



In the Literature

BLACK/WHITE DIFFERENCES IN VERY LOW BIRTH WEIGHT NEONATAL MORTALITY RATES AMONG NEW YORK CITY HOSPITALS

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Black babies with very low birth weights are nearly twice as likely as their white counterparts to be born at New York City hospitals with high risk-adjusted neonatal death rates, according to a study published in *Pediatrics* and conducted with support from The Commonwealth Fund, the Agency for Healthcare Research and Quality, and the National Center for Minority Health and Health Disparities.

Only 11 percent of white babies with very low birth weights—weighing less than 3 pounds, 5 ounces (1,500 grams)—were born at New York City hospitals with high risk-adjusted death rates, versus 21 percent of black very low birth weight (VLBW) infants. The team of Mount Sinai School of Medicine researchers, led by Elizabeth A. Howell, M.D., M.P.P., estimated that if black VLBW infants had been born in the same hospitals as white mothers of VLBW babies, the mortality rate for black infants would fall almost 5 percent.

“The finding that, in New York City, black infants who are born too small systematically receive care in institutions with worse outcomes, compared with those where white infants receive care, demands immediate attention,” wrote the researchers in their article, “[Black/White Differences in Very Low Birth Weight Neonatal Mortality Rates Among New York City Hospitals](#)” (*Pediatrics*, Mar. 2008). The authors suggested that quality improvement efforts at the lowest-performing hospitals could produce the biggest benefit in narrowing the disparity.

Hospital Selection and Disparities

Black infants in the United States are more than twice as likely as white infants to die in the first year of life. The racial disparities in neonatal deaths, or deaths that occur within 28 days after delivery, are similar. The researchers set out to measure and assess the degree

that performance of New York City hospitals played to explain the disparity in VLBW mortality. For the study, they reviewed all live births and deaths of infants born in 45 New York City hospitals between January 1996 and December 2001, measuring VLBW neonatal mortality rates. They adjusted for outside risks such as prenatal care and the mother’s health.

The researchers found that, after adjusting for risk, neonatal mortality rates for VLBW infants in New York hospitals ranged from 9.6 to 27.2 deaths per 1,000 births. They also found that about half (49%) of all white VLBW births took place in hospitals with the lowest mortality, compared with 29 percent of all black VLBW births.

“We estimated that, if black women delivered in the same hospitals as white women, then black very low birth weight mortality rates would be reduced by 6.7 deaths per 1,000 very low birth weight births, removing 34.5 percent of the black/white disparity in very low birth weight neonatal mortality rates in New York,” they wrote.

Narrowing the Disparities Gap

The research team examined the impact of two strategies for narrowing the disparity between black and white VLBW births in New York City and improving outcomes at specific kinds of hospitals. The team found that focusing on improving outcomes at the highest-mortality hospitals would be of greatest benefit.

Specifically, if mortality rates in the 15 lowest-performing hospitals were reduced to the average of the other 30 hospitals, the black VLBW neonatal mortality rate would be reduced to 127.7 deaths per 1,000. The white VLBW neonatal mortality rate would be reduced to 113.3 deaths per 1,000 such white VLBW births. The reductions would remove

more than one-quarter of the racial disparity. With a second quality improvement strategy, if all white and black VLBW babies were born at high-volume hospitals, the reduction in disparity would be a more modest 11 percent.

Conclusions

Black VLBW neonates in New York City are still more likely to die than their white counterparts. Data from the study suggest that black VLBW infants were more likely to be born at lower birth weights and that black VLBW neonates were more likely to be born at hospitals with higher neonatal mortality rates. The researchers suggest that improving outcomes at the lowest-performing hospitals may produce the greatest benefits.

“Because effective treatments for prematurity exist, ensuring that such treatments are used consistently at all hospitals at which VLBW infants receive care is a vital first step toward this improvement goal,” the authors conclude. “Our findings define an imperative to

improve care in New York City and to study other urban areas to identify and to ameliorate such trends. The excess deaths suffered by these tiny infants and their contributions to black/white disparities are unacceptable.”

Facts and Figures

- Observed VLBW neonatal mortality rates were 139 deaths per 1,000 VLBW births for black infants and 119.6 deaths per 1,000 VLBW white births.
- Neonatal deaths account for nearly two-thirds of all infant deaths.
- Infant mortality rates were three times higher for black infants in New York City than for white infants in 2001.

Effects of Racial Differences in Distributions of Births on VLBW Mortality Rates and Effects of Two Potential Improvement Strategies on VLBW Mortality Rates

	Deaths per 1,000 VLBW Births			Potential Lives Saved per 1,000 VLBW Births		Percentage Reduction in Disparity
	Black	White	Disparity	Black	White	
Observed	139	119.6	19.4			
Distributional effects						
Mortality rate if black VLBW infants were delivered at each hospital in proportions equal to those of white VLBW infants	132.3	119.6	12.7	6.7	0	34.5%
Mortality rate if black VLBW infants were delivered at high-volume hospitals in proportions equal to those of white VLBW infants	137.1	119.6	17.5	1.9	0	9.8%
Improvement strategies						
If mortality rate in highest tertile of hospitals was reduced to average of other hospitals	127.7	113.3	14.4	11.3	6.3	25.8%
If mortality rate in low-volume hospitals was reduced to average of other hospitals	134	116.8	17.2	5	2.8	11.3%

Source: E. A. Howell, P. Hebert, S. Chatterjee et al, “Black/White Differences in Very Low Birth Weight Neonatal Mortality Rates Among New York City Hospitals,” *Pediatrics*, Mar. 2008 121(3):e407–e415.