



Breastfeeding Among WIC Participants 2016-2018

Action Plan

- WIC local program staff are using their breastfeeding statistics to create their Nutrition and Breastfeeding Plans, which outlines activities and interventions to improve these numbers.
- Increasing the proportion of women who breastfeed beyond six months of age will continue to be a targeted area for training and intervention.
- Montana will continue to support the Breastfeeding Peer Counselor Program and work with local agencies to increase participation in this program.
- WIC will continue to monitor breastfeeding trends and commit resources to address the drop off from initiation to six months.

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Introduction

The Special Supplemental Nutrition Program for Women, Infants and Children (WIC) is a USDA funded program. WIC was created in 1974 to provide specific nutrients that were lacking in the diets of low-income pregnant and post-partum women, infants and young children during critical times of growth and development. WIC provides three main benefits including nutrition and breastfeeding education and support, referral to other health and social services, and nutritious supplemental foods to eligible women, infants and children up to age 5.

Background

Breastfeeding is widely recognized as the preferred feeding method for healthy infants.¹⁻³ To support and promote breastfeeding in the WIC program, we assure that WIC local agency staff are provided training about breastfeeding; pregnant and breastfeeding women receive education about the benefits of breastfeeding and strategies to overcome barriers; and our program provides breast pumps to women facing challenges in feeding at the breast. Montana WIC also offers the Breastfeeding Peer Counselor program through 13 local agencies. This evidence-based program provides mother-to-mother support for breastfeeding success. While many efforts have been made to positively impact our breastfeeding rates, more quantitative analysis was needed to assess our impact. This report is an analysis of the three-year period of 2016-2018, on breastfeeding data available in the Montana Management Information System (MIS).

Methods

WIC participant data was extracted from the Montana Successful Partners in Reaching Innovative Technology (M-SPIRIT) MIS for each calendar month from January 1, 2016 through December 31, 2018 for infants with recorded information on degree of breastfeeding from birth through age 12 months.

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Data collected include 'ever breastfed' (indicating initiation) and the level of breastfeeding (related to the food package selection) for infants turning three, six, or 12 months of age during the month of interest. To capture complete data on all infant participants in the program during the period of interest, the data have a one- year lag time, which allows for complete information during the first year of life.

Infants are 'fully' breastfeeding when the mother reports she is breastfeeding, and her infant's WIC food package does not include any formula. Infants are considered to have 'some' breastfeeding when the mother reports she is breastfeeding and her infant's WIC food package includes formula (may be 'substantial' or 'partial' package). Infants are considered to have no breastfeeding ('none') when the mother reports she is not breastfeeding and her infant's WIC food package includes the maximum amount of formula allowed.

Analysis

All analyses summarized in this report were completed using SAS 9.4. Chi-square tests were used to determine significant differences between groups and missing values were excluded from all analyses.

Results

Breastfeeding initiation data were available for 14,533 WIC infants served from 2016-2018. Breastfeeding initiation among WIC participants remained stable from 78.1% in 2016 to 78.0% in 2018 (see Figure 1). Any breastfeeding (fully and some breastfeeding combined) increased from the year 2016 to 2018 for infants three-months of age, ($p < 0.0001$; see Figure 1). Any breastfeeding decreased in 2018 for both six-month and 12-month old infants. There was a significant increase over the three-year period in the proportion of fully breastfed three-month infants, but a decrease in the proportion of fully breastfed six-month and 12-month old infants ($p < 0.05$; see Figure 2).

Figure 1. Montana WIC Participants with 'any' breastfeeding, 2016-2018

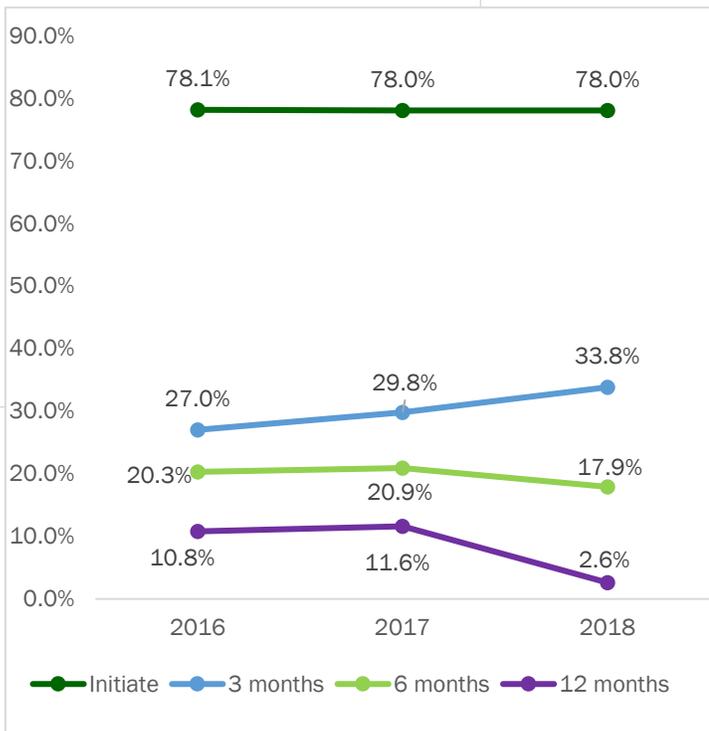
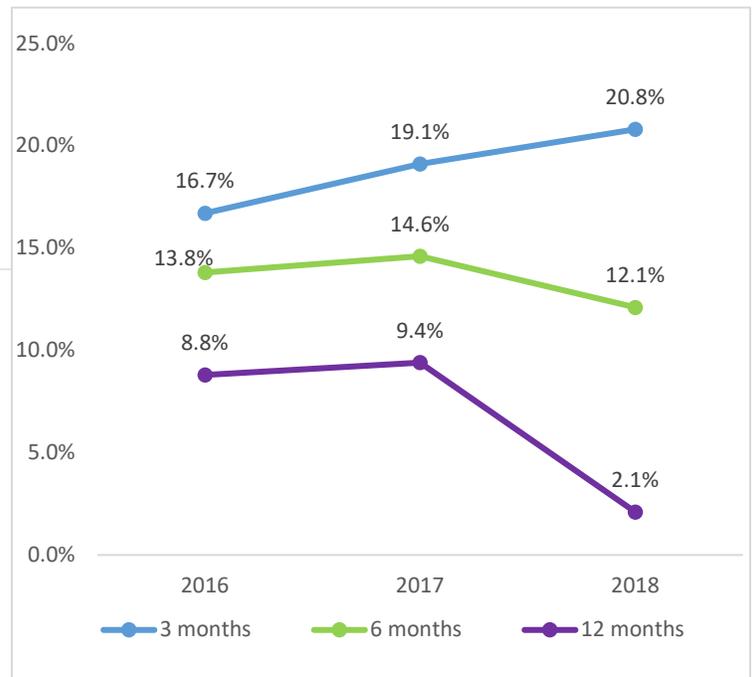


Figure 2. Montana WIC participants 'fully' breastfeeding, 2016-2018



Breastfeeding Peer Counselor Program Comparison

The proportion of infants being breastfed was compared between agencies with a peer counselor program versus agencies without a program. Since only three small WIC agencies (≤ 400 participants) and all large WIC agencies ($> 1,000$ participants) have peer counselor programs, only medium-sized agencies (401-1,000 participants) were used in this analysis. Among participants who visited a medium-sized clinic, about 41% ($n=2,094$) visited a clinic with a peer counselor, and about 59% ($n=3,005$) visited a clinic that did not have a peer counselor. Breastfeeding was significantly higher at all of the age-related benchmarks for agencies with a peer counselor program compared to agencies without a program (all p -values < 0.05 , see Table 1). The biggest differences were seen with initiation (84.5% versus 71.6%, respectively) and infants three months of age (23.3% versus 16.6%, respectively). Note that while these results do indicate an association between peer counselors and breastfeeding, they do not imply that peer counseling caused an increase in breastfeeding.

Table 1:
Proportion of breastfeeding initiation and fully breastfeeding for medium sized agencies, versus without a peer counselor program, 2016-2018.

	Counselor	No Peer Counselor	p -value
Initiation	84.5%	71.6%	< 0.0001
3 months (fully)	23.3%	16.6%	< 0.0001
6 months (fully)	16.8%	11.6%	< 0.0001
12 months (fully)	8.6%	6.0%	0.0003

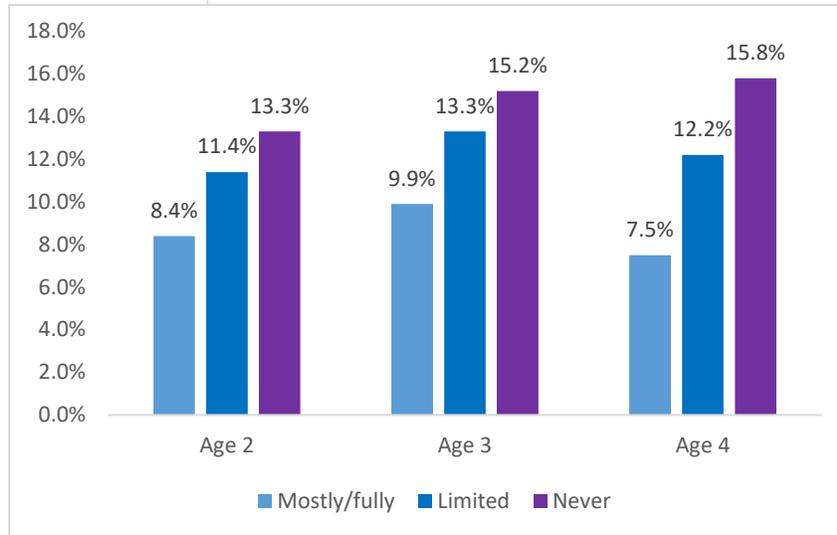
Breastfeeding and Obesity

Evidence suggests that breastfeeding may play a protective role against obesity in childhood.⁴ To assess the effect of breastfeeding on obesity in Montana WIC participants, WIC staff obtained BMI status and breastfeeding information on 22,648 visits by 15,666 WIC participants aged 2 to 4 years, who visited WIC clinics from 2016-2018. Due to correlated data present in this analysis, generalized estimating equations (GEE) were used instead of Chi-square tests. The limitations of this method are that we assume correlations are constant over time and toddlers who did not participate in WIC through the age of 4 are not included in the analysis.

We define 'mostly/fully' long-term breastfed as toddlers whose mothers reported mostly ('substantial' food package received) or fully breastfeeding at 6 months or beyond; 'limited' breastfed as toddlers whose mothers reported initiating breastfeeding but not mostly or fully breastfeeding by 6 months of age; and 'never' breastfed as toddlers whose mothers reported never initiating breastfeeding. Height and weight measurements used to calculate obesity were from certification appointments only ($n=7,439$). A total of 1,385 (19%) measurements were available for toddlers who had substantial breastfeeding, 4,054 (55%) measurements for toddlers who had limited breastfeeding, and 2,000 (27%) for toddlers who had never been breastfed.

In Figure 3, we compared obesity status among children in the three different breastfeeding categories. Toddlers who were never breastfed had a significantly ($p < 0.0076$) higher prevalence of obesity than children with limited or substantial breastfeeding. Toddlers who had been mostly or fully breastfed as infants were least likely to be obese ($p < 0.0001$).

Figure 3 Obesity prevalence among MT WIC participants aged 2 to 4 years by breastfeeding levels, 2016-2018.



Discussion

The proportion of WIC participants who initiate breastfeeding has remained constant from 2016 to 2018. During this same time period, 'any' breastfeeding at three months increased significantly among WIC participants. A large drop off at the 'any' level of breastfeeding occurs between initiation and three months of age.

A comparison of breastfeeding between medium size local WIC agencies with breastfeeding peer counselors and without breastfeeding peer counselors show a significantly higher proportion of initiation and fully breastfeeding at three, six and 12 months of age in local WIC agencies with a breastfeeding peer counselor.

Montana data support national findings that breastfeeding as infants is associated with reduced obesity as children. Montana WIC will continue to counsel participants on the benefits of breastfeeding, including the protective factor breastfeeding may play against obesity in children.

Findings indicate that the Montana WIC Program should focus on reducing the drop-off in breastfeeding between initiation and 3 months of age. Montana WIC should examine the reasons for stopping breastfeeding between initiation and three months of age to determine anticipatory guidance for breastfeeding mothers. An exploration of expanding the breastfeeding peer counselor services to all Montana pregnant and breastfeeding WIC participants should also be considered.

For the past six years, the Montana WIC Program has worked with the Nutrition and Physical Activities Program's Breastfeeding Friendly Hospital Initiative to organize and sponsor the Breastfeeding Learning Collaborative (BLC). Planning for the seventh joint BLC has already begun. This joint venture allows WIC staff, hospital staff and other community members interested in breastfeeding to meet, mix and mingle, becoming familiar with other breastfeeding supporters and services in their community. The BLC has been able to bring a number of high-quality presenters to Montana through the joint venture.

Montana BPCPs are using texting, Facetime and Facebook to visit with participants on their own terms. As of October 1, 2018, an online two-way chat platform is also available to all WIC staff. Staff are able to provide information and address issues with pregnant and breastfeeding women in real time.



References

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4. Yan J, Liu L, Zhu Y, Huang, G, Wang, PP. The association between breastfeeding and childhood obesity: a meta-analysis. 2014; 14:1267.

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