among women, the estimated changes varied across pregnant women, breastfeeding mothers, and non-breastfeeding postpartum women. The 2.9 percent increase in the pregnant women's eligibility estimate between 2013 (revised estimates) and 2014 follows the increase among infants, since this estimate begins with the number of eligible infants and does not use any year-specific adjustments.

For postpartum women, the eligibility estimate also begins with the infant eligibility estimate. Thus, all else equal, we would expect the postpartum women's eligibility estimates to rise by 2.9 percent, like the infant estimates. However, the postpartum estimates are also affected by changes in the assumptions about breastfeeding—how many WIC-eligible mothers begin to breastfeed and how long they continue. According to data from the NIS (figure 11), the percentage of mothers eligible for WIC who ever breastfed their infants increased from 73 percent in the data used for the 2013 eligibility estimates (the 2011 birth cohort) to 74 percent in the data used for the 2014 eligibility estimates (the 2012 birth cohort), and the percentage of WIC-eligible mothers breastfeeding at six months increased from 40 percent to 41 percent between those two years, continuing recent trends of increases in breastfeeding rates.

Figure 11: Breastfeeding Rates of WIC-Eligible Mothers, 2005 through 2014



Source: NIS rates are from the CDC's National Immunization Survey, for birth cohorts 2003 through 2012.

Since more women are breastfeeding in the first six months (when they would be potentially eligible for WIC regardless of breastfeeding), fewer are counted as non-breastfeeding mothers, and the estimated eligibility for that group increases by 0.4 percent (less than the estimated increase in infant eligibility). In contrast, the eligibility estimate for breastfeeding mothers increased by 6.4 percent, much more than the estimated increase in infant eligibility, due to the higher breastfeeding rates. Considering both the breastfeeding and non-breastfeeding women in combination, eligibility for all postpartum women is estimated to be 4.0 percent higher than in 2013.

REGIONAL AND STATE ESTIMATES OF WIC ELIGIBILITY: 2014

As explained above, the large sample size of the ACS allows WIC eligibility to be estimated for each State and the District of Columbia. Eligibility varies across the country due to variations in total population, demographic characteristics, income levels, and State policy choices. We first examine the distribution of WIC eligibility across regions and States and then present the regional-level eligibility rates—the percentages of women, infants, and children who are estimated to meet program eligibility requirements. In reviewing the regional and State estimates, it is particularly important to keep in mind that all of the estimates are affected by sampling variability; measures of precision of the State and regional eligibility estimates are provided in the section following this one.

Distribution of WIC Eligibility across Regions and States

The estimated distribution of WIC eligibility by FNS region (table 12) shows the greatest portions of 2014 WIC eligibles in the Southeast and Western regions (with 21 percent of all WIC eligibles, each), while the Northeast and Mountain Plains regions have the fewest WIC-eligible individuals (about 9 percent and 8 percent, respectively). The distribution of estimated eligibility across regions is approximately the same for each subgroup of WIC-eligible individuals. By State (table 13), 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 (10 percent), Florida (6 percent), and New York (6 percent).

Table 12: Distribution of WIC Eligibles by FNS Region for Each Participant Group, CY 2014

	Infants	Children (Ages 1–4)	Pregnant Women	All Postpartum Women	Total
Distribution of eligibles					
Northeast	8.9%	9.0%	8.9%	9.0%	9.0%
Mid-Atlantic	11.1%	11.3%	11.1%	10.6%	11.2%
Southeast	21.5%	21.3%	21.5%	20.3%	21.2%
Midwest	15.0%	14.9%	15.0%	14.8%	14.9%
Southwest	15.6%	15.5%	15.6%	14.9%	15.5%
Mountain Plains	7.9%	7.5%	7.9%	8.0%	7.7%
Western	20.0%	20.5%	20.0%	22.3%	20.6%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Source: 2015 CPS-ASEC, 2014 ACS, 2014 PRCS, Census International Data Base

Table 13: Distribution of WIC Eligibility by State and FNS Region, CY 2014

	Percent Share of National WIC Eligibles		Percent Share of National WIC Eligibles
State			
Alabama	1.6%	New York	5.9%
Alaska	0.3%	North Carolina	3.3%
Arizona	2.2%	North Dakota	0.2%
Arkansas	1.2%	Ohio	3.3%
California	12.5%	Oklahoma	1.4%
Colorado	1.5%	Oregon	1.3%
Connecticut	0.8%	Pennsylvania	3.2%
Delaware	0.3%	Puerto Rico	1.4%
D.C.	0.2%	Rhode Island	0.3%
Florida	6.1%	South Carolina	1.6%
Georgia	3.7%	South Dakota	0.3%
Hawaii	0.4%	Tennessee	2.2%
Idaho	0.6%	Texas	10.3%
Illinois	3.7%	Utah	1.0%
Indiana	2.2%	Vermont	0.1%
Iowa	0.9%	Virginia	2.0%
Kansas	0.9%	Washington	2.1%
Kentucky	1.5%	West Virginia	0.6%
Louisiana	1.7%	Wisconsin	1.5%
Maine	0.3%	Wyoming	0.2%
Maryland	1.5%	**FNS Region[b]**	
Massachusetts	1.3%	Northeast	9.0%
Michigan	3.0%	Mid-Atlantic	11.2%
Minnesota	1.3%	Southeast	21.2%
Mississippi	1.1%	Midwest	14.9%
Missouri	1.8%	Southwest	15.5%
Montana	0.3%	Mountain Plains	7.7%
Nebraska	0.5%	Western	20.6%
Nevada	0.9%	**Total**	100.0%
New Hampshire	0.2%		
New Jersey	2.1%		
New Mexico	0.8%		

Sources: 2015 CPS-ASEC, 2014 ACS, 2014 PRCS, Census International Data Base

Notes:

[a] State and regional eligibility estimates include those eligible for WIC via Indian Tribal Organizations.

[b] 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 ACROSS REGIONS

A State's or region's share of total WIC eligibles is due in large part to that State's or region's share of total population. (California has the largest population and, not surprisingly, has the most WIC eligibles.) However, States and regions do show some variation in their WIC eligibility rates—the portions of the population of women, infants, and children who appear to meet other eligibility requirements. As shown earlier, the national-level analysis suggests that 61.9 percent of infants and 57.9 percent of young children were eligible for WIC in the average month of 2014. However, at the regional level, the percentage of infants who appear eligible for WIC varies from 54.6 percent in the Mid-Atlantic to 69.5 percent in the Southeast; and the percentage of children who appear eligible for WIC varies from 51.5 percent in the Mountain Plans to 64.9 percent in the Southeast (table 14).

Table 14: WIC Eligibles by FNS Region and Participant Group, CY 2013–14

	Infants	Children (Ages 1–4)	Pregnant Women	Postpartum Women	Total
Eligibility rate, 2014					
Northeast	56.5%	53.7%	49.3%	37.7%	51.3%
Mid-Atlantic	54.6%	51.9%	47.7%	34.4%	49.3%
Southeast	69.5%	64.9%	60.7%	43.2%	61.9%
Midwest	59.3%	54.9%	51.7%	38.4%	52.8%
Southwest	67.9%	63.1%	59.2%	42.7%	60.4%
Mountain Plains	58.0%	51.5%	50.6%	38.8%	50.5%
Western	61.6%	58.5%	53.7%	45.2%	56.5%
Total	**61.9%**	**57.9%**	**54.1%**	**40.8%**	**55.6%**
Eligibility rate, 2013					
Northeast	55.4%	51.5%	48.4%	37.1%	49.6%
Mid-Atlantic	55.3%	49.5%	48.3%	34.6%	48.1%
Southeast	67.7%	61.9%	59.1%	41.3%	59.5%
Midwest	57.9%	51.7%	50.6%	36.7%	50.3%
Southwest	68.3%	61.7%	59.6%	41.9%	59.5%
Mountain Plains	55.4%	48.6%	48.4%	36.5%	47.8%
Western	61.5%	56.9%	53.7%	45.2%	55.5%
Total	**61.2%**	**55.5%**	**53.4%**	**39.8%**	**53.8%**
Percent change in eligibility rate, 2014 vs. 2013					
Northeast	2.0%	4.3%	1.9%	1.6%	3.4%
Mid-Atlantic	-1.3%	4.8%	-1.2%	-0.6%	2.5%
Southeast	2.7%	4.8%	2.7%	4.6%	4.0%
Midwest	2.4%	6.2%	2.2%	4.6%	5.0%
Southwest	-0.6%	2.3%	-0.7%	1.9%	1.5%
Mountain Plains	4.7%	6.0%	4.5%	6.3%	5.6%
Western	0.2%	2.8%	0.0%	-0.0%	1.8%
Total	**1.1%**	**4.3%**	**1.3%**	**2.5%**	**3.3%**

Sources: 2015 CPS-ASEC, 2014 ACS, 2014 PRCS, Census International Data Base

As discussed earlier, WIC eligibility rates appeared to increase somewhat between 2013 and 2014 at the national level. However, the degree of change varied across the regions. For infants, while the national WIC eligibility rate increased by 1.2 percent between 2013 and 2014, the change in the regional eligibility rates varied from a 1.3 percent decrease in the Mid-Atlantic to a 4.6 percent increase in the Mountain Plains. The regional pattern of change in the eligibility rates for pregnant women follows that for infants, although the eligibility rates themselves are smaller for pregnant women than for infants. For postpartum women, the eligibility rate increased overall by 2.4 percent. At the regional level, the change varied from a decline of 0.5 percent in the eligibility rate for this group in the Mid-Atlantic, to an increase of 6.3 percent in the Mountain Plains. The national eligibility rate for children rose by 4.3 percent, with increases ranging from 2.2 percent in the Southwest to 6.1 percent in the Midwest. For children, the different degrees of change in the eligibility rates across regions could be due in part to regional variation in take-up of 12-month certification. Differential Medicaid enrollment rates could also affect regional-level variations.

WIC COVERAGE RATES

The WIC eligibility estimates at the national, regional, and State levels can be compared with program administrative data to estimate program coverage rates—defined as the number of individuals participating[54] in the WIC program divided by the number eligible.[55]

WIC Coverage Rates in 2014, National Level

At the national level, the WIC coverage rate for 2014 is estimated at 54.8 percent overall (table 15), with the highest rate for infants (80.0 percent of eligible infants appear to participate in the program), and the lowest for children (46 percent). Among children, the coverage rate appears to decline with each year of age, from an estimated 68.2 percent among WIC-eligible 1-year-olds to 25.9 percent for 4-year-olds.[56]

Among eligible women, postpartum women appear to have a higher coverage rate than pregnant women, with 72.6 percent of eligible postpartum women participating compared with 50.2 percent of eligible pregnant women. Also, non-breastfeeding women appear to have a much higher coverage rate than breastfeeding women. Women who are not breastfeeding who are eligible for WIC would have a very strong incentive to participate due to the high cost of formula. The data suggest that in the

[54] Although the terms "enrolled in WIC" and "participating in WIC" are sometimes used interchangeably, there is a difference in what is measured. WIC participants include people who are receiving WIC food packages and fully breastfeeding infants whose mothers are receiving WIC food packages. WIC administrative data generally uses this concept, and this is the concept used in this report to estimate coverage rates. On the other hand, the number of WIC enrollees includes all WIC participants (i.e. those actively participating in WIC), as well as others who are enrolled in WIC but who are not currently participating (e.g. persons who did not receive their vouchers for a particular month).
[55] In some analyses, the percentage of program-eligible individuals receiving program benefits is referred to as the "participation rate". This analysis uses the term "coverage rate" for this concept.
[56] The data on WIC participants does not count children by exact age; however, this information is available for enrollees. (See Thorneet al. (2015), table IV.5, using children's age at certification). We estimate the numbers of participating children by exact age by assuming that the percentage distribution of participating children by exact age is the same as the percentage distribution of enrolled children by exact age.

average month of 2014, 94.1 percent of non-breastfeeding women eligible for WIC participated, compared with 59.5 percent of breastfeeding women.

The 2014 coverage rate estimates shown here should only be compared with coverage rates using the updated methodology. In particular, note that the estimated coverage rate for pregnant women—50.2 percent—is substantially lower than previously estimated. When 2013 eligibility estimates were initially reported (Johnson et al. 2016), the coverage rate for pregnant women was estimated at 68.4 percent. However, as discussed earlier, the major change to the pregnancy adjustment factor (using newer data, and correctly counting the fetus in family size) has resulted in substantially higher estimates of the average monthly number of pregnant women eligible for WIC, thereby resulting in lower estimates of the coverage rate. Similarly, the 2014 coverage rate for postpartum breastfeeding women is lower than in the last report, and the estimated rate for non-breastfeeding women is higher than in the last report, because the new methods have resulted in higher eligibility estimates for breastfeeding women and lower eligibility estimates for non-breastfeeding women.

Table 15: WIC National-Level Coverage Rates by Participant Group, CY 2014

NOTE: This table includes estimates for the territories.

Participant Group	Number Eligible	Number Participating	Coverage Rate	Total Population	Participants as a Percent of Total Population
Infants	2,451,750	1,961,762	80.0%	3,958,480	49.6%
Total children ages 1–4	9,347,672	4,296,463	46.0%	16,141,207	26.6%
Children age 1[a]	2,312,140	1,577,038	68.2%	4,030,564	39.1%
Children age 2[a]	2,318,334	1,114,790	48.1%	4,005,410	27.8%
Children age 3[a]	2,357,342	994,159	42.2%	4,065,415	24.5%
Children age 4[a]	2,359,857	610,476	25.9%	4,039,819	15.1%
Pregnant women	1,599,023	802,892	50.2%	2,957,281	27.1%
Postpartum women	1,606,863	1,166,655	72.6%	3,943,041	29.6%
Breastfeeding women	998,025	593,826	59.5%	2,087,752	28.4%
Non-breastfeeding women	608,838	572,829	94.1%	1,855,289	30.9%
All participant groups	**15,005,308**	**8,227,771**	**54.8%**	**27,000,009**	**30.5%**

Sources: 2015 CPS-ASEC for U.S. estimate, PRCS and Census for territories, WIC Administrative Data

Notes:

[a] WIC participant figures for children by single year of age are not available. The figures in this table are derived from the total number of children participating using the ratio of child enrollees by single year of age to the total number of children enrolled.

WIC PARTICIPANTS IN 2014 COMPARED TO TOTAL POPULATION

The information on WIC participants can be compared not only with the estimated number of WIC-eligible people (to compute coverage rates) but can also be compared with estimates of the total numbers of people in the demographic groups that are the focus of WIC (table 15). That second type of computation is useful for understanding the overall scope of the program among the population. The estimates show that WIC benefits were received by just under half (49.6 percent) of all infants in 2014, 26.6 percent of young children, 27.1 percent of pregnant women, and 29.6 percent of postpartum women. Overall, 30.5 percent of people in the demographic groups covered by WIC received program benefits.

WIC COVERAGE RATES IN 2014, REGIONAL LEVEL

The 2014 WIC coverage rate varies somewhat by region (table 16). Considering all WIC-eligible individuals combined, the overall WIC coverage rate is lowest in the Mountain Plains region, at 45.5 percent and highest in the Western region, at 64 percent. Some regions, while having an overall coverage rate similar to the national rate, have rates in some subgroups that are noticeably different from the national rate. For example, the Southwest has an overall coverage rate similar to the national rate, but the coverage rate for postpartum women in the Southwest is about 13 percentage points higher than the national rate. However, as mentioned above, all the WIC eligibility estimates are affected by sampling variability. Thus, the actual coverage rates could be somewhat higher or lower than shown. (Maps of regional-level coverage rates, in total and by participant subgroup, are shown in appendix C.)

Table 16: WIC Eligibles and Coverage Rates by FNS Region and Participant Group, CY 2014

	Infants	Children (age 1 to 4)	Pregnant Women	All Post-Partum Women	Total
Eligibles					
Northeast	218,523	837,926	142,520	145,262	1,344,230
Mid-Atlantic	272,098	1,053,757	177,461	170,953	1,674,270
Southeast	526,362	1,992,652	343,292	325,630	3,187,936
Midwest	368,281	1,392,932	240,192	237,496	2,238,901
Southwest	381,902	1,452,577	249,075	239,469	2,323,025
Mountain					
Plains	193,883	700,741	126,450	129,310	1,150,384
Western	490,700	1,917,087	320,033	358,742	3,086,562
Total	2,451,750	9,347,672	1,599,023	1,606,863	15,005,308
Participants					
Northeast	165,591	388,035	67,011	101,210	721,848
Mid-Atlantic	223,320	510,573	88,362	126,169	948,423
Southeast	409,213	797,632	164,510	234,613	1,605,968
Midwest	291,463	591,880	117,615	151,359	1,152,317
Southwest	325,214	634,431	133,497	205,934	1,299,075
Mountain					
Plains	131,034	264,577	51,867	76,030	523,508
Western	415,928	1,109,335	180,031	271,340	1,976,632
Total	1,961,762	4,296,463	802,892	1,166,655	8,227,771
Coverage Rates					
Northeast	75.8%	46.3%	47.0%	69.7%	53.7%
Mid-Atlantic	82.1%	48.5%	49.8%	73.8%	56.6%
Southeast	77.7%	40.0%	47.9%	72.0%	50.4%
Midwest	79.1%	42.5%	49.0%	63.7%	51.5%
Southwest	85.2%	43.7%	53.6%	86.0%	55.9%
Mountain					
Plains	67.6%	37.8%	41.0%	58.8%	45.5%
Western	84.8%	57.9%	56.3%	75.6%	64.0%
Total	80.0%	46.0%	50.2%	72.6%	54.8%

Sources: 2015 CPS-ASEC, 2014 ACS, 2014 PRCS, Census International Data Base, WIC Administrative Data

WIC COVERAGE RATES IN 2014 AT THE STATE LEVEL

Coverage rates can also be calculated by State. The precision of the State estimates is considerably lower than for the national estimates, so that must be kept in mind while interpreting the estimates, particularly for smaller States. (Later in this report we show the level of imprecision in the State eligibility estimates due to sampling variability.)

With that caveat in mind, coverage rate estimates for 2014 show substantial variation between States (table 17 and figure 12).[57] In 2014, the State coverage rates range from 39 percent in Montana to 71 percent in California (and 83 percent in Puerto Rico). Among very large States other than California, the estimated overall WIC coverage rate is 51 percent in Florida (slightly below the national average), 55 percent in New York (the same as the national average), and 59 percent in Texas (above the national average).

It is also useful to consider the State-level coverage rate for participant subgroups. This year, for the first time, we have analyzed State-level coverage rates for seven participant subgroups. In last year's report, we reported the estimated number of WIC-eligible individuals and coverage rates for only two broad groups—infants and women (combined) and all children ages 1 through 4—due to general concern about statistical reliability and the fact that estimated coverage rates exceeded 100 percent for some subgroups in numerous States (suggesting inaccuracies in eligibility estimation, mismatches between concepts in the data used for eligibility and those used for participation information, and/or the effect of sampling variability). With the current methodology, however, estimated State-level coverage rates for 2014 never exceed 100 percent for any of the major subgroups (infants, all children, all postpartum women, or all pregnant women). The estimated State-level coverage rates do exceed 100 percent for some smaller groups; the estimated rate exceeds 100 percent in 14 States for non-breastfeeding women, in 2 States for breastfeeding postpartum women, and in 1 State for children age 1.

The frequency of estimated State-level coverage rates exceeding 100 percent is still a concern, particularly for non-breastfeeding mothers. Estimated coverage rates over 100 percent for some subgroups were seen in estimates prior to implementation of the CNSTAT panel's methods. Now, the use of the NIS breastfeeding rates has produced a larger proportion of mothers who are breastfeeding during the first six months that in turn leads to lower estimates of WIC-eligible mothers who are *not* breastfeeding, and thus higher estimated coverage rates for the non-breastfeeding group.

The cases when the estimated rates exceed 100 percent are likely due to a combination of reasons. The first potential cause of estimated coverage rates exceeding 100 percent is sampling variability in the survey data used to estimate the number of WIC-eligible infants. Specifically, if the true coverage rate for non-breastfeeding postpartum women in a particular State is in reality just slightly below 100 percent, and if sampling variability in the ACS leads us to estimate an eligibility figure for that State

[57] Table B.2 in the appendix shows the same information as table 17, but the States are categorized by region rather than alphabetically.

that is slightly *lower* than the true figure, the coverage rate could be estimated at a figure higher than 100 percent. (See table 21, later in this report, for the confidence intervals surrounding national-level coverage rates for postpartum non-breastfeeding women in recent years.) Second, if infant eligibility is underestimated due to reasons other than sampling—for example, if underreporting of benefit receipt in the survey data leads to underestimation of adjunctive eligibility—that would also lead to underestimation of the number of WIC-eligible postpartum women. Third, the breastfeeding rates that are used to separately estimate WIC eligibility for breastfeeding and non-breastfeeding postpartum women are also based on survey data, which introduces additional uncertainty into the estimation of the eligibility figures. Fourth, we cannot rule out the possibility that there may be some degree of mismatch between the data on breastfeeding used for the eligibility estimates and the definition in the participation data. Our understanding of WIC procedures is that women are categorized in the participation data as "breastfeeding" if they are breastfeeding at least once per day, which appears to be consistent with reporting in the survey data. However, if for any reason women are categorized as breastfeeding in survey data who would be categorized as non-breastfeeding in the WIC participation data, that situation would contribute to the computation of coverage rates exceeding 100 percent for the non-breastfeeding group. For example, Gillespie et al. (2006) found that short-term breastfeeders somewhat overstated their duration of breastfeeding when asked retrospectively. This and other issues regarding the breastfeeding data could be considered further in future WIC eligibility estimation.

Table 17: WIC Eligibles and Coverage Rates by State and FNS Region, CY 2014

State	Eligibles	Participants	Coverage Rate		Eligibles	Participants	Coverage Rate
Alabama	247,293	132,246	53.5%	New York	879,277	481,394	54.7%
Alaska	43,801	19,404	44.3%	North Carolina	497,584	254,297	51.1%
Arizona	336,949	172,305	51.1%	North Dakota	32,036	12,727	39.7%
Arkansas	173,571	83,392	48.0%	Ohio	496,898	249,309	50.2%
California	1,878,350	1,333,990	71.0%	Oklahoma	216,858	115,124	53.1%
Colorado	225,311	92,294	41.0%	Oregon	192,775	102,229	53.0%
Connecticut	121,575	52,381	43.1%	Pennsylvania	478,719	248,579	51.9%
Delaware	38,162	19,720	51.7%	Puerto Rico	206,450	171,567	83.1%
D.C.	30,508	14,412	47.2%	Rhode Island	40,883	21,919	53.6%
Florida	917,316	471,065	51.4%	South Carolina	238,589	113,940	47.8%
Georgia	555,959	271,058	48.8%	South Dakota	43,658	19,633	45.0%
Hawaii	64,621	33,323	51.6%	Tennessee	335,618	153,849	45.8%
Idaho	87,136	41,463	47.6%	Texas	1,548,001	911,615	58.9%
Illinois	550,981	265,258	48.1%	Utah	151,705	61,017	40.2%
Indiana	322,943	156,311	48.4%	Vermont	21,922	14,156	64.6%
Iowa	135,671	64,071	47.2%	Virginia	297,815	142,086	47.7%
Kansas	141,562	65,423	46.2%	Washington	319,465	181,776	56.9%
Kentucky	224,758	120,103	53.4%	West Virginia	83,381	43,250	51.9%
Louisiana	257,455	130,781	50.8%	Wisconsin	229,271	108,298	47.2%
Maine	44,153	22,651	51.3%	Wyoming	26,011	11,476	44.1%
Maryland	222,184	141,033	63.5%				
Massachusetts	202,022	114,662	56.8%	**FNS Region[b]**			
Michigan	446,723	251,379	56.3%	Northeast	1,344,230	721,848	53.7%
Minnesota	192,085	121,761	63.4%	Mid-Atlantic	1,674,270	948,423	56.6%
Mississippi	170,819	89,411	52.3%	Southeast	3,187,936	1,605,968	50.4%
Missouri	268,989	138,420	51.5%	Midwest	2,238,901	1,152,317	51.5%
Montana	49,184	19,210	39.1%	Southwest	2,323,025	1,299,075	55.9%
Nebraska	76,257	39,238	51.5%	Mountain Plains	1,150,384	523,508	45.5%
Nevada	139,289	74,604	53.6%	Western	3,086,562	1,976,632	64.0%
New Hampshire	34,399	14,685	42.7%				
New Jersey	311,329	163,204	52.4%	**Total**	15,005,308	8,227,771	54.8%
New Mexico	127,139	58,163	45.7%				

Sources: 2015 CPS-ASEC, 2014 ACS, 2014 PRCS, Census International Data Base, WIC Administrative Data

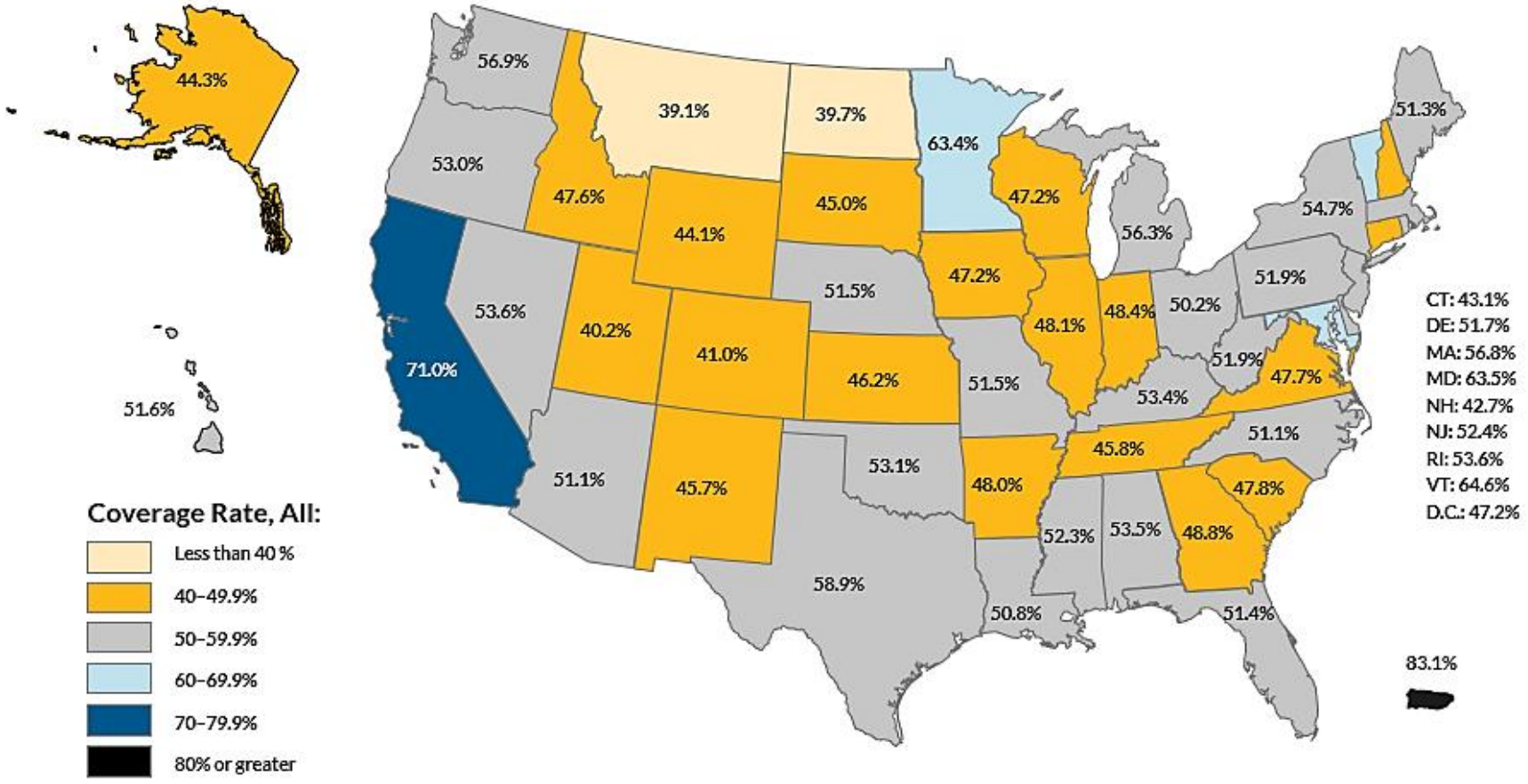
Notes:

[a] State and regional eligibility estimates and participant data include those eligible for WIC and/or receiving WIC via Indian Tribal Organizations.

[b] 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 12: WIC Coverage Rates for All Participants, by State, CY 2014

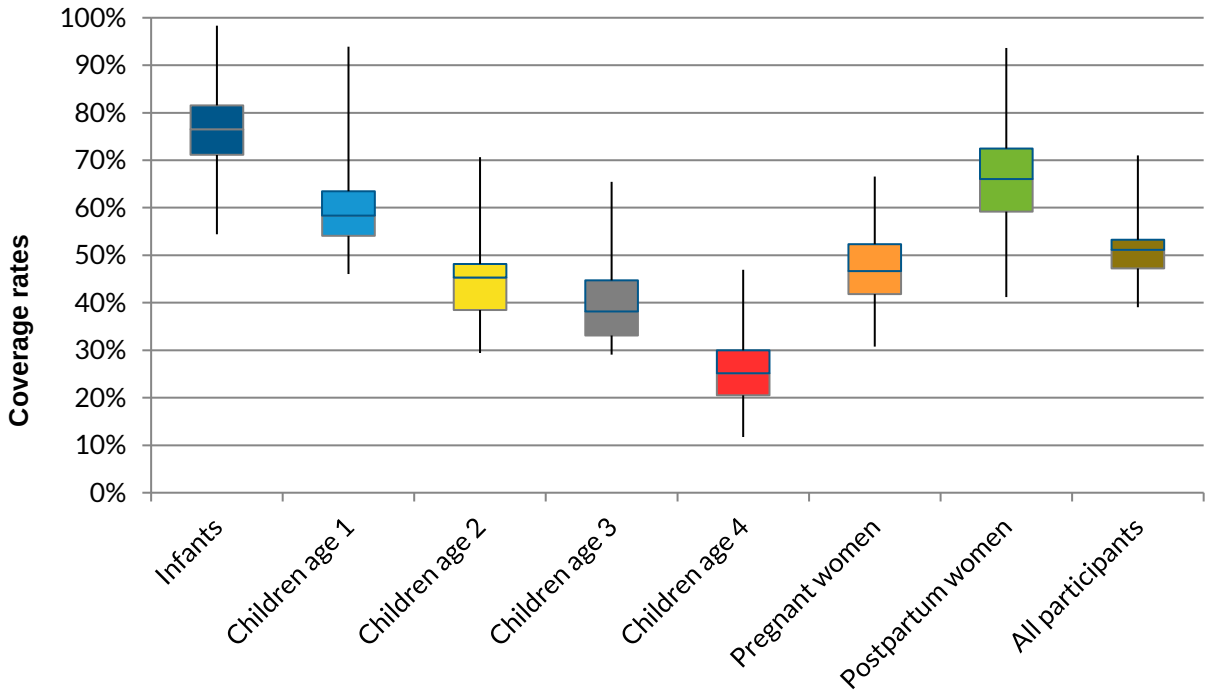
National Coverage Rate (All States, D.C., and Territories): 54.8%



Source: 2015 CPS-ASEC, 2014 ACS, 2014 PRCS, WIC Administrative Data

The distribution of the State-level group-specific coverage rates, using only the 2014 data, is displayed in figure 13. Information is shown for seven subgroups—infants, children ages 1 through 4 by exact year of age, pregnant women, and all postpartum women.[58] For each participant group, the height of each "box" represents the range between the 25th and 75th percentiles of the distribution of State-level coverage rates for that group, and the horizontal line within the box represents the median value of the State-level coverage rates. The vertical lines at the top and bottom of each box show the complete range.

Figure 13: Range of WIC Coverage Rates across the States, 2014, by Participation Category



Source: Authors' tabulations of detailed coverage rate estimates

There is substantial variation in State-level coverage rates for each category. For example, for infants, the coverage rate ranges from 54 percent to close to 100 percent, while for 4-year-olds, the range is from 12 percent to 47 percent. The range is widest for postpartum women—from about 40 percent to over 90 percent. State-specific rates for all seven subgroups are shown in table 18. Also, State-specific coverage rates for four groups—infants, children, pregnant women, and postpartum women—are mapped in figures 14 through 17.

[58] The data on WIC participants does not count children by exact age; however, this information is available for enrolled children in the WIC Participant and Program Characteristics data. To compute coverage rates for children ages 1, 2, 3, and 4 at the State level, we estimate the numbers of participating children by exact age by assuming that, in each State, the percentage distribution of participating children by exact age is the same as the percentage distribution of enrolled children by exact age in that State.

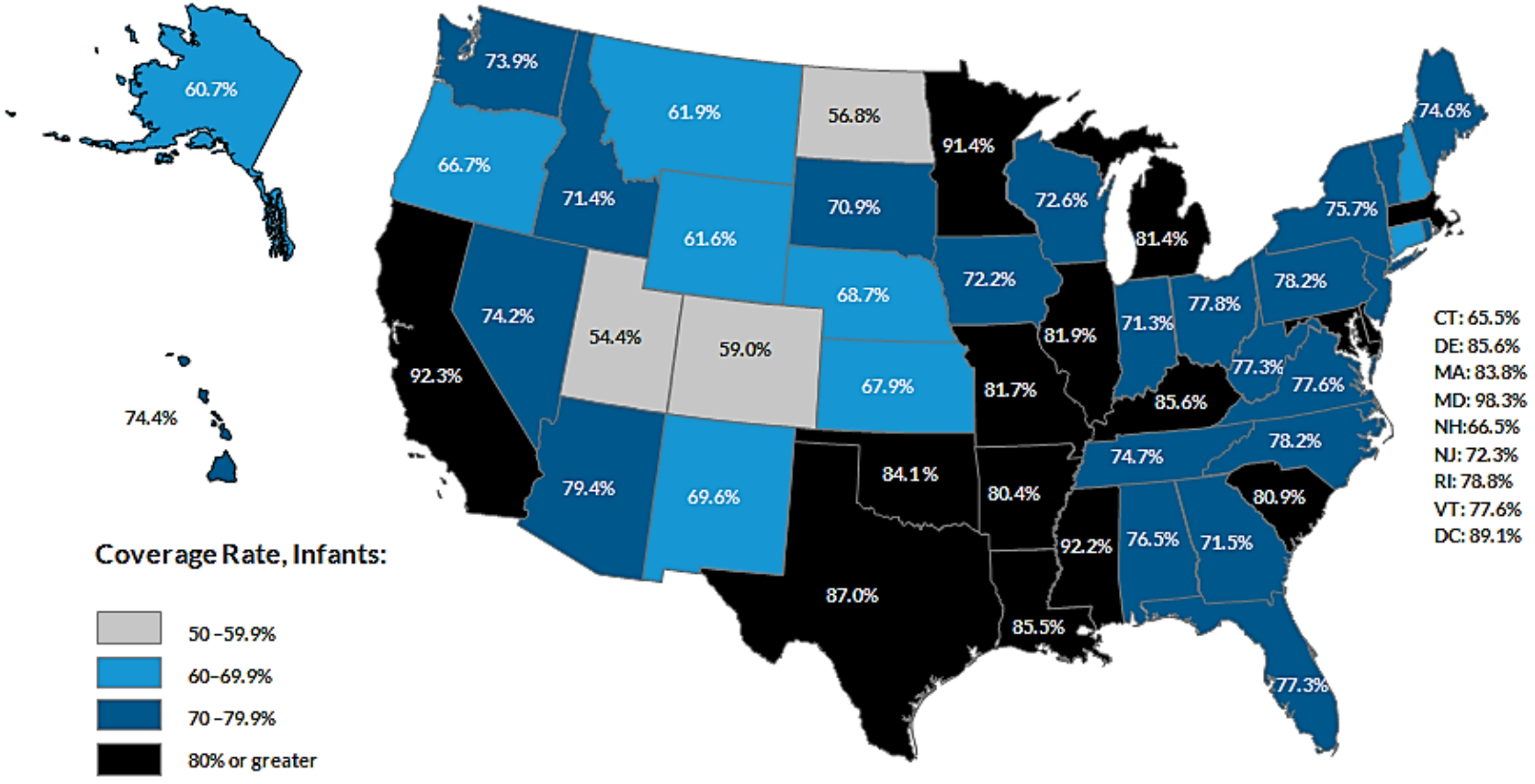
Table 18: WIC Coverage Rates by State and Participant Subgroup, CY 2014

State	Infants	Children Age 1	Children Age 2	Children Age 3	Children Age 4	Pregnant Women	Postpartum Women	All Participants
Alabama	76.5%	63.8%	45.8%	40.4%	28.9%	53.9%	65.3%	53.5%
Alaska	60.7%	58.3%	51.5%	30.8%	28.7%	39.6%	41.2%	44.3%
Arizona	79.4%	54.0%	44.9%	36.7%	31.6%	42.5%	70.2%	51.1%
Arkansas	80.4%	58.0%	36.4%	30.4%	20.9%	52.4%	67.8%	48.0%
California	92.3%	75.4%	70.6%	65.5%	46.9%	63.4%	83.6%	71.0%
Colorado	59.0%	54.2%	35.6%	29.9%	21.2%	35.6%	53.6%	41.0%
Connecticut	65.5%	53.4%	45.3%	34.5%	19.5%	42.4%	42.1%	43.1%
Delaware	85.6%	93.9%	32.9%	39.1%	15.7%	52.9%	63.9%	51.7%
DC	89.1%	50.7%	29.6%	29.1%	20.2%	44.0%	85.0%	47.2%
Florida	77.3%	58.8%	47.4%	39.3%	22.0%	49.1%	66.0%	51.4%
Georgia	71.5%	52.5%	45.4%	38.9%	21.8%	33.8%	91.0%	48.8%
Hawaii	74.4%	49.5%	54.7%	38.2%	37.8%	43.1%	62.2%	51.6%
Idaho	71.4%	50.1%	43.6%	36.3%	27.5%	44.0%	59.3%	47.6%
Illinois	81.9%	55.3%	44.5%	32.7%	18.6%	51.5%	59.8%	48.1%
Indiana	71.3%	56.4%	41.9%	33.3%	29.7%	42.0%	64.0%	48.4%
Iowa	72.2%	59.9%	47.2%	36.9%	15.2%	39.9%	69.7%	47.2%
Kansas	67.9%	50.0%	40.6%	36.5%	27.8%	43.6%	58.5%	46.2%
Kentucky	85.6%	55.7%	44.2%	39.1%	29.0%	60.8%	68.3%	53.4%
Louisiana	85.5%	57.2%	37.2%	32.5%	22.8%	52.4%	76.8%	50.8%
Maine	74.6%	52.8%	45.8%	52.2%	30.2%	41.7%	61.3%	51.3%
Maryland	98.3%	70.0%	60.2%	45.6%	28.9%	66.6%	87.6%	63.5%
Massachusetts	83.8%	70.2%	51.9%	50.0%	20.9%	53.3%	77.2%	56.8%
Michigan	81.4%	59.1%	50.7%	45.3%	41.2%	54.9%	59.1%	56.3%
Minnesota	91.4%	77.6%	51.8%	53.0%	37.1%	55.7%	82.8%	63.4%
Mississippi	92.2%	58.8%	37.7%	33.8%	26.6%	51.0%	74.8%	52.3%
Missouri	81.7%	61.4%	39.7%	34.5%	25.2%	52.3%	68.5%	51.5%
Montana	61.9%	46.0%	29.4%	32.9%	19.6%	38.2%	49.2%	39.1%
Nebraska	68.7%	59.1%	45.5%	44.2%	37.6%	38.7%	61.8%	51.5%
Nevada	74.2%	63.2%	47.9%	45.4%	34.4%	42.1%	65.8%	53.6%
New Hampshire	66.5%	47.4%	45.4%	30.9%	21.2%	40.0%	53.2%	42.7%
New Jersey	72.3%	65.2%	47.6%	39.2%	31.3%	43.1%	69.7%	52.4%
New Mexico	69.6%	58.4%	39.1%	31.4%	22.5%	43.0%	60.2%	45.7%
New York	75.7%	68.3%	51.2%	45.2%	24.9%	46.7%	73.8%	54.7%
North Carolina	78.2%	57.0%	46.0%	46.7%	17.4%	46.7%	72.4%	51.1%
North Dakota	56.8%	47.5%	31.2%	35.1%	25.3%	30.8%	44.2%	39.7%
Ohio	77.8%	55.4%	41.6%	37.8%	28.6%	45.9%	65.9%	50.2%
Oklahoma	84.1%	60.9%	50.7%	40.3%	17.4%	59.7%	69.5%	53.1%
Oregon	66.7%	60.5%	48.4%	49.4%	39.4%	47.4%	55.0%	53.0%
Pennsylvania	78.2%	68.4%	47.8%	39.0%	23.2%	36.9%	74.9%	51.9%
Rhode Island	78.8%	63.8%	42.7%	56.3%	33.3%	50.3%	51.2%	53.6%
South Carolina	80.9%	52.0%	37.8%	29.1%	20.1%	51.9%	70.8%	47.8%
South Dakota	70.9%	67.5%	37.0%	31.6%	20.9%	39.2%	50.9%	45.0%
Tennessee	74.7%	55.6%	36.2%	31.2%	11.7%	51.8%	66.9%	45.8%
Texas	87.0%	78.4%	48.7%	42.4%	16.0%	54.0%	93.6%	58.9%
Utah	54.4%	52.6%	33.8%	35.5%	18.7%	33.2%	52.0%	40.2%
Vermont	77.6%	81.8%	66.1%	59.6%	40.8%	48.2%	81.9%	64.6%
Virginia	77.6%	61.4%	36.1%	32.6%	17.4%	49.2%	66.1%	47.7%
Washington	73.9%	59.4%	55.7%	47.9%	41.3%	53.1%	66.4%	56.9%
West Virginia	77.3%	54.9%	46.7%	41.7%	27.0%	48.7%	72.5%	51.9%
Wisconsin	72.6%	54.6%	40.7%	39.0%	25.5%	42.4%	61.1%	47.2%
Wyoming	61.6%	61.4%	42.7%	36.3%	23.3%	36.9%	48.0%	44.1%
Total[b]	80.0%	68.2%	48.1%	42.2%	25.9%	50.2%	72.6%	54.8%

Sources: 2015 CPS-ASEC, 2014 ACS, WIC Administrative Data, and 2014 WIC Participant and Program Characteristics Report
Notes: a State and regional eligibility estimates and participant data include those eligible for WIC and/or receiving WIC via Indian Tribal Organizations. b Estimates for the territories are included in the totals.

Figure 14: WIC Coverage Rates for Infants, by State, CY 2014

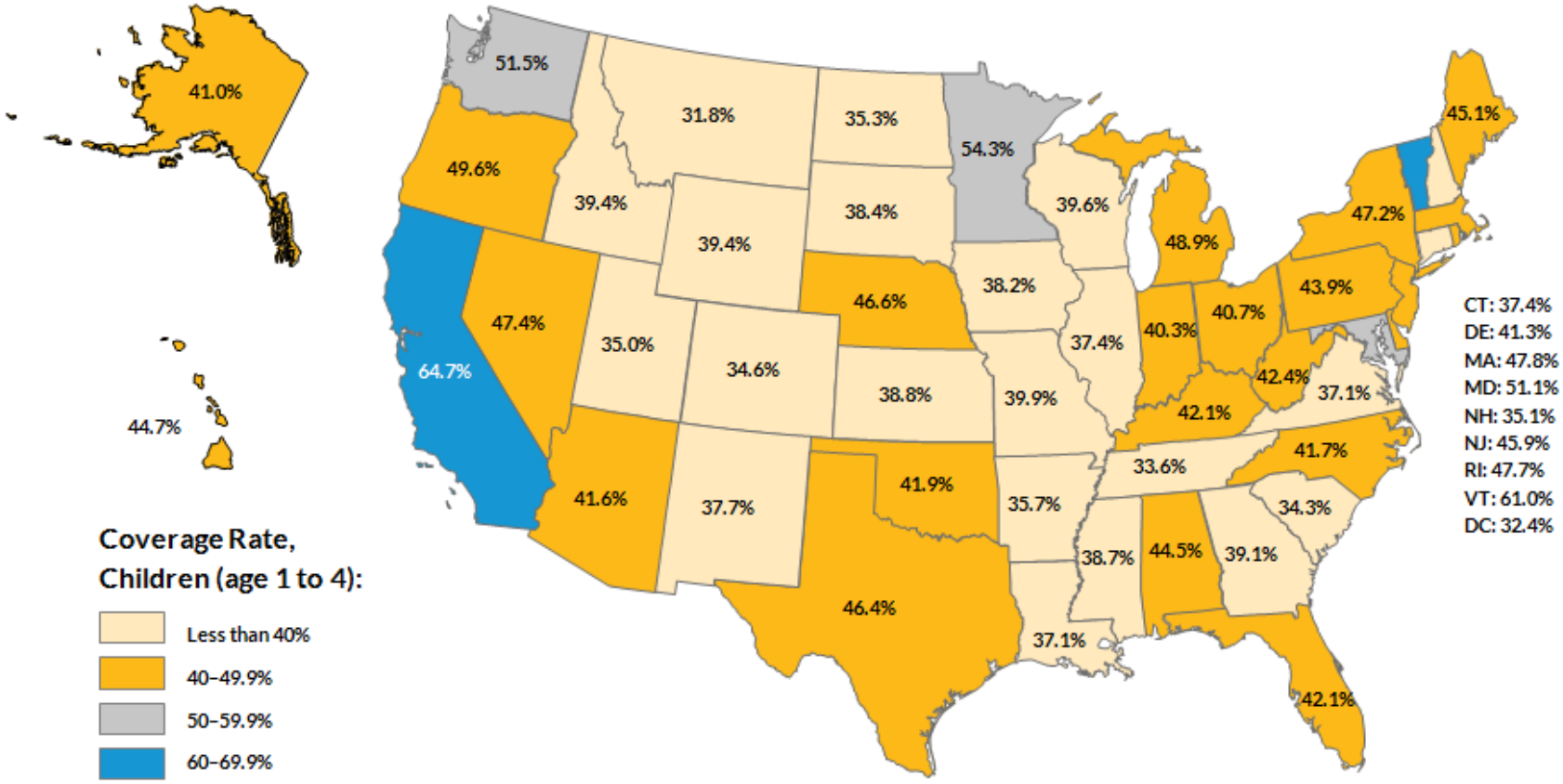
National Coverage Rate (All States, D.C., and Territories): 80.0%



Source: 2015 CPS-ASEC, 2014 ACS, 2014 PRCS, WIC Administrative Data

Figure 15: WIC Coverage Rates for Children Ages 1–4, by State, CY 2014

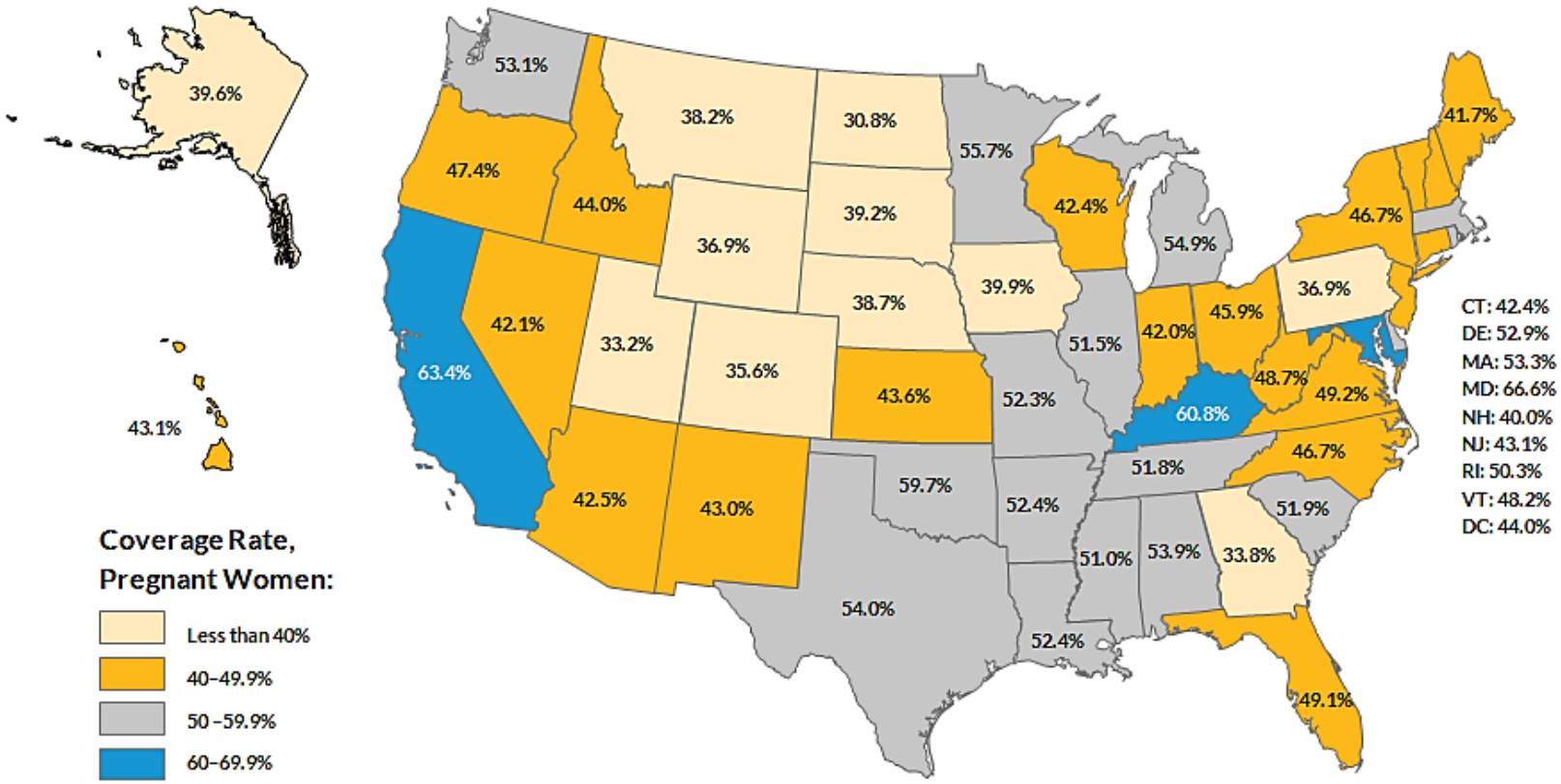
National Coverage Rate (All States, D.C., and Territories): 46.0%



Source: 2015 CPS-ASEC, 2014 ACS, 2014 PRCS, WIC Administrative Data

Figure 16: WIC Coverage Rates for Pregnant Women, by State, CY 2014

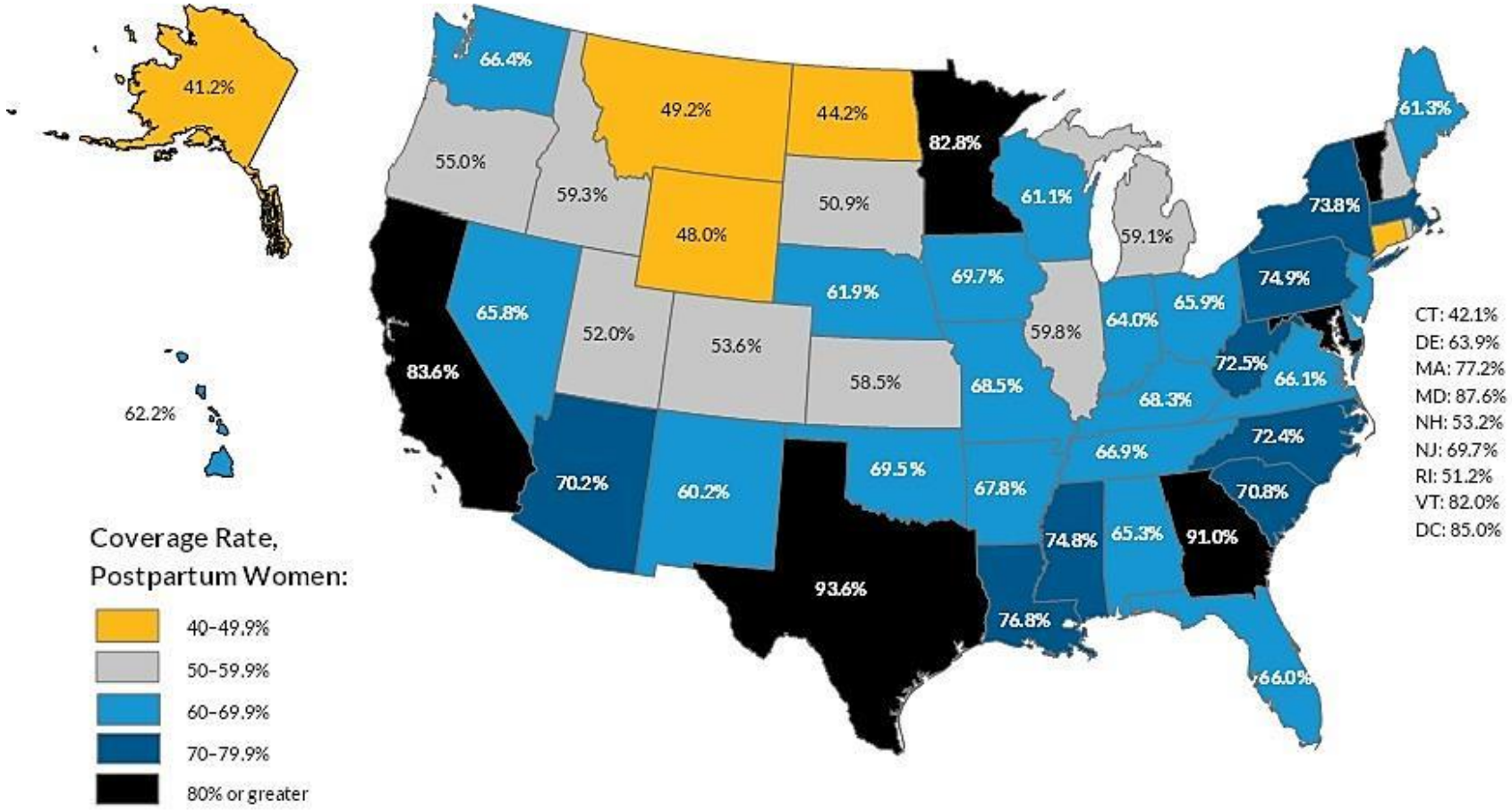
National Coverage Rate (All States, D.C., and Territories): 50.2%



Source: 2015 CPS-ASEC, 2014 ACS, 2014 PRCS, WIC Administrative Data

Figure 17: WIC Coverage Rates for Postpartum Women, by State, CY 2014

National Coverage Rate (All States, D.C., and Territories): 72.6%



Source: 2015 CPS-ASEC, 2014 ACS, 2014 PRCS, WIC Administrative Data

Some States—California, Maryland, Massachusetts, and Minnesota—appear to have high coverage rates for all participant subgroups. Other States—such as Colorado and Montana—appear to have relatively low coverage rates for all of the subgroups. Quite a few States cover a higher-than-average or lower-than-average portion of the eligibles for some participant subgroups but not others. For example, in Illinois, the estimated coverage rate for infants is approximately equal to the national average, but the coverage rates for children in Illinois are somewhat below the national averages.

WIC COVERAGE RATE CHANGES FROM 2013 TO 2014

The overall national coverage rate of 54.8 percent is 7.5 percent lower than the 59.3 percent rate estimated for 2013 (table 19). The change is due to the combined impact of the 4.1 percent estimated increase in eligibility (table 10) and a 3.7 percent decline in WIC participation—from 8.547 million in 2013 (table 20) to 8.228 million average monthly participants in 2014.

The largest change in the estimated coverage rate was for children (ages 1 to 4). The number of children participating in WIC fell by 4.7 percent, while our estimated eligibility figure increased by 4.7 percent between the two years, leading to a reduction of 9.0 percent in the coverage rate (from 50.5 percent to 46.0 percent). The estimated coverage rate also fell for infants and postpartum women (by about 5 percent in each case), and pregnant women (by 7 percent).

At the regional level, coverage rates are estimated to have declined from 2013 to 2014 in all regions, for all subgroups (table 19). The degree of estimated decline ranges from a 1.5 percent decrease in the Western region for postpartum women to a 9.9 percent decrease in the Northeast among children.

WIC COVERAGE RATES FROM 2005 THROUGH 2014

Using the updated series of eligibility estimates, coverage rates can be examined across the period 2005 through 2014 (table 20). *Note that because of the numerous methodological changes that were made in re-estimating WIC eligibility for the years 2005 through 2014, the coverage rates presented in this report should not be directly compared with previously-published estimates.*

According to the new series, the overall coverage rate increased from 56.5 percent in 2005 to a high of 63.5 percent in 2011, but then declined somewhat, to the estimated 2014 level of 54.8 percent. The decline is due to a lower number of participants (from 9.0 million in 2011 to 8.2 million in 2014), combined with increased eligibility.

The population subgroups generally show a similar trend (figure 18) with some increases in the coverage rate in the years from 2005 to about 2007 to 2008, and declines from 2012 to 2014. For infants and for non-breastfeeding postpartum mothers, there is a dip in the estimated coverage rates

for 2010. In both cases, estimated eligibility increased somewhat from 2009 to 2010 while the actual number of participants declined somewhat.

Across all of the years, the coverage rates for the subgroups keep the same relationships to each other (with the exception of the coverage rate of 2-year-old children rising slightly above the coverage rate for pregnant women in 2011). For example, 4-year-old children have the lowest coverage rate in all of these years —varying between 26 and 36 percent—while postpartum non-breastfeeding women have the highest rate in all of the years—varying from 81 percent in 2005 to approximately 100 percent in 2012.

The coverage rate estimated for non-breastfeeding postpartum women in 2012 was actually slightly *higher* than 100 percent. In other words, the number of participants in the average month of 2012 who were categorized as non-breastfeeding postpartum women was slightly *higher* than the number of non-breastfeding postpartum women estimated to be eligible. As described earlier in this report, in the discussion of State-level coverage rates forpostpartum women, there are at least four reasons that an estimated coverage rate could exceed 100 percent for this group: sampling variability in the survey data used to estimate the number of WIC-eligible infants (the base for the estimation of postpartum eligibility), underestimation of WIC-eligible infants for non-sampling reasons (such as underestimation of adjunctive eligibility due to underreporting of benefit receipt), variability in the estimates of breastfeeding rates (since those are also derived from surveys), and the possibility of mismatch between the way in which people answer the survey questions on breastfeeding and the way in which women are categorized as breastfeeding or non-breastfeeding in WIC participation data. If the true coverage rate for postpartum non-breastfeeding women is very high—which would be reasonable since the formula they can receive for their babies is a valuable economic benefit—a relatively small underestimation of eligibility due to one or more of the above factors could cause the measured coverage rate to exceed 100 percent.

Table 19: WIC Coverage Rates by FNS Region and Participant Group, CY 2014–13

	Infants	Children (Ages 1 to 4)	Pregnant Women	All Postpartum Women	Total
Coverage rate, 2014					
Northeast	75.8%	46.3%	47.0%	69.7%	53.7%
Mid-Atlantic	82.1%	48.5%	49.8%	73.8%	56.6%
Southeast	77.7%	40.0%	47.9%	72.0%	50.4%
Midwest	79.1%	42.5%	49.0%	63.7%	51.5%
Southwest	85.2%	43.7%	53.6%	86.0%	55.9%
Mountain Plains	67.6%	37.8%	41.0%	58.8%	45.5%
Western	84.8%	57.9%	56.3%	75.6%	64.0%
Total	80.0%	46.0%	50.2%	72.6%	54.8%
Coverage rate, 2013					
Northeast	82.3%	51.4%	50.7%	74.6%	58.9%
Mid-Atlantic	86.1%	53.0%	53.2%	77.6%	61.1%
Southeast	84.4%	44.2%	53.1%	77.5%	55.0%
Midwest	85.2%	46.3%	53.7%	69.2%	55.9%
Southwest	86.7%	47.5%	56.3%	88.9%	59.3%
Mountain Plains	72.6%	41.7%	44.2%	64.8%	49.8%
Western	87.2%	63.6%	59.0%	76.8%	68.5%
Total	84.6%	50.5%	54.0%	76.6%	59.3%
Percent change in coverage rate, 2014 vs 2013					
Northeast	-7.9%	-9.9%	-7.3%	-6.6%	-8.8%
Mid-Atlantic	-4.7%	-8.6%	-6.4%	-4.9%	-7.3%
Southeast	-7.9%	-9.4%	-9.8%	-7.0%	-8.4%
Midwest	-7.1%	-8.2%	-8.8%	-7.9%	-7.9%
Southwest	-1.8%	-8.1%	-4.8%	-3.3%	-5.7%
Mountain Plains	-6.9%	-9.5%	-7.2%	-9.3%	-8.6%
Western	-2.8%	-9.0%	-4.7%	-1.5%	-6.5%
Total	-5.4%	-9.0%	-7.0%	-5.2%	-7.5%

Sources: 2015 CPS-ASEC, 2014 ACS, 2014 PRCS, Census International Data Base, WIC Administrative Data

Table 20: WIC Coverage Rates, 2005 through 2014

NOTE: This table includes estimates for the territories.

	Eligibles	Participants	Coverage Rate
2005	14,220,718	8,030,466	56.5%
2006	13,980,361	8,125,552	58.1%
2007	13,815,651	8,375,991	60.6%
2008	14,142,538	8,819,130	62.4%
2009	14,610,125	9,185,532	62.9%
2010	14,789,179	9,109,192	61.6%
2011	14,105,710	8,950,226	63.5%
2012	14,016,864	8,862,323	63.2%
2013	14,411,800	8,546,724	59.3%
2014	15,005,308	8,227,771	54.8%

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

Figure 18: National-Level WIC Coverage Rates by Eligibility Category, 2005 through 2014 (Using Revised Eligibility Estimates)

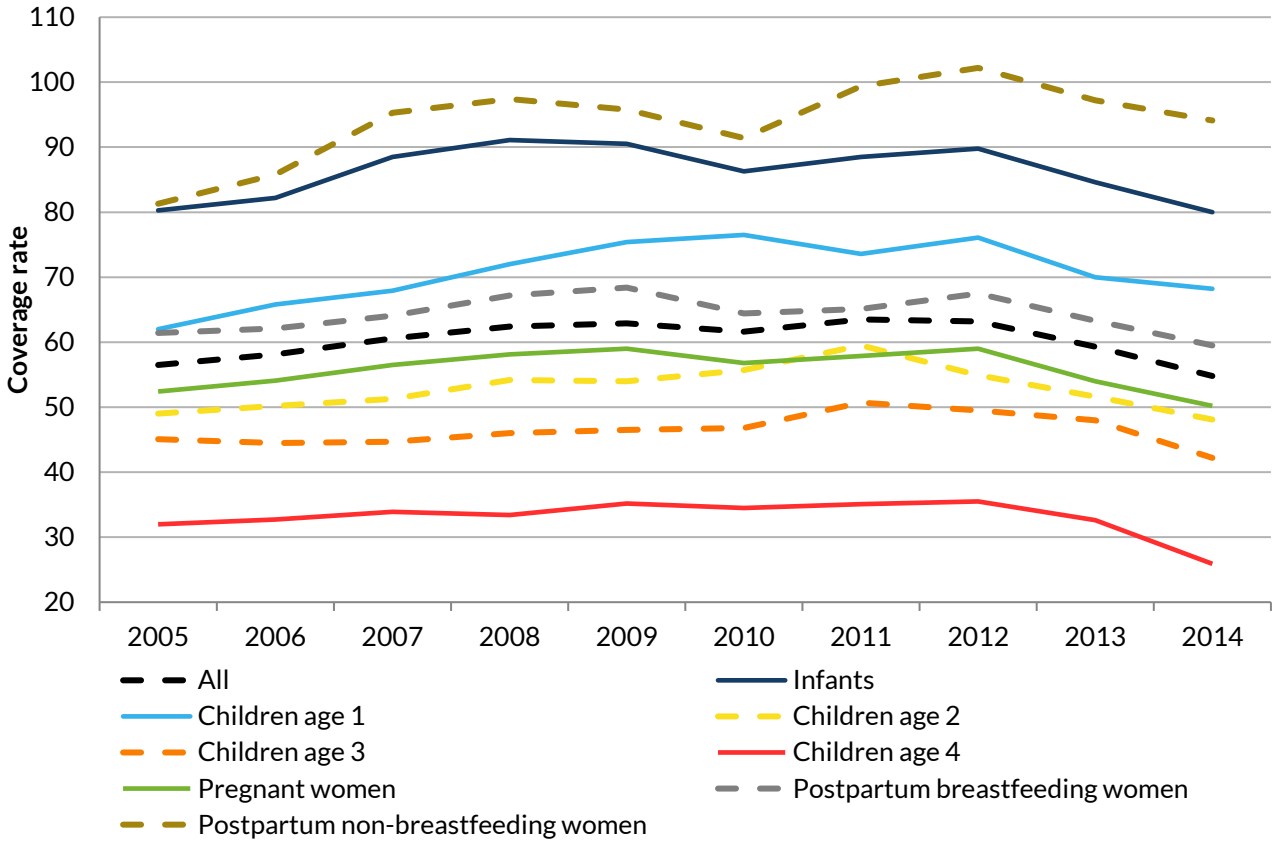


Table 21 focuses on uncertainty arising from sampling variability in the CPS-ASEC data. Due to that uncertainty, the estimate of 599 thousand WIC-eligible postpartum non-breastfeeding women in 2012 could be higher or lower than the true figure. If we compute the coverage rate using an upper-bound estimate of the eligibility estimate (the upper bound of the 90 percent confidence interval, as discussed in the section of this report on statistical reliability), the 2012 coverage rate for postpartum non-breastfeeding women would be meaured at 93.8 percent rather than 102.2 percent. Thus, that issue alone could be responsible for the estimation of a coverage rate above 100 percent.

Table 21: National-Level Coverage Rate for Non-Breastfeeding Postpartum Women: Point Estimate and Confidence Interval, 2011 through 2014

Year	Participants (Thous.)	Number eligible (Thous.)	Point Estimate	Lower Bound, Considering Sampling Variability[a]
2011	625.0	628.9	99.4	91.3
2012	612.1	599.1	102.2	93.8
2013	589.6	606.3	97.2	89.3
2014	572.8	608.8	94.1	86.4

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

Notes:

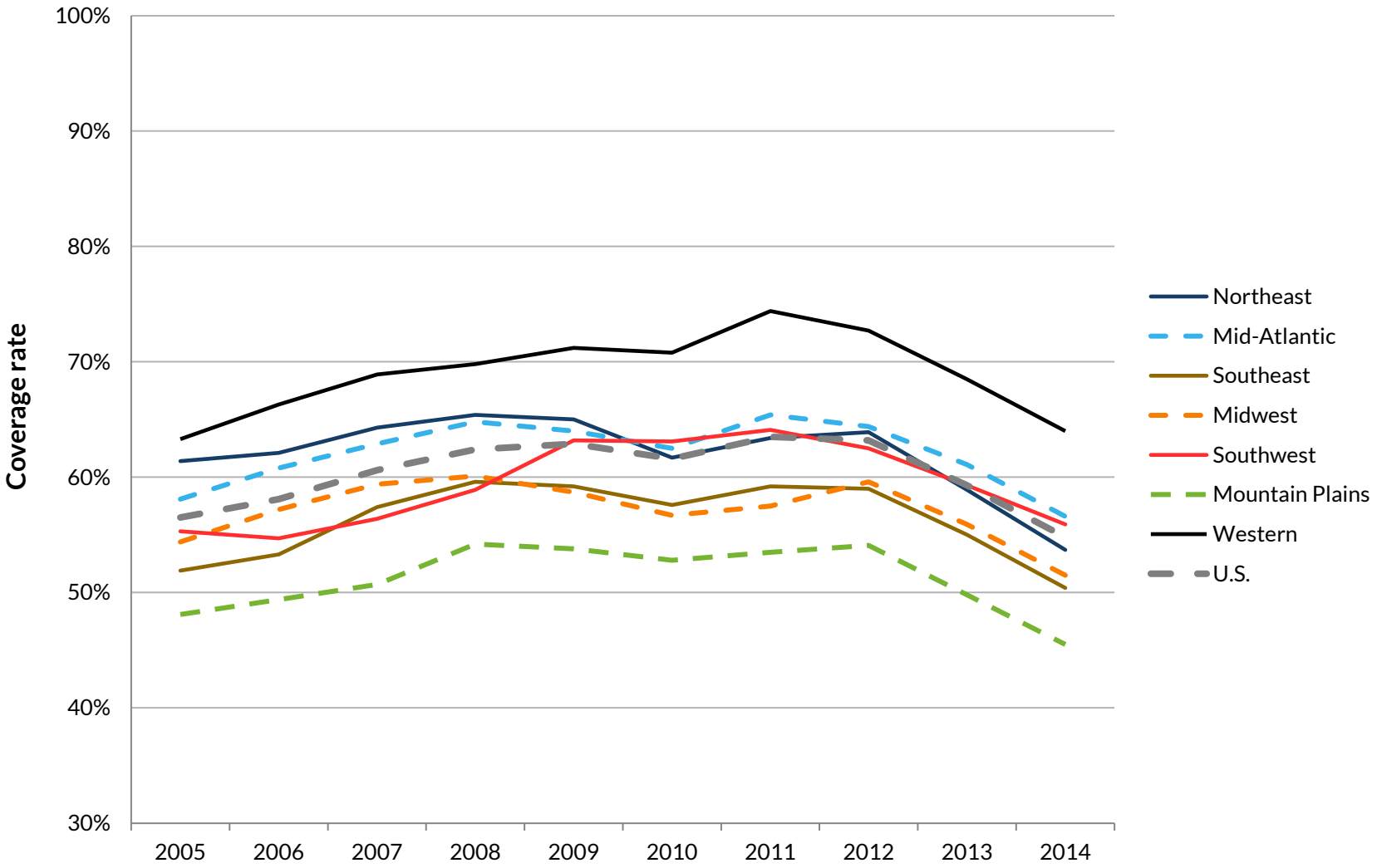
[a] The lower bound shown for the coverage rate equals the participation figure divided by a higher figure for the eligibility estimate. That higher figure equals the upper end of the range within which we are 90 percent certain that the true eligibility estimate lies (the "90 percent confidence interval"), assuming that the only error is due to sampling variability in the CPS-ASEC survey data. (To the extent that there is also uncertainty in the breastfeeding estimates, the range of uncertainty could be wider.)

Turning to the other subgroups, the coverage rates increase as age decreases, with the coverage rates for 3-year-olds (42 to 51 percent) higher than those for 4-year-olds (26 to 36 percent), the rates for 2-year-olds (48 to 60 percent) higher than those for 3-year-olds, and the rates for 1-year-olds (62 to 77 percent) higher than for 2-year-olds. The coverage rates for infants are quite high—almost as high as those for non-breastfeeding women—ranging from 80 percent in 2005 and 2014 to 91 percent in 2008 and 2009. For breastfeeding mothers, the coverage rate estimate ranges from 60 percent to 68 percent. Finally, the estimated coverage rate for pregnant women is slightly lower than the overall average, ranging from 50 percent to 59 percent.

Considering the results across time by region, the coverage rates in the Western region have consistently been the highest across the entire period from 2005 to 2014, while the coverage rates in the Mountain Plains have generally been lower than in other regions (figure 19).[59] The regional-level coverage rates across time are shown for infants in figure 20, for children in figure 21, for pregnant women in figure 22, and for postpartum women in figure 23.

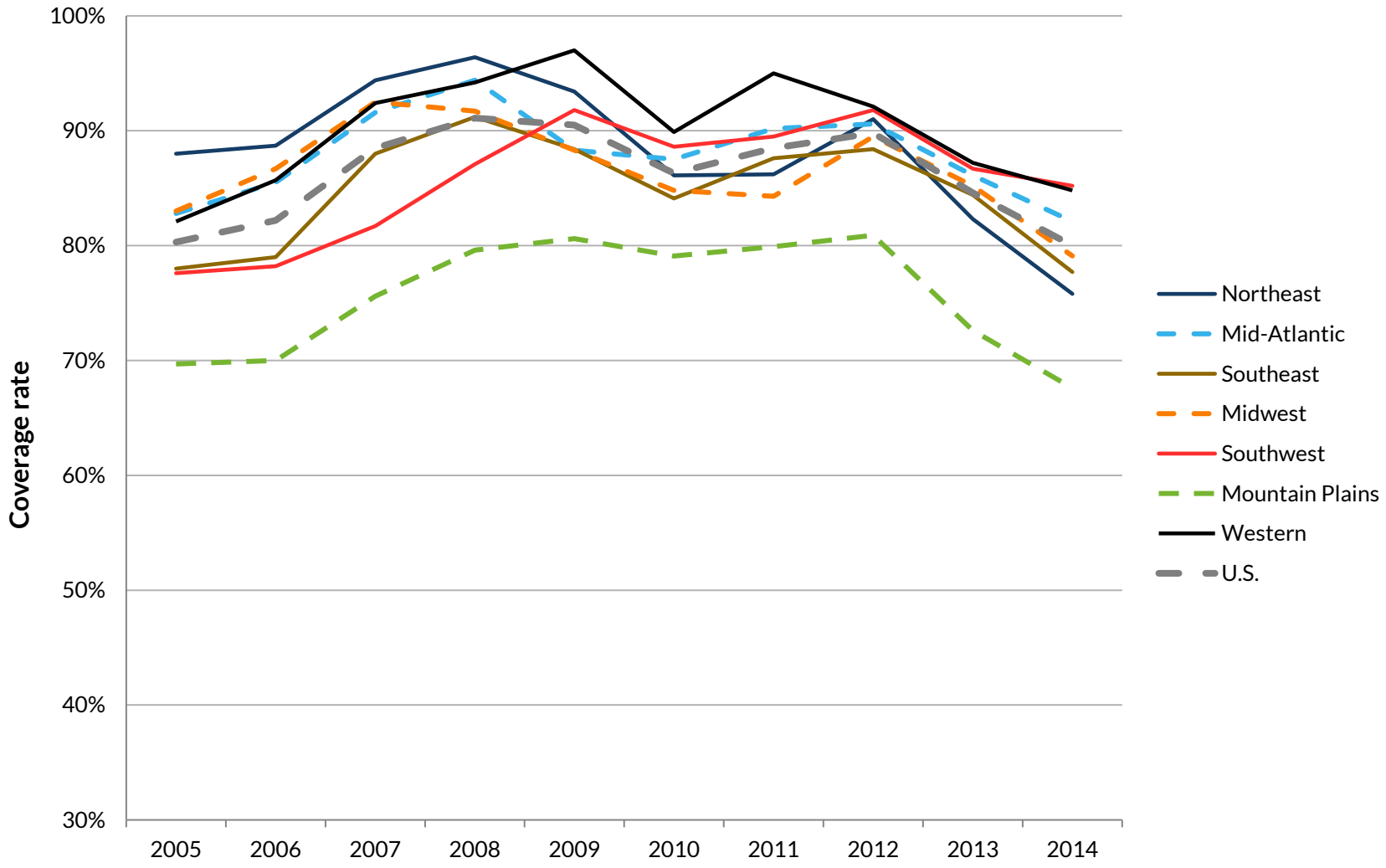
[59] The high rates in the Western region have been primarily due to the high rates in California.

Figure 19: All Participants Coverage Rate by FNS Region, 2005–14



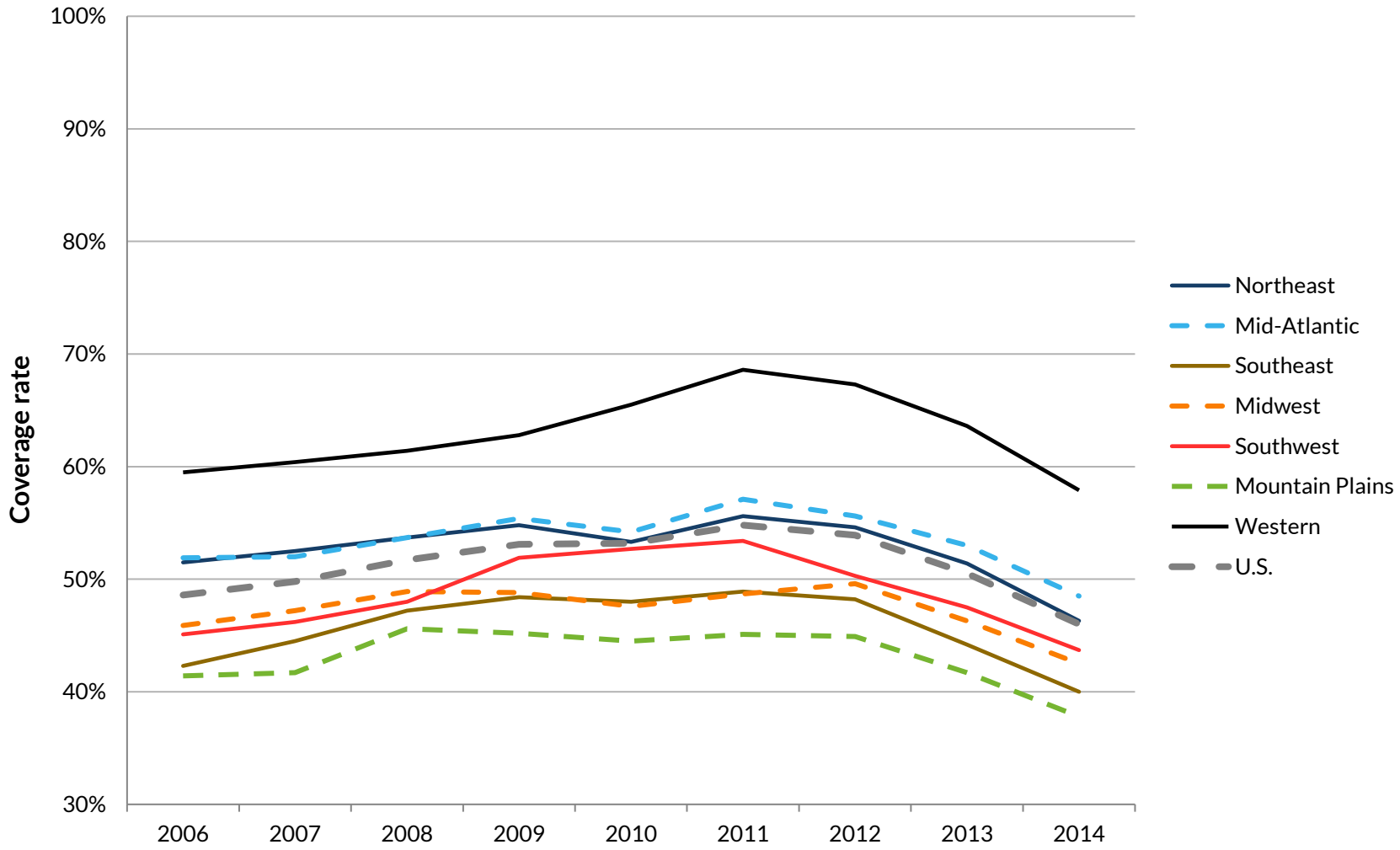
Source: Authors' calculations using WIC eligibility estimates produced under this project and WIC administrative data.

Figure 20: Infants Coverage Rate by FNS Region, 2005–14



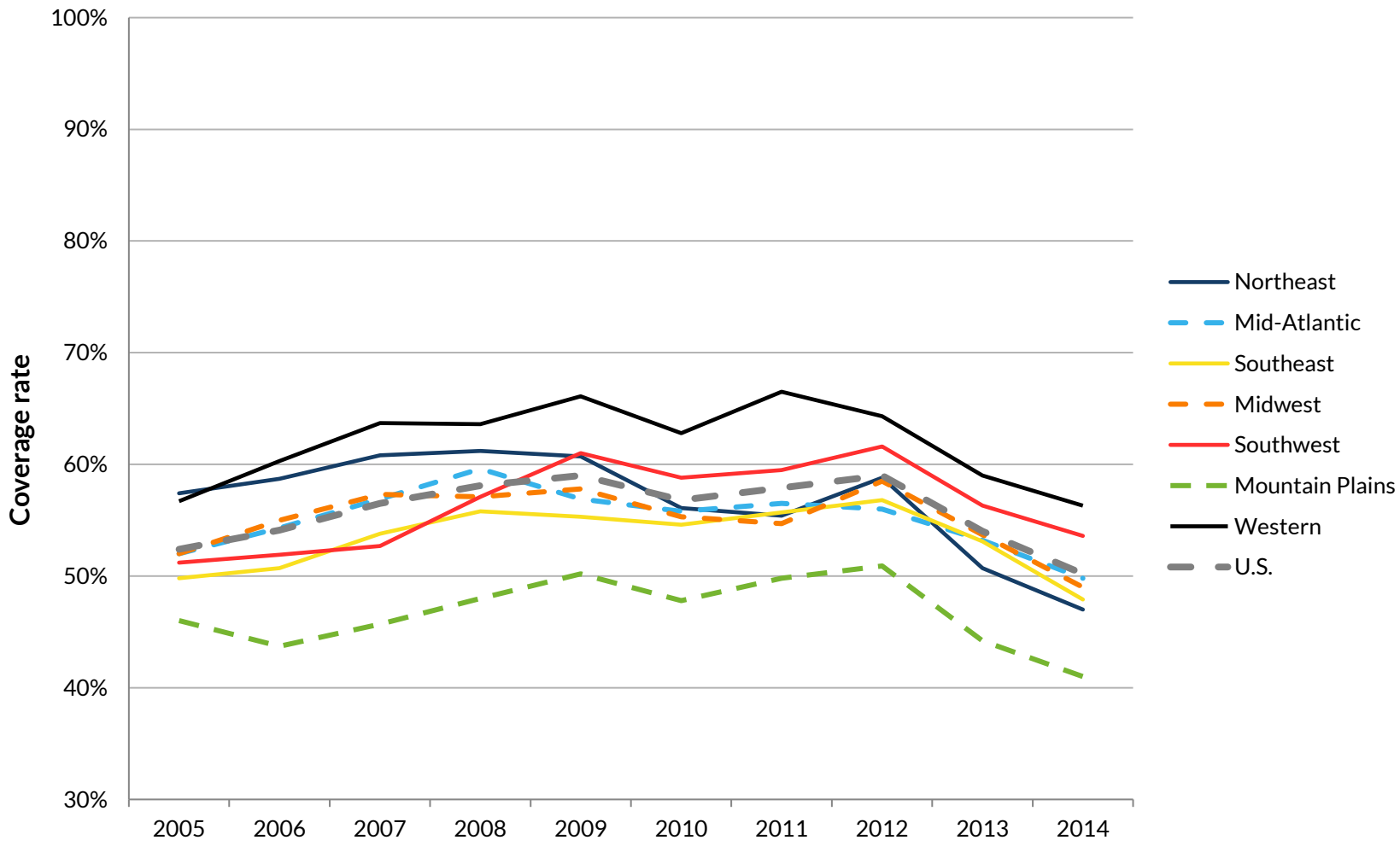
Source: Authors' calculations using WIC eligibility estimates produced under this project and WIC administrative data.

Figure 21: Children (Ages 1–4) Coverage Rate by FNS Region, 2005–14



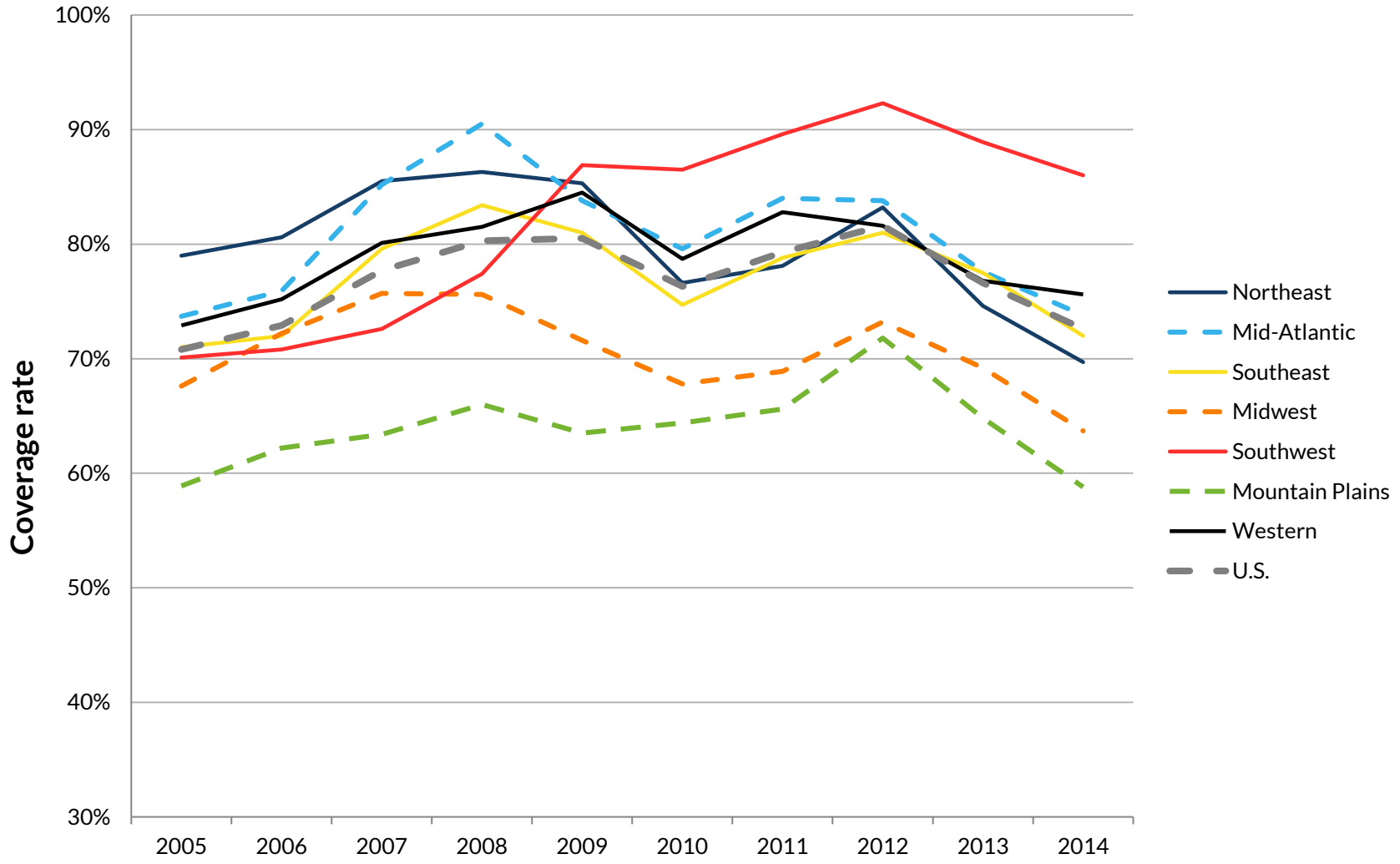
Source: Authors' calculations using WIC eligibility estimates produced under this project and WIC administrative data.

Figure 22: Pregnant Women Coverage Rate by FNS Region, 2005–14



Source: Authors' calculations using WIC eligibility estimates produced under this project and WIC administrative data.

Figure 23: Postpartum Women Coverage Rate by FNS Region, 2005–14



Source: Authors' calculations using WIC eligibility estimates produced under this project and WIC administrative data.

WIC Coverage Rates by Race and Ethnicity

Due to the new methods that incorporate variations by race and ethnicity into several of the adjustment factors, this report is able to show coverage rate estimates for four race/ethnicity groups: white non-Hispanic, black non-Hispanic, non-Hispanics of other races, and Hispanics (table 22).[60] The results suggest that the portion of WIC-eligible individuals who receive benefits is highest for Hispanics (67 percent), next-highest for non-Hispanic blacks (57 percent), and lowest for non-Hispanic whites (44 percent).

The national-level patterns by race and ethnicity are not seen in all regions. In the Northeast, Southeast, Midwest, and Mountain Plains, the estimated coverage rates for non-Hispanic blacks are much closer than is the case in the other regions. For whites, the range in coverage rates across the regions is quite narrow, from 41 to 46 percent, while the range is 50 to 64 percent for non-Hispanic blacks, 34 to 60 percent for non-Hispanics who are neither white nor black, and 58 to 75 percent for Hispanics.

The coverage rates by race and ethnicity can also be examined by population subgroup (figure 24). For each of the four broad subgroups—infants, children, pregnant women, and postpartum women—black non-Hispanics and Hispanics have higher coverage rates than whites or people of other races. However, the patterns differ across the subgroups. It is only among children that Hispanics have a substantially higher coverage rate than black non-Hispanics (61 percent for Hispanic children and 45 percent for black children). For pregnant women, the difference is smaller, and for infants and postpartum women, the rate for blacks is either the same as or slightly above the rate for Hispanics. White non-Hispanic infants and children have lower coverage rates than infants and children who are non-white or Hispanic. But among pregnant women, the lowest coverage rate (38 percent) is for non-Hispanics who are neither white nor black.

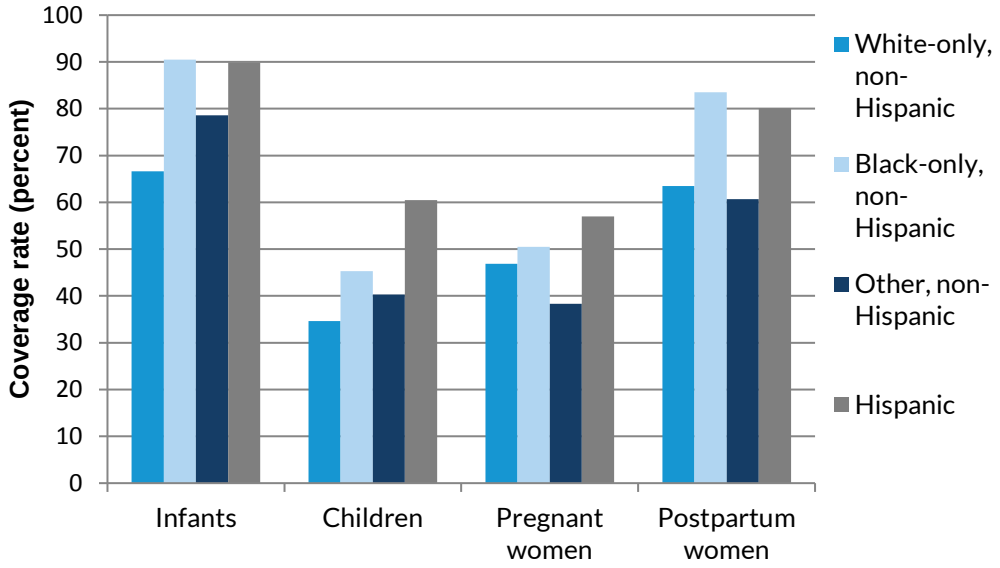
[60] The data on WIC participants (people who receive a food package plus fully breastfeeding infants whose mothers receive a food package) does not include information on race and ethnicity; however, race and ethnicity information is available for enrollees. We therefore estimate the numbers of participants by race and ethnicity by assuming that in each State, and for each of five categories of people (infants, children, pregnant women, breastfeeding postpartum women, and non-breastfeeding postpartum women) the percentage distribution of participants by race and ethnicity is the same as the percentage distribution of enrollees by race and ethnicity.

Table 22: Regional-Level WIC Coverage Rates by Race, CY 2014
NOTE: This table includes estimates for the 50 states, DC, and Puerto Rico

	White-only, non-Hispanic	Black-only, non-Hispanic	Other, non-Hispanic	Hispanic	All Races
Eligibles					
Northeast	528,870	227,401	159,972	427,987	1,344,230
Mid-Atlantic	604,961	382,053	135,599	545,935	1,668,548
Southeast	1,322,270	1,012,467	214,851	638,349	3,187,936
Midwest	1,197,071	451,722	208,330	381,779	2,238,901
Southwest	623,835	399,643	161,612	1,137,934	2,323,025
Mountain Plains	661,674	114,840	118,886	254,984	1,150,384
Western	804,032	188,056	387,452	1,682,845	3,062,385
Total	5,742,713	2,776,182	1,386,702	5,069,813	14,975,410
Participants					
Northeast	235,815	146,075	78,068	261,890	721,848
Mid-Atlantic	279,813	223,681	50,622	389,734	943,849
Southeast	607,518	555,679	72,260	370,511	1,605,968
Midwest	541,820	271,735	107,673	231,090	1,152,317
Southwest	267,839	217,941	72,713	740,581	1,299,075
Mountain Plains	270,444	57,738	53,619	141,706	523,508
Western	345,995	118,752	230,664	1,263,685	1,959,095
Total	2,549,244	1,591,602	665,619	3,399,197	8,205,661
Coverage rates					
Northeast	44.6%	64.2%	48.8%	61.2%	53.7%
Mid-Atlantic	46.3%	58.5%	37.3%	71.4%	56.6%
Southeast	45.9%	54.9%	33.6%	58.0%	50.4%
Midwest	45.3%	60.2%	51.7%	60.5%	51.5%
Southwest	42.9%	54.5%	45.0%	65.1%	55.9%
Mountain Plains	40.9%	50.3%	45.1%	55.6%	45.5%
Western	43.0%	63.1%	59.5%	75.1%	64.0%
Total	44.4%	57.3%	48.0%	67.0%	54.8%

Source: 2015 CPS-ASEC, 2014 ACS, 2014 PRCS, WIC Administrative Data, and 2014 WIC Participant and Program Characteristics Report

Figure 24: WIC Coverage Rates by Race/Ethnicity and by Participant Subgroup, CY 2014



Source: Authors' calculations using WIC eligibility estimates produced under this project and WIC administrative data.

MEASURES OF PRECISION OF THE ESTIMATES OF ELIGIBILITY

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 figures 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. For the 2014 estimates, there are no cases where the eligibles fall short of the participants for any subgroup at the national or regional level; at the State level, this occurs in some cases for non-breastfeeding postpartum women and breastfeeding postpartum women, and in one case for 1-year-olds.

Of course, even if coverage rates are below 100 percent, we know that there is uncertainty in the eligibility estimates. One kind of uncertainty that affects these estimates is the fact that they are derived from survey data (referred to by statisticians as sampling error). To measure that uncertainty, statistics known as standard errors were produced for the 2014 national, State, and regional WIC eligibility estimates.[61] The national-level standard errors are derived using the

[61] 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

generalized variance formulas described in the technical documentation for the March 2015 CPS-ASEC.[62] 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.[63] Tables 23 and 24 show these standard errors and also the coefficient of variation, which is the ratio of the standard deviation to the eligibility estimate. Since the coefficient of variation is expressed in percentage terms, it allows easier comparisons of the relative precision of various estimates.

The coefficients of variation for the 2014 national eligibility estimates for infants and pregnant women are the highest among all participant groups at 5.2 percent (table 23). While the coefficient of variation for postpartum women is slightly lower at 3.7 percent, the relative error for the estimate for all children drops to 2.6 percent, reflecting the larger sample size for this estimation group**.** The greatest precision of eligibility estimates is for the total of all WIC eligibles (2.0 percent).

At the State level, the precision of the estimates is considerably lower than at the national level (table 24). Given the large range of coefficient of variation (considering the overall State estimates, the coefficient of variation ranges from 2.6 percent for California to 14.2 percent for Wyoming), caution should be exercised when using the State estimates. The coefficients of variation are even larger for the estimates of the coverage rates for participant subgroups within States (table 24a). At the regional level, however, the relative precision of the estimates is quite high.

The statistics can be used to estimate a confidence interval around the estimates of WIC eligibility. For example, we can be 90 percent sure that the actual number of WIC-eligible people (overall, by subgroup, by region, or by State) is *at minimum* equal to the estimate obtained through our methods (the "point estimate") minus 1.65 times the standard error, and is *at most* equal to the point estimate plus 1.65 times the standard error. As an illustration of the computation, consider the overall WIC eligibility estimate for the Northeast. Our best estimate is that there are 1,344,230 people eligible for WIC in the Northeast in the average month of 2014. The standard error of that estimate is 42,078. We can be 90 percent sure that the true number falls within the range from (1,344,230 minus (1.65 * 42,078)) to (1,344,230 plus (1.65 * 42,078)), or from 1,274,801 to 1,413,659. For a 95 percent level of confidence, the process is the same, but a factor of 1.96 is applied to the standard error.

The types of statistics discussed here capture only the impact of sampling error. The eligibility estimates (and thus any coverage rates computed using the eligibility estimates) could also differ from reality due to other aspects of how the survey is conducted, how people answer the questions

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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.

[62] These reports can be found at the Census Bureau's CPS Web site at https://www.census.gov/programs-surveys/cps/technical-documentation/complete.html. See appendix G for the generalized variance standard error formulas. Applying these methods requires choosing a specific pair of "a" and "b" parameters for use in the formulas. We use the parameters for "income characteristics" for all people when computing standard errors for total population estimates, and we use the "below poverty" parameters for standard errors of the WIC eligibility estimates.

[63] These reports can be found at the Census Bureau's Web site https://www.census.gov/programs-surveys/acs/technical-documentation/pums/documentation.html.

(e.g., whether they fully report the kinds of benefits they receive), and how the data are processed. There are no formulas for assessing non-sampling errors.

Table 23: WIC Eligibles and Standard Errors by FNS Region and Participant Group, CY 2014

	Infants	Children (Ages 1–4)	Pregnant Women	All Post-Partum Women	Total
Eligibles[a]					
Northeast	218,523	837,926	142,520	145,262	1,344,230
Mid-Atlantic	236,069	924,728	153,963	147,338	1,462,098
Southeast	526,362	1,992,652	343,292	325,630	3,187,936
Midwest	368,281	1,392,932	240,192	237,496	2,238,901
Southwest	381,902	1,452,577	249,075	239,469	2,323,025
Mountain Plains	193,883	700,741	126,450	129,310	1,150,383
Western	486,387	1,902,863	317,220	355,915	3,062,385
Total	2,411,407	9,204,419	1,572,711	1,580,422	14,768,960
Standard error[a]					
Northeast	17,507	33,754	11,418	8,489	42,078
Mid-Atlantic	18,454	36,117	12,036	8,214	44,586
Southeast	33,284	63,713	21,708	14,637	79,485
Midwest	25,345	48,451	16,530	11,811	60,590
Southwest	26,038	49,989	16,982	11,696	62,285
Mountain Plains	16,157	29,940	10,538	7,960	37,880
Western	31,295	61,451	20,410	17,850	77,009
Total	124,266	240,193	81,046	59,254	301,541
Coefficient of variation[b]					
Northeast	8.0%	4.0%	8.0%	5.8%	3.1%
Mid-Atlantic	7.8%	3.9%	7.8%	5.6%	3.0%
Southeast	6.3%	3.2%	6.3%	4.5%	2.5%
Midwest	6.9%	3.5%	6.9%	5.0%	2.7%
Southwest	6.8%	3.4%	6.8%	4.9%	2.7%
Mountain Plains	8.3%	4.3%	8.3%	6.2%	3.3%
Western	6.4%	3.2%	6.4%	5.0%	2.5%
Total	5.2%	2.6%	5.2%	3.7%	2.0%

Sources: 2015 CPS-ASEC, 2014 ACS, WIC Administrative Data

Notes:

[a] Estimates for the territories, including Puerto Rico, are not included in regional totals or standard errors.

[b] The coefficient of variation is defined as the ratio of the standard deviation to the eligibility estimate.

Table 24: WIC Eligibles Standard Errors by State and FNS Region, CY 2014

State[b]	Eligibles	Standard Error	Coefficient of Variation[a]		Eligibles	Standard Error	Coefficient of Variation[a]
Alabama	247,293	12,954	5.2%	New York	879,277	28,748	3.3%
Alaska	43,801	4,622	10.6%	North Carolina	497,584	19,586	3.9%
Arizona	336,949	15,970	4.7%	North Dakota	32,036	3,401	10.6%
Arkansas	173,571	10,318	5.9%	Ohio	496,898	18,943	3.8%
California	1,878,350	49,176	2.6%	Oklahoma	216,858	10,095	4.7%
Colorado	225,311	12,333	5.5%	Oregon	192,775	11,694	6.1%
Connecticut	121,575	8,811	7.2%	Pennsylvania	478,719	17,992	3.8%
Delaware	38,162	4,842	12.7%	Puerto Rico	206,450	12,055	5.8%
D.C.	30,508	4,162	13.6%	Rhode Island	40,883	4,811	11.8%
Florida	917,316	29,550	3.2%	South Carolina	238,589	13,144	5.5%
Georgia	555,959	21,576	3.9%	South Dakota	43,658	4,229	9.7%
Hawaii	64,621	6,575	10.2%	Tennessee	335,618	15,950	4.8%
Idaho	87,136	7,134	8.2%	Texas	1,548,001	42,518	2.7%
Illinois	550,981	21,454	3.9%	Utah	151,705	10,251	6.8%
Indiana	322,943	14,600	4.5%	Vermont	21,922	2,686	12.3%
Iowa	135,671	7,709	5.7%	Virginia	297,815	14,463	4.9%
Kansas	141,562	8,883	6.3%	Washington	319,465	15,569	4.9%
Kentucky	224,758	11,526	5.1%	West Virginia	83,381	6,703	8.0%
Louisiana	257,455	13,747	5.3%	Wisconsin	229,271	10,837	4.7%
Maine	44,153	4,424	10.0%	Wyoming	26,011	3,686	14.2%
Maryland	222,184	12,695	5.7%	**FNS Region[c]**			
Massachusetts	202,022	11,652	5.8%	Northeast	1,344,230	42,078	3.1%
Michigan	446,723	16,643	3.7%	Mid-Atlantic	1,462,098	44,586	3.0%
Minnesota	192,085	9,780	5.1%	Southeast	3,187,936	79,485	2.5%
Mississippi	170,819	10,971	6.4%	Midwest	2,238,901	60,590	2.7%
Missouri	268,989	13,145	4.9%	Southwest	2,323,025	62,285	2.7%
Montana	49,184	4,697	9.6%	Mountain Plains	1,150,383	37,880	3.3%
Nebraska	76,257	5,851	7.7%	Western	3,062,385	77,009	2.5%
Nevada	139,289	9,783	7.0%	**Total**	14,768,960	301,541	2.0%
New Hampshire	34,399	4,238	12.3%				
New Jersey	311,329	15,278	4.9%				
New Mexico	127,139	9,381	7.4%				

Sources: 2015 CPS-ASEC, 2014 ACS, 2014 PRCS, Census International Data Base, WIC Administrative Data

Notes:

[a] The coefficient of variation is defined as the ratio of the standard deviation to the eligibility estimate.

[b] State and regional eligibility estimates include those eligible for WIC via Indian Tribal Organizations.

[c] Estimates for the territories, including Puerto Rico, are not included in regional totals or standard errors.

Table 24a: Coefficients of Variation of WIC Coverage Rates by State and Participant Subgroup, 2014

	Infants	Child Age 1	Child Age 2	Child Age 3	Child Age 4	Pregnant Women	Postpartum Mothers
Alabama	13.3%	14.6%	14.3%	14.5%	14.1%	13.3%	17.2%
Alaska	26.7%	30.5%	32.6%	26.7%	29.6%	26.7%	28.7%
Arizona	12.4%	12.7%	13.4%	12.8%	12.5%	12.4%	14.8%
Arkansas	15.6%	16.5%	15.9%	15.7%	15.5%	15.6%	19.7%
California	7.1%	7.0%	7.1%	7.0%	7.1%	7.1%	7.6%
Colorado	14.4%	15.5%	14.8%	14.4%	14.7%	14.4%	16.7%
Connecticut	19.0%	19.6%	20.6%	19.8%	18.5%	19.0%	22.6%
Delaware	33.6%	38.9%	29.6%	33.8%	33.4%	33.6%	43.4%
DC	36.4%	36.0%	34.1%	36.2%	36.5%	36.4%	47.5%
Florida	8.6%	8.7%	8.8%	8.8%	8.8%	8.6%	9.8%
Georgia	10.3%	10.6%	10.4%	10.3%	10.1%	10.3%	12.7%
Hawaii	26.6%	26.3%	29.9%	27.3%	27.3%	26.6%	30.6%
Idaho	21.4%	21.6%	23.2%	22.1%	22.1%	21.4%	24.7%
Illinois	10.5%	10.6%	10.3%	10.3%	10.3%	10.5%	12.3%
Indiana	11.8%	12.4%	12.4%	11.9%	12.7%	11.8%	14.2%
Iowa	14.8%	15.6%	16.0%	15.7%	14.1%	14.8%	18.6%
Kansas	16.3%	16.9%	17.0%	16.9%	16.9%	16.3%	20.6%
Kentucky	13.6%	13.4%	13.7%	13.7%	13.5%	13.6%	17.1%
Louisiana	13.8%	14.6%	14.1%	14.3%	14.2%	13.8%	18.0%
Maine	26.2%	25.9%	26.7%	28.9%	26.5%	26.2%	32.2%
Maryland	15.4%	14.8%	15.7%	14.9%	14.9%	15.4%	19.0%
Massachusetts	15.5%	15.4%	15.4%	15.1%	14.9%	15.5%	19.1%
Michigan	9.8%	10.4%	10.1%	10.2%	10.1%	9.8%	11.5%
Minnesota	13.6%	14.1%	13.1%	13.6%	13.6%	13.6%	16.0%
Mississippi	16.8%	17.8%	16.8%	16.9%	17.0%	16.8%	21.6%
Missouri	12.7%	13.5%	13.3%	13.3%	13.1%	12.7%	15.4%
Montana	25.5%	25.6%	24.0%	26.8%	25.3%	25.5%	30.4%
Nebraska	19.3%	21.5%	21.1%	21.4%	21.5%	19.3%	23.9%
Nevada	18.1%	19.7%	19.1%	19.5%	18.9%	18.1%	21.7%
New Hampshire	32.3%	33.4%	36.1%	32.5%	30.7%	32.3%	39.7%
New Jersey	12.9%	13.2%	13.3%	12.9%	13.4%	12.9%	15.6%
New Mexico	19.7%	20.0%	19.6%	18.9%	20.2%	19.7%	23.1%
New York	8.7%	9.0%	8.9%	8.7%	8.9%	8.7%	10.0%
North Carolina	10.5%	10.4%	10.6%	10.6%	10.4%	10.5%	12.6%
North Dakota	26.9%	28.9%	25.8%	31.5%	35.0%	26.9%	31.5%
Ohio	10.0%	10.5%	10.3%	10.3%	10.3%	10.0%	12.1%
Oklahoma	12.5%	12.5%	12.3%	12.6%	12.1%	12.5%	15.2%
Oregon	15.6%	16.7%	16.4%	17.0%	17.2%	15.6%	17.5%
Pennsylvania	10.0%	10.5%	10.1%	10.0%	10.0%	10.0%	11.9%
Rhode Island	30.6%	33.7%	29.8%	35.2%	30.8%	30.6%	35.4%
South Carolina	14.4%	15.0%	15.2%	14.6%	14.5%	14.4%	17.9%
South Dakota	26.0%	27.5%	25.2%	24.5%	26.4%	26.0%	29.5%
Tennessee	12.4%	12.7%	13.0%	12.8%	12.6%	12.4%	15.6%
Texas	7.4%	7.4%	7.5%	7.5%	7.4%	7.4%	8.3%
Utah	17.4%	18.6%	18.1%	19.3%	18.4%	17.4%	20.4%
Vermont	32.6%	34.5%	32.5%	32.3%	31.2%	32.6%	39.1%
Virginia	13.0%	12.8%	12.9%	13.1%	12.9%	13.0%	15.8%
Washington	13.0%	12.8%	12.9%	12.8%	13.8%	13.0%	14.8%
West Virginia	20.7%	21.7%	21.7%	21.6%	21.2%	20.7%	27.3%
Wisconsin	12.7%	12.7%	12.5%	12.7%	12.2%	12.7%	15.0%
Wyoming	36.4%	42.8%	39.2%	39.2%	36.5%	36.4%	39.7%
Total[a]	5.2%	5.3%	5.3%	5.3%	5.3%	5.2%	5.2%

Sources: 2015 CPS-ASEC, 2014 ACS, WIC Administrative Data
Notes: The coefficient of variation is defined as the ratio of the standard deviation to the eligibility estimate.
[a] Estimates for the territories, including Puerto Rico, are not included in the totals.

SUMMARY

This report estimates WIC eligibility in 2014 at the national, State, and regional levels, for all individuals and for subgroups of participants, primarily relying on methods developed by the CNSTAT panel but incorporating numerous updates and improvements. The changes involve making use of data that was not available when the panel conducted its work, incorporating variations by race and ethnicity into the methods, and making other updates and technical adjustments. The changes were also used to create an updated set of WIC eligibility estimates for 2005 through 2013 to create a consistent ten-year series. *Because of the numerous methodological changes, the eligibility and coverage rate estimates in this report should not be directly compared with previously published estimates.*

This report estimates that 15 million individuals were eligible for WIC during an average month of 2014 across the 50 States, the District of Columbia, Puerto Rico, and four other island territories. The estimate includes 2.5 million infants (approximately 62 percent of all infants in the United States and territories), 9.3 million children ages 1 through 4 (58 percent of all young children), 1.6 million pregnant women, and 1.6 million postpartum women.

The overall WIC eligibility estimate for 2014 is 4.1 percent higher than the revised estimate for 2013. The increase in overall eligibility is statistically significant; in other words, it is not due only to the uncertainties coming from using survey data. However, we cannot be certain whether there were increases for each subgroup. There appear to be several elements leading to the eligibility increase, including higher adjunctive eligibility due to Medicaid, increased breastfeeding, increased adoption of 12-month certification for children, and an increase in the population of infants as defined for this analysis. A final factor is an apparent increase in the rate of income eligibility for infants and children between 2013 and 2014. Although the unemployment rate fell between the two years, and the child poverty rate was essentially unchanged, there was apparently some increase in the portion of infants and young children under WIC eligibility limits. The fact that CY 2014 is the first year of CPS-ASEC data in which new income questions were used for all households could also have had some impact on the results, although the nature of the changes (a key impact was to collect more data on interest and pension income) would have been expected to result in less rather than more eligibility.

Estimates of eligibles across the regions vary, with the Southeast and Western regions having the largest eligible populations (about 3 million each), and the Mountain Plains and Northeast regions having the lowest eligible populations (somewhat over 1 million each). The geographic distribution of individuals who are WIC-eligible reflects population and income differences, as well as differences in adjunctive eligibility (due to participation in Medicaid, SNAP, and TANF). Two States, California (12.5 percent) and Texas (10.3 percent), together account for almost one-quarter of all WIC-eligible individuals.

The WIC coverage rate (the ratio of the number of participants to the number of eligible people) was 54.8 percent in 2014. Nationwide, infants have the highest coverage rate at 80.0 percent and children ages 1 through 4 have the lowest rate at 46.0 percent. Over the last ten years,

coverage rates had generally been increasing, but began decreasing around 2012, and the 54.8 percent estimated coverage rate for 2014 is lower than the 59.3 percent coverage rate measured for 2013.

Coverage rates also vary by FNS region, ranging from 45.5 percent in the Mountain Plains to 64.0 percent in the Western region. At the State level, the highest estimated coverage rate among the 50 States is in California (71 percent) and the lowest is in Montana (39 percent). This year's methods facilitated examining coverage rates for participant subgroups within States; the results show that some States have higher-than-average or lower-than-average rates for all subgroups, while other States have relative high (or low) rates for some subgroups but not others.

This year's improvements to the methods also allow for the computation of WIC coverage rates by race and ethnicity. The results suggest that the likelihood of a WIC-eligible person participating is lowest for whites who are not Hispanic (44 percent), and highest for Hispanics (67 percent).

There are seven appendices to this report, providing (a) more detailed tables for the national and territorial estimates; (b) more detailed tables for the State and regional eligibility estimates; (c) coverage rate maps at the regional and State levels; (d) further discussion of the changes in the eligibility estimates for 2005 through 2013 due to the new methods; (e) details on how 12-month certification was taken into account in computing the annual-to-monthly adjustment factors for children; (f) the step-by-step computation of the updated eligibility estimates for 2005 through 2013; and (g) the impact of one of the key methodological changes—the use of the NIS instead of the IFS as the data source for national-level breastfeeding rates.

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