USDA Food and Nutrition Service
U.S. DEPARTMENT OF AGRICULTURE

Research Summary May 2024

Special Supplemental Nutrition Program for Women, Infants, and Children Nutrition Assessment and Tailoring Study (WIC NATS) Final Report Parts 1 and 2 (Summary)

Background

Administered by the U.S. Department of Agriculture's (USDA) Food and Nutrition Service (FNS), the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) safeguards the health of low-income pregnant and postpartum women, infants, and children under age 5 who are at nutritional risk by providing supplemental foods, nutrition education, breastfeeding support, and referrals to healthcare and other social services.

As part of the certification and recertification process, WIC staff perform a comprehensive nutrition and breastfeeding assessment of WIC participants based on Value Enhanced Nutrition Assessment (VENA) Guidance. FNS conducted the WIC Nutrition Assessment and Tailoring Study (WIC NATS) to better understand how WIC local agencies and WIC clinic sites conduct the nutrition assessment and use the information gathered to tailor benefits for WIC participants. Benefit tailoring includes nutrition education, breastfeeding education, referrals, and food benefits.

WIC NATS is the first study to provide a comprehensive account of the WIC nutrition assessment and tailoring process. The nutrition and breastfeeding assessment process is critical to the delivery of individualized nutrition services and to meeting WIC's mission. Study findings will inform FNS and WIC State and local agencies about how to enhance service delivery and improve retention of WIC participants.

Findings from this study are summarized in a two-part report series. Part 1 examines how the pre-pandemic nutrition assessment and tailoring processes are described at the State agency level, identifies variation in the implementation of these processes at the local agency level, and uses State agency management information system (MIS) data to characterize WIC program tailoring practices. Part 2 explores the differences between remote and in-person nutrition assessment processes and benefit tailoring services and staff and participant perceptions of WIC services.

Key Findings

- Local agencies report their WIC staff modify food quantities in the food packages either because it is medically or nutritionally warranted or because the participant cannot use the full benefit.
- Over 70 percent of local agency staff report using the information obtained in the nutrition assessment to tailor the format or content of nutrition education.
- Sixty percent of local agency directors report their MIS helps facilitate tailoring of program benefits based on the results of the nutrition assessment.
- The five most common nutrition risk codes in order of frequency were: inappropriate nutrition practices for children, overweight woman, low hematocrit/hemoglobin, preterm or early delivery, and postnatal enrollment.
- Compared with in-person, remote appointments were about 15 minutes shorter, height/weight and hemoglobin/hematocrit test results were less frequently available, and some local agency staff reported challenges with participant communications.
- While local agency staff and participants rated WIC nutrition assessments highly, they reported food package tailoring could be improved.
- Eighty percent of WIC staff received cultural training; however, findings varied as to whether WIC staff explored participants' culture and beliefs during the nutrition assessment.

Methods

WIC NATS used a tiered study design to obtain a diverse sample of State agencies, local agencies, WIC clinics, and WIC participants. Data were collected at each tier to profile the nutrition assessment process (and variations in the process) and provide insights into staff and participant satisfaction with the process and benefit tailoring. The data presented in this report are not representative of the nation.

From 10 study State agencies, the study team collected the following:

- WIC State Plans and associated documentation related to nutrition assessment and benefit tailoring.
- Local agency web surveys (from 369 WIC local agencies; an 87 percent response rate).
- MIS data for three time periods between early 2020 and early 2021, to reflect clinic operations just before and during the COVID-19 pandemic. The requested data included the 2020 WIC Participant and Program Characteristics (WIC PC) Minimum Data Set (MDS) variables and other data focused on nutrition education and referrals collected at certification or follow-up appointments.

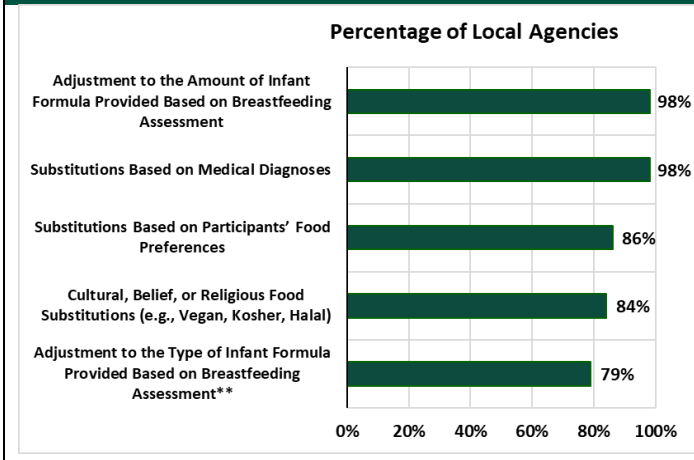
The remainder of data collection occurred in two phases to compare remote and in-person WIC operations, with both phases including staff interviews, participant interviews, and appointment observations. The in-person data collection phase also included site director interviews, an observation of the clinic environment, and the creation of clinic flow charts.

Findings

Nutrition Assessment and Benefit Tailoring Practices

Local agencies report that their WIC staff modify food quantities in the food packages either because it is medically or nutritional warranted or the participant cannot use the full benefit. Further, surveyed local agencies that allow changes or substitutions to the food package to meet individual nutritional needs and preferences allow adjustments to the amount of infant formula based on the breastfeeding assessment (98 percent) as well as food substitutions based on medical diagnoses (98 percent), food preferences (86 percent) or cultural and religious beliefs (79 percent).

Figure 1: Types of Changes That Local Agencies Make to the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) Food Packages* Based on Participants' Needs and Preferences



Source: USDA. FNS, WIC NATS, Local Agency Director Survey, summer 2021. A total of 321 local agencies completed the survey. Respondents were asked to answer survey questions based on how their local agencies and clinics operated before the COVID-19 pandemic. Respondents selected all that apply. The term medical diagnoses includes special dietary needs.

*Not including changes for Food Package III.
**The type of infant formula provided may be discussed during a breastfeeding assessment if the WIC mother is supplementing breastfeeding with infant formula.

Over 70 percent of local agency staff report using the information obtained in the nutrition assessment to tailor the format or content of nutrition education. About one-half of local agencies report that staff tailor nutrition education by providing a menu of nutrition education topics from which participants can choose (50 percent) or tailor the number and frequency of education contacts (48 percent).

Sixty percent of surveyed local agency directors report that their MIS helps to facilitate tailoring of program benefits based on the results of the nutrition assessment while 40 percent report it does not. Of the 60 percent of local agencies that reported their MIS helps facilitate tailoring of benefits, 82 percent reported that their MIS helps facilitate food package tailoring, 35 percent reported that their MIS helps tailor nutrition education offered, and 39 percent reported that their MIS helps tailor referrals offered.

Most local agencies have registered dietitians/registered dietitian nutritionists (RDs/RDNs) on staff to conduct nutrition assessments, though this varies by local agency characteristics. Significantly more urban compared to rural (87 percent vs. 62 percent) local agencies and large compared to small local agencies (94 percent vs. 55

percent) use RDs/RDNs for nutrition and breastfeeding assessments. In contrast, rural and small local agencies are more likely to have nurses conduct the assessments.

About 43 percent of the nutrition assessment appointments observed in the study resulted in tailored food packages. The frequency of food package tailoring varied widely from clinic to clinic, ranging from 0 to 100 percent. However, food package tailoring was similar between remote and in-person appointments.

Of the top five most common nutrition risk codes assigned across all participant categories, "inappropriate nutrition practices for children" was assigned most frequently (28 percent of all codes). Examples of inappropriate nutrition practices for children include but are not limited to feeding inappropriate beverages as the primary milk source, inappropriate use of bottles and cups, and feeding low calorie and low nutrient diets. This risk was also the most common among children (assigned to 59 percent). Among women, "overweight woman" (i.e., women with a pre-pregnancy body mass index ≥ 25) was the most frequently assigned code (assigned to 56 percent of WIC-certified women). This code was the second most assigned code overall (assigned to 15 percent of all woman participants). Across all 10 study State agencies, just 14 different codes were among the top five most frequently assigned codes (Table 1).

Table 1: Top Five Nutritional Risk Codes Reported at Baseline (January-February 2020)

Risk Code	Percentage of all Participants (%)
Inappropriate Nutrition Practices for Children	27.7%
Overweight Woman	15.4%
Low Hematocrit/Hemoglobin	13.0%
Preterm or Early Delivery	12.5%
Postnatal Enrollment	10.8%

n=615,403

MIS data from study state agencies indicate that staff tailor participants' milk options according to assigned nutrition risks or dietary needs. One-year-old participants with an assigned "high weight for length" risk, were the most likely to be prescribed reduced-fat milk rather than whole milk. Most participants with documented lactose intolerance were prescribed lactose-free milk or a non-dairy option like soy-based beverage.

Participants with high-risk anthropometric codes (e.g., overweight/obesity) were more likely to receive tailored food packages, nutrition education, and referrals. For participants with an anthropometric risk code labeled "high-risk," the likelihood of receiving a tailored food package was 2.4 times greater than for participants without a high-risk anthropometric risk code. This finding suggests that nutrition risks may drive tailoring of food packages, nutrition education, and referrals.

Women assigned "breastfeeding complications" as a nutrition risk were much more likely to receive referrals for tailored breastfeeding services. According to MIS data, around half of the women (48 percent) with documented breastfeeding complications were given breastfeeding related referrals compared to about 18 percent of women without documented breastfeeding complications.

In-person vs. Remote Appointments

Height/weight measurements and hemoglobin/ hematocrit test results were less frequently available for remote compared to in-person appointments. The lack of height/weight measurements and hemoglobin/hematocrit test results may have led to fewer nutrition risks being assigned to participants during the COVID-19 pandemic. Between January-February 2020 and June-July 2020, the proportion of infants with missing anthropometric risks (e.g., overweight, underweight) increased from 1.9 percent to 14.2 percent.

Remote appointments were about 15 minutes shorter on average than in-person appointments (25 minutes for remote appointments compared to 40 minutes for in-person). Remote appointments in this study were telephone-based and these appointments were all certification or recertification appointments. The overall processes for determining and documenting risk criteria, prioritizing risks, clarifying information, and determining high-risk status did not vary greatly between remote and in-person appointments, so much of this time savings may be due to the lack of measuring height/weight and hemoglobin/hematocrit.

Staff identified challenges in conducting remote appointments related to participant attentiveness, establishing rapport, and completing assessments with missing data. During interviews, some staff reported concerns about the quality of communication when speaking with participants remotely. Some felt that participants did not treat the remote appointment as a real appointment and often multi-tasked during their appointment or forgot the appointment altogether. Some staff also believed that remote services did not foster personal connections with the participants, which stifled

potential for rapport and restricted the type of guidance they could offer to participants. Staff disliked that they were unable to obtain accurate height and weight measurements for appointments conducted via phone and reported that identifying delays in child development may be more difficult through remote assessments. The physical presence waiver in place during data collection enabled local agencies to defer certain anthropometric (i.e., height/length and weight) and bloodwork requirements used to determine nutritional risk.

In both the remote and in-person environments almost every participant reported experiences that align with the participant-centered approach VENA principles promote. Whether their appointment was conducted in person or by phone, almost all participants agreed that WIC staff greeted them warmly, made them feel at ease, listened to their needs and concerns, and explained things clearly in a way they could understand. Remote service delivery did not negatively impact the ability of WIC staff to provide participant-centered services. However, there were aspects of VENA guidance that could not be replicated in the remote environment, such as rapport-building (i.e., looking directly at the participant or inviting the participant to look at the computer screen).

Perceptions of Nutrition Services

Both staff and participants rated WIC nutrition assessment services highly but said that food package tailoring could be improved. Some staff expressed frustration with the amount of tailoring they could do with the food package in terms of accommodating cultural preferences and allergies. Many participants in both the remote and in-person environments expressed a desire for additional modifications to their food package. Several staff expressed frustration that they could remove items from the WIC food package that families did not consume but could not add in replacements, particularly regarding cultural food preferences. Recently, the final WIC food package rule was published[1] (on April 18, 2024) which allows for many more substitutions for foods to meet participant cultural food preferences.

While 80 percent of WIC staff participating in the study reported having received training in cultural differences, findings varied as to whether WIC staff explored participants' cultural behaviors and beliefs about food during the nutrition assessment. While 71 percent of participants agreed or strongly agreed with the statement that "WIC staff asked me about my ideas and beliefs about food," this was not always observed during data collection. Exploring a participant's cultural behaviors and beliefs was observed in just nine percent of remote appointments and four percent of in-person appointments. Consistent with this finding, WIC staff reported that they could be doing more to learn about the cultural preferences of their participants. Potential reasons for this not being covered during the WIC nutrition risk assessment may be the limited time available to conduct all aspects of the assessment and education, or limited food package tailoring options.

For More Information:

Gaby, M., et al. (2024). WIC Nutrition Assessment and Tailoring Study Final Report: Parts 1 and 2. Prepared by Westat, Contract No. GS00F009DA. Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service, Office of Policy Support, Project Officers: Karen Castellanos-Brown and Alexander Bush. Available online at: www.fns.usda.gov/research-and-analysis.

[1] Special Supplemental Nutrition Program for Women, Infants, and Children (WIC): Revisions in the WIC Food Packages. Vol. 89 (No. 76) Federal Register Page 28488 (April 18, 2024). Available at 2024-07437.pdf (govinfo.gov)