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Later Medicaid Health Plan Enrollment Suggests Higher Infant Birth Costs

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Timely enrollment in Medicaid managed care is crucial for individuals who are pregnant, providing them the opportunity to access prenatal care earlier in their pregnancy. It can also lead to improved birth outcomes and minimized costs associated with Neonatal Intensive Care Unit (NICU) admissions.

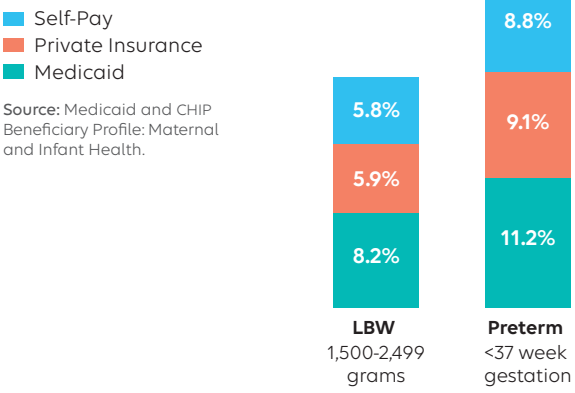
Background

NICU admissions are an important indicator of infant health and can impose a high cost burden on the healthcare system. Costs associated with NICU visits can vary greatly depending on an infant's overall health status, gestational age at birth, and birthweight.[1] NICU admissions are increasing among full-term infants and those with healthy birthweights, as well as among infants who have traditionally been at higher risk for NICU admission, such as those born preterm or with a low birthweight (LBW).[2,3] Existing research does not fully explain the increase in NICU utilization, however having adequate health-care coverage while pregnant is key to encouraging healthy birth outcomes and potentially reducing the need for NICU care.[4]

Medicaid beneficiaries are at higher risk of poor birth outcomes such as LBW and preterm birth, which often necessitates NICU care.[5] For example, in 2018, a higher portion of live births paid by Medicaid were preterm or LBW compared to births paid by private insurance or through self-pay (Figure 1) and infants with Medicaid coverage had a higher rate of NICU admission than those with private insurance.[6] Barriers exist for Medicaid beneficiaries to receive timely prenatal care. These include lack of health-care coverage at the time of becoming pregnant or delayed managed care enrollment.

Figure 1

Percent of Live Births that Are Low Birth Weight or Preterm, by Primary Payer



Source: Medicaid and CHIP Beneficiary Profile: Maternal and Infant Health.

Access to Prenatal Care

Healthcare coverage facilitates access to prenatal care, which is essential to healthy birth outcomes. Previous research has demonstrated that adequate timeliness of Medicaid enrollment during pregnancy is associated with receiving the recommended number of prenatal visits.[7,8]

Access to routine prenatal care is associated with lower preterm births and LBW rates, which could potentially reduce hospital costs through NICU avoidance.[9] For instance, one analysis found that average hospital costs for infants born with a LBW were $27,700 and for preterm births were $21,500, as compared to average hospital costs of $3,200 for normal weight and mature newborns.[10]

Additionally, disparities exist in receiving prenatal care based on the type of health insurance coverage people have. For example, in 2018, over 30 percent of live births paid for by Medicaid were to women who did not initiate prenatal care until the second trimester. The comparable percentage was 12.8 percent for live births paid for by private insurance.[11]

Managed Care and Prenatal Care

Considering that Medicaid managed care plans cover over 40 percent of births in the U.S., they are uniquely situated to support members who are pregnant through care coordination activities such as helping women access prenatal care, connecting them with other healthcare services, assisting with health-related social needs (HRSNs), and offering additional programs that support a healthy pregnancy and birth.[12]

To help individuals obtain timely access to services while pregnant, it is important that enrollment into a Medicaid plan occurs early in pregnancy. This allows them to access Medicaid plan programs that Medicaid fee-for-service may not cover. For example, members who are pregnant and enrolled in an Elevance Health affiliated Medicaid plan have access to several pregnancy-related programs such as obstetric care management and care coordination which provides many services for management of high-risk pregnancies.

Previous research demonstrates that effective care coordination is associated with positive maternal and infant outcomes such as increased use of prenatal care, decreased maternal tobacco use, decreased rates of preterm delivery and LBW, and reduced frequency and duration of NICU admissions.[13-15] Less studied, however, is the relationship between the timeliness of enrolling in a Medicaid plan during pregnancy and associated infant birth costs.

Analysis

The purpose of this analysis was to examine the relationship between the timing of when pregnant women enroll in a Medicaid plan and birth costs among infants with a NICU admission compared to infants without a NICU admission.

Methods

Using claims data from Elevance Health's affiliated Medicaid plans in 18 states, approximately 48,000 deliveries linked to an infant were identified between 1/1/2022 and 12/31/2022.

Live infant birth costs were analyzed. Births were categorized by all deliveries, NICU deliveries, and non-NICU deliveries. Lastly, birth costs were compared based on the trimester in which the individual enrolled in a Medicaid plan.

NICU and non-NICU admissions were defined using diagnosis related groups (DRGs) 789-793 and 794-795, respectively.

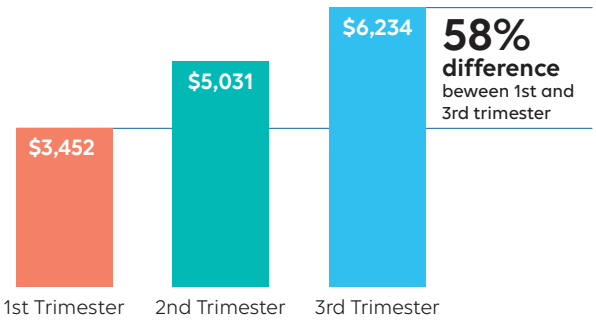
Independent sample t-tests were conducted to determine differences in costs based on the trimester of enrollment. A p-value less than 0.05 indicates statistical significance.

A limitation of this study is not controlling for factors such as sociodemographic characteristics, health and social risk factors, participation in Medicaid plan programs, and varying state Medicaid policies.

Results

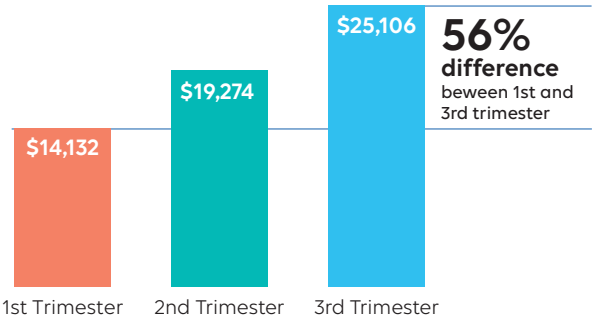
The figures below display the average cost per birth by women's trimester of enrollment. The results demonstrate that there were higher infant birth costs when women enrolled in a Medicaid plan later in their pregnancy for all deliveries.

Figure 2
Average Cost per Birth: All Deliveries



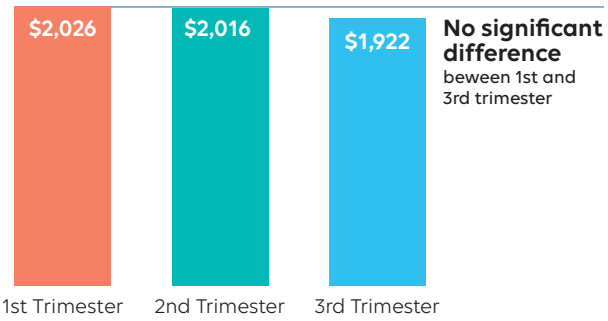
- Infant birth costs for all deliveries were significantly higher (p=0.001) for the 22,979 individuals who enrolled in the third trimester (avg=$6,234) as compared to the 9,044 individuals who enrolled in the first trimester (avg=$3,452).
- Infant birth costs were significantly higher (p=0.009) among the 16,584 individuals who enrolled in the second trimester (avg=$5,031) as compared to individuals who enrolled in the first trimester.
- There were no significant differences (p>0.05) for women enrolling in trimesters two vs. three.

Figure 3
Average Cost per Birth: NICU Deliveries



- Among infants admitted to the NICU, birth costs were significantly higher (p=0.002) for the 2,908 individuals who enrolled in the third trimester (avg=$25,106) as compared to the 1,656 individuals enrolling in trimester one (avg=$14,132).
- Similarly, infant birth costs among the 3,058 individuals who enrolled in the second trimester (avg=$19,274) were significantly higher (p=0.042) than the costs for the individuals enrolling in trimester one.
- There were no significant differences (p>0.05) for women enrolling in trimesters two vs. three.

Figure 4
Average Cost per Birth: Non-NICU Deliveries



- There were no significant differences (p>0.05) in non-NICU infant birth costs based on enrollment trimester.

Discussion

This analysis reveals that infant birth costs were significantly higher when women enrolled in a managed care plan later in their pregnancy compared to early pregnancy. Infants needing NICU care contributed to these higher costs.

Prior evidence strongly demonstrates the association of premature birth and NICU admissions with maternal depression, post-traumatic stress, and anxiety.[16,17] There is also data that supports the improvement of infant health and family wellbeing when parents can actively participate in decision making and caretaking in the NICU.[18] However, families facing socioeconomic challenges may have limited resources to spend extensive time in the NICU, therefore impeding active participation of the parents during their newborn's NICU stay.[19]

Although NICU care can be cost effective and is a crucial resource to improve a newborn's health, there are strategies to improve infant outcomes at birth. This includes ensuring early access to prenatal care and necessary interventions for pregnant women which is especially important for women whose births are covered by Medicaid. These births are less likely to receive prenatal care in the first trimester and adequate prenatal care overall, compared to women with private insurance.[20]

To ensure timely and adequate prenatal care, state Medicaid programs with managed care should consider adopting policies to help women enroll in Medicaid plans earlier in pregnancy. These policies include:

Auto-enroll individuals in managed care as soon as they are determined eligible because of pregnancy, which allows them to access prenatal care and receive care coordination earlier in their pregnancy.

Implement presumptive eligibility for pregnant women, which allows "qualified entities" to immediately enroll people who are likely eligible under a state's Medicaid eligibility guidelines for a temporary period. This allows them to receive healthcare services before they are formally determined eligible for Medicaid.[21,22]

Align Federal Poverty Levels (FPLs) for childless adults, pregnant women, and parents to prevent excessive churn (i.e., the movement of individuals in and out of Medicaid) and encourage continuity of both prenatal and postpartum care.

Simplify Medicaid enrollment processes for individuals who are pregnant. For instance, states can eliminate face-to-face interviews as part of the application process and allow online applications.[23]

Collaborate across stakeholders including Medicaid plans as well as other maternal health advocates and community-based organizations.

Future research will examine differences in access and utilization among individuals during their pregnancy and associated infant and birth outcomes based on when women enroll in a Medicaid plan.

Conclusion

These results suggest that helping eligible individuals to enroll in a Medicaid managed care plan in their first trimester of pregnancy may help reduce NICU costs and overall infant birth costs. Earlier enrollment in a managed care plan can allow for receipt of more comprehensive prenatal care and a greater opportunity for care coordination—with potential upstream impacts on infant outcomes and maternal mental health.

Medicaid plans are well situated to help facilitate access to prenatal care and other healthcare services for individuals who are pregnant and offer additional pregnancy-specific services available through Medicaid managed care.

Endnotes

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