2012 Iowa Medicaid
Birth Certificate Match Report

Maternal characteristics, prenatal care initiation, and birth outcomes by interpregnancy interval

Interpregnancy Intervals

Fact sheet purpose

The purpose of the fact sheet is to highlight the demographic characteristics of women with Medicaid reimbursed births by interpregnancy interval. We will also explore prenatal care initiation and infant birth outcomes by interpregnancy interval.

Background

Medicaid is a state/federal program that provides health insurance for certain groups of low-income people, including pregnant women. Iowa Medicaid is administered by the Iowa Department of Human Services through Iowa Medicaid Enterprise. In Iowa, pregnant women may be eligible for Medicaid if their household income is below 300 percent of the federal poverty level.

In 2012, the labor and delivery costs for 40 percent of Iowa resident births were reimbursed by Medicaid (40.3%; n=15,598 of 38,686 births).

Optimal pregnancy intervals

The interpregnancy interval is defined as the amount of time between pregnancies. It is calculated between the date the last pregnancy ended and the date of the woman's last menstrual period [1]. Though there is no official recommendation for the optimal interpregnancy period, experts suggest 18 to 24 months as the ideal time period between pregnancies [2, 3, 4].

In recent years, researchers have reported that interpregnancy intervals of less than 18 months can put mothers at risk for anemia [5]. Women with short interval pregnancies also are more likely to initiate prenatal care later than women with longer intervals between their pregnancies [6]. Women who become pregnant within 18 months after a previous birth are at increased risk for having a low birth weight infant or a preterm birth [2, 3, 4, 7, 8, 9]. In later life, these children are at increased risk for exposure to maltreatment and lower cognitive functioning [10, 11].

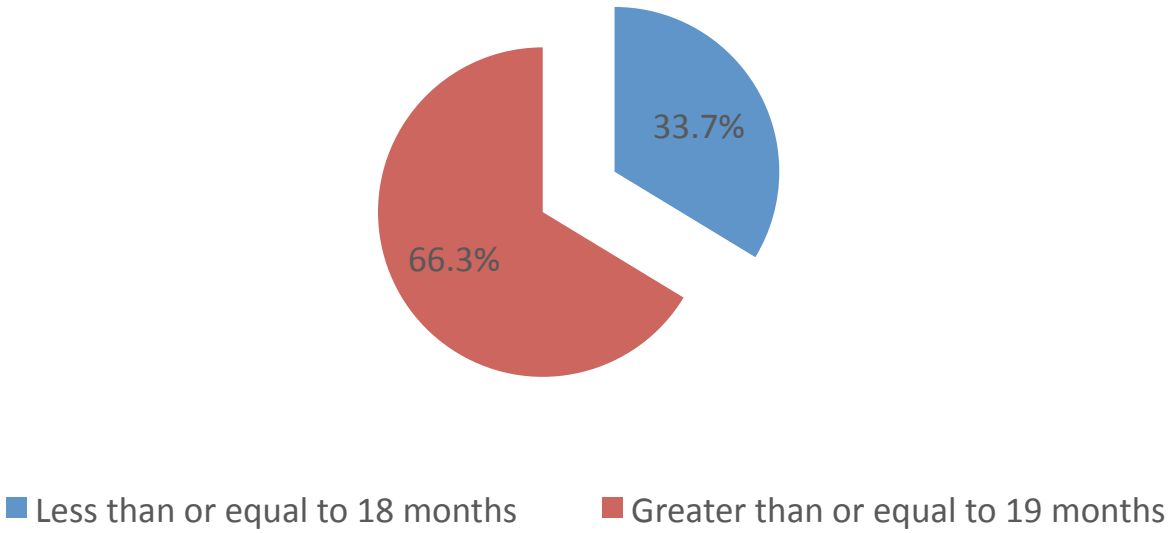
Data sources

Data for this report were derived from a matched file of the 2012 birth certificate and Medicaid paid claims for calendar year 2012. Medicaid status was based on a paid claim for any one of the delivery related diagnostic related groups (DRGs). We used paid claims for maternal DRGs 765 through 775. DRGs 765 through 775 are the reporting categories for vaginal and cesarean deliveries. The birth certificate was used to determine the length of interpregnancy interval, self-reported maternal demographic characteristics including age, race, ethnicity and level of education, access to pregnancy-related services, and infant birth outcomes. Medicaid status was based on a paid claim for any one of the delivery related DRGs.

Results

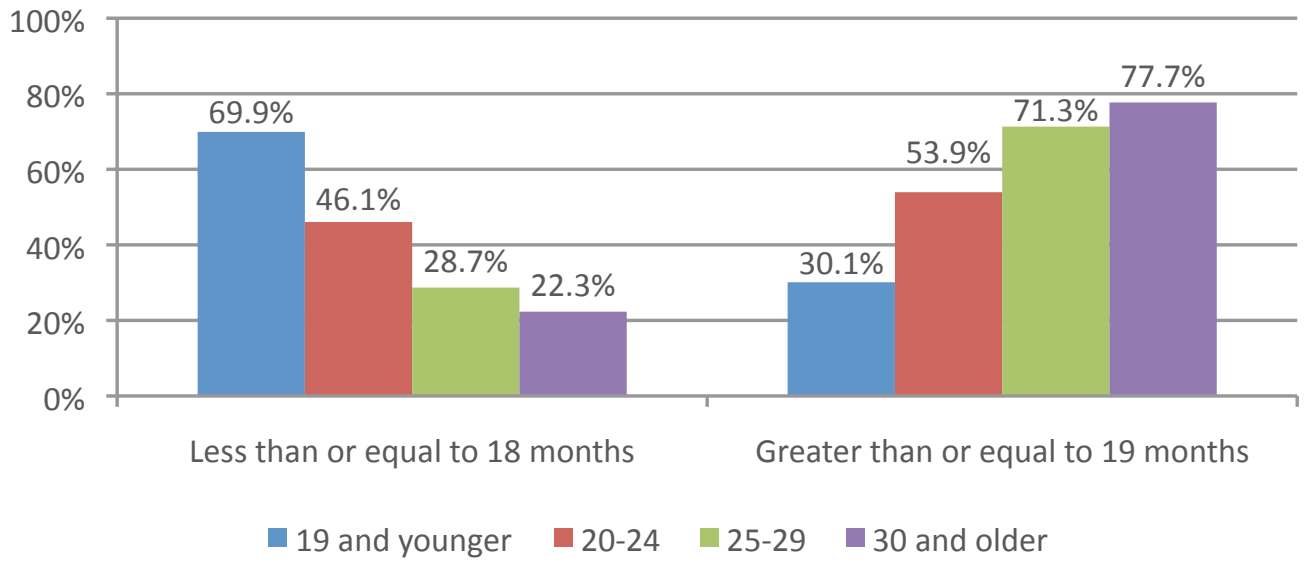
In 2012, forty percent of resident births in Iowa were reimbursed by Medicaid (40.3%; n=15,598). Among mothers who were not first time mothers, thirty-three percent (33.7%; n=2,992) had an interpregnancy interval of less than 18 months (Figure 1).

Figure 1. Interpregnancy interval among Medicaid reimbursed births, Iowa 2012



Interpregnancy intervals by mother's age

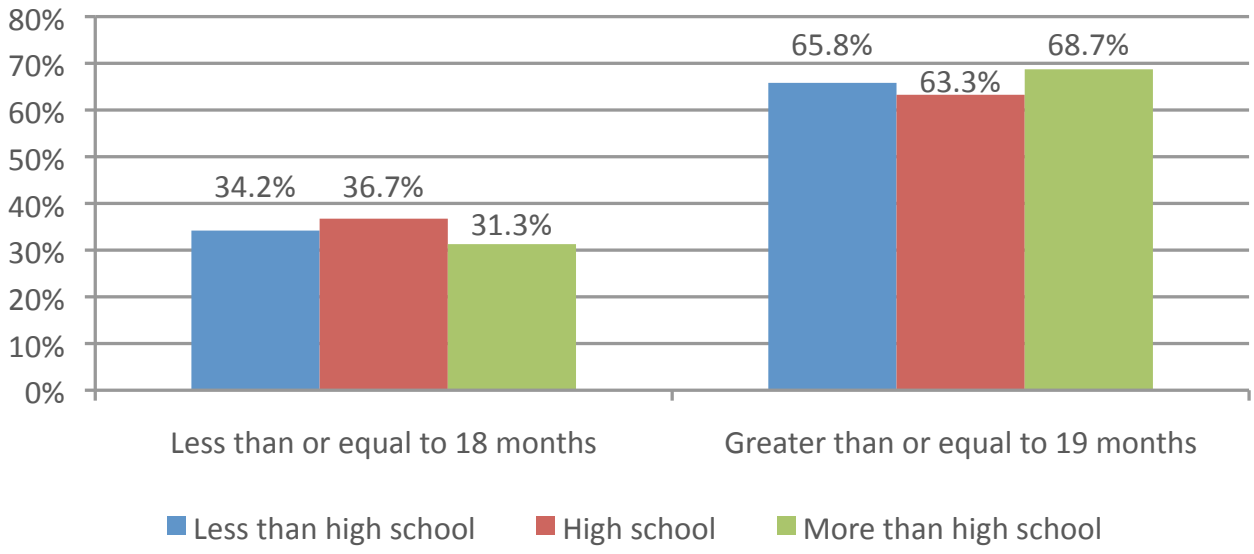
Figure 2. Interpregnancy intervals by maternal age, Medicaid reimbursed births, Iowa 2012



In 2012, among Medicaid reimbursed births, the length of interpregnancy intervals was inversely related to maternal age (Figure 2). Namely, young mothers (ages 24 and younger) were significantly more likely to have short interval pregnancies compared to older mothers (ages 25 and older). Significance was determined at $p < 0.05$. Nearly 70 percent of the births (69.9%; n=202) to mothers 19 years of age and younger were within 18 months of the mothers' previous birth. Over forty-five percent (46.1%; n=1,298) of births to mothers ages 20 to 24 were within 18 months of the mothers' previous birth. In contrast, less than one-third of mothers ages 25 to 29 had a birth within 18 months of the mothers' previous birth and less than one-fourth of mothers ages 30 and older had a birth within 18 months of a previous birth.

Interpregnancy intervals by mother's education level

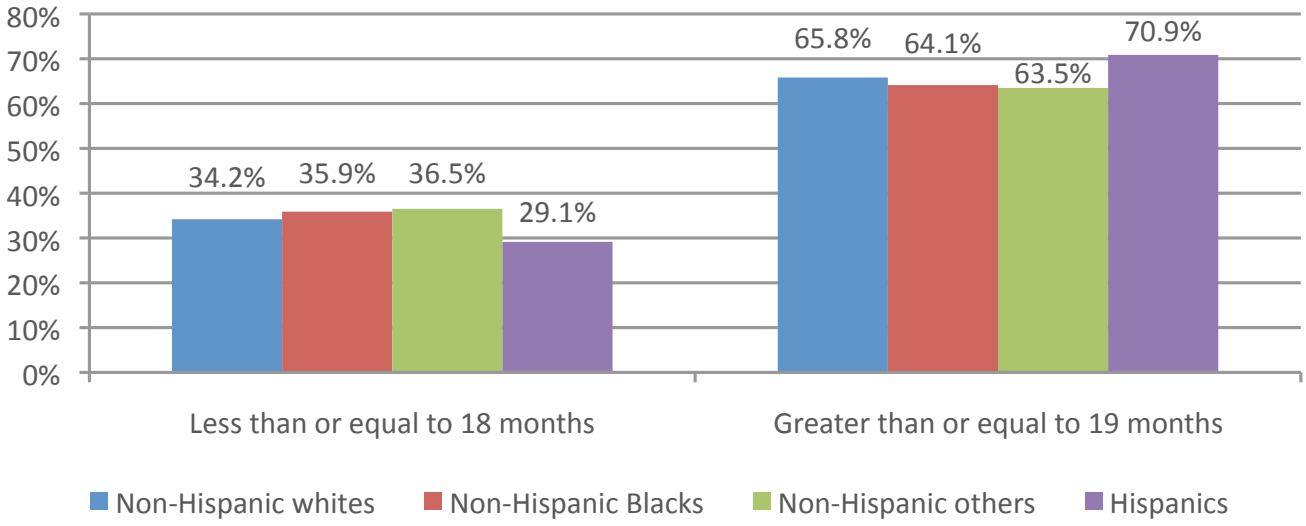
Figure 3. Interpregnany intervals by maternal educational level, Medicaid reimbursed births, Iowa 2012



In 2012, interpregnancy intervals of less than or equal to 18 months were significantly more common among mothers with less than a high school education (34.2%; n=708) or a high school education (36.7%; n= 1,033) compared to mothers with more than a high school education (31.3%; n=1,250) (Figure 3). The percent difference of short interval pregnancies was not significant when comparing mothers with less than a high school education and those with a high school education.

Interpregnancy intervals by mother's ethnicity and race

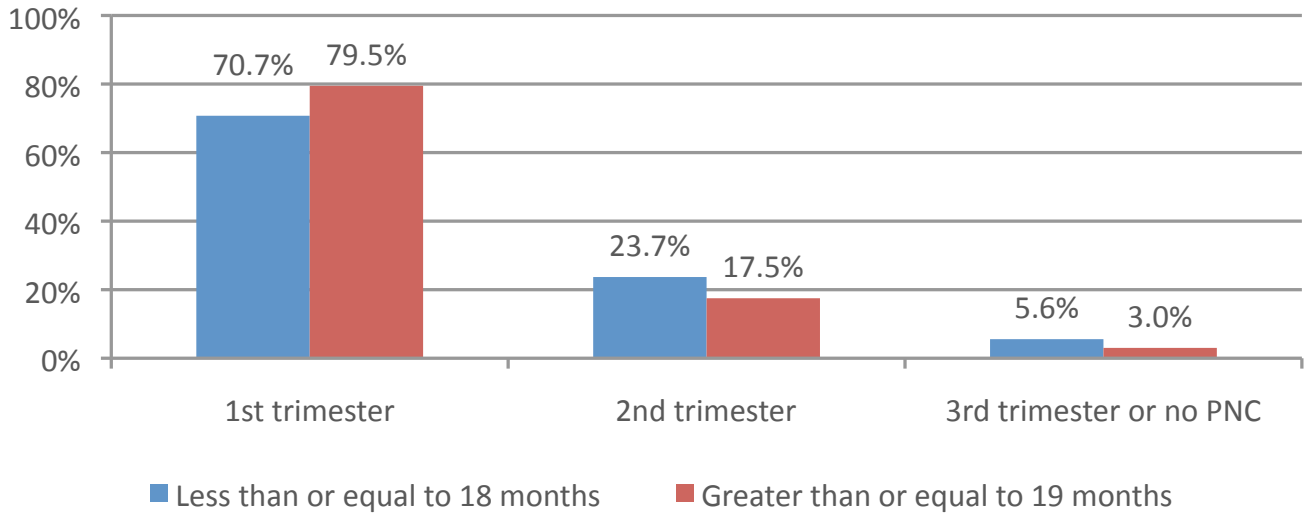
Figure 4. Interpregnancy intervals by maternal race/ethnicity, Medicaid reimburesd births, Iowa 2012



In 2012, a significantly greater percentage of Hispanic mothers (70.9%; n= 995) had an interpregnancy interval of 19 months or more compared to all other racial/ethnic groups (Figure 4). Put another way, compared to non-Hispanic white, non-Hispanic Black, and non-Hispanic mothers of other races, Hispanic mothers had the lowest percentage of interpregnancy intervals of less than or equal to 18 months. The percent differences between non-Hispanic white, non-Hispanic Black, and non-Hispanic mothers of other races were not significant.

Initiation of prenatal care by interpregnancy interval

Figure 5. Prenatal care initiation by interpregnancy interval, Medicaid reimbursed births, 2012



In 2012, mothers with short interpregnancy intervals were significantly less likely to initiate prenatal care (PNC) within their first trimester compared to mothers with longer interpregnancy intervals (70.4%; n=2,111 vs. 79.5%; n=4,659) (Figure 5). Rather, mothers with short interpregnancy intervals were significantly more likely to initiate PNC in the second trimester (23.7%; n=707 vs. 17.5%; n=1,026) or later (5.6%; n=166 vs. 3.0%; n=177) compared to mothers with a longer interpregnancy interval.

Birth outcomes by interpregnancy intervals

We examined both infant low birth weight (LBW) and pre-term birth by interpregnancy interval. There was not a significant difference in the percent of LBW infants or the percent of pre-term births among mothers with short interpregnancy intervals compared to mothers with long interpregnancy intervals.

Discussion

In 2012, more than one-third of women with a Medicaid reimbursed birth had a interpregnancy interval of less than 18 months. Most women who reported shorter interpregnancy intervals were younger less educated mothers who were non-Hispanic. These women started prenatal care later in their pregnancies than women with longer interpregnancy intervals.

In contrast to other researchers, we did not find that a short interpregnancy interval had an effect on birth outcomes. Perhaps this result is reflective of Iowa's overall better birth outcomes compared to the rest of the United States. We need to continue to monitor birth outcomes by maternal interpregnancy intervals to understand this result better.

Discussing a woman's reproductive life plan and her goals with her prenatally can help potential outcomes for future children she may wish to have, and aid her in making better contraceptive choices and fertility planning post-partum.

Recommendations for providers

- Incorporate education about optimal interpregnancy intervals during prenatal and post-partum care with your patients.
- Explain to women the risks associated with short interpregnancy intervals- not only for herself, but also for her baby and her family.
- Encourage and determine what the woman's plans are for contraception post-partum during routine prenatal care and post-partum care visits.
- Promote placement of long-acting reversible contraceptives in the immediate post-partum period.

Recommendations for women

- Though you cannot always time exactly when conception will happen, researchers have reported that waiting anywhere between 18 months to two years to conceive again after giving birth is better for your health and for your baby's.
- Talk to your health care provider about family planning, birth control methods and conception strategies if you do plan on getting pregnant within this time range, he or she may be able to advise you of the benefits and risks.
- Develop a post-partum birth control plan before your baby is born. Often times a new baby brings new adjustments to everyone in the family, making routine more difficult at first. By planning ahead, you, (your partner), and your health care provider will know what your long term goals are and will be able to better work together to achieve them.
- Identify barriers to post-partum birth control and talk to your health care provider about the best contraceptive choice for you.

What is the Iowa Medicaid – Birth Certificate Match Project?

The Iowa Medicaid - Birth Certificate Match Project is supported by an inter-departmental agreement between the Iowa Department of Human Services and the Iowa Department of Public Health/Bureaus of Family Health and Health Statistics. The purpose of the project is to describe the characteristics of pregnant Medicaid recipients, their behaviors during pregnancy and at hospital discharge, their receipt of pregnancy related services, and their birth outcomes. This information can be used to improve programs and policies to benefit Medicaid recipients.

Acknowledgements

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ADDITIONAL INFORMATION

For additional information or to obtain copies of this fact sheet, write or call:

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