

Community Needs Assessment of Maternal and Infant Health In the Bronx - 2013



June 2013

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ACKNOWLEDGEMENTS

This report was written by Robert Lederer, Director of Research, Policy, and Advocacy for Bronx Health Link (BHL), with supplemental research and writing by Paulette Spencer, BHL Program Director, and additional research, writing, and graph preparation by Mussie Ugbit, BHL Intern. Special appreciation to Peggy Regensburg, PhD, Program Director of the Sudden Infant and Child Death Resource Center, who shared her recent analysis and recommendations on sleep-related infant deaths in the Bronx, and Courtney Wolf, MUP, Senior Policy Associate for Research and Data Analysis for the Citizens' Committee for Children of New York, who compiled data on poverty in the Bronx, and prepared the map especially for this report. Also thanks to Joyce Hall, Executive Director of the Federation of County Networks and Coordinator of the Citywide Coalition to End Infant Mortality, for contributions to the sections on Preconception Health and Maternal Illness and Death.

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ABOUT BRONX HEALTH LINK, INC.

The First Step to Great Health!

Bronx Health Link, Inc. (BHL) was founded in 1998 as a collaborative effort of the Bronx Borough President's Office, Montefiore Medical Center, Bronx-Lebanon Hospital Center, Our Lady of Mercy Center, and St. Barnabas Hospital. As a Bronx-based education, research, and advocacy organization, BHL is dedicated to improving community health by building relationships between consumers and providers, residents and researchers, and constituents and policy makers.

MISSION & VISION

The Bronx Health Link amplifies the diverse voices of Bronx residents and community-based organizations and equips them with the tools to achieve health equality by connecting providers, researchers, policy makers, and residents to each other. By achieving these aims, the Bronx Health Link will be the premier public health organization in our borough.

WHAT WE DO

- Serve as the regional coordinating body for New York City's Infant Mortality Reduction Initiative and New York State's Comprehensive Prenatal Perinatal Services Network to oversee Bronx health education, outreach, and access to services to reduce infant mortality and improve birth outcomes.
- Conduct surveys, focus groups, interviews, and statistical research to provide residents, service providers, and policymakers with an assessment of community health needs and a roadmap to health improvement.
- Support the Bronx Community Research Review Board to bridge the gap between re-searchers and consumers, build trust, and improve research processes and outcomes.
- Educate borough residents and health care providers through workshops, forums, re-source centers, reports, and our e-newsletter and website.
- Advocate that elected officials and other policy makers adopt laws and policies that improve health outcomes and advance health equality.

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INTRODUCTION

This 2013 edition of *A Community Health Profile of Maternal and Infant Health in the Bronx* is the latest in an annual series produced by Bronx Health Link. In developing this year's needs assessment, we sought to provide a broad-based update on the major issues affecting the health and well-being of women and their infants in the Bronx. We compiled the latest data available from state and city sources with the intent of creating a simple-to-use, substantive document on these issues. Our goal is to present objective information for use by health care institutions and community-based organizations in developing programs and services to address our borough's poor outcomes in pregnancy and infant health. In addition, we hope this report will be useful for community advocates, community boards, and elected officials in advocating policy changes that are necessary to alleviate the conditions documented herein.

This year, we have added two sections to the report:

- **Preconception Health:** For some time now, data has been accumulating nationally that even full access to prenatal care is often insufficient to guarantee favorable birth outcomes for all women. This is because changes in underlying health that can affect both the developing fetus and the woman herself are now known to begin long before conception. Our section explores some of the preconception health factors documented as impacting on birth outcomes, and – where data is available – documents the extent of those factors among women in the Bronx. We hope this information will lead to a broader awareness of the critical need for a major expansion of preconception and interconception care in the Bronx.
- **Maternal Illness and Death.** We present data showing that maternal mortality continues to occur at alarmingly high rates in the Bronx and New York City overall. It is important to examine the factors underlying this problem, in order to design programs that can reduce this unacceptable situation.

In addition, for the first time, our section on Infant Mortality includes detailed data and analysis concerning the serious problem of **sleep-related infant deaths**, spotlighting factors behind this phenomenon, and pointing the way to solutions.

On some pages of this report, we cite the federal “Healthy People 2020” goals as yardsticks for measuring the Bronx's status. These numerical goals for health outcomes and practices are revised every ten years. We would like to note that the previous standard was “better than the best,” that is, the level of an outcome such as infant mortality should be lower than the lowest rate of any geographic area in the country. However, the Healthy People 2020 goals released in 2010 significantly lowered the bar for goal-setting by using a standard of “10 percent improvement” over current levels.

Our report finds that while slow progress continues nationally on maternal and infant health, the Bronx still lags behind on key indicators. The borough's rates of infant mortality, and percentages of low birth weight, prematurity, teen pregnancy, and late or no prenatal care exceed — in some cases substantially — those of the city and country. While not addressed directly in our report, other studies have found that these outcomes are directly tied to the adverse impact of poverty and racism. Several of the poorest neighborhoods are particularly hard hit by these conditions. In addition, a large racial disparity remains, with African American/non-Latino black and Latina/o mothers and babies at the greatest risk. It is significant that nearly 80 percent of Bronx births are to women on Medicaid. In our agency's focus groups with women who have given birth in the Bronx, there have been many complaints from these women about inadequate care.

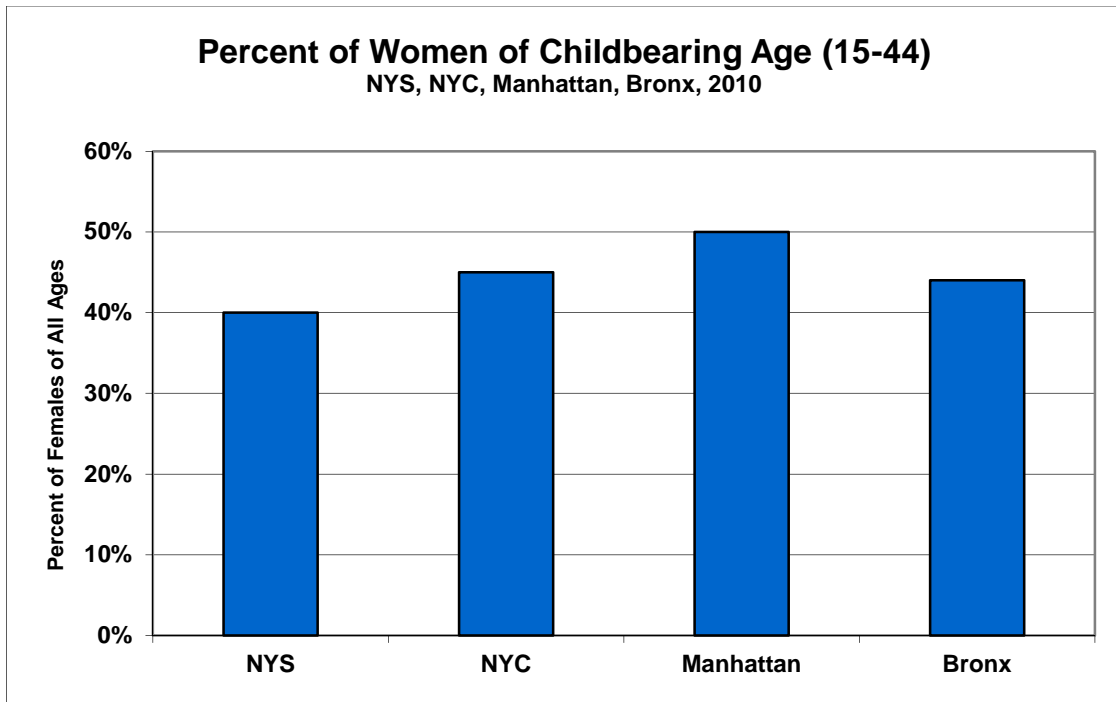
This *Community Needs Assessment* documents the fact that many Bronx women — particularly African Americans and Latinas — still experience bad birth outcomes. These realities stand in stark contrast to the outcomes in many wealthier and whiter communities. But the various barriers to improved health *can be dismantled* by concerted policy changes and institutional improvements in quality of service. Achieving that will take organized advocacy efforts through a partnership of health professionals and consumers in these communities. We intend this report to be a useful tool for such an effort, a catalyst for change.

Despite the poor health indicators documented in this profile, there are thousands of women, babies and families who survive and succeed in the borough. Many women actively seek out health information about pregnancy and baby care on their own from books and websites. Their resilience in the face of endemic barriers is to be lauded. We believe that notwithstanding the issues we highlight here, the assets of the individuals, families, and the communities create a will to survive in spite of poverty, discrimination, and institutional cultures promoting consumer disempowerment. A fortitude that transcends even the statistics cited herein. It is this spirit of survival, of endurance, that creates the hope that the men, women and children of the Bronx will use their individual drive, the strength of their families, and the determination of the community to address, struggle against and finally overcome those issues that threaten their existence in a state of well-being and health.

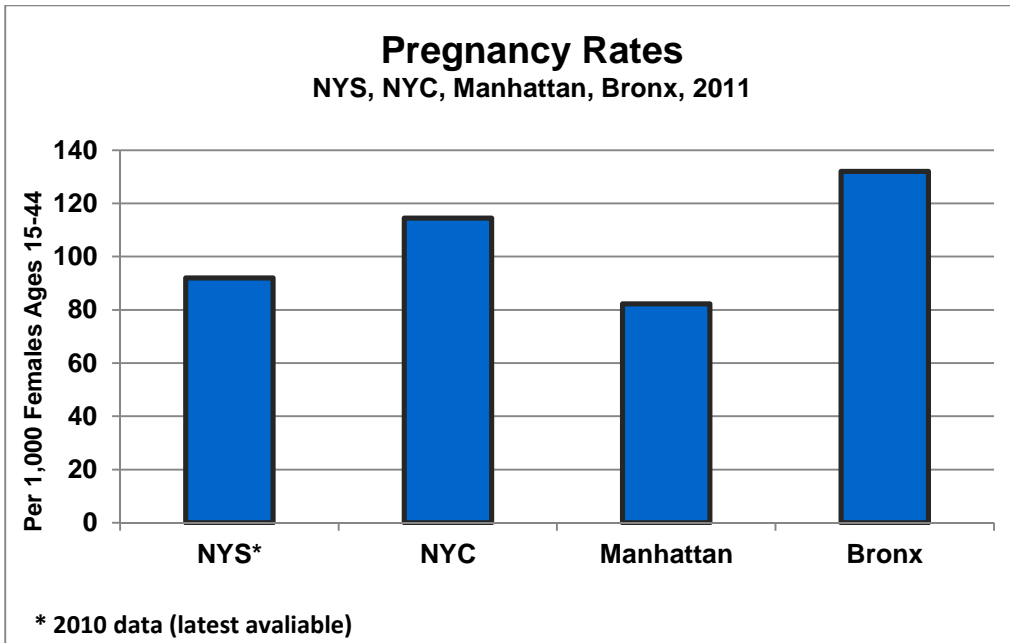
INFANT AND MATERNAL HEALTH: IMPORTANCE FOR THE BRONX

In the Bronx, 44% of all girls and women were of childbearing age in 2010, a rate similar to that of the city as a whole but lower than that in Manhattan. The pregnancy rate in the Bronx is higher than that of the city and state, and more than one and a half times the rate of Manhattan. There were more than 22,000 live births in the Bronx in 2010, a number that has been stable in recent years.

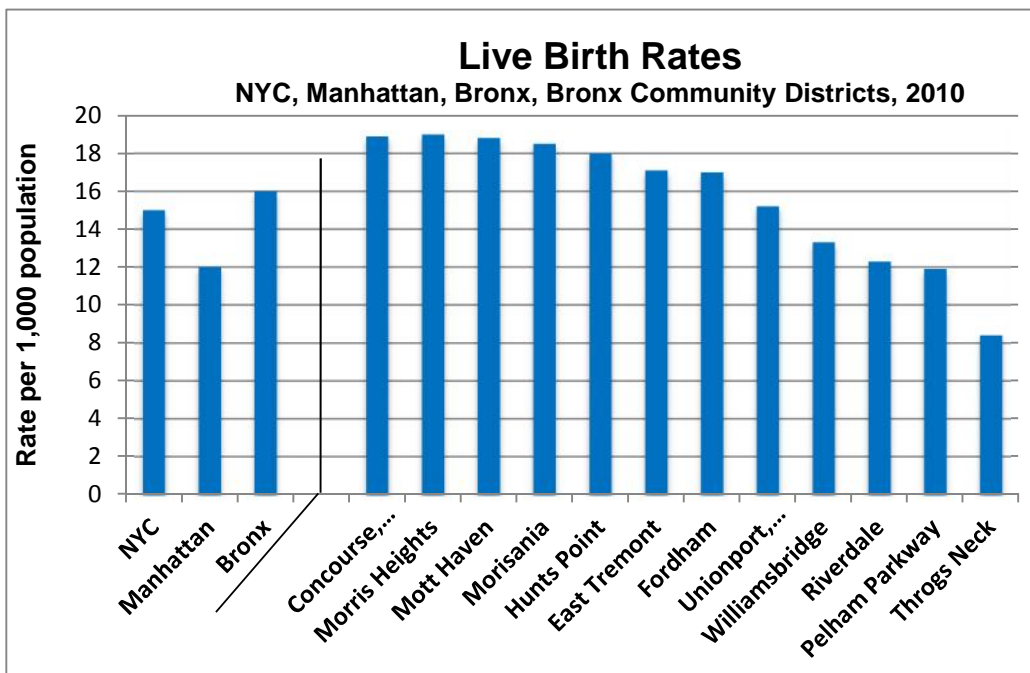
Childbirth is a life-defining experience for many women and their families, and having healthy babies is vitally important, not only for them but for the welfare of the entire community. The care that newborns and infants receive can affect their health and development throughout childhood and into adult life. A healthy start is vital for these children.



Sources: *Vital Statistics of New York State, 2010*, NYS Department of Health;
U.S. Census, 2010



Source: Vital Statistics of New York State, 2010, 2011
NYS Department of Health



Source: Summary of Vital Statistics 2010
New York City Department of Health and Mental Hygiene

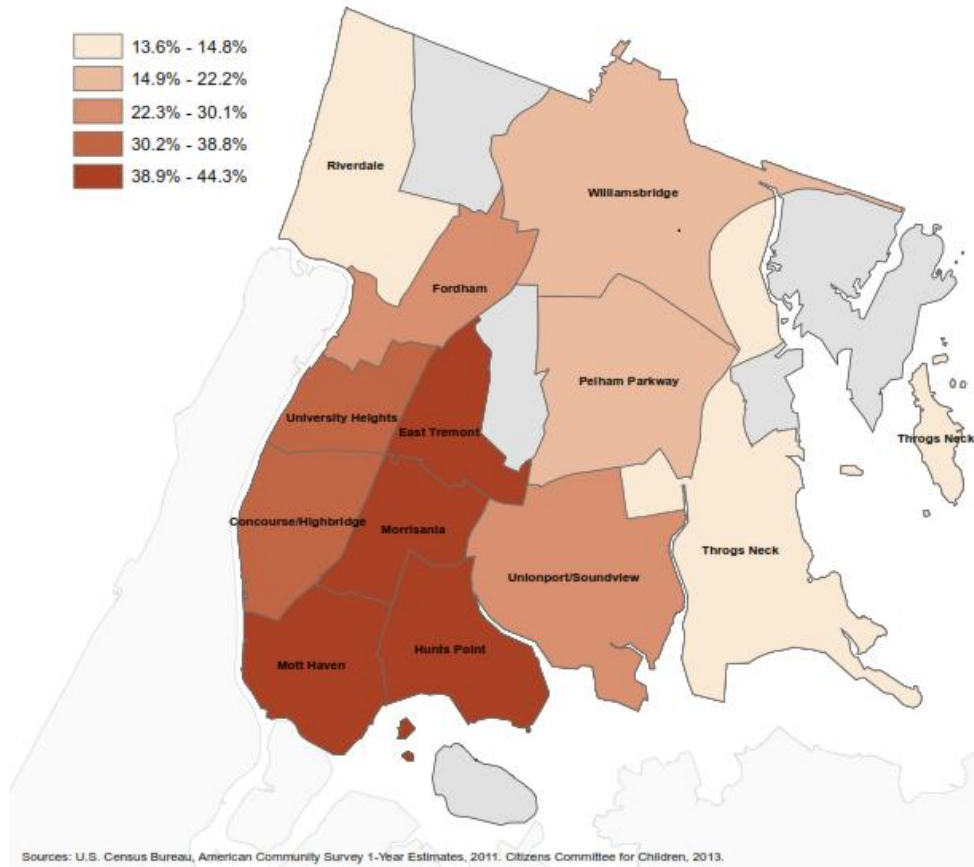
POVERTY: AN OBSTACLE AT BIRTH

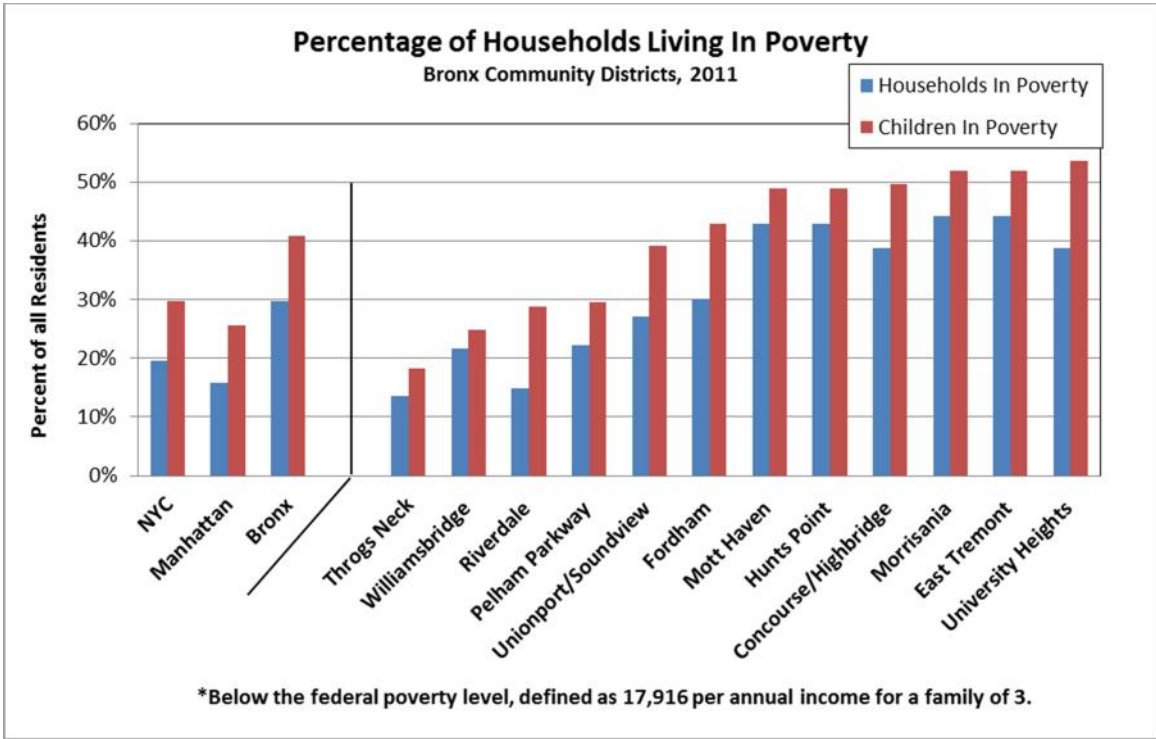
The economic circumstances into which mothers give birth can greatly affect both the mother's chances of having a healthy pregnancy (and avoiding complications or worse) and her baby's chances of getting off to a healthy start. For some time, the Bronx has been the poorest borough in New York City. In 2011, four Bronx neighborhoods—East Tremont, Morrisania, Hunts Point and Mott Haven—had rates of poverty exceeding 40 percent.

Poverty takes a particularly serious toll on children: In 2011, 41 percent of all Bronx children under the age of 5 years lived in households with incomes below the poverty level: \$17,916 a year for a family of three. But in the four poorest neighborhoods, the below-poverty proportions ranged from 50 to 54 percent.

The problem is especially serious among families headed by single mothers. Being a single parent is difficult enough, but the added burden of poverty can interfere with a mother's ability to get proper care for herself and her children.

Percent of Households Below Federal Poverty Level
Bronx Community Districts, 2011

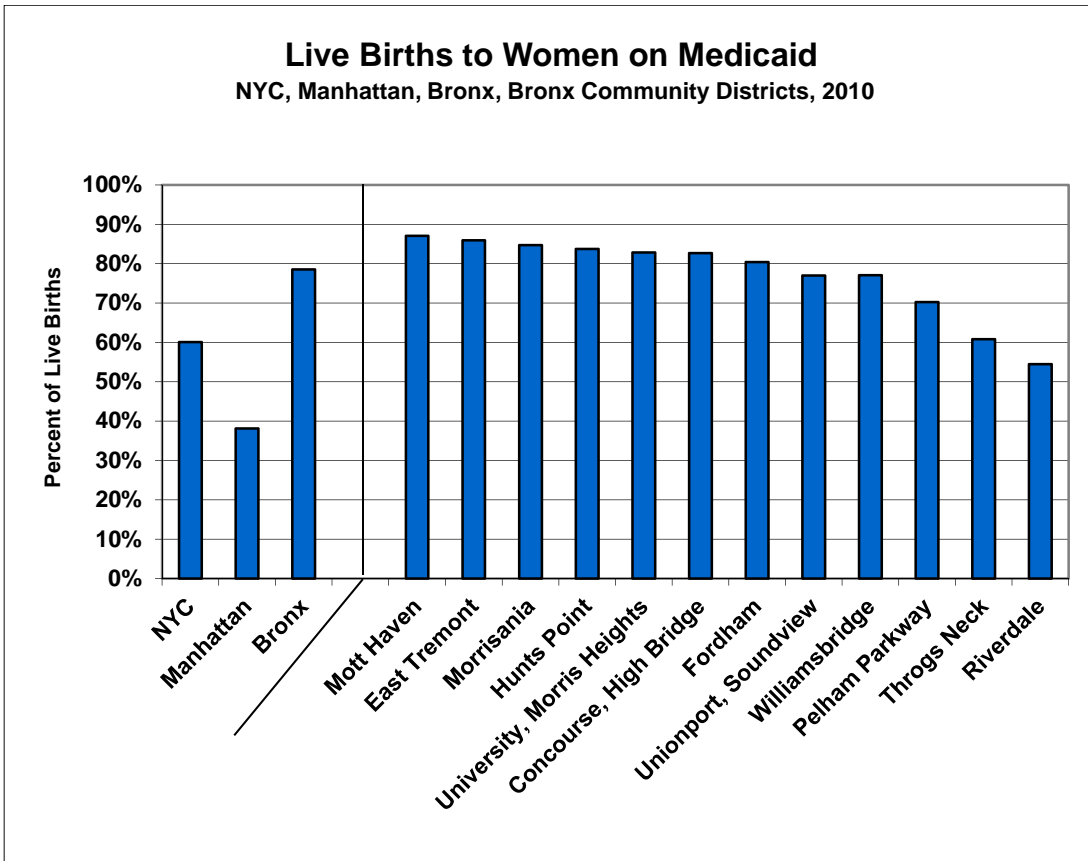




Source: U.S. Census, 2011;
calculations courtesy of Citizens Committee for Children of New York

WHO PAYS FOR HOSPITAL CARE

The method of payment used to settle the hospital bill following labor and delivery—whether by the patient herself or by Medicaid, an HMO, or other insurance carrier—tells us something about the mother’s financial resources. More than 78 percent of deliveries performed in the Bronx in 2010 were covered by Medicaid, a much higher rate than that of Manhattan and New York City as a whole. All Bronx Community Districts have rates exceeding 50 percent, and only two (Throgs Neck and Riverdale) have rates considerably under 70 percent.

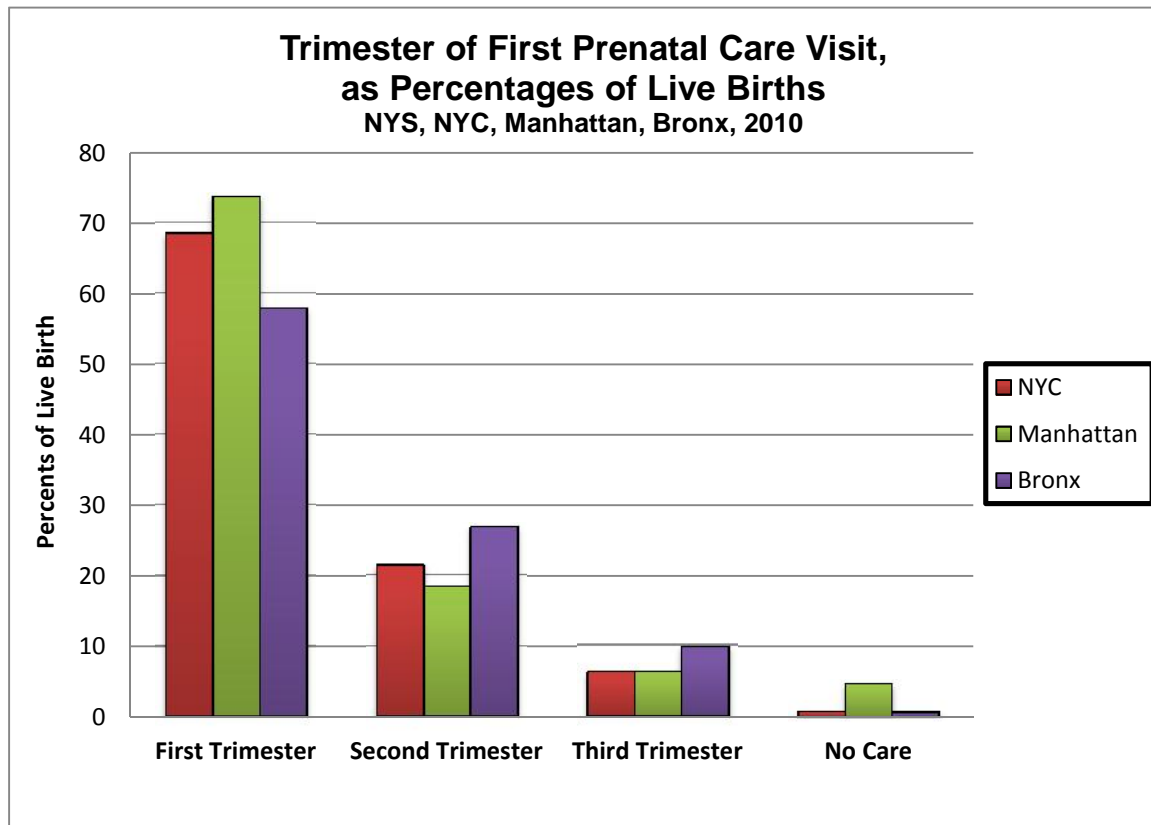


Source: Summary of Vital Statistics 2010
NYC Department of Health

EARLY PRENATAL CARE

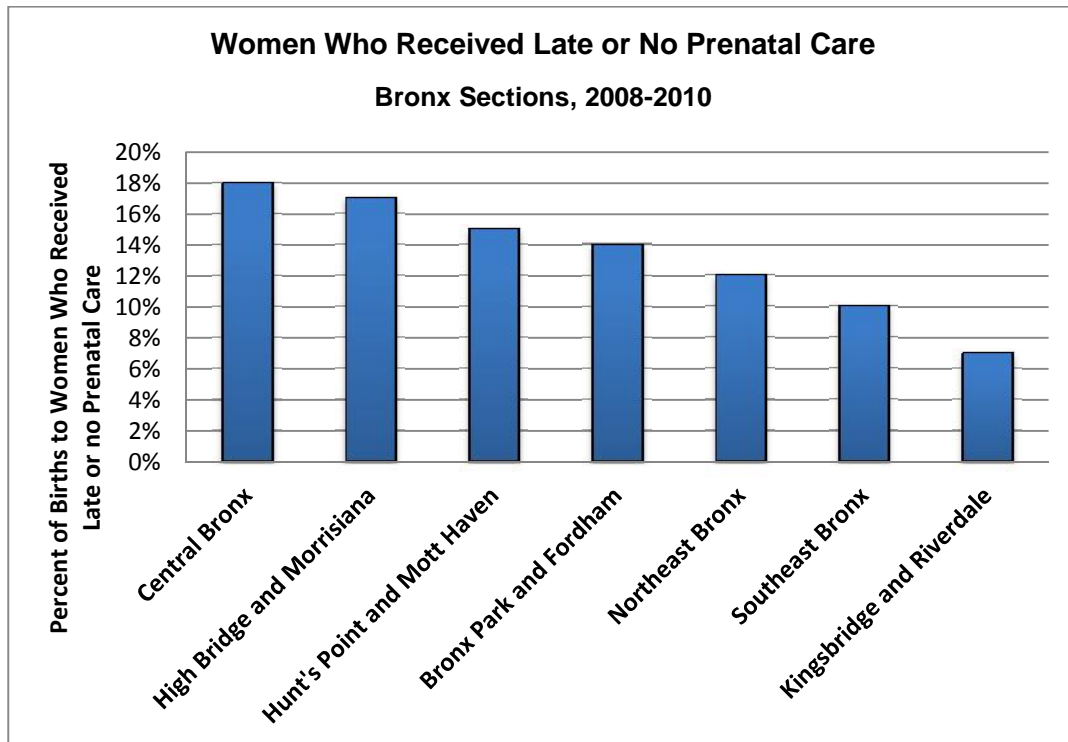
It has been well-established for decades that a key strategy for a mother to protect her health and that of her unborn child is to visit a doctor or other health professional early and regularly during pregnancy. This is especially important for women who are overweight, or who have a history of diabetes, heart problems, or other health conditions that might increase the risk of problems during pregnancy and delivery.

The federal Healthy People 2020 program has set a goal that at least 78 percent of all pregnant women receive early and adequate prenatal care. Starting prenatal care as early as possible can help prevent serious health problems. But in 2010, only 58% of Bronx residents received prenatal care during the first three months of their pregnancies as compared to 74% in Manhattan and 69% in New York City as a whole.



Source: *Vital Statistics of New York State, 2010*
NYS Department of Health

The percentage of pregnant women who do not get prenatal care until late in their pregnancies—or get none at all—is higher in the Bronx than it is in the city overall, and considerably higher than in Manhattan. Within the Bronx, some sections – particularly Central Bronx and Highbridge/Morrisania – have even higher rates than the rest of the borough.

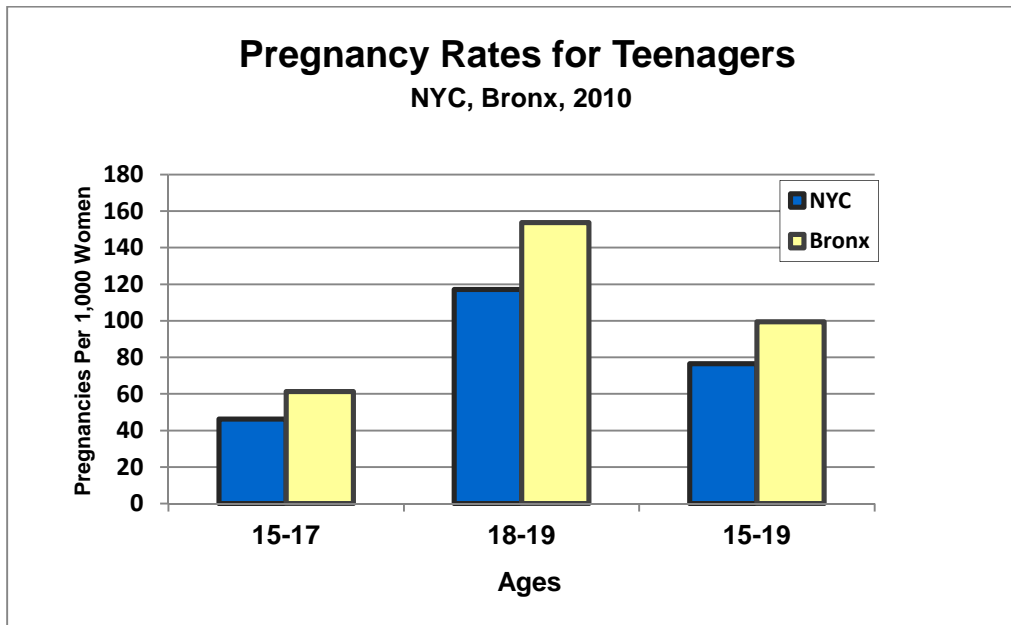


Source: 2008-2010 County/ZIP Code Perinatal Data Profile
NYS Department of Health

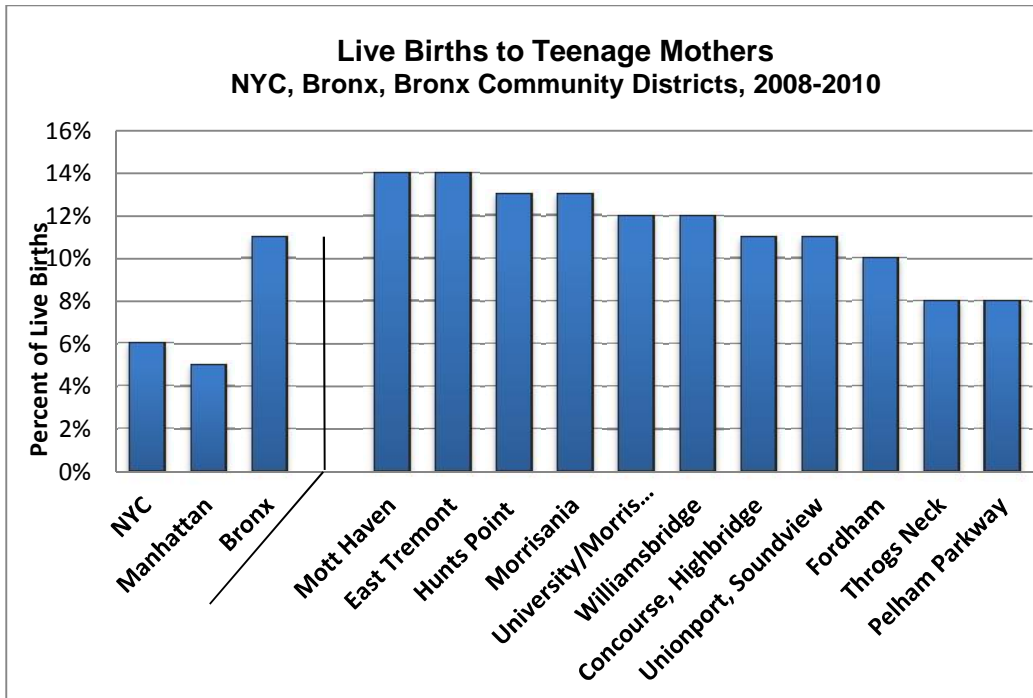
BIRTHS TO TEEN MOTHERS

Over the past two decades, both the pregnancy rate and the birth rate among teenagers in New York City have been declining. However, teenagers in the Bronx continue to become pregnant and give birth at levels exceeding the city as a whole, and considerably above the level in Manhattan. Pregnancy rates continue to be highest, both in the Bronx and citywide, among teens 18 to 19 years old.

Teenage mothers are less likely to finish high school or go to college, and they and their children are more likely to be poor. Also, a higher proportion of Bronx teens who delivered live babies (9.2 percent in 2007) received late or no prenatal care, compared to women of all ages (6.1 percent).

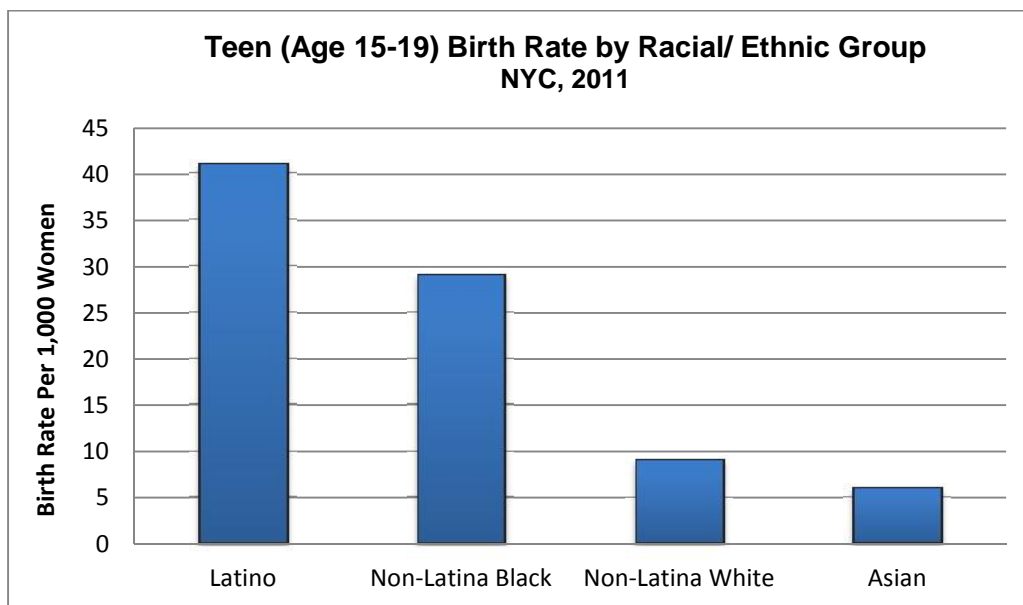


Source: Summary of Vital Statistics 2010
NYC Department of Health and Mental Hygiene



Source: Summary of Vital Statistics 2010
NYC Department of Health and Mental Hygiene

There is a large racial and ethnic disparity in the birth rates. Citywide in 2011, Latina teens had a birth rate six times that of non-Latina Whites and one and-a-half times that of non-Latina blacks.

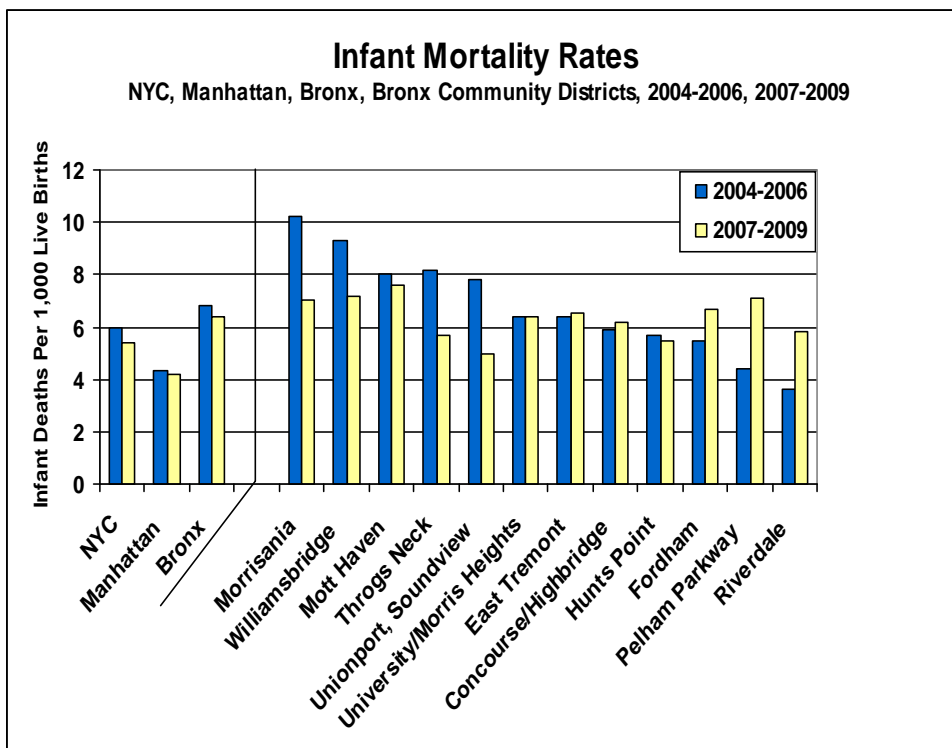


Source: Summary of Vital Statistics 2011,
NYC Department of Health and Mental Hygiene

INFANT MORTALITY

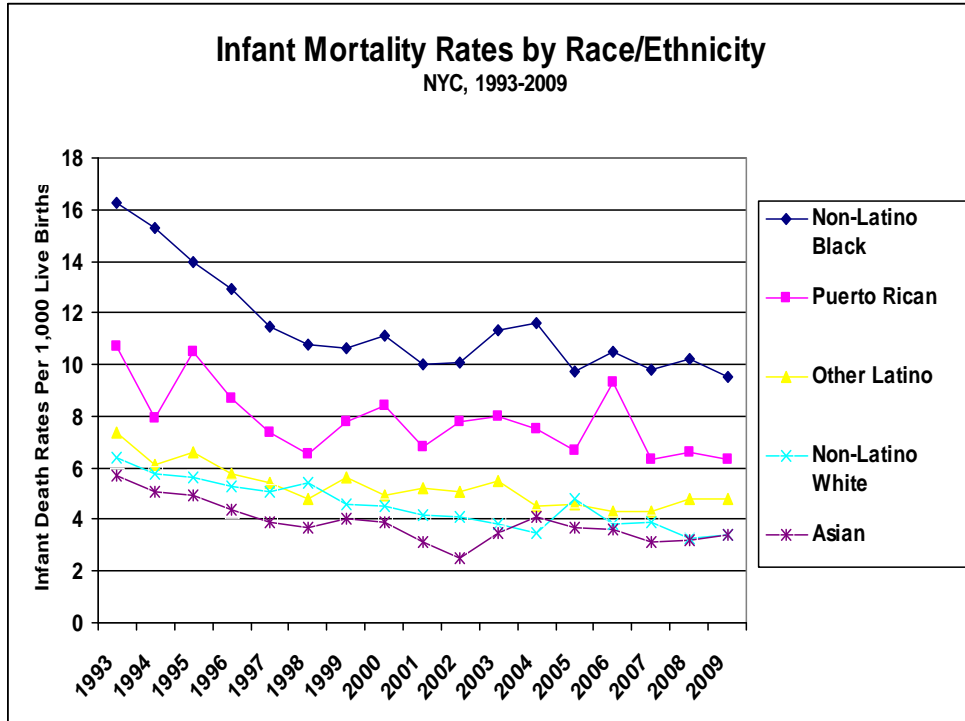
Infant mortality refers to the death of a baby before its first birthday. Even though the nationwide infant mortality rate has been declining steadily for several decades, the United States still lags behind 33 other industrialized nations, according to the 2011 edition of the United Nations *World Population Prospects* report. The best way to reduce the rate of infant deaths is to address some of its root causes: lack of good preconception and prenatal care, poor nutrition, underlying health conditions, poverty, and racial discrimination.

While New York City’s infant mortality rate may rise or fall from year to year, there has been a downward trend in the past two decades. However, the Bronx has persistently had a rate significantly higher (6.4 per 1,000 live births in 2007-9) than that of the city as a whole (5.4). By comparison, the Healthy People 2020 goal is 6.0. In 2007-9, four Bronx neighborhoods that are among the borough’s poorest—Mott Haven, Williamsbridge, Pelham Parkway, and Morrisania—had the highest infant death rates in the borough, all exceeding 7 deaths per 1,000 live births.

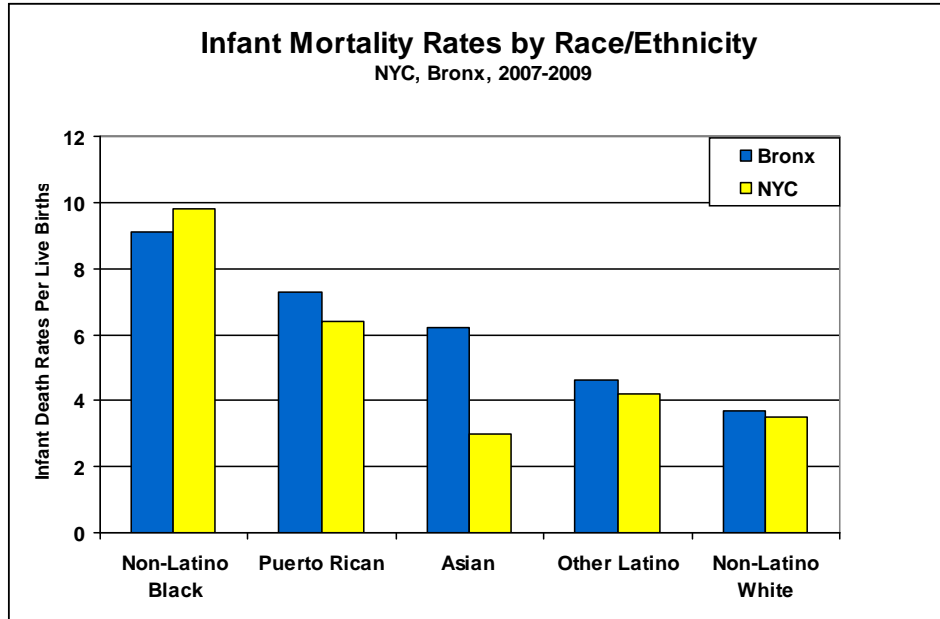


Sources: *Summary of Vital Statistics 2009*, NYC Department of Health and Mental Hygiene; information provided to The Bronx Health Link by request to the NYC Department of Health and Mental Hygiene

Despite some improvements in recent years, drastic gaps persist in infant mortality rates between people of color and white people in the Bronx, New York City as a whole, and nationwide. In the Bronx from 2007-09, the infant mortality rate for non-Latino black babies (9.1) continued to be more than double that for non-Latina Whites (3.7), with the rate among Puerto Ricans only a little lower (7.3) than for non-Latino blacks. The rates were 6.2 for Asians/Pacific Islanders and 4.2 for other Latinos.



Source: *Summary of Vital Statistics 2009*
 NYC Department of Health and Mental Hygiene



Sources: *Summary of Vital Statistics 2009, the City of New York*, NYC Department of Health and Mental Hygiene; information provided to the Bronx Health Link by request to the NYC Department of Health and Mental Hygiene

Causes of Infant Deaths

Most infant deaths occur within the first month after birth. The leading cause of infant deaths in New York City continues to be birth defects (congenital malformations and deformations). A total of 623 infants died in 2011, 116 (20%) of which died due to birth defects. (See chart below for breakdown of other causes.) Not specifically broken out here is a significant category for which more evidence is accumulating: genetic and chromosomal disorders.¹

¹ Perkins, Robert. USC Scientist Targets Genetic Cause of Infant Mortality, USC Dornsife. <http://dornsife.usc.edu/news/stories/1027/usc-scientist-targets-genetic-cause-of-infant-mortality/>

Leading Causes of Infant Death in New York City, 2011

<i>Cause of Death</i>	<i>Number of Deaths</i>	<i>Percent of Total</i>
Congenital Malformation, Deformations	116	20.1
Short Gestation and Low Birth Weight	114	19.8
Cardiovascular Disorders Originating in the Perinatal Period	70	12.1
All Other Diseases	69	11.9
External Causes	62	10.7
Congenital Malformations of the Heart	51	8.8
Remainder of Conditions Originating in the Perinatal Period	24	4.1
Respiratory Distress of Newborn	17	2.9
Bacterial Sepsis of Newborn	13	2.2
Other Respiratory Conditions Originating in the Perinatal Period	12	2.0
Newborn Affected by Maternal Complications of Pregnancy	12	2.0
Diseases of the Circulatory System	12	2.0
Newborn Affected by Complications of the Cord, Placenta, and Membrane	11	1.9
Necrotizing Enterocolitis of Newborn	10	1.7
Pulmonary Hemorrhage Originating in the Perinatal Period	9	1.5
Neonatal Hemorrhage	5	.8
Influenza and Pneumonia	5	.8
Atelectasis	5	.8
Sudden Infant Death Syndrome	5	.8
Intrauterine Hypoxia and Birth Asphyxia	1	.1

Source: *Summary of Vital Statistics 2011*
 NYC Department of Health and Mental Hygiene

One area in which New Yorkers have done well is in reducing the number of infant deaths due to Sudden Infant Death Syndrome (SIDS). Whereas in 1997, 51 New York City babies died of SIDS, in 2011 only 5 babies died of that cause. Putting babies to sleep on their backs can help prevent SIDS. In addition to helping prevent SIDS, generally successful efforts have been made to protect the infants of HIV-positive mothers against infection.

However, Peggy Regensburg, PhD, Program Director of the Sudden Infant and Child Death Resource Center, recently analyzed data about New York City sleep-related infant deaths. Her analysis shows that there is still a significant number of infants who are dying during sleep for reasons other than SIDS. Among her conclusions are the following:

Although only 17% of NYC residents live in the Bronx, 26.7% of the city's sleep-related infant deaths occur there, mainly to black and Latino families living in apartments in the poorest neighborhoods. Nearly 50% of these deaths occurred within five zip codes, where families live on incomes between \$12,071 and \$19,737 – meeting most federal government poverty thresholds for families. An astounding 63% of the fathers and 30% of the mothers of these infants reported full- or part-time employment but were still impoverished.

Three major risk factors for sleep-related infant death emerged:

1. unsafe sleep environment – the adult bed
2. smoking
3. prone sleep position instead of on the back

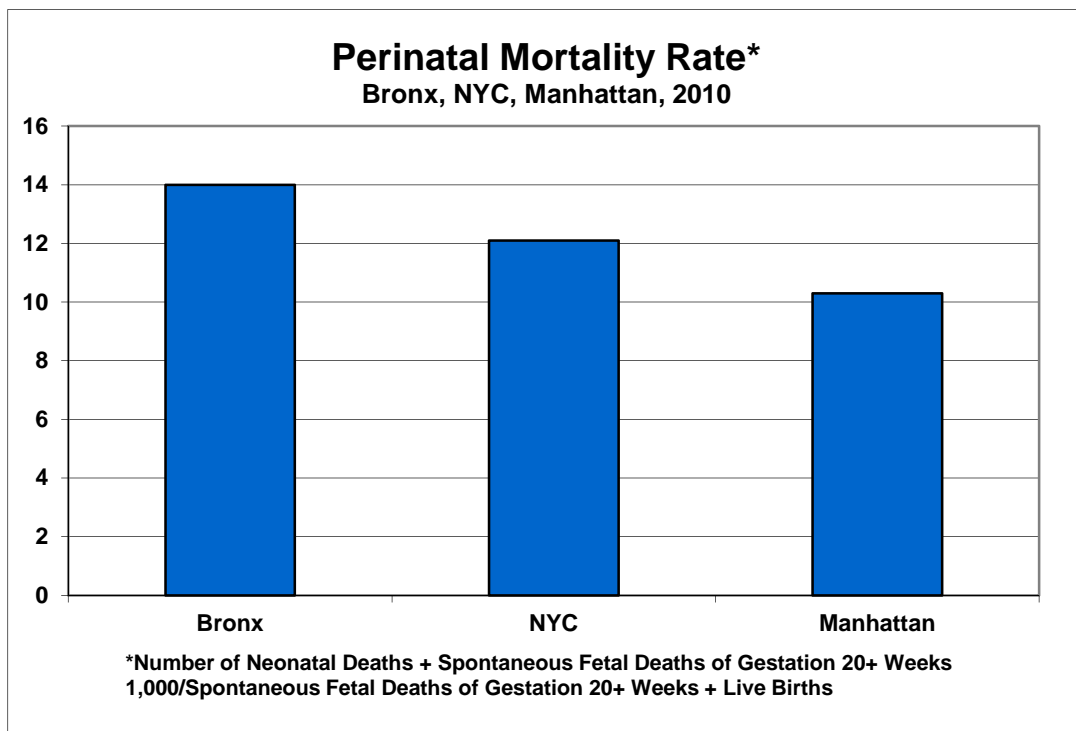
The data shows that parents were continuing to place their infants in the parental bed. This fact, combined with the income and residential data, led the researcher to believe that the reasons for this were twofold: the cost of the crib was out of reach for most of the parents, and the small apartment space made its use inconvenient. Perhaps the parents were not the only occupants of the apartments; many times, they were living with other family members, making the living quarters extremely crowded. Since most of the mothers bottle-fed their babies before sleep, breastfeeding was not a significant factor in most decisions to place infants in adult beds.

The data suggests that parents do not understand the effect of smoking on infant health, and perhaps require assistance with smoking cessation, such as the provision of materials to stay tobacco-free.

PERINATAL MORTALITY

The perinatal mortality rate—the number of fetuses that die after the fifth month of pregnancy, plus the number of infants who die within the first month after birth, for every 1,000 pregnancies—provides another indication of whether pregnant women and newborns are getting adequate care. Such deaths are sometimes the result of untreated medical problems during pregnancy that affect the health of mother and child.

The Bronx had a perinatal mortality rate in 2010 (14 perinatal deaths per 1,000 pregnancies) that was higher than that of New York City as a whole (12), and even higher than that of Manhattan (10.1).

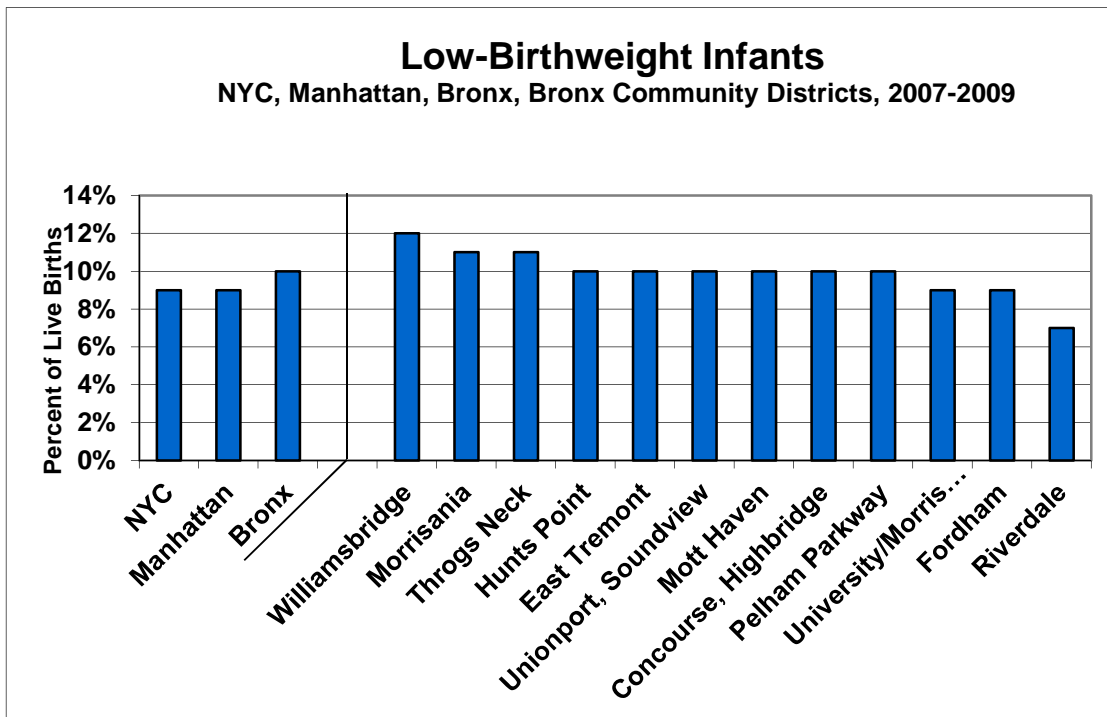


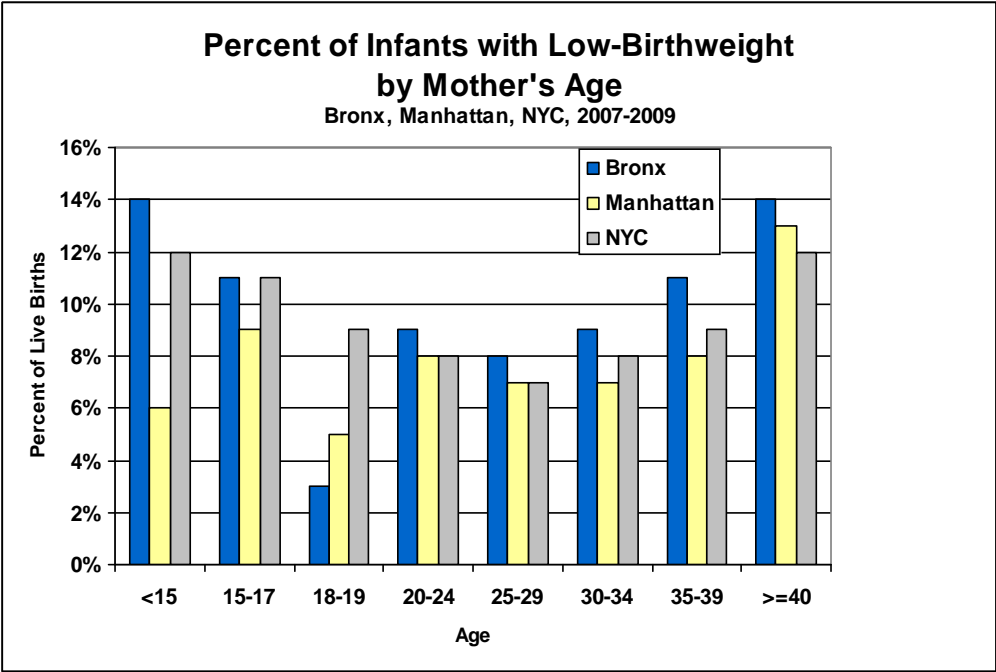
Source: *Vital Statistics of New York State, 2010, 2011*
NYS Department of Health

LOW BIRTHWEIGHT

Many factors that affect the health of a mother-to-be can also influence the growth and development of her unborn child. A mother's age, weight, diet, and substance use—including smoking, drug and alcohol use—can cause her baby to be smaller than normal at birth. Medical problems during pregnancy, such as hypertension (high blood pressure), anemia (low red blood cells), and diabetes (high blood sugar), can also contribute to low birthweight. That is why healthcare professionals stress the importance of early and regular prenatal care, and increasingly, preconception care, to identify and treat problems that could lead to poor fetal growth.

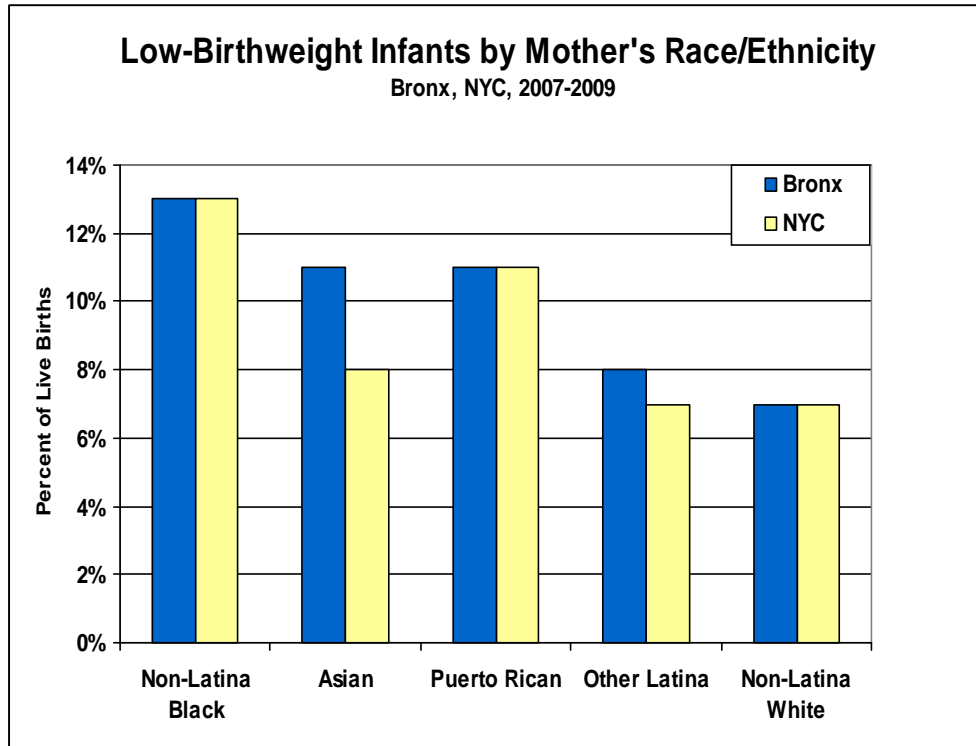
All Bronx neighborhoods except Riverdale had a greater percentage of low-birthweight infants in 2007-9 than did New York City overall. The highest levels are clustered among the youngest (17 and under) and oldest (35 and older) mothers.





Sources: *Summary of Vital Statistics 2009, the City of New York*, NYC Department of Health and Mental Hygiene; information provided to The Bronx Health Link by request to the NYC Department of Health and Mental Hygiene

As in other areas of maternal and infant health, there are significant racial disparities. From 2007-9, non-Latina black women in the Bronx had the highest rate of low birthweight (12.5 percent), followed by Asians (11.1 percent), and then Puerto Ricans (10.9 percent), other Latinas (7.7 percent), and non-Latina Whites (7.1 percent). The rates among mothers of different ages followed a typical pattern: highest among teens and women above 35, and even higher among those over 40.



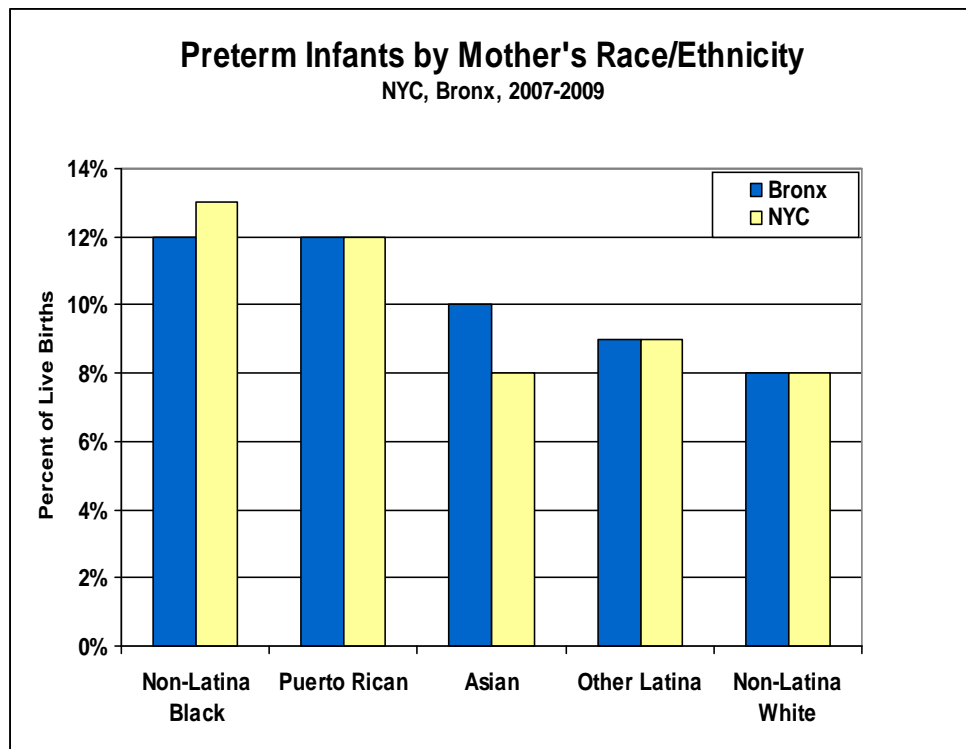
Sources: *Summary of Vital Statistics 2009, the City of New York*, NYC Department of Health and Mental Hygiene; Information provided to The Bronx Health Link by request to the NYC Department of Health and Mental Hygiene

PRETERM BIRTHS

Infants who are born prematurely — that is, before the full nine months of development — have a much higher risk of having health problems at birth. All Bronx neighborhoods except Fordham had a greater percentage of preterm births in 2007-9 than did New York City overall.

While genetic factors can play a role in determining whether babies are born prematurely, good nutrition and proper medical care during pregnancy, along with avoiding cigarettes, alcohol, and harmful drugs, reduced exposure to pollutants in the environment, and reducing stress can help lessen the risk of preterm delivery.

Data shows a persistent disparity in the number of preterm births to women of color nationwide and citywide. From 2007-9, non-Latina black women in the Bronx had the highest rate (11.8 percent), followed by Puerto Ricans (11.5 percent), and then Asians (10.4 percent), other Latinas (8.7 percent), and non-Latina Whites (7.8 percent). Levels of preterm birth levels in the city as a whole are higher than the Bronx for non-Latina blacks and Puerto Ricans, but lower for Asians, other Latinos, and non-Latina Whites.



Sources: *Summary of Vital Statistics 2009, the City of New York*, NYC Department of Health and Mental Hygiene; information provided to The Bronx Health Link by request to the NYC Department of Health and Mental Hygiene

CESAREAN BIRTHS

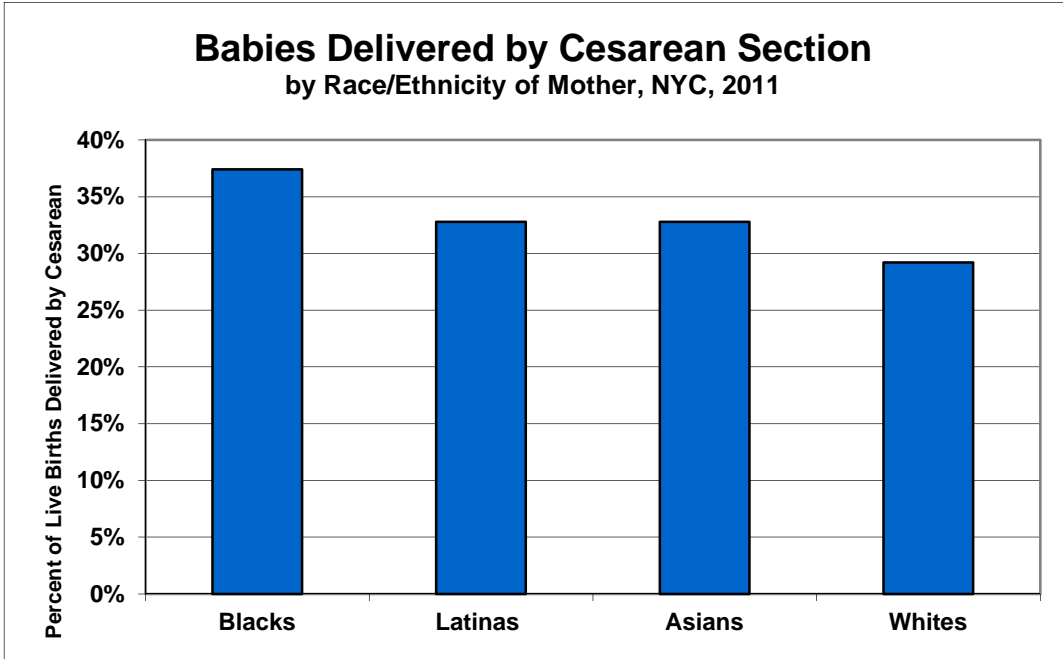
Nationally and locally, the rate of Cesarean sections (or C sections) has been dramatically increasing in recent decades; when first measured in 1965, the U.S. rate was 5 percent of live births; in 2009 it was 33 percent – more than double the range of 5 to 15 percent recommended by the World Health Organization. In the Bronx, the rate has gone up from 23 percent of live births in 1997 to 25 percent in 2003 to 33 percent in 2009; Manhattan’s rate is slightly higher at 34 percent. Rates at Bronx hospitals in 2009 ranged from 22 to 36 percent. (The New York State Maternity Information Act (MIA) requires all hospitals to provide women patients with a pamphlet containing statistics about its rates of C-sections and other childbirth procedures.)

Among other issues, elevated C-section rates can be a contributing factor to maternal mortality rates, which are already unacceptably high in New York. According to a 2011 report on U.S. maternal mortality by Amnesty International, “New analysis shows that the states reporting higher than average Cesarean rates (over 33 percent of births) had a 21 percent higher risk of maternal mortality than states with Cesarean rates less than 33 percent.”² According to a 2010 report by the federal Maternal and Child Health Bureau, “The rising trend in cesarean rates may have...contributed to the apparent increase in maternal mortality during the past decade.”³

Again, there is a significant racial disparity: Citywide in 2011, women of color had C-sections at higher rates than did non-Latina White women: Latinas (33 percent) non-Latina blacks (37 percent); Asians (33 percent); and non-Latina Whites (29 percent).

² Amnesty International, *Deadly Delivery: The Maternal Health Crisis in the USA – One Year Update, Spring 2011*, New York: Amnesty International; 2011. p. iv. Available at <http://www.amnestyusa.org/pdf/DeadlyDeliveryOneYear.pdf>.

³ Singh GK. *Maternal Mortality in the United States, 1935-2007: Substantial Racial/Ethnic, Socioeconomic, and Geographic Disparities Persist*. Health Resources and Services Administration, Maternal and Child Health Bureau. Rockville, Maryland: U.S. Department of Health and Human Services; 2010. Available at <http://www.hrsa.gov/ourstories/mchb75th/mchb75maternalmortality.pdf>.

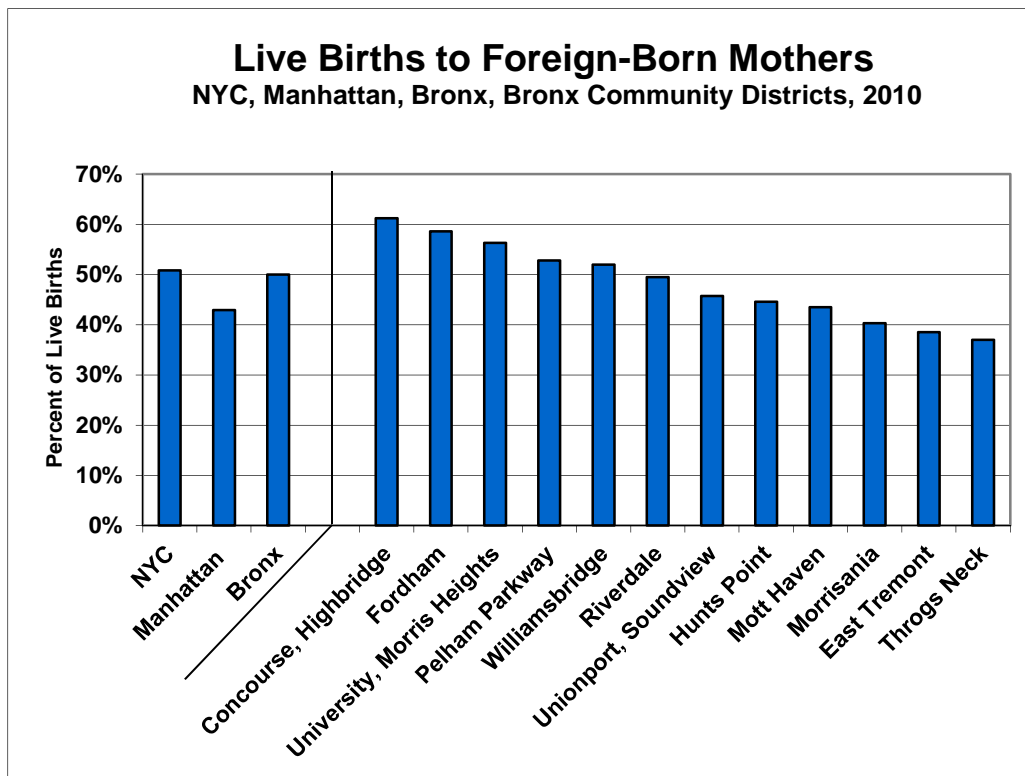


*Source: Summary of Vital Statistics 2011,
NYC Department of Health and Mental Hygiene*

BIRTHS TO IMMIGRANT MOTHERS

While many New Yorkers are well aware of the steady flow of immigrants into the City, few may be familiar with one of the most dramatic impacts that these newest New Yorkers have had on the city: During the past few years, more than half of all babies have been born to immigrant mothers.

In the Bronx, 31 percent of the borough's almost 1.4 million residents are foreign-born, making the Bronx one of the top-10 most diverse cities in the United States according to the U.S. Census Bureau. Almost 50 percent of live births are to immigrant women, a level considerably higher than that for Manhattan. The highest proportions of births to foreign-born women are in Concourse/Highbridge, Fordham, and University/Morris Heights



Source: *Summary of Vital Statistics 2010*,
NYC Department of Health and Mental Hygiene

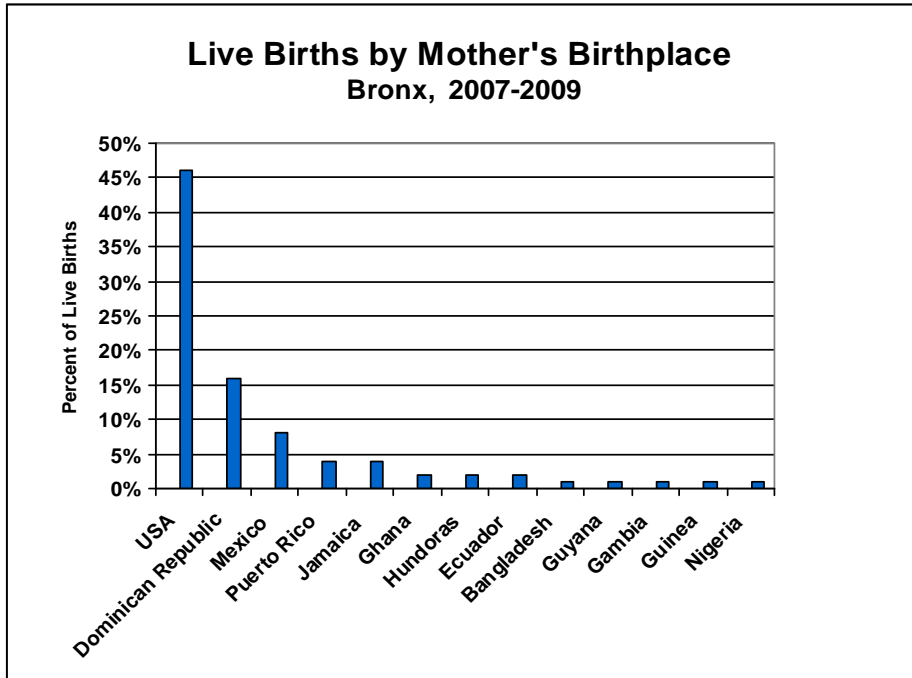
In 2007-9, babies born to mothers from Latin America accounted for a third of all live births in the Bronx. The largest single contributor is the Dominican Republic, the country of origin for 16 percent of women giving birth. Births to mothers from four African countries (Ghana, The Gambia, Guinea, and Nigeria) accounted for 5 percent of Bronx births.

Understanding these diverse backgrounds becomes crucial because, as health educator Rosmer Arzola said at the Bronx Perinatal Information Network's 2011 Annual Forum, "When people immigrate, they bring with them their traditional beliefs, values, and practices. Personal acculturation and economic status affect an immigrant woman's pregnancy and childbirth experience in New York City." In particular, research has shown that the longer immigrants are here in the U.S., the more they pick up the habits of this country – which are certainly not all good.

In addition, immigrants and the native-born use health care resources differently, with immigrants typically accessing them less frequently. Immigrants are more likely than native-born New Yorkers to be uninsured. They may not know how to get access to health services in the City. Studies have found that the majority of health care received by undocumented immigrants comes through emergency departments (EDs), while most of the remaining care is obtained through public clinics and community health centers. In addition, limited knowledge of English may present an additional barrier for some.

As a result, translation services must be available – reliance on staff for to do so on an ad hoc basis is not enough. This does not simply mean providing translation into Spanish, because the Bronx has a multitude of ethnic communities.

True cultural competence is much broader than just having staff members who are multilingual in the languages spoken in the service area. Among its other elements are: a diverse staff at all levels, reflective of and hired from the community; providers and staff who have learned to listen to patients, are cognizant of the cultural differences and are open to addressing those differences; acknowledgement that patients are attracted when the race/ethnicity/language of providers reflect the community; recognition of the methods to address problems facing new immigrants; friendly and respectful treatment of all patients; inclusion of pictures/paintings/colors of walls that reflect community cultures; and signs, posters, information translated into the common languages in the community. For more on cultural competence issues in maternal and infant health in the Bronx, see The Bronx Health Link's report, *Pregnancy, Childbirth, and Baby Care Across Cultures: Understanding, Serving and Respecting Immigrants in the Bronx*, available at http://www.bronxhealthlink.org/bronxhealthlink/bronxhealthlink/reports/pregnancy_childbirth_and_baby_care/.

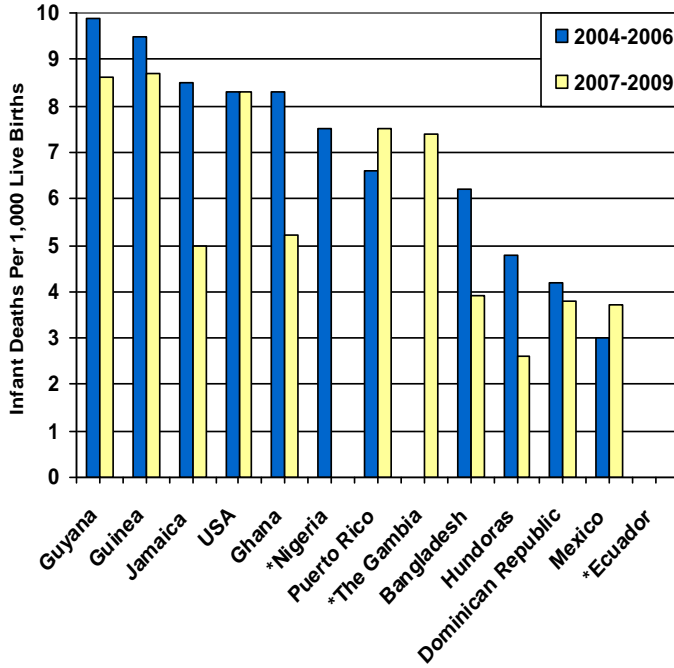


Source: Information provided to Bronx Health Link by request to the
NYC Department of Health and Mental Hygiene

Infant Mortality Among Immigrants

Infant mortality rates vary greatly across the Bronx's immigrant communities. In 2007-9, the Bronx death rate for infants of mothers born in Guyana, Guinea, Puerto Rico, and The Gambia were the highest; all exceeded the goal of 6.0 set by Healthy People 2020. For Bronx mothers of most nationalities (except Puerto Ricans and Mexicans), the infant mortality rate decreased between 2004-6 and 2007-9.

Infant Mortality Rates by Mother's Birthplace
Bronx, 2004-2006, 2007-2009



* DOHMH has omitted rates for nationalities where fewer than 3 infants died in those 3 years.

Source: Information provided to Bronx Health Link by request to the NYC Department of Health and Mental Hygiene

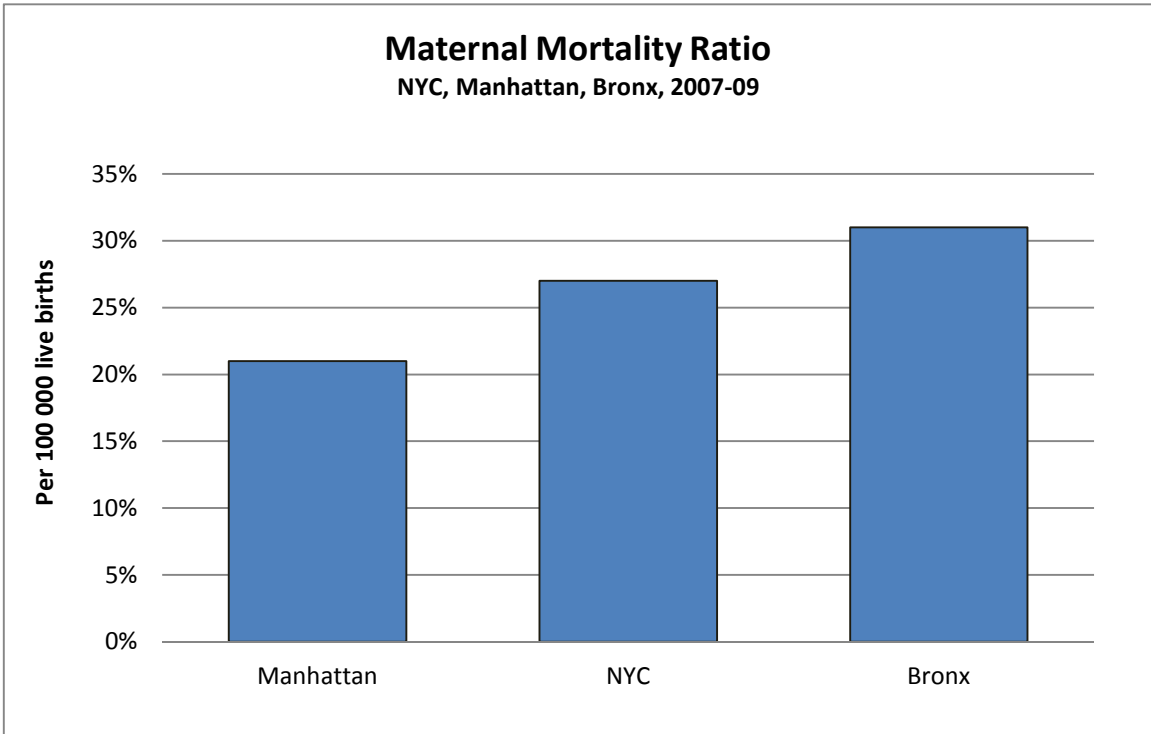
MATERNAL ILLNESS AND DEATH

In the last few years, much progress has been made in lowering the infant mortality rate in NYC. Despite these improvements, NYC has seen an alarming *increase* in maternal mortality, from 17.1 per 100,000 live births in 2005 to 24.5 per 100,000 live births in 2009.

A maternal death is defined as those deaths that are either caused by or exacerbated by the pregnant state and which occur either during pregnancy or within 42 days of the end of a pregnancy. Maternal morbidity is any illness or injury caused by the pregnancy or aggravated by, or associated with, pregnancy or childbirth. Maternal illness can manifest itself during the pregnancy and childbirth and are the result of aggravation of existing conditions or the occurrence of illness (whether caused by environmental or genetic factors or a combination) during this period in the woman's life cycle. Pregnancy-associated mortality or death is death from any cause while pregnant or within one year of the end of pregnancy. The death of the woman is the terminal result of a number of related issues – the existence of prior, often untreated chronic illness, the long-term effects of racism and poverty, a lack of access to quality care, to name but a few factors that taken as a singular occurrence or as a life-long issue, can result in death.

As with infant mortality, the distribution of maternity mortality by borough is not equal. From 2007-09, the maternal mortality ratio was 31 per 100,000 births in the Bronx, compared with 21 in Manhattan, and 27 in NYC as a whole. According to *Maternal Mortality in New York - A Call to Action*, a 2011 report by the New York Academy of Medicine, "Some of New York's poorest neighborhoods had rates almost five times higher than affluent neighborhoods in Manhattan, and women without health insurance coverage had pregnancy-related mortality rates almost four times higher than those covered by Medicaid or private insurance."

The racial disparity in the rate of these deaths is even more severe than in the infant mortality rates. In NYC, the maternal mortality ratio for black, non-Hispanic women ranged from 8.3 times (2005) to 6.7 times (2009) more than which non-Hispanic women. black women are less likely to begin prenatal care in the first trimester and to receive adequate care. A review of NYC maternal death records found that black women's lower access to care and lower quality of care were also contributing factors.



Source: *Vital Statistics of New York State, 2010*
NYS Department of Health

PRECONCEPTION HEALTH

One of the most consistent findings of research on maternal and infant health in recent years is the impact of women's long-term health issues. All of this research has led to a consensus in the field that prenatal care, even of the highest quality, is not enough to reverse the poor birth outcomes which remain stubbornly high nationally and in New York City, particularly in communities of color. Some conditions – whether medical, nutritional, or psychosocial – cannot be reversed in time to prevent harm to the embryo. In addition for various reasons, many women in New York City do not enter prenatal care until late in pregnancy.

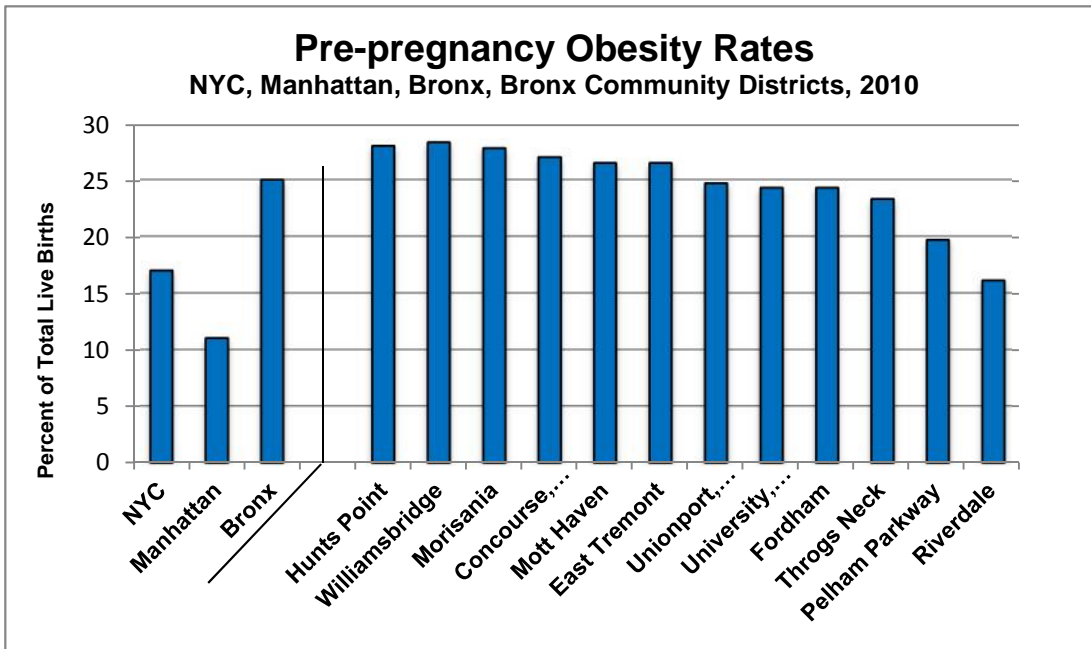
This understanding has given rise to an increased focus on women's *preconception health*, an examination of such factors as obesity, a range of chronic illnesses, chronic stress, and trauma on both the woman's long-term health and the infant's health. For this reason, the issue of preventing unplanned pregnancies is quite relevant to an strategy to improve maternal and child health.

Impact of Obesity and Chronic Illnesses among Women

According to a position paper of the American Dietetic Association and American Society for Nutrition, "Obesity in pregnancy carries with it not just increased risks for the pregnant woman during gestation, but also risks for the future health of the child, or, in public health terms, the health of the next generation." The paper details the research finding that higher levels of birth defects, fetal death, and stillbirths are higher among obese mothers than non-obese women.

In 2010, pre-pregnancy obesity rates in the Bronx exceeded that of any other borough in NYC. The Bronx had more than twice the pre-pregnancy obesity rate as compared to Manhattan, and nearly twice the rate of NYC as a whole. Three of the poorest Bronx Community Districts: Hunts Point, Williamsbridge, and Morrisania had the highest prevalence of pre-pregnancy obesity whereas Riverdale had the lowest. These findings further indicate that health disparities are contingent upon income, race, and social class.

The two professional societies strongly recommend preconceptional and interconceptional counseling on the problems that obesity poses for pregnancy, and delineates methods for reducing it. "The long-term goal of healthcare professionals must be to reduce the proportion of women who are obese during the reproductive period and increase public awareness about the importance of a healthful lifestyle (healthful diet, moderate to vigorous levels of physical activity, and emotional well-being) before and during pregnancy."



Source: *Summary of Vital Statistics 2010*, NYC Department of Health and Mental Hygiene

Impact of Cardiovascular Disease and Diabetes

Women in the preconception period that who have cardiovascular disease and/or diabetes present important health risks to their future babies as well as to their long-term health. Studies show that the higher a woman’s risk of cardiovascular disease, the more likelihood that her infant will have low birth weight. High blood pressure in pregnant women poses numerous risks to their infants which may include: preterm birth, placental abruption (separation of the placenta from the uterus), and ultimately, fetal death. Women who have diabetes prior to pregnancy have a greater risk of complications, such as, fetal heart defects, fetal death, and preterm births. In regards to a women’s long-term health, poor glucose control in diabetics has been linked to higher risk for high blood pressure, kidney disease, nerve damage, heart disease, and blindness.

According to the latest NYC PRAMS survey (2009-2010), 2.3% of live births in the Bronx were to women who had been diabetics before their pregnancy, while in Manhattan they made up 1.9%.

The National Ambulatory Medical Care Survey found that women who control their diabetes through preconception care have the potential to reduce the risk of miscarriage, of which there are approximately 113,000 a year. Two studies found that “the savings resulting from avoided adverse pregnancy outcomes in women with diabetes outweigh the added costs of preconception care.” Thus, emphasizing diabetic

preconception care is crucial to the future health of babies and the long-term wellness of women.

Impact of Environmental Exposures on Reproductive Health

In recent years, it has become increasingly clear that environmental toxic exposures can have a major impact the health and well-being of women who become pregnant and her children. The major categories of environmental exposures that affect women and their offspring covered by this report¹ are polycyclic aromatic hydrocarbons (PAHs – compounds found in air pollutants), hazardous chemicals such as pesticides, phthalates, bisphenol A (BPA), fire retardants, and polychlorinated biphenyls (PCBs); and heavy metals such as lead.

Many studies of newborns and their mothers in Harlem, Washington Heights, and the South Bronx have found links between several of these toxins and low birth weight, preterm births, and delayed child development. Recent research has focused on endocrine-disrupting compounds – chemicals and heavy metals found to interfere with hormone signaling, which in turn can damage the reproductive, neurological, and immune systems. Yet a survey of Bronx residents and workers by the Bronx Health Link found that fewer than 40% of adults who had children were given information on environmental risks during the woman’s pregnancy.

Impact of Women’s Long-Term Stress on Successful Conception and Fetal Development

Long-term stress takes its toll on the health of prospective mothers. According to the Mayo Clinic, long term stress involves the release of the stress hormone cortisol from the adrenal glands, releasing glucose into the bloodstream.⁴ For stress sustained over a long period of time, the constant exposure to cortisol and other stress hormones can disrupt the body’s processes, putting a person at risk for the following ailments: heart disease, sleep problems, obesity, memory impairment, digestive problems and depression. Elevated cortisol levels can also have adverse effects on the developing fetus. Cortisol can cross the placenta and possibly retard fetal growth, and induce spontaneous abortion or preterm labor.^{5 6}

Behavioral changes in women in reaction to stress may include: smoking, under- and over-eating, and alcohol consumption. Long-term effects of these behaviors can

⁴ Mayo Clinic. Stress: Constant stress puts your health at risk. Stress Management. Available at: <http://www.mayoclinic.com/health/stress/SR00001> (accessed February 28, 2013)

⁵ Bussa C, Davisa, E P, Shahbabac B, Pruessner J C, Kevin H B, and Sandman C A 2012. Maternal cortisol over the course of pregnancy and subsequent child amygdala and hippocampus volumes and affective problems. Available at: <http://www.pnas.org/content/early/2012/04/19/1201295109.full.pdf>

⁶ Nepomnaschy PA, Welch K B, McConnell D S, Low BS, Strassmann B I, and England B G. Cortisol levels and very early pregnancy loss in humans. Proceedings of the National Academy of Sciences of the United States of America. Vol. 103 no. 10. 3938–3942

manifest themselves in decreased oxygen and nutrient supply in the blood crossing the placenta to the growing fetus, birth defects associated with Fetal Alcohol Syndrome, preterm delivery, and an increase in childhood obesity.⁷⁸⁹ A study conducted on young mothers at a WIC center in the Bronx shows that women who are anemic prior to conception have a greater risk of experiencing preterm birth.¹⁰

Misra, et. al studied the effects of social and psychosocial factors on the risk of preterm birth in black women. Participants of this research reported facing discrimination at the institutional level among academicians and health providers because of the cultural stigma of being on Medicaid.¹¹ It found that when women perceive discrimination in the quality of medical care, they are highly unlikely to return to that same medical provider for further services and, in some cases, may refrain from seeking further medical care altogether. Statistics show that 43% of African-American women do not enter prenatal care in the first trimester.¹² In addition, Hogan et al. found that stress in African American women also stems from their awareness of not being told that preconception counseling services exist. These women also perceive that non-Hispanic white women from a higher socio-economic background and their partners are readily given that information by medical providers.¹³

Impact of Women’s Trauma and Lack of Access to Mental Health Care

Intimate partner violence (IPV) is defined as “physical, sexual, or psychological harm by a current or former partner or spouse” of women older than 16 years of age.¹⁴ Similar to the effects of racism, IPV plays a role in increasing stress levels among those being abused. Chronic stress increases cortisol levels contributing to a multitude of health issues for the mother and her infant. Victims of IPV have high rates of stress, are more likely to smoke or use other drugs, deliver a preterm or low birth weight infant, have an

⁷ Uscher J. Alcohol and Pregnancy: Is a little bit safe? WebMD Available at:

<http://www.webmd.com/baby/features/drinking-alcohol-during-pregnancy> (accessed February 28, 2013)

⁸ Woolston, C. How Smoking during Pregnancy Affects You and Your Baby. Available at:

http://www.babycenter.com/0_how-smoking-during-pregnancy-affects-you-and-your-baby_1405720.bc (accessed February 28, 2013)

⁹ Harvard School of Public Health. Prenatal and Early Life Influences. Available at:

<http://www.hsph.harvard.edu/obesity-prevention-source/obesity-causes/prenatal-postnatal-obesity/> (accessed February 28, 2013)

¹⁰ Rush D, Leighton J, Sloan N L, Alvir J M, Horvitz D G, Seaver W B, Garbowski G C, Johnson S S, Kulka R A, and Devore J W. The National WIC Evaluation: evaluation of the Special Supplemental Food Program for Women, Infants, and Children. VI. Study of infants and children. *Am J Clin Nutr* August 1988 vol. 48 no. 2 484-511.

¹¹ Misra D, Strobino D, Trabert B. Effects of social and psychosocial factors on risk of preterm birth in black women. *Paediatric and Perinatal Epidemiology* 2010; 24: 546–554.

¹² <http://ajhpcontents.org/doi/full/10.4278/ajhp.120117-QUAL-43>

¹³ Hogan VK, Culhane J F, Crews K J, Mwarira, CB; Rowley D L; Levenstein L, and Mullings L P. The Impact of Social Disadvantage on Preconception Health, Illness, and Well-Being: An Intersectional Analysis. *Am J Health Promot* 2013;27[3 Supplement]:eS32–eS42.

¹⁴ Centers for Diseases Control and Prevention. Injury Center: Violence Prevention. Intimate Partner Violence: Definitions. Available at: <http://www.cdc.gov/violenceprevention/intimatepartnerviolence/definitions.html> (accessed February 28, 2013)

increase in infectious complications, and are less likely to obtain prenatal care. IPV can also result in housing instability and homelessness.¹⁵

According to the Department of Health, “women living in the Bronx had higher rates of IPV related hospitalization and emergency department visits than women living in other boroughs.”¹⁶

Culture has an influence on the health-seeking behavior of women who have experienced IPV. Among the most vulnerable, undocumented women who have experienced IPV are more likely to seek refuge in faith-based organizations, rather than go to battered women’s shelters or the police.¹⁷ For some undocumented couples, if a woman attempts to leave her partner because of IPV, that partner may attempt to prevent her from leaving by hiding her travel documents, shaming the woman to her family or threatening to report her to the police or the Department of Homeland Security, thereby sabotaging her ability to remain in the USA.¹⁸ Increased stress also leaves a woman with a depressed immune system, making her susceptible to infections. Women who experience IPV have a higher risk of contracting sexually transmitted diseases and HIV because of forced sex.¹⁹

Nationwide, at least 1,400 women die annually as the result of IPV. Although whites have an overall higher rate of IPV, African American women are more likely to be murdered. The majority of murders in married couples involve spouses who are age 35 or older, whereas the majority of murders in dating couples occur in a younger age group (ages 18 to 24).

UNINTENDED PREGNANCY RATE

According to the Centers for Disease Control and Prevention, an unintended pregnancy is “a pregnancy that is mistimed, unplanned, or unwanted at the time of conception.”²⁰ Unplanned pregnancy in New York City is a difficult indicator to measure.

Teenage women (defined as those between 15 and 19) have the highest rates of unintended pregnancies - 87% percent of all teenage pregnancies are unintended, according to the NYC Health Department. In 2010, 10% of births in the Bronx were to

¹⁵ Centers for Diseases Control and Prevention. Reproductive Health. Unintended Pregnancy Prevention. Available at: <http://www.cdc.gov/reproductivehealth/UnintendedPregnancy/index.htm> (accessed February 28, 2013)

¹⁶ New York City Department of Health and Mental Hygiene. (n.d.). (2008). Retrieved from <http://www.nyc.gov/html/doh/downloads/pdf/public/ipv-08.pdf>

¹⁷ Conversation with Ms. Vernelle Reed, Deputy Director, Day Care Programs, Eastside House Settlement, Bronx, New York, April 2007.

¹⁸ SAKHI for South Asian Women. <http://www.sakhi.org/sakhi-speaks-at-civil-liberties-public-policy/>

¹⁹ Klerman L, Jack B W, Coonrod D V, Lu M C, Fry-Johnson Y W and Johnson K. The Clinical Content of Preconception Care: Care of Psychosocial Stressors. American Journal of Obstetrics and Gynecology. Supplement to December 2008. S362-S366.

²⁰ Centers for Disease Control and Prevention. Unintended Pregnancy Prevention. Available at: <http://www.cdc.gov/reproductivehealth/unintendedpregnancy/> (accessed February 28, 2013)

women aged 15-19, the highest percentage of any borough as compared to the other boroughs' percentages were Staten Island (5%), Brooklyn (5.5%), Queens (5%), and Manhattan (4.5%).²¹

A striking gap also exists between the teenage pregnancy rate and the teenage birth rate.²² In the Bronx among women 15-19, the birth rate is 39.4 and the pregnancy rate is 99.4. The NYC average is a birth rate of 27.3 and a pregnancy rate of 76.5. Citywide only 30-35% of pregnancies in women 15-19 years old result in live births. The remaining 65-70% of pregnancies results in either spontaneous or induced terminations. In terms of ethnicity, citywide non-Hispanic black pregnant teenaged women have the lowest percentage of live births at 27%.²³ The percentage among non-Hispanic white teenagers is 48%.

Unplanned pregnancies have several potential health risks for both the mother and fetus. Women are more susceptible to contracting sexually transmitted infections including the Human Immunodeficiency Virus. Damaging pre-existing behaviors such as smoking and inadequate regulation of chronic diseases can result in DNA damage to the fetus and decreased oxygen supply in placental blood.²⁴ In many cases, the deleterious effects take place during the first trimester and result in birth defects before a woman is even aware that she is pregnant.

Preconception care is defined as a set of interventions that aim to identify and modify biomedical, behavioral and social risks to the woman's health or pregnancy outcome through prevention and management. Preconception (before first pregnancy) and interconception (between pregnancies) care form part of a "Life Course" approach that focuses on the parts of health that have been shown to increase the chance of having a healthy baby before conception. It provides health education, chronic disease prevention and management, folic acid use, substance use, and those factors related to living, working, and social conditions.

²¹ Op. cit. Department of Health and Mental Hygiene. Summary of Vital statistics New York City 2010

²² Ibid.

²³ Ibid.

²⁴ Dunlop A., Jack B.W., Bottalico J.N., Lu M.C., James A, Shellhaas C.S., Haygood-Kane Hallstrom L, Solomon B.D., Feero G., Menard M.K., and Prasad, M.R. The Clinical Content of Preconception Care: Women with Chronic Medical Conditions. American Journal of Obstetrics and Gynecology. Supplement to December 2008. S310-S327.

WHERE DO WE GO FROM HERE?

This report has clearly demonstrated that birth outcomes in the Bronx -- despite some improvement in recent years -- remain deeply troubling, and that those most adversely affected are low-income women of color. Changing these conditions will require taking on the structures that entrench poverty, social barriers, and institutional cultures that disempower consumers. In turn, that means concerted action by all levels of government, as well as by healthcare institutions and community organizations.

As explained in the introduction, the Bronx is rich in the resources of many women who have maintained the strength of their families, surviving and even thriving under adverse conditions. There are also many dedicated health and human service providers who have developed creative programs despite the lack of adequate resources. Over the years, Bronx Health Link has drawn upon those inspiring experiences – gathered through years of surveys, focus groups, workshops, conferences, and one-on-one discussions – to assemble recommendations for action to make progress on these seemingly intractable problems. Many of these have been published in our prior reports (for copies, visit our website, www.bronxhealthlink.org). Others have been put forward recently by professional colleagues in New York City.

Among the most significant recommendations:

- Build a financial and programmatic infrastructure to provide women with preventive health care, including preconception and interconception care, to make prenatal care far more effective in improving women’s health and birth outcomes. First priority should go to women who have experienced premature births and/or suffered the death of an infant.
- Redesign the Infant Mortality Reduction Initiative to provide targeted outreach, screening, and referral, one-to-one counseling, case management, doula care, support groups, and health education services in a tightly coordinated Preconception/Interconception Model of Care, including a targeted zonal approach to services. (For recommendations from Bronx Health Link’s focus groups on preconception and interconception care, see the Appendix.)
- Provide funding for additional community-based prenatal and postpartum clinics in underserved areas.
- Fund a pilot program to reduce sleep-related infant deaths in the zip code areas where the highest numbers of deaths occurred, administered by a task force of hospital, clinic, maternal and infant health professionals, and safe sleep experts. This should include a “Cribs for Kids” program providing families with a Graco pack and portable crib and accessories, along with safe sleep education.

- Provide women with options for receiving maternity care. Among those options should be birthing centers wherein women design and determine the content of care and health care providers serve as consultants to childbearing women.
- Secure workplace support for pregnant and postpartum mothers, including: Affordable health insurance; paid maternity leave; onsite child care; flexible hours and home work; mothers' rooms (private areas to pump breast milk); and separate paid infant feeding breaks in addition to others.
- Properly serve the many ethnic groups, especially the growing immigrant population, in the Bronx, by doing the following:

Having healthcare providers:

- Consider the cultural traditions of patients when treating them – especially regarding sensitive topics such as sexuality and family planning;
- Understand that there are cultures within cultures - even immigrants from the same country may have different traditions, beliefs, and languages; and
- Adopt the “best practices” for care of immigrants listed on our report, *Pregnancy, Childbirth, and Baby Care Across Cultures: Understanding, Respecting, and Serving Immigrants in the Bronx*

Having the government:

- Exercise leadership in cultural competency mandates;
- Provide funding for workforce diversity and medical education opportunity;
- Provide funding for all facilities providing prenatal and postpartum care to hire multilingual, culturally competent staff and translators and to make available multi-lingual printed materials;
- Enforce existing language access rules;
- Enforce civil rights laws about nondiscrimination in healthcare; and
- Improve support of community-based outreach, education, and navigation programs.

Finally, there is a key overarching recommendation about the structure of decision-making on these issues: All institutions must ensure the active role of communities, and especially women, in formulating and executing health promotion, education and care programs. They can participate either as members of Boards of Directors or Community Advisory Boards. In addition, community-based participatory research should be used to engage the community in the development of programs and services.

In closing, we are issuing this report as an urgent call to action and as a tool for others to use to advance these goals. Health inequities can be reversed, and equity achieved. We owe it to the women and children of the Bronx, who are most severely underserved to do nothing less. We invite all individuals, organizations, and governmental officials who want to reverse these atrocious conditions to join us in this work.

APPENDIX:
**Recommendations for Preconception and Interconception
Health Education**

In March 2013, Bronx Health Link conducted four focus groups and several in-depth interviews to gauge the experiences of young men and preconceptional women, as well as parents of teenagers and interconceptional women, who live in low-income neighborhoods in the South Bronx. The aim was to learn how such people approach reproductive life plans, where they receive information about how to take care of the health and what they know.

This was a qualitative study designed to assess the main local socio-cultural and health service factors associated with preconception and inter-conception health in the South Bronx. The populations interviewed comprised: women who have never given birth, were English or Spanish speakers; men between the ages of 18 and 24 years old; parents of teenagers; and interconceptional women (women who have had children but may have more in the future).

All focus groups made similar recommendations for activities in their neighborhoods to promote healthy lifestyles, specifically preconception and inter-conception health:

Interconceptional women requested that Bronx Health Link:

- increase its activities in clinics and high schools.
- provide more focus groups with parents
- outreach to younger children, through workshops, books and movies “because they talk more with other people than with their parents”.
- teach young people about the responsibilities of being a teenager

Men 18-24 years old asked that we teach young men about:

- how to care of a baby before, during and after birth
- the importance of finishing school
- the responsibilities of having a child
- the consequences unprotected sex and the use of contraceptives
- workshops on prenatal care.

They also expressed an interest in being included in workshops normally provided to their partners in the perinatal period.

Parents of teenagers were asked what they would want Bronx Health Link to teach their teenagers about health that they did not know when they were their teenager’s age.

They would like BHL to offer workshops on:

- sexual education
- family planning

- the effects of illicit drugs and medications on their health and pregnancy
- contraception
- the consequences of having unprotected sex, including sexually transmitted infections
- nutrition.

The focus groups revealed enlightening responses from community members seldom interviewed in relation to preconception and interconception health. Men were candid in their responses about what they observe in their own behavior and that of their potential partners in regard to their sense of healthy behavior. They expressed enthusiasm to participate in health education workshops traditionally reserved for women as a way of developing their sense of responsibility as potential future fathers. Preconceptional women were quite conscious of the importance of mental health and nutrition not only in preparation for conceiving but as a lifestyle. The parents of teenagers and interconception women were candid in their description of how they came to be mothers, and the information that, in many cases, was lacking, which took a heavy toll on their lives, in some cases. These women, many of whom were recent immigrants, were very brave to reveal details that showed both their vulnerability and resilience.

GLOSSARY

Birth Rate: Number of births in a year per 1,000 people. (See also “Rate” below.)

Cesarean / C Section: Instead of being born vaginally, the infant is surgically delivered through the mother’s abdominal wall.

Childbearing Age: Women between the ages of 15 and 44 years.

Congenital Malformation: A physical defect that is present at birth.

Fetus: A human or animal that is developing in the mother before birth.

Gestation: The growth of the fetus during the months of pregnancy.

Healthy People 2020: A national health agenda developed by the U.S. Department of Health and Human Services that identifies major diseases and health conditions and sets targets to prevent or reduce these threats by the year 2020. (For goals concerning maternal, infant, and child health, go to <http://healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=26>).

Infant Mortality Rate: The number of infant deaths per 1,000 live births during a period of one year.

Low Birthweight: Baby who weighs less than 2,500 grams at birth.

Mortality: Death.

Pregnancy Rate: Number of women who are pregnant divided by the number of women who are of childbearing age.

Perinatal: The period shortly before, during, and shortly after birth.

Perinatal Mortality Rate: The number of fetuses that die after 28 weeks of pregnancy, plus the number of infants who die within the first week after birth, for every 1,000 pregnancies.

Prenatal Care: The health care and education given to a mother just before and during pregnancy to identify and treat medical problems that may arise.

Preterm / Premature Birth: The birth of a fetus before it has time to fully develop, defined by the New York City Health Department as less than 37 weeks after conception.

Rate: A calculated number that is used to express the number of events (deaths or cases) within a group of individuals in a given period of time. For example, 150 events per 100,000 people per year.

SIDS / Sudden Infant Death Syndrome: The sudden, unexplained death of an infant less than a year old.

For More Information

The following websites can provide additional information concerning pregnancy care and services, and statistics related to infant and maternal health:

Centers for Disease Control and Prevention: www.cdc.gov/health/nfantsmenu.htm

New York City Department of Health and Mental Hygiene: www.nyc.gov/html/doh

New York State Department of Health: www.health.state.ny.us

March of Dimes: www.marchofdimes.com

Planned Parenthood of New York City: www.ppnyc.org

Technical Notes

Infant and maternal birth and death data for the state and, in some cases, city and borough come from *Vital Statistics of New York State*, a compendium of mortality and health-related conditions reported by cities and counties to the NYSDOH. City and borough data come from *Summary of Vital Statistics of the City of New York*, Office of Vital Statistics, NYCDOHMH, and from data provided directly to The Bronx Health Link by request to the NYCDOHMH.

Efforts to analyze local data for particular conditions, such as infant deaths to mothers of foreign birth, can present the researcher with considerable difficulties. For example, death certificates completed at the time of death may omit information that reports the place of birth of the mother. Also, the number of infant deaths in an area may be too small to allow the researcher to extrapolate the results to the general population. However, whenever possible, the NYCDOHMH has made every effort to provide as much local data as possible.



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