



Nassau County, New York

Cribs for Kids-Nassau County Chapter 2015-2020 - Our First Five Years

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Introduction

Every year, approximately 3,500 babies in the U.S. die suddenly and unexpectedly in their sleep from accidental suffocation, strangulation and Sudden Infant Death Syndrome (SIDS).¹

The National Cribs for Kids Organization

Cribs for Kids is a national safe sleep education program that originated in Pittsburg, Pennsylvania in 1998 due to a high number of infant sleep-related deaths, mostly from low-income areas and mostly African American infants, in Allegheny County, Pennsylvania. Furthermore, of these deaths most infants were found on couches, chairs or adult beds. The mission of Cribs for Kids is to provide a comprehensive safe sleep education program that includes the intervention of a safety-approved crib if the family otherwise cannot afford one. The goals are to decrease the number of infants dying from sleep-related deaths including accidental suffocation and SIDS and to reduce the disparity between Caucasian and African American infant mortality. Cribs for Kids has grown to over 1,750 partners throughout the Country.

The Nassau County Health Department Child Fatality Review Team

The Nassau County Child Fatality Review Team (NCCFRT) is a multidisciplinary, multiagency child fatality review team whose mission is to review child deaths to better understand the causes of childhood deaths in the County and to make recommendations based on the findings to reduce future preventable

child fatalities. The NCCFRT reviewed 41 infant deaths occurring since 2008, where unsafe sleeping could not be eliminated as a risk factor in the death. Of the 41 infant deaths reviewed by the team, 40 cases revealed at least one of the following risk factors: bed sharing, prone sleep position, positional supports/sleep positioners, soft bedding and/or sleeping on adult bed or couch. Of the 41 cases reviewed, 41% are Black/African American, 49% White, 5% Multi-Racial, 2% Caribbean, 2% unidentified, and 32% Hispanic/Latino. This illustrates a significant disparity as out of the 1.36 million residents in Nassau County only 13.1% are Black/African American, 73.4% are White and 17.5% are Hispanic/Latino.² This disparity can also be seen in infant mortality rates by race/ethnicity in Nassau County; in 2014-2016 the infant mortality rate in Nassau County was 3.3 per 1,000 live births with rates among Whites, Blacks and Hispanics of 2.5 per 1,000 live births, 8.7 per 1,000 live births and 2.5 per 1,000 live births, respectively.³

The Nassau County Health Department Cribs for Kids Chapter

Based on individual case reviews, the NCCFRT determined there was a need to improve and expand infant safe sleep efforts in Nassau County.

- The purpose of the Cribs for Kids-Nassau County Chapter is to ensure that our at-risk families have the equipment and education needed to decrease their risk of unsafe sleep deaths.
- Goals of the Cribs for Kids-Nassau County Chapter include to reduce the number of infants who sleep in unsafe sleep environments, to increase knowledge of parents and the community regarding safe sleep practices and to reduce the number of unsafe sleep deaths and disparities among these deaths.

On behalf of the NCCFRT, the Nassau County Department of Health (NCDOH) signed an agreement to create the Nassau County Chapter of Cribs for Kids. The Nassau County Chapter of Cribs for Kids is based on a unique partnership between three entities; the national organization who created a NCDOH local chapter and maintains an account in their 501c3 for this chapter, the NCDOH which serves as the local administrator and training agent and commits to continuing to secure program grant funding and donations, and local community partners who agree to training and home visiting to educate families on safe sleep. This partnership was given a Model Practice Award by the National Association for County and City Health Officials (NACCHO) in 2016

(<https://application.naccho.org/Public/Applications/View?id=978>).

How the Nassau County Health Department Cribs for Kids Program Works

The Nassau County program targets low-income and underserved families. Families/participants are identified and referred by local community agencies that have partnered with Cribs for Kids-Nassau County. A family/participant is eligible if they meet one of the following criteria: they receive some type of public health benefit, nobody in the home is working, they can demonstrate that they otherwise are unable to afford a crib *or* if the partner agency feels that a special circumstance exists that would qualify the family for a crib. All recipients should be: a Nassau County resident, not have a safe crib or pack n' play for the referred infant *and* either be pregnant within 8 weeks of delivery or already have an infant under 9 months of age. The program provides the identified families with a portable crib, Halo sleep sack, a crib sheet with a safe-sleep message, a pacifier and safe sleep education material. The family will receive three home visits during the program. The first home visit is where a community-based partner agency identifies the family in need of the crib. At the second home visit, the family is given safe sleep education and are taught how to set up the portable crib by the partner community agency. A follow up visit occurs at their home by the partner agency 3 months after they receive the portable crib and a questionnaire completed. The NCDOH follows up with the recipient by phone when the child is about a year of age with another questionnaire. These questionnaires are to assess the safe sleep education provided by the program during the home visits.

Participants of the Cribs for Kids-Nassau County Chapter Program

The first referral to the Nassau County Chapter of Cribs for Kids was on 2/26/2015. Since that first referral through end of May 2020 there have been a total of 250 cribs distributed. This summary will provide information on the data collected from this first 250 cribs issued by NCDOH Cribs for Kids program. Among these 250 cribs issued, there were 10 pairs of twins and 2 pairs of duplicate referrals, resulting in a total of 238 mothers of 248 infants being referred to the program. This analysis has been conducted to better understand the families/participants being served by the program. As the program is ongoing, the data analysis will continue to be updated and the program will be best adapted to suit the County needs.

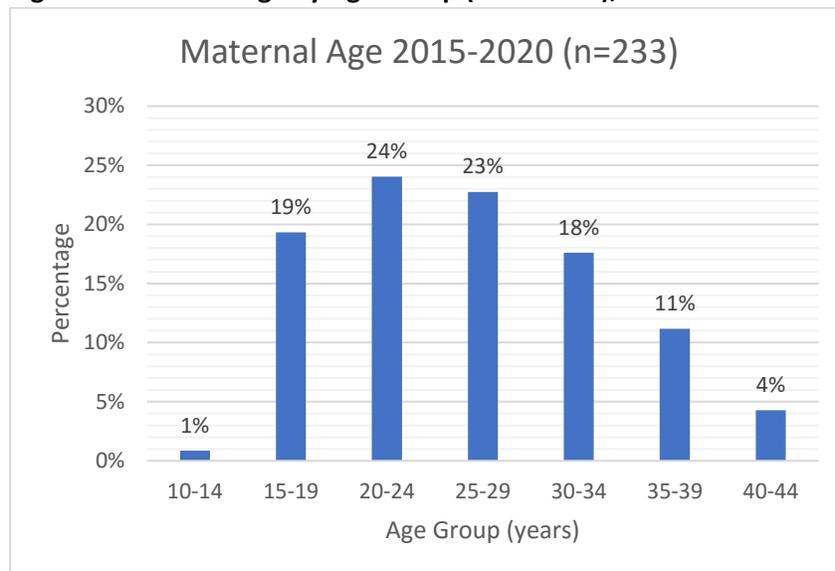
The data presented in this report is based on analysis of Cribs for Kids-Nassau County data collected via the Cribs for Kids program 1. referral form, 2. initial Safe Sleep questionnaire, 3. 3 months safe sleep follow-up questionnaire, and 4. the 1-year follow up questionnaire from 238 participants/mothers (with 248 infants and 250 cribs distributed) between February 2015 and May 2020. A supplemental report will be released at a later date with more details on the questionnaires noted above.

Demographics of Participants

Maternal Age

From February 2015 to May 2020, the average age of the participants in the program was 26.4 years with the youngest mother at 13 years old and the oldest mother at 43 years old. As shown in Figure 1, most of the women in the program are under 30 years of age. Five out of the 238 women in the program had missing age and were not included in the analysis.

Figure 1: Maternal Age by Age Group (2015-2020), data available on total n = 233*

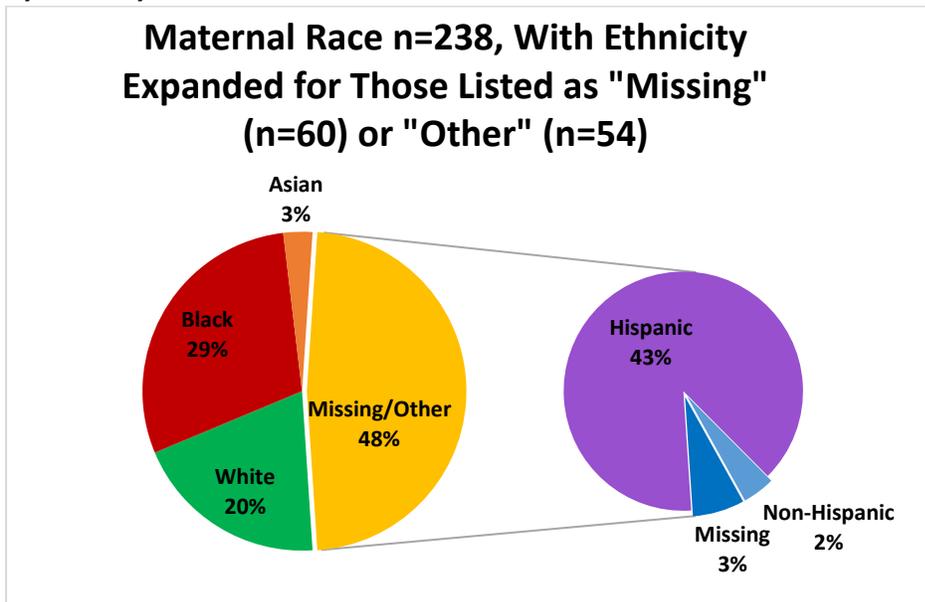


*** Twins or duplicate referrals are counted as a single case.**

Maternal Race and Ethnicity

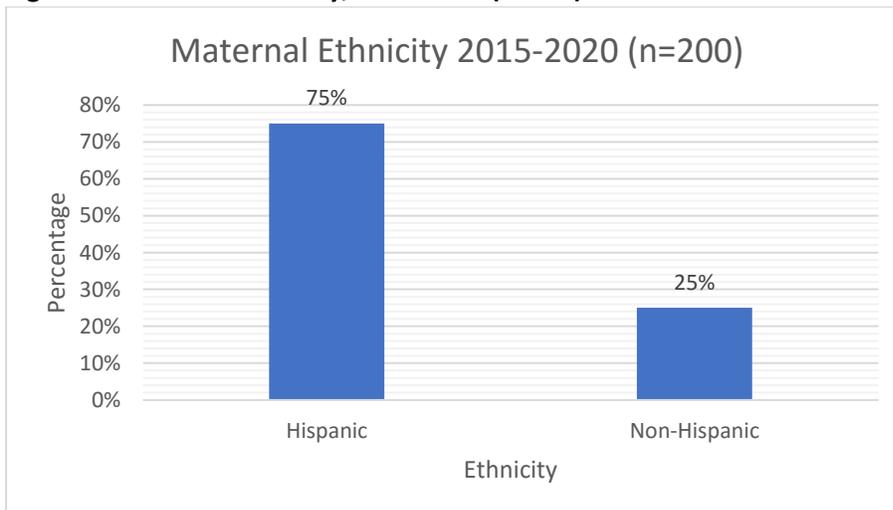
Of the 238 women (each is only listed once if she has twins), 29% are Black, 20% are White, 3% are Asian, and 23.1% listed as other, while 24.9% did not list a race and data was considered 'missing' (Figure 2). The majority of those who did not list a race or had missing data **did** list an ethnicity, and most marked Hispanic/Latino. Figure 2 includes an expansion of the missing/other combined data. Figure 3 includes a breakdown of self-identified ethnicity regardless of race.

Figure 2. Maternal Race (2015-2020) (n=238)* With Expansion of "Missing" and "Other" Designations by Ethnicity



*Twins or duplicate referrals are counted as a single case

Figure 3. Maternal Ethnicity, 2015-2020 (n=200)*

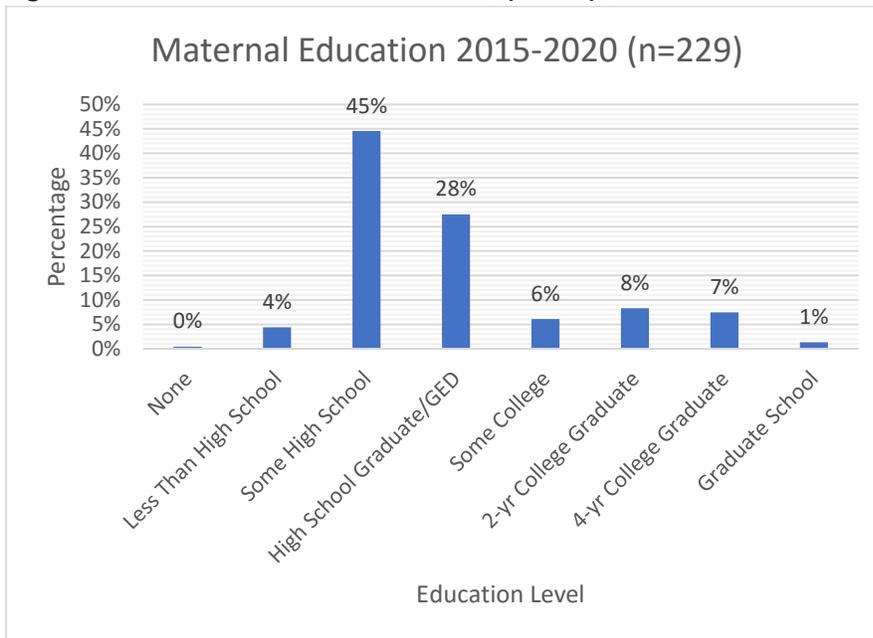


*Twins or duplicate referrals are counted as a single case

Maternal Education

As shown in Figure 4, most of the participants had some high school education or graduated high school or had GED. According to the U.S. Census², in Nassau County 91% of the adult population (25 years +) are high school graduates or higher and 46% have a bachelor's degree or higher. Among our participants, approximately 22% had some college or graduated from 2-year community college or 4-year college or were in graduate school. Out of 238 participants, nine participants were excluded from analysis due to missing data or marked as other without explanation.

Figure 4. Maternal Education 2015-2020, (n=229)*,



***Twins or duplicate referrals are counted as a single case**

Communities Where Participants Reside

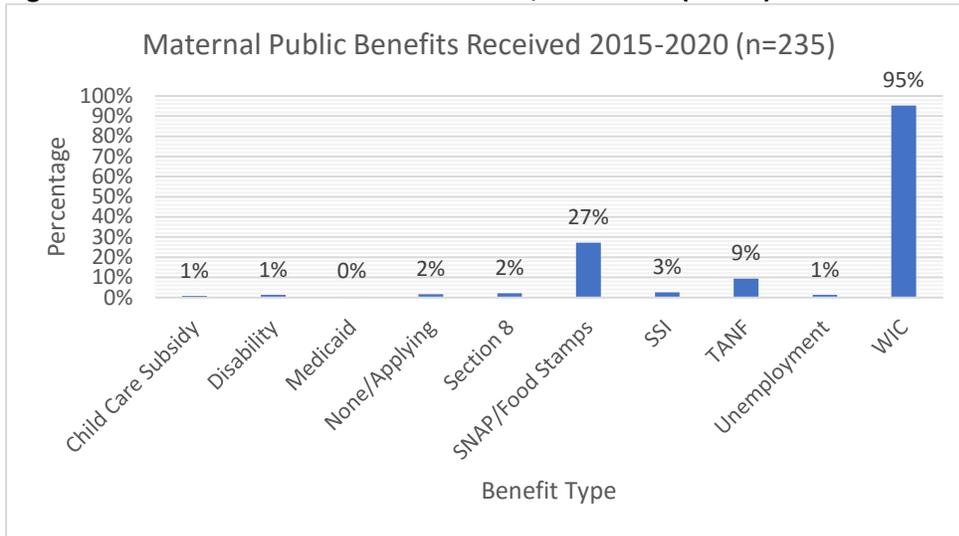
According to the U.S. Census², in 2019 the median household income in Nassau County was \$116,100, compared to the median household income in the United States and NY of \$65,712⁴ and \$72,108⁵, respectively. Despite this prosperity in Nassau County as a whole, there are areas of socioeconomic, racial and health disparities in Nassau. Using an index that consists of multiple socioeconomic and health-related factors as well as populations historically considered “at risk” the NCDOH CHA 2016-2018 chose 9 communities as Select Communities as comparisons to help locate and demonstrate health disparities in the County.⁶ These 9 communities are: Freeport, Hempstead, Inwood, Long Beach, Westbury, Roosevelt, Uniondale, Elmont, and Glen Cove.⁶ According to the NCDOH Community Health Assessment (CHA)⁶, from 2016-2018, the Select Communities had an infant mortality rate close to 6 per 1,000 live births compared to an infant mortality rate of close to 3 per 1,000 live births in the rest of the County.

Of the 238 maternal participants, more than one third (36%) of the participants reside in Hempstead, one of the select communities. Overall, 81% of the participants reside in one of the 9 select communities (Figure not shown).

Public Health Benefits Mother Receives

As shown in Figure 5, 95% of our participants receive WIC, whether on its own or in combination with other public benefits. Of the 238 maternal participants, there were 3 cases with missing data and were not included in the analysis.

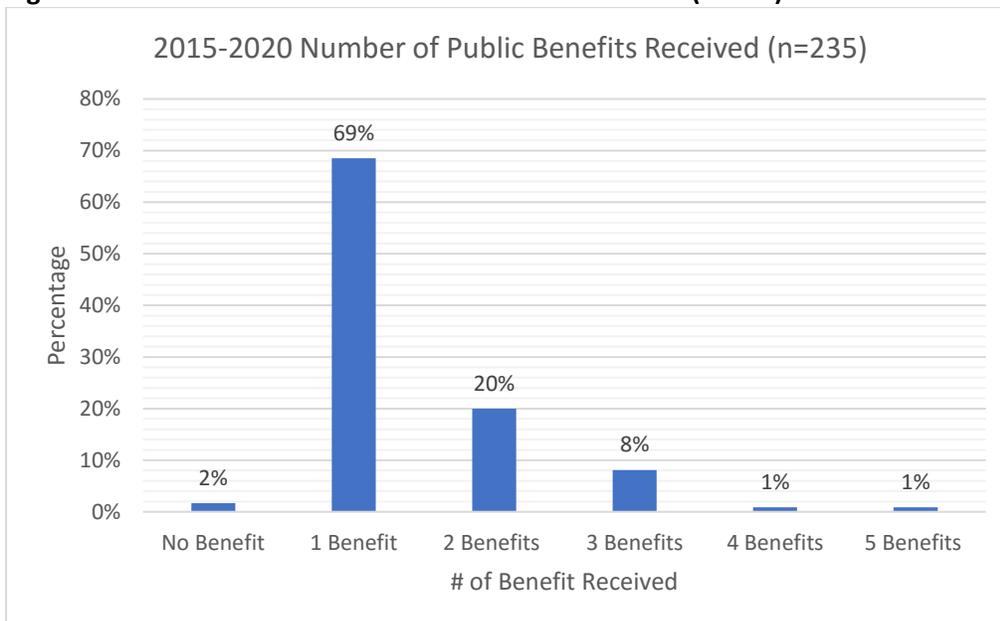
Figure 5. Maternal Public Benefits Received, 2015-2020 (n=235)*



***Twins or duplicate referrals are counted as a single case**

As shown in Figure 6, 69% of the participants receive 1 benefit, and 2% receive no benefits at time of referral. The remainder of the participants received more than 1 benefit.

Figure 6. Number of Public Benefits Received 2015-2020 (n=235)*



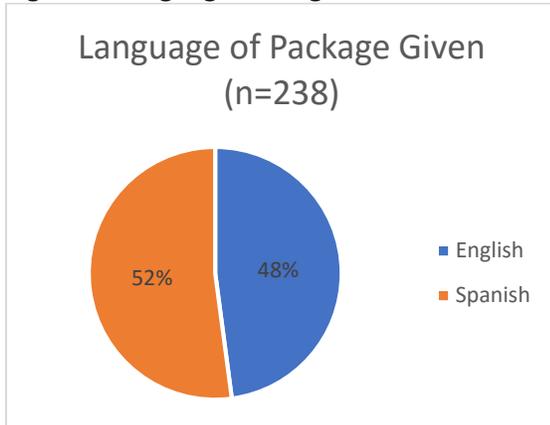
***Twins or duplicate referrals are counted as a single case**

Characteristics of Mother and Infant Participants of the Program

Type of Language Package Received by Mother

According to the U.S. Census², from 2015-2019, in Nassau County 28.7% of households spoke a language other than English and of that 28.7%, 14.6% of households spoke Spanish. As shown in Figure 7, slightly more than half of the packages given were in Spanish out of 238 maternal participants.

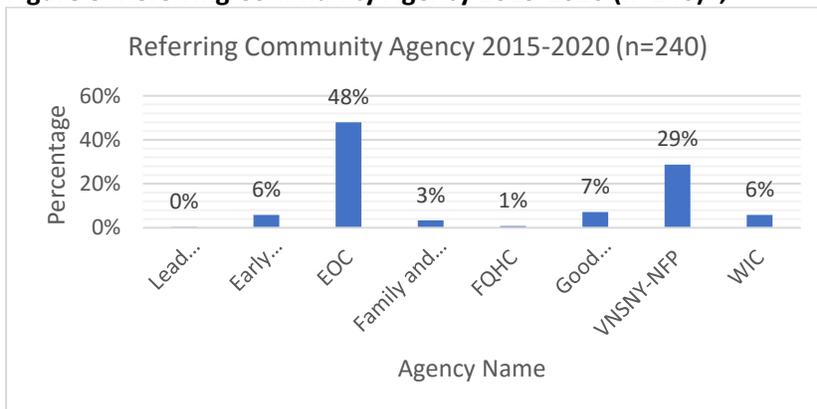
Figure 7. Language Package Given 2015-2020 (n=238)



Referring Agency

To date, Cribs for Kids-Nassau County has 8 partner community agencies that refer participants and provide safe sleep education and follow up with participants 3 months from crib delivery. As shown in Figure 8, of the 240 different referrals (in which twins were counted as single referrals but duplicate referrals were counted separately), most of our referrals come from the Economic Opportunity Commission (EOC) and Visiting Nurse Service of New York- Nurse Family Partnership (VNSNY-NFP), 48% and 29%, respectively.

Figure 8. Referring Community Agency 2015-2020 (n=240)*,

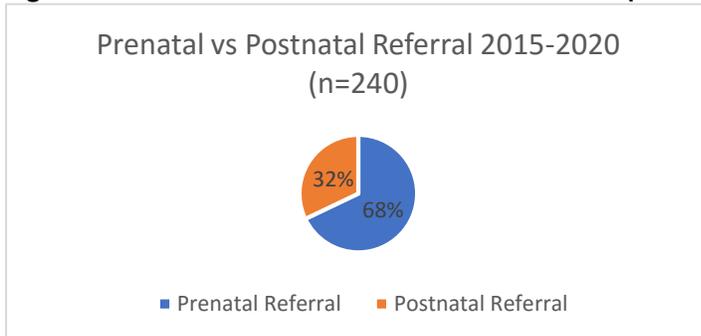


* Twins counted as single cases but duplicates counted individually

Referral Type and Type of Crib Delivery

Cribs for Kids-Nassau County program referral can be done prenatally, within 8 weeks of due date, or postnatally where the infant is less than 9 months of age. As shown in Figure 9, 68% of the referrals were done prenatally.

Figure 9. Prenatal vs. Postnatal Referral 2015-2020 (n=240)*



***Twins counted as single cases but duplicates counted individually**

Prior data from the Nassau County Cribs for Kids program 2015-2018 showed that 74% of prenatal referrals received their crib prior to delivery. The remainder received the crib *after* the infant was born. Ideally, a prenatal referral should receive the crib and education prior to delivery to optimize safe sleep. As a result of this information, a Quality Improvement (QI) project was initiated in 02/2019 to improve pre-natal crib delivery in cases of pre-natal referral. The Pre-QI period is considered to be those cribs delivered prior to project initiation and the Post-QI period is considered to be those cribs delivered after project initiation. A total of 108 cases including twins and duplicates were identified in the Post-QI period; When removing the 3 pairs twins during this Post-QI interval, there are 135 cases for evaluation in the Pre-QI period and 105 cases with data available for evaluation in the Post-QI period. Figures 10A and 110 show the breakdown in referral and delivery types before and after initiation of the QI initiative.

Figure 10A. Pre-QI Referral and Delivery Data

Referral and Delivery Types
Before QI (n=135)

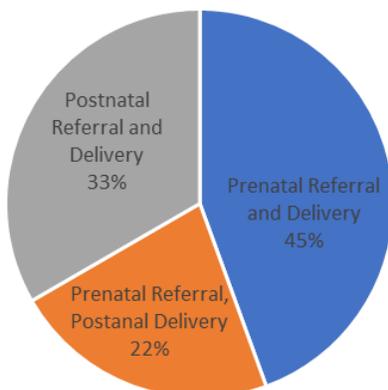
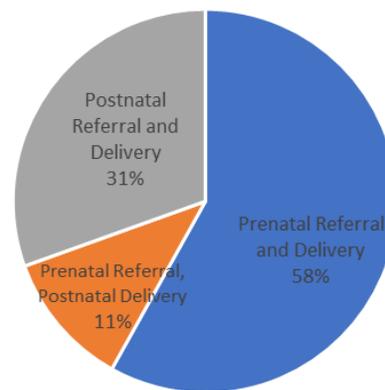


Figure 10B. Post-QI Referral and Delivery Data

Referral and Delivery Types
After QI (n=105)

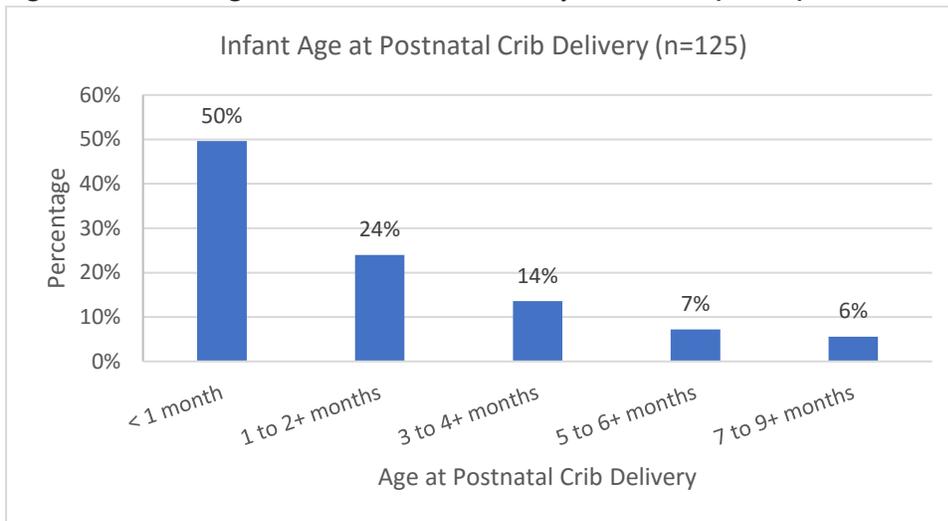


In summary, the QI initiative dropped the postnatal delivery rate of prenatal referrals from 22% to 11%, thus indicating efficacy of the QI initiative.

Age of Infant at Crib Delivery

As shown in Figure 11, of the 125 cribs delivered postnatally, almost half were delivered to infants < 1 month of age and approximately 88% of the cribs were delivered to infants < 5 months of age.

Figure 11. Infant Age at Postnatal Crib Delivery 2015-2020 (n=125)*

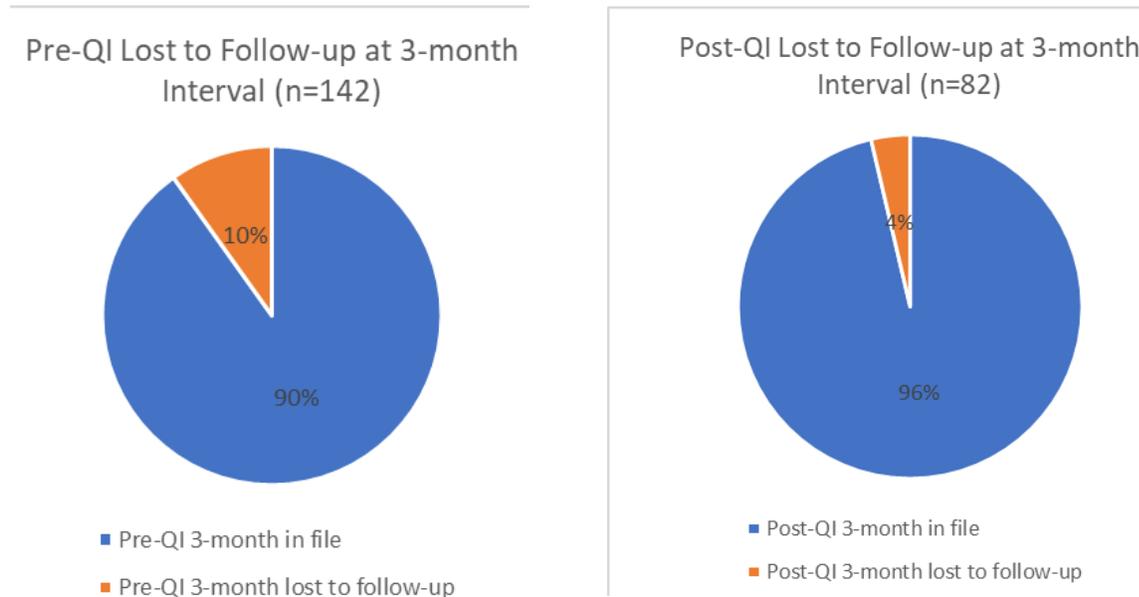


*** twins and duplicates counted individually**

Loss to follow up

A second Quality Improvement project was initiated in 2/2019 to decrease the number of cases lost to follow up. This was accomplished by adding a secondary contact section to the referral form. In the following analyses, twins and duplicates referrals are counted as individual cases. As can be seen in Figures 12A and 12B, the QI initiative has led to a decrease in the percentage of 3-month lost-to-follow from 10% down to 4%.

Figure 12A (left). Pre-QI lost to follow up at 3 months interval, 2015-2019, n=142
Figure 12B (right). Post-QI lost to follow up at 3 months interval, 2019-2020, n=82



Among the 158 participants who were due for the 1-year follow up, 36% were lost to follow up. At the time of this analysis, there was not enough data to assess if the QI initiative helped to decrease loss to follow up at one of age. Data will continue to be assessed as it comes in to evaluate the need for further intervention.

Community Education Initiatives

Newborn Mailing – The Electronic Birth Registry (EBR)

The New York State Health Department provides EBR data to county health departments for residents of that county. Nassau County has approximately 14,000 birth each year, and using the EBR, packages of information including safe sleep educational and resource information is mailed to each family about six weeks following the birth of their baby.

Model “Safe Crib” Places in Hospital Postpartum Area

The Nassau County Department of Health worked with local birthing hospitals to create ‘Safe Sleep Zones’ which were modeled after a program created by Dr. Michael Goodstein in Pennsylvania. As part of this initiative, four of our local birthing hospitals created an area in the maternity ward with a full-size crib donated by the Health Department for parents to view, ask questions, and receive safe sleep education.

Summary

As shown above, to date, the participants of the Cribs for Kids-Nassau County Chapter, tend to be young, from racial and ethnic minorities (Black and Hispanic, respectively), Spanish-speaking, have some

high school education, receive at least one public benefit, predominantly WIC, and reside in the Select Communities, particularly in Hempstead. Therefore, to date, the Cribs for Kids-Nassau County Chapter is capturing the target population of at risk, low-income, underserved families/mothers/infants.

The program receives most of its referrals from EOC and VNSNY-NFP, and most referrals (68%) are prenatal. Among the prenatal referrals, almost three-quarters (74%) of the cribs are delivered prenatally, which is ideal as you are educating the caregiver and providing a safe sleep location before the infant even comes home. Of all the cribs delivered postnatally, 50% were delivered to infants < 1 month of age, reaching the caregiver and infant at a very young age. To date, 92% of the participants who were due for the 3 months follow up were successfully reached. To date, 64% of those participants who were due for the 1-year follow up were successfully contacted. This baseline data will help guide the program in terms of ongoing program evaluation and improvement to better serve participants and minimize loss to follow up.

The Health Department would like to acknowledge Dr. Tuyet-Anh Nguyen and Dr. April Castillo, Preventive Medicine and Public Health Residents from Stony Brook University Hospital for assistance with the data analysis and drafting of this report.

References

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 - ⁴ <https://data.census.gov/cedsci/profile?q=United%20States&g=0100000US> Accessed 7/12/21
 - ⁵ <https://data.census.gov/cedsci/profile?g=0400000US36> Accessed 7/12/21
 - ⁶ <https://www.nassaucountyny.gov/DocumentCenter/View/17688> Accessed 7/12/21