



Breastfeeding Among WIC Participants, 2012-2016

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, referral to other health and social services, and nutritious supplemental foods to eligible women, infants and children up to age 5. While WIC has always supported breastfeeding, there has been added emphasis on efforts to promote and support breastfeeding in recent years.

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 14 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 five-year period of 2012- 2016, 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, 2012 through December 31, 2016 for infants with recorded information on degree of breastfeeding from birth through age 12 months.

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 three 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.

Montana Special Supplemental Nutrition Program for Women, Infants and Children (WIC)

1400 E Broadway
Helena, Montana 59260-2951
(406) 444-5533

<https://dphhs.mt.gov/publichealth/wic>





Data collected included ‘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 considered to be ‘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 32,557 WIC infants served from 2012-2016. Breastfeeding initiation among WIC participants has increased from 75.6% in 2012 to 78.4% in 2016 ($p = 0.0015$, see Figure 1). Any breastfeeding (fully and some breastfeeding combined) increased from the year 2012 to 2016 for three-month, six-month, and 12-month old infants ($p < 0.05$, $p < 0.05$, $p < 0.05$ respectively; see Figure 1). There was a significant increase over the five year period in the proportion of fully breastfed six-month and 12-month old infants, but no significant change in the proportion of fully breastfed three-month old infants ($p < 0.05$, $p < 0.05$, $p > 0.05$ respectively; see Figure 2).

Figure 1: Montana WIC participants with ‘any’ breastfeeding By year, 2012-2016.

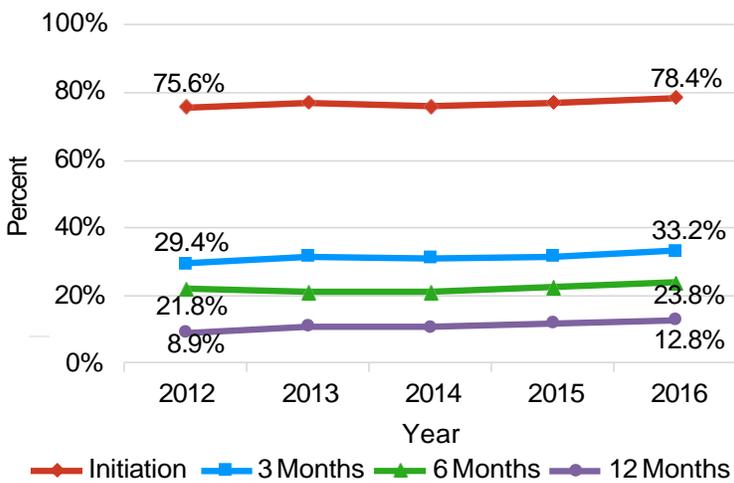
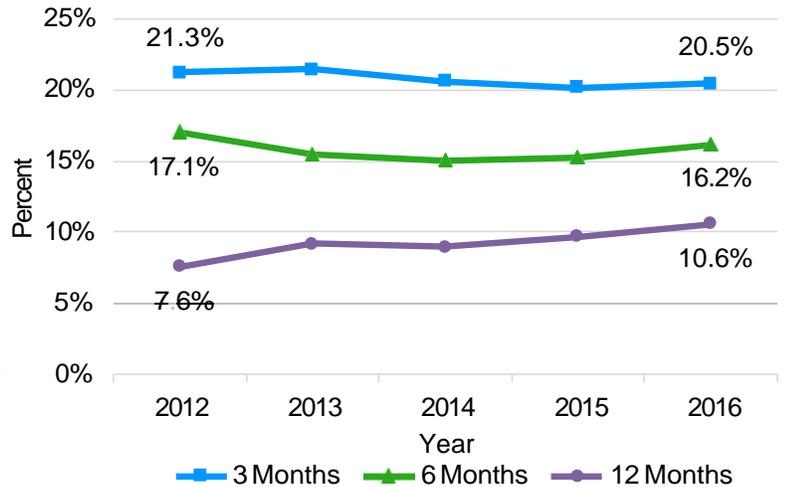


Figure 2: Montana WIC participants ‘fully’ breastfeeding by year, 2012-2016.



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 no 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 58% visited a clinic with a peer counselor ($n=7,261$), and about 42% visited a clinic that did not have a peer counselor ($n=5,362$).



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 < 0.0001 , see Table 1). The biggest differences were seen with initiation (81.3% versus 61.1%, respectively) and three months (25.4% versus 14.2%, 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.

	Peer Counselor	No Peer Counselor	p -value
Initiation	81.3%	61.1%	<0.05
3 months (fully)	25.1%	14.2%	<0.05
6 months (fully)	19.2%	10.5%	<0.05
12 months (fully)	11.0%	6.6%	<0.05

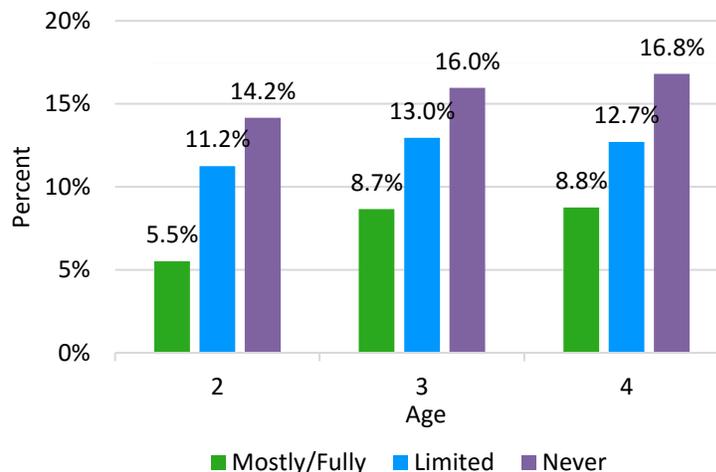
Breastfeeding and Obesity

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 41,279 visits by 25,786 WIC participants aged 2 to 4 years, who visited WIC clinics from 2013-2017. 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. A total of 7,544 measurements were available for toddlers who had substantial breastfeeding (18%), 22,799 measurements for toddlers who had limited breastfeeding (55%), and, 10,936 for toddlers who had never been breastfed (26%).

In Figure 3, we compare obesity status among children in the three different breastfeeding categories. Toddlers who were never breastfed had a significantly higher prevalence of obesity than children with limited or substantial breastfeeding ($p < 0.05$). Toddlers who had been mostly or fully breastfed as infants were least likely to be obese ($p < 0.05$).

Figure 3 Obesity prevalence among MT WIC participants aged 2 to 4 years by breastfeeding levels, 2013-2017.





Discussion

The proportion of WIC participants who initiate breastfeeding continued to increase from 2012 to 2016. During this same time period, 'any' breastfeeding at three months, six months and 12 months also 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 significantly higher proportion of initiation and fully breastfeeding at three, six and 12 months in local WIC agencies with a breastfeeding peer counselor.

Montana data supports 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 five 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 sixth 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. Beginning October 1, 2018, Montana WIC will have an online two-way chat platform that will be available to all WIC staff. They will be able to provide information and address issues with pregnant and breastfeeding women in real time.

References

1. U.S. Department of Health and Human Services. *The Surgeon General's Call to Action to Support Breastfeeding*. Washington, DC: U.S. Department of Health and Human Services, Office of the Surgeon General; 2011, p. 1-5.
2. American Academy of Pediatrics and American College of Obstetricians and Gynecologists. *Breastfeeding Handbook for Physicians*. Elk Grove Village, IL and Washington DC, 2006, p. 33.
3. World Health Organization. (2015). Health Topics: Breastfeeding. Retrieved from <http://www.who.int/topics/breastfeeding/en/>
4. Yan J, Liu L, Zhu Y, Huang, G, Wang, PP. The association between breastfeeding and childhood obesity: a meta-analysis. 2014; 14:1267.

For more information contact Kate Girard, Montana WIC Director at (406) 444-4747 or kgirard@mt.gov.

This institution is an equal opportunity provider.