

COVID-19 May Have Been Job Related for One Fourth of Diagnosed Adults

J. Paul Leigh, PhD

ABOUT THE AUTHOR

The author is with the Department of Public Health Sciences and the Center for Healthcare Policy and Research, University of California, Davis, Medical School, and the Center for Poverty and Inequality Research, University of California, Davis.

🔗 See also Hawkins, p. 631 and Gaffney et al., p. 647.

We catch COVID-19 from each other. The fewer people we encounter, the safer we will be. Our desire for fewer encounters was especially apparent in employment arrangements during the first two and a half years of the pandemic. Most workers whom employers allowed to work from home did so; most whose employers did not allow this reported to their workplaces.

We labeled essential workers and recognized them as physicians, nurses, and police officers but also nursing home aides, warehouse workers, and meatpackers. In the first few months, we literally applauded health care workers and praised grocery store employers who offered hazardous pay to employees. As the months wore on, we became less mindful of essential workers; the applause and hazardous pay ended, but the virus did not. The virus revealed a chasm in the labor force between largely lower-paid (with the exception of health care professionals) essential workers and higher-paid nonessential workers. There was never any significant “shared sacrifice.” This chasm, in fact, has always existed

for occupational diseases; COVID-19 merely shined klieg lights on it.

COVID-19 INFECTIONS

Gaffney et al. (p. 647) provide the best estimate of this chasm to date. The Gaffney et al. study has advantages. Previous US studies relied on data from either Massachusetts or California. Gaffney and colleagues are the first to use the nationally representative National Health Interview Survey. Their sample size is large (46 321). A second advantage is that they use US government codes to classify occupations and industries, thereby allowing useful comparisons with occupational health, economic, and sociological studies that relied on these classifications.

In fact, their study can be viewed as an extension of a long line of research ranking occupations and industries according to measures including job-related injury fatalities¹ and mental illness.² Consistent with the Gaffney et al. findings, these job-ranking health studies revealed disproportionate burdens falling on African Americans,

Hispanics, and low-wage workers.¹ Finally, no previous national study has compared people who have jobs with those who do not; the Gaffney et al. data can be used to calculate the population attributable fraction (PAF) in relation to contracting COVID-19 as a result of job-related exposures (as described subsequently).

Gaffney et al. confirm and expand on the findings of previous studies. The most dangerous jobs are in health care and public safety. Gaffney and colleagues' broad category of “health practitioners” includes physicians, registered nurses, and emergency medical technicians. The broad “health care support” category includes aides, orderlies, and home health care workers. The broad category of “protective service” includes police officers, firefighters, and prison guards, and the “community and social services” and “food preparation and serving” categories include social workers, probation officers, community organizers, food servers, kitchen staff, and meatpackers. To some extent, their findings mirror those of studies on workplace violence, which obviously apply to police personnel, guards, and probation officers. But less well known is that important causes of injuries to nurses, aides, social workers, and even physicians are unruly and violent patients and clients.³ Meatpackers experience very high injury rates involving violence to animals.⁴

Low-risk occupations and industries include Gaffney and colleagues' broad “legal,” “management,” and “business and financial” categories. These categories involve those engaged in specific occupational roles, such as lawyers, managers, and bankers, all of whom could do much of their work from home.

These white-collar jobs also have low occupational injury and (non-COVID-19) illness rates.^{1,4} In addition, although Gaffney et al. and other authors include farming and military jobs as relatively safe from COVID-19, these jobs have high injury and (non-COVID-19) illness rates.^{1,4} It could be that work outdoors explains the low COVID-19 rates for farming and military jobs. Interestingly, in the Gaffney et al. study farming had the lowest percentage of workers reporting testing for COVID-19 (37.2%), whereas the military had the highest percentage (72.5%).

One limitation of the Gaffney et al. study is that the data pertain to infections rather than deaths. Most studies with data on deaths have shown that health care workers are not at the top of the list. Billock et al.⁵ found the death rate for health care practitioners and technical workers to be significantly below the average for all occupations. A second limitation is that the Gaffney et al. categories are quite broad. Other studies have generated rankings of more informative specific jobs (e.g., janitors, clerks) with smaller overall sample sizes than are available in the National Health Interview Survey.^{1,2}

POPULATION ATTRIBUTABLE FRACTIONS

Epidemiologists use PAFs to estimate disease burdens attributable to different factors. For example, 8% of cancer and 10% of chronic obstructive pulmonary disease cases are attributed to occupational exposures to carcinogens, dusts, and other toxins.⁶ Gaffney et al. report that their sample included 28 267 “workers” and 18 054 “nonworkers” 18 years or older, of whom 12.4% and

8.1%, respectively, reported COVID-19 infections (personal communication, March 13, 2023); overall, 4977 people reported infections. Applying the PAF method, if workers had not had workplace exposures, the number of infected people would have been 3752 ($8.1\% \times [18\,054 + 28\,267]$). The “excess” number of infected people is 1225 ($4977 - 3752$). The PAF for COVID-19 is 24.6% ($1225/4977$). This PAF is higher than any other occupational PAFs other than that for pneumoconiosis (black lung, asbestosis, and silicosis).⁶ I believe that this is the first national job-related PAF estimate for COVID-19.

SIGNIFICANCE

As time goes on, as more people go back to their workplaces, and as the virus spreads to infect the entire population, the chasm across occupations and the PAF for the occupational contribution will shrink somewhat; however, both will likely remain significant as with other occupational diseases. The Gaffney et al. study is a fresh reminder that work, where most adults spend 40% or more of their waking hours, is a critical social determinant of health and involves health equity issues.^{5,7}

COVID-19 in the workplace has other implications. Legal debates are under way pertaining to workers' compensation. If other occupational diseases are any guide, workers' compensation insurers will find ways to avoid paying 80% to 99% of the costs, thereby passing the financial burden along to other private health insurers, Medicaid and Medicare (i.e., taxpayers), and the afflicted families.⁶ COVID-19 is likely partially responsible for the surge in public interest in labor unions and increasing strike activity since 2019.⁸ Christian Smalls, the leader of the new

Amazon Labor Union in New York, attributes his activism to management's disregard for the well-being of warehouse workers. Occupational hazards are well-known predictors of union formation and strikes.⁹

Finally, Gaffney et al. report no funding for their study; this is typical for occupational health research. Even though the economic burden of occupational injuries and illnesses is on par with cancer,¹⁰ one of the lowest levels of funding in the National Institutes of Health is that for the National Institute for Occupational Safety and Health (NIOSH). (Technically, NIOSH is part of the Centers for Disease Control and Prevention.) Twenty institutes have more funding, and typically much more. For instance, the fiscal year 2023 National Cancer Institute budget is \$6.714 billion, 17 times larger than the NIOSH \$396 million budget; the National Institute on Aging budget (\$4.011 billion) is 10 times larger, and the budget for the Office of the Director (\$2.413 billion) is six times larger. The NIOSH budget is less than that of the National Library of Medicine (\$472 million).¹¹ **AJPH**

CORRESPONDENCE

Correspondence should be sent to J. Paul Leigh, PhD, Department of Public Health Sciences, UC Davis, Davis, CA 95616 (e-mail: pleigh@ucdavis.edu). Reprints can be ordered at <http://www.ajph.org> by clicking the “Reprints” link.

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CONFLICTS OF INTEREST

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