

## Supplementary Online Content

Encinosa W, Figueroa J, Elias Y. Severity of hospitalizations from SARS-CoV-2 vs influenza and respiratory syncytial virus infection in children aged 5 to 11 years in 11 US states. *JAMA Pediatr*. Published online February 21, 2022. doi:10.1001/jamapediatrics.2021.6566

### **eMethods.** Diagnostic Codes

This supplementary material has been provided by the authors to give readers additional information about their work.

## **eMethods.** Diagnostic Codes

We used ICD-10-CM all-listed diagnostic codes to identify COVID-19 (any U071 without MIS-C), MIS-C (M3581), influenza (J09, J10, and J11), and RSV (J205, J210, J121, B973). We examined 46 complications across seven categories: cardiovascular, respiratory, neurological, hematological, gastrointestinal, musculoskeletal, and kidney organ systems. Many of these complications are based on Feldstein LR, Rose EB, Horwitz SM, et al. Multisystem inflammatory syndrome in U.S. children and adolescents. *N Engl J Med* 2020, July 23; 383:334-346.

The following codes are ICD-10-CM diagnosis codes or ICD-10-PCS procedure codes (all-listed diagnoses and procedures).

For cardiovascular complications, we targeted ten complications: acute myocardial infarction (I21, I22, and I23), heart failure (I50 and I73.9), heart valve disease (I34, I35, I36, and I08), arrest (I46.9), myocarditis (I40, I41, I63I514, I090, I012, A381, J1182, and J1082), arrhythmia (I49, I47, I459, P291, and P0381), cardiomyopathy (I42, I255, I43, and B3324), pericarditis (I32 and I30 M3212), pericardial effusion (I313), and coronary-artery aneurysm (I25.41, I25.42, I72, I25.3, and I28.1).

For respiratory complications, we identified six complications and one intervention: respiratory failure (J80, J96, and R092), hemorrhage (R04 and P26), bronchospasm (J95.851), lower respiratory infection (J98.01, J20, J21, J22, J93, J40, A01.03, A02.22, A20.2, A21.2, A22.1, A31.0, A37.01, A37.11, A37.81, A37.91, A43.0, A48.1, A50.04, A52.72, A54.84, B01.2, B05.2, B06.81, B25.0, B37.1, B38.0, B38.1, B39.0, B39.1, B39.2, B58.3, B59, B77.81, J09.X1, J10.00, J10.01, J10.08, J11.00, J11.08, J12.0, J12.1, J12.2, J12.3, J12.81, J12.89, J12.9, J13, J14, J15.0, J15.1, J15.20, J15.211, J15.212, J15.3, J15.4, J15.5, J15.6, J15.7, J15.8, J15.9, J16.0, J16.8, J17, J18.0, J18.1, J18.8, J18.9, and J85.1), acute respiratory distress syndrome (J80), mechanical ventilation (5A1935, 5A1945, 5A1955, 5A0935, 5A0945, and 5A0955), and pleural effusion (J90 and J91).

For neurological complications, we focused on eleven complications: hemiplegia (G81), encephalitis (G04 and G05), cerebral infarction (I63 and I67), convulsion (R56), critical illness polyneuropathy (G62.81 and G72.81), encephalopathy (G93.40, G93.49 and G93.41), iritis/uveitis (H20.0 and H44.13), coma (P91.5 and R40.2), intracranial hemorrhage (I61), demyelinating disorder (G36 and G37), and acute disseminated encephalomyelitis (G04.0).

For hematological complications, we identified seven complications: embolism/thrombosis (I82, I76, I26, and I74), sepsis (A41, R65.2, A26.7, A32.7, A42.7, and P36.9), cardiogenic shock/systemic inflammatory response syndrome (R57.0, R652.1, and R651), anemia (D64), lymphopenia (D72.81) and thrombocytopenia (D69.3, D69.4, D69.5 and D69.6), and defibrination syndrome (D65 and P60).

For gastrointestinal complications, we identified three: dehydration (E860), nausea, vomiting, and abdominal pain (R10, R11), diarrhea/gastroenteritis (R197, P783, K591, K580 and K529), and targeted five related complications: liver failure (K72), pancreatitis (K85), hepatitis/hepatomegaly (B15, B16, B17, B19, and R162), gallbladder hydrops (K82.1), and ascites (R18).

For musculoskeletal complications, we identified arthritis or arthralgia (M08, M13, M25.5, M26.62, and M082) and myositis or myalgia (M60, G72.41, and M79.1).

For kidney complications, we identified renal failure (N17 and N99.0) and dialysis (Z99.2, Z91.15, Z49.01, Z49.02, Z49.31, Z49.32, 5A1D00Z, 5A1D60Z, and 3E1M39Z).

Total hospital costs and charges are adjusted for the CMS wage index, and inflation is adjusted to 2021 dollars ([https://meps.ahrq.gov/about\\_meps/Price\\_Index.shtml](https://meps.ahrq.gov/about_meps/Price_Index.shtml)). Charges represents the amount that hospitals billed for services. This differs from costs---the actual expenses incurred in the production of hospital services, such as wages, supplies, and utility. HCUP total charges and costs exclude physician fees (<https://www.hcup-us.ahrq.gov/db/ccr/ip-ccr/ip-ccr.jsp>). The 2017 HCUP cost-to-charge ratio file was used.

Race was missing in 15% of the sample. Total race numbers by disease were imputed by applying the race percentages by disease in the non-missing race subsample to the entire sample. For the Figure, we computed the proportion of total days attributed to white/non-white for each disease in the subsample not missing race. We then applied that proportion to total days for each disease in the full sample to estimate the white/non-white proportions for each disease in the full sample.