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Issue Brief

Translating Research into Practice

Reducing Black Infant Mortality in Wisconsin: Best Practices and Model Programs

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Infant mortality remains a serious public health problem. Despite the fact that the United States is one of the most medically-advanced nations in the world, the U.S. infant mortality rate (the number of infants who die before their first birthday per 1,000 live births) exceeds that of 26 other nations, including poor nations such as Cuba.[1] The high rates of infant mortality in the U.S. are due in large part to the higher rates of infant mortality among blacks. Black infant mortality rates in the U.S. are 2-3 times higher than those of whites. This issue brief considers the gaps in knowledge, current practices, and approaches to improve black infant mortality rates and reduce racial disparities.

In a recently published article, researchers found that Wisconsin's black infant mortality rate deteriorated from the third *best* ranking in the nation in 1979-1981 to the third *worst* in 1999-2001 (32nd out of 34 states reporting with sufficient black populations).[2] During the past 20 years, Milwaukee's black infant mortality rate has consistently been higher than both Wisconsin and national rates.[3] Further, Milwaukee's rate in 2003 (15.9) was 2.7 times the rate for white infants (5.8).[4]

Sudden Infant Death Syndrome (SIDS) is a leading cause of black infant mortality. Nationally, black babies are twice as likely to die from SIDS than white babies.[5] Specifically, in Milwaukee the rate of SIDS among blacks is 2.3 times that of whites.[6] During 2000-2003, 77 Milwaukee infants died in association with unsafe sleep environments; 28 of these infants died after being placed on their stomachs to sleep, and 25 of them died after they had been placed on their sides to sleep. Sixty-six of these 77 infants were black.[7]

"Infant mortality rates can be lowered by implementing a combination of evidence-based interventions and best practices."

Research has demonstrated that infant mortality rates can be lowered by implementing a combination of evidence-based interventions and best practices, such as improving infant sleeping practices and providing prenatal care. Thus, many of the factors that contribute to racial and ethnic disparities can be prevented.

EVIDENCED-BASED PROGRAMS

Back to Sleep

SIDS mortality rates can be reduced by educating young and minority mothers about safe sleep settings. Fewer babies die of SIDS when they sleep on their backs. Therefore, in both the United States and Wisconsin, "Back to Sleep" campaigns have been undertaken. In fact, prior to the Back to Sleep campaign, more than 5,000 U.S. infants died from SIDS each year. As this message spreads and more babies sleep on their backs, the mortality rate has dropped significantly, with annual SIDS deaths just under 2,500 each year since 1994.[5] However, the safe sleep messages have not been reaching the highest-risk groups. In a 2001 Greater Milwaukee Survey, 44% of black respondents said that putting a baby to sleep face down was safe, despite the fact that babies who sleep on their stomach have a 5-times greater risk of dying from SIDS.[6]

Milwaukee has focused its attention on this issue by forming a hospital collaborative to encourage safe sleeping behaviors for mothers and babies while still in the hospital. This intervention should translate into a safer home sleep environment for infants. The Milwaukee Health Department has also developed other interventions to address infant mortality by creating and funding a Medical Outreach Coordinator position to organize the hospitals' infant activities and to support the program's commitment to a safe sleep program. The coordinator will address institutional competencies, which includes assurance that nurses are properly trained to teach safe sleeping behaviors.[8]

Prenatal Care

Additional research has demonstrated that first trimester prenatal care may help prevent neonatal death (e.g. death during the first 28 days of life), and a woman may further avoid complications of pregnancy, such as those from placenta previa, infection, poor nutrition, behavioral risk factors (e.g., tobacco, alcohol, and drug use), and preterm birth.[2] Lack of prenatal care has also been shown to be a risk factor for SIDS. A case-control study in Washington State found that the risk of SIDS increased for infants born to mothers who had received limited prenatal care, were black, or were smokers.[9] A study using the Georgia Women's Health Survey, found that prone sleeping position for their babies was significantly higher among women who entered prenatal care after the first trimester, were black, and had less than a high school education.[10]

A 2004 study showed that Wisconsin's rank dropped from 8th to 27th (among 34 reporting states) for the percentage of black women obtaining early prenatal care. The difference between U.S. and Wisconsin's trends was particularly pronounced among black women (Table 1). While in the U.S., only 60% of black women received prenatal care in 1979-81, that percentage had increased to 74% by 1999-

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Table 1.[2] **Percent of live births with prenatal care initiated in the first trimester of pregnancy among blacks: United States, Wisconsin, and Wisconsin's rank relative to other states, 1979-1981 to 1999-2001.**

Time Period	United States (%)	Wisconsin (%)	Wisconsin's Rank (Out of 34)
1979-1981	60	66	8th
1984-1986	60	65	10th
1989-1991	59	59	15th
1994-1996	70	65	20th
1999-2001	74	70	27th

2001. In comparison, Wisconsin black women received a higher percentage of early prenatal care (66%) in 1979-81, but the figure had increased only to 70% by 1999-2001.[2]

Moreover, prenatal care disparities persist within Wisconsin. Black women in Milwaukee receive less prenatal care compared to white women. More than twice as many black women did not receive any prenatal care when compared to both Hispanic and white women combined. Only 71% of black women started prenatal care in the first trimester, compared to 87% of white women.[6] More importantly, mothers who receive no prenatal care in Milwaukee increase their risk of infant mortality 6.5 times.[3] Initiation of first trimester prenatal care is key in identifying unhealthy behaviors and medical risks in pregnancy. Early prenatal care is not only beneficial for the health of the baby, but also important for educating mothers about unsafe practices post-partum. If a woman can be educated early on and throughout her pregnancy about safe-sleeping positions, then SIDS deaths may be reduced.

Smoking Cessation Programs

Finally, programs that help women quit smoking will also reduce the risk of an infant death. Children of mothers who smoke during pregnancy have a 3-fold greater risk of dying from SIDS. Children of mothers who breathe second-hand smoke have a 2.5-fold greater risk of dying from SIDS.[6]

Best Practices in Other States

Although health care during pregnancy is necessary, it alone is not sufficient to improve birth outcomes. Racial disparities in birth outcomes are complex and linked to a number of events throughout a woman's life, such as racism, stress, and poverty. However, other states have been successful in improving perinatal outcomes for mothers and their babies. For example, New York State has taken some key steps and succeeded in reducing mortality rates from 11 per 1,000 live births in 1990 to 6 per 1,000 live births in 2002. This 45%-plus decline in the past 10 years was due to community interventions, with the largest reduction in central Harlem, where infant mortality rates decreased from 13.1 in 2001 to 6.2 in 2002.[11] Specifically, the Northern Manhattan Perinatal Partnership took the following steps:

- Developed a comprehensive prenatal care assistance program
- Identified strategically located perinatal networks to meet the unique cultural needs of their community
- Aggressively addressed associated problems related to domestic violence, substance abuse, and housing

The Wisconsin Division of Public Health has selected New York as a best practice intervention model, but has not yet fully implemented some primary practices shown to reduce black infant mortality, such as a statewide media campaign and community education. Although some key steps have been taken in Milwaukee, statewide awareness is lagging. Having the state and local communities prioritize infant mortality, specifically black infant mortality, as a crucial issue, will further strengthen efforts and target areas with the greatest needs.

CONCLUSION

The ability to improve the health of Wisconsin mothers and babies will, in large part, be influenced by our success in reducing or eliminating the racial disparities in birth outcomes and infant survival rates. The results of successful models in New York and elsewhere, and the supporting statistics, suggest a Wisconsin-based safe sleep campaign tailored and targeted to black women will improve infant survival rates and outcomes. It is important that outreach efforts and educational approaches be consistent with the patient's health-literacy level and also be culturally sensitive. Other interventions and approaches should include providing adequate first-trimester entry into prenatal care, comprehensive prenatal care, addressing associated behavioral factors, as well as establishing a statewide awareness campaign targeting areas with the greatest need, in order to improve outcomes and decrease disparities.

REFERENCES

1. Martin JA, Kochanek KD, Strobino DM, Guyer B, MacDorman MF. *Pediatrics* 2005;115:619-34.
2. Kvale KM, Mascola MA, Glysch R, et al. *Wisc Med J* 2004;103:42-47.
3. City of Milwaukee Health Department. 2000-2001 Fetal Infant Mortality Review Status Report. Infant Mortality in Milwaukee. Milwaukee, WI, 2002.
4. City of Milwaukee Health Department. City of Milwaukee 2003 Infant Mortality and Disparities Fact Sheet. Milwaukee, WI, 2005.
5. National Institute of Child Health and Human Development, Maternal and Child Health Bureau. Babies sleep safest on their backs. Reduce the risk of Sudden Infant Death Syndrome (SIDS). Brochure. Bethesda, MD 2000.
6. City of Milwaukee Health Department. City of Milwaukee 2002 Infant Mortality and Disparities Fact Sheet. Milwaukee, WI, 2004.
7. City of Milwaukee Health Department. Infant sleep environment facts. Milwaukee, WI, 2004.
8. City of Milwaukee Health Department. What are we doing to address infant mortality? Milwaukee, WI, 2004.
9. Paris CA, Remler R, Daling JR. *J Pediatr* 2001;139:771-777.
10. Saraiya M, Serbanescu F, Rochat R, et al. *Pediatrics* 1998;102:E33.
11. Wisconsin Division of Public Health, Bureau of Community Health and Prevention. Select best practice interventions to improve perinatal outcomes and address disparities. State of Wisconsin, Dept of Health and Family Services. Madison, WI, 2003.