Disproportionate Rates of COVID-19 among Black Canadian Communities: Lessons from the First Year of the Pandemic

SickKids

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Disclaimer

I have no financial COIs to declare related to this study.

1 Objectives & Target Groups

1. Seroprevalence of SARS-CoV-2 among Black Canadians compared with other populations in Canada.
2. Relationship between seropositivity and presence of neutralizing antibodies.
3. a. Risk factors for infection.
   b. Sustainability of immune responses.

2 Hot Spots

- North West Quadrant of Greater Toronto Area.
- Areas of Toronto with > 10% Black residents.
- Other areas of Ontario with the highest representation of Black residents.
- Non-black residents within hot spots included.
- Focus on Black Canadians, but all groups included.

3 Immune Measures & Outcomes

- Seroprevalence data.
- Neutralization antibody assays.
- Risk factors for infection (medical, socioeconomic, demographic).
- Sustainability of immune responses.
- T cell memory at 12 and 18 months.

4 Community Engagement

- Community Advisory Group - 15 members with wide representation; chaired by community member.
- Feasibility study started
- Proposed Data Monitoring Advisory
- Knowledge Translation

Building trust

Percentage of Black Residents in Study Locations

Location	Percentage Black
Toronto – Northwest Quadrant	29
Peel (Brampton)	14
Oakville	2.9
London	2.9

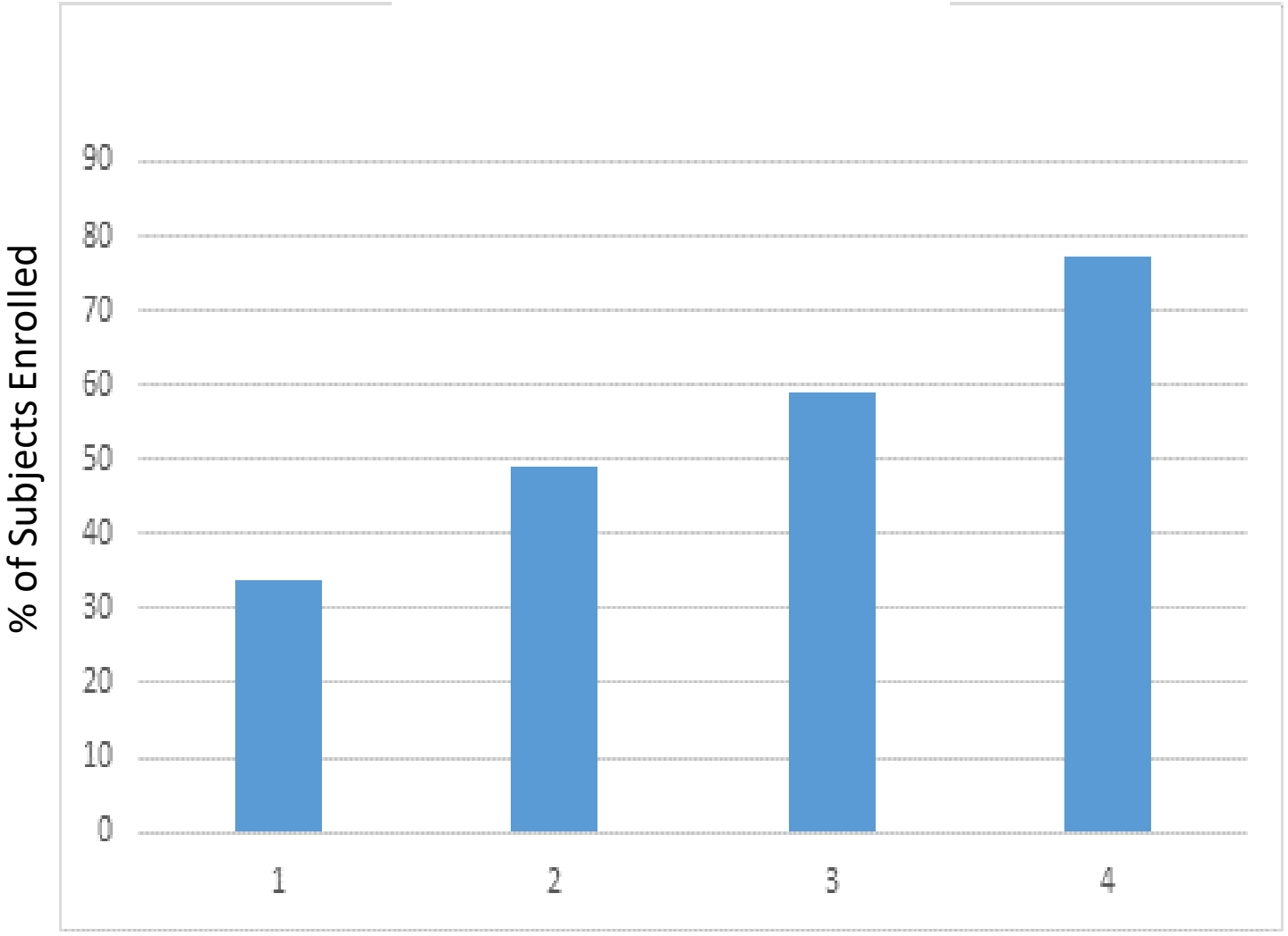
Period: August to December 2020

Assay: SARS-CoV-2 IgG antibodies were determined using the EUROIMMUN assay.

Department of Paediatric Laboratory Medicine, SickKids

Periods 2 - 4: 2021 to 2022
Assay: SARS-CoV-2 IgG antibodies were determined using
using automated ELISAs
Gingras Laboratory, Lunenfeld Tanenbaum Research Institute,
Mount Sinai Hospital

Building Trust: Percentage of Blacks Enrolled in African Canadian COVID-19 Immunity Project in Relation to Sampling Visits Over Time (Feasibility Component)



Allen UD et al. Oct 2020

Descriptive Characteristics of Study Participants

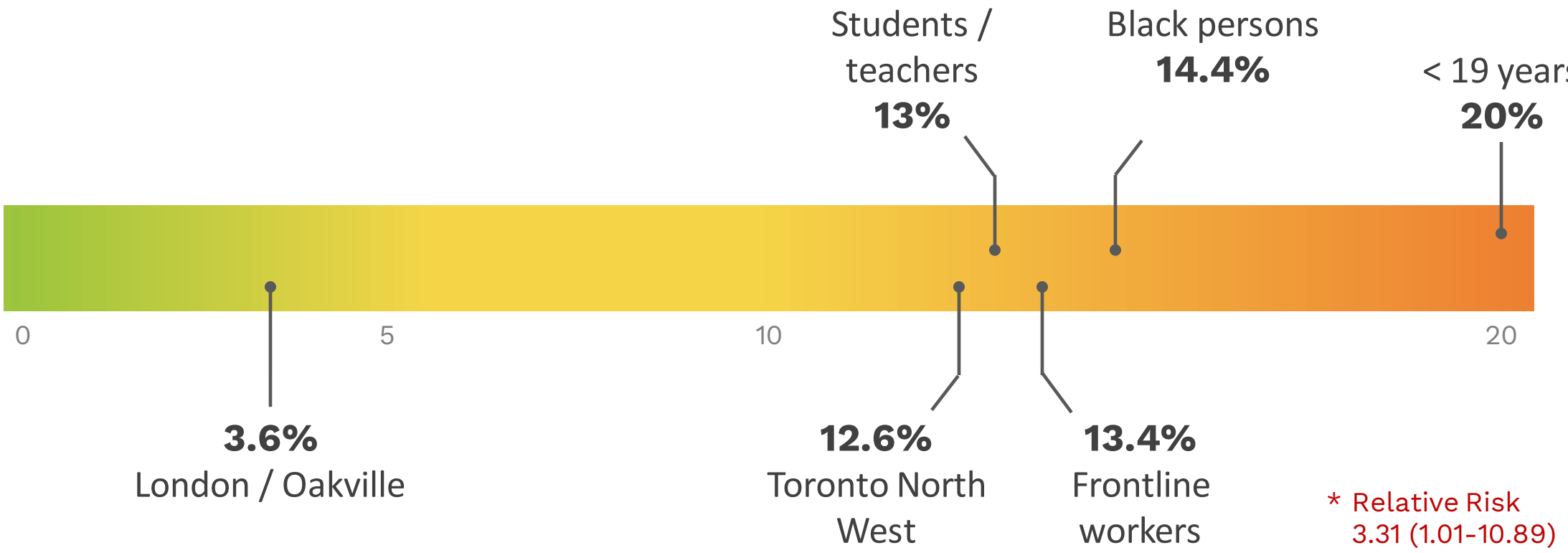
Participants	N	Percentages
Total	387	100
London	51	13.2
Oakville	60	15.5
Peel	67	17.3
GTA Northwest	206	53.2
Other	3	0.8
Gender		
Males	162	41.9
Females	221	57.1
Prefer not to answer / Other	4	1.0

Descriptive Characteristics of Study Participants

Race/ethnicity	N	Percentages
African Canadian	255	65.9
Non-African Canadian	131	33.9
White	59	15.2
South Asian	20	5.2
East Asian	17	4.4
Hispanic	24	6.2
Middle East	4	1.0
Other	7	1.8
Age groups (yrs)		
< 19	50	12.9
19-30	62	16.0
31-65	224	57.9
> 65	45	11.6
Not available	6	1.6

Unknown race/ethnicity = 1

Ontarians in COVID-19 “hot zones” over 3X more likely to have infection-acquired antibodies in Year 1

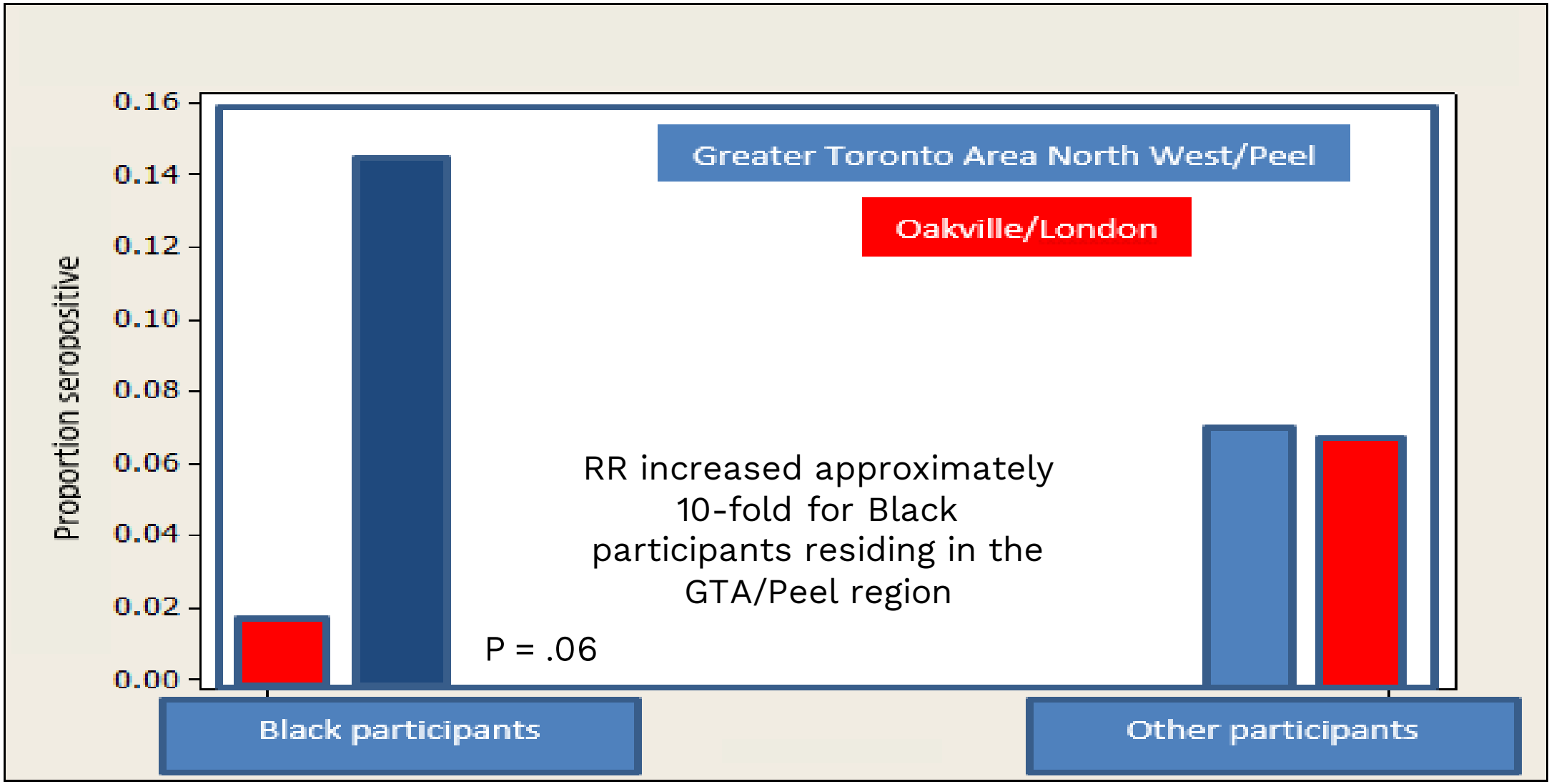


SARS-CoV-2 Seroprevalence, Ontario Comparison of Subgroups

Group	Number of Subjects	Number Seropositive	Percentages (%)	P Values	Risk Ratios
GTA Northwest **vs London/Oakville**	206 111	26 4	12.6 vs 3.6	0.008	3.5 (1.3 – 11.4)
Students/teachers **vs non-frontline workers**	82 155	11 5	13.4 vs 3.2	0.005	4.2 (1.5- 11.6)
Frontline workers **vs non-frontline workers**	192 125	25 5	13.0 vs 3.2	0.01	3.3 (1.3 – 8.3)
Student/teachers **vs frontline workers**	82 192	11 25	13.4 vs 13.0	0.92	1.03 (.53 - 2.0)
Underlying vs no underlying **medical conditions***	138 193	18 17	13.0 vs 9.3	0.29	1.5 (0.79 - 2.8)

* London not included

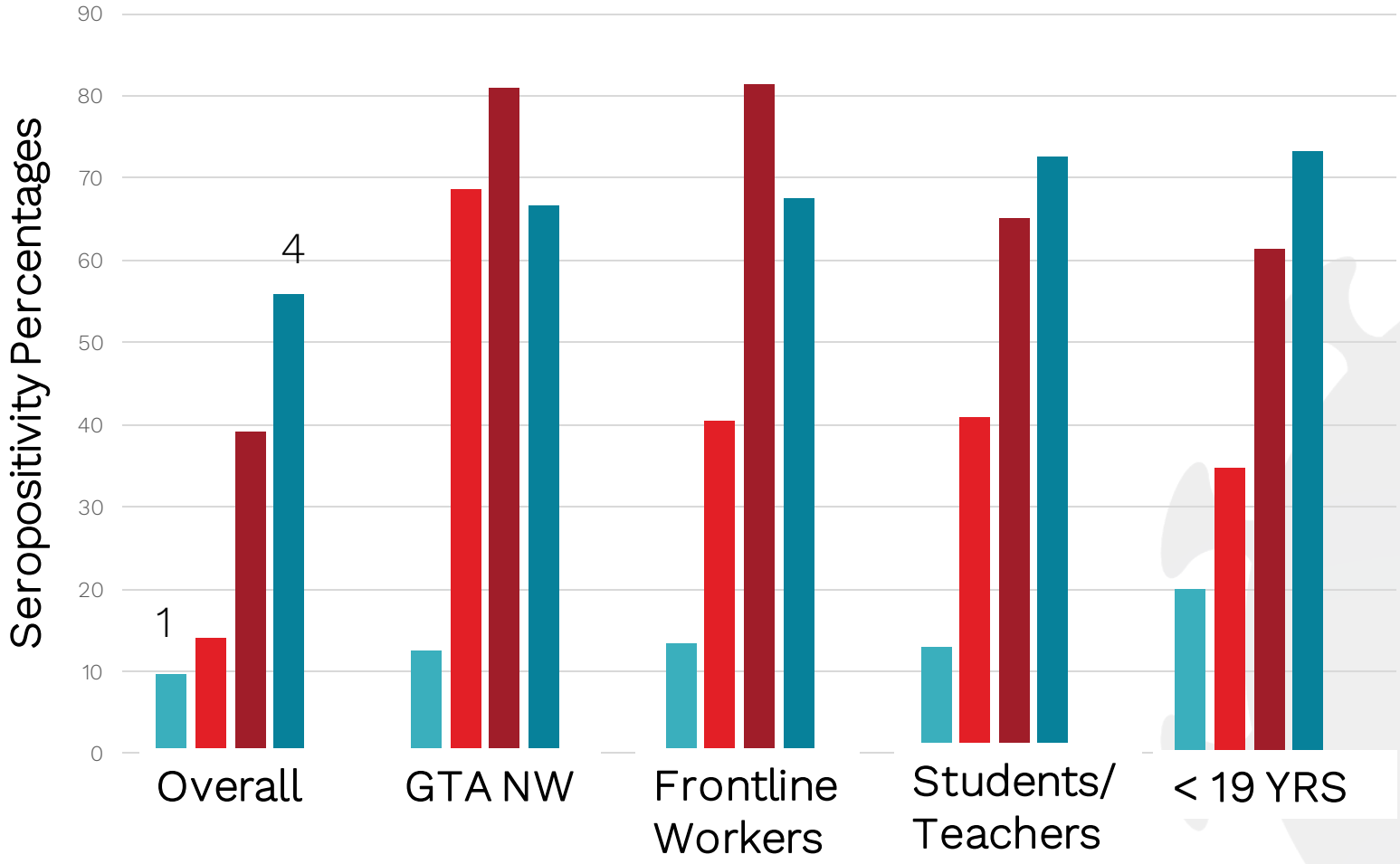
Proportions of Seropositive Black Participants Interaction between Race & Place of Residence



seroMARK Project
Trend in Infection-acquired Antibodies to SARS-CoV-2

Seropositivity Rates Among Selected Groups				
	Period #1 N (%)	Period #2 N (%)	Period #3 N (%)	Period #4 N (%)
Dates	Aug. to Dec. 2020	July to Dec. 2021	Jan. to June 2022	July to Dec. 2022
Overall positivity	9.6 (37/387)	14.0 (66/473)	39.2 (230/587)	53.5 (239/447)
GTA North West	12.6 (26/206)	68.6 (48/70)	80.9 (72/89)	70.6 (48/68)
Frontline workers	13.4 (11/82)	40.5 (30/74)	81.4 (57/70)	63.3 (38/60)
Students/teachers	13.0 (25/192)	40.9 (29/71)	65.2 (45/69)	58.9 (33/56)
Age under 19 yrs	20 (10/50)	34.8 (8/23)	61.5 (24/39)	73.9 (17/23)

seroMARK Cohort
Trend in Infection-acquired Antibodies to SARS-CoV-2




Four Corners
Health Centre
Primary Care
Dental Care
Counselling
Foot Care
905-677-9599
Welcome

Study Team & Collaborators

Upton D. Allen, Carl James, Michelle Barton, Julia Upton, Annette Bailey, Mariana Abdulnoor, Jean-Philippe Julien, Niranjan Kissoon, Alice Litosh, Peter Wong, Andrew Allen, Renee Bailey, Walter Byrne, Chantal Phillips, Maria-Rosa La Neve, Manuela Merreles-Pulcini, Alicia Polack, Cheryl Prescod, Arjumand Siddiqi, Alex Summers, Kimberly Thompson, Sylvanus Thompson, seroMARK Community Advisory Group.

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Thank You