

# COVID-19: Impact of Pre-Existing Health Conditions in Children



A Resource for Improving Measurable Impact

October 8, 2020

## Key Findings:

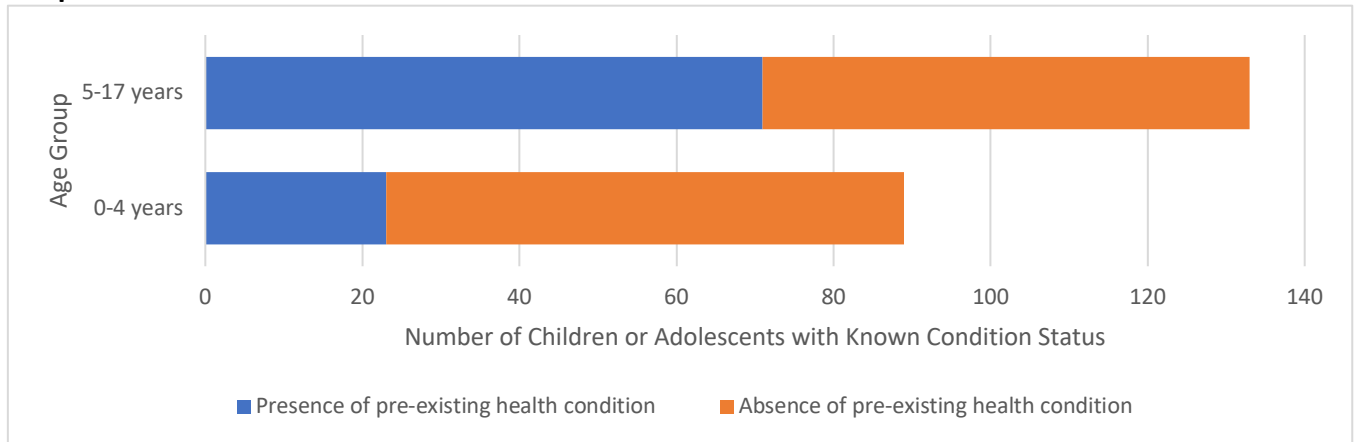
Though data on pediatric cases ( $\leq 18$  years) of COVID-19 are limited, early studies indicate that severe complications from COVID-19 appear to be less common among children compared to adults.<sup>1-6</sup> Children with underlying medical conditions—or pre-existing conditions such as obesity, diabetes, asthma, chronic lung disease, and immunosuppression—who contract COVID-19 have a higher risk for severity of illness, hospitalization, admission to pediatric intensive care units, and death.<sup>5-10</sup>

## Pre-Existing Conditions and COVID-19 Outcomes in Pediatric Populations:

- Overall, infants and children  $\leq 5$  years appear to be more at risk compared to children  $\geq 6$  years of developing severe complications from COVID-19 possibly due to an immature and still-developing immune system.<sup>9-12</sup> These analyses did not account for obesity or other pre-existing conditions, which may compound risk among young children.
- Among 121 childhood deaths related to COVID-19, 75% had an underlying health condition. Further, despite the risk for severe complications among young children, 70% of childhood deaths from COVID-19 have been among older children (ages 10-20 years).<sup>5</sup>
- Among school-aged children, adolescents ages 12-17 years are contracting COVID-19 at nearly twice the rate of children ages 5-11 years (average weekly incidence of 37.4 vs. 19.0 per 100,000 children). School-aged children who were hospitalized (16%), admitted to an intensive care unit (27%), or died (28%) were more likely to have an underlying health condition.<sup>6</sup>
- In the U.S., among 345 pediatric COVID-19 **cases** with information on underlying medical conditions, 23% had at least one pre-existing condition, the most common being chronic lung disease (including asthma) (12%), cardiovascular disease (7%), and immunosuppression (3%).<sup>13</sup>
- In the U.S., among 246 pediatric COVID-19 **hospitalizations** with information on underlying medical conditions, 52.7% had at least one pre-existing condition, the most common being obesity (44.5%), asthma (14.0%), and neurologic conditions (13.2%).<sup>14</sup>
- Children who are medically complex (i.e., multiple significant chronic health problems that affect multiple organ systems), have neurologic (e.g., cerebral palsy, multiple sclerosis) or genetic (e.g., sickle cell anemia, cystic fibrosis) disorders, or congenital heart disease have a higher risk for severe illness from COVID-19 compared to other children.<sup>7,10</sup>
- Children and adolescents with chronic diseases that require immune system-suppressing medications (e.g., inflammatory bowel disease, autoimmune rheumatic disease, autoimmune hepatitis, organ transplantation) are more at risk for severe infection and are more likely to require intensive treatment compared to children and adolescent with no pre-existing conditions.<sup>2,15-17</sup>

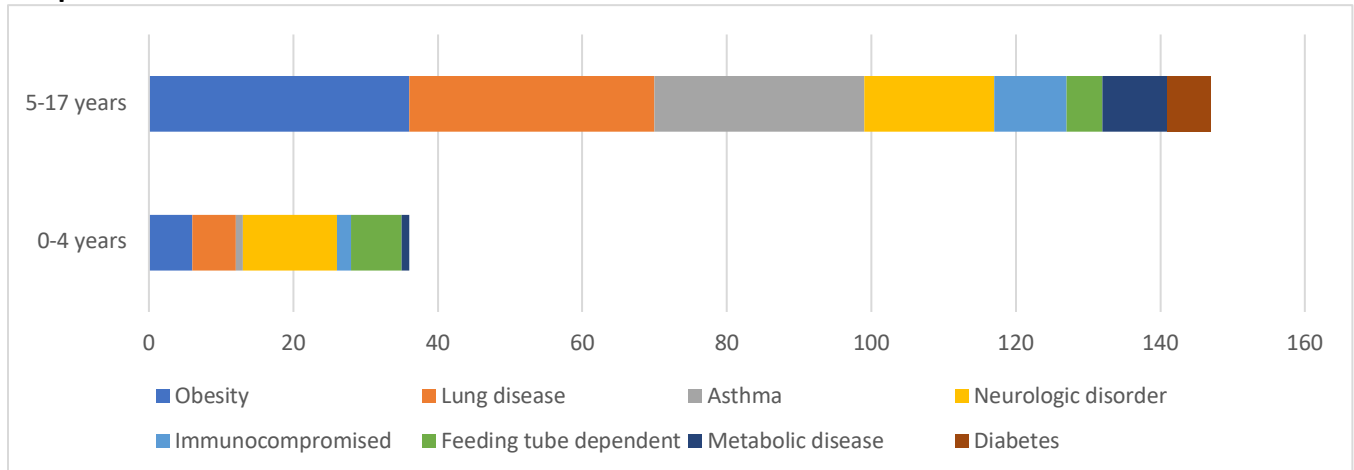


**Figure 1. Known Status of Underlying Health Conditions among Child and Adolescent COVID-19 Hospitalizations<sup>17</sup>**



Centers for Disease Control and Prevention, MMWR, August 7, 2020.

**Figure 2. Reported Underlying Health Conditions among Child and Adolescent COVID-19 Hospitalizations<sup>17</sup>**



Centers for Disease Control and Prevention, MMWR, August 7, 2020.

**Mitigation & Prevention Recommendations:**

- Proper hand washing, physical distancing – even outdoors, mask use, and complete home confinement, if possible, will reduce the risk of COVID-19 infection in individuals with chronic illness. Family members affected or suspected to be affected by COVID-19 should isolate in a separate room, as much as possible.<sup>7,18</sup>
- If a child with a pre-existing condition has been exposed, or is suspected to have been exposed, to COVID-19, contact their pediatrician or primary physician immediately.<sup>7,18</sup>
- Monitor child’s overall health, and continue with doctor-prescribed treatments plans and medications to manage any pre-existing medical conditions.<sup>7</sup>
- Schedule telehealth appointments, if possible, with pediatric healthcare providers to safely manage pre-existing conditions.<sup>2,15</sup>

- Encourage children to practice healthy habits, including regular physical activity, regular sleep routines, limited screen time, and consumption of nutritious unprocessed foods.<sup>2,7</sup>
- Children, youth and adults should receive annual seasonal influenza vaccine, especially in 2020.<sup>19</sup>
- Parents should keep up-to-date with child vaccinations, in addition to the influenza vaccine.
- Children with underlying conditions that pre-dispose to possible severe disease should not be exposed in face-to-face school participation.<sup>20</sup>

### **Summary:**

Pre-existing medical conditions in children increase the risk for severe illness, hospitalization, and death related to COVID-19.<sup>5-10</sup> Chronic lung disease (including asthma), cardiovascular disease, immunosuppression, obesity, and neurologic conditions are the most common reported underlying conditions among children with COVID-19.<sup>13</sup> Practicing proper physical distancing, hand hygiene, and mask use (for children 2 years and older) in addition to managing underlying medical conditions under doctors' guidance will reduce the risk of COVID-19 infection and/or the severity of illness in children with pre-existing conditions.<sup>2,7,15</sup>

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