

What's the STORY (Seroprevalence of representative youngsters)

Results at a glance

Summary

To the end of July 2020, 1032 children, teenagers and young adults have been recruited to the 'What's the STORY (Serum Testing of Representative Youngsters) study across 10 sites in England, and SARS-CoV-2 antibody results are available for 900 participants (766 children and teenagers).

From these children and teenagers:

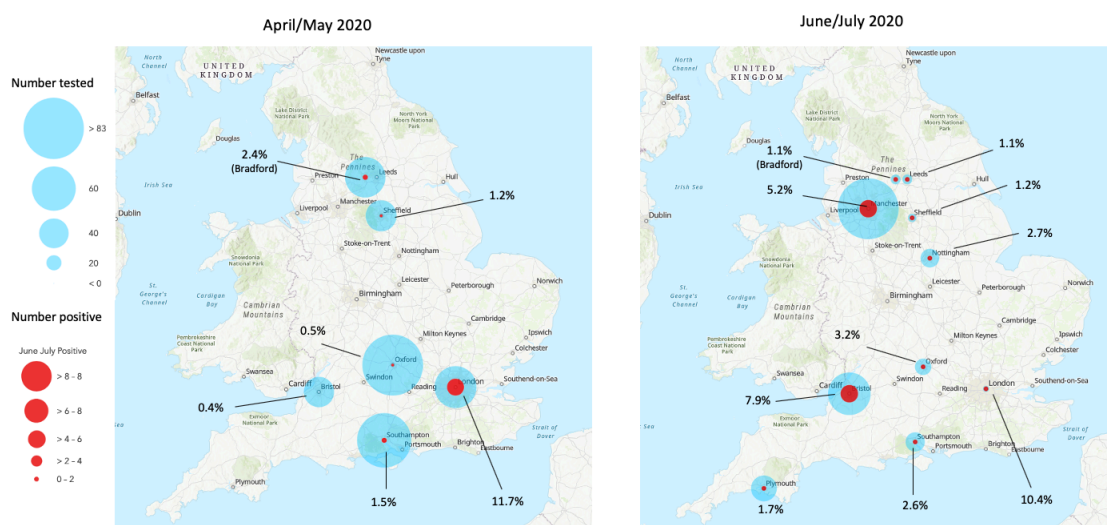
- 119 of the 120 samples collected from October 2019 to March 2020, were negative (defined as <0.8 units) and 1 was considered positive.
- In April and May 2020, 13 out of 352 (3.7%) participants were counted as positive). Adjusting for the performance of the assay this gives a seroprevalence of 2.9% (95% C.I. 0.9 – 5.4%).
- In June and Jul 2020, 15 out of 294 (5.1%) were considered positive, giving an adjusted seroprevalence of 4.4% (2 – 7.5%)

The variations of adjusted seropositivity rates by age and region are shown in Table 1 and figure 1, while the proportion of participants with symptoms is shown in figure 2.

Table 1: Adjusted seroprevalence numbers with SARS-COV2 IgG and symptoms by age group

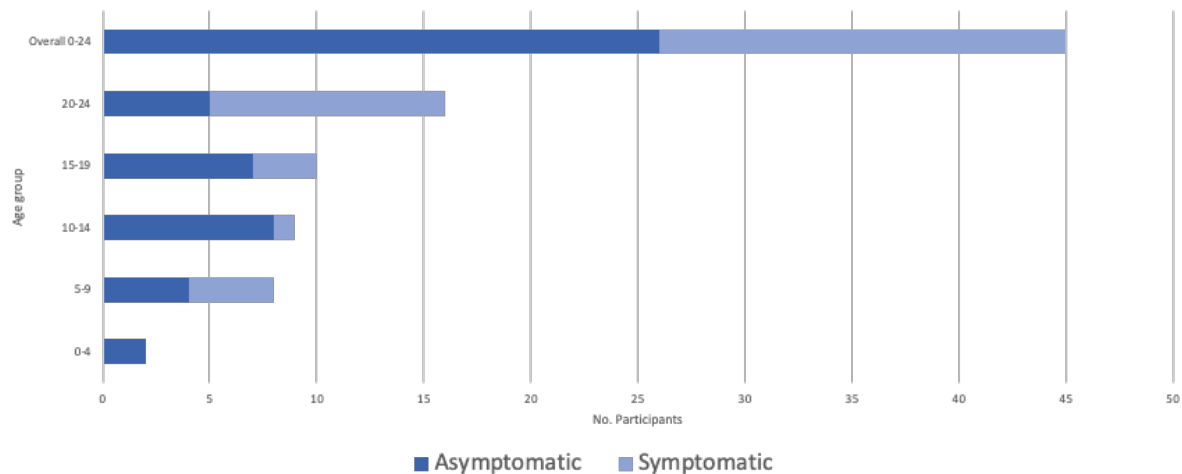
Age band (years)	April/May		June/July	
	Number	Adjusted seroprevalence	Number	Adjusted seroprevalence
0 – 4	63	0.7% (0-5.8)	33	1.8% (0-11.5)
5 – 9	83	3.8% (0.2-10.1)	81	4% (0.3-10.4)
10-14	107	2.7% (0-7.7)	93	3.3% (0.1-9)
15 – 19	99	3% (0.1-8.4)	87	6.2% (1.7-13.1)
20-24	72	7.7% (2.4-15.9)	59	16.6% (8.2-27.9)
Total	424	3.7% (1.8-6.2)	353	6.5% (3.9-9.7)

Figure 1: Numbers tested, numbers positive and adjusted seroprevalence at 'STORY' study sites: 0 – 19 year olds



Figures show adjusted seroprevalence based on sensitivity and specificity of anti-SARS-CoV-2 nucleocapsid IgG (ABBOTT)

Figure 2: Number of seropositive participants, and report of symptoms possibly related to COVID-19 by age



Therefore, up until the end of July 2020 the vast majority of children and teenagers in England have no evidence of having been infected with SARS-COV-2. Of those with infection, the majority have had no symptoms.

Findings of particular note are:

- Particularly low rates of seropositivity in 0 – 4 year olds, with an adjusted seroprevalence of less than 2% for both post-baseline study periods.
- An apparent age-based increment was apparent by June/July, with an adjusted seroprevalence for 15 to 19 year olds of 6.2%, and for 20 – 24 of 16.6%
- The regional differences observed in reports of disease incidence were reflected in this study, with relatively high seroprevalence rates in London and Manchester
- Also notable were low paediatric and teenage seropositivity rates in the three Yorkshire and Humber sites (Bradford, Leeds, Sheffield), with only 3 out of 132 (2.2%) post-baseline samples being positive or equivocal, and adjusted seroprevalence rates of 1.1% to 1.2% in June/July.

Sample collection in the study is ongoing, and will continue to collect samples after re-opening of schools in September 2020, and through the coming autumn and winter, providing an ongoing evidence base to inform the understanding of the prevalence and nature of infections in English children, teenagers and young adults.