

Prenatal substance use diagnosis and CPS reporting in California: A multi-level approach

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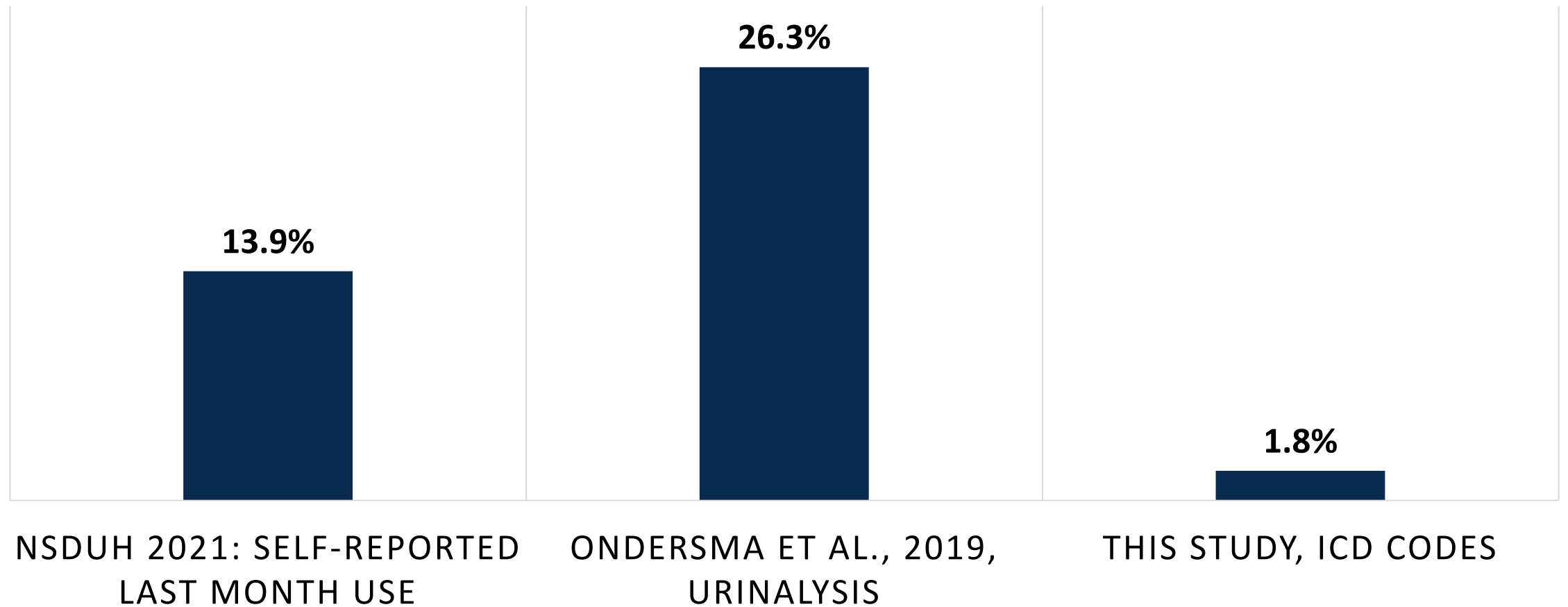
Children's Data Network, USA

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Prenatal substance use is not rare and hard to measure



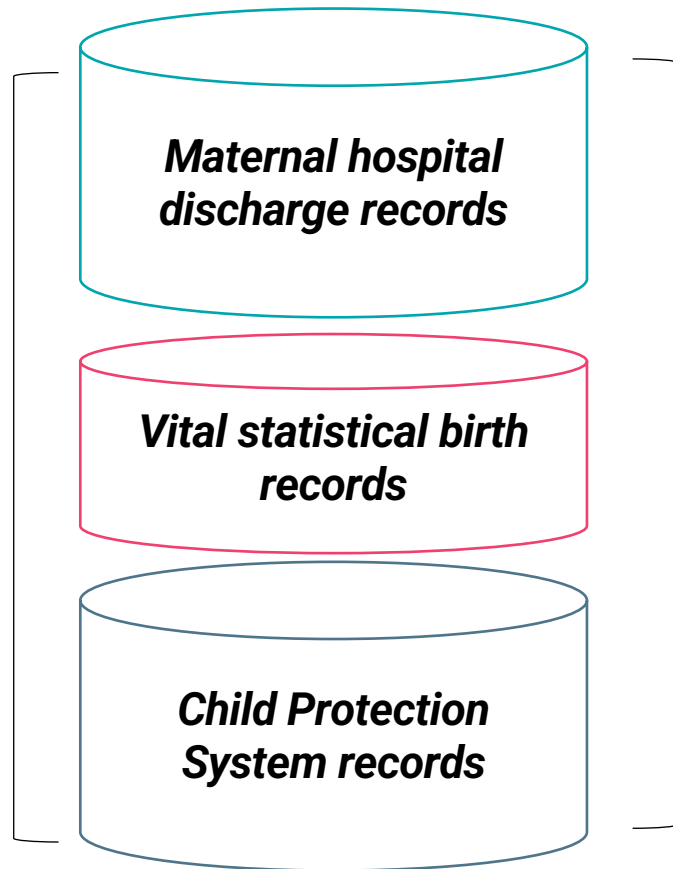


The effects of state reporting policies are not well understood



Objective

To use **descriptive statistics** and **multilevel modeling** through the theoretical lenses of **intersectionality** and **street-level bureaucracy** to examine variation in institutional and provider behavior regarding prenatal substance use diagnosis and CPS reporting.



Matched births = 449,046 (98.4% of births)

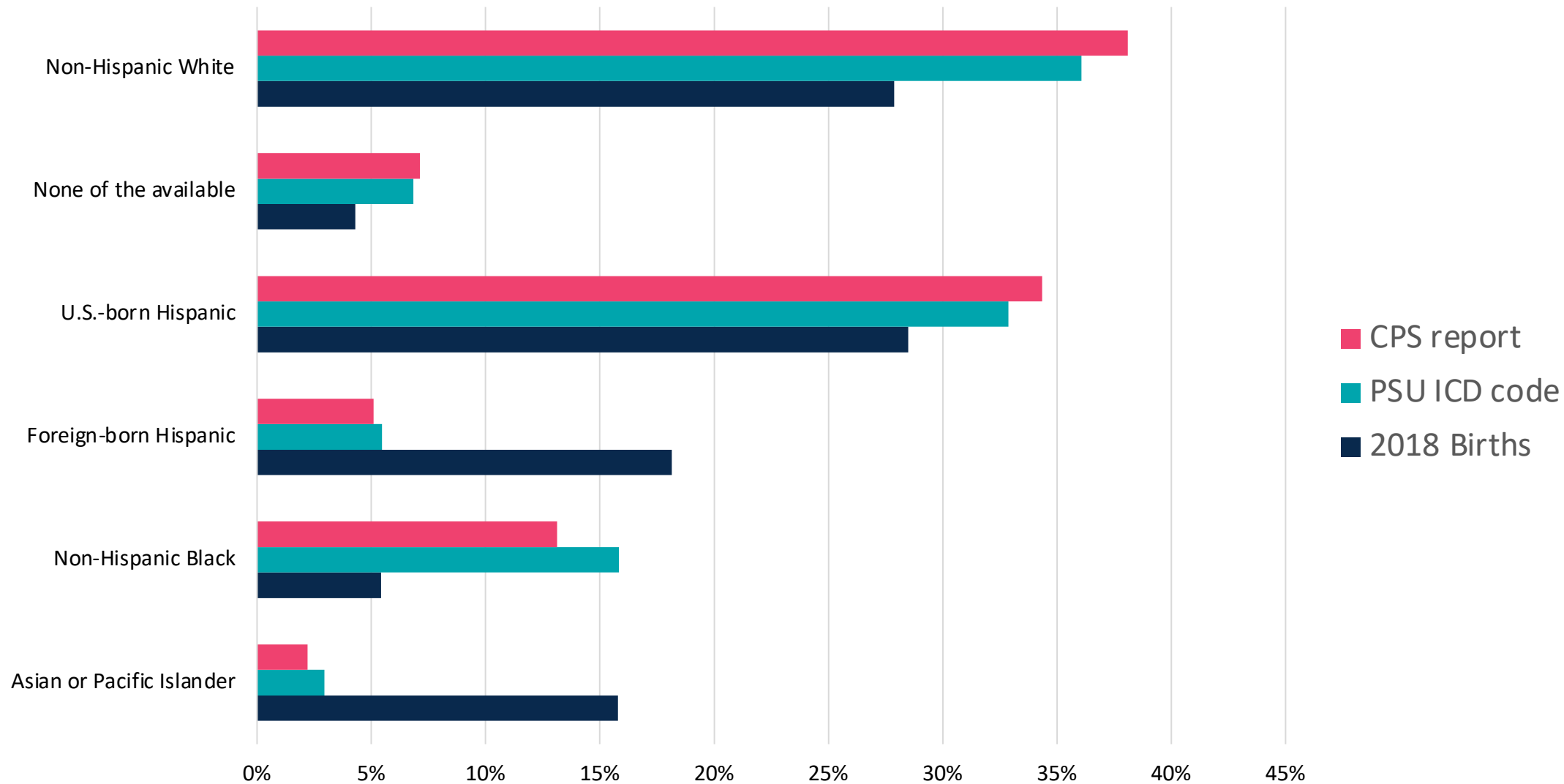
ICD codes related to prenatal substance use (PSU) = 7,971 (1.8%)

Substance exposed births reported to CPS within 14 days = 3,588 (45%)

Births in California hospitals from January 1 to December 31, 2018

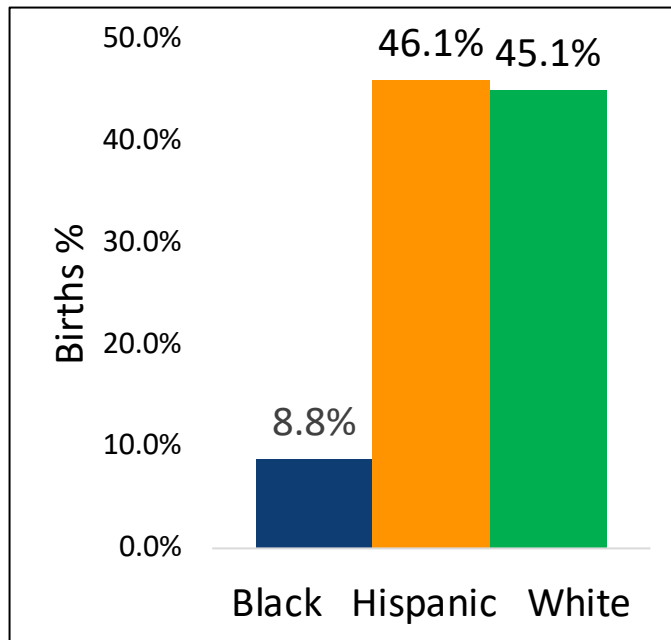
Data

Non-Hispanic Black, U.S. born Hispanic, and non-Hispanic White women have highest prevalence of outcomes



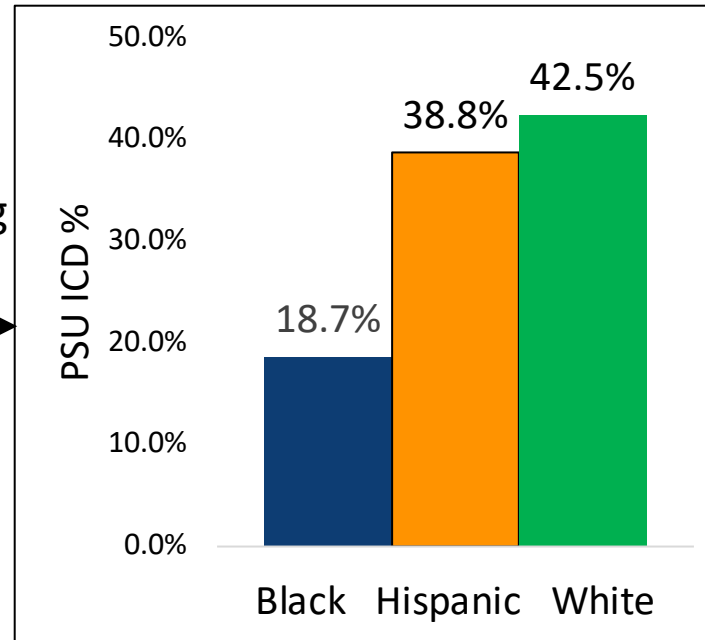
Non-Hispanic Black mothers are overrepresented in substance use diagnosing but not CPS reporting

Births: N= 277,420



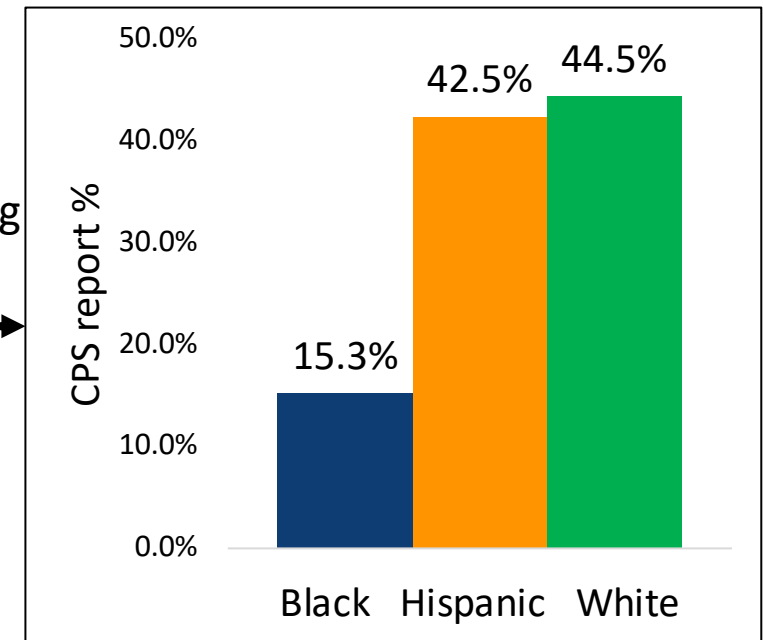
Among these

PSU ICD codes: N= 6,718

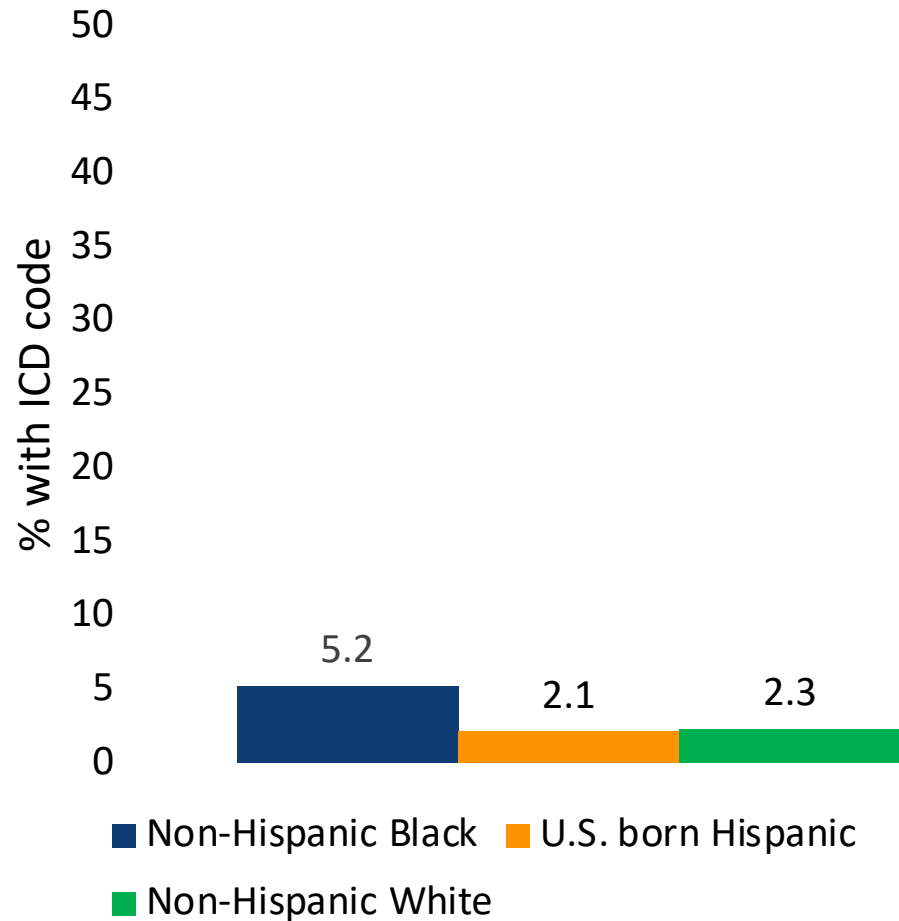


Among these

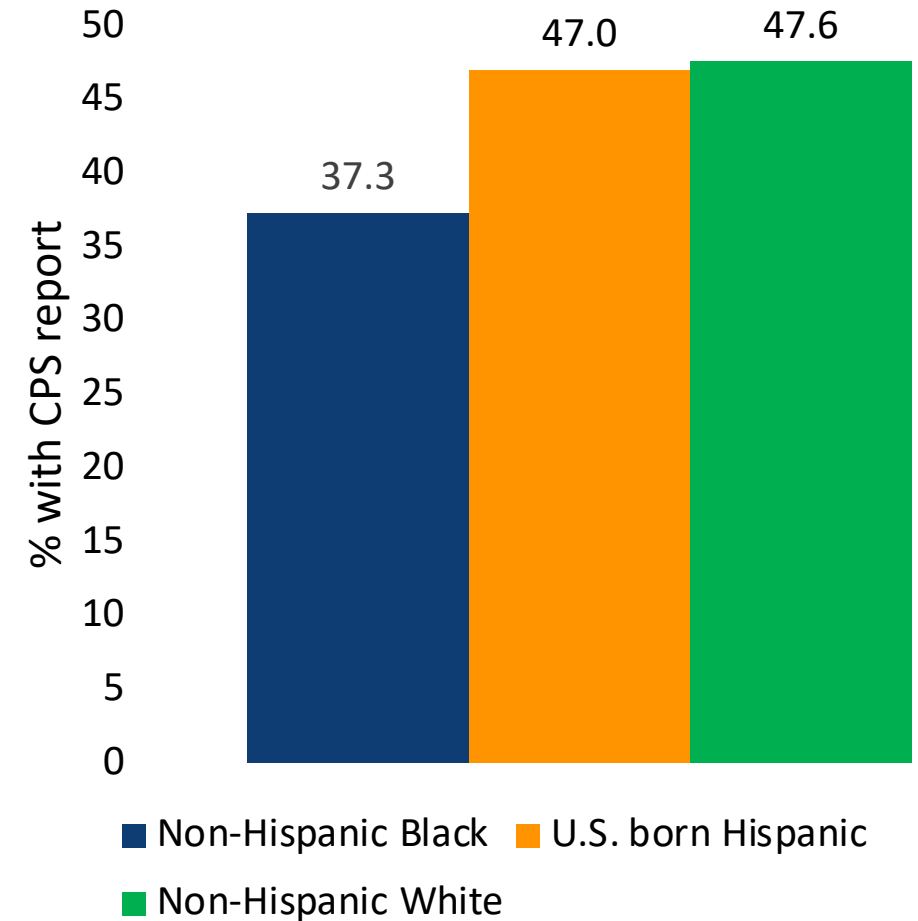
CPS Reports: N= 3,070



Non-Hispanic Black Women were more likely to be diagnosed, and less likely to be reported than U.S. born Hispanic and Non-Hispanic White women



Among these
→

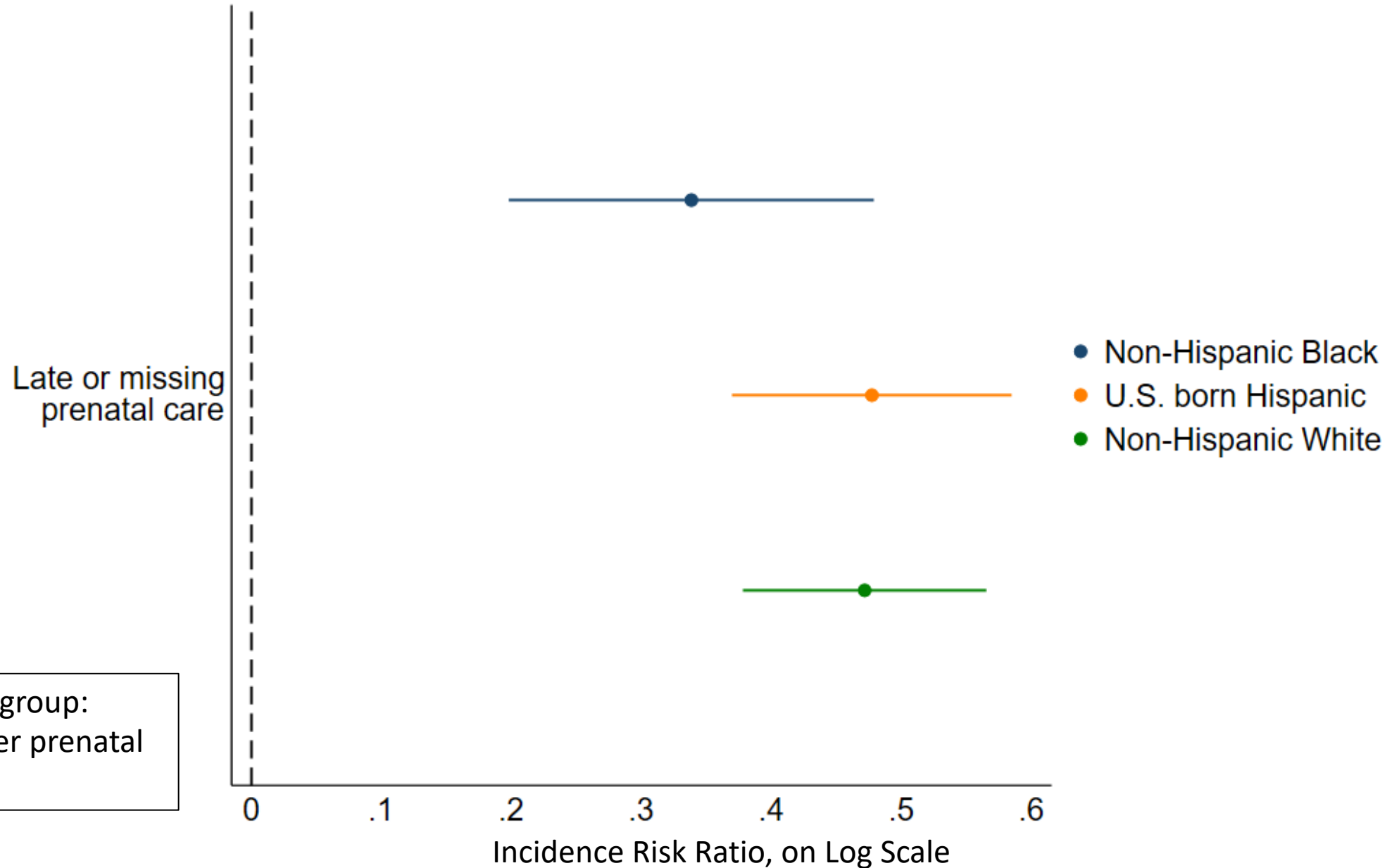


Stratified multi-level models clustered by birth hospital

	Non-Hispanic Black	U.S. born Hispanic	Non-Hispanic White
Number of observations	1,251	2,601	2,846
Number of outcomes (CPS reports)	461	1,217	1,347
Maternal age			
≤ 24 yrs vs. 25-34 yrs	0.88 (0.73 1.07)	0.88* (0.79 0.99)	0.91 (0.82 1.02)
35 to 55yrs vs. 25-34 yrs	1.19* (1.00 1.41)	1.05 (0.94 1.18)	0.99 (0.91 1.09)
Children born			
2+ prior children vs. 0-1 prior children	1.34*** (1.16 1.56)	1.23*** (1.12 1.34)	1.14*** (1.06 1.23)
Maternal lower educational attainment (≤ high school)	1.23* (1.04 1.46)	1.23*** (1.11 1.37)	1.14** (1.04 1.24)
Low birth weight (< 2500 g)	1.23* (1.02 1.47)	1.24*** (1.13 1.37)	1.29*** (1.20 1.39)
Missing paternity	1.26** (1.08 1.48)	1.31*** (1.20 1.41)	1.40*** (1.27 1.54)
Late or missing prenatal care	1.40*** (1.22 1.61)	1.61*** (1.45 1.79)	1.60*** (1.46 1.76)
Public birth payment method	1.51** (1.11 2.05)	1.51*** (1.26 1.80)	1.69*** (1.43 2.00)
Over 50% public births	1.40* (1.06 1.85)	1.20* (1.01 1.44)	1.12 (0.98 1.29)
Over 50% white births	1.38 (1.00 1.92)	0.80* (0.64 1.00)	0.85** (0.75 0.96)
Intercept	0.11*** (0.08 0.16)	0.16*** (0.13 0.20)	0.18*** (0.15 0.22)
var(_cons[mathosp2])	0.05 (0.02 0.16)	0.01 (0.00 0.08)	0.02 (0.01 0.05)

*** p<.001, ** p<.01, * p<.05

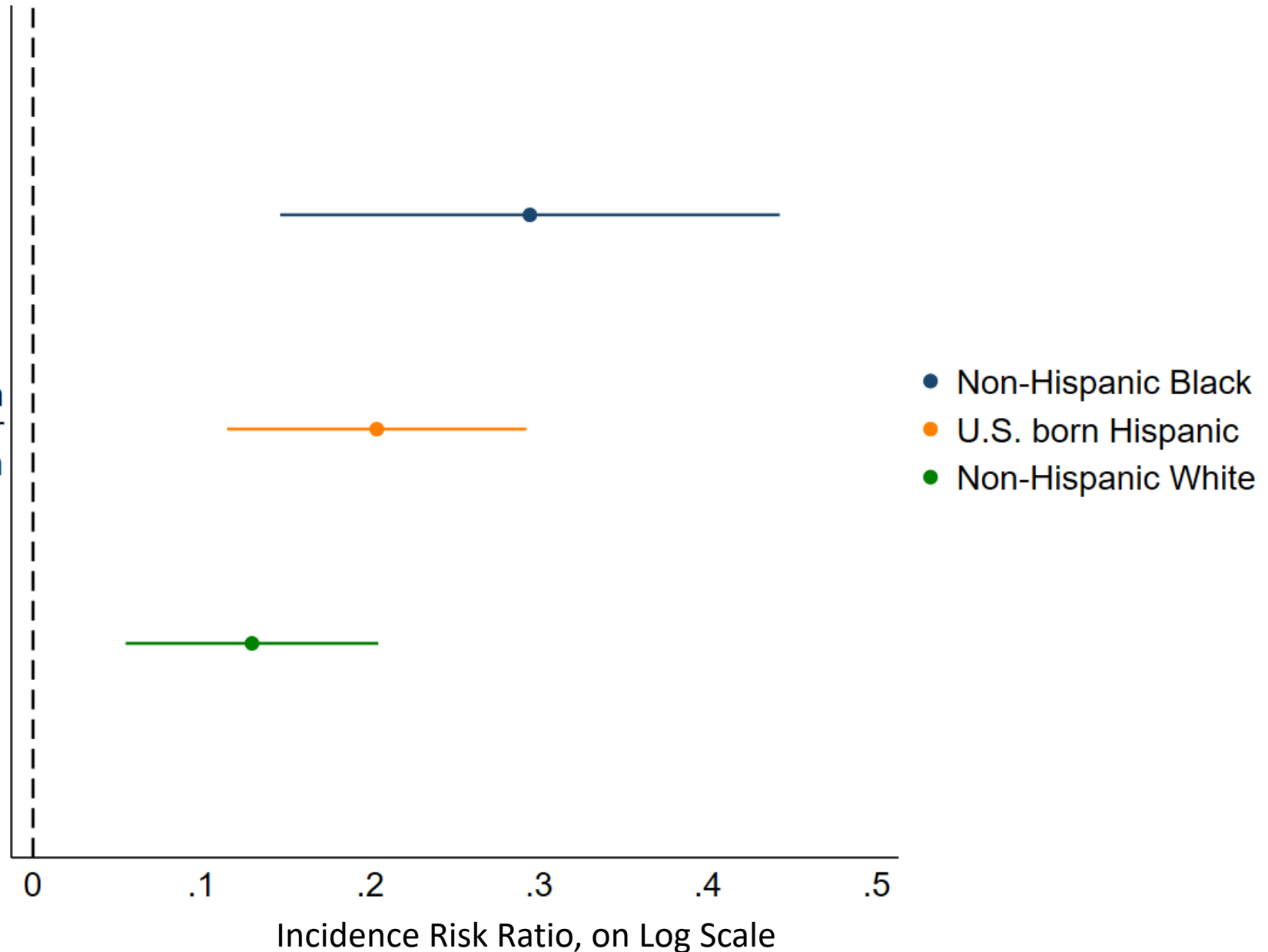
Late prenatal care associated with CPS reporting across racial groups



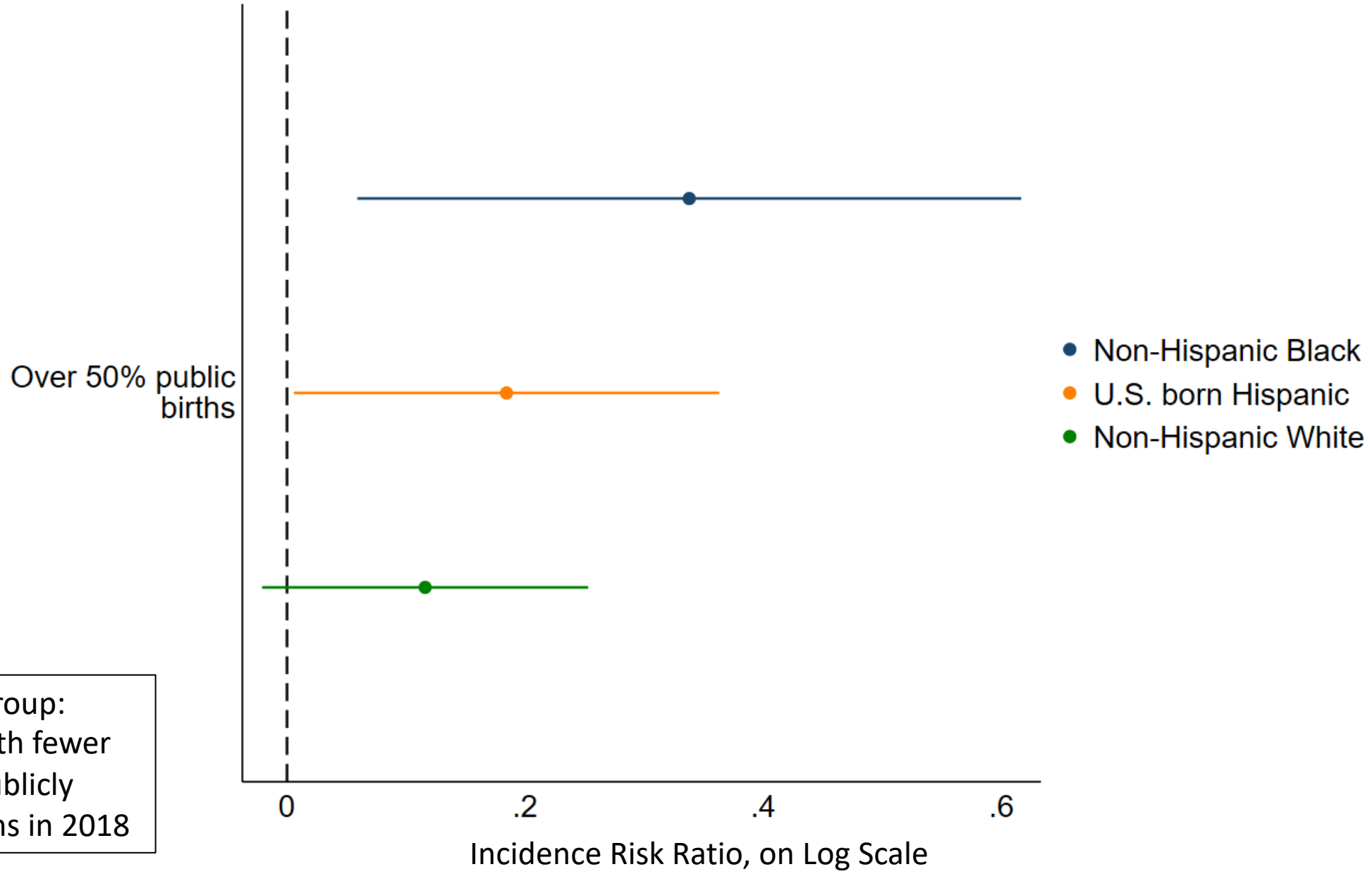
Higher birth order associated with CPS reporting across racial groups

2+ prior children
vs. 0-1 prior
children

Reference group:
0 or 1 prior live birth



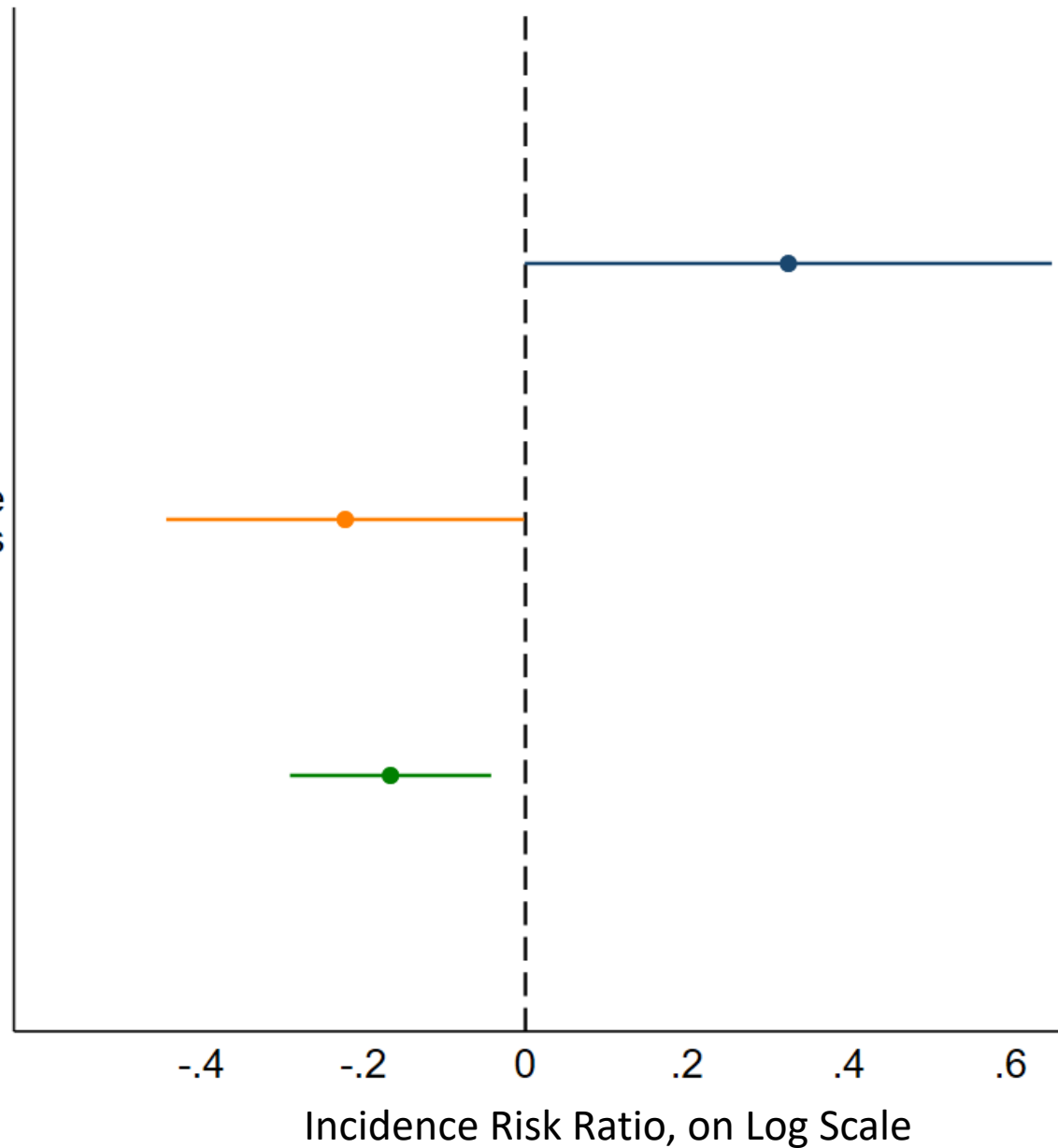
High-public hospitals associated with CPS report for Black women



Reference group:
Hospitals with fewer
than 50% publicly
insured births in 2018

Majority White hospitals associated with CPS report for Black women

Over 50% white births



- Non-Hispanic Black
- U.S. born Hispanic
- Non-Hispanic White

Reference group:
Hospitals with fewer
than 50% of 2018
births to non-Hispanic
White women

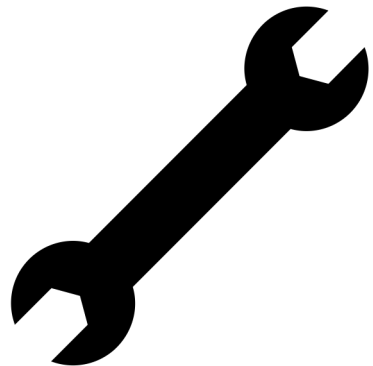
Public Health Impact and Limitations



Black mothers more likely to receive a diagnosis but less likely to be reported to CPS



Marginal effects of institutional-level variables differed across racial groups, suggesting effect of hospital setting



Model building decisions affect results!

References

Akin, Brook, Lloyd, & McDonald, 2017

Austin, Parrish, & Shanahan, 2018

Brook & McDonald, 2009

California Health and Safety Code, § 123605, 1996

Chasnoff et al., 2018

Connors et al., 2004

Evans, Williams, Onnela, & Subramanian, 2018

Foust et al., 2021

Garson, 2019

Guille & Aujla, 2019

Ingoldsby et al., 2021

Jonson-Reid, Drake, & Zhou, 2012

Kenny, Barrington, & Green, 2015

LaBrenz et al., 2022

Meinhofer & Angleró-Díaz, 2019

National Survey on Drug Use and Health, 2022

Ondersma et al., 2019

Patel et al., 2021

Peddireddy, Austin, & Gottfredson, 2022

Prindle et al., 2018

Putnam-Hornstein et al., 2016

Rebbe et al., 2019

Roberts, Zaugg, & Martinez, 2022

Schoneich et al., 2023

Substance Abuse and Mental Health Services Administration, 2021

Tabatabaepour et al., 2022

Turner, Finkelhor, & Ormrod, 2007

Twomey, Miller-Loncar, Hinckley, & Lester, 2010

Vanderweele & Robinson, 2014

Wu et al., 2004

Thank You/Questions

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And a Request!!

