

Title: Long COVID Surveillance using Workers Compensation Claims — Wisconsin, March 1, 2020–July 31, 2022.

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Introduction: SARS-CoV-2 infection can result in persistent and debilitating symptoms, known as long COVID, after the acute phase of illness. Prevalence and risk factors for long COVID are still being characterized, and the impact on workers is unknown. This analysis aimed to identify and describe long COVID cases among Wisconsin workers compensation (WC) claimants, assess risk factors, and examine the impact of vaccination on the duration of WC disability.

Methods: We conducted a descriptive analysis of long COVID cases among Wisconsin workers using WC claim data during March 1, 2020 – July 31, 2022. Additional demographic data and hospitalization status were obtained by matching claims with the Wisconsin Electronic Disease Surveillance System and hospital discharge datasets. To align with the Centers of Disease Control and Prevention case definition, a long COVID case has a claim period ≥ 28 days, and an acute COVID case has a claim period < 28 days. Long COVID cases were characterized by demographics, comorbidities, medical outcomes, industry, and occupation. We linked COVID-19 claimants to the Wisconsin Immunization Registry data to compare the vaccination status of long and acute COVID cases.

Results: Long COVID cases represented 11.7% (234 cases) of paid COVID-19 claimants; 29.2% of workers with long COVID were absent from work for at least 2 months. Compared to acute COVID cases, long COVID cases were older (median of 48 vs. 39, respectively; $p < 0.001$), racially more diverse (non-White: 23.1% vs. 10.1%, respectively; $p < 0.02$), more likely to be hospitalized ($p < 0.001$) and hospitalized longer (median of 3 days vs. 1 day, respectively, $p < 0.001$). Diabetes and hypertension were significantly associated with long COVID ($p < 0.05$). Industry sectors with the greatest number of long COVID cases were Hospitals ($n=109$), Ambulatory Health Care Services ($n=47$), and Nursing and Residential Care Facilities ($n=21$). Occupations with the highest number long COVID cases were Health Diagnosing and Treating Practitioners ($n=84$), Nursing, Psychiatric and Home Health Aides ($n=36$), and Health Technologists and Technicians ($n=27$). The likelihood of developing long COVID ($p < 0.001$) was significantly associated with COVID vaccination. Workers who completed their primary series prior to infection were less likely to develop long COVID than unvaccinated cases and cases with an incomplete primary series ($p < 0.001$).

Conclusions: This analysis characterized factors associated with long COVID in Wisconsin’s workforce and indicated the preventive effects of vaccination on long COVID. Continued focus on workplace COVID-19 protections and promotion of vaccination may reduce risks of long COVID among workers.