

Supplemental File

Supplemental Table 1: Clinical diagnosis, lab-test and other codes used to determine the status of variables in the TriNetX database.

Variables	Name, code	Data type
RSV infection (all)	<ul style="list-style-type: none"> Respiratory syncytial virus RNA [Presence] in Specimen by NAA with probe detection (Logical Observation Identifiers Names and Codes (LOINC) code: 40988-8) Respiratory syncytial virus RNA [Presence] in Nasopharynx by NAA with probe detection (LOINC code 76089-2) Respiratory syncytial virus RNA [Presence] in Nasopharynx by NAA with non-probe detection (LOINC code 82176-9) Respiratory syncytial virus RNA [Presence] in Respiratory specimen by NAA with probe detection (LOINC code 92131-2) Respiratory syncytial virus RNA [Presence] in Isolate by NAA with probe detection (LOINC code 60271-4) Respiratory syncytial virus RNA [Presence] in Upper respiratory specimen by NAA with probe detection (LOINC code 85479-4) Respiratory syncytial virus Ag [Presence] in Specimen (LOINC code 31950-9) Respiratory syncytial virus Ag [Presence] in Nasopharynx by Rapid immunoassay (LOINC code 72885-7) Respiratory syncytial virus Ag [Presence] in Nose (LOINC code 33045-6) Respiratory syncytial virus Ab [Presence] 	positive/negative (LOINC lab result code)

	<p>in Serum (LOINC code 33390-6)</p> <ul style="list-style-type: none"> • Respiratory syncytial virus Ag [Presence] in Specimen by Immunoassay (LOINC code 5876-8) • Respiratory syncytial virus Ag [Presence] in Specimen by Immunofluorescence (LOINC code 5877-6) • Respiratory syncytial virus as the cause of diseases classified elsewhere (The International Classification of Diseases, Tenth Revision (ICD-10) code: B97.4) • Respiratory syncytial virus pneumonia (ICD-10 code: J12.1) • Acute bronchiolitis due to respiratory syncytial virus (ICD-10 code: J21.0) 	<p>present/absent (ICD-10 diagnosis code)</p>
<p>RSV infection (clinical diagnosis)</p>	<ul style="list-style-type: none"> • Respiratory syncytial virus as the cause of diseases classified elsewhere (The International Classification of Diseases, Tenth Revision (ICD-10) code: B97.4) • Respiratory syncytial virus pneumonia (ICD-10 code: J12.1) • Acute bronchiolitis due to respiratory syncytial virus (ICD-10 code: J21.0) 	<p>present/absent</p>
<p>RSV infection (positive lab test)</p>	<ul style="list-style-type: none"> • Respiratory syncytial virus RNA [Presence] in Specimen by NAA with probe detection (Logical Observation Identifiers Names and Codes (LOINC) code: 40988-8) 	

	<ul style="list-style-type: none">• Respiratory syncytial virus RNA [Presence] in Nasopharynx by NAA with probe detection (LOINC code 76089-2)• Respiratory syncytial virus RNA [Presence] in Nasopharynx by NAA with non-probe detection (LOINC code 82176-9)• Respiratory syncytial virus RNA [Presence] in Respiratory specimen by NAA with probe detection (LOINC code 92131-2)• Respiratory syncytial virus RNA [Presence] in Isolate by NAA with probe detection (LOINC code 60271-4)• Respiratory syncytial virus RNA [Presence] in Upper respiratory specimen by NAA with probe detection (LOINC code 85479-4)• Respiratory syncytial virus Ag [Presence] in Specimen (LOINC code 31950-9)• Respiratory syncytial virus Ag [Presence] in Nasopharynx by Rapid immunoassay (LOINC code 72885-7)• Respiratory syncytial virus Ag [Presence] in Nose (LOINC code 33045-6)• Respiratory syncytial virus Ab [Presence] in Serum (LOINC code 33390-6)• Respiratory syncytial virus Ag [Presence] in Specimen by Immunoassay (LOINC code 5876-8)• Respiratory syncytial virus Ag [Presence] in Specimen by Immunofluorescence (LOINC code 5877-6)	positive/negative
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	<ul style="list-style-type: none"> Respiratory syncytial virus as the cause of diseases classified elsewhere (The International Classification of Diseases, Tenth Revision (ICD-10) code: B97.4) Respiratory syncytial virus pneumonia (ICD-10 code: J12.1) Acute bronchiolitis due to respiratory syncytial virus (ICD-10 code: J21.0) 	
Bronchiolitis, non-specific	<ul style="list-style-type: none"> Acute bronchiolitis, unspecified (ICD-10 code J21.9) 	present/absent
Visit	<ul style="list-style-type: none"> TNX:Visit 	present/absent
Age	Age	continuous
Female	F	present/absent
Male	M	present/absent
Asian	Asian (Demographics: 2028-9)	present/absent
Black or African American	Black or African American (Demographics: 2054-5)	present/absent
White	White (Demographics: 2106-3)	present/absent
Hispanic/Latino	Hispanic or Latino (Demographics: 2135-2)	present/absent
Not Hispanic or Latino	Not Hispanic or Latino (Demographics: 2186-5)	present/absent
Adverse socioeconomic and psychosocial circumstances	<p>Persons with potential health hazards related to socioeconomic and psychosocial circumstances (ICD-10 code: Z55-Z65), including:</p> <ul style="list-style-type: none"> Problems related to education and literacy (Z55) Problems related to employment and unemployment (Z56) Occupational exposure to risk factors (Z57) Problems related to physical environment (Z58) Problems related to housing and economic circumstances (Z59) Problems related to social environment (Z60) Problems related to upbringing (Z62) 	present/absent

	<ul style="list-style-type: none"> • Other problems related to primary support group, including family circumstances (Z63) • Problems related to certain psychosocial circumstances (Z64) • Problems related to other psychosocial circumstances (Z65) 	
COVID-19	<ul style="list-style-type: none"> • COVID-19 (ICD-10 code: U07.1) • SARS coronavirus 2 and related RNA [Presence] (LOINC code: 9088) 	present/absent (ICD-10 code) Positive/negative (lab results)
Diseases related to blood and immune mechanisms	<ul style="list-style-type: none"> • Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism (ICD-10 code: D50-D89) 	present/absent
Diseases related to immune mechanisms	<ul style="list-style-type: none"> • Certain disorders involving the immune mechanism (ICD-10 code: D80-D89) 	present/absent
Chronic lower respiratory diseases	<ul style="list-style-type: none"> • Chronic lower respiratory diseases (ICD-10 code: J40-J47) 	present/absent
Chronic lower respiratory diseases originating in the prenatal period	<ul style="list-style-type: none"> • Chronic respiratory disease originating in the perinatal period (ICD-10 code: P27) 	present/absent
Asthma	<ul style="list-style-type: none"> • Asthma (ICD-10 code: J45) 	present/absent
Down syndrome	<ul style="list-style-type: none"> • Down Syndrome (ICD-10 code: Q90) 	present/absent
Malnutrition	<ul style="list-style-type: none"> • Malnutrition (ICD-10 code: E40-E46) 	present/absent
Disorders of newborn related to length of gestation and fetal growth	<ul style="list-style-type: none"> • Disorders of newborn related to length of gestation and fetal growth (ICD-10 code: P05-P08) 	present/absent
Neoplasms	<ul style="list-style-type: none"> • Neoplasms (ICD-10 code: C00-D49) 	present/absent
Congenital malformations of the circulatory system	<ul style="list-style-type: none"> • Congenital malformations of the circulatory system (ICD-10 code: Q20-Q28) 	present/absent
Heart disease	<ul style="list-style-type: none"> • Ischemic heart diseases (ICD-10 code: I20-I25) • Other forms of heart disease 	present/absent

	(ICD-10 code: I30-I5A)	
Neuromuscular Disorders	<ul style="list-style-type: none"> Myasthenia gravis and other myoneural disorders (ICD-10 code: G70) 	present/absent
Chemotherapy	<ul style="list-style-type: none"> Chemotherapy (TNX procedure code: 1002) 	present/absent
COVID-19 vaccination	<ul style="list-style-type: none"> SARS-CoV-2 (COVID-19) Vaccine (CDC CVX (vaccine administered) code: 213) Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (coronavirus disease [COVID-19]) vaccine, mRNA-LNP, spike protein, preservative free, 30 mcg/0.3 mL dosage, diluent reconstituted, for intramuscular use (CPT code 91300) Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (coronavirus disease [COVID-19]) vaccine, mRNA-LNP, spike protein, preservative free, 100 mcg/0.5 mL dosage, for intramuscular use (CPT code 91300) Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (coronavirus disease [COVID-19]) vaccine, DNA, spike protein, adenovirus type 26 (Ad26) vector, preservative free, 5x10¹⁰ viral particles/0.5 mL dosage, for intramuscular use (CPT code 91303) Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (coronavirus disease [COVID-19]) vaccine, mRNA-LNP, spike protein, preservative free, 30 mcg/0.3 mL dosage, tris-sucrose formulation, for intramuscular use (CPT code 91305) Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (coronavirus disease [COVID-19]) vaccine, mRNA-LNP, spike protein, preservative free, 50 mcg/0.25 mL dosage, for intramuscular use (CPT code 91306) Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (coronavirus disease [COVID-19]) vaccine, mRNA- 	present/absent

	<p>LNP, spike protein, preservative free, 10 mcg/0.2 mL dosage, diluent reconstituted, tris-sucrose formulation, for intramuscular use (CPT code 91307)</p> <ul style="list-style-type: none"> Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (coronavirus disease [COVID-19]) vaccine, mRNA-LNP, spike protein, preservative free, 3 mcg/0.2 mL dosage, diluent reconstituted, tris-sucrose formulation, for intramuscular use (CPT code 91308) Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (coronavirus disease [COVID-19]) vaccine, mRNA-LNP, spike protein, preservative free, 25 mcg/0.25 mL dosage, for intramuscular use (CPT code 91311) 	
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Supplemental Table 2. Characteristics of the 2022 study cohorts of children aged 0–1 year (age as of 10/2022) who had medical encounters with healthcare organizations in 10/2022 and had no prior medically attended RSV infection before and after propensity-score matching for the listed variables.

	Before Propensity-Score Matching			After Propensity-Score Matching		
	COVID-19 (+) cohort	COVID-19 (-) cohort	SMD	COVID-19 (+) cohort	COVID-19 (-) cohort	SMD
Total number	5,193	93,912		5,192	5,192	
Age at index event (years, mean±SD)	0.7± 0.4	0.4± 0.5	0.68*	0.7± 0.4	0.7± 0.4	<.001
Sex (%)						
Female	47.0	47.0	<.001	47.0	47.1	0.003
Male	53.0	53.0	<.001	53.0	52.9	0.003
Ethnicity (%)						
Hispanic/Latinx	24.9	21.0	0.09	24.9	24.5	0.009
Not Hispanic/Latinx	58.6	56.4	0.04	58.6	59.2	0.01
Unknown	16.5	22.6	0.15*	16.5	16.4	0.005
Race (%)						
Asian	2.6	3.2	0.04	2.6	2.7	0.007
Black	15.2	15.3	0.002	15.2	14.9	0.008
White	59.1	56.5	0.05	59.1	59.6	0.01

Unknown	22.7	24.5	0.04	22.7	22.4	0.008
Adverse socioeconomic determinants of health (%)	5.2	2.5	0.14*	5.1	5.4	0.01
Pre-existing medical conditions and treatments (%)						
Diseases related to blood and immune mechanisms	8.5	3.5	0.21*	8.4	8.3	0.003
Diseases related to immune mechanisms	1.2	0.3	0.10*	1.2	1.2	<.001
Chronic lower respiratory diseases	2.9	0.9	0.15*	2.9	2.7	0.01
Chronic lower respiratory diseases originating in the prenatal period	1.5	1.0	0.04	1.5	1.5	0.006
Asthma	2.4	0.8	0.13*	2.4	2.1	0.02
Down syndrome	0.6	0.3	0.04	0.6	0.6	0.005
Malnutrition	1.4	0.5	0.09	1.4	1.1	0.02
Disorders of newborn related to length of gestation and fetal growth	8.7	5.3	0.13*	8.7	9.0	0.01
Neoplasms	5.7	3.0	0.13*	5.6	5.9	0.01
Congenital malformations of the circulatory system	6.4	4.1	0.10*	6.3	6.3	0.001
Heart diseases	4.0	1.8	0.13*	4.0	4.0	0.004
Neuromuscular Disorders	0.2	0.0	<.001	0.2	0.2	<.001
Chemotherapy	0.6	0.2	0.06	0.6	0.5	0.01
COVID-19 vaccines	7.7	3.3	0.17*	7.7	7.7	0.003

COVID-19 (+) cohort – children who contracted COVID-19 prior to 8/2022 as documented in their EHRs. COVID-19 (-) cohort – children who had no documented COVID-19 in their EHRs. Index event was a medical visit in 10/2022. Cohorts were propensity-score matched for the list variables with variable status based on anytime to 1 day before the index event. The status of adverse socioeconomic determinants of health (SDOHs) was based on the ICD-10 code “Persons with potential health hazards related to socioeconomic and psychosocial circumstances” (Z55-

Z65), which includes codes “Problems related to housing and economic circumstances” (Z59), “Problems related to upbringing” (Z62), among others. SMD – standardized mean differences. *SMD greater than 0.1, a threshold recommended for declaring imbalance.

Supplemental Table 3. Characteristics of the 2021 study cohorts of children aged 0-1 year (age as of 7/2021-8/2021) who had medical encounters with healthcare organizations during 7/2021-8/2021 and had no prior medically attended RSV infection, before and after propensity-score matching the listed variables.

	Before Propensity-Score Matching			After Propensity-Score Matching		
	COVID-19 (+) cohort	COVID-19 (-) cohort	SMD	COVID-19 (+) cohort	COVID-19 (-) cohort	SMD
Total number	2,671	160,100		2,670	2,670	
Age at index event (years, mean±SD)	0.7± 0.4	0.5± 0.5	0.61*	0.7± 0.4	0.7± 0.4	0.005
Sex (%)						
Female	45.4	46.9	0.03	45.4	46.0	0.01
Male	54.6	53.1	0.03	54.6	54.0	0.01
Ethnicity (%)						
Hispanic/Latinx	33.9	20.9	0.29*	33.9	33.7	0.002
Not Hispanic/Latinx	53.4	57.0	0.07	53.4	53.0	0.01
Unknown	12.7	22.1	0.25*	12.7	12.3	0.01
Race (%)						
Asian	2.4	3.0	0.04	2.4	2.2	0.01
Black	20.3	19.8	0.01	20.3	20.8	0.01
White	56.3	55.8	0.01	56.3	56.0	0.005
Unknown	20.7	20.9	0.004	20.7	20.6	0.004
Adverse socioeconomic determinants of health (%)	6.4	2.5	0.19*	6.4	6.9	0.02
Pre-existing medical conditions and treatments (%)						
Diseases related to blood and immune mechanisms	10.7	3.6	0.28*	10.7	10.7	<.001
Diseases related to immune mechanisms	1.2	0.4	0.08	1.2	1.1	0.007
Chronic lower	3.1	0.9	0.16*	3.1	2.9	0.009

respiratory diseases						
Chronic lower respiratory diseases originating in the prenatal period	1.5	0.8	0.07	1.5	1.3	0.02
Asthma	2.8	0.8	0.15*	2.7	2.7	0.005
Down syndrome	0.8	0.3	0.06	0.8	0.7	0.004
Malnutrition	1.3	0.5	0.10*	1.3	1.0	0.03
Disorders of newborn related to length of gestation and fetal growth	7.7	4.4	0.14*	7.7	7.6	0.004
Neoplasms	5.4	3.0	0.12*	5.4	5.7	0.01
Congenital malformations of the circulatory system	7.6	3.7	0.17*	7.6	7.5	0.006
Heart disease	5.1	1.7	0.19*	5.0	5.0	0.002
Neuromuscular Disorders	0.4	0.0	0.08	0.4	0.4	<.001
Chemotherapy	0.4	0.2	0.04	0.4	0.4	0.006

COVID-19 (+) cohort – children who contracted COVID-19 prior to 6/1/2022 as documented in their EHRs. COVID-19 (-) cohort – children who had no documented COVID-19 in their EHRs. Index event was a medical encounter during 7/2021-8/2021. Cohorts were propensity-score matched for the list variables with status based on anytime to 1 day before the index event. The status of adverse socioeconomic determinants of health (SDOHs) was based on the ICD-10 code “Persons with potential health hazards related to socioeconomic and psychosocial circumstances” (Z55-Z65), which includes codes “Problems related to housing and economic circumstances” (Z59), “Problems related to upbringing” (Z62), among others. SMD – standardized mean differences. *SMD greater than 0.1, a threshold being recommended for declaring imbalance.