U.S. DEPARTMENT OF AGRICULTURE

# Third National Survey of WIC Participants (NSWP-III)

## BRIEF REPORT 4: RETENTION AND POTENTIAL BARRIERS TO PARTICIPATION AMONG WIC PARTICIPANTS

This research was supported by the U.S. Department of Agriculture, Food and Nutrition Service. The findings and conclusions in this publication are those of the author(s) and should not be construed to represent any official USDA or U.S. Government determination or policy.

# TABLE OF CONTENTS

# LIST OF TABLES



# LIST OF EXHIBITS

# ABSTRACT

**Background:** The Special Supplemental Nutrition Program for Women, Infants and Children (WIC) is a key part of the nation's public health infrastructure, providing nutritious supplemental foods, nutrition education, breastfeeding support, and referrals to health and social service programs for low-income pregnant and postpartum women, infants, and children up to age 5 who are at nutritional risk. The National Survey of WIC Participants (NSWP) series is designed to provide national estimates of WIC participants, State agencies' (SAs) and local agencies' (LAs) characteristics, and improper payments resulting from participant certification errors in WIC. NSWP is conducted approximately every 10 years. This brief is part of a series of 10 briefs that describe findings from the NSWP-III study, which collected data in 2019.

**Objective:** This brief provides information on SA and LA policies related to reporting and calculating retention rates and potential barriers to participation among current and former WIC participants.

**Methods:** Data were collected from the following sources during the summer and fall of 2019: a web survey completed by 82 WIC SA directors, a web survey completed by a nationally representative sample of LAs (weighted *n* = 1,979; unweighted *n* = 714), a nationally representative survey completed by current WIC participants that was administered either in person or over the telephone (weighted *n* = 6,397,412; unweighted *n* = 1,648), and a telephone interview with a convenience sample of 125 former WIC participants.

**Findings:**

- In 2019, most SAs and LAs do not calculate retention rates (69.5 percent and 84.1 percent, respectively).
- The majority of LAs (93.8 percent) encouraged healthcare professionals to inform eligible women to enroll and remain active in WIC, along with 83.0 percent of LAs that encouraged WIC participants to invite eligible family and friends to enroll and remain active.
- Among adult participants who were asked to elaborate on why they had not enrolled in WIC during past pregnancies, the two main reasons reported were because they did not know about WIC (23.3 percent), and they did not think they qualified (22.6 percent).
- The majority (65.8 percent) of current WIC participants who previously participated in the program reported that they were still eligible for WIC benefits when they left. Among these participants, almost a fifth (18.3 percent) reported better scheduling options (lunchtime or evening/weekend appointments) offered by WIC as the top reason that could have encouraged them to stay in WIC.
- Current participants also reported ways WIC staff could increase retention, and more than a third (39.2 percent) indicated there was nothing WIC staff could have done differently.
- More than half of former participants (59.0 percent; *n* = 74) who were interviewed indicated they felt that they no longer needed WIC.

**Conclusion:** WIC retention continues to be an important factor in understanding the operation and enduring success of WIC. Based on the study findings, future research could be conducted on the facilitators and barriers to calculating and tracking WIC retention among SAs and LAs. In addition, focus groups could be conducted on the appeal and advantages of different WIC marketing strategies, with the aim of increasing WIC awareness and participation.

# INTRODUCTION

## Background

The Special Supplemental Nutrition Program for Women, Infants and Children (WIC) is a key part of the nation's public health infrastructure, providing nutritious supplemental foods, nutrition education, breastfeeding support, and referrals to health and social services programs for low-income pregnant and postpartum women, infants, and children up to age 5 who are at nutritional risk. The United States Department of Agriculture (USDA) Food and Nutrition Service (FNS) administers WIC by providing Federal grants to 89 State agencies (SAs), including 50 States and the District of Columbia; 33 Indian Tribal Organizations (ITOs); and the 5 U.S. Territories of American Samoa, Guam, the Commonwealth of the Northern Mariana Islands, Puerto Rico, and the U.S. Virgin Islands.

The National Survey of WIC Participants (NSWP) series is designed to provide information on the characteristics of nationally representative samples of WIC participants, SAs, and LAs, and to produce estimates of improper payments resulting from participant certification errors in WIC. The first NSWP study was conducted in 1998, and NSWP-II was conducted in 2009.[1,2]

Retaining eligible participants in WIC continues to be a challenge for many WIC clinics. From 2009 to 2020, the average monthly participation in WIC decreased from 9.1 million to 6.2 million participants.[3] This decline could potentially lead to WIC-eligible families losing the health and nutrition benefits needed to reach various growth and development milestones. Thus, this NSWP-III brief report presents findings on WIC participant retention rates over the past 5 years based on data provided by both WIC SAs and LAs. In addition, the report includes findings from current and former WIC participants on the reasons WIC participants leave WIC and potential barriers to retaining participants in the program.

The NSWP-III findings in this brief are based on data collected from four surveys during the summer and fall of 2019: the SA survey that was sent to all 89 WIC SA directors; the LA survey that was sent to a nationally representative sample of LAs; the Program Experiences Survey (PES) administered to a nationally representative sample of current WIC participants; and the Former Participant Survey (FPS), a telephone interview with a convenience sample of 125 former WIC participants.

[1] U.S. Department of Agriculture, Food and Nutrition Service, Office of Research and Analysis. (2001). *National Survey of WIC Participants: Final report.* Alexandria, VA.

[2] U.S. Department of Agriculture, Food and Nutrition Service, Office of Research and Analysis. (2012). *National Survey of WIC Participants II. Technical report*. Alexandria, VA.

[3] U.S. Department of Agriculture, Food and Nutrition Service. (2020). *WIC Program: National level annual summary*. https://fns-prod.azureedge.net/sites/default/files/resource-files/WIC_FY2020_Keydata_09-2020pdf

## Research Objectives and Questions

One component of the current study (NSWP-III) is to provide information on the WIC participant retention and potential barriers to participation.[4] Specifically, the brief report addresses the following research questions:

**SA WIC Retention Rates**

- Which SAs calculate a retention rate for WIC participants?
- Of SAs that calculate a retention rate, what are these retention rates, how have the rates changed in the past 5 years, how are they calculated, and how frequently?

**LA WIC Retention Rates**

- Do local WIC agencies or sites calculate retention rates for WIC participants? If so, what are these retention rates, how have the rates changed in the past 5 years, how are they calculated, and how frequently?
- What are WIC participant retention rates at LAs and service delivery sites, by eligibility category? How does the overall WIC participant retention rate at service delivery sites differ from the LA participant retention rate, the SA participant retention rate, and the national participant retention rate?
- What proportion of LAs and service delivery sites attempt to contact pregnant women who miss their first appointment to apply for participation in the program in order to reschedule the appointment?
- What activities do LAs and service sites take to increase retention?

**Current Participant Experiences with WIC**

- What prior experience has the participant or family/economic unit participant had with WIC?
- When did they apply? If they did not enroll in WIC during their pregnancy, why not?
- In the participant's opinion, what could have facilitated earlier enrollment in WIC?
- If they had prior WIC experience, when did they leave WIC and why?
- Did they leave while they were still eligible? If so, why, and what would have facilitated their retention in the program?
- Why did they return to WIC at this time?

**Former Participant Experiences with WIC**

- What were the reasons for leaving?
- In the opinion of the former WIC participants, what would have facilitated their retention in the program?
- What proportion of former WIC participants left because they felt that they no longer needed the program?
- What proportion of these former WIC participants were no longer eligible?

[4] Please visit the FNS website at https://www.fns.usda.gov/research-analysis to access the other NSWP-III brief reports and the prior NSWP studies.

## Report Organization

The following sections of this brief report detail the findings related to the research questions referenced above. The report concludes with a summary of key findings and discussion of the study limitations and recommendations for future research. The report also references appendices which include technical details of the survey methodology, a copy of the surveys, and analytic tables.

# STUDY METHODOLOGY

## Source of Data

The findings in this brief are based on data collected from four surveys during the summer and fall of 2019. Table 1 lists the surveys fielded and associated operational details. For additional details, please see Appendices A–C.

**Table 1. NSWP-III Survey Summary**

| Survey | Type of Data Collection | Mode of Data Collection | Estimated Length of Survey | Data Collection Period | Number of Completed Instruments | Response Rate[a] | Cooperation Rate[b] |
|---|---|---|---|---|---|---|---|
| SA Survey | Census | Web survey | 1 hour | June 3, 2019–October 11, 2019 | 82 | 92.1% | - |
| LA Survey | National sample | Web survey | 1 hour | June 3, 2019–October 11, 2019 | 714 | 82.8% | - |
| PES | National sample | In-person and telephone survey[c] | 30 minutes | June 23, 2019–November 10, 2019 | 1,648 | 36.2% | 66.4% |
| FPS | Case study | Telephone interview | 30 minutes | June 24, 2019–October 25, 2019 | 125 | - | 67.0% |

[a] Response rate equals the number of completed cases divided by the sum of the number of completed cases, number of refusal cases, and nonrespondents.
[b] Cooperation rate equals the number of completed cases divided by the sum of the number of completed cases and number of refusal cases. Since the FPS is a case study, the cooperation rate is a more suitable calculation than a response rate.
[c] Field interviewers administered the PES in person if the respondent was also sampled to complete the CS. Telephone interviewers administered the PES by telephone if the respondent was sampled only for the PES.

## Survey Content

The SA, LA, PES, and FPS instruments were developed in collaboration with FNS and were reviewed by an independent panel that included experts in WIC policy and operations. In addition, each survey was pilot tested with nine respondents to assess the ease of comprehension (e.g., confusing wording or layout, failure to grasp concepts) and length of time to complete. Topics included in each survey are shown in Table 2.

### Table 2. Topics Included in the NSWP-III Surveys

| Survey | Topics Included |
|---|---|
| SA Survey (Appendix A) | ▪ Acceptable proofs of identity and residency<br>▪ Guidelines given to LAs to help them determine the family economic unit<br>▪ Income determination and adjunctive/automatic income eligibility<br>▪ Record-keeping practices<br>▪ Manufacturer rebates<br>▪ Certification period policies<br>▪ Denied applicants<br>▪ Retention of WIC participants |
| LA Survey (Appendix A) | ▪ Acceptable proofs of identity, residency, and income<br>▪ Denied applicants<br>▪ Location of certification and certification staffing<br>▪ Retention of WIC participants<br>▪ Organization of agency (structure, clinics, sites under the LA)<br>▪ Staff qualifications and participant caseloads<br>▪ Range of services offered (health care, family planning, smoking cessation) and referrals<br>▪ Hours of operation, location, space, and equipment onsite |
| PES (Appendix B) | ▪ WIC participation (new or prior participation)<br>▪ Reasons for leaving WIC if participated previously<br>▪ Participant satisfaction with WIC services, staff, and benefits<br>▪ Farmer's Market Nutrition Program participation<br>▪ Use of WIC food benefits<br>▪ Food security<br>▪ Participation in other programs |
| FPS (Appendix C) | ▪ Reasons why former participants discontinued WIC participation<br>▪ Former participants' satisfaction with WIC<br>▪ Former participants' involvement in other assistance programs |

For the PES, the majority of the questions were close-ended; however, there were some open-ended questions about what WIC could have done differently. There also were some questions that had predetermined response options in addition to "other specify." The interviewer was instructed not to read those options aloud but instead let the respondent answer freely. If the respondent did not provide a response that matched the predetermined response options, the interviewer collected that information under the "other specify" option. The Study Team coded those responses thematically. For the FPS, the majority of questions were open-ended since that component of the study was a qualitative case study. For additional details and copies of the instruments, please see Appendices B and C.

# Analysis

### WEIGHTING

***SA data.*** The SA data are derived from a census. Therefore, sampling adjustments, weighting, and tests of significance are not applicable.

***LA data.*** The LA data from 718[5] agencies were weighted to represent all 1,797 LAs that were part of the original sample frame. First, the Study Team weighted the survey data to account for differential rates of sampling. Then, the design weights were adjusted for unit nonresponse. FNS Region was used to create non-response adjustment cells. Within each cell, the adjustment factor was calculated by taking the ratio of all sampled cases to all responding cases within each FNS Region. Finally, the Study Team calculated 105 jackknife replicate weights, which accounted for the sampling design and non-sampling errors associated with the nonresponse adjustment.[6,7]

***PES data.*** The PES data were weighted to represent the 2019 population of WIC participants. As such, the weighted descriptive results are representative of all 6,397,412 WIC participants nationally. The population of WIC participants, grouped by certification category and FNS Region, was used, and it was derived from the FY 2019 Monthly Data State Level Participation by Category and Program Cost, Estimated from October 2018–September 2019, as of December 4, 2019.[8] Please see Appendix B for more details.

***FPS data.*** As a list of all former WIC participants does not exist and due to the use of qualitative research methods for the former participants survey, the FPS was a telephone interview with a convenience sample of 125 former WIC participants. A convenience sample is a non-probability sample in which the researcher uses participants that are available to participate in the research study. Therefore, sampling adjustments and weighting are not applicable. Although these data were obtained from a diverse sample of WIC participants across multiple SAs, the results from this survey are not weighted to be representative of the national WIC population and should not be interpreted as such.

[5] Four partially completed surveys were also included with 714 completed surveys in the analysis.
[6] Kott, P. S. (2001). The delete-a-group jackknife. *Journal of Official Statistics, 17*(4), 521–526.
[7] Shao, J., & Wu, C. F. J. (1989). A general theory for jackknife variance estimation. *Annals of Statistics,* 17(3), 1176–1197.
[8] U.S. Department of Agriculture, Food and Nutrition Service. (2020, July). *WIC Data Tables.* https://www.fns.usda.gov/pd/wic-program.

## SURVEY RESULTS

To understand the differences among respondents, data were analyzed according to relevant subgroups as shown in Table 3.

### Table 3. Subgroups Examined for Each NSWP-III Survey

| Survey | Subgroups Examined |
|---|---|
| SA Survey | ▪ Type of Organization (State/District of Columbia/Territory, ITO)<br>▪ Number of participants served by the entire SA per month (up to 10,000; 10,000 to 75,999; 75,000 or more)<br>▪ Location based on the FNS Region (Mid-Atlantic, Midwest, Mountain Plains, Northeast, Southeast, Southwest, Western) |
| LA Survey | ▪ Relationship of the LA to the parent SA (State affiliated, Local government, Non-government)<br>▪ The number of participants served per month by the entire agency (up to 750; 750 to 1,999; 2,000 to 4,499; 4,500 or more)<br>▪ LA's urbanicity (completely rural, mostly rural, completely urban) |
| PES | ▪ WIC certification category (pregnant, breastfeeding, postpartum, infant, child)<br>▪ Race/ethnicity (Hispanic, Non-Hispanic white, Non-Hispanic African American, Non-Hispanic other)<br>▪ Education level (less than high school, high school/GED, more than high school)<br>▪ Whether the household has children[9]<br>▪ Food security status (high food security, marginal food security, low food security, very low food security)<br>▪ Home language (English, Spanish, other) |

**Note:** The FPS was a case study that involved telephone interviews with a convenience sample of 125 former WIC participants; therefore, subgroups were not examined for the FPS.

Descriptive results are presented for all 82 SAs that responded to the survey. LA Survey and PES results are presented as weighted percentages and means. Tables with comparisons to NSWP-I (conducted in 1998) and NSWP-II (conducted in 2009) were prepared when feasible (i.e., when similar questions were asked of both studies) and can be found in Appendix E (SA data), Appendix F (LA data), and Appendix G (PES data).[10] Two-tailed *t*-tests were conducted to determine whether there were differences in the estimates between the two survey years at a 5 percent level of significance.

The FPS required the use of a comprehensive qualitative analysis approach. Thematic content analysis was conducted to develop the FPS findings.[11,12] This report includes quotes from FPS respondents to supplement the findings when applicable. Detailed findings from this case study can be found in Appendix H.

[9] Participants whose certification category was pregnant and indicated at PES question 2 that this was their first, only child were categorized as living in a household without children. All other participants were categorized as living in a household with children.

[10] NSWP-III SA data comparisons cannot be made to NSWP-I because NSWP-I did not include an SA survey. NSWP-III LA data comparisons cannot be made to NSWP-I because this study did not include LA-specific findings; NSWP-I only included 79 LAs that were certifying WIC participants selected for the in-person survey.

[11] Daly, J., Kellehear, A., & Gliksman, M. (1997). *The public health researcher: A methodological approach*. Melbourne, Australia: Oxford University Press.

[12] Fereday, J., & Muir-Cochrane, E. (2006). Demonstrating rigor using thematic analysis: A hybrid approach of inductive and deductive coding and theme development. *International Journal of Qualitative Methods*, 80–92.

## NONRESPONSE BIAS ANALYSIS

The Office of Management and Budget (OMB) recommends nonresponse bias analysis any time the survey response rate is less than 80 percent. Since an 80 percent response rate was achieved for the LA Survey, the Study Team did not conduct nonresponse bias analysis. The PES achieved a 36.2 percent response rate, so nonresponse bias analyses was conducted to determine whether there were respondent characteristics significantly associated with nonresponse that may have potentially introduced bias into the survey. Conducting a nonresponse bias analysis requires that the characteristics examined be available for both respondents and nonrespondents.[13] Therefore, the Study Team reviewed the sampling frame, which came from administrative data provided by States, to identify variables that were available for all respondents sampled for the survey. Language spoken at home and WIC certification category were identified as statistically significant factors associated with the participants' likelihood to complete the PES. These variables were then used to calculate adjustment factors to represent those who did not respond to the survey.

As per OMB guidelines, an item nonresponse analysis should be conducted if item response rate is less than 70 percent.[13] Among the SA and LA surveys, the Study Team found one item in each survey that had less than a 70 percent response rate, which was the item that collected the total number of certified and retained participants by certification category for 5 FYs in a matrix format. The Study Team used available sampling frame variables, as well as examined the survey questionnaires, to identify characteristics of the SA or LA that could potentially affect the respondent's answers to certain questions. For the SA data, none of these characteristics were found to be associated with response rate. For the LA data, FNS Region was found to be associated with responding or not responding to the question. This finding suggests that there is potential bias in producing estimates from this question, so caution should be taken when interpreting the results. See Appendix A for additional details. Item nonresponse bias analysis was not applicable to the PES because a response was required on all questions.

[13] Office of Management and Budget. (2006, September). *Office of Management and Budget standard guidelines for statistical surveys*. https://obamawhitehouse.archives.gov/sites/default/files/omb/inforeg/statpolicy/standards_stat_surveys.pdf.

# MAIN FINDINGS

## WIC Retention Rates

While WIC retention refers to keeping WIC-eligible participants on WIC, no standard method exists for determining WIC retention rates. In addition, there is no Federal requirement for SAs or LAs to calculate WIC retention rates. Thus, both the SA and LA surveys asked the respondents whether they calculated WIC retention rates and, if so, how they defined retention. The surveys also asked both SAs and LAs to complete a table within the survey, which consisted of reporting the total number of participants certified and retained by certification category for the past 5 FYs. The Study Team used this information to calculate the average retention rates from FY 2014 through FY 2018. Please note that the response rate for the retention rate question[14] was approximately 40.0 percent for the SA survey and 34.9 percent for the LA survey; therefore, caution should be used when interpreting these findings.

### SA RETENTION RATES

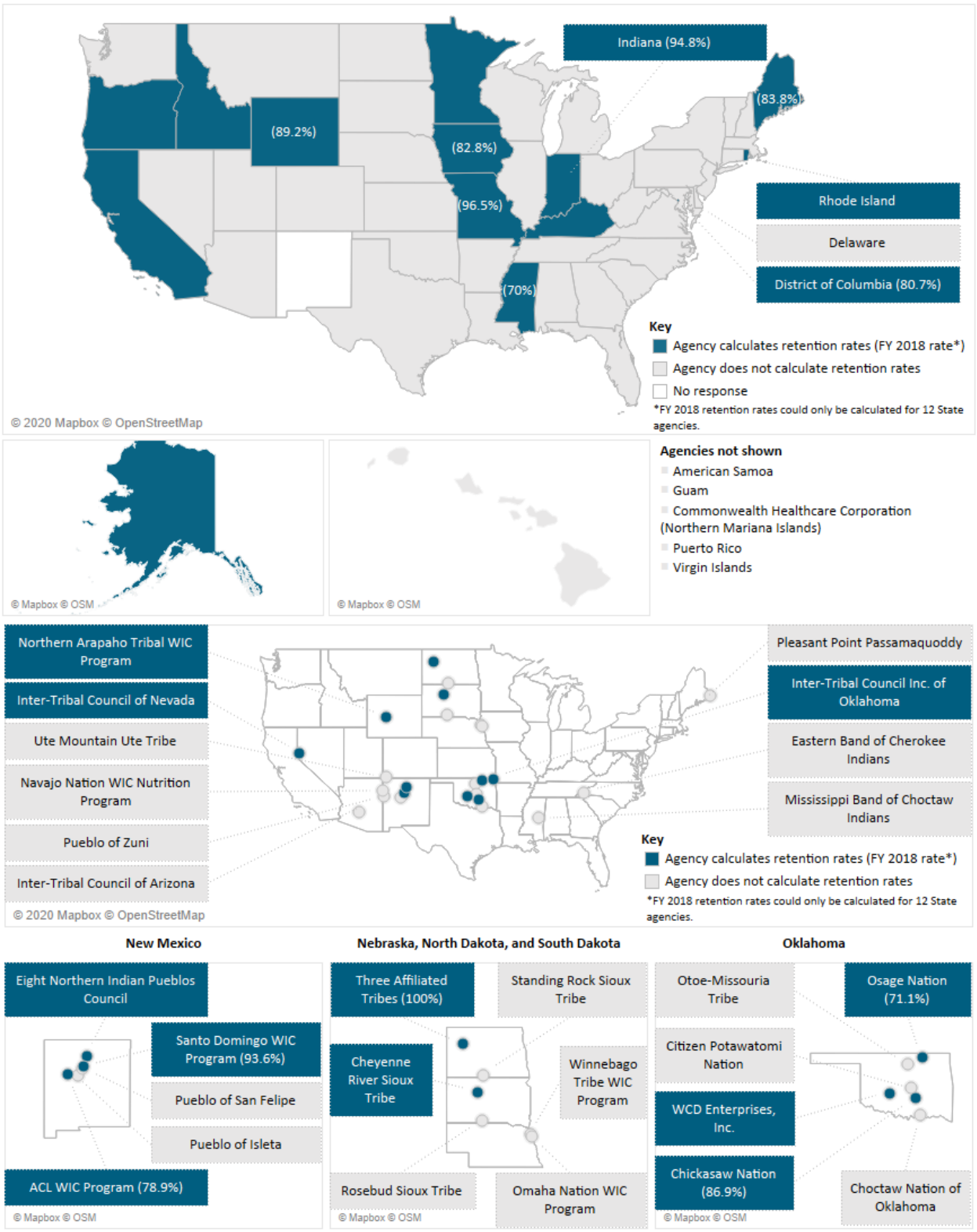
Approximately one-third of SAs (30.5 percent) calculated retention rates while the remaining majority (69.5 percent) of SAs did not calculate retention rates (Exhibit 1). For SAs that calculated retention rates, nearly one-third defined retention as participants who continuously utilized benefits and/or were issued benefits (29.2 percent). Additionally, one-quarter of SAs (25.0 percent) defined retention as participants' continued participation in WIC until they were deemed ineligible. A smaller percentage of SAs defined retention as participants that show up to appointments (16.7 percent) or as a calculation based on active versus inactive participants and/or participants' eligibility (16.7 percent) (Appendix E, Table 8c). SAs also were asked how often they calculated retention rates. The largest proportion of SAs (58.3 percent) calculated retention monthly, followed by 37.5 percent of SAs calculating retention annually (Appendix E, Table 8d).[15] A smaller percentage of SAs (16.7 percent) indicated that they calculated retention rates quarterly, and another 16.7 percent calculated retention as needed. Less than 5 percent (4.2 percent) of SAs indicated they calculated retention rates weekly.

Of the 30.5 percent of SAs that indicated that they calculated retention rates, half (48.0 percent) provided data to calculate retention rates by certification category (Exhibit 1). The overall average retention rate in FY 2018 across all certification categories by SA ranged from 70.0 percent to 100 percent. Between FY 2014 and FY 2018, the rates were generally stable across the certification categories. The exceptions were a decrease for the postpartum category (6.5 percentage point decrease) and an increase in the infant category (6.9 percentage point increase) (Appendix E, Table 8e).

[14] The retention rate question was 18D in the SA survey and 33C in the LA survey.

[15] Please note that multiple responses were allowed, and percentages will not sum to 100 percent.

## Exhibit 1. WIC SAs and ITOs that Calculated Retention Rates




**Notes:** Total number of respondents = 25. The NSWP-III study defines retention rates as the ratio of retained participants to certified participants. Not all SAs that calculated retention provided the necessary information to calculate the retention rate.
**Source:** Appendix E, Table 8b; NSWP-III State Agency Survey, question 18.

### LA RETENTION RATES

Similar to SAs, the majority of LAs (84.1 percent) did not calculate retention rates, and the remaining 15.9 percent reported calculating retention rates (Appendix F, Table 11a). Among LAs that calculated retention rates, definitions for retention differed. Approximately one-fifth of LAs (22.2 percent) based their definition on data or reports (monthly, quarterly, yearly) that indicated caseload size and/or participants served at the LA. Approximately 18 percent of LAs (17.9 percent) defined retention as participants who continuously utilized benefits and/or were issued benefits, while 16.8 percent of LAs defined it as participants' continued participation in WIC until they were deemed ineligible. Other responses included the following: retention is based on active versus inactive participants and/or participants' eligibility (13.4 percent) and participants that show up to appointments (10.8 percent) (Appendix F, Table 11c).

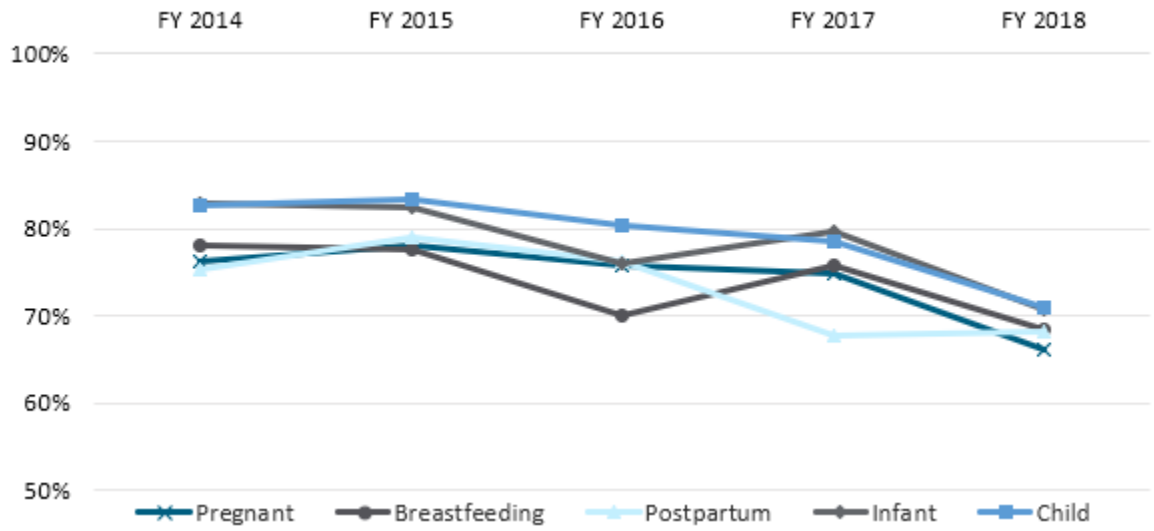
As for the frequency of calculating the retention rates among LAs that calculated them, the majority of LAs (69.1 percent) indicated retention rates were calculated on a monthly basis, followed by 18.4 percent of LAs calculating the rates on a weekly basis (Appendix F, Table 11d). A slightly lower percentage of LAs reported calculating retention rates quarterly (16.6 percent) and annually (14.5 percent).

LAs also were asked to provide retention data to enable the Study Team to calculate retention rates. Of the 15.9 percent of LAs that indicated they calculated retention rates, 34.5 percent provided data to calculate retention rates by certification category. Overall, average LA retention rates[16] by certification category appeared to drop from FY 2014 to FY 2018. The infant certification category appeared to experience the largest decrease from 82.8 percent in FY 2014 to 70.8 percent in FY 2018 (Exhibit 2). This finding suggests that LAs were able to retain more infant participants after age 1 (from infant to child certification category) in FY 2014 compared to FY 2018.

Please note the overall LA-reported retention rate for FY 2018 was lower than the SA-reported retention rate for FY 2018 (67.9 percent versus 85.7 percent) (Appendix F, Table 11e). This difference could be attributed to not all responding LAs being a part of the same SAs that provided SA-level rates. Also, as noted above, only a small percentage of SAs and LAs provided the information needed to calculate retention rates.

[16] Retention rates were calculated as the ratio of retained participants to certified participants. The average retention rate across all LAs is presented in Exhibit 2. Not all LAs that indicated that they calculated retention (unweighted *n* = 83) provided the necessary information (number of retained participants and certified participants) for the Study Team to calculate the retention rate. The retention rate calculation provided here is for comparison purposes only and is not an official FNS calculation of retention rate.

## Exhibit 2. Average LA Retention Rates by Certification Category, FYs 2014–2018

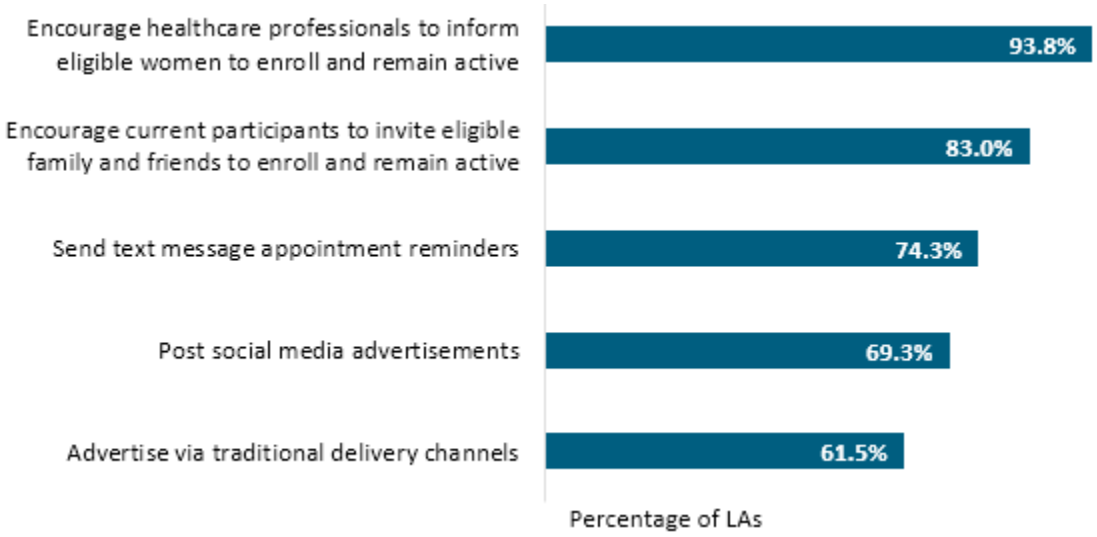



**Notes:** Total number of respondents varied by certification category and FY. In FY 2014, pregnant certification category weighted *n* = 51 and unweighted *n* = 22; breastfeeding certification category weighted *n* = 51 and unweighted *n* = 22; postpartum certification category weighted *n* = 51 and unweighted *n* = 22; infant certification category weighted *n* = 51 and unweighted *n* = 22; child certification category weighted *n* = 51 and unweighted *n* = 22. In FY 2015, pregnant certification category weighted *n* = 56 and unweighted *n* = 23; breastfeeding certification category weighted *n* = 59 and unweighted *n* = 24; postpartum certification category weighted *n* = 59 and unweighted *n* = 24; infant certification category weighted *n* = 61 and unweighted *n* = 25; child certification category weighted *n* = 59 and unweighted *n* = 24. In FY 2016, pregnant certification category weighted *n* = 71 and unweighted *n* = 29; breastfeeding certification category weighted *n* = 72 and unweighted *n* = 30; postpartum certification category weighted *n* = 72 and unweighted *n* = 30; infant certification category weighted *n* = 72 and unweighted *n* = 30; child certification category weighted *n* = 75 and unweighted *n* = 31. In FY 2017, pregnant certification category weighted *n* = 80 and unweighted *n* = 33; breastfeeding certification category weighted *n* = 78 and unweighted *n* = 32; postpartum certification category weighted *n* = 75 and unweighted *n* = 31; infant certification category weighted *n* = 78 and unweighted *n* = 32; child certification category weighted *n* = 81 and unweighted *n* = 33. In FY 2018, pregnant certification category weighted *n* = 70 and unweighted *n* = 30; breastfeeding certification category weighted *n* = 65 and unweighted *n* = 28; postpartum certification category weighted *n* = 65 and unweighted *n* = 28; infant certification category weighted *n* = 68 and unweighted *n* = 29; child certification category weighted *n* = 71 and unweighted *n* = 30. The NSWP-III study defines retention rates as the ratio of retained participants to certified participants. Not all LAs that calculate retention (unweighted *n* = 83) provided the necessary information to calculate the retention rate. The number (unweighted) of LAs that provided the necessary information (i.e., number of certified participants and number of retained participants, or the percentage of retained participants) to calculate retention rates in each FY, and in each certification category ranged from 22 to 33 LAs.
**Source:** Appendix F, Table 11b; NSWP-III Local Agency Survey, question 33C.

### *LA Activities to Increase Retention*

As part of the survey, LAs were presented with a list of outreach activities aimed at improving WIC participant retention and could select all options that applied to their LA. LAs also could provide additional activities via the "other specify" option in the survey. Nearly all LAs encouraged healthcare professionals to inform eligible women to enroll and remain active (93.8 percent) (Exhibit 3). Other popular activities included inviting eligible family and friends to enroll and remain active (83.0 percent) and sending text message appointment reminders (74.3 percent). A smaller percentage of LAs reported sending first birthday cards to WIC caregivers on a child's first birthday (32.2 percent); followed by performing community engagement, outreach, and partnerships (15.6 percent); and providing transportation to and from sites (7.7 percent) (Appendix F, Table 11h).

**Exhibit 3. Top Five Activities Taken by LAs to Increase Retention Rates**




**Notes:** Weighted *n* = 1,794; Unweighted *n* = 717. This survey question allowed the respondent to select all options that applied; percentages will not sum to 100.
**Source:** Appendix F, Table 11h; NSWP-III Local Agency Survey, question 35.

In accordance with the WIC Regulations,[17] LAs are required to contact pregnant women who have missed their first appointment so the appointment can be rescheduled. This process provides another opportunity for staff to increase program participation. As expected, almost all LAs reported that they do attempt contacting the potential participant to reschedule the appointment (98.6 percent). This finding was consistent across LA type, size (i.e., the number of participants served), and urbanicity (Appendix F, Table 11g).

[17] Government Publishing Office. 2020. *Electronic Code of Federal Regulations 7 CFR Part 246.7(b)(4)* https://www.ecfr.gov/cgi-bin/text-idx?SID=a6828ac000f6e75ae4679d5beecb637c&mc=true&node=pt7.4.246&rgn=div5#se7.4.246_13

# Current Participant Experiences with WIC

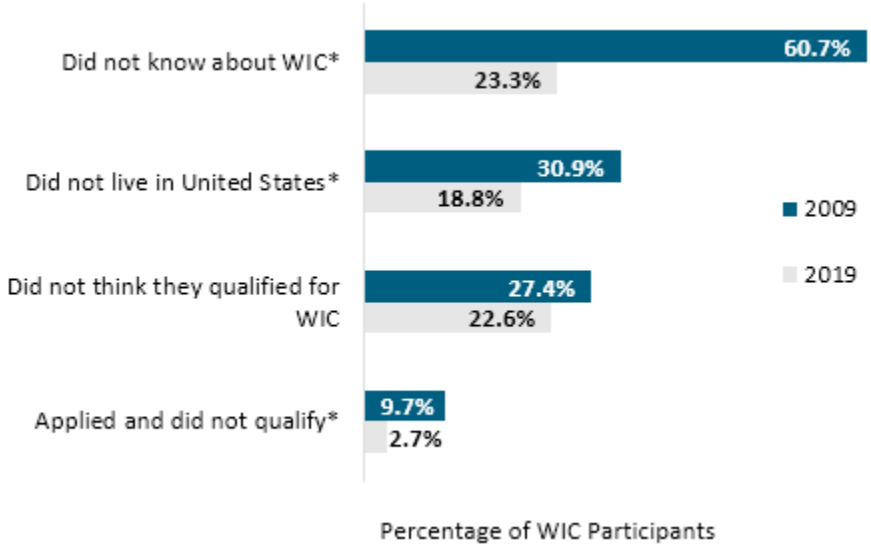
### ENROLLMENT

Current WIC participants were interviewed about their experiences with WIC enrollment, including timing of last certification, reasons for not enrolling during prior pregnancies, and what WIC could have done to facilitate earlier enrollment. All respondents were asked whether they were new to WIC or had participated in WIC in the past. Overall, 62.5 percent of participants had participated in WIC before while the remaining 37.5 percent were new to WIC. This is significantly different ($p < 0.05$) compared to 2009, for which 50.2 percent of respondents had participated before and 49.8 percent were new to WIC (Appendix G, Table 2a.2). Of the participants interviewed in 2019 who left and returned to WIC, participants reported last receiving benefits an average of 10.3 months prior to the date of their interview (Appendix G, Table 2d.1). This information suggests that individuals who participated previously in WIC left the program and returned within a year.

Among adult participants who reported more than one child in their household who was born to the participant, 91.7 percent reported that at least one of their children participated in WIC in the past (Appendix G, Table 2a.1). In the case of adult participants who indicated that they did not enroll in WIC during prior pregnancies, the main reason reported for not enrolling was that the respondent did not know about WIC at the time (23.3 percent). Variations in reasons were observed among different race/ethnicity groups. Participants who identified as Non-Hispanic Other (51.5 percent) and Non-Hispanic African American (42.3 percent) more frequently reported that they did not know about WIC compared to Hispanic participants (21.9 percent) and Non-Hispanic White participants (12.6 percent) (Appendix G, Table 2b.2). Other frequently cited reasons for not enrolling in WIC during previous pregnancies were that participants did not think they qualified for WIC (22.6 percent), they did not live in the United States during previous pregnancies (18.8 percent), and they did not think that they needed WIC (15.4 percent). Other less frequent responses included the participants' finances/employment were different (4.2 percent), the participant only applies for WIC benefits when in need of formula (3.6 percent), and the participant was not pregnant at the time (3.3 percent) (Appendix G, Table 2b.2).

There were several significant differences ($p < 0.05$) observed between 2009 and 2019 regarding reasons why participants did not enroll in WIC during prior pregnancies (Exhibit 4). For example, 60.7 percent of respondents in 2009 indicated that they did not know about WIC compared to 23.3 percent of respondents in 2019. In addition, significantly more respondents in 2009 reported that they did not participate in WIC during a previous pregnancy because they did not live in the United States (30.9 percent) compared to 2019 (18.8 percent). Lastly, significant differences were seen for respondents who reported that they applied and did not qualify for WIC (9.7 percent in 2009 and 2.7 percent in 2019) (Appendix G, Table 2b.3).

## Exhibit 4. Reasons for Not Enrolling in WIC During Prior Pregnancies in 2009 and 2019




* The difference between 2009 and 2019 is statistically significant ($p < 0.05$).
**Notes:** For 2009, the percentages reported were weighted, but the weighted *n* were not reported. For 2009, unweighted *n* = 221. For 2019, weighted *n* = 156,832; unweighted *n* = 111. Exhibit includes adult participants who had more than one child at the time of the survey. This question allowed the respondent to select all options that applied; percentages will not sum to 100.
**Source:** Appendix G, Table 2b.3; NSWP-III Program Experisences Survey, question 6.

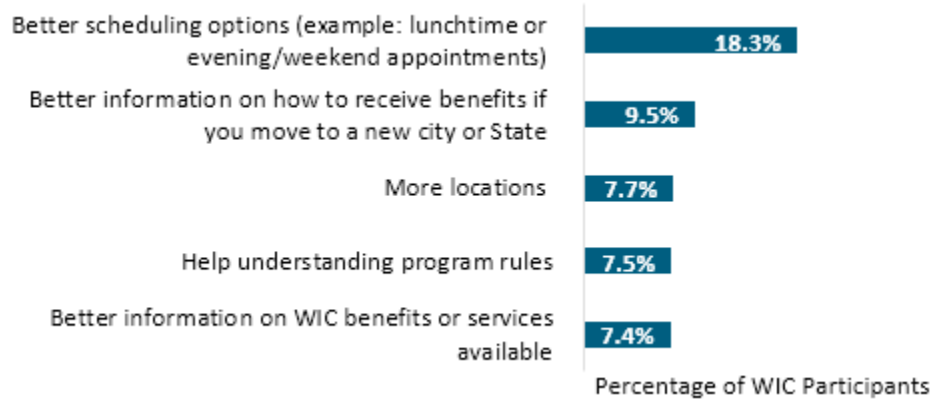
WIC participants also were asked whether they would have joined or rejoined the program earlier if they had more information available (Appendix G, Table 2c). Among those participants indicating yes (33.6 percent), more than a third (36.0 percent) reported that having more knowledge/information on the program, including nutritional information and benefits, could have facilitated earlier enrollment in WIC. Other responses included information or more specifics on eligibility requirements (i.e., how to apply/recertify) (18.2 percent), advertisements (14.0 percent), and recommendations from doctors and other healthcare professionals (11.0 percent).

## RETENTION

Approximately one-fifth (22.4 percent) of participants indicated that they had left and then rejoined WIC. These participants reported several reasons for leaving WIC prior to reenrolling. However, two reasons were reported most frequently: Approximately 30 percent (30.4 percent) of participants reported that they became ineligible, and another 30 percent (29.5 percent) reported that they had trouble making appointments. In addition, 10.6 percent of participants reported that they left WIC because they no longer needed benefits and another 8.9 percent reported that they had moved. Participants were allowed to specify "other" reasons for why they left WIC, which included self-reported reasons such as the participant did not provide any income documentation (1.7 percent), the participant stopped picking up benefits (1.1 percent), and the participant did not have transportation to WIC (1.0 percent) (Appendix G, Table 2d.2).

Of the participants who left and then rejoined WIC, the majority (65.8 percent) of WIC participants reported that they were still eligible for WIC benefits when they left the program while approximately one-third (30.9 percent) were not eligible and 3.3 percent were not sure of their eligibility status (Appendix G, Table 2e.1). Of the participants that left while still eligible, 18.3 percent reported better scheduling options (lunchtime or evening/weekend appointments) offered by WIC as the top reason that could have encouraged them to stay in WIC (Exhibit 5). Another leading suggestion given by participants was for WIC to provide better information on how to receive benefits when the participant moved to a new city or State (9.5 percent).

### Exhibit 5. Top Five Things WIC Could Have Done to Retain WIC Participants

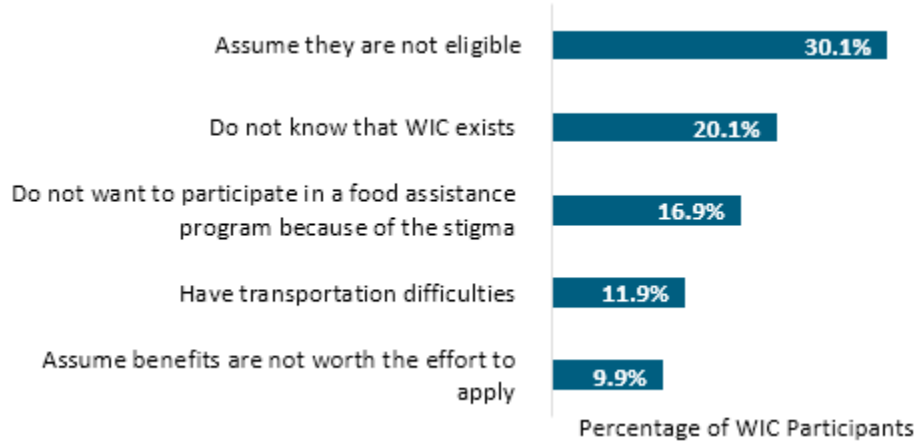



**Notes**: Weighted *n* = 920,512; Unweighted *n* = 202. This survey question was asked of WIC participants who indicated on a prior question that they previously participated in and were eligible for WIC when they left the program. This survey question allowed the respondent to select all options that applied; percentages will not sum to 100.
**Source:** Appendix G, Table 2e.1; NSWP-III Program Experiences Survey, questions 9 and 10.

Participants who left WIC and reenrolled were prompted to explain why they returned to the program. The most reported reasons for returning to the program were because they needed WIC benefits (46.9 percent) and they had another child/became pregnant (33.4 percent). A smaller percentage of participants reported reasons such as needing formula (7.3 percent), being recertified (5.5 percent), their income had changed (i.e., participants were now eligible) (2.1 percent), and the participant relocated (1.5 percent). This question was another opportunity to capture "other" suggestions from respondents, which comprised 11.1 percent of responses. Examples of these suggestions included a family member/friend/coworker/doctor encouraged the participant to recertify (2.5 percent), the participant became a new guardian of a child(ren) (1.7 percent), and the participant has reliable transportation (1.1 percent) (Appendix G, Table 2f).

All participants, including those that left and rejoined WIC and those that never left WIC, also were asked to give insight into what they thought the main reasons were for why people who could participate in WIC do not. According to WIC participants, the top perceived barriers to WIC participation among other individuals not participating in WIC were they assumed they were not eligible to participate (30.1 percent), they did not know WIC existed (20.1 percent), and they did not want to participate in a food assistance program because of stigma (16.9 percent) (Exhibit 6). When comparing responses between 2009 and 2019, significantly fewer ($p < 0.05$) participants reported problems qualifying for benefits as barriers to WIC participation (17.8 percent versus 5.9 percent, respectively) (Appendix G, Table 3.2). In addition, significantly fewer ($p < 0.05$) participants in 2019 (3.0 percent) indicated services (including wait time taking too much time) as a barrier compared to 2009 (10.5 percent).

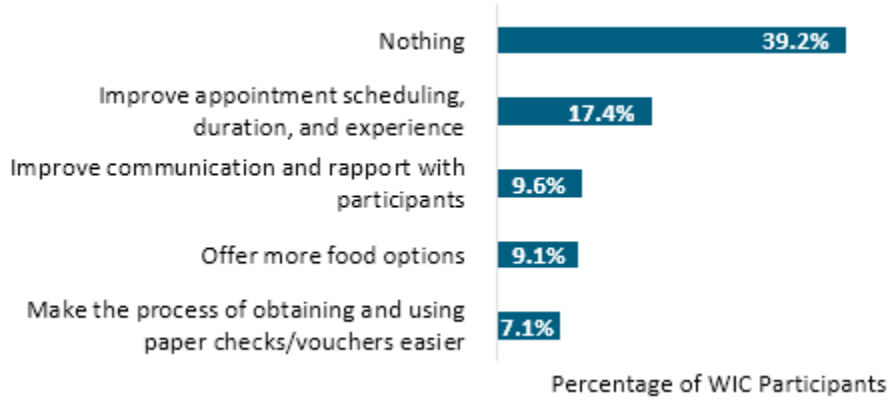
### Exhibit 6. Top Five Perceived Barriers to WIC Participation




**Notes:** Weighted *n* = 6,397,412; Unweighted *n* = 1,648. WIC participants were asked what they think are the main reasons that people who could participate in WIC do not. This survey question allowed the respondent to indicate up to three responses; percentages will not sum to 100.
**Source:** Appendix G, Table 3.1; NSWP-III Program Experiences Survey, question 41A.

When participants were asked what WIC staff could have done differently to facilitate their retention in the program, more than a third of participants (39.2 percent) reported there was nothing WIC staff could have done differently. However, nearly a fifth of participants (17.4 percent) reported that improvements in appointment scheduling, duration, and overall experience could have helped. Other suggestions included improving communication and rapport with participants (9.6 percent), offering more food options (9.1 percent), and making the process of obtaining and using paper checks/vouchers easier (7.1 percent). Participant recommendations also included making WIC foods easier to find at the supermarket (3.7 percent), providing more information in general (3.6 percent), having more accessible clinic locations (1.8 percent), offering a more convenient way to reload benefits (1.3 percent), and providing more information on clinic locations (1.3 percent) (Exhibit 7).

### Exhibit 7. Top Five Ways WIC Staff Could Support Retention




**Notes**: Weighted *n* = 890,001; Unweighted *n* = 193. This survey question was asked of WIC participants who indicated on a prior question that they previously participated in and were eligible for WIC when they left the program. This survey question allowed the respondent to select all options that applied; percentages will not sum to 100.
**Source:** Appendix G, Table 2e.2; NSWP-III Program Experiences Survey, question 10A.

# Former Participant Experiences with WIC

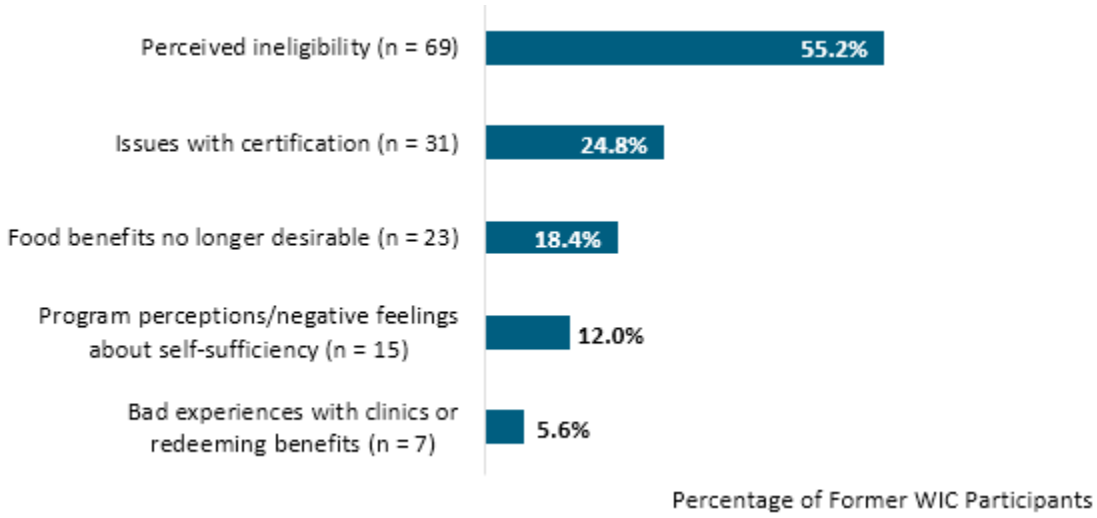
### ENROLLMENT

When a small convenience sample of former WIC participants were asked to give insight into their decision to originally participate in WIC, the most frequently cited reason was health benefits for families and children (82.0 percent; *n* = 103) (Appendix H, Table 1b.1). In particular, the respondents indicated nutrition education, iron checks, lead tests, and growth checks as services that would be important to their children's development (Appendix H, Table 1b.2). Many respondents (42.0 percent; *n* = 53) also reported that they joined WIC to ease financial burden associated with providing food to their households. A smaller portion (12.0 percent; *n* = 15) of respondents reported that joining WIC increased their access to breastfeeding supports, including lactation specialists and breast pumps.

### REASONS FOR LEAVING WIC

Former WIC participants also were asked about the reasons why they decided to leave WIC. The most reported reason for leaving WIC was because they believed they were ineligible (55.2 percent; *n* = 69) (Exhibit 8).

**Exhibit 8. Top Five Reasons Former Participants Left WIC**




**Notes:** The findings are based on responses from 125 former WIC participants.
**Source:** Appendix H, Table 1a.1; NSWP-III Former Participant Survey, question 24.

These former participants described believing they were ineligible due to a variety of reasons, including reaching maximum length of participation for certification type (40.6 percent; *n* = 28), an increase or change in household income (23.2 percent; *n* = 16), discontinuing breastfeeding (20.3 percent; *n* = 14), the loss or death of a child (11.6 percent; *n* = 8), or loss of adjunctive eligibility status (8.7 percent; *n* = 6) (Appendix H, Table 1d.1).

---

*"Well, it's just because I only qualified when I was pregnant. And so, after like a 6-month period of being pregnant, I couldn't participate any longer."*

*"It was just after that my husband got a job and we figured we weren't going to qualify, so we just decided to just not use them."*

---

The second most frequently reported reason participants left WIC was because participants encountered an issue during the certification process (24.8 percent; *n* = 31). Respondents missed their required WIC clinic appointments for certification and allocation of benefits due to changes in work or school schedules, limited access to transportation, moving, or other competing priorities (Appendix H, Table 1a.2).

---

*"I wasn't planning on leaving. It just got really frustrating to do the paperwork over and over again."*

*"The time you spend trying to get there and always asking for permission from work to get off and get to the appointments, we thought that it was better for us to buy it ourselves than to keep on going."*

---

The third most common reason participants left WIC is because respondents were not redeeming benefits and/or food items were not being consumed by members of their households due to the foods being undesirable (18.4 percent; *n* = 23).[18] Respondents noted that the relatively few WIC-approved foods they did purchase and consume did not justify their continued participation in the program (Appendix H, Table 1a.2).

---

*"My son doesn't like peanut butter and…[WIC] didn't offer any other nut butters. Then the juice. . . a lot of the stuff that [WIC] is allowing for people to use is a lot of processed foods."*

*"Pretty much he's stopped drinking formula [and] doesn't drink a lot of milk. . . So, there wasn't really a need to continue with the WIC. . . It was more of a hassle to keep up with it, because we weren't getting really what we needed for our family."*

---

[18] See *Brief Report 5: WIC Participant Characteristics and Economic Status* for additional details on what types of foods respondents suggested including to facilitate continued participation.

A less common reason participants left WIC is because their perceptions and beliefs discouraged participation (12.0 percent; *n* = 15). More than half of these respondents (60.0 percent; *n* = 9) believed that other mothers and children needed WIC benefits more than they did, so they chose to discontinue their benefits in order to free up benefits for others they perceived to be in need. The other respondents (40.0 percent; *n* = 6) noted a reluctance to accept public assistance, such as WIC benefits, because participating in WIC made them feel less independent or less able to care for their child (Appendix H, Table 1a.2).

---

*"I felt like getting out [WIC] was going to make me more independent of myself and my daughter."*

*"Like, a lot of the stuff I wasn't using, and so I didn't want to just keep taking just to take, cause I felt like it was someone else out there that probably could have benefited more."*

---

Very few respondents noted that they left WIC due to negative experiences at the WIC clinic or at stores when redeeming benefits (5.6 percent; *n* = 7). Of the seven respondents that reported leaving WIC due to negative experiences, some respondents (*n* = 2) reported feeling disrespected by WIC staff or perceived the processes (e.g., certification or benefit allocation) at WIC clinics to be overly tedious (*n* = 1). Others left WIC due to negative experiences in stores. Over half of respondents reporting negative experiences (*n* = 4) reported being embarrassed, frustrated, or treated in a rude manner by store staff and other customers when completing WIC purchases (Appendix H, Table 1a.2).

---

*"The one time that I went to the store and used them, it was an embarrassing mess because even though I was looking at the pictures in the book and everything, it was the pounds of the cereal didn't get right and I got shredded cheese instead of not shredded cheese. And none of it was ringing up as WIC and I left the store in tears because it was so embarrassing, and I never used WIC again."*

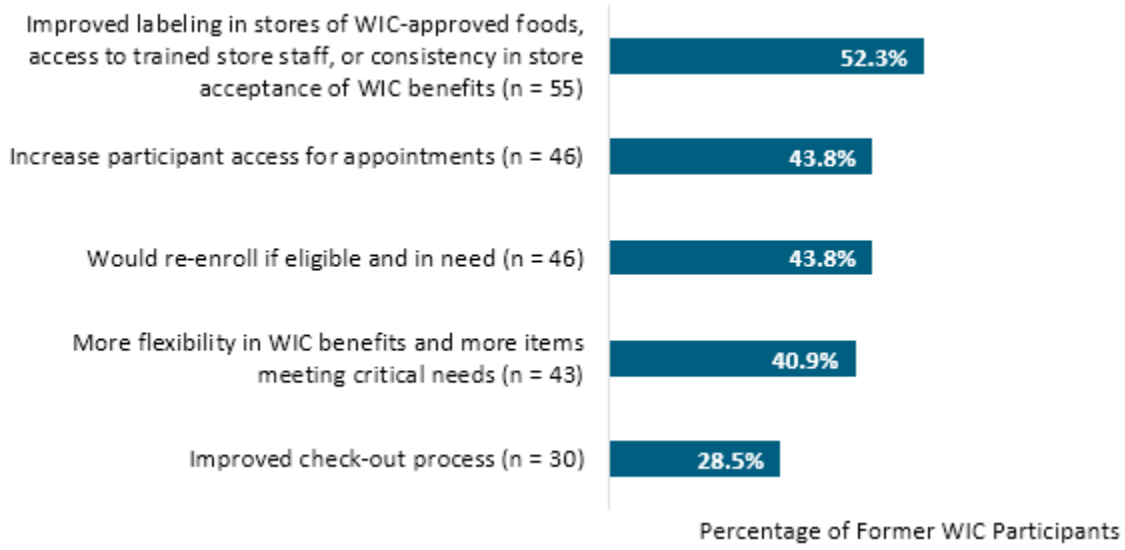
---

The Study Team further reviewed the reasons why the former participants left WIC to determine how many respondents also felt they no longer needed WIC. More than half of the former participants interviewed felt that they no longer needed WIC (59.0 percent; *n* = 74; Appendix H, Table 1c.1). The reasons they felt they no longer needed WIC included the following: discontinued breastfeeding (*n* = 29); no longer needed or wanted the food benefits because the food benefits offered did not align with their food needs, preferences, and/or sensitivities (*n* = 19), change in household income (*n* = 18); and miscarriage or death of a child (*n* = 8).

## RETENTION SUGGESTIONS

When former participants were asked to offer suggestions or ideas on what would have facilitated their retention in the program, the leading recommendation was related to challenges encountered during the shopping experience. Specifically, respondents requested improved labeling of WIC-approved items in store, more consistency between grocers, and access to store staff who are trained in relation to WIC so participants can ask questions and receive assistance when redeeming benefits (52.3 percent; *n* = 55) (Exhibit 9).[19]

### Exhibit 9. Top Five Suggestions for Improving Program Retention from Former WIC Participants




**Notes:** The findings are based on responses from 103 former WIC participants.
**Source:** Appendix H, Table 1b.2; NSWP-III Former Participant Survey, question 2.

Many of these respondents (76.4 percent; *n* = 42) suggested more thorough, accurate, and consistent labeling of WIC-approved foods in stores, or an area of the store with only WIC-approved items for easy identification. Some respondents (38.2 percent; *n* = 21) also felt that providing additional training and reference materials to store staff would improve WIC participants' shopping experiences. Furthermore, respondents believed that better trained cashiers would reduce confusion and errors when redeeming benefits, thereby reducing frustration at checkout (Appendix H, Table 1b.2).

> *"I think all the WIC items should be located in one spot in each grocery store. I think that'd make it a lot easier for every single parent who gets WIC, just because looking through the whole grocery store is very difficult."*
>
> *"Maybe [the store staff] all get taught what WIC is and how it's going to benefit people and where they can find [the approved items]."*

[19] Please note that WIC training is required for store staff, so these respondents could be referring to additional assistance beyond what is required. For more details on the required training content, please see 246.12 (i)(2) of the WIC regulations.

The second most popular suggestion to improve program retention focused on increasing participant access to appointments, which was reported by 46 former WIC participants (43.8 percent). Respondents identified the following opportunities: expanding WIC clinic hours for appointments, especially for certification appointments (47.8 percent; *n* = 22), decreasing barriers related to transportation or traveling far distances to WIC clinics (32.6 percent; *n* = 15), increasing access to or supports for childcare during WIC appointments (30.4 percent; *n* = 14), and offering virtual appointments or reducing the number of required appointments to maintain participation (19.6 percent; *n* = 9) (Appendix H, Table 1b.2).

---

*"In the beginning, I wasn't working, but now it's a little difficult because they only do appointments up until 3:00 p.m. I usually get off of work at 4:00, so it's hard."*

*"I started missing my appointments because I was too busy. I didn't have the time, when I get off work, I have to get my kids and then the WIC office would be closing because I was on the first shift."*

---

Many former participants (43.8 percent; *n* = 46) indicated that WIC addressed their needs and that they would have maintained participation if they believed they were eligible for the program and in need of WIC benefits. Respondents indicated that if their household income decreased or they became pregnant again, they would return to WIC to receive benefits (Appendix H, Table 1b.2).

---

*"I think if I were eligible, I would continue participating anyway since my children already receive benefits there. So, it wouldn't be any extra effort or time on my part to show up as well since I already have to be there."*

*"If she was still eligible I would do it because it helps with foods and certain foods and everything."*

---

Many former participants (40.9 percent; *n* = 43) also reported that they wanted more flexibility in WIC food packages and more items that met their most critical needs. Respondents specifically noted wanting more benefits for fruits and vegetables and formula. Respondents indicated these benefits were the most valuable benefits provided by WIC (Appendix H, Table 1b.2).

---

*"I think WIC should give out more of a variety of food because there's more healthy foods out here in the world than what WIC offers."*

*"If they were offering more money for fruits, and vegetables, or even a way where, you're not getting the cereal? Okay, well then that gives you $2 extra to use towards vegetables."*

---

Finally, several former participants (28.5 percent; *n* = 30) suggested more simple, discreet, and diverse methods of redeeming their WIC benefits at the grocery store would improve their WIC experience.[20] Some of these respondents (56.7 percent; *n* = 17) also suggested that converting States still issuing WIC vouchers to issuing Electronic Benefits Transfer (EBT) cards would streamline the checkout process and reduce forfeited benefits (Appendix H, Table 1b.2).

*"If you didn't have to split your orders up, it would make it go a lot faster. At the end of the order, you could run your WIC card and then pay for the rest of your stuff. I think that would help a lot."*

*"A lot of it is self-checkouts nowadays and you can't go through the self-checkouts with the WIC . . .. I actually had to go through the service desk up front to redeem my WIC and that just kind of made it a little harder, I guess."*

[20] The Study Team found two distinct themes relating to the WIC shopping experience. The most common theme related to clarity of labeling and resources available to the participant while shopping, and the second related to the options for checkout.

# CONCLUSION

WIC retention continues to be an important factor in understanding the operation and enduring success of WIC both at the administrative and participant levels. Only 30.5 percent of SAs and 15.9 percent of LAs reported calculating retention rates. Among those SAs and LAs, the concept of WIC retention tended to be defined and calculated differently. Many LAs indicated they address retention by conducting outreach activities, such as encouraging healthcare professionals to inform eligible women to enroll and remain active in WIC (93.8 percent) and encouraging WIC participants to invite eligible family and friends to enroll and remain active (83.0 percent). The majority of LAs employed at least one form of communication to reach participants and increase retention, including contacting participants to reschedule missed appointments (98.6 percent), posting social media advertisements (69.3 percent), advertising via traditional delivery channels (61.5 percent), sending birthday cards (32.2 percent), and engaging in community outreach and partnerships (15.6 percent).

Current and former WIC participants provided insight into reasons for enrolling and also discontinuing WIC. Current adult participants indicated that the main reasons they had not enrolled in WIC during past pregnancies was because they did not know about WIC (23.3 percent) or they did not know they qualified for WIC (22.6 percent). The current participants explained that they returned to the program because they needed WIC benefits (46.9 percent) and/or because they had another child or became pregnant (33.4 percent). Former participants reported leaving WIC for a variety of reasons. Approximately half (55.2 percent; *n* = 69) of respondents believed that they were no longer eligible, and some believed they had reached maximum length of participation for their certification type (40.6 percent; *n* = 28), while others had a change or increase in income (23.2 percent; *n* = 16). Some former participants (24.8 percent; *n* = 31) left WIC because they encountered an issue during recertification, while others (18.4 percent; *n* = 23) left because they were not redeeming benefits and/or the food benefits were not being consumed by their household.

Based on the study findings, future research could be conducted on the facilitators and barriers to calculating and tracking WIC retention among SAs and LAs. In addition, focus groups could be conducted on the appeal and advantages of different WIC marketing strategies with the aim of increasing WIC awareness and participation.

As with all research studies, limitations of the design and methodology are possible. The surveys were designed and tested to elicit accurate responses. Nevertheless, some response error is possible. Respondents may have unknowingly reported incorrect information or inadvertently checked the wrong response. In addition, the retention rates presented in this brief should be interpreted with caution due to low response rates to questions asking for the data needed to calculate retention at the SA and LA level. Lastly, the former participant survey is a case study; thus, is not designed to be representative of all former WIC participants nationwide.

**Prepared by Capital Consulting Corporation (CCC) and 2M Research Services for the USDA Food and Nutrition Service (Project Officer: Karen Castellanos-Brown)**

## Suggested citation:

Magness, A., Williams, K. Gordon, E., Morrissey, N., Papa, F., Garza, A., Okyere, D., Nisar, H., Bajowski, F., & Singer, B. (2021). *Third National Survey of WIC Participants: Retention and Potential Barriers to Participation among WIC Participants: Brief Report #4.* Prepared by Capital Consulting Corporation and 2M Research Services. Contract No. AG-3198-K-15-0077. Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service, Office of Policy Support, Project Officer: Karen Castellanos-Brown.

## Acknowledgments:

The Study Team would like to thank the WIC State and local agency staff and the current and former WIC participants who participated in the study. We greatly appreciate the guidance provided throughout the entire project by our partners at the U.S. Department of Agriculture, Food and Nutrition Service, with special assistance from Karen Castellanos-Brown, Courtney Paolicelli, Jennifer Teters, Marta Kealey, Jessica Owen Day, and Karen Meade.

We also greatly appreciate the feedback and support from our Expert Panel Members: Carol Eyermann, Donna Hines, Mindy Jossefides, Julie Reeder, and Jackson Sekhobo. We appreciate Arpita Chakravorty, Paul Ruggiere, Mary Ann Latter, Kathleen Santos, Moyo Kimathi, Amy Wieczorek-Basl, Victoria Torrent, Yuhan Huang, Shu Li, and the rest of the data collection and analysis staff who contributed to this study. MacKenzie Regier, Cindy Romero, Gail Clark, and Joshua Townley provided invaluable quality assurance support throughout the study.

## Non-Discrimination Statement: