

Effect of the new SARS-CoV-2 variant B.1.1.7 on children and young people

The clinical impact of the new SARS-CoV-2 lineage B.1.1.7 on children and young people (aged 18 years or younger) regarding acute respiratory COVID-19 is yet to be fully defined. Media reports of increases in admissions to hospital and more serious illness in children and young people have resulted in public confusion and implicated the B.1.1.7 variant as a more pathogenic infection within this group.^{1,2} This uncertainty has necessitated a public statement from the Royal College of Paediatrics and Child Health.³

It is important to rapidly clarify the true impact of the second wave on children and young people within the context of a high prevalence of the B.1.1.7 variant, estimated to

account for 70% of infections in the London region in January, 2021.⁴ Located in south London, King's College Hospital lies within an area of high disease prevalence, admitting large numbers of patients in both COVID-19 waves. We have previously published data pertaining to children and young people admitted during the first wave⁵ and here, we compare those data with the characteristics of children and young people admitted with acute respiratory COVID-19 thus far during wave 2.

Between March 1, and May 31, 2020, 20 children and young people (aged 18 years or younger and positive for SARS-CoV-2) were admitted to King's College Hospital. Between Nov 1, 2020, and Jan 19, 2021, 60 children and young people positive for SARS-CoV-2 were admitted. No significant differences were found in age, proportion of patients with comorbidities, proportion of patients from Black, Asian,

and minority ethnicity background, or deprivation score between groups (table). Disease severity necessitating oxygen therapy or ventilatory support was infrequent in both waves and was lower as a proportion of total admission in the second wave than in the first (table).

These early second wave data show that many children and young people have been admitted to hospital. This might be due to the higher prevalence of SARS-CoV-2 within our local community. Indeed, the number of adult patients admitted to King's College Hospital in the second wave has also increased by about a third. Importantly, we have found no evidence of more severe disease having occurred in children and young people during the second wave, suggesting that infection with the B.1.1.7 variant does not result in an appreciably different clinical course to the original strain. These findings are in keeping with early national data. Severe acute respiratory COVID-19 remains an uncommon occurrence in children and young people.

We declare no competing interests. We thank the patients and their families, the Paediatric Respiratory Unit, the Paediatric Intensive Care Unit, the General Paediatrics teams, the Business Intelligence Unit, and the Department of Paediatrics and Child Health at King's College Hospital.

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- 1 Yahoo News Australia and agencies. Covid wards 'full of children' as UK pandemic explodes. Yahoo News. 2021. <https://au.news.yahoo.com/covid-wards-full-of-children-as-uk-pandemic-explodes-053207113.html> (accessed Feb 2, 2021).
- 2 Scully E. 'Simply untrue': London children's hospital consultant blasts 'irresponsible' nurse who gave BBC radio interview claiming she saw 'a whole ward of children' with coronavirus. Daily Mail. 2021. <https://www.dailymail.co.uk/news/article-9106509/Coronavirus-London-childrens-hospital-consultant-says-wards-NOT-youngsters-Covid.html> (accessed Feb 2, 2021).



Published Online
February 10, 2021
[https://doi.org/10.1016/S2352-4642\(21\)00030-4](https://doi.org/10.1016/S2352-4642(21)00030-4)

	Wave 1 (March 1, to May 31, 2020)	Wave 2 (Nov 1, 2020, to Jan 19, 2021)
Number of patients	20	60
Age, years	1 (0-1-11)	6 (0-7-13)
Sex		
Male	9 (45%)	40 (67%)
Female	11 (55%)	20 (33%)
Comorbidities	7 (35%)	25 (42%)
BAME ethnicity	6 (46%; n=13)	20 (42%; n=48)
IMD score	28.3 (11.6-36.1)	20.5 (14.7-32.2)
Clinical severity (modified WHO definition)*		
Critical disease	4 (20%)	2 (3%)
Severe disease	1 (5%)	3 (5%)
Moderate disease	5 (25%)	8 (13%)
Mild disease	8 (40%)	27 (45%)
Asymptomatic or incidental findings	2 (10%)	20 (33%)
Management		
Oxygen	7 (35%)	5 (8%)
Non-invasive ventilation	3 (15%)	2 (3%)
Invasive ventilation	4 (20%)	1 (2%)
Remdesivir	1 (5%)	4 (7%)
Steroids (low dose)	0	5 (8%)
Monoclonal antibodies (casirivimab and imdevimab)	0	1 (2%)

Data are n, n (%), or median (IQR), unless otherwise specified. BAME=Black, Asian, and minority ethnicity. IMD=Index of Multiple Deprivation score. *For the modified WHO definition see the appendix.

Table: Patient characteristics

See Online for appendix

- 3 Viner R. RCPCH responds to media reports of increased admissions of children and young people with COVID-19. Royal College of Paediatrics and Child Health. 2021. <https://www.rcpch.ac.uk/news-events/news/rcpch-responds-media-reports-increased-admissions-children-young-people-covid-19> (accessed Feb 2, 2021).
- 4 Kirby T. New variant of SARS-CoV-2 in UK causes surge of COVID-19. *Lancet Respir Med* 2021; published online Jan 5. [https://doi.org/10.1016/S2213-2600\(21\)00005-9](https://doi.org/10.1016/S2213-2600(21)00005-9).
- 5 Harman K, Verma A, Cook J, et al. Ethnicity and COVID-19 in children with comorbidities. *Lancet Child Adolesc Health* 2020; **4**: e24–25.
- 6 Cook J, Harman K, Zoica B, Verma A, D'Silva P, Gupta A. Horizontal transmission of severe acute respiratory syndrome coronavirus 2 to a premature infant: multiple organ injury and association with markers of inflammation. *Lancet Child Adolesc Health* 2020; **4**: 548–51.