

HEALTHY START NEEDS ASSESSMENT

VOLUME IX

Healthy Start Coalition of Hillsborough County, Inc. 2021 - 2026

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VOLUME IX

FOR HILLSBOROUGH COUNTY, FLORIDA 2021 - 2026

Jane M. Murphy, MPA, Executive Director

NEEDS ASSESSMENT AUTHOR:

Leisa J. Stanley, PhD, MS, Associate Executive Director

DATA AND ADMINISTRATIVE SUPPORT:

Pia Balter-Manley, *Executive Assistant to Dr. Stanley* Cherith Belmonte, *Quality Assurance & Improvement Manager*

LAYOUT AND DESIGN:

Sandy Cox, Marketing Coordinator

BOARD OF DIRECTORS: 2019-2021

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Lo Berry, MA, REACHUP, Inc. Cherith Belmont, Healthy Start Coalition of Hillsborough County, Inc. Margie Boyer, RNC, MS, Florida Hospital Tampa Brenda Breslow, MPH, Healthy Start Coalition of Hillsborough County, Inc. (2019-2020) Catherine Fuhrman, MBA, Healthy Start Coalition of Hillsborough County, Inc., Plan of Safe Care Leslene Gordon, PhD, Florida Department of Health - Hillsborough Mark Gruetzmacher, MG & Company Amy Haile, MA, PMP, Champions for Children Pam Jeffre, MSW, Success 4 Kids & Families, Inc. Brian Kirk, Florida March of Dimes Carol Kurdell, Child Advocate Barbara Macelli, Healthy Families Hillsborough Marisa Mowat, MPH, Healthy Start Coalition of Hillsborough County, Inc. Jane Murphy, MPA, Healthy Start Coalition of Hillsborough County, Inc. Maria Negron, Children's Board of Hillsborough County Allison Nguyen, MPH, MCHES, FCCM, Florida Department of Health - Hillsborough Sister Sara Kay Proctor, Catholic Charities Clara Reynolds, LCSW, MBA, Crisis Center Tampa Bay Leisa Stanley, PhD, MS, Healthy Start Coalition of Hillsborough County Inc., Chair Diana Strawbridge, RN, BSM, IBCLC, REACHUP, Inc., Nurse-Family Partnership Cheri Wright-Jones, MPH, Hillsborough County Black Maternal and Infant Mortality Committee Robert Yelverton, MD, ACOG

FETAL INFANT MORTALITY REVIEW COMMITTEE, 2019-2021

Robert Yelverton, MD, ACOG, Chair Lo Berry, MA, REACHUP, Inc. Cherith Belmonte, Healthy Start Coalition of Hillsborough County, Inc. Margie Boyer, RNC, MS, Florida Perinatal Quality Collaborative Tara Bristol, Success 4 Kids & Families, Inc. Kelly Devers, MD, Hillsborough County Medical Examiner's Office Whitney Eldridge, MD, St. Joseph's Women's Hospital Jaime Flores-Torres, MD, University of South Florida Catherine Fuhrman, MBA, Healthy Start Coalition of Hillsborough County, Inc., Plan of Safe Care Emma Geiger, LMHC, Success 4 Kids & Families, Inc., Maternal Interviewer Amy Haile, Champions for Children Pam Jeffre, LCSW, Success 4 Kids & Families Craig Kalter, MD, Florida Perinatal Associates Cynde Keller, RN, Healthy Start Coalition of Hillsborough County, Inc., Abstractor Russell Kirby, PhD, MS, University of South Florida, College of Public Health Jennifer Kuhn, Mary Lee's House Barbara Macelli, Healthy Families Hillsborough Jane Murphy, MPA, Healthy Start Coalition of Hillsborough County, Inc. Maria Negron, MA, Children's Board of Hillsborough County, Inc. Samanthia Paris, LCSW, Law Office of Clinton Paris, Maternal Interviewer Valeria Pimenta, REACHUP, Inc. Monisha Saste, MD, St. Joseph's Women's Hospital Richard Sheridan, MD, St. Joseph's Women's Hospital Carry Simons, Florida Department of Health - Hillsborough Leisa Stanley, PhD, MS, Healthy Start Coalition of Hillsborough County, Inc. Diana Strawbridge, RN, BSM, IBCLC, REACHUP, Inc., Nurse-Family Partnership Tanner Wright, MD, USF Pediatrics, Tampa General Hospital Mechell Young-Williams, Department of Children and Families Erin Yorker, LMCH, Success 4 Kids & Families, Inc., Maternal Interviewer

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SECTION I: INTRODUCTION

A. BACKGROUND OF THE HEALTHY START COALITION

The Healthy Start Coalition of Hillsborough County, organized in 1991, is a community-based coalition of concerned citizens, private and public agencies in Hillsborough County who have organized to serve as a prenatal and infant care coalition. The purpose of the Coalition is to plan for, develop, fund and evaluate a continuous system of care coordination which supports the provision of medical and social services in order to promote positive birth and child development outcomes and to protect the health and well-being of all mothers and children in Hillsborough County. The Coalition is granted authority under Chapter 383.216, Florida Statute (new 11-11-91) to implement the provisions of Florida's Healthy Start legislation within Hillsborough County. In addition, the Coalition has expanded its role to include other maternal child health programs. The Coalition serves as the lead agent or administrator for Healthy Families Hillsborough, Nurse Family Partnership, the Family **Resource Coordinator Screening and Assessment** System, Adolescent Teen Advisory Board and the Plan of Safe Care.

The Coalition's mission is: *"We are here to improve the health and well-being of pregnant women, children and families in Hillsborough County."*

The Coalition is composed of representatives from community-centered providers, interest groups and consumers in Hillsborough County. The Board of Directors is composed of 21 representatives who are responsible for Coalition governance. They approved this needs assessment during the December 2, 2020 Board of Directors' meeting.

This needs assessment will form the foundation for a service delivery plan that will take effect July 1, 2021 and run through June 30, 2026 with annual updates to the data. *This needs assessment addresses the current*

state and trends for key maternal child health indicators, their relationship to infant mortality and morbidity and the role of social determinants of health in those outcomes. Data related to the Healthy Start System of Care are monitored monthly under the Coalition's quality assurance and improvement function. These data are contained in the annual programmatic audit reports and monthly dashboard reports. They are not provided in this needs assessment. This needs assessment is part of the Coalition's contractual agreement with the Florida Department of Health.

B. KEY ACCOMPLISHMENTS SINCE LAST PLAN

The Healthy Start Coalition of Hillsborough County has documented key successes and completed key activities since the inception in 1992 of the Healthy Start program. The primary goal of Healthy Start is the reduction of preventable infant deaths and the reduction of preventable poor birth outcomes. However, the activities of the Coalition encompass more than just these issues. The Coalition has also been addressing child abuse and neglect, teenage pregnancy and parenting, inadequate prenatal and well-child care, perinatal substance abuse, perinatal mood disorders, safety concerns for pregnant and new mothers, infant safety and safe sleep practices, and the issue of racial disparities in birth and childhood outcomes. Healthy Start services are provided by Success 4 Kids & Families, Inc., REACHUP, Inc., St. Joseph's Women's Hospital, and Advent Health Tampa Bay. The following is a list of the accomplishments of the Healthy Start program and the Coalition since November 2016 (date of the last needs assessment).

• Coordinated In-Take and Referral

HSC developed and implemented a Coordinated Intake and Referral System consolidating intake for multiple programs under the Coalition. The role of CI&R was expanded during this period to become part of the statewide redesign of the Healthy Start system of care. The Healthy Start Coalition's current Coordinated Intake and Referral System allows for intake and referral to Hillsborough's Nurse Family Partnership, Healthy Families Hillsborough, Healthy Start, Federal Healthy Start and Parents as Teachers. This system fosters collaboration between these home visitation programs, reduces duplication of services and improves linkages of services for pregnant women and infants to other communitybased services.

Algorithms and decision trees were developed to identify the most appropriate program to meet the needs of families and a training manual was developed for providing the necessary training for Coordinated Intake and Referral Unit's staff. Scripting regarding services provided by each agency was developed in order for Coordinated Intake and Referral Unit staff to be able to fully understand the services of each agency. Feedback loops were developed to notify the unit when a home visitation program reaches capacity and is not accepting referrals and then when the program is open for new referrals. Finally, dashboards were created to present at each Home Visitation Advisory Board meeting to show and monitor screening rates, enrollment and capacity of participating programs.

Healthy Start In-Take and Referral at WIC Clinics

HSC placed staff at all WIC offices. The staff at the WIC offices were funded through a grant from the Children's Board of Hillsborough County, Inc. Staff provide in-take services for the Coordinated In-Take and Referral Unit, referrals for needed services and educational services while women wait for their appointments or are referred by WIC staff.

Home Visitation Advisory Board

As part of the MIECHV NFP grant award, HSC developed a Home Visitation Advisory Board. This began a requirement under Florida Department of Health with the implementation of the Coordinated In-Take & Referral Unit. This Board meets quarterly and includes all of the home visitation programs in Hillsborough County: Florida Healthy Start, Federal Healthy Start, Healthy Families, Nurse Family Partnership. Early Head Start, Home Instruction for Parents of Preschool Youngsters, and Parents of Teachers. In addition, providers of mental health services, substance abuse services and family selfsufficiency attend these meetings. A dashboard was developed in the Well Family System to review quarterly data related to risk screening, referrals to home visitation programs, enrollment and capacity.

Healthy Start System Redesign

The Coalition worked with FASHC in the redesign of the Healthy Start system of care. All components have been implemented. This includes the implementation of Screening & Intervention Pathways for Perinatal Depression, Substance Use During Pregnancy, Intimate Partner Violence, Smoking During Pregnancy and Child Development. Each pathway uses an evidence-based tool for screening. An intervention pathway was developed to determine appropriate referrals. In addition, home visitation pathways were developed and implemented for prenatal home visits, infant home visits and interconception care home visits. These pathways specified the interval of screening & intervention pathways, education topics and timing, and dosage of home visits.

Post-Partum Depression Services

The Mothers and Babies Course, an evidence-based intervention for women suffering from post-partum depression. This program is implemented by home visitation staff and provides for 12 modules. In addition to depression, it also addresses maternal stress.

Hillsborough County also implemented the Moving Beyond Depression program which provides for 16 counseling sessions in the home by a licensed therapist. Moving Beyond Depression is also an evidenced-based model for addressing depression.

Pregnancy Medical Home

In 2013 the Florida Association of Healthy Start Coalitions received a \$1,917,571 grant from the Centers' for Medicare and Medicaid Innovation to implement the Pregnancy Medical Home model in three Florida Counties: Hillsborough, Pinellas and Polk. The HSC of Hillsborough County was a coauthor for this grant and the lead agent in implementing it. In Hillsborough County, the PMH was implemented in three Exodus Clinics and in the Tampa General Hospital Genesis Clinic, the Regional Perinatal Intensive Care Center Prenatal Clinic. As part of the care team in each PMH practice, a trained Maternal Health Specialist (MHS) provide participants with: outreach, in-take for services, referrals for needed services including home visitation services, health-risk reduction education during pregnancy, and linkages with home visitation programs.

Nurse-Family Partnership Program

In 2013, HSC received a MIECHV grant from the Florida Association of Healthy Start Coalitions for \$500,000 per year for three years to implement Nurse Family Partnership (NFP) in Hillsborough County. Since the initial implementation, additional funding has been received by both FASHC and the NFP National Service Office to expand the program and provide incentive funds to reduce staff turnover. The program now has two teams with four nurses on each team.

Plan of Safe Care

The Coalition received funding through the Board of County Commissioners and the Florida Association of Healthy Start Coalitions to implement a Plan of Safe Care program. This program provides intensive services for pregnant women and infants at-risk of poor outcomes and with safety concerns due to substance use, intimate partner violence, maternal mental health issues and parental developmental delay. Services are provided in collaboration with the county home visitation programs. In addition, infants are seen at a developmental clinic where a pediatrician and nurses can provide medical and social assessments regarding infant developmental progress and provide additional referrals if needed.

Safe Baby Campaign

In 2009, in response to local concerns and local data on infant deaths, the Coalition developed an infant safety campaign, now referred to as the *Safe Baby Campaign*. The *Safe Baby Campaign* is funded entirely through the Children's Board of Hillsborough County. The program goals are to prevent Shaken Baby Syndrome, promote safe sleep and teach parents how to choose a safe caregiver for their children. The initial campaign modeled a Shaken Baby Prevention program created by Mark Dias, MD, Pediatric Neurosurgeon, which significantly reduced the incidence of infant abusive head trauma in Upstate New York and Pennsylvania where the curriculum is implemented in birthing hospitals by nurses. Two additional safety concerns have been added to our campaign and curriculum due to FIMR reviews related to Sudden Unexpected Infant Deaths due to co-sleeping and suffocation and homicide by the mother's partner or father of the baby. The campaign consists of a DVD, produced by the Coalition, which is shown to women at local hospitals and at other community outlets, a county-wide ad campaign and collateral materials, a comprehensive curriculum, and shaken-baby simulators. All four of the delivery hospitals in Hillsborough County have had their labor & delivery, newborn nursery and NICU nursing staff trained in the curriculum. Additional, a Train-the-Trainer model was developed and training was expanded to other community partners including Healthy Start staff, Healthy Families staff, Nurse Family Partnership staff, Pregnancy Medical Home staff, Department of Children and Family workers, Child Protective workers, pediatric provider offices, Women's Care Florida offices, USF College of Medicine. This training was also adopted by Healthy Families Florida. The Safe Baby website is www.healthysafebaby.org.

Well-Family Data System Implementation

During FY2015-2016, Healthy Start transitioned to the Well-Family Data System (WFS) from the Florida Department of Health's Health Management System for entry of all Healthy Start programmatic data. The Coalition staff developed dashboards for each of the screening and intervention services under the new model as well as dashboards for the home visitation services as part of the work with Florida Association of Healthy Start Coalition's Data Committee and Systems Committee. WFS data is used monthly for continuous quality assurance and improvement efforts over the Healthy Start system of care.

SECTION II: METHODOLOGY FOR COMMUNITY NEEDS ASSESSMENT

A. DATA SOURCES

The following data sources were used for this needs assessment.

A1.2009-2019 VITAL STATISTICS DATA

Vital statistics data from 2009 through 2019 data were used to update the needs assessment from the last service delivery plan. The most recent year for final vital statistics data available for this planning cycle was 2019 for individual files and 2018 for the linked birth cohort. Trend data is presented for the ten-year time period 2009-2019.

- *Comparison tables* compare Hillsborough County • and Florida data on key MCH indicators for this needs assessment, 2017-2019, with the last needs assessment, 2012-2014. For each maternal child health indicator presented, tables provide the rates for County, White, Black and Hispanic to agree with Florida Charts data. In Hillsborough County, 96% of Hispanic births are to White women, 57.1% of births to White women are non-Hispanic and 95% of Black births are to non-Hispanic women. The percent change between the last needs assessment's data to this needs assessment data is presented for both Hillsborough County and Florida. Cells are green when the indicator improved and cells are red when the indicator did not improve. Each indicator is compared to the HP2020 goal and National Performance Measures for Title V, where applicable, for that indicator as to whether or not the goal was met during this last needs assessment cycle. Data for this analyses was obtained from the Florida Department of Health's CHARTS Data System, www.flhealthcharts.com and the 2016-2018 linked birth cohort file (machine-readable data file of infant deaths linked to births based on the year of birth).
- **Trend tables** for 2009-2019 were obtained from the Florida Department of Health's CHARTS Data

System, <u>www.flhealthharts.com</u> and the 2016-2018 linked birth cohort file. Analyses focused on changes from the last needs assessment.

- The Perinatal Periods of Risk analyses were based on a linked birth cohort and fetal death files (for 2016-2018). PPOR analysis has been maintained since 1998 and trend data is presented in this analyses focusing on changes since the last needs assessment. This analyses includes both Phase I and Phase II analysis. Phase II analyses further investigates fetal and infant deaths using the linked files for Kitagawa analysis, adjusted odds ratios for risk factors using logistic regression, and FIMR review data.
- Maps were produced for very low birth weight births and Sudden Unexpected Infant Deaths which were the two focus areas for the needs assessment. Based on the PPOR analyses, these maps were produced for Black, Mexican ethnicity, Puerto Rican ethnicity and Cuban ethnicity for VLBW births and for the county for SUID deaths given the small number. These maps were for the period 2016-2018 using Tableau software and the linked birth cohort. Maps were produced by zip codes.

The analyses of vital statistics data were conducted using SPSS 18 for MS Windows for the linked data sets. These linked data files were obtained from the Florida Department of Health (FDOH), Office of Vital Statistics through a Data Use Agreement. The FDOH Institutional Review Board exempted the needs assessment and receipt of the vital statistic data from further review. These files contained Hillsborough County resident births linked to infant deaths and separate fetal death files.

Data for the same year may vary depending on which source was used to produce a table or report. Variations in these numbers are not significant and do not affect the interpretation of results. The greatest variation will be noticed when the population base is small.

A2. 2019 COMMUNITY HEALTH SURVEY

In 2019, BayCare Health System convened the area hospitals (AdventHealth Tampa, Brandon Regional, Moffitt Cancer Center, St. Joseph's Healthcare System and Tampa General Hospital) and the Hillsborough County Health Department to conduct the 2019 Community Health Assessment required under the Affordable Care Act. As part of this assessment, a community survey of residents was conducted. Data for women 18-44 years old who were residents of Hillsborough County was requested (N=2,057). This data provided a rich context for issues facing women of child-bearing age including access to health care, access to mental health services, access to food, housing, neighborhood safety and Adverse Childhood Trauma. This data provided information on key social determinants of health that are impacting residents in Hillsborough County.

A.3. FETAL INFANT MORTALITY REVIEWS

Data from FIMR reviews for 2011-2019 were analyzed for those deaths due to Sudden Unexpected Infant Deaths. There were a total of 73 for this period which represents 53% of the total SUID in the time period. Analysis was performed using Tableau software.

A.4. 2020 COMMUNITY MEETINGS

Community meetings were held to discuss the needs assessment finding and provide initial conclusions regarding the "why" of these events. The framework used for these meetings is discussed in Section III, C9. Community Meetings.

B. ASSESSMENT PROCESS

The following process was utilized to review the data, draw conclusions and develop recommendations for the needs assessment.

B1. NEEDS ASSESSMENT PROCESS

The Plan Development Committee (PDC) of the Coalition is the main planning body. The timeline for

the needs assessment process and the data reviewed in each session are provided in Table 1. The Perinatal Periods of Risk model provided the analytic framework to analyze data and develop focus areas for the service delivery plan process. The framework used in community meetings is provided under Section III, C8. Community Meetings. This framework used a root cause analysis and placed discussion under four domains that are backed by research as affecting health outcomes: health care access & quality, health behaviors, physical environment and social determinants of health. The foundation of the discussion was the data analytics and 2019 Community Health Survey. The meetings focused on drawing conclusions from the analytics and discussing possible root causes that should be addressed during the service delivery plan process.

B2. DRIVER DIAGRAMS

This needs assessment shifted to a Continuous Quality Improvement focus. The Root Cause analytics continued as they had in previous needs assessment processes where data analytics, process mapping and the use of the "5 Whys' continued. The Health Problem Analysis framework was shifted to Driver Diagrams to present opportunities for improvement that would lead to PDSA cycles and fit within the ongoing CQI and monitoring efforts of the Coalition over the service delivery system. This would extend that process to community level interventions developed as part of the service delivery plan process.

As part of this process, Primary Drivers are the Direct Risk Factors in the Health Problem Analysis framework and Secondary Drivers are the Indirect Contributing factors to be addressed at the community level. The Driver Diagram presents the Theory of Change. During the service delivery plan process, Change Packages will be developed to address those Secondary Drivers. These packages can then be monitored for implementation and subsequent improvement in outcome. Driver Diagrams consist of Aims & Goal Statements, Primary Drivers and Secondary Drivers. Change Ideas or Bundles constitute the interventions.

Aims & Goal Statement – Needs Assessment Process

- What do we want to improve?
- SMART Goals (Specific, Measureable, Attainable, Time-Bound)
- Goal of Quality Improvement Project

Primary Drivers – Needs Assessment Process

- Theory of Change
- Factors That Need to be Addressed to Achieve Outcome

Secondary Drivers – Needs Assessment Process

- Specific Areas Where Changes Occur
- Process Changes
- Evidence-Based

Change Ideas or Bundles – Service Delivery Plan Process

- Interventions Service Delivery Plan
- Clinical Medicine "Safety Bundles"

FIGURE 1 QUALITY IMPROVEMENT PROCESS



B3. PERINATAL PERIODS OF RISK

The Perinatal Periods of Risk Model was developed by the World Health Organization to analyze fetal and infant mortality using two dimensions: the age of the infant or fetus at the time of death and the birth weight of the infant or fetus. There are three periods for time of death: fetal deaths (\geq 24 weeks gestation), neonatal deaths (birth-27 days), postneonatal deaths (28-364 days). Birth weight is divided into two cohorts: very low birth weight (500-1,499 grams) and birth weight (>= 1,500 grams). Birth weights less than 500 grams and fetal deaths less than 24 weeks are excluded from the analysis. A complete discussion of this method is provided *in Section III, Community Needs Assessment.* This analytic framework was used to determine the focus areas for the needs assessment and the additional analytics to be conducted on vital statistics data. Both are discussed in detail under *Section III, Community Needs Assessment*.

B.4. IMPACT OF COVID-19

Due to COVID-19 and the need for social distancing, the number of community meetings was reduced and no focus groups were conducted. All meetings beginning in March 2020, were conducted via ZOOM, web-based platform. The FDOH also extended the timeline of the needs assessment by six-months.

B.5.NEEDS ASSESSMENT TIMELINE

The timelines and content for the needs assessment are provided in Table 1.

TABLE 1		
NEEDS ASSESSMENT TIMELINE	AND	OUTCOMES

Date and Time of Meeting	Committee	Purpose and Outcome
May 21, 2019 9:00 am – 11:00 pm	Plan Development Committee	 PDC Roles and Responsibilities Department of Health Guidance 2021-2026 Needs Assessment Proposed Process
September 17, 2019 9:00 am – 12:00 pm	Plan Development Committee	 Review MCH outcomes Review health problem analyses from 16-21 SDP Develop preliminary conclusions from MCH data Discuss areas of focus
November 19, 2019 9:00 – 11:00 am	Plan Development Committee	 Review data on subpopulations by race and ethnicity Review maps Develop preliminary conclusions
December 2019 – June 2020	Analytics	 Additional secondary data analytics 2019 Community Health Assessment
February 28, 2020 9:00 – 10:30 am	Success 4 Kids & Families, Inc. Healthy Start Staff	 Review community needs assessment data Provide input into conclusions based on social determinants of health
May 19, 2020 9:00 – 11:00 am	Plan Development Committee	 Revised needs assessment process and timeline
August 24, 2020 12:00 – 2:00 pm	Fetal Infant Mortality Review	 Review needs assessment data and conclusions
September 15, 2020 9:00 – 11:00 am	Plan Development Committee	 Review additional secondary data analysis Review community meeting conclusions Finalize needs assessment focus areas
September 14, 2020 3:00 – 4:00 pm	Champions for Children	 Review community needs assessment data Provide input into conclusions based on social determinants of health
September 17, 2020 2:30 – 4:00 pm	REACHUP, Inc.	 Review community needs assessment data Provide input into conclusions based on social determinants of health
September 24, 2020 1:00 – 2:00 pm	Adolescent Health Advisory Board	 Review community needs assessment data Provide input into conclusions based on social determinants of health
October 20, 2020 9:00 – 11:00 am	Plan Development Committee	 Review and approve Driver Diagrams for key focus areas, primary and secondary drivers
December 2, 2020 12:00 – 2:00 pm	Board of Directors	Approve 2016-2021 Needs Assessment

SECTION III: COMMUNITY NEEDS ASSESSMENT

Only key data tables, graphs and conclusions for Hillsborough County residents are presented in this section. In 2000, a new decennial census was completed which allowed race to be defined in a new manner. For the first time, an individual could select more than one racial classification. In 2004, the Florida birth certificate was revised to reflect this new classification for race. Therefore, data tables may not be comparable to previous years' tables. This should be considered when reviewing trend tables and data prior to both 2000 and 2004, depending on the table. Tables affected by the change in the decennial census definition are the tables on fertility and teen live births which use population estimates as the denominator. The final vital statistics data available for this planning cycle was the 2014 year for individual files (birth, infant death, fetal death) and 2013 year for the linked file (birth-infant deaths).

This section presents the analyses for live births, fetal deaths, infant deaths, the PPOR Phase I

and Phase II analyses which includes the information from Fetal Infant Mortality Reviews, the 2019 Community Health Assessment and the 2020 Community Meetings.

1. NATALITY ANALYSIS

This section discusses the key maternal child health outcomes related to births. These include the fertility rate, prenatal care entry, method of delivery, teen live births, low birth weight births and preterm births.

A1. FERTILITY RATE

The fertility rate is defined as the number of live births per 1,000 females 15-44 years old. This provides a better measure of birth trends than the crude birth rate which is defined as the number of live births per 1,000 females, regardless of age. The fertility rate has decreased for all population groups.



TABLE 2FERTILITY RATE (PER 1,000 FEMALES 15-44 YRS.)

	Hillsborough County			Florida		
Population	12-14	17-19	% Change	12-14	17-19	% Change
County	60.4	57.7	-4%	59.5	57.8	-3%
Black	64.6	61.3	-5%	66.0	61.4	-7%
White	60.5	56.9	-6%	57.8	56.7	-2%
Hispanic	64.1	60.9	-5%	59.9	58.4	-3%

Source: Florida CHARTS, <u>www.flhealthcharts.com</u>

When considering only Hispanic women, 59.5% of women who identified as Puerto Rican were US born. For the other ethnic groups, 47% to 26% were US born respectively. For non-US born women, it was not possible to determine how long they had lived in the United States nor their citizenship status.



GRAPH 1 US BORN VERSUS NON-US BORN 2016-2018 HISPANIC MOTHERS

Source: 2016-2018 linked data set, Office of Vital Statistics, Florida Department of Health

Table 3 displays selected characteristics of the 2016-2018 birth cohort. Births to mothers < 20 years old improved from the last needs assessment. NH Black mothers, Mexican and Puerto Rican mothers were the most likely to give birth as a teenager (age < 20 years old). Seven out of ten NH Black mothers and six out of ten Hispanic mothers were single. Mothers of Mexican ethnicity were the most likely to have a high school education or lower at 80%. For NH Black and other Hispanic groups, it was about 50% of women who gave birth.

Enrollment in WIC declined from the last needs assessment. It is not known if this is related to increased employment reducing eligibility or difficulty in accessing WIC clinics. Six out of ten NH Black, Mexican, Puerto Rican and Cuban mothers had WIC.

Approximately one-third to one-fourth of mothers have an interpregnancy interval of less than 18 months. This is consistent with the last needs assessment. The prevalence of obesity among the different cohorts has not improved from the last needs assessment. NH Black women and Puerto Rican women have the highest prevalence at onethird of all mothers who gave birth. One-third of NH Black women did not have the father's name on the birth certificate (this often serves as a proxy for social support).

Each of these characteristics can increase a woman's risk of a poor birth outcomes. Given the prevalence of these characteristics, NH Black women comprise the highest risk cohort followed by Mexican and Puerto Rican women.

TABLE 3
SELECTED CHARACTERISTICS OF MOTHERS BY RACE AND ETHNICITY
2016-2018

	NH Black	NH White	Mexican	Puerto Rican	Cuban	Other Hispanic
Total Births	10,109	20,936	4,248	4,741	3,356	4,051
≤ HS	58.9%	32.0%	80.0%	54.0%	55.8%	48.8%
< 20 years	7.1%	3.2%	9.2%	7.2%	3.4%	4.2%
Single	72.6%	33.2%	59.5%	61.9%	60.9%	43.8%
WIC	65.3%	33.5%	63.3%	67.0%	70.2%	49.7%
Birth Interval < 18 Moths	37.5%	36.8%	29.4%	35.9%	31.8%	27.9%
Father Not on BC	28.0%	7.8%	10.8%	12.2%	7.9%	8.9%
Mother Smokes	3.0%	5.2%	<1%	3.2%	2.4%	<1%
BMI ≥ 30, Obese	31.6%	19.9%	27.5%	28.8%	18.6%	20.7%

Source: 2016-2018 linked data set, Office of Vital Statistics, Florida Department of Health

Promoting tobacco cessation is a priority in Florida's Title V Plan with a goal of 6.1% of pregnant women who smoke during pregnancy by 2020. Hillsborough County has met that goal for all cohorts.

A2. ENTRY INTO PRENATAL CARE

Entry into prenatal care is divided into three sections: first trimester entry, other entry, payment for delivery and impact of COVID-19. Entry into prenatal care is defined as the number of women who entered prenatal care in a specific trimester per 100 live births.

A2a. First Trimester Entry

The Healthy People 2020 goal MICH-10.1: Increase the proportion of pregnant women who receive early and adequate prenatal care based on pregnant women who received prenatal care beginning in the first trimester. The target goal is 77.9%. In 2017-2019, first trimester entry was 80.2% in Hillsborough County. Hillsborough County ranks in the fourth or best quartile of the state on first trimester entry into prenatal care (County and State Profile, Florida Charts,

<u>www.flhealthcharts.com</u>). This goal has been met for the county all racial and ethnic cohorts except for Mexican women (See Table 4).

First trimester entry decreased for all population groups between the needs assessments. This decline in first trimester entry occurred at both the county and state level with Hillsborough County's rate exceeding the state's rate for most groups.

	Hillsborough County			Florida		
Population	12-14	17-19	% Change	12-14	17-19	% Change
County	89.0%	80.2%	-11%	79.8%	76.5	-4%
Black	88.6%	77.2%	-15%	73.2%	69.4%	-5%
White	89.0%	81.2%	-10%	81.9%	78.8%	-15%
Hispanic	87.1%	77.6%	-11%	80.2%	76.8%	-4%

TABLE 4 FIRST TRIMESTER PRENATAL CARE COMPARISON

Source: Florida CHARTS, www.flhealtcharts.com

First trimester entry did vary by racial and ethnic groups with women of Mexican ethnicity having the lowest rates of first trimester entry. This may be due to the higher rates of self-pay being selected on the birth certificate at delivery for this group (See A.2.c. and Table 7 for explanation). Disparities still exist for this indicator when ethnicity and race are both utilized. Declines in first trimester care occurred for all cohorts from the last needs assessment.

At least 25% of women (other than Cuban cohorts) do not receive adequate or adequate+ prenatal care (based on the Kotelchuck Index) with close to 40% of Mexican women not receiving recommended prenatal care visits.

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TABLE 5 FIRST TRIMESTER PRENATAL CARE BY RACE AND ETHNICITY 2016-2018 Births

Population	1 st Trimester Entry	Kotelchuck Adequate/+ PNC
Non-Hispanic Black	78.2%	75.1%
Non-Hispanic White	83.2%	78.0%
Cuban Ethnicity	88.9%	86.7%
Puerto Rican Ethnicity	83.2%	78.8%
Mexican Ethnicity	65.8%	59.4%
Other Latino Ethnicity	76.2%	71.8%

Source: 2016-2018 linked data set, Office of Vital Statistics, Florida Department of Health

First trimester prenatal care has been declining since the last needs assessment. This is true for the county as well as racial and ethnic groups, but is more pronouned for Black mothers. For the county there was a 9% absolute decline in first trimester care, but for Black women the decline was 11%. White and Hispanic women had a similar decline as the County. This decline is due to increases in second, third and no prenatal care. It is not due to declines in Medicaid or private insurance status which has increased.



GRAPH 2 FIRST TRIMESTER ENTRY BY RACE AND ETHNICITY TREND

Source: Florida CHARTS, www.flhealthcharts.com

A2b. Other Prenatal Care Entry

Prenatal care entry increased for the second and third trimester each year since 2015. This occurred for Black, White and Hispanic women. No prenatal care, which had increased in 2017, declined the next two years. It is highest for Hispanic women at 3.2% and with Black and White women at 2.7% and 2.5% respectively. It is unknown if the increase observed in No Prenatal Care in 2017 was a definitional issue with hospital birth certificate clerks or a true increase.



GRAPHS 3A-3C PRENATAL CARE ENTRY FOR NON-FIRST TRIMESTER ENTRY





Source: Florida CHARTS, www.flhealthcharts.com

A2c. Payment for Deliveries

Payment for deliveries serves as a proxy for payment for prenatal care. The percent of uninsured pregnant women and deliveries is based on the number of women who select self-pay for the infant's delivery on the Florida birth certificate. It is therefore a proxy measure of women who were uninsured during their pregnancy. This is likely an underestimate of the prevalence since women who do not have legal residency status can apply for emergency Medicaid to have their infant's delivery covered even if their prenatal care was not covered by Medicaid.

TABLE 6 DELIVERIES TO WOMEN WHO WERE SELF-PAY

	Hillsborough County					
Population	12-14	17-19	% Change	12-14	17-19	% Change
County	7.8%	7.0%	-10.3%	7.1%	6.1%	-14.1%
Black	2.7%	2.9%	+.07%	5.6%	4.6%	-17.9%
White	9.5%	7.9%	-16.8%	7.4%	6.4%	-13.5%
Hispanic	19.3%	13.7%	-29.0%	13.8%	9.6%	-30.4%

Source: Florida CHARTS, <u>www.flhealthcharts.com</u>. Births listed as self-pay on the birth certificate.

Women who claimed self-pay on their delivery declined for all cohorts between needs assessment, with Hispanic women having the largest decline. Even so, they still have the largest percentage of women who are self-pay for delivery.

When analyzing Hispanic self-pay births (Table 7), the majority of these are to women of Mexican ethnicity (28.2%) and other Hispanic ethnicity of Central or South American origin (24.3%). Mexican women who report self-pay has been reduced by almost 40% since the last needs assessment. During these two time periods Medicaid increased for Mexican women. Medicaid decreased for NH Black and NH White women. It is unknown if this decrease was due to employment status and

reduced eligibility. However, private health insurance status also increased during this time. Since women who are considered non-residents can receive Emergency Medicaid for their delivery, it is assumed that within these population groups they may have legal resident status or be US citizens who either do not qualify for Medicaid or the Affordable Care Act subsidies or do not know they qualify and are unsure how to apply. Language may be a barrier in these groups although there is not data to support this claim.

	Medica	aid	Self-Pay		
Population	12-14	17-19	12-14	17-19	
Non-Hispanic Black	75.3%	69.3%	2.3%	2.9%	
Non-Hispanic White	38.8%	34.0%	2.8%	3.0%	
Cuban Ethnicity	71.8%	75.2%	1.8%	2.1%	
Puerto Rican Ethnicity	70.0%	69.3%	1.2%	0.6%	
Mexican Ethnicity	43.5%	54.5%	45.8%	28.2%	
Other Latino Ethnicity	40.0%	40.2%	23.9%	24.3%	

TABLE 7 DELIVERIES BY MEDICAID AND SELF-PAY

Source: Source: Florida CHARTS, <u>www.flhealthcharts.com</u>. .

In 2012-2014, the number of deliveries covered by Emergency Medicaid for women without legal residency status (and therefore a group that does not qualify for Medicaid during pregnancy) was 1,819. This compares to 1,406 in 2016-2018 (Medicaid Alien Deliveries Reports on Florida Health Charts).

Other than prenatal care provided by the federallyqualified health centers (Tampa Family Health Centers and Suncoast Community Health Centers), there are few options for women to receive prenatal care if they have no insurance coverage. The Hillsborough County Health Care Plan only covers individuals who are at or below 110% of the Federal Poverty Level (FPL) and who are residents of Hillsborough County. Women at this poverty level are already covered under Florida Medicaid up to 185% of FPL. The other clinics which provide free health care do not provide obstetrical care. Even given the lack of a decrease in the number of women self-pay for delivery, the current number represents a burden on the public health care system in terms of provider capacity and payment for this care.

A2d. IMPACT OF COVID-19 ON PRENATAL CARE ACCESS

Due to COVID-19, a survey of pregnant women was conducted to determine how COVID-19 had impacted accessing prenatal care and applying for Medicaid. The survey was a convenience sample and 100 women responded. It was conducted during June and July 2020. It compared barriers to accessing prenatal care prior to March 15, 2020 (pre-COVID-19 lockdowns) and after March 15, 2020. Of the survey respondents, 50% were Black and 35% were White; 25% identified as Hispanic or Latino. One-third of the respondents were between the ages of 18-24 and one-half were between 25-34 years old. Nine out of ten women who responded were pregnant during the time period after March 15, 2020. Of those, only 11 had problems accessing prenatal care.

GRAPH 4 BARRIERS TO ACCESSING PRENATAL CARE



Women reported that the primary reasons they had barriers to receiving prenatal care, not due especially to COVID-19, was Lack of Transportation and No Medicaid. If No Medicaid is combined with Lost Insurance, the percentage would equal No Transportation as the two primary reasons. Women also reported that they were not afraid of losing pay if they left work for an appointment, but were more afraid of losing their job.

GRAPH 5 BARRIERS TO ACCESSING PRENATAL CARE DUE TO COVID-19



The primary barrier to prenatal care during COVID-19 was due to having to wait outside the practice and not having a car to wait in. The second and third reasons were concerns over exposure and not having child care to leave children at home. For this sample, there were 20% of the women who reported not having internet for telehealth services.



TABLE 8 MEDICAID APPLICATION PROCESS

Question	Average 1 – Strongly Disagree to 5 – Strongly Agree
I was apply to apply for Medicaid through the online process.	4.02
The website was easy to use.	4.61
The website was available when I needed to use it.	3.78
I do not have internet but could use it somewhere else.	2.39
I applied for Medicaid through paper process & mailed it in.	1.46
It was easy to complete the application.	3.75
I could call and speak with someone if I had questions.	3.60
Application was in a language I could understand.	4.24
I only had a phone and it was too difficult to apply.	2.29

Five out of ten women applied for Medicaid during this time. Almost 40% had either Medicaid or private health insurance. For those women who applied for Medicaid, few cited any barriers with the application process. The average ranking for applying for Medicaid online, the ease of website usage and the language of the application all received averages indicating few barriers. Few applied through the paper process where the application is mailed in. Responses that may indicate issues were the availability of the website and the ability to call and speak with someone if there were questions. These were in the middle of the average response. The overall ease of completing the application was a 3.75 with Strongly Agree being a 5. Of those who applied for Medicaid, 80% were approved.

As part of the survey, women were asked if they were comfortable receiving services in the home through a home visitation program. Five out of ten women responded they were still not comfortable receiving services in-person and preferred virtual visits, and only 26% said they were comfortable with in-person home visits. The remainder preferred a hybrid approach.

A3. MATERNAL AGE

This section will present data on teen live births by age group, inter-pregnancy interval by maternal age and race/ethnicity, and birth outcomes for low birth weight and infant death by maternal age and race/ethnicity.

For teen live births, this rate is defined as the number of live births to females in a specific age group per 1,000 females in that age group. This metric does not capture the number of teen pregnancies. That data is not systematically collected and is usually estimated based on the number of live births, number of fetal deaths, estimated miscarriages and estimated abortions. The HP2020 goals in this area are for teen pregnancies and not teen live births. Hillsborough County ranks in the second quartile of the state on births to teenage females 15-19 years old (County and State Profile, Florida Charts).

A3a. Mothers 10-14 Years Old

Any change in these rates should be interpreted cautiously. The actual number of live births to teens 10-14 years old in 2017-2019 was 23 for the entire county with16 being White, six being Black and 12 being Hispanic. Therefore, the percent change is based on small numbers and does not represent a meaningful change in the rate between the two time periods. However, for all population groups, this rate did decline between the two time periods for both Hillsborough County and Florida.

TABLE 9 LIVE BIRTHS TO FEMALES 10-14 YEARS OLD

	Hillsborough County			Florida		
Population	12-14	17-19	% Change	12-14	17-19	% Change
County	0.4	0.2	-50.0%	0.3	0.2	-33.3%
Black	0.6	0.2	-72.0%	0.6	0.3	-50.0%
White	0.3	0.2	-33.3%	0.2	0.1	-50.0%
Hispanic	.06	0.3	-50.0%	0.3	0.2	-33.3%

Source: Florida CHARTS, <u>www.flhealthcharts.com</u>

Live births to teenagers 10-14 years old have continued to decline over the past ten years. The increase in White and Hispanic births observed during the past two time periods represents just three births and should be interpreted with caution.

GRAPH 6 LIVE BIRTHS TO FEMALES 10-14 YEARS OLD BY RACE AND ETHNICITY TREND



Source: Florida CHARTS, <u>www.flhealthcharts.com</u>

A3b. Mothers 15-17 Years Old

There were 553 live births to this age group in the 2017-2019 time period. This rate declined for all population groups. The disparity between White and Black females in this age group has increased slightly between the two time periods remained the same. It was still significant with 15-17 years

old Black mothers 65% more likely to have a birth than White mothers of the same age (1.65 (95% CI=1.38,1.97). The disparity between Hispanic and Non-Hispanic teens also remained the same with 15-17 year old Hispanic mothers 58% more likely to have a live birth than their White counterparts (1.58, 95% CI=1.34,1.87).

	Hillsborough County				Florida	
Population	12-14	17-19	% Change	12-14	17-19	% Change
County	13.3	6.9	-48.0%	10.8	6.7	-38.8%
Black	20.7	10.5	-49.3%	16.6	9.8	-41.0%
White	12.2	6.4	-47.5%	9.2	5.9	-35.9%
Hispanic	17.3	9.1	-47.4%	12.3	8.2	-33.3%

TABLE 10LIVE BIRTHS TO FEMALES 15-17 YEARS OLD

Source: Florida CHARTS, www.flhealthcharts.com

Live births to females 15-17 years old have also continued to decline during the past ten years. The rate was reduced by almost 50% between the two needs assessments. The amount of decline was greater than the decline for Florida.

GRAPH 7 LIVE BIRTHS TO FEMALES 15-17 YEARS OLD BY RACE AND ETHNICITY TREND



Source: Florida CHARTS, www.flhealthcharts.com

A3c. Mothers 18-19 Years Old

There were 1,814 live births to teens in this age group for the 2017-2019 time period. These teens represent a different population of teenage females since many are no longer in high school and include females aging out of the foster care system. This rate has declined for all population groups for both Hillsborough County and Florida. Disparities still exist with Black females 18-19 years old 65% (95% CI=1.50, 1.83) more likely to have a live birth compared to White females in this age group. This is a slight decrease from the last needs assessment. Hispanic females in this age group are 41% (95% CI=1.29, 1.55) more likely to have a live birth in this age group than non-Hispanic females, the disparity has increased since the last needs assessment.

	Hillsborough County				Florida	
Population	12-14	17-19	% Change	12-14	17-19	% Change
County	50.9	35.0	-31.2%	46.4	33.3	-28.2%
Black	76.4	53.5	-30.0%	66.3	45.4	-31.5%
White	46.4	32.2	-30.6%	41.5	30.4	-26.7%
Hispanic	58.8	43.4	-26.2%	46.0	35.5	-22.8%

TABLE 11 LIVE BIRTHS TO FEMALES 18-19 YEARS OLD

Source: Florida CHARTS, www.flhealthcharts.com

Live births to teenagers 18-19 years old have also declined during the past ten years. Births in this age group declined by one-third between the two needs assessments. There has been a slight increase during the past three-year rolling average.

GRAPH 8 LIVE BIRTHS TO FEMALES 18-19 YEARS OLD BY RACE AND ETHNICITY TREND



Source: Florida CHARTS, <u>www.flhealthcharts.com</u>

A3d. Repeat Live Births to Teenagers

This rate is defined as the number of teenagers in a specific age range with a previous live birth per 100 live births to mothers in that age range. The majority of teenage live births are due to first-time live births (93% for 15-17 year olds; 81% for 18-19 year olds). Healthy Start funding does not support

primary prevention of teenage pregnancy since a teenager must already be pregnant to qualify for any services. Hillsborough's ranks in the second quartile in Florida on this measure and has improved from the last needs assessment when it was in the fourth quartile. (County and State Profile, Florida Charts, www.flhealthcharts.com).



HEALTHY START COALITION OF HILLSBOROUGH COUNTY, INC.





Source: Flhealthcharts, www.flhealthcharts.com

A3e. Birth Interval by Maternal Age

An interpregnancy interval of < 24 months was inversely related to materal age. Teen mothers (<20 years old) had the highest percentage of births that were < 12 months between live births at 45%. Within each interpregnancy interval (< 12 months, 13-17 months and 18-24 months), there was an inverse relationship where the younger the mother, the higher the percentage of births within that interval. This was most pronounced for an interval of < 12 months. For those mothers having 24 months or more between live births, the relationship was a positive relationship where the percentage of mothers having 24 or more months between live births, increased with each age category.




24-29

■ < 12 ■ 13-17 ■ 18-24 ■ 24+

30-34

GRAPH 10



20-24

A3f. Birth Outcomes by Maternal Age

<20

80.0% 70.0%

60.0% 50.0% 40.0% 30.0%

20.0% 10.0%

0.0%

For NH White and Hispanic mothers, poor brith outcomes followed a U-Shaped curve where outcomes were worse for younger and older mothers. For NH Black mothers, mothers who were teen mothers through mothers who were 39 years old, the rates were similar. Black mothers 40+ years old had the highest rate. This is a different pattern from previous years were poor outcomes

were inversely related to age with the youngest mothers having the best birth outcomes. Whether this shows an improvement regarding the "weathering hypothesis" is unknown at this time. However, even with the improvement in the curve, a racial disparity still exists by maternal age. NH White mothers who are < 20 years old, still have better birth outcomes than all age categories for NH Black mothers.

35-39

40+



GRAPH 11 LOW BIRTH WEIGHT BY MATERNAL AGE



For NH Black women 40+ years old, there were more likely to be self-pay (5%) for delivery or have private health insurance (54.2%), have chronic hypertension (5.1%) and pregnancy-induced hypertension (12.9%), have a graduate degree (19%) and have experienced both a neonatal death (2.2%) and previous poor pregnancy outcome (4.5%) compared to other NH Black women.



GRAPH 12 INFANT DEATHS BY MATERNAL AGE

A4. LOW BIRTH WEIGHT BIRTHS

The low birth weight rate is defined as the number of live-born infants weighing less than 2,500 grams (5.5 pounds) per 100 live births. The very low birth weight rate is defined as the number of live-born infants weighing less than 1,500 grams (3.5 pounds) per 100 live births.

A4a. Very Low Birth Weight Births

The Healthy People 2020 goal MICH-8.2: Reduce very low birth weight (VLBW) births. The target goal is 1.4%. This goal has been met for White and Hispanic births.

Black infants are still 2.4 (95% CI=2.01, 2.73) times more likely to be born VLBW than White infants. This disparity has not changed since the last needs assessment. The disparity in Florida is slightly higher than in Hillsborough County (2.7 compared to 2.4). The Hispanic to Non-Hispanic disparity is not significant.

Of all VLBW infants born during the 2017-2019, 94.8% were born in subspecialty centers compared to 79.8% in Florida. The HP 2020 goal MICH-33, "Increase the proportion of VLBW infants born at level III hospitals or subspecialty perinatal centers", has a target goal of 83.7%. This goal has been met.

TABLE 12 VERY LOW BIRTH WEIGHT BIRTHS COMPARISON

	Hillsborough County			Florida		
Population	12-14	17-19	% Change	12-14	17-19	% Change
County	1.6%	1.6%	0%	1.6%	1.6%	0%
Black	2.9%	2.9%	0%	2.9%	3.0%	+3.4%
White	1.3%	1.2%	-7.7%	1.2%	1.1%	-8.3%
Hispanic	1.4%	1.4%	0%	1.3%	1.3%	0%

Source: Florida CHARTS, <u>www.floridacharts.com</u>

While the VLBW rate for the County remained unchanged with the 2017-2019 data, there was a slight decrease each three-year period for Black infants beginning in 2014-2016. Both White and Hispanic infants VLBW remained relatively unchanged.



GRAPH 13 VERY LOW BIRTH WEIGHT BIRTHS BY RACE AND ETHNICITY TREND



Source: Florida CHARTS, <u>www.flhealthharts.com</u>

A4b. Low Birth Weight Births

The Healthy People 2020 goal MICH 8.1: Reduce low birth weight (LBW) births. The target goal is 7.8%. This goal has been met for White and Hispanic births but not for Black births. Changes in the LBW rate have been minimal between the two needs assessments. The disparity between Black and White infants born LBW is 1.96 (95% CI=1.85,2.07) and is slightly higher than the last needs assessment (1.96 versus 1.88) and is similar to Florida's disparity (1.93). Hillsborough ranks in the third quartile in the state in LBW births (County and State Profile, Florida Charts, www.floridacharts.com).

	Hillsborough County				Florida	
Population	12-14	17-19	% Change	12-14	17-19	% Change
County	8.9%	9.0%	+1.1%	8.6%	8.8%	+2.3%
Black	13.9%	13.9%	0%	13.0%	13.9%	+6.9%
White	7.4%	7.5%	+1.4%	7.2%	7.2%	0%
Hispanic	7.5%	7.7%	+2.7%	7.3%	7.3%	0%

TABLE 13LOW BIRTH WEIGHT BIRTHS BY ETHNICITY COMPARISON

Source: Florida CHARTS, www.flhealthharts.com

The LBW rates have remained relatively unchanged over the past ten years with slight fluctuations in the rate but no significant changes.

GRAPH 14 LOW BIRTH WEIGHT BIRTHS RACE AND ETHNICITY TREND



Florida CHARTS, <u>www.flhealthharts.com</u>

An important component of both of these measures is the distribution of birth weight and shifts between lower birth weight categories to higher birth weight categories that improve infant survival. This will be discussed under the Section C. Perinatal Periods of Risk Analysis.

A5. PRETERM BIRTHS

Preterm births are defined as the number of live births prior to 37 completed weeks gestation per 100 live births. Gestation is now measured using Clinical/Obstetric Estimate of Gestation based on new guidelines from the American College of Obstetricians and Gynecologist and the National Center for Health Statistics (ACOG, 2014; Martin et. al., 2015; MacDonald, 2016). This will adjust the preterm birth rate down by approximately 3% over previously published reports. The data presented for preterm births includes all preterm births, not just singleton births.

The Healthy People 2020 goal MICH-9.1: Reduce preterm (PTB) births. The target goal is 11.4%. In calculating gestation age, "The clinical or obstetric estimate was compared with length of gestation computed using the LMP when the latter appears

to be inconsistent with birth weight. For those births, the clinical or obstetric estimate was used if it was compatible with the reported birth weight. The clinical or obstetric estimate was also used if the LMP date was not reported" (www.healthpeople.gov/node/4906/data details).

The goal has been met for White and Hispanic births but not for Black births. Hillsborough County ranks in the third quartile in the state for preterm births (County and State Profile, Florida Charts, www.flhealthcharts.com).

The preterm birth rate has declined for all population groups since the last needs assessment except for Black infants. However, the rate of change for all groups was quite small. For Black infants, the increase in Hillsborough County was 22% of the Florida increase. There was little change in the disparity between Black and White infants (1.46 to 1.53). The Black to White disparity for Hillsborough County is equivalent to the disparity in Florida (1.53 versus 1.53). The Hispanic to Non-Hispanic disparity is not significant.

TABLE 14PRETERM BIRTHS COMPARISON

	Hillsborough County				Florida	
Population	12-14	17-19	% Change	12-14	17-19	% Change
County	10.2%	10.0%	-2%	10.1	10.4%	+3.0%
Black	13.6%	13.8%	+1.5%	13.3%	14.2%	+6.8%
White	9.3%	9.0%	-3.2%	9.1%	9.3%	+2.2%
Hispanic	9.3%	9.2%	-1.1%	9.0%	9.3%	+3.3%

Source: Florida CHARTS, <u>www.flhealthcharts.com</u>

Preterm birth rates have remained relatively stable over the past ten years. However, the rate for Black infants slightly increased. The Black:White disparity is significant with Black infants 52% more likely to born preterm (95% CI=1.44, 1.61). The Hispanic to Non-Hispanic disparity is not significant.



GRAPH 15 PRETERM BIRTHS (< 37 WEEKS) BY RACE AND ETHNICITY TREND

Source: Florida CHARTS, <u>www.flhealthcharts.com</u>

The Healthy People 2020 goal MICH-9.1: Reduce very preterm (< 32 weeks gestation) births. The target goal is 1.8%. This goal was met for White and Hispanic births but not for Black births. There has been little change in the rate since the last needs assessment. The disparity between Black and White preterm births < 32 weeks gestation is 2.1, which is the same as the last needs assessment.

GRAPH 16 EARLY PRETERM BIRTHS (<32 WEEKS GESTATION) BY RACE AND ETHNICITY TREND



Data Source: Florida Charts, <u>www.flhealthharts.com</u>

The Healthy People 2020 goal MICH-9.1: Reduce late preterm (34-36 weeks gestation) births. The target goal is 8.1%. This goal was met for White and Hispanic births but not for Black births. Black infants are 30% more likely to have a late preterm birth than White infants. There has been no change in the disparity since the last needs assessment.



GRAPH 17 LATE PRETERM BIRTHS (34-36 WEEKS) BY RACE AND ETHNICITY TREND

Data Source: Florida Charts, <u>www.flhealthcharts.com</u>

B. MORTALITY ANALYSIS

This section discusses the state of fetal and infant mortality in Hillsborough County.

B1. FETAL MORTALITY

The fetal death rate is defined as a fetal death occurring \geq 20 weeks gestation per 1,000 live births plus fetal deaths. The Healthy People 2020 goal MICH-1.1: Reduce the rate of fetal deaths at 20 or more weeks of gestation. The target goal is 5.6 fetal deaths per 1,000 live births and fetal deaths. This goal was not met by the racial or ethnic cohorts except for White mothers.

Hillsborough County ranks in the third quartile in the state which is worse than the last needs

assessment where it was the second (County and State Profile, Florida Charts, <u>www.flhealthcharts.com</u>).

Both Black and Hispanic fetal deaths increased from the last needs assessment. Florida experienced declines in all population groups. Black mothers are twice as likely to experience a fetal death as White mothers (RR=2.08, 95% CI=1.67, 2.58). The disparity for Black and White fetal deaths in Hillsborough County and in Florida remained essentially unchanged (2.0 to 2.25). The relationship between this rate and early neonatal deaths is discussed in *Section III, C. Perinatal Periods of Risk Analyses.*

The Healthy People 2020 goal MICH-1.1: Reduce the rate of fetal deaths at 20 or more weeks of gestation. The target goal is 5.6 fetal deaths per 1,000 live births and fetal deaths.

	Hillsborough County			Florida		
Population	12-14	17-19	% Change	12-14	17-19	% Change
County	7.1	6.9	-2.8%	7.1	6.8	-4.2%
Black	11.0	11.6	+5.6%	12.1	11.7	-3.3%
White	5.7	5.6	-1.8%	5.6	5.2	-7.1%
Hispanic	6.5	6.9	+6.2%	5.7	5.6	1.8%

 TABLE 15

 FETAL DEATH RATIO PER 1,000 DELIVERIES COMPARISON

Source: Florida CHARTS, www.flhealthcharts.com

GRAPH 18 FETAL DEATH RATIO BY RACE & ETHNICITY TREND



Source: Florida CHARTS, www.flhealthcharts.com

B2. INFANT MORTALITY

Infant mortality is defined as the number of live born infants who die within the first 364 days of life per 1,000 live births. The Healthy People 2020 goal MICH-1.3: Reduce the rate of all infant deaths (within one year). The target goal is 6.0 infant deaths per 1,000 live births. This goal was only met for White births. Hillsborough County ranks in the second quartile in the state for infant mortality, which is an improvement of one quartile over the last needs assessment. (County and State Profile, Florida Charts, <u>www.flhealthcharts.com</u>)

Since the last needs assessment, the infant mortality rate has declined for all cohorts. For individual years, the infant mortality rate declined each year from the last needs assessment to 2018, when the rate was 6.2 the lowest rate ever in Hillsborough County The rate increased in 2019 to 6.6. This increase was entirely in neonatal deaths (n=12). The 2019 increase occurred for White and Black infants but not Hispanic infants, however it did not impact the 3-year rolling averages and changes between needs assessments.

Black infants are still 2.4 times more likely to die than White infants (RR 2.4; 95% CI=1.96, 2.09). This disparity has slightly increased from the last needs assessment (2.4 vs. 2.1). Florida's disparity is similar. The disparity between Hispanic and Non-Hispanic infant deaths is just below significance (RR=1.2; 95% CI=0.959,1.49).

The Healthy People 2020 goal MICH-1.3: Reduce the rate of all infant deaths (within one year). The target goal is 6.0 infant deaths per 1,000 live births.

TABLE 16 INFANT MORTALITY RATE COMPARISON

	Hillsborough County				Florida	
Population	12-14	17-19	% Change	12-14	17-19	% Change
County	7.3	6.5	-11.0%	6.1	6.0	-1.6%
Black	12.3	11.7	-4.9%	10.8	11.0	+1.9%
White	5.8	4.7	-19.0%	4.5	4.4	2.2%
Hispanic	8.6	7.3	-15.1%	4.8	5.1	-6.3%

Data Source: Florida CHARTS, <u>www.flhealthcharts.com</u>

The infant mortality rate has declined by 10% since the last needs assessment. Even though there was a 26% decline in the Black rate between 2014-2016 and this needs assessment, the rate only declined by 5% between the two needs assessment. The Hispanic rate declined by 15% between the two needs assessments.



GRAPH 19 INFANT MORTALITY BY RACE & ETHNICITY TREND

Source: Florida CHARTS, <u>www.flhealthcharts.com</u>

The disparity between Black and White infants has remained significant over time but has been on a declining trend during the past ten years (Graph 20). However, the disparity remained unchanged between 2018 and 2019. The current disparity is higher than the state of Florida's (2.5). There was no change in the disparity at the state level between the two needs assessments.

GRAPH 20 BLACK TO WHITE INFANT MORTALITY RISK RATIO



Data Source: Florida Charts, www.flhealthcharts.com

The disparity between Hispanic and non-Hispanic White infant deaths decreased between the two needs assessments [1.20 (95% CI=0.9586, 1.4942) from 2.12 (95% CI=1.52, 2.98)]. It was not significant in the last three-year time period. The annual disparity between Hispanic and NHW is also not significant in 2019 and has only been significant in 2018. The trend does not show any significant change.



GRAPH 21 HISPANIC TO NON-HISPANIC WHITE INFANT MORTALITY RISK RATIO

Data Source: Florida Charts, www.floridacharts.com

B2a. Neonatal Mortality

Neonatal mortality (NMR) is defined as a live-born infant who dies within the first 28 days of life per 1,000 live births. The Healthy People 2020 goal MICH-1.4: Reduce the rate of all neonatal deaths (within the first 28 days of life). The target goal is 4.1 neonatal deaths per 1,000 live births. This goal was met for White neonatal deaths but not for other cohorts. While Hillsborough County had declines in this rate for each cohort, Florida saw increases in the rate even though the state rates remain lower than the county rates. Hillsborough County ranks in the third quartile in the state in NMR which is an improvement of one quartile over the last needs assessment (County and State Profile, Florida Charts, <u>www.flhealthcharts.com</u>).

Black infants are 2.4 times more likely to die during the neonatal period than White infants (RR=2.34; 95% CI=1.80,3.08). This is higher than the last needs assessment when the risk ratio was 1.95. The Florida disparity is lower at 2. The Hispanic to Non-Hispanic disparity is just below significance (RR=1.24; 95% CI=0.960, 1.61).

The Healthy People 2020 goal MICH-1.4: Reduce the rate of all neonatal deaths (within the first 28 days of life). The target goal is 4.1 neonatal deaths per 1,000 live births.

	Hillsborough County				Florida	
Population	12-14	17-19	% Change	12-14	17-19	% Change
County	5.3	4.8	-9.4%	4.0	4.1	+2.5%
Black	8.4	8.2	-2.0%	7.0	7.2	+2.9%
White	4.3	3.5	-18.6%	3.0	3.0	0.0%
Hispanic	6.4	5.5	-14.1%	3.3	3.6	+9.1%

TABLE 17 NEONATAL MORTALITY RATE COMPARISON

Data Source: Florida CHARTS, <u>www.flhealthcharts.com</u>

Since the last needs assessment, the county NMR has declined by 9.4%, the Black rate was essentially unchanged and the Hispanic rate has declined by 14%. While the Black rate declined from 2015-2017 to 2017-2019, this was offset by the increase between 2012-2014 and 2015-2017.

GRAPH 22 NEONATAL MORTALITY RATE BY RACE & ETHNICITY TREND



Data Source: Florida CHARTS, <u>www.flhealthcharts.com</u>

The risk ratio between Black and White neonatal deaths is 2.19 (95% CI=1.40, 3.41) based on the 2019 NMR. This disparity remains unchanged from the last needs assessment. There is a slightly declining trend over the past ten years.



GRAPH 23 BLACK TO WHITE NEONATAL MORTALITY RISK RATIO



Data Source: Florida Charts, <u>www.flhealthcharts.com</u>

The risk ratio between Hispanic and NH White neonatal deaths is 2.00 (95% CI=1.15, 3.45) based on the 2019 NMR. This disparity has been significant since 2015. The trend for this disparity has remained unchanged during the past ten years.



GRAPH 24 HISPANIC TO NH WHITE NEONATAL MORTALITY RISK RATIO

Data Source: Florida Charts, <u>www.flhealthcharts.com</u>

NH Black women had the highest NMR during this period at 8.1, followed by women of Cuban and Mexican ethnicity.

TABLE 18NEONATAL MORTALITY RATE BY RACE AND ETHNICITY

Population	Neonatal Mortality Rate	Number of Deaths
Non-Hispanic Black	8.1	87
Non-Hispanic White	2.5	50
Cuban Ethnicity	6.9	24
Puerto Rican Ethnicity	5.2	25
Mexican Ethnicity	6.2	26
Other Latino Ethnicity	3.9	17

Data Source: Florida Charts, <u>www.flhealthcharts.com</u>

Non-US born Hispanic mothers had higher neonatal death rates compared to their US-born counterparts. This occurred during a time period where immigrants experienced a more challenging time is accessing resources and many did not seek resources due to fear of deportation (*See Section III, C8. Community Meetings*). It is unknown how long these mothers were in the county or their immigration status. For Puerto Rican mothers, this time frame included two devastating hurricanes to the island that would have increased maternal stress and lack of resources such as housing, water and food. For South American mothers, this time-frame included social unrest in Venezuela.



GRAPH 25 HISPANIC NEONATAL DEATHS BY US VERSUS NON-US BORN MOTHERS

Source: 2016-2018 linked data set, Office of Vital Statistics, Florida Department of Health

B2b. Perinatal Mortality

The perinatal mortality rate is defined as a Fetal Death > 28 weeks gestation + a live-born infant

who dies within the first 7 days of life per 1,000 live births + fetal deaths. It can also be viewed as All Fetal Deaths + Neonatal Deaths within the first 7 days of life. This rate was used to determine the impact of very preterm (<24 weeks) and very small infants (< 500 grams) on the fetal and infant mortality rates and if any improvements in these rates were true improvements or just shifts between a Fetal Death and a Neonatal Death. Due to the analytics on very preterm infants of < 24 weeks gestation, perinatal mortality included all Fetal Deaths to examine the difference these infant had on the perinatal rate.

As Graph26 shows, regardless of the exclusion of fetal deaths between 20 and 27 weeks, the Perinatal Mortality Rate has not shifted much during the past ten years, except for NH Black infants where there has been a slight increase in the rate. The disparity between NH Black and NH White infants continues and was discussed under Fetal and Neonatal mortality.



GRAPH 26 PERINATAL MORTALITY

Source: 2011-2018 Birth Cohort and Florida Charts, www.flhealthcharts.com

To understand the impact of very low birth weight infants (< 500 grams) and very preterm infants (< 24 weeks gestation) and on the fetal, neonatal and perinatal rates, an analysis was completed that looked at the distribution of these fetal deaths and neonatal deaths over time.

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GRAPH 27 FETAL AND NEONATAL DEATHS < 500 GRAMS

Source: 2011-2018 Birth Cohort

Deaths less than 500 grams, comprise at least one-half of all neonatal deaths and one-third of all fetal deaths. This is most pronounced for Black fetal and infant deaths. In 2018, they comprised 75% of Black fetal deaths and 78% of Black neonatal deaths. Eight out of ten of these Black neonatal deaths died within 24 hours of birth compared with 68% at the County level. (Graphs for Black and Hispanic fetal and neonatal deaths < 500 grams not shown).



TABLE 28FETAL AND NEONATAL DEATHS < 24 WEEKS GESTATION</td>

Fetal deaths less than 24 weeks comprise roughly 40% of these deaths and 60% of neonatal deaths, except for Black infants where they are 71%. It should be noted the number of neonatal deaths that are less than 20 weeks with the average being 17% for the County and almost one-quarter in 2018. (Black and Hispanic fetal and neonatal deaths < 24 weeks not shown).





Source: 2011-2018 Birth Cohort

During the 2016-2018 time-frame, the correlation between Black Fetal and Neonatal Deaths < 500 grams was almost 100% negatively correlated (Pearson's r=-0.998). There is not a similar pattern for Hispanic fetal or neonatal deaths. However, these very small and very preterm infants and the shift between fetal and neonatal deaths is one reason for any changes in these rates over time. It underscores the importance of addressing those issues that affect prematurity which are primarily related to maternal health and Social Determinants of Health. It also brings to light Florida's broad statute regarding what constitutes a live birth versus a fetal death. The Fetal Infant Mortality Review Committee continues to review these deaths, < 500 grams, to determine not only issues affecting prematurity but to understand labor & delivery decisions on classification and how it impacts Hillsborough County rates.



B2b. Post-neonatal Mortality

The post-neonatal mortality (PNMR) rate is defined as a live-born infant who dies between 28-364 days of life per 1,000 live births. The Healthy People 2020 goal MICH-1.5: Reduce the rate of all postneonatal deaths (between 28 days and one year). The target goal is 2.0 post-neonatal deaths per 1,000 live births. This goal was met for White and Hispanic infants but not for Black infants.

However, the Black PNMR has declined by 10% since the last needs assessment. It should be noted the PNMR is based on a small number of events.

Hillsborough County ranks in the second quartile in the state on PNMR, which is unchanged from the last needs assessment (County and State Profile, Florida Charts, <u>www.flhealthcharts.com</u>)

Black infants were significantly more likely to die during the period than White infants (RR=2.77; 95% CI=1.81, 4.24). This is slightly higher than the last needs assessment when the risk ratio was 2.6. The Florida disparity is higher at 2.9. The disparity between Hispanic and Non-Hispanic is not significant.

The Healthy People 2020 goal MICH-1.5: Reduce the rate of all post-neonatal deaths (between 28 days and one year). The target goal is 2.0 post-neonatal deaths per 1,000 live births.

	Hillsborough County				Florida	
Population	12-14	17-19	% Change	12-14	17-19	% Change
County	2.1	1.7	-19.0%	2.1	2.0	-4.8%
Black	3.9	3.5	-10.0%	3.8	3.8	0.0%
White	1.5	1.2	-20.0%	1.5	1.3	-13.3%
Hispanic	2.2	1.8	-18.2%	1.5	1.5	0.0%

TABLE 19 POST-NEONATAL MORTALITY RATE COMPARISON

Data Source: Florida Charts, <u>www.flhealthcharts.com</u>

The PNMR was on an increasing trend for Black infants since the 2013-2015 time-frame through 2016-2018. During the last three-year average, the rate declined. Between needs assessments, it has declined by 10%. For Hispanic infants the PNMR has declined by 18% since the last needs assessment.

GRAPH 30 POST-NEONATAL MORTALITY RATE RACE & ETHNICITY TREND



Data Source: Florida Charts, <u>www.flhealthcharts.com</u>

The annual disparity between Black and White PNM shows a decline in 2019 after increasing for the past three years. The 2019 disparity was 2.0 (95% CI=.99, 2.22) and was just below significance.



GRAPH 31 BLACK TO WHITE POST-NEONATAL MORTALITY RISK RATIO

Data Source: Florida Charts, <u>www.floridacharts.com</u>

The disparity between Hispanic and NH White post-neonatal deaths is not significant and has remained relatively unchanged over the past ten years.

GRAPH 32 HISPANIC TO NH WHITE POST-NEONATAL MORTALITY RISK RATIO



Data Source: Florida Charts, <u>www.floridacharts.com</u>

NH Black infants had the highest PNMR at 3.4, followed by Mexican and Puerto Rican infants.

Population	Post-Neonatal Mortality Rate	Number of Deaths
Non-Hispanic Black	3.4	36
Non-Hispanic White	0.895	18
Cuban Ethnicity	0.869	3
Puerto Rican Ethnicity	1.9	9
Mexican Ethnicity	2.9	12
Other Latino Ethnicity	1.4	6

TABLE 20POST-NEONATAL MORTALITY RATE BY RACE AND ETHNICITY

Data Source: Florida Charts, <u>www.flhealthcharts.com</u>

B2c. Causes of Infant Deaths

The two leading causes of infant mortality in Hillsborough County are Birth Defects and LBW/PTB. This is followed by the broad category of Perinatal Conditions (Maternal Complications, Newborn Complications, Respiratory Distress Syndrome, Neonatal Hemorrhage and Newborn Affected by Other Complications. Unintentional Injury deaths include Accidental Suffocation and Strangulation deaths. The needs assessment due to the PPOR analyses (Section III, C. Perinatal Periods of Risk), focused on low birth weight/prematurity and Sudden Unexpected Infant Deaths.





Data Source: Florida Charts, www.flhealthcharts.com

Deaths due to LBW and PTB increased for Black, White and Hispanic groups. Reasons for this increase are discussed in *Section III, C. Perinatal Periods of Risk*.

	Hillsborough County				Florida	
Population	12-14	17-19	% Change	12-14	17-19	% Change
County	1.3	1.3	0.0%	1.0	0.9	-10.0%
Black	2.5	2.7	+8.0%	2.0	2.0	0.0%
White	0.8	0.9	+12.5%	0.6	0.6	0.0%
Hispanic	1.2	1.5	+25.0%	0.8	0.8	0.0%

TABLE 21DEATHS DUE TO LBW/PTB MORTALITY RATE COMPARISON

Data Source: Florida Charts, www.flhealthcharts.com

The Sudden Unexpected Infant Mortality Rate (SUIDS) rate is defined as a live-born infant who dies from Sudden Infant Death Syndrome, Accidental Suffocation or Strangulation in Bed or Undetermined Cause per 1,000 live births. The Healthy People 2020 goal MICH-1.9: Reduce the rate of all SUIDS deaths. The target goal is 0.84 SUIDS deaths per 1,000 live births. This goal has been met for White and Hispanic infants but not for Black. Hillsborough County ranked in the second quartile in Florida for SUID deaths (Florida Charts). Due to the small numbers in these deaths, any percent change between needs assessment should be interpreted cautiously. In most cases, the rate change was immaterial.

The Healthy People 2020 goal MICH-1.9: Reduce the rate of all SUIDS deaths. The target goal is 0.84 SUIDS deaths per 1,000 live births.



TABLE 22 SUDDEN UNEXPECTED INFANT DEATHS MORTALITY RATE COMPARISON

	Hillsborough County				Florid	a
Population	12-14	17-19	% Change	12-14	17-19	% Change
County	1.0	0.8	-20.0%	1.0	1.0	0.0%
Black	1.7	1.8	-5.9%	1.7	1.8	+14.3%
White	0.8	0.5	-37.5%	0.7	0.7	0.0%
Hispanic	0.5	0.8	+60.0%	0.5	0.6	+20.0%

Data Source: Florida Charts, <u>www.flhealthcharts.com</u>

When viewing the underlying cause of SUIDS death by race and ethnicity, Black infants are more likely to have a death due to Cause Unknown/Unspecified than either White or Hispanic infants. FIMR reviews show that these cases are predominately sleep-related deaths. Both White and Hispanic infants are more likely to have a sleep-related death due to Accidental Suffocation and Strangulation. The SIDS classification is no longer used by the Medical Examiner and there was one death to a Black infant with this classification.

TABLE 23 CAUSE-SPECIFIC MORTALITY RATE BY RACE & ETHNICITY SUIDS DEATHS, 2017-2019

Cause	Black	White	Hispanic
Sudden Infant Death Syndrome	0.0892	0	0
Accidental Suffocation and Strangulation	1.1672	0.2756	.4619
Cause Unknown/Unspecified	0.5354	0.1102	0.3617

Data Source: Florida Charts, <u>www.flhealthcharts.com</u>; based on analyses of Death Cohort.

Graph 33 shows the trend of infant deaths classified as Sudden Unexpected infant deaths (SUIDS) based on vital statistics data for the annual death cohort. These are deaths with no obvious cause until after an autopsy and scene investigation has been completed. Since the last needs assessment, the SUIDS rate has decreased by 15.5%. However, the provisional 2020 data as of October 2020, show that the number of SUIDS deaths has increased from a total of 9 in 2019 to 13. It is unknown if this increase is due to COVID-19 and the impact of job loss and housing.

GRAPH 34 SUDDEN UNEXPECTED DEATHS (SUIDS) RATE PER 1,000 LIVE BIRTHS



Data Source: Florida Charts, <u>www.floridacharts.com</u>

Deaths due to LBW/PTB will be further discussed under section C.4.a and C.4.b. regarding the Maternal Health Period of Risk. Deaths due to SUIDS will be further discussed under Section C.6. Infant Health Period of Risk. See Section C. *Perinatal Period of Risk Analysis* for further definition.



HEALTHY START COALITION OF HILLSBOROUGH COUNTY, INC.

C. PERINATAL PERIODS OF RISK ANALYSIS

The Perinatal Periods of Risk Model (PPOR) was developed by the World Health Organization as a framework for analyzing fetal and infant mortality using two dimensions: the age of the infant or fetus at the time of death and the birth weight of the infant or fetus. There are three periods for time of death: fetal deaths \geq 24 weeks gestation, neonatal deaths (birth-27 days), and post-neonatal deaths (28-364 days). Birth weight is divided into two cohorts: birth weight 500- 1,499 grams and birth weight \geq 1,500 grams. Births less than 500 grams and fetal age less than 24 weeks are excluded from this analysis. This provided a further analytical framework related to the needs assessment process.



The Hillsborough Coalition participated in the Florida Perinatal Periods of Risk Practice Collaborative with the six other urban Coalitions (Broward, Duval, Miami-Dade, Orange, Palm Beach and Pinellas) to implement PPOR in Florida in 2002-3002. Centers' for Disease Control and Prevention and CityMatCH provided the training and the Florida Department of Health provided the linked data sets needed for the analysis. PPOR is divided into two Phases. Phase I analyzes the rates for each period of risk for the most recent three-year time period available. The excess mortality for each period is determined by comparing the county and racial groups (e.g. White, Black) of interest to a referent population. Phase II provides further analysis into the underlying reasons for deaths with excess mortality.

The referent population is selected because that group has the best birth outcomes in the community. During the practice collaborative, it was decided that each county would use its own community's referent population. That population, for all urban counties except Miami-Dade, was White women (regardless of ethnicity), maternal age \geq 20 and maternal educational level \geq 13 years. Analysis completed at that time determined no significant difference in birth outcomes for White women who were Hispanic versus Non-Hispanic in these age and educational levels. This referent population was used through 2004. Due to the increase in Hispanic fetal and infant deaths, from 2005 forward, Hispanic ethnicity will be removed from the referent group. An analysis of the two referent groups did not show a significant difference and comparison of PPOR analysis from 1998-2004 will not have much bias compared to 2005 forward. The largest differences were in the Maternal Health Period of Risk. The magnitude of the difference was no greater than 0.40 per 1,000 feto-infant deaths in 2001-2013 with the highest magnitude being 0.9 per 1,000 feto-infant deaths in 2008-2010. The conclusions drawn from the PPOR analysis do not change based on the referent population used but the magnitude of the opportunity gap (discussed later) will be slightly higher for the referent group with Hispanic ethnicity excluded.

It should be noted that the selection of a referent group will determine how much excess mortality exists for the County and each racial cohort selected for analysis. Because an internal referent group was selected, there was virtually no excess for the White cohort. However, if a Florida referent population had been used, there would have been excess deaths to the White cohort because Hillsborough County has a higher White infant mortality rate compared to Florida.

FIGURE 2 FETO-INFANT MORTALITY MAP PERINATAL PERIODS OF RISK MODEL



Each period of risk corresponds to a specific set of risk factors. Very low birth weight deaths correspond to risk factors related to *Maternal Health Period*. Late fetal deaths where the birth weight is low or normal (1500+ grams) relate to issues in the *Maternal Care Period*. The next period (neonatal deaths > 1,500 grams) relate to *Newborn Care Period*. The post-neonatal period relates to risk factors associated with the *Infant Care Period*. Risk factors that relate to each period of risk are given in Figure 3.



This section reviews the feto-infant mortality map for the 2016-2018 time-frame which was used as the basis for strategic planning. The 2019 linked data set was not final at the time of strategic planning and this analyses. The PPOR trends since the last needs assessment are also provided to determine if rates are increasing, decreasing or remaining stable. Then, analysis related to excess mortality compared to a referent population is provided. It is from the conclusions of the excess mortality analyses that specific periods of risk are selected for additional analytical work which is the Phase II analyses for PPOR and informed the root cause analyses and Driver Diagram development.

C1. Feto-Infant Mortality Rates and Trends

The Maternal Health period still has the highest feto-infant mortality rate at 4.2 deaths per 1,000 live births + fetal deaths (44% of the mortality). The rate has increased by 26.5% since the last needs assessment. The Maternal Care period had the second highest rate at 2.7. This represented a 35.0% increase over the last needs assessment. The Infant Health period showed no change from the last needs assessment. The Newborn Care Period continues to have the lowest feto-infant mortality rate, as has been the pattern since 1998. The overall rate increased by 17%.

TABLE 24
HILLSBOROUGH COUNTY FETO-INFANT MORTALITY

	Maternal Health	Maternal Care	Newborn Care	Infant Care	Total Feto-Infant Rate
12-14	3.4	2.0	1.1	1.6	8.3
16-18	4.3	2.7	1.0	1.6	9.7
Change	+26.5%	+35.0%	-9.0%	0.0%	+16.9%

Source: 2004-2018 linked data sets, Office of Vital Statistics, Florida Department of Health

Graph 35 displays trends since the last needs assessment. The Maternal Health and Maternal Care periods show the increasing trend since 2015-2017. The Newborn Care rates continue to be the lowest and have remained stable. This period is related to NICU care and appropriate transfers to the appropriate NICU-level facilities. Infant health has also remained relatively stable during this time.



GRAPH 35 FETO-INFANT MORTALITY TRENDS



Source: 2008-2018 linked data sets, Office of Vital Statistics, Florida Department of Health

C2. PPOR Disparities by Race and Ethnicity

The relative risk, with 95% confidence intervals, was calculated between Black and White fetoinfant deaths, as well as Hispanic and NH White feto-infant deaths, for each risk period to determine where there were significant disparities. There was no significant difference when this was analyzed by NH White and NH Black so the analysis focused on Black and White for relative risk and trends. Three periods had significant relative risks: <u>Maternal Health</u> (RR=2.09, 95% CI=1.54, 2.83) and <u>Maternal Care</u> (RR=1.56, 95% CI=1.05, 2.30) <u>Infant</u> <u>Health</u> (RR=2.55 (95% CI=1.59,4.07). The lack of a disparity within the Newborn Care Period has also been a consistent finding during the past ten years.

For Hispanic infants compared to NH White infants, the relative risk was not significant in any PPOR domain.

	TABLE 25				
	FETO-INFANT MORTALITY BY PERIOD OF RISK AND BY RACE AND ETHNICITY				
2016-2018					

	Maternal Health	Maternal Care	Newborn Care	Infant Care	Total Feto-Infant Rate
NH Black	6.5	2.8	1.2	2.9	13.3
NH White	2.5	2.0	0.8	1.1	6.3
Hispanic	3.3	2.3	0.7	1.1	7.5
Referent	1.8	1.7	0.4	0.9	4.8

Source: 2016-2018 linked data sets, Office of Vital Statistics, Florida Department of Health

C3. EXCESS MORTALITY

Excess mortality was calculated by subtracting each feto-infant rate for Black, White and Hispanic feto-infant deaths from the referent population (NH

White, 20+ years old, 13+ years education). This provides an estimate for the excess rate and number of deaths in each period compared to the best rate achievable rate in Hillsborough County.

The highest excess mortality for the Black population was in the Maternal Health period with 55% of the excess deaths. Infant Care was second with 23% and Maternal Care with 8.5%. Even though Infant Care did not have a significant disparity, it still had excess deaths. For Hispanic feto-infant deaths, the disparity existed for the Maternal Health period with 59% of the excess deaths. There was virtually no excess for White

feto-infant deaths. Therefore, strategic planning focused on Black excess mortality in both the Maternal Health and Infant Health Phase II analyses and Hispanic excess focused on Maternal Health. For Maternal Health, given the complexity of large fetal deaths and the smaller excess rates, the Coalition will continue its collaboration with the Florida Perinatal Quality Collaborative since this issue is largely one of the health care system.

2016-2018					
	Maternal Health	Maternal Care	Newborn Care	Infant Care	Total Feto-Infant Rate
NH Black Excess	4.7	1.1	.08	2.0	8.5
NH White Excess	0.7	0.2	0.3	0.2	1.5
Hispanic Excess	1.6	0.6	0.3	.02	2.7

TABLE 26 EXCESS MORTALITY=OPPORTUNITY GAP 2016-2018

Source: 2016-2018 linked data sets, Office of Vital Statistics, Florida Department of Health

C4a. Maternal Health Period of Risk – Black Women

A Kitagawa analysis was conducted to determine if the Black excess mortality in this period was due to *birth-weight distribution*, a higher distribution of low birth weight infants compared to the referent group, or *birth-weight specific mortality*, a higher rate of death in the same birth-weight categories compared to the referent group. This analysis partitions the excess mortality into these two classifications.

As Table 27 illustrates, 69% of the total Black excess feto-infant mortality is due to birth-weight distribution, a higher percentage of Black low birth weight births compared to the referent population. For Black feto-infant deaths in the Maternal Health Period, 85% of the excess is due to birth-weight distribution. Therefore, the critical issue addressed in Phase II analyses, related to this higher distribution of births, due to prematurity, and not to a higher rate of death.



TABLE 27KITAGAWA ANALYSIS FOR EXCESS BLACK FETO-INFANT DEATHS2016-2018

Percentage Contribution to the Difference in Excess Mortality Rates				
Birth Weight	Birth Weight Distribution	Feto-Infant Mortality Rates	Total	
500-749 grams	25.3%	1.5%	26.7%	
750-999 grams	-6.1%	-6.1%	7.5%	
1,000-1,249 grams	5.9%	3.3%	9.1%	
1,250-1,499 grams	3.7%	10.1%	13.8%	
1,500-1,999 grams	11.8%	4.5%	16.3%	
2,000-2,499 grams	11.2%	-3.7%	7.5%	
2,500-6,499 grams	-2.8%	21.8%	19.0%	
Total	69.0%	31.0%	100.0%	

Source: 2011-2014 linked data sets, Office of Vital Statistics, Florida Department of Health

The excess mortality in the Maternal Health Period of Risk for Black infants has increased since the last needs assessment. As Graph 36 indicates, a large disparity still exists between Black and White feto-excess infant deaths in this period of risk.





Source: 2012-2018 linked data sets, Office of Vital Statistics, Florida Department of Health

Since the last needs assessment, the distribution of very low birth weight births shifted to birth weight categories with higher survival, leading to improvements in the NMR. Less than 500 gram births, which increased from the last needs assessment, had declined in the remaining time periods. Infants born between 500-750 grams declined by 20% since the last needs assessment. Survival in these two birth weight categories is low, with average mortality of 95% and 41% respectively. Black infants have 2-3 times higher distribution in these birth weight categories than the County which contributes to the disparity and higher neonatal mortality rate.

GRAPH 37 BIRTH WEIGHT DISTRIBUTION BLACK INFANTS <1,500 GRAMS



Source: 2012-2018 linked data sets, Office of Vital Statistics, Florida Department of Health

Phase II analysis focused on births to Non-Hispanic Black infants where the outcome was very low birth weight (VLBW). Comparisons were made to two cohorts: NH Black women with normal birth outcomes were compared to NH Black women with VLBW; NH Black women with poor birth outcomes were compared to NH White women with poor birth outcomes. This analysis used the time period of 2016-2018.

The neonatal mortality rate during this time period for NH Black infants was 9.2 neonatal deaths per 1,000 live births, N=93). 87% of these deaths were very low birth weight. Due to the small number of deaths that were moderate low birth weight (1,500-2,499 grams, n=5) and the Kitagawa analysis, the focus was on VLBW. Significant risk factors, which were adjusted for other risk factors, are presented in Tables 28 and 29. The adjusted odds ratio is the odds of having a VLBW birth independent of all other risk factors.



TABLE 28RISK FACTORS FOR NH BLACK SINGLETON VLBW2016-2018

Risk Factor	Adjusted Odds Ratio	95% Confidence Interval		
Referent Population: NH Black Singleton Normal Birth Weight Births				
No Prenatal Care	2.430	(1.504,3.925)		
PIH*	2.873	(1.824,4.524)		
Previous PTB	4.704	(2.389,9.266)		
Father Not on BC	1.479	(1.038,2.107)		

Source: 2016-2018 linked data sets, Office of Vital Statistics, Florida Department of Health Note: PIH is pregnancy-induced hypertension.

Risk factors that were not significant for NH Black singleton VBLW to normal birth weight were Associates Degree, Maternal Age < 20 years old, Single Marital Status, Maternal Smoking, Medicaid, WIC, Chronic Hypertension, Poor Previous Outcome. Mother BMI > 30 (obesity), Mother BMI < 18.4 (underweight).

When comparing Black women having a VLBW infant with White women having a VLBW infant, Black women were more likely to have less than an Associate's Degree, a BMI > 30, no prenatal care or late/no prenatal care, have Medicaid as a payor source and not have the infant's father listed on the birth certificate. Black women have a worse socioeconomic circumstance and potentially less social support than White women as evidenced by Table 29.

TABLE 29 RISK FACTORS FOR NH BLACK SINGLETON VLBW 2016-2018

Risk Factor	Adjusted Odds Ratio	95% Confidence Interval				
Referent Population: NH White VLBW	Referent Population: NH White VLBW Births					
Race Black	2.667	(2.025,3.512)				
BMI > 25, Overweight/Obese	1.318	(1.013,1.713)				
BMI < 18.4, Underweight	2.347	(1.410,3.907)				
No Prenatal Care	2.707	(1.907,3.844)				
Father Not on BC	1.748	(1.292,2.366)				
РІН	2.971	(2.101,4.201)				
Previous PTB	3.903	(2.183,6.978)				

Source: 2016-2018 linked data sets, Office of Vital Statistics, Florida Department of Health

Risk factors that were not significant between NH Black women and NH White women for singleton, VLBW

births were Maternal Age < 20 years old, Maternal Smoking, Medicaid, WICH, Chronic Hypertension and Previous Poor Outcome. Lack of significance may be due to small sample sizes in these categories or similar risk factors across the two cohorts.

Graph 38 shows the relationship between number of events versus rate for that event. Due to the small number of VLBW births by zip code, the rates were higher in many zip codes with low numbers of VLBW. This would provide an inaccurate picture of the county in terms of where VLBW are concentrated and might lead to interventions concentrated in areas that would not provide for significant reductions in VLBW and subsequent neonatal deaths. Therefore, maps used the number of events to create a thematic representation of the concentration of events by zip code.



GRAPH 38 BLACK VLBW BIRTHS BY COUNT AND RATE FOR ZIP CODES

Areas with the highest concentration of Black VLBW births include the University of South Florida area and the Central Tampa Area. The USF area contains a large transient population with a high concentration of Section 8 housing. Central Tampa is served by the Federal Healthy Start Project. Zip Codes with highest density of Black VLBW Births: *33604, 33605, 33607, 33610, 33612, 33613, 33617 and 33619.* These 8 zip codes which are 13% of all zip codes contain 58% of all Black VLBW Births.

MAP 1 BLACK VERY LOW BIRTH WEIGHT BIRTHS



Map based on Longitude (generated) and Latitude (generated). Color shows sum of VIbw. Details are shown for GEOID.

C4b. Maternal Health Period of Risk – Hispanic Women

A Kitagawa analysis was conducted to determine if the Hispanic excess mortality in this period was due to *birth-weight distribution*, a higher distribution of low birth weight infants compared to the referent group, or *birth-weight specific mortality*, a higher rate of death in the same birth-weight categories compared to the referent group. This analysis partitions the excess mortality into these two classifications.

As Table 30 illustrates, 59.9% of the total Hispanic excess feto-infant mortality is due to birth-weight distribution. This is higher than the last needs assessment when it was 42%. For the Maternal Health Period of Risk, 65% is due to birth weight distribution.



TABLE 30KITAGAWA ANALYSIS FOR EXCESS HISPANIC FETO-INFANT DEATHS2016-2018

Percentage Contribution to the Difference in Excess Mortality Rates					
Birth Weight	Birth Weight Distribution	Feto-Infant Mortality Rates	Total		
500-749 grams	32.0%	6.3%	38.3%		
750-999 grams	9.9%	-9.5%	0.4%		
1,000-1,249 grams	-2.2%	25.3%	23.2%		
1,250-1,499 grams	-0.1%	-0.5%	-0.6%		
1,500-1,999 grams	9.7%	-5.0%	4.6%		
2,000-2,499 grams	12.6%	-7.3%	5.3%		
2,500-6,499 grams	-2.0%	30.8%	28.9%		
Total	59.9%	40.1%	100.0%		

Source: 2016-2018 linked data sets, Office of Vital Statistics, Florida Department of Health

The excess mortality in the Maternal Health Period of Risk for Hispanic feto-infants has increased since the last needs assessment and increased during each subsequent time period.



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GRAPH 39 TRENDS IN EXCESS MORTALITY FOR MATERNAL HEALTH by RACE Per 1,000 FETO-INFANT DEATHS



Source: 2012-2018 linked data sets, Office of Vital Statistics, Florida Department of Health

Since the last needs assessment, the distribution of very low birth weight births increased between 500 to 1,250 grams, while it declined for both < 500 gram infants and 1,250-1,499 gram infants. The increases were more pronounced and shifted the distribution. The distribution for these infants is similar to that for the county. Average mortality is 98% for infants < 500 grams and 56% for infants 500-750 grams (higher than the county average). Given the PPOR analysis and this shift, analytics focused on very low birth weight births.



GRAPH 40 BIRTH WEIGHT DISTRIBUTION HISPANIC INFANTS <1,500 GRAMS

Source: 2012-2018 linked data sets, Office of Vital Statistics, Florida Department of Health

Phase II analysis focused on births to Hispanic infants where the outcome was very low birth weight (VLBW). Comparisons were made to two cohorts: Hispanic women with normal birth outcomes were compared to Hispanic women with VLBW outcomes; Hispanic women with poor birth outcomes were compared to Non-Hispanic women with poor birth outcomes. This analysis used the time period of 2016-2018. Each of these analyses were further stratified by ethnic group: Mexican, Puerto Rican, Cuban and Other Hispanic ethnicity (Central American and South American).

The total number of neonatal deaths in each group was small, but adjusted odd ratios were calculated

and are provided in a summary table (Table 31). The referent group for this analysis was NH White Women having a VLBW. Adjusted odds ratios with 95% confidence intervals are given.

Few odds ratios were significant when only women from the same ethnic group were analyzed. However, for Puerto Rican women, women having a VLBW compared to PR women having a NBW, there were two significant findings. A maternal age < 20 had an adjusted odds ratio just below significance of 2.545 (95% CI=0.992,6.528) and maternal smoking with an adjusted odds ratio of 4.308 (95% CI=1.449, 12.811).

TABLE 31
SUMMARY OF SIGNIFICANT FINDINGS FOR RISK FACTORS FOR SINGLETON VLBW
2016-2018

Risk Factor	Mexican	Puerto Rican	Cuban	Other
No Prenatal Care	2.728 (1.297,3.651)	2.669 ((1.661,4.289)	3.383 (2.110,5.422)	2.965 (1.839,4.780)
Father Not on BC	2.176 (1.297,3.651)	2.393 (1.515,3.779)	2.351 (1.415,3.907)	2.304 (1.380,3.849)
BMI < 18.4	4.385 (2.401,8.010)	2.957 (1.609,5.435)	3.207 (1.748,5.885)	3.595 (1.953,6.618)
BMI > 25, Overweight+	1.491 (1.027,2.164)	1.426 (1.010,2.014)	NS	NS
PIH* 3.287 (2.004,5.3		2.772 (1.701,4.519)	3.675 (2.282,5.917)	3.641 (2.261,5.861)
Previous PTB	NS	2.607 (0.930,7.309)	NS	NS

Source: 2016-2018 linked data sets, Office of Vital Statistics, Florida Department of Health *PIH is pregnancy-induced hypertension.

Risk factors that were not significant across all ethnic groups were maternal education, Single marital status, maternal age < 20 years old, Medicaid, WIC, chronic hypertension and previous poor pregnancy outcome.

Hispanic VLBW births were mapped by ethnic group to determine the geographic areas of the county with significant concentrations of these deaths.

MAP 2 MEXICAN VERY LOW BIRTH WEIGHT BIRTHS



Map based on Longitude (generated) and Latitude (generated). Color shows sum of Vlbw. Details are shown for Geoid.

Zip Codes with highest density of Mexican VLBW Births: **33563, 33570, 33598, 33614 and 33619.** These 5 zip codes which

are 9.4% of all zip codes contain **38%** of all Mexican VLBW Births. The South County area is one with a large concentration of migrant farm workers.

MAP 3 PUERTO RICAN VERY LOW BIRTH WEIGHT BIRTHS



Map based on Longitude (generated) and Latitude (generated). Color shows sum of VIbw. Details are shown for Geoid.

Zip Codes with highest density of Puerto Rican VLBW Births: 33603, 33604, 33605, 33612, 33613, 33614, 33615, 33619 and 33647.

These 9 zip codes which are 17% of all zip codes contain **53%** of all Puerto Rican VLBW Births.

MAP 4 CUBAN VERY LOW BIRTH WEIGHT BIRTHS



VIbw 0 9 Zip Codes with highest density of Cuban VLBW Births: **33614 and 33615.** These 2 zip codes which are 4% of all zip codes contain **60%** of all Cuban VLBW Births.

Map based on Longitude (generated) and Latitude (generated). Color shows sum of Vlbw. Details are shown for Geoid.

C5. INFANT CARE

Excess infant deaths during the Infant Care period are primarily due to SUID deaths. The relative risk between Black and White infants is significant at 3.6 (95% CI1.9,6.8), while the RR for SUID deaths between Hispanic and NH White is not significant. Excess mortality to Black infants in this period did increase since the last needs assessment.



GRAPH 41 TRENDS IN EXCESS MORTALITY FOR INFANT CARE by RACE Per 1,000 FETO-INFANT DEATHS

Source: 2011-2013 linked data sets, Office of Vital Statistics, Florida Department of Health



To understand the trends related to SUIDS deaths, Fetal Infant Mortality Review case review data was used to provide context for the environment in which these infants died. Specifically, risk factors related to sleep position, bed-sharing and unsafe bedding were reviewed. The FIMR reviews data is from 2011-2019. During this time, FIMR reviewed 53% of total SUID deaths. Since these were case reviews and are not 100% of the deaths due to these causes, data was not stratified by race or ethnicity.

Previous research agrees with FIMR reviews and provides a context for the FIMR data. Research has found that both prone sleep position and bedsharing are associated with infant and parental comfort so that the infant sleeps more soundly as well as infant safety. When considering the issue of prone sleeping position, mothers were more likely to place their infants prone when they had a mistimed or unwanted pregnancy or had experienced some type of traumatic stress. For Black women, this was also more likely if the father's name was not acknowledged on the birth certificate (Broussard, et. al., 2009). Black parents report that they are aware of the recommendations by the American Academy of Pediatrics regarding place an infant on his back to sleep, however they do not believe that this reduces the risk of SIDS. They believe the prone position is safer due to fears of the infant aspirating during sleep. They also place their infant

on their stomach for sounder sleep during the night (Moon, 2008; NE Florida Safe Sleep Survey, 2009).

When considering the issue of <u>bed-sharing</u>, mothers who were either younger (< 25 years old) or older (> 34 years old), single, born in the United States, had experienced some type of partnerassociated stress and had breastfed for at least 4 weeks, were more likely to bed-share. For Black women, any-type of breastfeeding, entry into prenatal care after the first trimester or no prenatal care and depression were more likely to bed-share. Black women who were depressed were 7.5 times more likely to bed share than those who were not depressed (Broussard, et. al., 2009).

Many families bed-share due to economic reasons: no funds to purchase a crib or no room for a crib in the house). Parents believe this is the best way to keep their infant safe (especially in high-crime communities) and it helps their infant to sleep through the night. For breastfeeding mothers, it also provides convenience (Moon, 2008). Recent research has found the parents also bed-share due to unsafe housing such as lack of heat or presence of vermin in the house -e.g. roaches, rodents, etc. (Chu, Hackett and Kaur, 2015).

FIMR reviews found that a crib was present in 62% of these cases. In addition, 74% of the time there were unsafe items in the crib or bed which included pillows, blankets, bumpers, etc. In 35% of the case reviews, the infant was on a pillow (Bobby Pillow, Baby Sitter Pillow, Regular Pillow) either laid prone on the pillow, laid supine on the pillow or had their had propped on the pillow. This occurred in both adult beds and cribs (Graph 42).

Infant was in a non-supine position, normally on the stomach, 59% of the time. They were cosleeping 53% of the time. Nine out of ten times, the caregiver was one or both of the parents (Graph 42).

GRAPH 42 FIMR REVIEWS FOR SLEEP CONDITIONS



Recent FIMR reviews have found that the deaths which occurred in someplace other than an adult bed occurred when the parent was feeding the infant during the night and fell asleep on the chair or couch after the feeding. Other than a crib (42%) or adult bed (34%), the couch was the next most frequent sleep location (16%) (Graph 43).



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GRAPH 43 FIMR REVIEWS FOR SLEEP LOCATION



Maternal risk factors during these reviews found mothers had multiple risk factors that the team felt increased the likelihood of these deaths. Prevalent documented risk factors included substance use (36%), mental health conditions (23%), domestic violence (9.5%), an arrest history in Hillsborough County (37%), and Department of Children and Families involvement as a child (16%) and as a parent (34%). The most prevalent drug use documented was marijuana at 70% with another one-third with opiate usage.



GRAPH 44 FIMR REVIEWS FOR MATERNAL RISK FACTORS

Safe sleep is a priority in Florida's Title V plan. The 2020 goal is a rate of 84.5% for infants placed to bed on their back. FIMR reviews found the Hillsborough County infants who die of a sleep-related death are far below that rate.

MAP 5 SUDDEN UNEXPECTED INFANT DEATHS



SUIDS deaths are concentrated in the central coordinator of Tampa moving east toward the Brandon area. The Brandon area is a new geographic area for a concentration of these. There is also a concentration in South county.

Map based on Longitude (generated) and Latitude (generated). Color shows sum of Suids. Details are shown for Zip Code.



C6. HILLSBOROUGH COUNTY NON-MCH PROFILE Compared to Florida, Hillsborough County is slightly more racially and ethnically diverse. The data are for year 2019 which is the last year of data for this needs assessment.

	State					
Race	Data Year	Population	Percentage	Percentage		
White	2019	1,073,553	74.0%	77.3%		
Black	2019	257,889	17.8%	16.9%		
Other	2019	113,801	7.8%	5.8%		
Ethnicity						
Hispanic	2019	422,550	29.0%	26.3%		
Non-Hispanic	2019	1,022,693	71.0%	73.7%		
Total Population	2019	1,445,243		21,268,553		

TABLE 32HILLSBOROUGH COUNTY POPULATION DEMOGRAPHICS

Source: Florida Charts, www.flhealthcharts.com; data from Florida Legislature, Office of Economic and Demographic Research

For all families in Hillsborough County, 11% live below the Federal Poverty Level. This increases to 16% for families with children less than five years old. When households headed by females are considered, the rate increases to 26% and almost four in ten of these families where there are children less than 5 years old are in poverty. These rates are similar to Florida's. The unemployment rate for the civilian work force is 6.3% which is equivalent to Florida rate. When considering adults 25 years or older, 88% have at least a high school education.

The mean household income in the county is \$53,267. However, 14% of the population receives food stamps. A much smaller percentage, 2.1%, receive case public assistance income.

Hillsborough County has 87% of the population covered by some form of health insurance between private and public coverage. Still, for those who are employed and between 19 and 64 years old, almost 18% have no health insurance. (US Census Bureau, American Community Survey 5-year estimates, 2015-2019, www.flhealthcharts.com.)



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C7. SOCIAL DETERMINANTS OF HEALTH

As part of the required 2019 community health assessment required under the Affordable Care Act, BayCare Health Systems partnered with the hospitals and Health Department in Hillsborough County to conduct a resident survey that addressed access to health care and mental health care services, food insecurity, housing affordability, neighborhood safety, social support and Adverse Childhood Events. The survey results were requested for Hillsborough County residents who were women of childbearing age, 18-44 years old. Adolescents were not part of this survey. Data was stratified by White, Black and Hispanic and is presented in this section. This data set provides a rich context for SDOH.

Demographic	Black	Hispanic	White	Total
Total Respondents	370	679	847	2,057
Age				
• 18-24 Years Old	• 18.1%	• 23.6%	• 14.9%	• 19.0%
• 25-34 Years Old	• 47.0%	• 36.8%	• 44.0%	• 42.3%
• 35-44 Years Old	• 34.9%	• 39.6%	• 41.1%	• 38.7%
≤ High School or GED	23.8%	31.7%	8.5%	32.9%
Marital Status				
Single	• 48.6%	• 34.2%	• 24.3%	• 39.9%
Cohabitating	• 17.0%	• 17.5%	• 18.2%	• 17.7%
Married	• 25.6%	• 39.0%	• 49.6%	• 40.9%
 Divorced/Separated 	• 7.8%	• 8.9%	• 7.3%	• 7.9%
Widowed	• 1.1%	• 0.3%	• 0.62%	• 0.55%
Income < \$75,000	75.8%	70.8%	44.6%	59.5%
Employed Full-Time	67.8%	56.9%	74.7%	66.7%
No Children < 18 Years Old	31.8%	32.7%	48.3%	36.7%

TABLE 33 DEMOGRAPHICS OF SURVEY RESPONDENTS

Source: BayCare Health system. (2019). 2019 CHNA [Data File]. Available from lisa.bell@baycare.org.

Compared to women who gave birth, respondents were more likely to be older than 24 years old and less likely to have an education less than high school or GED. While reporting to be employed full-time, seven of ten Black women had an income < \$75,000 compared to 45% of White women. Hispanic women were the least likely to report full-time employment at 57%. One-third of Black and Hispanic respondents did not have any children at home < 18 years old compared to almost five in ten White respondents. Even with a population different from women who gave birth, the survey responses provide a rich context for the issues facing women of child-bearing age in Hillsborough County. It would be expected that some of these issues would be even more pronounced for women who are pregnant and have young children at home.

GRAPH 45 PAYMENT FOR HEALTH CARE



The majority of respondents had private health insurance but Black and Hispanic respondents were 68% less likely to have private health insurance. Almost one-quarter of Hispanic respondents did not have any insurance.



GRAPH 46 REASONS FOR NOT GETTING HEALTH CARE



Black = 21.5% Hispanic = 23.8% White = 22.6%



Almost one-quarter of respondents did not get the health care they needed at some point in the past 12 months (based on when they responded to the survey). The primary reasons that women did not get the health care they needed, was that they *Can't Afford It* followed by *No Health Insurance*.



GRAPH 47 REASONS FOR NOT GETTING MENTAL HEALTH CARE



Almost one in five respondents did not get the mental health care they needed during the proceeding twelve months of their response to the survey. The primary reason was they *Can't Afford It* with White women more likely to state this. Other access issues included *Trouble Getting an Appointment, Not Having a Counselor, Not Knowing Where to Go* for mental health care services, and *Not Having Health Insurance* to pay for the sessions.



GRAPH 48 LACK OF SOCIAL SUPPORT



Black women were more likely to report that they *Don't Have Enough People to Ask for Help*, they were *Not Happy with Friendships & Relationship* and they disagreed that *My Relationships Are Satisfying*. Over 17% of Hispanic women reported that they *Don't Have Enough People to Ask for Help* compared to 12% of White women. At least 15% of all respondents reported they had *Thoughts of Suicide*.



GRAPH 49 DIET & FOOD INSECURITY



Food Insecurity and the Need for Emergency Food was twice that of Black and Hispanic women compared to White women. Almost 20% of Black and Hispanic women needed emergency food during the month and almost 50% reported they were food insecure. Diets also included Weekly Fast Food, Daily Intake of Sugary Drinks and Daily Intake of Junk Food. This varied by race with Black women having the highest prevalence.



GRAPH 50 HOUSING



Almost one-half of all respondents reported there was *No Affordable Housing* in their neighborhood. Black women were the most likely to report homelessness in the past two years, worry over stable housing in next two months and inability to pay for utilities.



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GRAPH 51 **REASONS FOR NOT FEELING SAFE IN NEIGHBORHOOD**

Hispanic = 17.3%

White=8.5



Reasons for not feeling safe waking in my neighborhood varied by race. While fear of Violent Crime or Theft was the most prevalent for all groups at 60% to 70%, Black women were more likely to also fear of being Stopped by the Police or Dogs Not on a Leash. White women were more likely to also fear Traffic and Conditions of Sidewalks.



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TABLE 34ADVERSE CHILDHOOD EVENTS

Question	Black	Hispanic	White
Did you live with anyone who served time or was sentenced to serve time in a prison, jail, or other correctional facility?	13.5%	9.6%	8.6%
Did you live with anyone who used illegal street drugs or who abused prescription medications?	12.4%	10.8%	14.9%
Did you live with anyone who was depressed, mentally ill, or suicidal?	18.6%	17.8%	30.7%
Were your parents separated or divorced?	40.5%	37.8%	34.6%
Did your parents or adults in your home slap, hit, kick, punch or beat each other up?	15.4%	17.4%	15.8%
Did a parent or adult in your home hit, beat, kick, or physically hurt you in any way?	20.3%	20.6%	20.1%
Did a parent or adult in your home swear at you, insult you, or put you down?	26.2%	26.7%	34.8%
Did an adult or anyone at least 5 years older than you touch you sexually?	13.2%	14.4%	15.2%
Did an adult or anyone at least 5 years older than you try to make you touch them sexually?	11.1%	10.3%	11.5%

The most frequently mentioned ACE was parental separation or divorce. Being physically or emotional abused was the second, except for White women where it was living with someone with a mental illness. Sexual abuse, composed of touching, was mentioned 10%-15% of the time.

C8. COMMUNITY MEETINGS

Community meetings utilized a Social Determinants of Health framework in discussing the analytics of the needs assessment.



Source: Goodwin, A. (2019). Promedica Health System: Case Study Changing Lives by Providing Access to Healthy Food Along with Employment and Financial Coaching. Social Determinants of Health Action Forum 2019, Miami, Florida.

Socioeconomic Factors include Education, Job Status, Family/Social Support, Income and Community Safety. These comprise 40% of health outcomes. <u>Health Behaviors</u> include Tobacco Use, Diet & Exercise, Alcohol Use and Sexual Activity. These comprise 30% of Health Outcomes. <u>Physical Environment</u>, which comprises 10% of health outcomes, includes neighborhoods and build environment. Finally, <u>Health Care</u>, which includes access and quality, is 20%.

Utilizing this framework, a series of "Why" questions were asked regarding the data conclusions and the reason for the finding. The use of the "5 Whys" is a strategy in root cause analysis that is part of a continuous quality improvement process.

FIGURE 5 COMMUNITY MEETING FRAMEWORK



The community meetings provided a lens through which to view the analytics and community survey. They are presented for each domain: *Health Care: Access & Quality, Health Behaviors, Physical Environment* and *Socioeconomic Factors*. Health Care includes both physical health care as well as mental health care.

C8a. HEALTH CARE: ACCESS & QUALITY

Discussion in this domain included issues regarding prenatal care access facing all pregnant women, issues for Hispanic women and issues for Adolescents.

Health Care Access & Quality: All Women

Discussion in this subdomain focused on provider office practices and payment for prenatal care services. Members reported that pregnant clients often do not know how to communicate with their provider. They report not knowing what questions to ask regarding their pregnancy on any health issues they are experiencing. When they do speak up, they feel unheard and their concerns ignored. This creates a feeling of distrust which impacts their desire to continue with their visits. For women of color, members discussed the perception of implicit bias or racism in how their provider treats them.

In terms of continuity of care, women may see multiple providers within one practice. This may mean they receive different messages regarding their pregnancy.

For women without any type of health insurance, timeliness of prenatal care is delayed until they can qualify for Medicaid or afford to pay for prenatal care.

Health Care Access & Quality: Hispanic Women

For Hispanic women, additional barriers include language barriers. This includes women who speak different dialects of Spanish where a Spanishspeaking provider may not be sufficient. Patient educational materials are also problematic if not in their native language. The amount of materials may overwhelm these patients and they do not read or understand the information they are provided.

The health care experience in the United States may be different from their home country. For instances, appointments are shorter and there are less ultrasounds. This may be a barrier for these women who do not perceive the quality in US health care during their pregnancies.

For women who are in the US and are not legal residents or citizens, immigration issues hinder attending prenatal visits as well as seeking out other needed services. In these instances, there is a fear of deportation and the removal of their children.

Health Care Access & Quality: Adolescents

The Adolescent Health Advisory Board provided information on the barriers adolescents face in accessing health care services. Again, the perception that their medical providers do not listen to their concerns prevents them from attending those visits. They also have concerns with COVID-19 and fear of exposure.

For adolescents, access to family planning services is also difficult. One of the primary Title X providers stopped providing Title X services. The only provider is in East and South County. The Ybor Youth Clinic has received a federal grant for free Nexpalon which provides for another access point.

Adolescents also have a difficult time accessing and receiving Medicaid to pay for the prenatal health care services.

Health Care Access & Quality: Mental Health Care Services

In terms of mental health care services, the system is difficult to navigate. Clients are unsure where to go for these services based on their insurance status. Services are often during Monday-Friday during normal business hours. Clients are unable to take time off from work, due more to fear of being fired than fear of losing pay. There are often waiting lists for services. For Hispanic clients, access issues include a lack of bi-lingual mental health care therapists.

There is also the issue of the stigma still associated with seeking mental health care services. Many pregnant women choose not to seek this type of care, even if they have insurance.

Health Care Access & Quality: Mental Health Care Services for Adolescents

Due to COVID-19 and the subsequent quarantines and isolation, the mental health of many adolescents has been adversely affected. They are not reaching out to their families for support (often that is not possible given the family situation) and suicidal ideation has increased.

Due to lack of insurance, access is difficult. The Hillsborough County School District does provide for telehealth services for those still in school.

C8b. HEALTH BEHAVIORS

Discussion of Health Behaviors was limited to the increase in Marijuana use to reduce nausea, the inconsistent advice of prenatal health care providers regarding a limited amount of alcohol use during pregnancy, and the exposure to the drug or alcohol use of others in the home.

C8c. PHYSICAL ENVIRONMENT

Food insecurity was the primary discussion. Many pregnant women live in food deserts and must use public transportation to go to a grocery store and use their WIC EBT card. Often WIC benefits are used to feed household members, not the pregnant woman. For homeless women, food storage is an issue even if they have WIC. Buying smaller quantities of food that are more easily stored is also more expensive.

C8d. SOCIOECONOMIC FACTORS

Discussion focused on child care, transportation, housing, job training, employment, safety and lack of social support. The lack of affordable child care in the county limits a woman's ability to seek job training, return to school or be employed. Even programs such as Head Start have waiting lists. Women feel education and employment are unobtainable. Background checks limit their ability to access these. For Hispanic women, language barriers are issues for education and employment. Those with professional degrees may be underemployed until they can learn English or due to the fact the degree is not accepted in the United States. For adolescent, e-learning during COVID-19 has been stressful. Many live in a chaotic home environment or unstable housing situation. They also need the right resources such as a computer and stable internet connection. Only 50% of teens stay in school after the infant is born and this was pre-COVID.

Pregnant women feel isolated and that has increased during COVID-19. They often stay in a dangerous situation with intimate partner violence because the alternative would be a more dangerous neighborhood. For women living in areas with high violent crime, they do not leave their houses and this increases their isolation. They have a fear of calling the police. The terms "helpless" and "hopeless" were often used.

This lead to discussions of poverty. It provides multiple stressors, the need for those who are employed to work more than one job, and the increase of alcohol and drug use to deal with stress. The "system is not designed to get people out of poverty". Those who do work make too much money to qualify for any financial supports or Medicaid but do not make enough money to pay for all of their housing, food, utilities and health care costs. This "perpetuates the concept of the welfare mom."

C8e. SUDDEN UNEXPECTED INFANT DEATHS

Unique items regarding SUID deaths included issues related to multiple families living together. This has been exacerbated due to COVID-19. Often, the family has one bedroom that is not large enough for a crib or pack-n-play. Families may be "couch surfing". They do not take the crib with them and often lose baby items during moves. Families may be homeless and living in their care. All of these situations promote unsafe infant sleep environments.

The issue of older caregivers or grandparents was discussed. Even with safe sleep education of the parent, these caregivers often over-ride the education in favor of prone sleep position or cobedding. This also includes grandparents raising their grandchildren. They would not have received the safe sleep education at the hospital.

D. DRIVER DIAGRAMS: MCH OUTCOMES

D1.FRAMEWORKS

The committee considered two additional frameworks in reviewing the data related to Maternal Health. The first was the life-course perspective outlined by Michael Lu. There are two pathways leading to prematurity under this framework: early fetal programming and cumulative allostatic load referring to the body's response to chronic stress. Lu (2010) proposes that "vulnerability to preterm delivery may be traced to not only exposure to stress and infection during pregnancy, but host response to stress and infection (e.g. stress reactivity and inflammatory dysregulation) pattered over the life course (early programming and cumulative allostatic load." Early Fetal Programming or the Barker Hypothesis looks at the role of epigenetics in changing gene expression that leads to chronic health conditions later in life. Two primary routes for the role of epigenetics are prenatal stress and poor prenatal nutrition. The role of chronic stress includes the concept of "weathering" in which Black women experience poorer birth outcomes as they age as opposed to White women who experience poorer birth outcomes at each end of the age spectrum (Geronimus, 1996).

Lu et. al. (2010) have proposed a 12-point plan to reduce the gap between Black and White birth outcomes. This plan was considered in the strategies proposed in Category B that address Maternal Health.

FIGURE 6 CLOSING THE BLACK-WHITE GAP IN BIRTH OUTCOMES: A 12-POINT PLAN

- 1. Provide interconception care to women with prior adverse pregnancy outcomes.
- 2. Increase access to preconception care for African American women.
- **3.** Improve the quality of prenatal care.
- 4. Expand healthcare access over the life course.
- 5. Strengthen father involvement in African American families.
- 6. Enhance service coordination and systems integration.
- 7. Create reproductive social capital in African American communities.
- 8. Invest in community building and urban renewal.
- 9. Close the education gap.
- 10. Reduce poverty among Black families.
- **11. Support working mothers and families.**
- 12. Undo racism.

Source: Lu, M. (2010). Racial and Ethnic Disparities in Birth Outcomes, A Life-Course Perspective, Florida Association of Healthy Start Coalitions Annual Meeting, St. Petersburg, Florida, July, 2010. Figure 7 displays the role of a woman's life in shaping her pregnancy outcome. Pregnancy encompasses only nine months of a woman's life and is influenced by her experiences over her life prior to that time. Those experiences can confer protective factors influencing a positive birth

outcome or risk factors that can influence a negative birth outcome. Therefore, strategies need to focus on both proximal (e.g. health prior to next pregnancy) and distal factors (e.g. social determinants of health) to improve racial disparity in birth outcomes.

FIGURE 7 LIFECOURSE DIAGRAM



Source: Lu MC, Halfon N. Racial and ethnic disparities in birth outcomes: a life-course perspective. Maternal Child Health Journal, 2003;7:13-30.

The second framework considered was a second Social Determinants of Health model.

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FIGURE 8 SOCIOECONOMIC STATUS AND HEALTH PATHWAY



Source: www.barhill.org/framework

This model, developed by the Bay Area Regional Health Inequities Initiative project in San Francisco, California, proposes that distal factors related such as Living Conditions, Institutional Inequities and Social Inequities affect the exposures an individual receives and her subsequent, health behaviors (positive or negative) and resulting in Disease & Injury or Mortality. It is the influence of these distal or upstream factors that influence pregnancy outcomes later in life.

The committees work focused on more proximate factors related to Risk Behavior as well as Living Conditions.

D2. FOCUS AREAS FOR SERVICE DELIVERY PLAN

Based on the analytics, the service delivery plan will focus on VLBW and Prematurity which are

related to neonatal deaths, and Sudden Unexpected Infant Deaths which are related to deaths in the post-neonatal period.

FIGURE 9 FOCUS AREAS FOR SERVICE DELIVERY PLAN

Born Too Soon and Too Small

- 75% of all deaths
- 65% of these deaths occur in <u>first 27 days</u> of life (Neonatal Deaths)

Sleep-Related Conditions

- · 38% of all deaths
- 85% of these deaths occur <u>after 27 days</u> of life (Postneonatal Deaths)
- 28% are also preterm and low birth weight

Source: 2016-2018 Birth Cohort

D2a. DRIVER DIAGRAM FOR VLBW AND NEONATAL DEATHS

Figure 10 shows the Driver Diagram for VLBW and Neonatal Mortality. The Primary Drivers are:

- MATERNAL MENTAL HEALTH
- MATERNAL HEALTH & CHORNIC
 CONDITIONS
- MATERNAL WEIGHT MANAGEMENT
- PRENATAL CARE ACCESS & UTILIZATION
- INTER-PREGNANCY INTERVAL

This were developed based on the analytics and the logistic regression models. After the diagram

are tables explaining the supporting evidence used to develop both the primary and secondary drivers.

Goal statements were based on the HP2030 goals for that health outcomes. For infant mortality, the national goal is a 24% reduction by 2030. Therefore, the neonatal mortality rate was reduced by 12% for the 2026 outcome. Since HP2030, as did HP2020, had no goals related to race or ethnicity, with the intent to eliminate health disparities, that logic was followed in this needs assessment. The goal for health disparities in these outcomes was based on a 50% reduction over the next five years.

FIGURE 10 DRIVER DIAGRAM FOR VLBW AND NEONATAL DEATHS



The supporting documentation for the secondary drivers is provided in the next series of tables.

TABLE 35MATERNAL MENTAL HEALTH DRIVERS AND SUPPORT

Primary Driver	Secondary Driver	Supporting Documentation
Maternal Mental Health	Social Support & Fatherhood Engagement	 Lack of father on birth certificate significant risk factor for VLBW Discussed at community meetings Mentioned on 2019 Community Health Assessment (CHA) Supported by research
	 Access to Mental Healthcare Services System Navigation Payment for Services - Insurance Language Barriers Transportation Child Care Telehealth Services and Access Sufficient Mental Health Care Providers 	 Mentioned at community meetings Mentioned on 2019 CHA Supported by FIMR Reviews Documented by HV Programs PDC Discussion
	Neighborhood Safety	 Discussed at community meetings Mentioned on 2019 CHA SDOH
	 Economic Sufficiency & Opportunity Stress related to income & expenses Housing & Neighborhood Safety Education & Job Opportunity 	 Discussed at community meetings Mentioned on 2019 CHA SDOH
	Engagement in Services After a Loss	 Supported by FIMR Reviews in terms of Healthy Start screening and in-take Staff comfort with loss and complex medical conditions
	Perceived Stigma of Mental Health Issue	Discussed at community meetings

TABLE 36 MATERNAL HEALTH & CHRONIC HEALTH CONDITIONS DRIVERS AND SUPPORT

Primary Driver	Secondary Driver	Supporting Documentation
Maternal Health &	Continuity of Health Care Across the	Supported by FIMR Reviews
Chronic Health	Lifespan	• Supported by Increase in "No Prenatal
Conditions	Insurance Status	Care"
	 System Navigation 	Supported by 2019 CHA
	 Barriers such as Transportation, Child 	Lifecourse Theory
	Care & Ability to Leave Work for	
	Appointments	
	Telehealth Access Issues	
	Patient Environment Supports	• SDOH
	Management of Condition	 Health Insurance Supports
		FIMR Reviews & 2019 CHA
	Patient Education & Understanding of	 Supported by FIMR Reviews
	Signs & Symptoms	 Discussed at Community Meetings
	Language Barriers (Spoken & Written)	
	Provider Communication	
	Home Visitor Comfort & Knowledge in	Supported by FIMR Reviews
	Addressing Medical Condition	Supported by HV Staff
	Appropriate Inter-Pregnancy Interval	 Analytics support dose-response
	Access to Title X Clinics – limited	relationship with short interval & age
	number (East & South County)	FIMR Reviews Support Short Interval
	Birth Control Access	in infant deaths
	Need for Grief Counseling with Loss	Secret Snopper Surveys
		Florida data supports low post-partum
		Visit rates and BC use
		Florida data supports low Florida Modicaid Eamily Planning Waiver Lise
	Engagement in Services After a Loss	Supported by EIMP Paylows in terms
	Lingagement in Services Arter a Loss	• Supported by Flivik Reviews in terms
		Staff comfort with loss and complex
		medical conditions
	Impact of COVID-19	COVID-19 Survey
	 Missing appointments due to wait 	Community Meetings
	location	
	• Missing apps due to lack of child care &	
	limit of who can attend	

TABLE 37MATERNAL WEIGHT MANAGEMENT DRIVERS AND SUPPORT

Primary Driver	Secondary Driver	Supporting Documentation
Maternal Weight Management	Healthy Food Availability	 Food deserts and food insecurity mentioned in 2019 CHA Food deserts and food insecurity mentioned in community meetings Food storage issues for the homeless SDOH – economic sufficiency and neighborhood
	Exercise	 Neighborhood crime mentioned in 2019 CH Mentioned in community meetings Supported by research SDOH
	Neighborhood Safety	• SDOH
	Stress Management	• 2019 CHA
	Depression & Mental Health	Community Meetings
	Healthy Menu PlanningWIC and Low-Income	PDC October Meeting
	Cultural Competency in Client Education	PDC October Meeting
	 on Healthy Eating Cultural Perceptions of a Healthy Weight 	

Primary Driver	Secondary Driver	Supporting Documentation
Prenatal Care Access & Utilization	Health Insurance During Prenatal Periods	 Supported by 2019 CHA in terms of health insurance (not specific to prenatal period) Impacts immigrant populations Supported by increases in later pnc or no pnc
	 Provider Office Practices Before & During COVID-19 Access to Telehealth Wait times and locations (e.g. car, outside) Limit of who may attend appointment 	 Supported by COVID-19 Survey Mentioned at community meetings Provider encourage women to attend pnc later in pregnancy? Provider hours
	 Patient Perception of Eligibility for Benefits & Services Fear of deportation 	Discussed at community meetingsPDC October meeting
	Patient Perception of ProviderTreatment	Discussed at community meetings
	Language BarriersSpoken and Written	Discussed at community meetings
	Transportation and Child Care	• Discussed at community meetings
	System Navigation	• Discussed at community meetings

TABLE 38PREANTAL CARE ACCESS & UTILIZATION DRIVERS AND SUPPORT

D2b. PLAN DEVELOPMENT COMMITTEE WORK GROUPS

The following PDC Work Groups will development Change Packages related to the above Primary and Secondary Drivers. Some Secondary Drivers have been combined as they cross over both Primary and Secondary Drivers. Due to its importance in maternal health and birth outcomes, interpregnancy interval was given its own work group. This risk factor concerns not only adolescents but adult women as well. Therefore, work will continue with the Adolescent Health Advisory Board on access related to adolescents who had the shortage inter-pregnancy interval. For all women of child-bearing age, access to these services has unique barriers and challenges that warrant a work group.

• PDC October meeting

TABLE 39PLAN DEVELOPMENT COMMITTEE WORK GROUPS

PDC Work Group	Area of Focus
Social Support & Fatherhood	Maternal social support
Engagement	Fatherhood engagement
Access to Mental Health Services	System Navigation
	Payment for Services - Insurance
	 Language Barriers (limited bi-lingual therapists)
	Telehealth Services and Access
	Sufficient Mental Health Care Providers
Continuity of Health Care Across the	Provider office practices
Lifespan: Prenatal and Primary Care	System navigation
	Insurance Status
	System Navigation
	Telehealth Access Issues
	Perception of Provider Treatment
Inter-pregnancy Interval	Florida Medicaid Family Planning Waiver
	 Access to Title X Clinics – limited number (East & South
	County)
	Birth Control Access
	 Need for Grief Counseling with Perinatal Loss
Patient Education	Language Barriers with Provider
	Spoken and Written
	Patient Education & Understanding of Signs & Symptoms of
	Health Issue
	 Language Barriers (Spoken & Written)
	Provider Communication
Healthy Weight Management	Food Deserts – WIC Access
	Food Storage
	Healthy Menu Planning
	Cultural Perceptions of Healthy Weight and Nutrition

D2c. DRIVER DIAGRAM FOR SUDDEN UNEXPECTED INFANT DEATHS

Figure 11 displays the Driver Diagram for the reduction of Sudden Unexpected Infant Deaths. Support for this driver come primary from vital statistics data on the number and rate of deaths due to Accidental Suffocation in Bed or Other and Unexplained Causes. This data, presented previously, also provides the disparity on these deaths by race and ethnicity. Based on the 2020 provisional data, these deaths have increased by 50% from the 2019 year. Community meetings supported the increase due to COVID-19 and multiple families living in single family dwellings due the economic hardship that resulted from COVID-19 lockdowns.

In addition, FIMR reviews provided a rich contextual history for the circumstances surrounding these deaths in terms of infants' sleep position, sleep location and sleep environment.

Research by the Florida Department of Health and nationally, provides additional support in terms of parental stress and comfort and its role in sleep position and sleep location of infants.

FIGURE 11 DRIVER DIAGRAM FOR SUDDEN UNEXPECTED INFANT DEATHS



D2d. SUDDEN UNEXPECTED INFANT DEATHS WORK GROUP

Work on SUID deaths and reduction on those deaths will continue under the leadership of the Fetal Infant Mortality Review Committee. The Coalition has partnered with the community to develop the Safe Baby Campaign to provide education to parents, USF College of Nursing, Department of Children and Families, home visitation program staff (Healthy Start, Healthy Families), and child care licensing centers. Work on education will continue to be expanded to other caregivers and grandparents. Additional, work will focus on a social marketing campaign on safe sleep and safe bedding, including the issues of pillows and the risk for suffocation deaths.

D3. SOCIAL DETERMINANTS OF HEALTH

Many social determinants of health concerning Living Conditions were reported and documented during the needs assessment process. These included:

- Transportation
- Child Care
- Neighborhood Safety
- Affordable and Safe Housing
- Food Deserts
- Economic Self-Sufficiency (Education & Employment)

Given the complexity of these issues, including the need to include multiple community partners across diverse domains, and the role of financial support as well as policy initiatives, the planning that will occur over the next six months will include areas where the Coalition and its partners have more direct control in terms of implementation during the first year of the service delivery plan. During the first year, partnerships will be developed that will aid in moving forward with strategies to address these SDOH. These areas are long standing issues in the community and will require diverse partnerships, funding and policy changes at the local, state and federal level to address. Therefore, as work occurs in these areas, it is understood that barriers will be encountered concerning financial implications and policy implications.

D4. RACIAL DISPARITY IN MATERNAL AND INFANT BIRTH OUTCOMES

In parallel to the work of the needs assessment and service delivery plan development, the Coalition partnered with REACHUP, Inc. to implement a Black Maternal and Infant Mortality Advisory Board. This Board will work over the next 1.5 years to develop strategies to address these racial disparities. The work of these two groups will be in tandem to ensure a comprehensive community plan for both racial disparity and poor birth outcomes.

D5. SERVICE DELIVERY PLAN TIMELINE

The following chart displays the timeline for the service delivery plan process. The frameworks, processes and change packages will be added to this document for a complete SDP.

Activity	Dec	Jan	Feb	March	April	May	June
1. Revisions to Needs Assessment &							
Submit to DOH							
2. Create PDC Work Groups							
3. Approve Needs Assessment by BOD							
4. PDC Work Groups Create Change Packages							
5. Community Review & Response							
6. PDC Reviews and Approves SDP							
7. Revised, Write & Finalize SDP							
8. BOD Approves SDP							
9. Submit to DOH by June 30, 2021							

E.RESOURCE ASSETS AND GAPS

E1. Resource Inventory

The Crisis Center of Tampa Bay maintains a database of over 3,000 services that are accessible and searchable online. The referral database includes resources in Hillsborough County and some for the surrounding area, the state of Florida, and national services. 2-1-1 at your fingertips – resource database is online for community members to search for services.

Interconception Care Curriculum

The Coalition's Interconception Care curriculum covers a variety of topics pertaining to a woman's health. A list of topics can be found at: <u>https://www.healthystartcoalition.org/copy-of-ci-r</u>

E2. Resource Assets

The following represent critical resources in Hillsborough County for the population served through the Healthy Start program. This is not an exhaustive list but rather the list of the critical partners in the Healthy Start care coordination system.

- Healthy Families Hillsborough Program provides serves to families in Hillsborough County. This is an evidenced-based model. This project is funded through the Florida Ounce of Prevention Fund and the Children's Board of Hillsborough County.
- Nurse-Family Partnership Program provides home-based nursing services through an evidence-based model in the following zip codes: 33603, 33604, 33605, 33610 and 33612. Funding is provided through the federal MIECHV funding through the Florida Association of Healthy Start Coalitions and NFP National Service Office.
- Pregnant Medical Home Model provides clinic-based services in the following clinics: TGH Genesis (part of Florida Regional Perinatal Intensive Care Centers) and five Exodus Clinics.

- Family Resource Coordinators at area hospitals provide Healthy Start screening and in-take at all delivering hospitals with a screening rate of 95% of all newborns. These services are funded through the Ounce of Prevention Fund, Children's Board of Hillsborough County, Healthy Start General Revenue Funds and Healthy Start Medicaid Waiver Funds.
- Federal Healthy Start Project provides services to pregnant women and children in the zip codes with the highest Black infant mortality rates: 33602, 33603, 33605, 33607 and 33610. This project is funded through both the Maternal Child Health Bureau and Healthy Start funds. They are part of a statewide pilot to implement the Mothers and Babies evidence-based course to address maternal depression.
- Safe Baby which provides training to hospital labor and delivery nursing staff, hospital NICU staff, Healthy Start home visitors, Healthy Families home visitors, Child Protection Investigators, Hillsborough Community College Nursing curriculum and other community providers. Funding is provided through the Children's Board of Hillsborough County.
- The Woman, Infant and Children (WIC) Program provides for nutritional counseling and food for pregnant women and infants up to 185% of the federal poverty level. Staff are in every WIC clinic to provide outreach, in-take and referrals to needed services.
- Success 4 Kids & Families serves as the lead agent for Healthy Start services in Hillsborough County. S4KF is a non-profit, in-home treatment program servicing families in Hillsborough County. The program works with infants and youth who have problems at home, school or with the law. Healthy Start adds another dimension to the services already provided. They provide the link into the Hillsborough County school system and juvenile justice

system as well as the Central Florida Behavior Health Network for Healthy Start clients. They are part of a statewide pilot to implement the Mothers and Babies evidence-based course to address maternal depression.

- Children's Board of Hillsborough County is the local Children's Services Council and provides funding for several Healthy Start Coalition programs. The CBHC has four priority funding areas: Healthy Births, School Readiness, Early School Success and Family & Neighborhood Supports. The CBHC funds over 200 programs that touch over 200,000 citizens in Hillsborough County each year.
- St. Joseph's Children's Wellness and Safety Center provides parenting education in car seat safety, immunizations, infant safety and other educational programs to support families.

E3. Resource Gaps

The following represent critical gaps in services in Hillsborough County for the population served through the Healthy Start program:

- Long-term mental health care services
- Residential substance abuse treatment services for pregnant women
- Affordable and quality childcare
- Health insurance for pregnant women currently not covered by Medicaid or private health insurance who fall into the Medicaid coverage gap in Florida.
- Continuing health insurance for women who received Medicaid during their pregnancy, including access to family planning services, well-woman care and chronic disease management who fall into the Medicaid coverage gap in Florida
- Affordable and safe housing
- Job training and employment
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