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[Correlates of Protection against SARS-CoV-2 in Rhesus Macaques](#) (Nature)

Bottom Line: In this study of rhesus macaque monkeys that were given neutralizing antibodies against SARS-CoV-2, relatively low levels of antibodies provided sufficient protection against the virus; when antibody levels were suboptimal, cellular immune responses may also confer protection.

Details: This study, building on previous findings that SARS-CoV-2 infection protected rhesus macaque monkeys from re-infection, examined humoral and cell-mediated immunity (antibodies in the blood that bind to antigens and neutralize or destroy them and the activation of antigen-specific T lymphocytes that bind to and help destroy infected cells, respectively) for protection against SARS-CoV-2 infection. Previously unexposed monkeys (n=12) were given varying amounts of neutralizing antibodies (immunoglobulin G, or IgG) against SARS-CoV-2, isolated from the blood of monkeys that had recovered from infection, and then exposed to the virus. Level of protection was dose-dependent, such that monkeys receiving higher antibody concentrations were better protected against SARS-CoV-2 infection than those receiving lower antibody amounts. Varying antibody concentrations were also administered to 6 monkeys with acute SARS-CoV-2 infection; those given higher amounts improved more quickly than those given lower amounts. In addition, CD8+ and T cells were removed from monkeys that had recovered from SARS-CoV-2 infection. When then re-exposed to the virus, monkeys were vulnerable to infection, pointing to their role in cell-mediated immunity.

Key Takeaways:

- In this small animal study, findings indicate that neutralizing antibodies against SARS-CoV-2, even at relatively low levels, are protective against infection, and T cells can confer some protection in the absence of sufficient antibody levels.
- Authors suggest the potential incorporation of these correlates of protection into COVID-19 vaccine licensing considerations.

[Characteristics of Adults aged 18–49 Years without Underlying Conditions Hospitalized with Laboratory-Confirmed COVID-19 in the United States, COVID-NET — March–August 2020](#) (CID)

Bottom Line: In this study, more than 1 in 5 younger adults with no underlying medical conditions hospitalized with COVID-19 experienced severe illness that required ICU admission or mechanical ventilation.

Details: Using COVID-NET data, this study described the epidemiology, characteristics, and outcomes associated with non-pregnant adults between 18-49 without underlying medical conditions who were hospitalized with COVID-19 between March 1 and August 1. For this analysis, data from 13 states were used; patients were included if they lived in a COVID-NET catchment area and received a positive real-time reverse transcription polymerase chain reaction (rRT-PCR) test within 2 weeks before or during hospitalization. During the study period, 44,865 patients hospitalized with COVID-19 were identified through COVID-NET. Of those, 32% (n=13,167) were between the ages

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of 18 and 49; medical chart abstractions were completed for 28% of these patients (n=3,720), of whom 3,619 had complete information on underlying conditions. 513 of the remaining 3,619 patients had no underlying conditions (14%). Among this group, 74% were men (n=378), 42% were Hispanic/Latino (n=216), 9% were healthcare workers (n=46) and 14% were current tobacco smokers (n=70). 35% (n=179) were given treatment, and 22% (n=113) were admitted to an ICU. 10% received invasive mechanical ventilation, 1% received positive or continuous positive airway pressure, and 6% received high flow nasal cannula. At discharge, 51% had pneumonia, 37% developed acute respiratory failure, and 17% developed sepsis during hospitalization; 3 patients (0.6%) died during hospitalization.

Key Takeaways:

- In this geographically diverse study, adults between 18 and 49 years of age made up about one-third of all hospitalizations, which is a significantly greater proportion than patients in this age group hospitalized with influenza (13%-23% over the past 5 years).
- 14% of 18-49 year olds hospitalized with COVID-19 did not have underlying medical conditions, and among this group, 22% were admitted to an ICU and 17% required invasive or non-invasive respiratory support.
- A disproportionate number of 18-49 year old Hispanic/Latino individuals with no underlying conditions were hospitalized with COVID-19, which may be due to being overrepresented in essential work and/or occupations where opportunities for social distancing are limited.

[Unemployment Insurance, Health-Related Social Needs, Health Care Access, and Mental Health During the COVID-19 Pandemic \(JAMA Internal Medicine\)](#)

Bottom Line: In this study, unemployment insurance (UI) due to pandemic-related job loss was associated with less delayed health care, better mental health, and fewer health-related social needs, though not all who experienced job loss received it.

Details: The COVID-19 pandemic has disrupted employment for millions of Americans. While unemployment insurance (UI) was initially expanded, including \$600 weekly federal payments in addition to state payments, longer duration of benefits, and expanded eligibility for various types of workers, its future is under debate. In this cross-sectional study, data from the national Household Pulse Survey (6/11-7/21) were used to explore the relationship between households receiving unemployment insurance (UI) due to the pandemic and level of health-related social needs, healthcare access, and mental health. Study outcomes were: missing the previous month's housing payment, food insufficiency, lack of confidence in housing/food affordability, being uninsured, delaying health care, including non-COVID-19 related care, and symptoms of depression and anxiety. 69,911 working-age adults were included in the study sample; of those, 28,738 individuals reported household use of UI benefits in the previous week; the average age was 39.5, and 51% identified as women. Of note, many individuals who reported losing employment due to the pandemic did not receive UI – particularly those with less education and Hispanic individuals. After adjusting for demographic and

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socio-economic variables, being in a household that received UI benefits was associated with a lower risk of delaying health care, depressive and anxiety symptoms, and unmet health-related social needs compared to households that did not receive UI benefits.

Key Takeaways:

- UI benefits may play a key role in easing the economic impacts of the COVID-19 pandemic.
- In addition to economic benefits, potential health benefits associated with UI for working-age adults should be elevated by policy makers in UI reform efforts.