

# Study finds severe COVID-19 twice as common among bus drivers

August 23 2023, by Kjell Torén

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Bus drivers were at double the risk of being hospitalized for severe COVID-19 in the later stages of the pandemic, and several occupations in education and health care were also at risk of serious illness. This has

been shown by a study at the University of Gothenburg published in the *Scandinavian Journal of Work, Environment & Health*.

The study is based on large amounts of data from several different registers, totaling 552,562 cases of confirmed COVID-19 infection and 5,985 cases of severe COVID-19 infection. These cases, based on hospitalizations from October 2020 to December 2021, were then cross-referenced with the person's occupation in November of the previous year.

The study compared occupations that involved working closely with other people and occupations that had little or no close contact with colleagues or the public.

While the risk of hospitalization for severe COVID-19 was found to be particularly elevated among bus and tram drivers (98% increased risk), the study also highlights staff at after-school clubs (72% increased risk), registered nurses (68% increased risk), compulsory school teachers (60% increased risk) and preschool child minders (60% increased risk).

## **Low risk for the individual**

The researchers stress that the individual risk of workers in a given profession being hospitalized for COVID-19 has remained very low, as the number of affected people in the [occupational groups](#) is small.

The results also indicate certain differences between men and women in several occupations. For example, there was a 53% increased risk of hospitalization with COVID-19 among specialist doctors of both genders, but narrowing the focus solely to female specialists, the increase in risk was significantly higher, at 105%.

"When looking at specific occupations, interesting gender differences

emerge. Among women, there are increased risks for specialist doctors, nurses, midwives and preschool staff. Male occupations that carry higher risk include bus and tram drivers and security guards. This also reflects the fact that we have a gender-segregated labor market," says Maria Åberg, Professor of General Medicine at Sahlgrenska Academy, the Faculty of Medicine at the University of Gothenburg.

## Focus on the workplace

Above all, the researchers hope that the results of the study will be an eye-opener for employers. The results clearly show a work-related contagion in several different types of contact professions, not only in health care. It highlights the need for improved risk assessment and [preventive measures](#) in these sectors.

"The workplace is also an important arena for informing about and carrying out vaccination. Over the course of our research, we have come to the strong conclusion that workplaces or employers need to be involved in getting these high-risk [occupations](#) access to vaccination, for example by allowing them to be vaccinated during working hours or by organizing vaccination sessions at their place of work," says Kjell Torén, Senior Professor of Occupational and Environmental Medicine at Sahlgrenska Academy at the University of Gothenburg.

"And occupational health care has an important role to play in making this happen."

"We know that vaccination protects against severe COVID-19 and we believe that vaccination in high-risk workplaces during working hours would further reduce the risks. This applies in particular to bus and tram drivers and preschool staff. Health care workers were usually offered vaccination during working hours, but perhaps additional measures could have increased vaccination uptake," says Maria Åberg.

The study was conducted in collaboration with Karolinska Institutet.

**More information:** Kjell Torén et al, Occupational risks associated with severe COVID-19 disease and SARS-CoV-2 infection—a Swedish national case-control study conducted from October 2020 to December 2021, *Scandinavian Journal of Work, Environment & Health* (2023).  
[DOI: 10.5271/sjweh.4103](https://doi.org/10.5271/sjweh.4103)

Provided by University of Gothenburg

Citation: Study finds severe COVID-19 twice as common among bus drivers (2023, August 23) retrieved 20 May 2024 from <https://medicalxpress.com/news/2023-08-severe-covid-common-bus-drivers.html>

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