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Strong Start for Mothers and Newborns: implications for prenatal care delivery

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Abstract

Purpose of review—In February 2012, the Centers for Medicare and Medicaid Services announced a four-year initiative to test new approaches to prenatal care delivery to improve rates of preterm birth for women enrolled in Medicaid. The *Strong Start for Mothers and Newborns* initiative was designed to achieve this goal through 2 strategies: 1) a public awareness campaign designed to reduce the rate of elective deliveries prior to 39 weeks gestation, and 2) a funding opportunity to test the effectiveness of enhanced prenatal care models designed to reduce the incidence of low birth weight (LBW) infants among pregnant Medicaid beneficiaries. This article reviews previous prenatal care expansion efforts and provides insights into the alternative prenatal care delivery models currently being tested for low-income patient populations at high-risk for adverse birth outcomes.

Recent findings—Alternative prenatal care models such as prenatal home visitation and group prenatal care for patients at high-risk for adverse birth outcomes may provide more efficient and effective care than the traditional, predominantly medical model of prenatal care delivery.

Summary—The authors discuss the relationship between prenatal care utilization and adverse birth outcomes such as LBW and current efforts to reinvent prenatal care content, structure and delivery.

Keywords

health care utilization; prenatal care; Medicaid

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Conflicts of interest

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Introduction

With over 40% of all births in the United States covered by Medicaid, efforts to restructure prenatal care delivery to address the needs of low-income women have become a national priority.[1] In 2012, the Centers for Medicare and Medicaid Services, the Health Resources and Services Administration and the Administration for Children and Families announced a four-year initiative to test new approaches to prenatal care delivery with the goal of improving the rate of preterm birth for women enrolled in Medicaid. The *Strong Start for Mothers and Newborns* initiative was designed to achieve this goal through 2 strategies: 1) a public awareness campaign designed to reduce the rate of elective deliveries prior to 39 weeks gestation, and 2) a funding opportunity to test the effectiveness of enhanced prenatal care models designed to reduce the incidence of low birth weight (LBW) infants among pregnant Medicaid beneficiaries.[2**]

The *Strong Start* effort is the most recent of a series of public health initiatives designed to improve the delivery of prenatal care services for Medicaid-eligible women and was initiated due the significantly higher rate of LBW infants in low-income women. With *Strong Start* funding now underway and enhanced prenatal care models undergoing testing at sites across the country, this article reviews the major legislation and policy statements that have shaped the current system of prenatal care delivery and provides insights into alternative prenatal care models designed to deliver more efficient and effective prenatal care services for high-risk pregnant women.

Predecessors to *Strong Start*

Historically, prenatal care expansion efforts grew out of a movement to decrease the rate of LBW in the United States.[3] LBW (< 2500 grams), the result of either preterm birth (< 37 weeks gestation), intrauterine growth restriction or both, is the leading cause of neonatal morbidity and is associated with over \$26 billion annually in health care expenditures.[4, 5] Previously in a state of steady decline, the rate of LBW began to plateau in the early 1980's at a rate of 6.8%.[6] In response, the Institute of Medicine (IOM) convened the Committee to Study the Prevention of Low Birthweight in 1982 to rigorously review the available evidence regarding factors contributing to the incidence of LBW.[3] The committee concluded that the expansion of prenatal care services was an efficient, cost-effective way to decrease the rate of LBW and emphasized the need to improve insufficient Medicaid funding, increase the number of obstetric health care providers, and expand prenatal care services in under-resourced and underserved communities. The IOM committee estimated that for every \$1.00 spent on prenatal care services, \$3.38 would be saved due to the reduction in the incidence of LBW infants and declared prenatal care a cost-effective mechanism to reduce the incidence of adverse birth outcomes.[3]

In response to the Committee's recommendations, several legislative initiatives were launched in the 1980s to expand Medicaid eligibility during pregnancy. The Omnibus Reconciliation Act of 1986 (OBRA 86) (P.L. 99-509) was the first to allow all states to cover pregnant women with incomes at or below 100% of the federal poverty level (FPL). [7] Soon after, Congress passed OBRA 89 which required states to cover pregnant women at or below 133% percent of FPL.[8] To facilitate access for this expanded population of

Medicaid-eligible patients, many states received waivers from the federal government to create Medicaid managed care programs which continue to dominate the distribution of Medicaid services in most states today. A provision of Title 19, Section 1932(a)(1)(A) of the Social Security Act, waivers for Medicaid managed care programs are currently being used by 28 states for approximately 50 million beneficiaries.[1]

The rise in Medicaid eligibility and enrollment in the 1980s had a profound impact on prenatal care utilization overall and particularly for African American women, the patient population with the highest rate of LBW. Between 1985 and 2007, first trimester prenatal care utilization had risen from 76.2% to 82.0% and the proportion of African American women receiving first trimester prenatal care had risen from 61.5% to 75.0%.[6, 9]

The need for a new direction

Despite increases in prenatal care utilization among high-risk women, the rate of LBW has not fallen. In 2012, the rate of LBW reached 8.0% compared to the rate of 6.8% in 1983.[10] Evaluations of prenatal care expansion efforts in individual states and on the national level have been unable to consistently or conclusively link increased prenatal care utilization rates with a decrease in the rate of LBW.[11-15] In an evaluation of 8.1 million births from National Natality Files, Dubay et al. compared the rate of LBW in the United States between 1980-1986 and 1986-93, the period straddling the Medicaid prenatal care expansion effort. [16] Despite substantial increases in the rates of early prenatal care utilization among women of low socioeconomic status, their evaluation demonstrated no relative improvement in rate of LBW. These and other evaluations of prenatal care programs, content and interventions have failed to definitively establish a cause-and-effect relationship between prenatal care utilization and adverse birth outcomes.[13, 14, 17]

Strong Start and beyond

The disconnect between prenatal care expansion efforts and trends in LBW can be traced to the combination of a lack of understanding of the determinants of preterm birth aligned with difficulty in evaluating a complex process such as the delivery of health care services. Traditionally, evaluating the effectiveness of prenatal care has been confined to measuring the frequency of visits without regard to content, quality, or context. Failing to account for a qualitative evaluation of the education, counseling and social support that is often provided through continuity of care and patient-provider relationships has resulted in an expansion of prenatal care *quantity* without a fundamental revision in *quality*. Partially as a result of this lack of understanding, continued expansion of the existing model of prenatal care will most likely have an incremental impact on the rate of LBW.[3] Recent initiatives such as *Strong Start* have shifted focus from *expanding* to *enhancing* prenatal care content, structure and delivery. This initiative asserts that the future of prenatal care delivery lies in healthcare providers' and program leaders' ability to conceptualize prenatal care as a flexible model that can be tailored to maternal and fetal risks while recognizing the value and importance of prenatal care in terms of content and objectives. This model stands in contrast to previous concepts of simply counting visits.[18]

Home visitation, case management programs and telemedicine initiatives have emerged as promising, alternative prenatal care models that have provided enhanced, intensive prenatal care services remotely – often at lower costs than office-based clinical models – and have successfully reduced adverse birth outcomes such as preterm birth in high-risk populations. [19-21] These programs provide a comprehensive evaluation of maternal or infant risk upon enrollment, coordinate outpatient obstetric provider visits with frequent home visits from nurses and social workers, and incorporate additional resources as needed from nutrition experts and behavioral health specialists during pregnancy and postpartum.

Prenatal home visitation is an enhanced prenatal care model that has received significant attention at the federal and state level. In 2010, the Patient Protection and Affordable Care Act (ACA) authorized over \$1.5 billion across five years for the Maternal, Infant, and Early Childhood Home Visiting (MIECHV) Program implemented by the U.S. Department of Health and Human Services (HHS) to strengthen and improve outcomes for families who reside in at-risk communities.[22] Home visitation programs utilizing ACA funding may use any of twelve evidence-based prenatal home visitation programs selected through a HHS funded review of effective home visitation programs and include initiatives such as Family Check-Up, Healthy Families America and Nurse-Family Partnership.[23] Since implementation, the Michigan Maternal Infant Health Program (MIHP), a program designed to meet ACA requirements for consideration as an evidenced-based prenatal home visitation program, found significant reductions in the odds of LBW (OR 0.91; 95% CI 0.84-0.98), very low birth weight (0.71; 0.59-0.86), preterm birth (0.91; 0.85-0.99), and very preterm birth (0.80; 0.68-0.95) in patients who participated in MIHP compared to propensity-score matched patients enrolled in traditional prenatal care.[24**, 25]

Group prenatal care has also emerged as a particularly promising prenatal care model adept at addressing psychosocial risk factors such as stress and lack of social support.[26] Developed in the 1970s by health care providers frustrated with inefficiencies of the traditional model of prenatal care, group prenatal care has been formalized into the CenteringPregnancy® group prenatal care program.[27] Group prenatal care is designed to facilitate mutual support, insight development and problem-solving skills through peer interaction in a group setting in contrast to individual patient-provider visits. Groups of 10-12 pregnant women attend 10 prenatal care group visits starting in the second trimester. On average, group discussions last 90-120 minutes and provide twenty hours of counseling and education across pregnancy, as compared with only two hours provided by the traditional, individual model of prenatal care.[28]

Group prenatal care has been most frequently tested in low-income, African American, Latina and adolescent populations of women.[29, 30] Compared to women enrolled in traditional, individual care, women enrolled in group prenatal care have been reported to have a significant reduction in preterm birth (0.67; 0.44-0.99) with more significant reductions seen in African American women (0.59; 0.38-0.92).[28] Women enrolled in group care have also been shown to have higher rates of breastfeeding, prenatal care knowledge and satisfaction with prenatal care, and have utilized postpartum family planning services at a greater rate than women who received individual care.[28, 31**] Finally, in women with high levels of psychosocial stress, participating in group prenatal care resulted

in increased self-esteem, decreased stress and significantly lower rates of depression one year after delivery compared to women participating in standard, individual prenatal care. [32]

Conclusion

In 1985, IOM Committee members challenged national leaders in both the public and private sectors to “commit themselves openly and unequivocally to designing a new maternity care system...dedicated to drawing all women into prenatal care and providing them with an appropriate array of health and social services throughout pregnancy, childbirth and the postpartum period.”[33] They emphasized that although a new system might build on existing arrangements, “long-term solutions require fundamental reform, not incremental changes in existing programs.”[33] With the current rate of LBW hovering at 8%, higher than it was when the IOM issued its challenge more than 25 years ago, the obstetric community has yet to meet this challenge.[10, 34]

Currently, 27 program awardees have received funding from the *Strong Start for Mothers and Newborns* initiative to test one of three interventions for enhanced prenatal care: group prenatal care, enhanced prenatal care at birth centers, and enhanced prenatal care at maternity care homes.[2**] In addition, CMS will also be comparing these models to a fourth approach, enhanced prenatal care through home visitation, implemented as part of the ACA's Maternal, Infant, and Early Childhood Home Visiting (MIECHV) Program.[2**] *Strong Start* will be able to rigorously compare outcomes in Medicaid beneficiaries receiving all four different models of enhanced prenatal care on a national level in order to identify the model that achieves the best maternal and fetal outcome with the least consumption of health care resources. Findings from *Strong Start* will provide much needed evidence-based recommendations for future prenatal care content, structure and frequency in the hopes of improving the efficiency and effectiveness of obstetric health care delivery for high-risk women and their children.

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Key Points

- * Historically, prenatal care expansion efforts have focused on access to prenatal care services without reforming prenatal content, structure and delivery.
- * *Strong Start for Mothers and Newborns* is a four-year initiative sponsored by the Centers for Medicare and Medicaid Services to test and evaluate enhanced prenatal care interventions for women enrolled in Medicaid at high-risk for adverse birth outcomes such as preterm birth.
- * Women enrolled in enhanced prenatal care models such as prenatal home visitation and group prenatal care have demonstrated superior maternal and neonatal outcomes when compared with women enrolled in traditional prenatal care.
- * Group prenatal care is designed to facilitate mutual support, insight development and problem-solving skills through peer interaction in a group setting in contrast to individual patient-provider visits and is associated with improved outcomes, especially for women with psychosocial risk factors.