

Table S1. Included main diagnoses divided by categories when COVID-19 is secondary diagnosis.

Included categories	ICD-codes
COVID-related symptoms	
Cough	R05
Abnormalities of breathing	R06
Pain in throat and chest	R07
Other symptoms and signs involving the circulatory and respiratory system	R09
Dizziness and giddiness	R42
Fever of other or unknown origin	R50
Headache	R51
Malaise and fatigue	R53
Syncope and collapse	R55
Upper and lower respiratory tract infections	
Acute nasopharyngitis	J00
Acute tonsillitis	J03
Acute upper respiratory infections of multiple and unspecified sites	J06
Influenza due to other identified influenza virus	J10
Other viral pneumonia	J128
Viral pneumonia, unspecified	J129
Pneumonia due to <i>Streptococcus pneumoniae</i>	J13
Bacterial pneumonia, not elsewhere classified	J15
Pneumonia due to other specified infectious organisms	J168
Pneumonia in diseases classified elsewhere	J17
Pneumonia, unspecified organism	J18
Unspecified acute lower respiratory infection	J22
Coronavirus infection, unspecified	B342
Other viral infections of unspecified site	B348
Viral infection, unspecified	B349
Coronavirus as the cause of diseases classified elsewhere	B972
Other and unspecified infectious diseases	B99
Respiratory disorders	
Pulmonary embolism	I26
Acute respiratory distress syndrome	J80
Pulmonary edema	J81
Pleural effusion not elsewhere classified	J90
Respiratory failure, not elsewhere classified	J96
Respiratory disorders in diseases classified elsewhere	J99
Obstructive Airway Diseases	
Acute bronchitis due to other specified organisms	J208
Acute bronchitis, unspecified	J209
Acute bronchiolitis due to other specified organisms	J218
Acute bronchiolitis, unspecified	J219
Other chronic obstructive pulmonary disease	J44
Asthma	J45
Cardiac diseases	
Viral carditis	B332
Chronic ischemic heart disease	I25
Acute pericarditis	I30
Pericarditis in diseases classified elsewhere	I32
Acute myocarditis, unspecified	I40
Myocarditis in diseases classified elsewhere	I41
Atrial fibrillation and flutter	I48
Heart failure	I50
Abnormalities of heart beat	R00

Kidney disorders	
Acute kidney failure	N17
Chronic kidney disease	N18
Unspecified kidney failure	N19
Electrolyte disorders	
Other disorders of fluid, electrolyte and acid-base balance	E87

Table S2: Result of hospitalization analysis. OR, 95% CI. Basic model includes adjusting for age in 2020 and children of other ages. Reference for each age bracket is children in other brackets or no children at all.

<i>Age of child in 2020</i>	<i>Basic model</i>	<i>Adjusted for baseline CRF</i>	<i>Adjusted for baseline BMI, height, morbidity</i>	<i>Adjusted for parental education, income, region</i>	<i>Adjusted for profession</i>	<i>Full model</i>
All hospitalizations March 2020 – September 2021						
<i>N</i>	1 557 061	1 142 222	1 557 061	1 420 206	1 557 061	1 027 123
<i>n of cases</i>	8 655	6 731	8 655	7 497	8 655	5 765
2-5	0.74 (0.66-0.83)	0.72 (0.62-0.84)	0.76 (0.68-0.85)	0.78 (0.70-0.88)	0.75 (0.66-0.84)	0.78 (0.66-0.90)
6-8	0.95 (0.86-1.05)	1.02 (0.89-1.16)	0.96 (0.87-1.06)	0.99 (0.90-1.10)	0.95 (0.86-1.05)	1.01 (0.95-1.13)
9-12	0.98 (0.90-1.06)	0.94 (0.84-1.02)	0.99 (0.92-1.08)	1.03 (0.95-1.11)	0.98 (0.91-1.06)	0.99 (0.89-1.10)
13-17	1.16 (1.09-1.24)	1.16 (1.07-1.25)	1.18 (1.10-1.26)	1.21 (1.13-1.29)	1.16 (1.08-1.23)	1.19 (1.10-1.29)
18-19	1.16 (1.07-1.25)	1.16 (1.06-1.27)	1.17 (1.08-1.27)	1.18 (1.09-1.29)	1.16 (1.07-1.26)	1.20 (1.09-1.32)
20-22	1.09 (0.99-1.18)	1.10 (0.99-1.20)	1.10 (1.01-1.19)	1.14 (1.05-1.25)	1.08 (0.99-1.17)	1.15 (1.04-1.27)
22 and over	1.15 (1.08-1.21)	1.17 (1.09-1.24)	1.15 (1.08-1.21)	1.20 (1.12-1.28)	1.14 (1.08-1.21)	1.20 (1.13-1.30)
Wave 1 (March-September 2020)						
<i>n of cases</i>	2 430	1 884	2 430	2 096	2 430	1 612
2-5	0.71 (0.57-0.89)	0.60 (0.44-0.82)	0.73 (0.58-0.91)	0.75 (0.60-0.94)	0.72 (0.57-0.89)	0.64 (0.46-0.88)
6-8	0.86 (0.70-1.05)	0.86 (0.66-1.12)	0.87 (0.72-1.06)	0.91 (0.74-1.12)	0.87 (0.71-1.06)	0.91 (0.70-1.19)
9-11	0.91 (0.78-1.07)	0.91 (0.75-1.10)	0.93 (0.79-1.08)	0.99 (0.84-1.16)	0.91 (0.78-1.07)	1.00 (0.82-1.22)
12-17	0.94 (0.83-1.07)	0.90 (0.78-1.05)	0.96 (0.84-1.09)	1.00 (0.87-1.14)	0.94 (0.83-1.07)	0.94 (0.80-1.10)
18-19	1.16 (0.99-1.35)	1.23 (1.04-1.46)	1.17 (1.00-1.37)	1.18 (1.00-1.41)	1.15 (0.99-1.35)	1.26 (1.05-1.51)
20-22	1.16 (0.99-1.35)	1.22 (1.03-1.45)	1.17 (1.00-1.37)	1.24 (1.05-1.46)	1.15 (0.99-1.34)	1.30 (1.09-1.55)
22 and over	1.24 (1.11-1.38)	1.24 (1.10-1.40)	1.24 (1.12-1.38)	1.33 (1.18-1.51)	1.24 (1.11-1.38)	1.32 (1.15-1.51)
Wave 2 (September 2020-February 2021)						
<i>n of cases</i>	2 575	2 041	2 575	2 182	2 575	1 707
2-5	0.80 (0.64-0.99)	0.94 (0.72-1.24)	0.82 (0.66-1.03)	0.86 (0.68-1.08)	0.80 (0.64-1.00)	1.06 (0.80-1.41)
6-8	0.93 (0.76-1.12)	1.04 (0.81-1.33)	0.94 (0.77-1.15)	0.99 (0.80-1.21)	0.93 (0.76-1.13)	1.15 (0.90-1.48)
9-11	0.99 (0.85-1.16)	0.90 (0.75-1.11)	1.00 (0.86-1.17)	1.04 (0.88-1.22)	0.99 (0.85-1.16)	0.96 (0.78-1.17)
12-17	1.11 (0.97-1.26)	1.15 (0.99-1.32)	1.14 (1.00-1.29)	1.17 (1.02-1.33)	1.12 (0.99-1.26)	1.22 (1.04-1.41)
18-19	1.20 (1.03-1.40)	1.16 (0.98-1.38)	1.21 (1.04-1.41)	1.28 (1.09-1.50)	1.20 (1.03-1.40)	1.28 (1.07-1.52)
20-22	1.01 (0.86-1.18)	1.02 (0.85-1.21)	1.02 (0.87-1.20)	1.08 (0.91-1.28)	1.01 (0.86-1.18)	1.11 (0.92-1.35)

22 and over	1.17 (1.05-1.31)	1.19 (1.07-1.35)	1.17 (1.05-1.30)	1.27 (1.12-1.42)	1.16 (1.05-1.29)	1.31 (1.15-1.50)
Wave 3 (February 2021-July 2021)						
<i>n of cases</i>	3 650	2 806	3 650	3 219	3 650	2 446
2-5	0.73 (0.62-0.87)	0.69 (0.55-0.86)	0.75 (0.64-0.89)	0.76 (0.64-0.90)	0.73 (0.62-0.87)	0.73 (0.58-0.91)
6-8	1.01 (0.88-1.17)	1.10 (0.92-1.31)	1.03 (0.90-1.19)	1.05 (0.90-1.21)	1.01 (0.88-1.17)	1.14 (0.95-1.37)
9-11	1.02 (0.91-1.14)	0.97 (0.84-1.11)	1.04 (0.93-1.16)	1.04 (0.92-1.17)	1.02 (0.91-1.14)	0.99 (0.86-1.14)
12-17	1.33 (1.21-1.46)	1.34 (1.20-1.50)	1.35 (1.23-1.48)	1.36 (1.23-1.50)	1.33 (1.21-1.46)	1.35 (1.21-1.52)
18-19	1.14 (1.01-1.28)	1.11 (0.97-1.27)	1.15 (1.02-1.30)	1.13 (1.00-1.29)	1.14 (1.01-1.29)	1.12 (0.97-1.30)
20-22	1.08 (0.96-1.23)	1.06 (0.92-1.20)	1.10 (0.97-1.24)	1.13 (0.99-1.29)	1.08 (0.96-1.23)	1.08 (0.93-1.26)
22 and over	1.07 (0.97-1.17)	1.09 (0.98-1.21)	1.07 (0.97-1.17)	1.07 (0.96-1.18)	1.07 (0.99-1.16)	1.07 (0.95-1.20)

Table S3: Associations between children in the household and hospitalization due to COVID-19. Model controlled for age, baseline BMI, CRF, height, chronic morbidity, parental education, income, profession and place of residence in 2018. OR, 95% CI.

	Only children 2-5	Only children 6-12	Only children 13-22	Only Children 6-22
<i>N</i>	66 385	119 397	382 277	698 938
<i>n of cases</i>	120	426	2 504	3 690
<i>March 2020-July 2021</i>	0.54 (0.42-0.71)	0.95 (0.84-1.08)	1.28 (1.21-1.36)	1.30 (1.22-1.39)
<i>Wave 1</i>	0.49 (0.29-0.82)	0.74 (0.57-0.98)	1.30 (1.16-1.46)	1.22 (1.08-1.38)
<i>Wave 2</i>	0.60 (0.36-1.00)	0.78 (0.59-1.02)	1.34 (1.20-1.50)	1.37 (1.21-1.54)
<i>Wave 3</i>	0.57 (0.40-0.82)	1.18 (0.99-1.40)	1.24 (1.13-1.36)	1.31 (1.19-1.44)

Table S4: Result of infection analysis. OR, 95% CI. Basic model includes adjusting for age in 2020 and children of other ages. Reference for each age bracket is children in other brackets or no children at all.

Age of child in 2020	Basic model	Adjusted for baseline CRF	Adjusted for baseline BMI, height, morbidity	Adjusted for parental education, income	Adjusted for profession	Full model
All test positives						
<i>N</i>	1 557 061	1 142 222	1 557 061	1 420 206	1 557 061	1 027 123
<i>n of cases</i>	189 446	135 503	189 446	179 211	189 446	126 946
2-5	1.04 (1.02-1.06)	0.98 (0.96-0.99)	1.04 (1.02-1.05)	0.95 (0.94-0.97)	1.04 (1.02-1.06)	0.91 (0.89-0.93)
6-8	1.13 (1.11-1.15)	1.01 (1.07-1.12)	1.12 (1.11-1.14)	1.06 (1.04-1.07)	1.13 (1.11-1.15)	1.04 (1.01-1.06)
9-11	1.26 (1.24-1.27)	1.22 (1.20-1.24)	1.25 (1.23-1.27)	1.17 (1.15-1.18)	1.25 (1.24-1.27)	1.14 (1.12-1.16)
12-17	1.43 (1.41-1.45)	1.41 (1.39-1.43)	1.42 (1.41-1.44)	1.31 (1.29-1.33)	1.43 (1.41-1.45)	1.29 (1.27-1.32)
18-19	1.34 (1.32-1.36)	1.33 (1.30-1.35)	1.33 (1.31-1.36)	1.25 (1.23-1.27)	1.34 (1.32-1.36)	1.24 (1.22-1.27)
20-22	1.30 (1.28-1.33)	1.29 (1.26-1.31)	1.29 (1.27-1.32)	1.20 (1.18-1.22)	1.30 (1.28-1.33)	1.19 (1.16-1.21)
22 and over	1.16 (1.15-1.18)	1.20 (1.18-1.22)	1.16 (1.14-1.18)	1.02 (1.00-1.03)	1.16 (1.14-1.18)	1.06 (1.04-1.08)
Wave 1						
<i>n of cases</i>	10 937	8 034	10 937	10 110	10 937	7 355
2-5	0.95 (0.88-1.02)	0.92 (0.84-1.02)	0.95 (0.88-1.02)	0.90 (0.83-0.97)	0.95 (0.88-1.02)	0.89 (0.80-0.98)
6-8	0.96 (0.90-1.03)	0.97 (0.89-1.06)	0.96 (0.89-1.03)	0.92 (0.85-0.98)	0.96 (0.90-1.03)	0.94 (0.85-1.02)
9-11	1.01 (0.95-1.07)	1.01 (0.94-1.08)	1.01 (0.95-1.07)	0.96 (0.90-1.02)	1.01 (0.95-1.07)	0.96 (0.89-1.04)
12-17	1.20 (1.14-1.26)	1.17 (1.10-1.24)	1.19 (1.13-1.26)	1.13 (1.07-1.19)	1.19 (1.13-1.25)	1.10 (1.04-1.17)
18-19	1.34 (1.26-1.43)	1.38 (1.28-1.48)	1.34 (1.26-1.43)	1.26 (1.18-1.35)	1.34 (1.25-1.43)	1.30 (1.21-1.40)
20-22	1.30 (1.21-1.39)	1.31 (1.22-1.42)	1.29 (1.20-1.38)	1.23 (1.15-1.32)	1.29 (1.20-1.38)	1.23 (1.14-1.34)
22 and over	1.17 (1.10-1.23)	1.22 (1.15-1.30)	1.16 (1.10-1.23)	1.08 (1.02-1.15)	1.16 (1.10-1.23)	1.13 (1.05-1.21)
Wave 2						
<i>n of cases</i>	81 923	59 038	81 923	77 276	81 923	55 142
2-5	1.01 (0.99-1.04)	0.96 (0.93-0.98)	1.01 (0.98-1.03)	0.92 (0.90-0.95)	1.01 (0.99-1.04)	0.88 (0.85-0.91)
6-8	1.06 (1.03-1.08)	1.02 (0.99-1.05)	1.05 (1.03-1.08)	0.99 (0.97-1.01)	1.06 (1.03-1.08)	0.96 (0.93-0.99)
9-11	1.20 (1.17-1.22)	1.15 (1.12-1.18)	1.20 (1.17-1.22)	1.11 (1.09-1.14)	1.20 (1.17-1.22)	1.08 (1.05-1.11)
12-17	1.37 (1.35-1.40)	1.35 (1.32-1.37)	1.36 (1.34-1.39)	1.25 (1.23-1.28)	1.37 (1.34-1.39)	1.24 (1.21-1.26)
18-19	1.28 (1.25-1.31)	1.26 (1.22-1.30)	1.27 (1.24-1.30)	1.20 (1.17-1.23)	1.27 (1.25-1.31)	1.18 (1.15-1.22)

20-22	1.27 (1.24-1.31)	1.26 (1.22-1.30)	1.26 (1.23-1.29)	1.17 (1.14-1.20)	1.27 (1.24-1.30)	1.16 (1.13-1.20)
22 and over	1.17 (1.15-1.20)	1.21 (1.18-1.24)	1.17 (1.14-1.19)	1.03 (1.01-1.05)	1.17 (1.15-1.20)	1.06 (1.03-1.09)
Wave 3						
<i>n of cases</i>	96 586	68 431	96 586	91 825	96 586	64 449
2-5	1.06 (1.04-1.08)	1.00 (0.97-1.03)	1.06 (1.03-1.08)	0.99 (0.97-1.01)	1.06 (1.04-1.08)	0.94 (0.91-0.97)
6-8	1.18 (1.16-1.21)	1.16 (1.12-1.18)	1.18 (1.15-1.20)	1.12 (1.09-1.14)	1.18 (1.16-1.21)	1.10 (1.07-1.13)
9-11	1.28 (1.26-1.31)	1.25 (1.23-1.28)	1.28 (1.26-1.31)	1.20 (1.18-1.22)	1.28 (1.26-1.30)	1.18 (1.16-1.21)
12-17	1.42 (1.40-1.45)	1.41 (1.38-1.44)	1.42 (1.40-1.44)	1.32 (1.30-1.34)	1.42 (1.40-1.45)	1.31 (1.28-1.34)
18-19	1.33 (1.30-1.36)	1.31 (1.28-1.35)	1.32 (1.29-1.35)	1.24 (1.22-1.27)	1.33 (1.30-1.36)	1.24 (1.21-1.27)
20-22	1.28 (1.25-1.31)	1.25 (1.22-1.29)	1.27 (1.24-1.30)	1.18 (1.15-1.21)	1.28 (1.25-1.31)	1.17 (1.13-1.20)
22 and over	1.13 (1.10-1.15)	1.17 (1.14-1.19)	1.12 (1.10-1.15)	0.99 (0.98-1.02)	1.13 (1.10-1.15)	1.04 (1.01-1.06)