



WHAT'S THE STORY?

SERUM TESTING OF
REPRESENTATIVE YOUNGSTERS

Dr Helen Ratcliffe

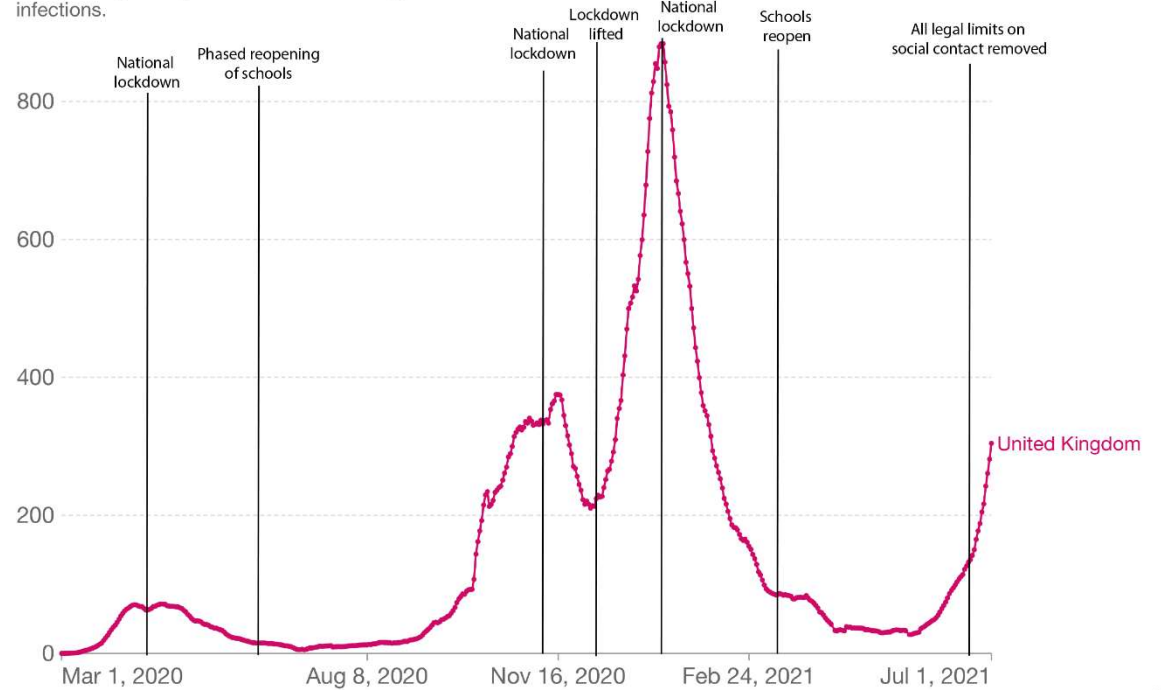




Prevalence in the community
Spectrum of disease
The serological response over time
Risk factors for seropositivity

Daily new confirmed COVID-19 cases per million people

7-day rolling average. Due to limited testing, the number of confirmed cases is lower than the true number of infections.

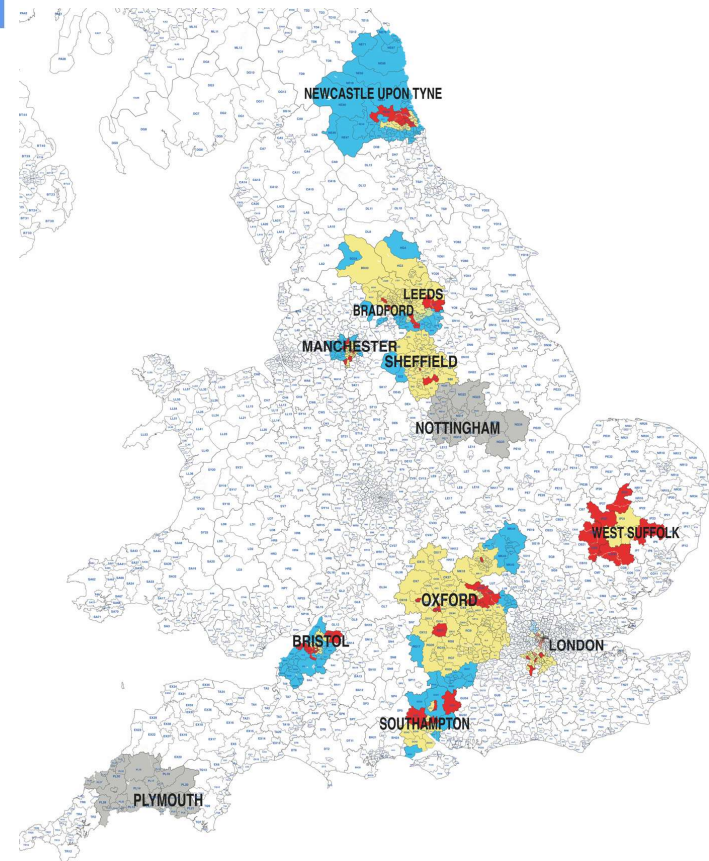


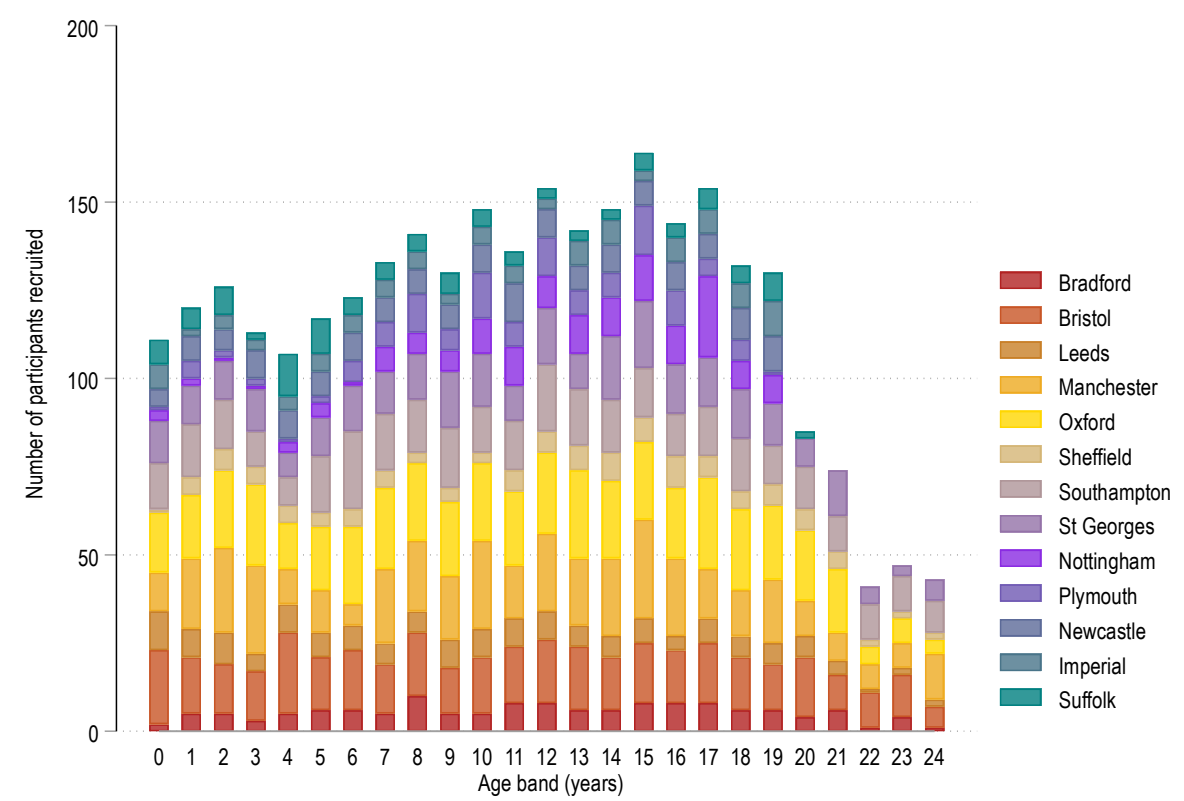
Source: Johns Hopkins University CSSE COVID-19 Data

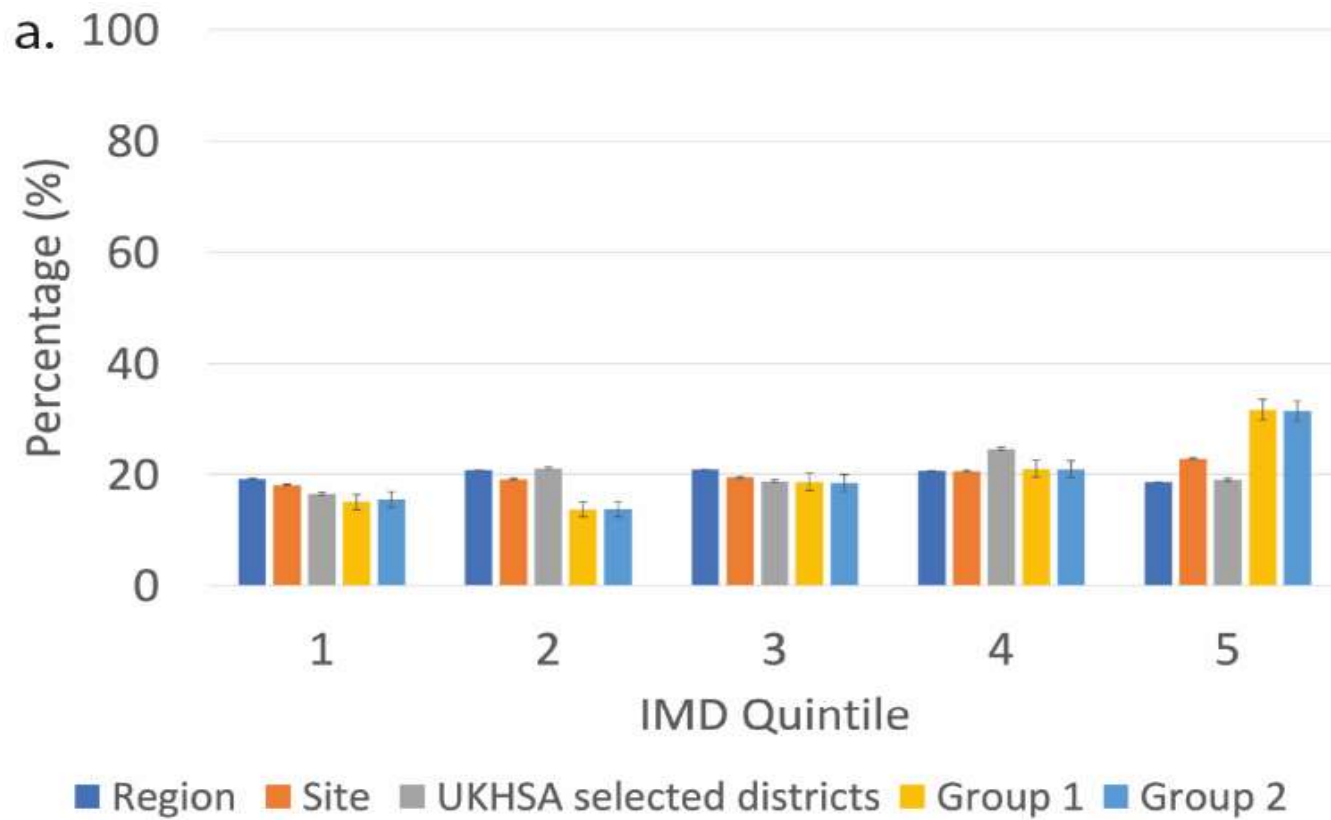


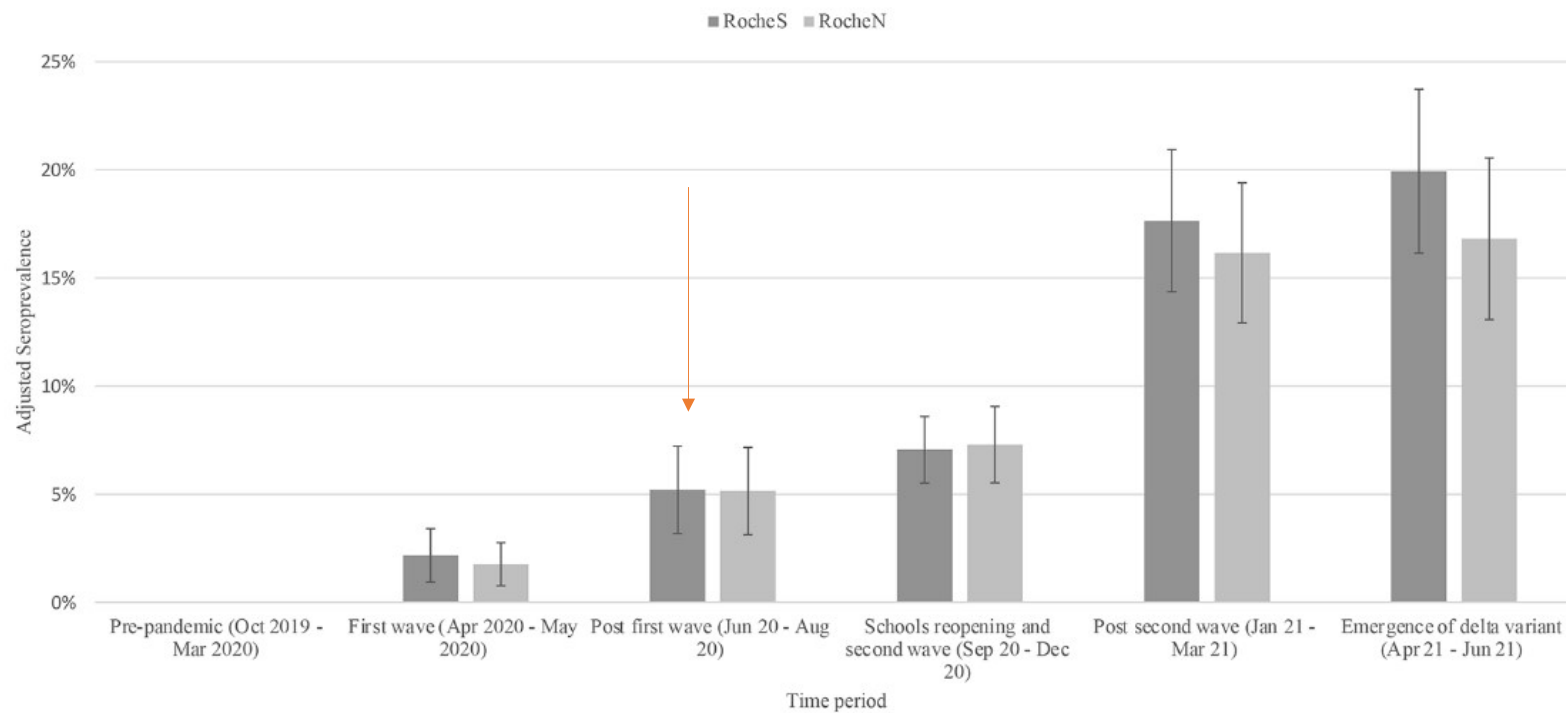


Group	
One	Selected postcode district recruitment
Two	Outside selected postcode recruitment



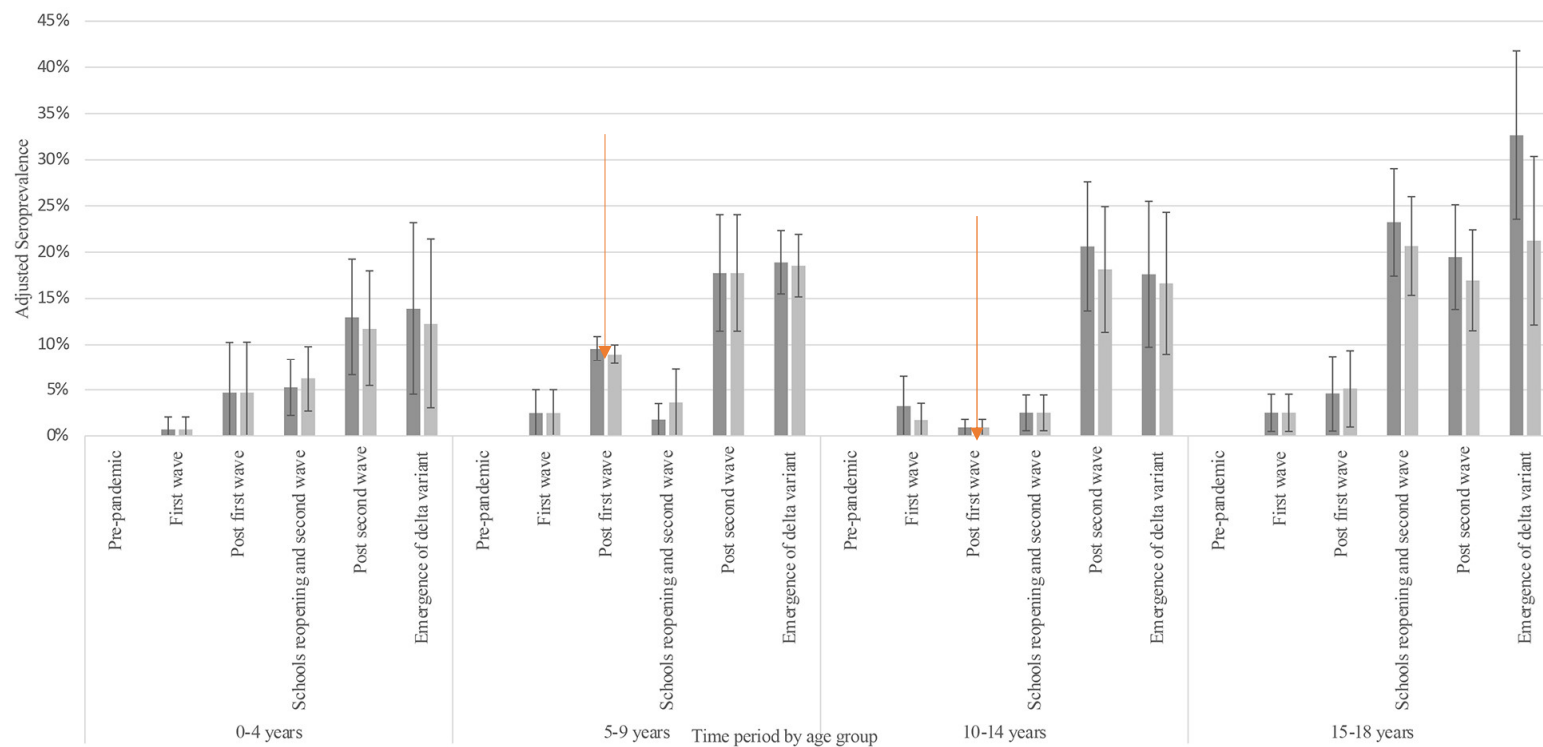






Overall SARS-CoV-2 seroprevalence by time period October 2019 to June 2021 in England, adjusted for age, NHS region and ethnicity. Error bars indicate confidence intervals.

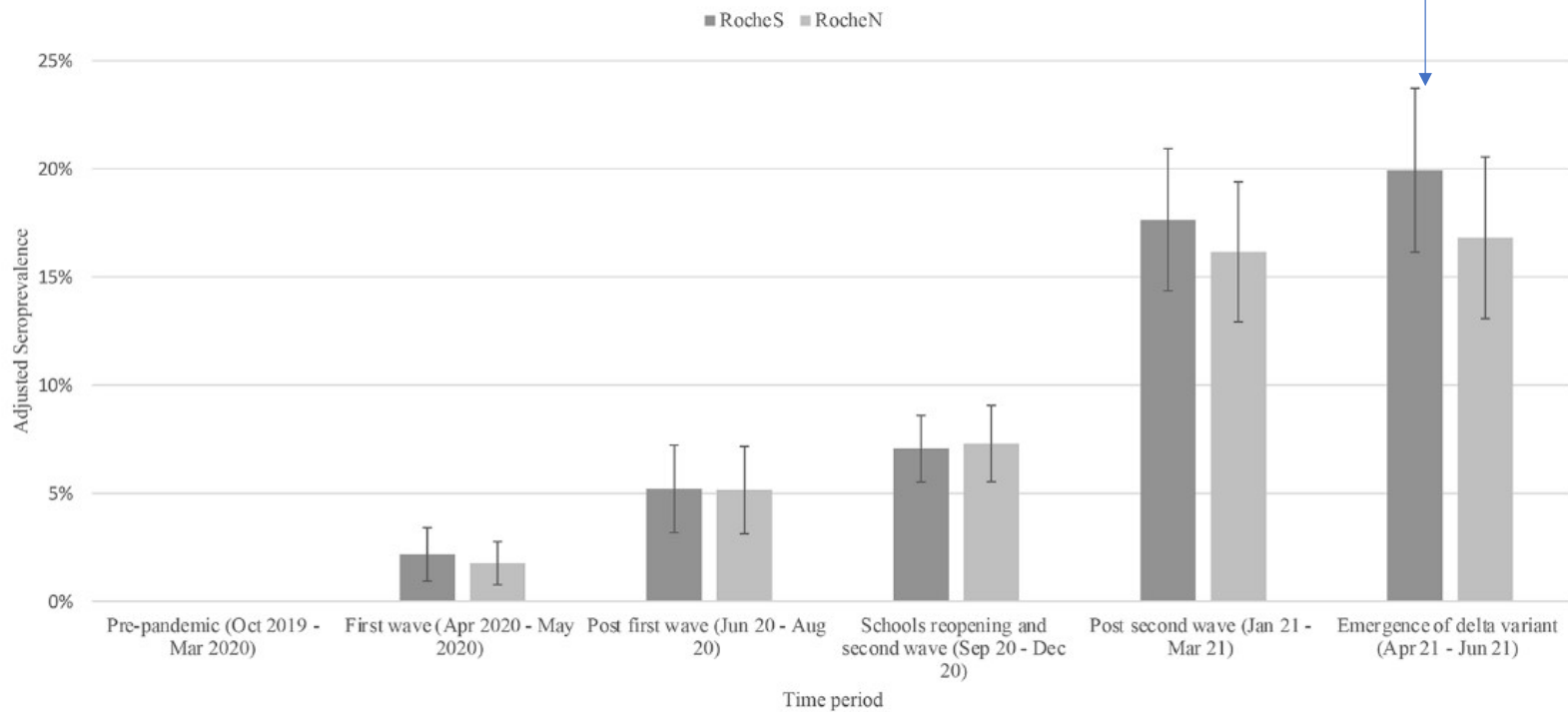
Ratcliffe, H., Tiley, K.S., Andrews, N., et al. (2022). Community seroprevalence of SARS-CoV-2 in children and adolescents in England, 2019-2021. Arch Dis Child. 10.1136/archdischild-2022-324375.



SARS-CoV-2 seroprevalence by age group and time period October 2019 to June 2021 in England, adjusted for NHS region and ethnicity. Error bars indicate 95% confidence intervals.

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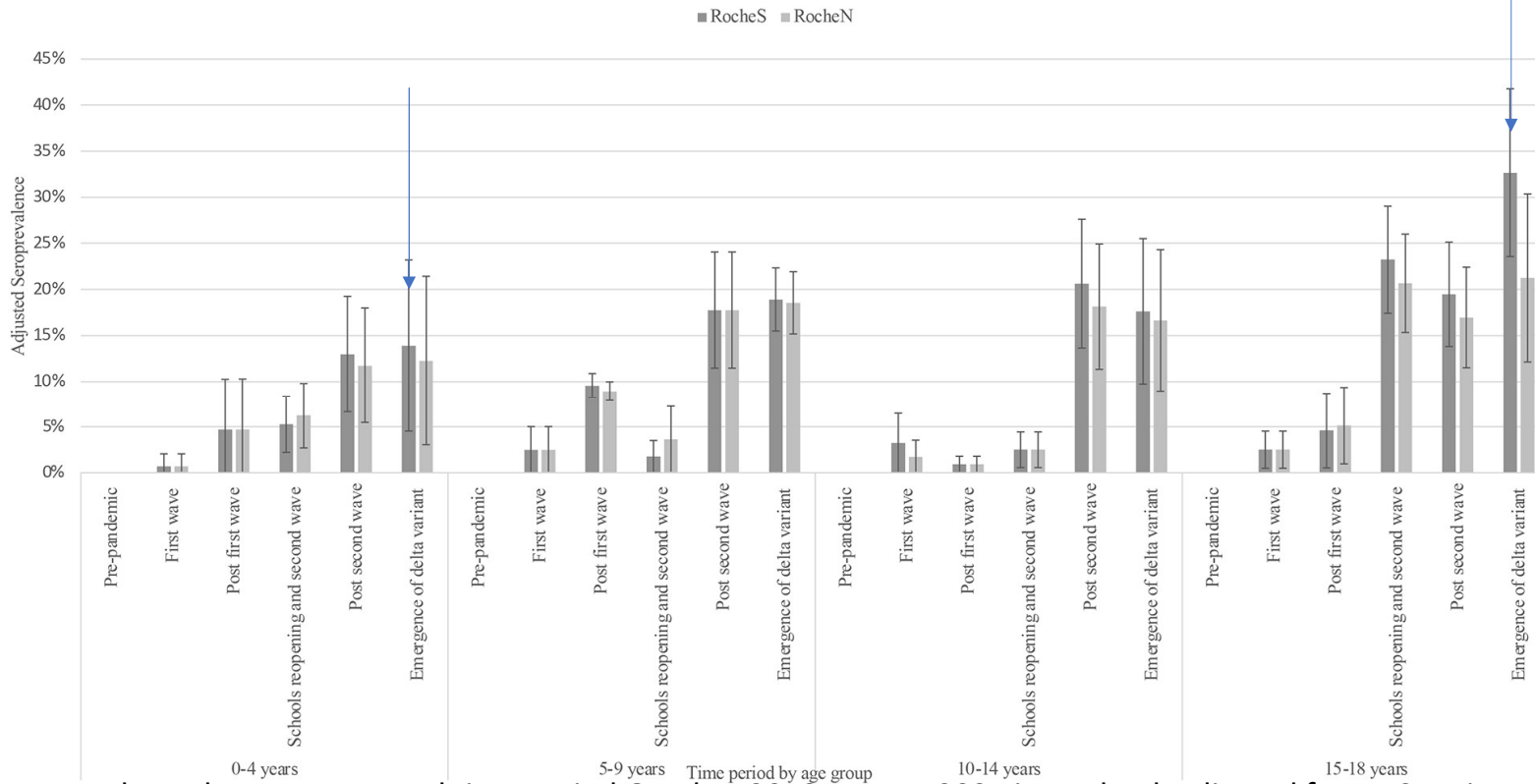




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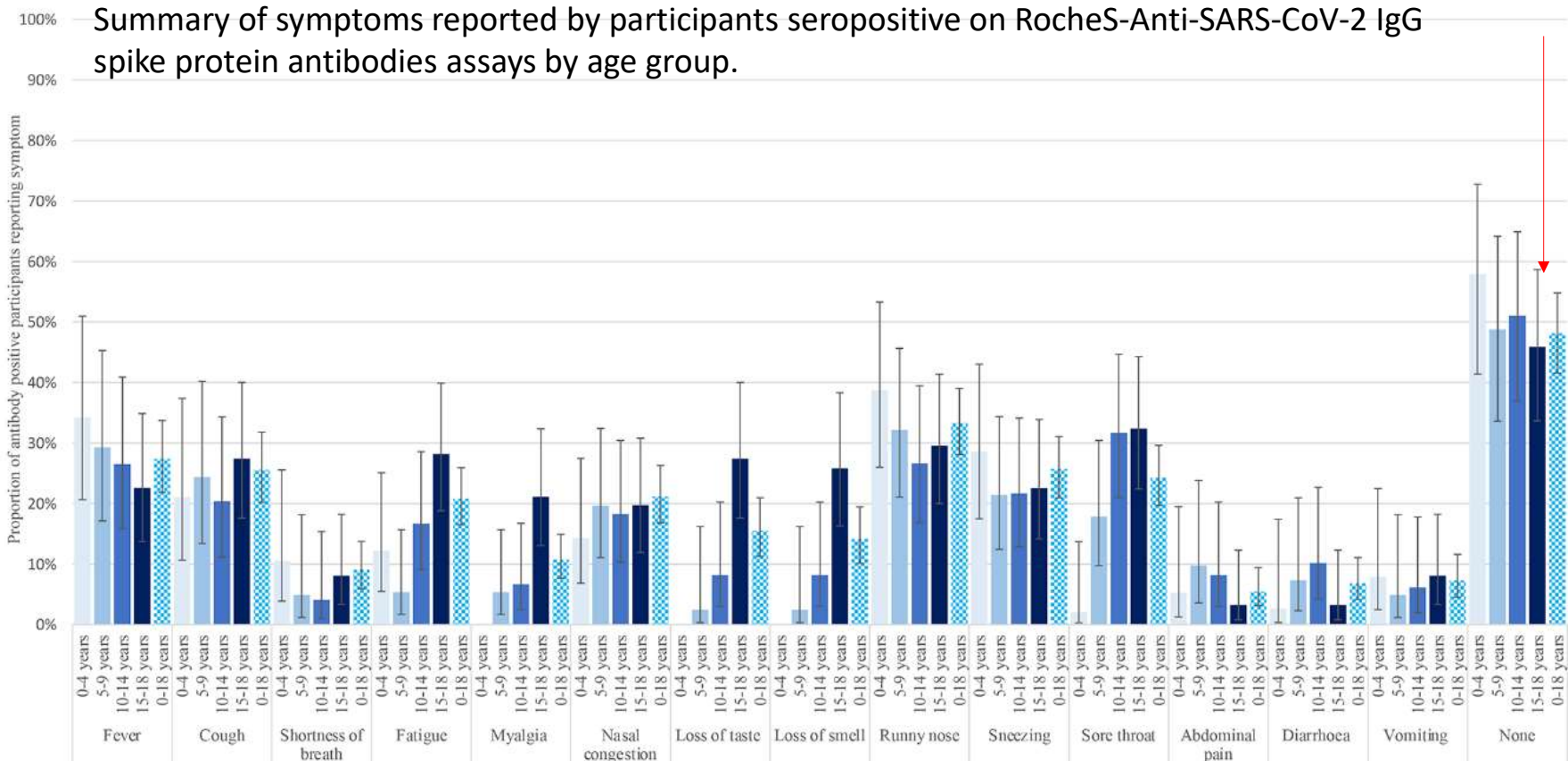




	Univariate		Multivariable	
			IMD* deprivation quintiles	
No. of participants			2287	
Ethnicity				
White	1 (ref)	<0.001	1 (ref)	0.04
Minority ethnic group ^{††}	2.5 (1.8-3.3)		1.4 (1.0-2.0)	
IMD deprivation quintile				
Most deprived 1	2.5 (1.7-3.7)	<0.001	1.4 (0.8-2.2)	0.1
2	1.6 (1.0-2.5)		0.8 (0.5-1.2)	
3	1.1 (1.0-2.3)		1.0 (0.6-1.5)	
4	1.5 (1.0-2.2)		1.2 (0.8-1.9)	
Least deprived 5	1 (ref)		1 (ref)	

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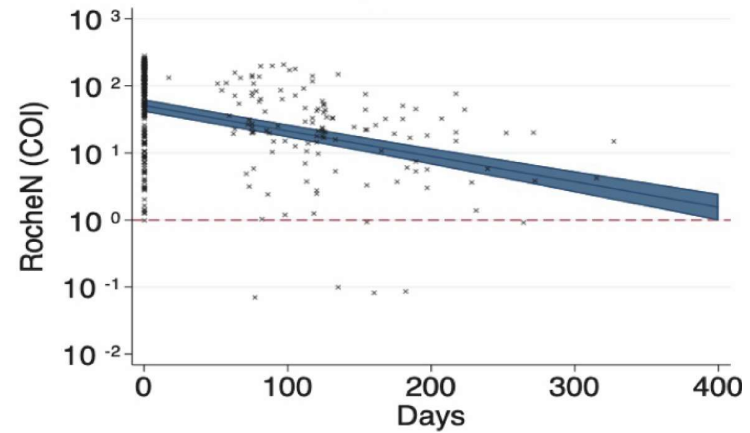
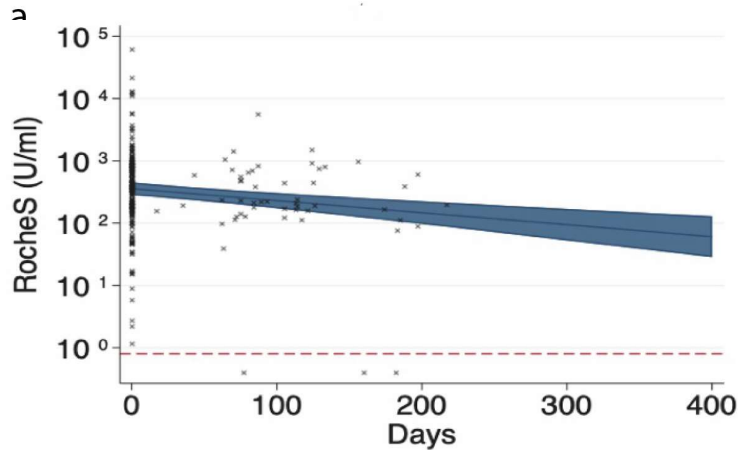


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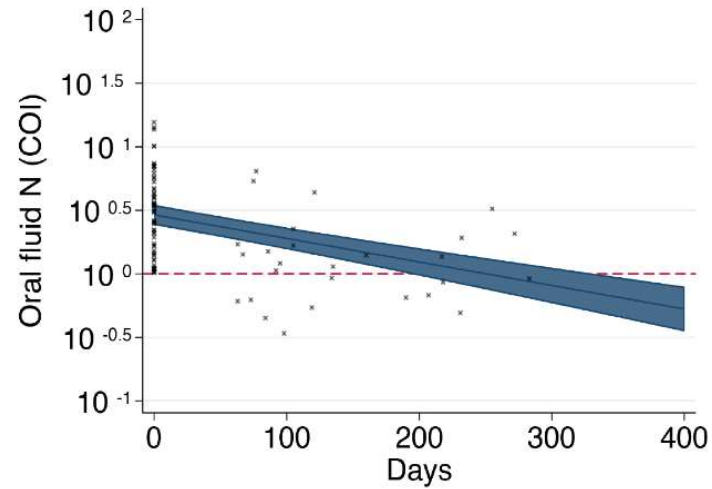
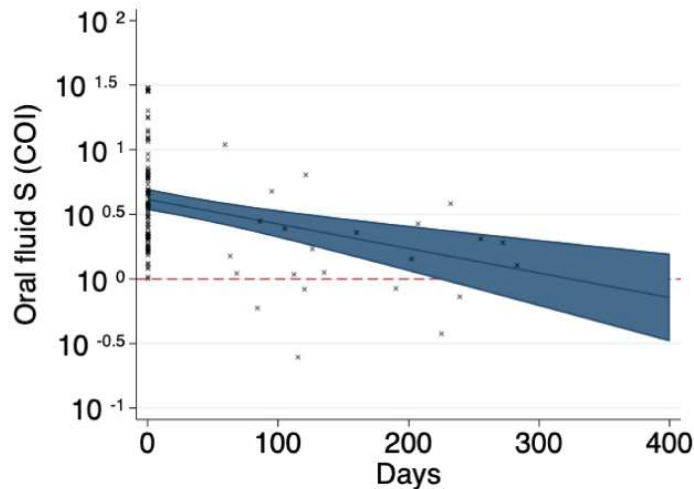




Serum



Oral fluid

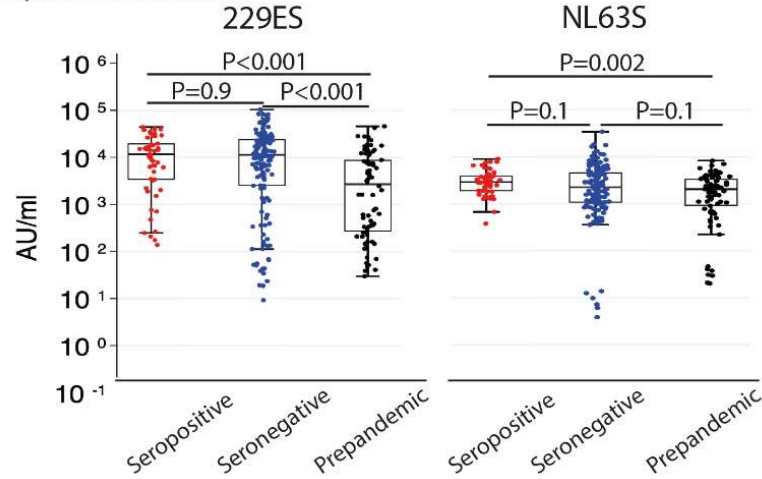


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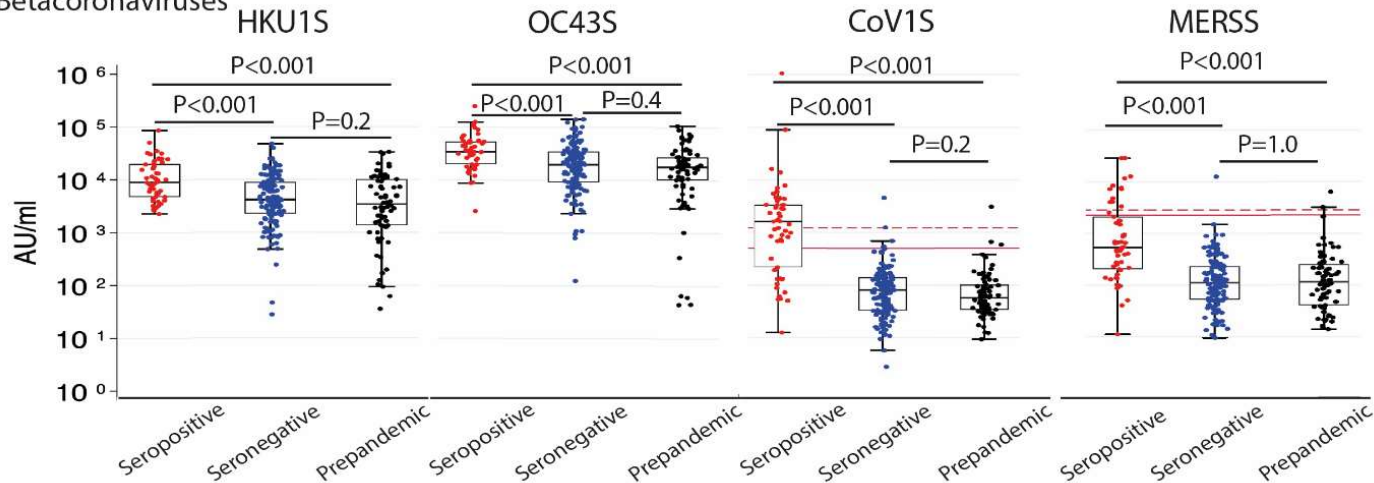




Alphacoronaviruses

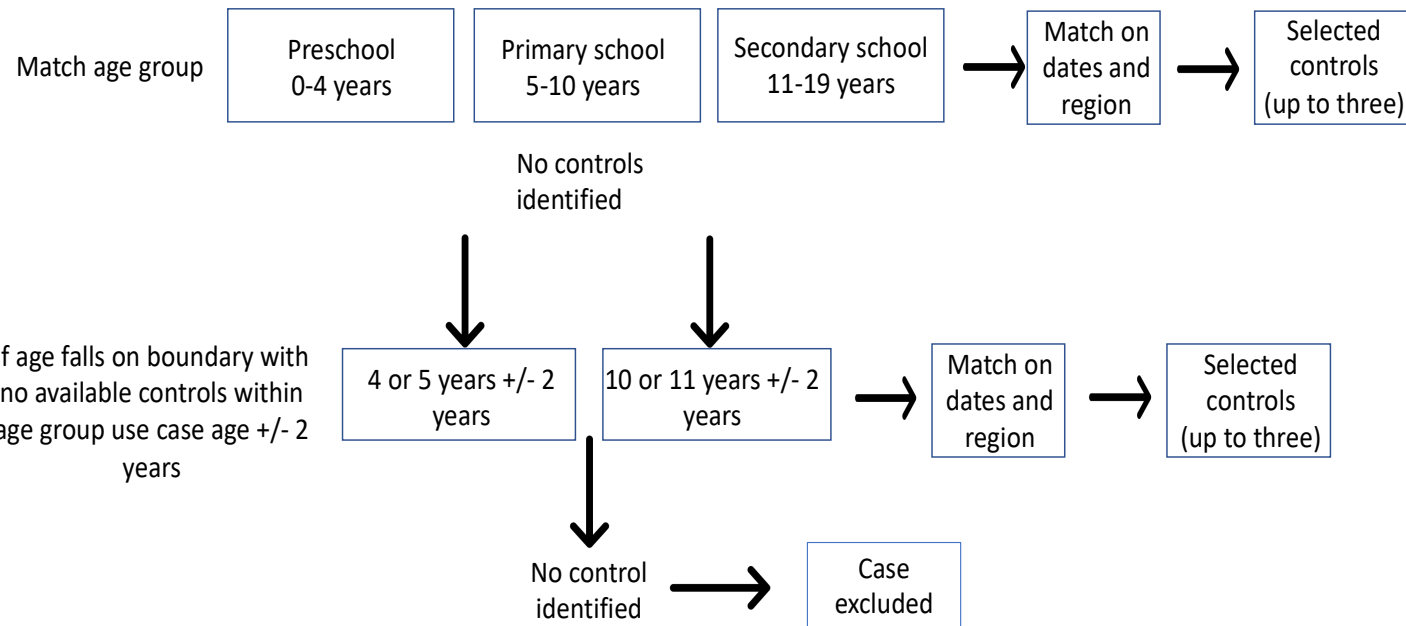


Betacoronaviruses



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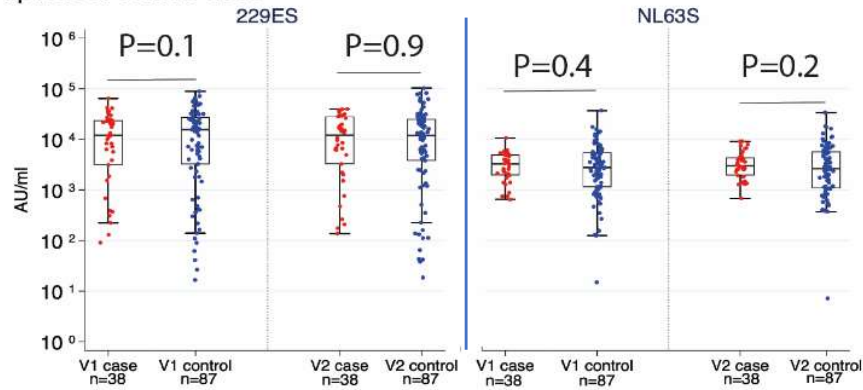


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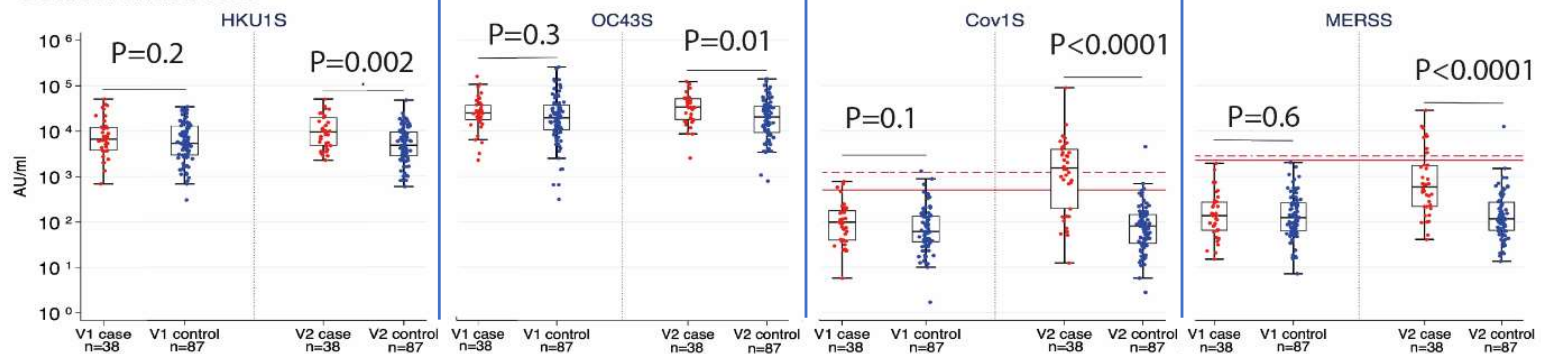




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Summary

- Prospective seroepidemiological survey is feasible within the paediatric population
- Prior to widespread immunisation, approximately 1/3rd of adolescents between the ages of 15-18 years were seropositive for SARS-CoV-2
- Anti-spike antibodies against HCoV do not protect against SARS-CoV-2 infection
- Post SARS-CoV-2 infection, HCoV betacoronaviruses anti-spike antibodies are boosted
- Antibodies against spike persist for longer than nucleocapsid for SARS-CoV-2





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Professor Miles Carroll

