

# COVID-19: Impact of Pre-existing Health Conditions In Adults



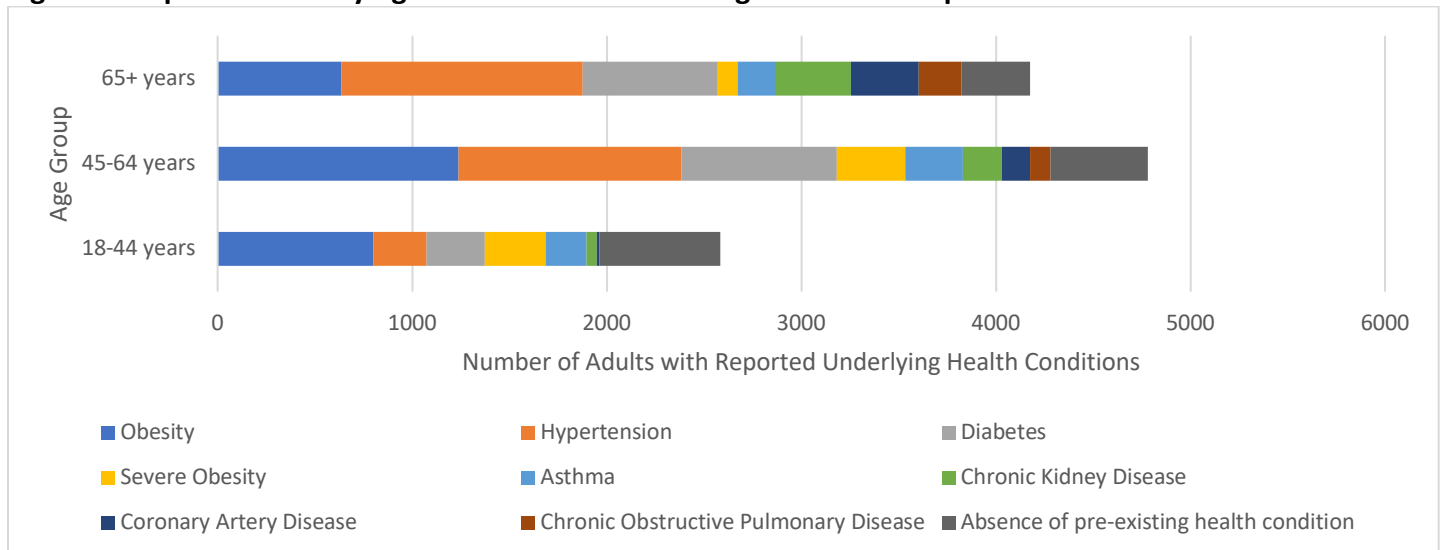
## Key Findings:

Studies have found adults with underlying medical conditions—or pre-existing conditions such as chronic kidney disease, obesity, diabetes, hypertension, and asthma—who contract COVID-19 have a higher risk for more severe illness, including hospitalization, admission to intensive care units (ICU), and death.<sup>1-8</sup> COVID-19 hospitalizations were up to **6 times higher** and deaths **12 times higher** among patients with reported pre-existing conditions compared to patients with no reported pre-existing conditions between January and May of 2020.<sup>4</sup>

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

- Different pre-existing conditions pose different risks for individuals who contract COVID-19. Based on strong evidence from multiple studies, the list of pre-existing conditions that put individuals at increased risk for **severe** illness include: serious heart conditions (heart failure, coronary artery disease), chronic kidney disease, chronic obstructive pulmonary disease (COPD), obesity, sickle cell disease, solid organ transplantation, and type 2 diabetes.<sup>6,8</sup>
- Among COVID-19 cases, the three most common underlying health conditions are **cardiovascular disease (32%)**, **diabetes (30%)**, and **chronic lung disease (18%)**.<sup>4</sup>
- Among COVID-19 hospitalizations, the three most common underlying conditions are **hypertension (57.7%)**, **obesity (47.8%)**, and **metabolic disease (42.9%)**.<sup>5</sup>
- Between January 22 and May 30, 2020, the highest rates of COVID-19-related ICU admissions were among adults with underlying conditions aged 60-69 years (11%) and 70-79 years (12%).<sup>4</sup>

Figure 1. Reported Underlying Health Conditions among COVID-19 Hospitalizations in Adults<sup>9</sup>



Ko et al., September 18, 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>10</sup>
- Contact physician immediately if individuals with underlying medical conditions suspect they have been exposed to COVID-19.<sup>8,10</sup>
- Continue with treatment plan and medications prescribed by physician to manage any pre-existing medical conditions.<sup>8</sup>
- Schedule telehealth appointments, if possible, with healthcare providers to safely manage pre-existing conditions.<sup>8</sup>
- Continue to practice healthy habits, including regular physical activity, regular sleep routines, limited screen time, and consumption of nutritious, unprocessed foods.<sup>8,11</sup>
- Receive annual seasonal influenza vaccine, especially in 2020.<sup>12</sup>

## Summary:

Pre-existing medical conditions increase the risk for hospitalization for COVID-19.<sup>1-5</sup> Certain pre-existing conditions have been shown to pose a higher risk for severity of COVID-19 that includes hospitalization, ICU admission, and death. Among U.S. COVID-19 cases, the most common underlying conditions are cardiovascular disease, diabetes, and chronic lung disease.<sup>4</sup> COVID-19 hospitalizations are more common among U.S. adults with hypertension, obesity, and metabolic disease.<sup>5</sup> Practicing proper hand hygiene, physical distancing, and mask use in addition to managing underlying medical conditions and overall health will reduce the risk of COVID-19 infection and/or the severity of COVID-19 in individuals with pre-existing conditions.<sup>8-12</sup>

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## References:

1. Centers for Disease Control and Prevention. COVID-19 Associated Hospitalization Related to Underlying Medical Conditions. Centers for Disease Control and Prevention website. May 13, 2021. <https://www.cdc.gov/coronavirus/2019-ncov/coviddata/investigations-discovery/hospitalization-underlying-medical-conditions.html>

2. Li B, Yang J, Zhao F, et al. Prevalence and impact of cardiovascular metabolic diseases on COVID-19 in China. *Clin Res Cardiol.* 2020;109(5):531-538. PMID: 32161990
3. Wang D, Hu B, Hu C, et al. Clinical Characteristics of 138 Hospitalized Patients With 2019 Novel Coronavirus-Infected Pneumonia in Wuhan, China [published correction appears in JAMA. 2021 Mar 16;325(11):1113]. *JAMA.* 2020;323(11) PMID: 32031570
4. Stokes EK, Zambrano LD, Anderson KN, et al. Coronavirus disease 2019 case surveillance - united states, January 22-May 30, 2020. *MMWR Morb Mortal Wkly Rep.* 2020;69(24):759-765.
5. Centers for Disease Control and Prevention. COVIDView: A Weekly Surveillance Summary of U.S. COVID-19 Activity. Centers for Disease Control and Prevention website. August 14, 2020. <https://www.cdc.gov/coronavirus/2019-ncov/coviddata/pdf/covidview-08-14-2020.pdf>
6. Centers for Disease Control and Prevention. Evidence for Conditions that Increase Risk of Severe Illness. Centers for Disease Control and Prevention website. May 12, 2021. [https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/underlying-evidence-table.html?CDC\\_AA\\_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fhcp%2Fclinical-care%2Funderlying-evidence-table.html](https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/underlying-evidence-table.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fhcp%2Fclinical-care%2Funderlying-evidence-table.html)
7. Auld SC, Caridi-Scheible M, Blum JM, et al. ICU and Ventilator Mortality Among Critically Ill Adults With Coronavirus Disease 2019. *Crit Care Med.* 2020;48(9):e799-e804. PMID: 32452888
8. Centers for Disease Control and Prevention. Medical Conditions. People of any age with underlying medical conditions. Centers for Disease Control and Prevention. May 13, 2021. <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medicalconditions.html>.
9. Ko JY, Danielson ML, Town M, et al. Risk factors for coronavirus disease 2019 (COVID-19)–Associated hospitalization: COVID-19–Associated hospitalization surveillance network and behavioral risk factor surveillance system. *Clin Infect Dis.* 2021;72(11):e695-e703. <https://doi.org/10.1093/cid/ciaa1419>
10. Puig-Domingo M, Marazuela M, Giustina A. COVID-19 and endocrine diseases. A statement from the European Society of Endocrinology. *Endocrine.* 2020;68(1):2-5. PMID: 32279224
11. Silva CA, Queiroz LB, Fonseca CB, Silva LEVD, Lourenço B, Marques HHS. Spotlight for healthy adolescents and adolescents with preexisting chronic diseases during the COVID-19 pandemic. *Clinics (Sao Paulo).* 2020;75:e1931. PMID: 32401965
12. Centers for Disease Control and Prevention. Who needs a flu vaccine and when? Centers of Disease Control and Prevention website. 2019. <https://www.cdc.gov/flu/prevent/vaccinations.htm>