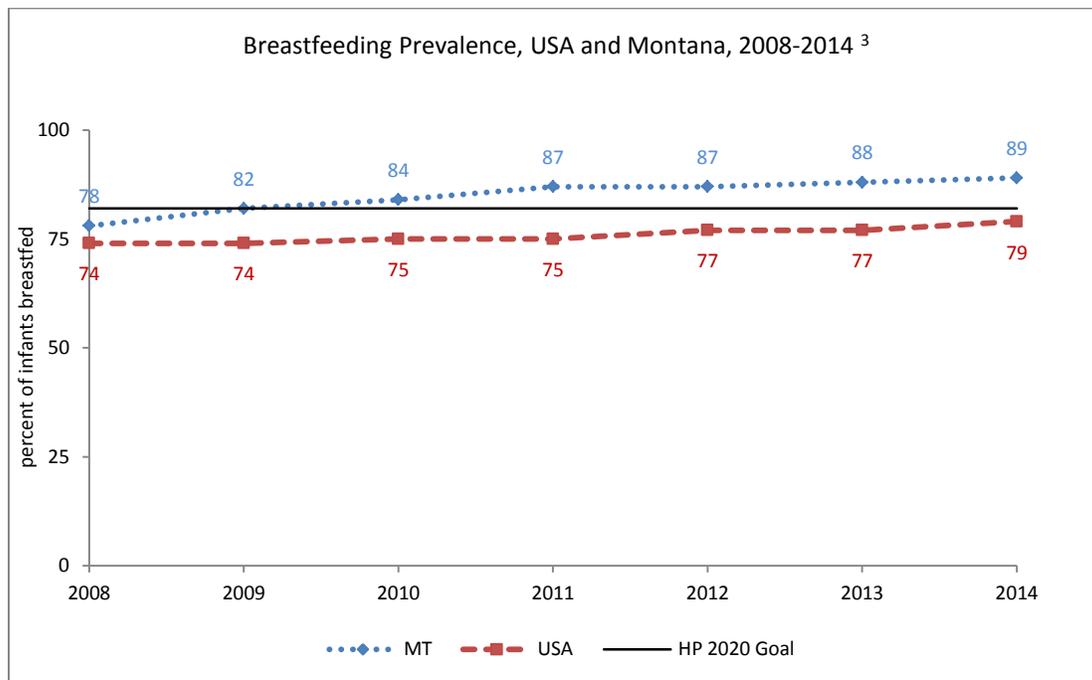


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Breastfeeding at Hospital Discharge in Montana, 2014
Racial and Socioeconomic Differences

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Breast milk is the best and most complete form of nutrition for infants, with benefits for infants' health, growth, immunity, and development.¹ Breast milk has nutritional properties superior to formula and transmits protective antibodies to the newborn. The Healthy People 2020 objectives, including the objective of 82% of infants ever being breastfed, are consistent with the common medical recommendation to breastfeed exclusively for six months with continued breastfeeding for at least one year.² Breastfeeding prevalence in the US and Montana has been rising as this public health message has become more widespread. In 2008, the national prevalence of ever breastfeeding was 74% and the prevalence for breastfeeding at discharge from the hospital in Montana was 78%.³ In 2014, the US prevalence was 79% and the Montana prevalence was 89% overall, but the prevalence was lower among some groups of mothers. This report examines maternal characteristics associated with breastfeeding at discharge from hospital that may help target the public health activities for promoting breastfeeding in Montana.



All 2014 birth certificates for Montana-resident women giving birth in Montana were reviewed for this analysis. Mother-infant pairs were excluded if there were indications of conditions that may interfere with breastfeeding (low birth weight, prematurity, sick infant admitted to the Neonatal

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. Available at <http://www.surgeongeneral.gov>

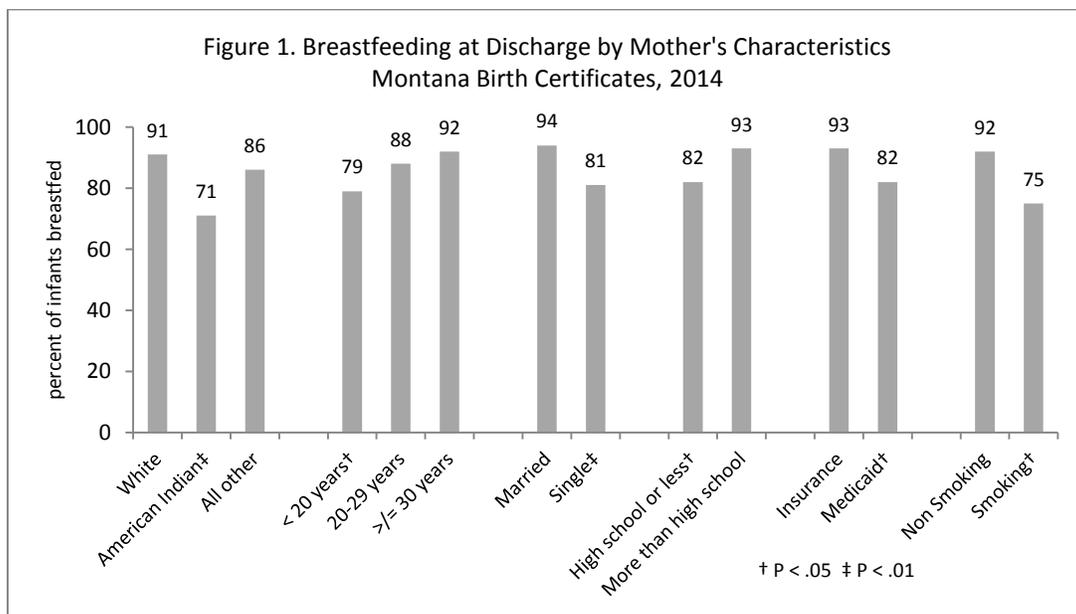
² <http://pediatrics.aappublications.org/content/129/3/e827.abstract>

³ National breastfeeding rates from the 2008 and 2014 National Immunization Survey, available at <http://www.cdc.gov/breastfeeding/data/reportcard.htm>; Montana rates from the Montana Office of Vital Statistics.

Intensive Care Unit or transferred to another facility for medical reasons, serious maternal complications of delivery or mother transferred to another facility for medical reasons, multiple births). A total of 8% of births were excluded. The final sample consisted of 11,225 births to Montana mothers.

The birth certificate contains a range of maternal characteristics that have been found to be associated with breastfeeding behavior: maternal age, race, educational attainment, marital status, insurance payer (using Medicaid as a proxy for low income), and smoking during pregnancy. We examined the univariate associations between these variables and breastfeeding at discharge and the correlations among them. All of the variables were statistically significantly intercorrelated so we performed multiple logistic regression analysis to assess the independent effect of each maternal characteristic, holding all the others constant.⁴

Breastfeeding was more prevalent among mothers who were white, age 20 years or older, married, had higher educational attainment, had private insurance, and did not smoke in pregnancy; all were statistically significantly associated with breastfeeding by chi square analysis (Figure 1). In addition, first infants were breastfed more often than second and subsequent infants (92% versus 87%) and infants delivered by cesarean section were breastfed less often than vaginal deliveries (86% versus 90%) but these differences were not statistically significant (data not shown).



Most of the characteristics identified as significantly associated with breastfeeding at discharge from hospital in the univariate analysis remained statistically significant in the multiple logistic regression model (Table 1). The 95% confidence interval around the Odds Ratio for the mother's age contained 1.0, so this association was not significant at the 0.05 level when other factors were taken into consideration. The difference between white and American Indian mothers was not reduced by controlling for other sociodemographic factors.

⁴ Hosmer D. 2013. *Applied Logistic Regression*. Hoboken, New Jersey: Wiley.

Table 1. Predictors of Breastfeeding at Discharge from Hospital, Montana, 2014		
Mothers' Characteristics	Odds Ratio	95% Confidence Interval
Race		
White	2.52	2.16 – 2.93
American Indian	1.00	
Age		
< 20 years	0.92	0.75 – 1.12
>/= 20 years	1.00	
Marital Status		
Married	1.72	1.48 – 1.99
Single	1.00	
Payer for Delivery		
Insurance	1.20	1.04 – 1.39
Medicaid	1.00	
Smoking in Pregnancy		
No	2.17	1.89 – 2.50
Yes	1.00	

Our results indicate that the prevalence of breastfeeding at discharge from the hospital is especially low among American Indian mothers, single mothers, and women who smoked in pregnancy. Additional research is necessary to identify the specific factors that discourage these women from initiating breastfeeding.

The Montana Department of Public Health and Human Services has two programs that promote breastfeeding. The Montana Nutrition and Physical Activity Program (NAPA) encourages Montana birthing facilities to attain a Baby-Friendly designation through Baby Friendly USA.⁵ Baby Friendly USA uses an evidence-based program to promote breastfeeding. NAPA supports birthing facilities by providing technical assistance and a small financial incentive. The Montana WIC Program provides information about breastfeeding to women who are enrolled during pregnancy. After delivery, the Montana WIC Program continues to provide information and support for breastfeeding.

For more information about Montana's Baby Friendly Initiative, contact:
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⁵ <https://www.babyfriendlyusa.org/about-us/baby-friendly-hospital-initiative>