



Chronic Disease and the Risk of Preterm Births

Mackenzie Carey, MPH
mcarey@pmch.org

PMCH QI BACKGROUND

- Licensed Maternal Child Health Consortia
 - Perinatal and Pediatric planning
 - Regional Quality Improvement
 - Professional and Consumer Education
 - Regional Transport System
- Serves eight counties in NJ
 - Bergen, Essex, Hudson, Morris, Passaic, Union, Warren, and
Sussex
- About 50% of all NJ births

STUDY

QUESTIONS



- Does having chronic diseases increase the risk of premature births in Northern NJ moms?
- Variables of interest:
 - Diabetes
 - Hypertension
 - Cardiac Conditions
 - Obesity
 - Asthma

ISSUE SELECTION

- Premature Labor & Preterm Births
 - Indicators of adverse maternal health
 - Indicators of poor infant & early childhood development
- Chronic Conditions
 - Maternal health conditions --> influence occurrence of preterm birth and impede early childhood development



DATA

SOURCE

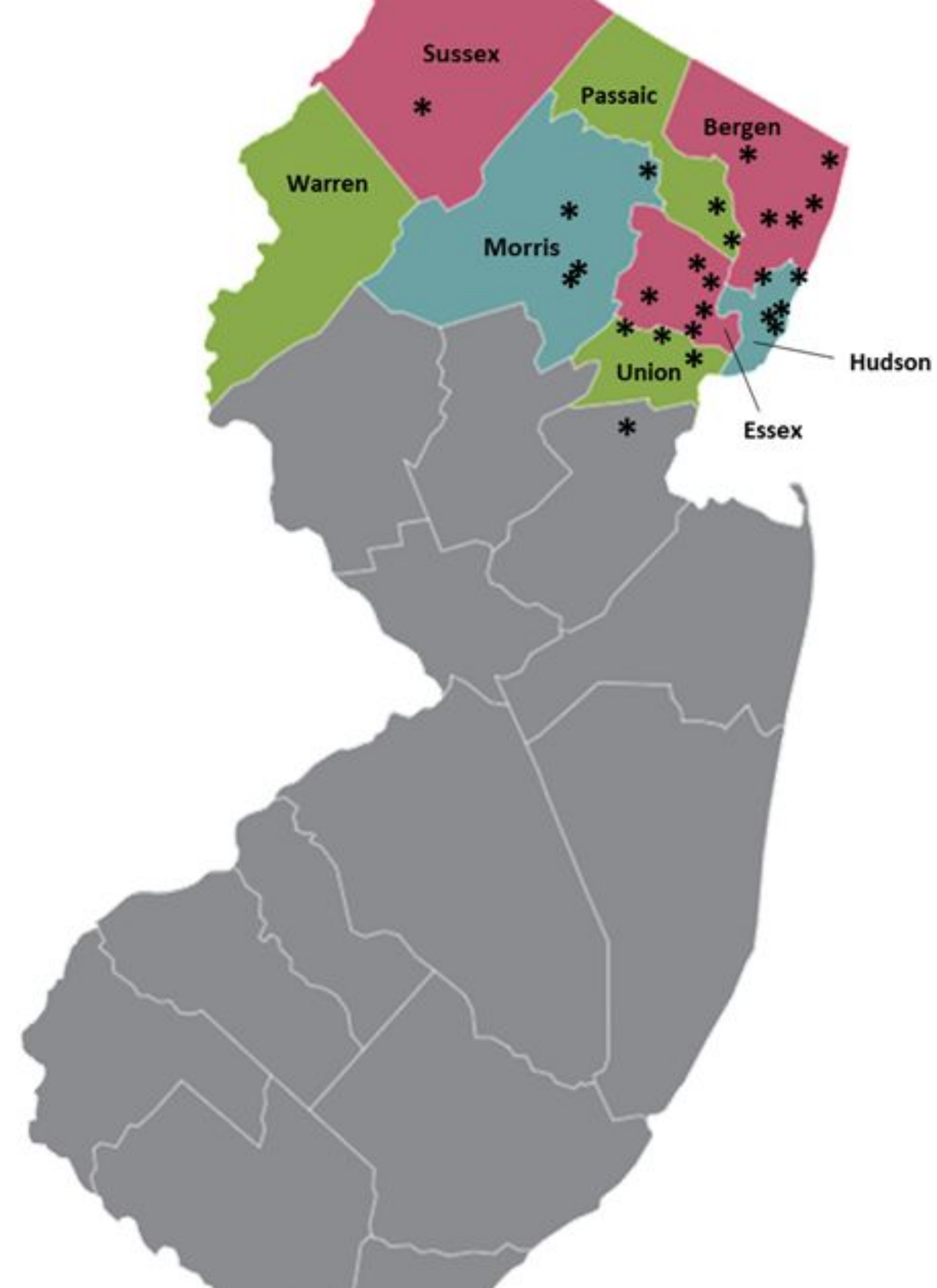
- Web-based system for birth registration, prenatal and antenatal data
- Over 650 fields of health and demographic information
- Administered by NJDOH Office of Vital Statistics (OVSR)
- Includes national birth certificate data fields defined by National Center for Health Statistics (NCHS) & NJ-specific fields



METHODS

Retrospective Study

- Birth record data from NJ's Vital Events Registration and Information Platform
- All live births occurring in Bergen, Essex, Hudson, Morris, Passaic, Sussex, Union, and Warren counties
- Births between 2016-2022
- Odds ratios for 46,541 mothers in 2020



RESULTS: CHRONIC CONDITIONS

Chronic Condition	Increased Odds
Hypertension	2.55
Pre-pregnancy Diabetes	1.53
Cardiac Conditions	1.17
Asthma	1.24
Obesity	1.39
Any Condition	1.47

RESULTS: RACIAL DISPARITIES AND PRETERM

BIRTHS

Mothers Race Ethnicity	Pre-Term	Percent Difference
Asian, non-Hispanic	8.68%	-15.09%
Black, non-Hispanic	14.24%	29.85%
Hispanic	10.73%	6.90%
Other Race	10.06%	0.70%
White, non-Hispanic	8.02%	-24.56%

RESULTS: RACIAL DISPARITIES AND CHRONIC

CONDITIONS

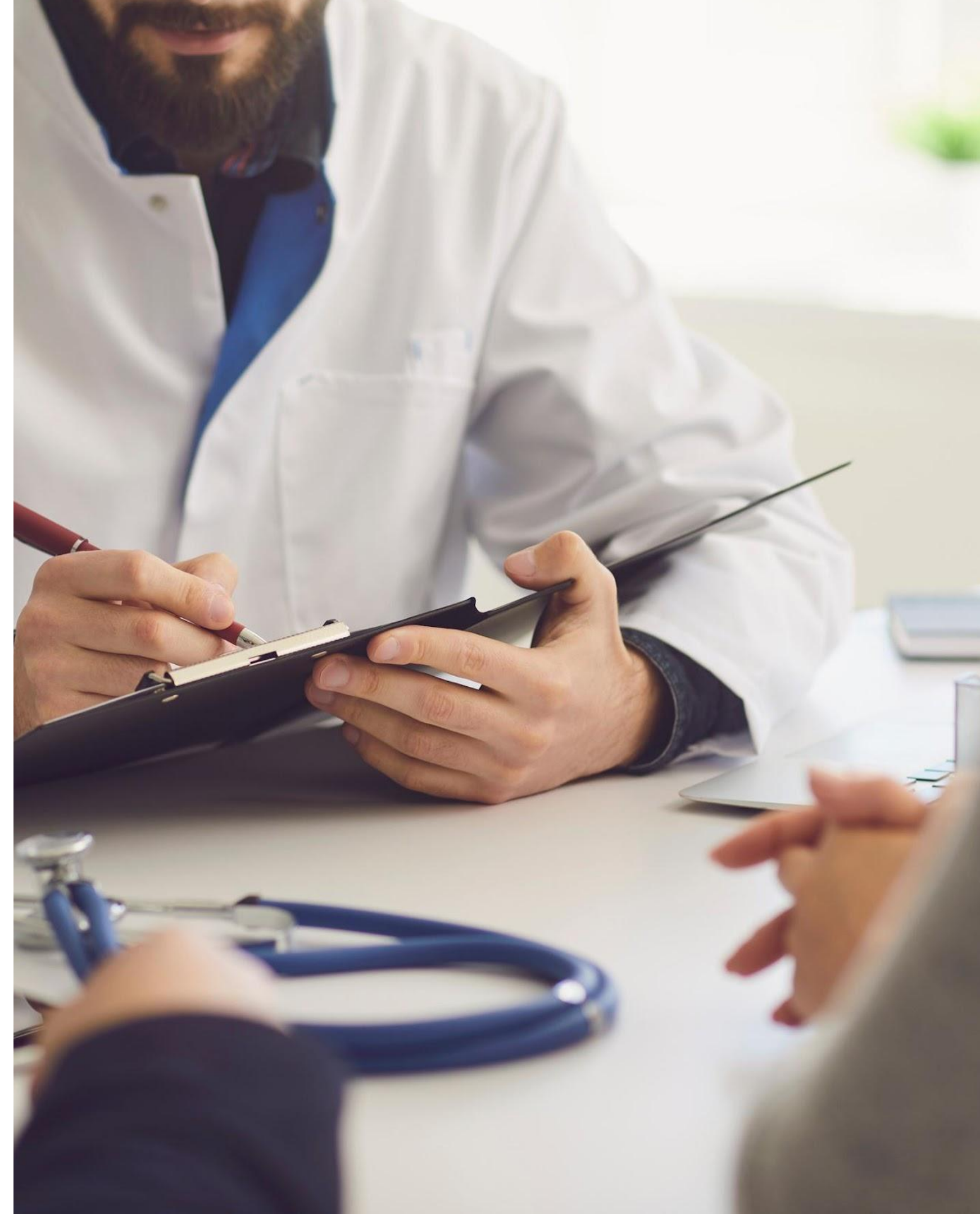
Mothers Race Ethnicity	No Chronic Condition	Chronic Condition
Asian, non-Hispanic	92.26%	7.74%
Black, non-Hispanic	72.03%	28.06%
Hispanic	81.17%	18.89%
Other Race	83.08%	16.92%
White, non-Hispanic	86.03%	14.00%

KEY FINDINGS

- Pre-pregnancy chronic conditions increase odds of preterm birth
Hypertension, Pre-pregnancy Diabetes, and Obesity have the highest increased risk
- White non-Hispanic and Asian non-Hispanic mothers lowest rates of pre-term births
- Black non-Hispanic mothers highest rates of pre-term births
- Racial Disparities exist in pre-pregnancy chronic conditions

PUBLIC HEALTH IMPLICATIONS

- Importance of management of chronic conditions in preconception and prenatal care
- Providers should be aware of additional risks to patients with chronic conditions
- Association exists between chronic conditions and prematurity
 - Indicative of future health issues





CONTACT US

Mackenzie Carey

mcarey@pmch.org

g

PMCH.ORG

G