

Supplementary digital content 1: Characteristics and treatment details for n=73 children SARS-CoV-2 positive children and n=243 children with an influenza PICU admission in 2019

Characteristic or intervention	N=73 SARS-CoV-2 positive children	N=243 children with influenza admission in 2019	Difference in mean/proportion ^{††} (95% CI)
Age group at first PICU admission, n(%)			
Neonate <30 days	5 (6.9)	7 (2.9)	4.0% (-2.2% to 10.1%) ^α
Infant 31-365 days	9 (12.3)	47 (19.3)	-7.0% (-16.0% to 2.0%) ^α
Young child 1y-5y	10 (13.7)	99 (40.7)	-27.0% (-37.0% to -17.0%) ^α
Older child 6-12y	25 (34.3)	64 (26.4)	7.9% (-4.3% to 20.1%) ^α
Teenager 13-18y	24 (32.9)	26 (10.7)	22.2% (10.7% to 33.7%) ^α
Male, n(%)	44 (60.3)	142 (58.4)	1.9% (-10.9% to 14.7%) ^α
Ethnicity, n(%)			
White	27 (37.0)	137 (56.4)	/ *
Asian	22 (30.1)	34 (14.0)	
Black	16 (21.9)	9 (3.7)	
Other	5 (6.9)	9 (3.7)	
Mixed	3 (4.1)	5 (2.0)	
Unknown ^β	0 (0.0)	49 (20.2)	
Weight z score			
n(%)	65 (89.0)	110 (45.3)	/ *
Mean (SD)	0.31 (2.04)	-0.54 (2.04)	
Median (IQR)	0.29 (-0.80, 1.62)	-0.41 (-1.37, 0.63)	
Townsend deprivation index score			
n(%)	73 (100.0)	225 (92.6)	1.21 (0.20 to 2.22) [†]
Mean (SD)	2.7 (4.05)	1.5 (3.75)	
Median (IQR)	3.33 (1.04, 6.27)	1.20 (-1.83, 4.43)	
Unplanned admission, n(%)	69 (94.5)	235 (96.7)	-2.2% (-7.89% to 3.49%) ^α
Comorbidity^{††}, n(%)			
Neurological/Developmental [‡]	18 (24.7)	59 (24.3)	

Congenital Heart/Cardiac Disease	9 (12.3)	17 (7.0)	/ ^Λ
Inherited genetic/chromosomal abnormalities	9 (12.3)	9 (3.7)	
Pre-term	8 (11.0)	30 (12.3)	
Malignancy†	3 (4.1)	2 (0.8)	
Metabolic/Endocrine**	3 (4.1)	5 (2.1)	
Chronic Pulmonary Disease	2 (2.7)	18 (7.4)	
Blood disorder	0 (0.0)	4 (1.6)	
Chronic kidney/liver disease	0 (0.0)	6 (2.5)	
PIM3_POD %			
Mean (SD)	4.6 (6.74)	4.7 (6.87)	-0.16 (-1.96 to 1.63) [†]
Median (IQR)	3.17 (1.24, 5.09)	3.34 (1.22, 5.05)	
Maximum respiratory support [¶], n(%)			
High frequency oscillatory or jet ventilation	3 (4.1)	22 (9.1)	-5.0% (-10.8% to 0.8%) ^α
Invasive mechanical ventilation	42 (57.5)	161 (66.3)	-8.8% (-21.6% to 4.0%) ^α
Non-invasive ventilation	5 (6.9)	19 (7.8)	-0.9% (-7.6% to 11.2%) ^α
High flow nasal cannula therapy	5 (6.9)	26 (10.7)	-3.8% (-10.8% to 3.2%) ^α
None	18 (24.7)	15 (6.2)	18.5% (8.2% to 28.8%) ^α
Invasive ventilation			
Total length [¶] of invasive ventilation in PICU			
(days) n(%)	44 (60.3)	181 (74.5)	-14.2% (-26.7% to -1.73%) ^α
Mean (SD)	13.8 (29.37)	10.8 (31.86)	
Median (IQR)	5 (3-11)	5 (3-10)	
Respiratory support			
Total length [¶] of respiratory support in PICU			
(days) n(%)	50 (68.4)	217 (89.3)	-20.9% (-32.3% to -9.5%) ^α
Mean (SD)	13.3 (28.52)	10.5 (29.81)	
Median (IQR)	5 (3-10)	5 (3-10)	
Vasoactive support			
Total length [¶] of vasoactive support in PICU			
(days) n(%)	37 (50.7)	84 (34.6)	3.4% (-10.8% to 4.0%) ^α
Mean (SD)	6.4 (7.22)	5.8 (7.84)	
Median (IQR)	4 (3-6)	4 (2-7)	
Inhaled nitric oxide[¶], n(%)	7 (9.6)	18 (7.4)	2.2% (-5.3% to 9.7%) ^α

Renal replacement therapy[‡], n(%)	4 (5.5)	16 (6.6)	1.1% (-7.2% to 5.0%) ^α
Extracorporeal life support[‡], n(%)	3 (4.1)	4 (1.6)	2.5% (-2.4% to 7.3%) ^α
Outcome^ϕ, n(%)			
Discharged alive	66 (90.0)	227 [Ⓟ] (93.4)	3.4% (-10.8% to 4.0%) ^{αδ}
Died in PICU	7 (9.6)	15 (6.2)	
Total length[¶] of PICU care (days)^Ω			
n(%)	73 (100.0)	242 (99.6)	2.3 (-3.5 to 8.1) ^γ
Mean (SD)	11.6 (24.02)	9.2 (12.15)	
Median (IQR)	5.0 (2.5-11.0)	5.0 (2.4-9.8)	

CI = confidence interval; IQR = interquartile range; PIM3_POD = pediatric index of mortality 3 predicted

probability of death; π SARS-CoV-2 cohort minus influenza cohort; γ obtained from two sample independent t-test assuming unequal variances; α obtained from two sample test of proportions; τ obtained from two sample independent t-test assuming equal variances; * no difference or confidence intervals presented due to the differential proportions of missing data; β unknown ethnicity includes “unknown” ethnicity (n=18), missing ethnicity (n=9) and declined, n=31; λ no statistical testing conducted due to difference in completion styles of comorbidities between units; $\dagger\dagger$ comorbidities not mutually exclusive; \ddagger Neurological/developmental including autism, epilepsy, cerebral palsy; **metabolic/endocrine including diabetes; \dagger malignancy including leukaemia, lymphoma, solid tumours; [¶] where a child had multiple admission events the number of days is summed across all events; ^ϕ where a child had multiple admission events, the status from the last recorded admission is presented; [Ⓟ] one flu cohort patient still in PICU; δ difference calculated based on proportion of children surviving PICU; ^Ω for completed PICU care episodes.