

Percent Positivity of COVID-19 Testing in Children of Racial/Ethnic Minority Groups in Mississippi

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Background

- COVID-19 has highlighted racial/ethnic health disparities that existed for decades
- Health disparity in COVID-19 in children require further characterization
- Such data in the American South, where case count is increasing rapidly, are lacking

Objectives

- To characterize the positivity rates for SARS-CoV-2 among children from different racial/ethnic groups in Mississippi

Study Period

11 March 2020 – 15 July 2020

METHODS

- Retrospective study using a deidentified COVID-19 registry at the University of Mississippi Medical Center
- Children aged ≤ 18 years who underwent SARS-CoV-2 RT-PCR were included
- The primary exposure of interest: self-reported race/ethnicity
- The primary outcome of interest: positive SARS-CoV-2 RT-PCR

RESULTS

Table. Characteristics of children tested for SARS-CoV-2

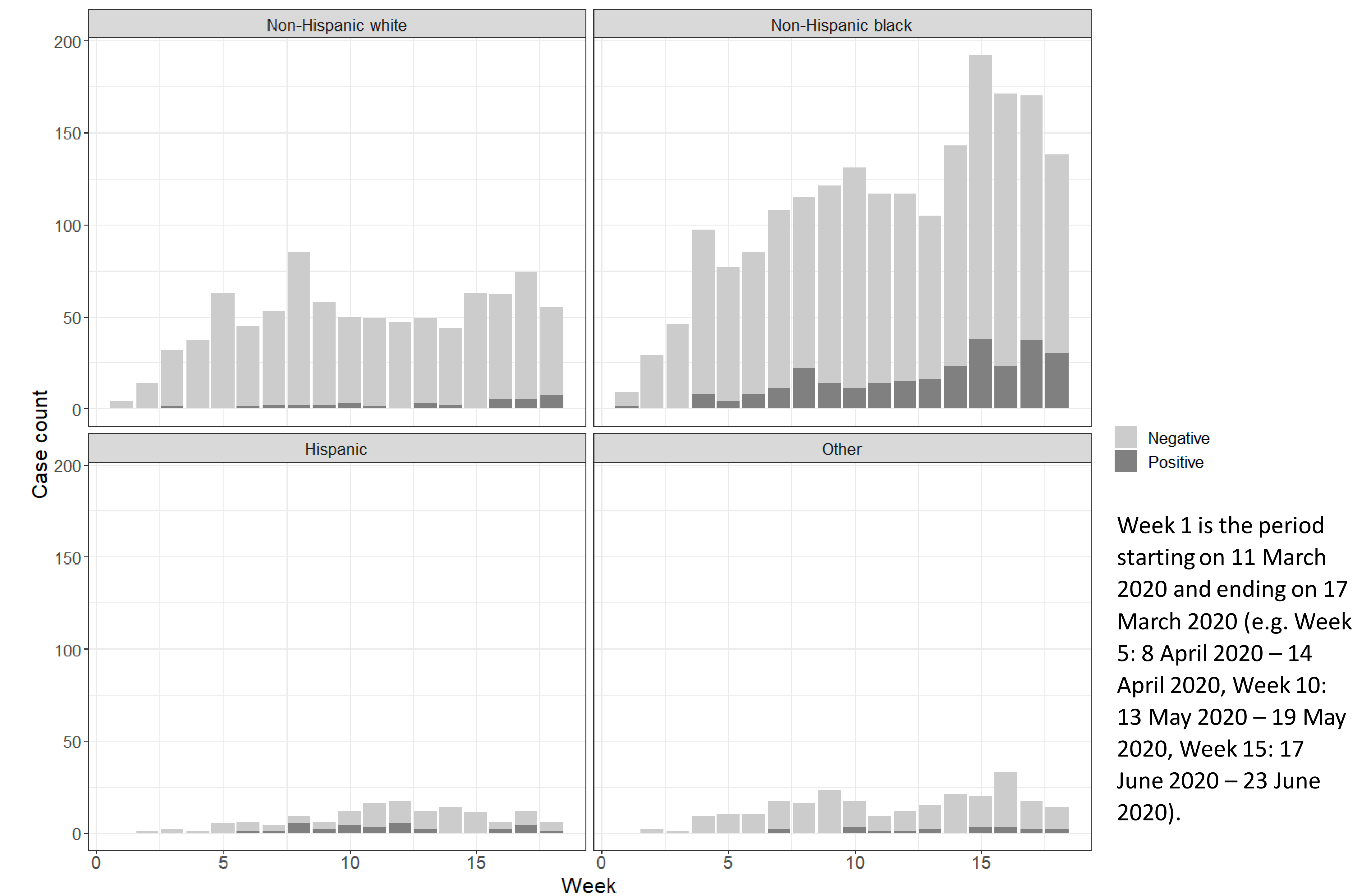
Characteristics	SARS-CoV-2 RT-PCR test result		Bivariate Analysis	Positivity Rate ^b	Multivariable analysis ^c	
	Negative	Positive			Odds ratio (95%CI)	P value
	N = 2883	N = 358				
	N (%)	N (%)	p value ^a	%		
Race/Ethnicity			<0.001			
Non-Hispanic white	850 (29.5%)	34 (9.5%)		3.8	Reference	-
Non-Hispanic black	1696 (58.8%)	275 (76.8%)		14.0	4.43 (3.08-6.55)	<0.001
Hispanic	110 (3.8%)	30 (8.4%)		21.4	7.90 (4.55-13.7)	<0.001
Others	227 (7.9%)	19 (5.3%)		7.7	1.85 (1.01-3.31)	0.04
Sex			0.75			
Male	1463 (50.8%)	178 (49.7%)		10.8	Reference	-
Female	1418 (49.2%)	180 (50.3%)		11.3	0.95 (0.76-1.19)	0.65
Age, years			<0.001			
< 1	515 (17.9%)	36 (10.1%)		6.5	Reference	-
1-4	925 (32.1%)	80 (22.3%)		8.0	1.24 (0.82-1.89)	0.32
5-12	810 (28.1%)	103 (28.8%)		11.3	1.70 (1.14-2.58)	0.01
13-18	633 (22.0%)	139 (38.8%)		18.0	2.91 (1.96-4.42)	<0.001
Primary insurance			<0.001			
Private	533 (18.5%)	53 (14.8%)		9.0	Reference	
Medicaid	1457 (50.5%)	144 (40.2%)		9.0	0.72 (0.51-1.02)	0.06
Other	893 (31.0%)	161 (45.0%)		15.3	1.16 (0.82-1.65)	0.40

^a p values were obtained using chi-squared test, ^b number of positive cases divided by total counts, ^c performed by developing a logistic regression model

- Risk for positive SARS-CoV-2 testing remained substantial after adjusting for covariates
- Positivity rates were 3.8% for white children, vs > 10% among black and Hispanic children
- Older children (particularly age 13-18) also had higher positivity rates

RESULTS

Figure: Temporal trend of SARS-CoV-2 RT-PCR testing results among children in Mississippi



Testing number increased as the testing capacity expanded, but positivity rate also increased, indicating testing did not catch up with the epidemic; positivity rates were > 20% among blacks in the last 2 weeks of study period

SUMMARY

- Minority children had substantially higher positivity rates for SARS-CoV-2 in Mississippi
- Children of minority race/ethnicity groups should not be left behind in public health measures to control the pandemic