

JAMA Open Publishes Miller School-Led Study on First Responders, COVID-19, and Vaccine Perspectives

Unvaccinated first responders in the U.S. were more likely to develop COVID-19 and less likely to believe in the effectiveness and safety of vaccines than their vaccinated counterparts, according to a study led by University of Miami Miller School of Medicine and published on July 19 as a research letter in *JAMA Open*.

Miller School investigators were part of a national study of 1,415 law enforcement officers, firefighters and other first responders in Florida, Minnesota, Oregon, Texas, Utah, and Arizona. The study involved not only collecting weekly nasal specimens and reported COVID-like symptoms, but also capturing first responders' attitudes toward and perceptions of COVID-19 vaccines.



The study documented COVID-19 vaccination status, days of COVID illness, and attitudes towards COVID vaccination in law enforcement personnel.

Florida represented the second-largest occupational cohort, with 519 first responders, 291 unvaccinated and 228 vaccinated. The Miller School is a site for the Research on the Epidemiology of SARS-COV-2 in Essential Response Personnel (RECOVER) cohort, which was used in this study.

“The University of Miami has been actively engaged at the state and national level studying the health, safety, and well-being of first responders. Our research work in cancer prevention and control with first responders has informed and shaped national and state policy to improve the health and safety of first responders,” said lead author Alberto J. Caban-Martinez, D.O., Ph.D., M.P.H., C.P.H., vice chair for research and associate professor in the Miller School’s Department of Public Health Sciences. “As a site of this



multi-site national RECOVER COVID-19 occupational cohort study, we bring a wealth of experience in first responder health and safety.”

More Infections and Missed Workdays

Dr. Caban-Martinez said that he believes this is the first study to document COVID-19 vaccination, days of COVID-19 illness, and attitudes towards COVID-19 vaccination in law enforcement. The study is timely, given the amount of discussion and discourse at the national level about COVID-19 vaccination mandates among first responders.

“Municipalities around the U.S. are struggling with how to handle this topic. This paper now shows evidence that unvaccinated first responders, including law enforcement officers, experience greater days of illness, more hours of missed work, which could impact the services provided to the city by firefighters, emergency medical services, and police,” said Dr. Caban-Martinez.

The study offers interesting insights, including that in comparison to their vaccinated counterparts, unvaccinated first responders had higher rates of infection (11.9 versus 0.6 new cases per 1,000 person-weeks), longer COVID-19 illness (19.7 versus 15.3 days), and more hours of work missed (85.2 versus 67.6 hours).

Low Trust in Vaccine and Its Effectiveness

“First responders who were not vaccinated expressed low trust in what the federal government said about the vaccine, and had low belief in the COVID-19 vaccine effectiveness or safety,” Dr. Caban-Martinez said. “I would have expected higher rates of acceptance and belief in the vaccine.”



Law enforcement officers had the lowest rate of COVID-19 vaccination, according to the study's findings.

Dr. Caban-Martinez said that another telling and potentially concerning finding was the length of illness and hours of work missed among the unvaccinated. The average illness for unvaccinated first responders was about 19.7 days – almost three weeks– compared to about two weeks for those who were vaccinated.

Need for a Tailored Approach

“Our findings emphasize the need to create educational materials tailored to first responders and law enforcement on the effectiveness of vaccines and their impact on the safety and health of workers,” said Natasha Schaefer Solle, Ph.D., R.N., research assistant professor.

The national RECOVER COVID-19 occupational cohort continues to monitor weekly COVID-19 infections and COVID-19 vaccine effectiveness.

“We are closely monitoring how long COVID-19 antibodies last, whether they were produced naturally or via vaccination,” Dr. Caban-Martinez said. “We are also looking at the impact of chemical exposures encountered by first responders on immune response to COVID-19 infection.”

The Miller School collaborated on this paper with authors from Baylor Scott & White Hospital, Texas A&M University, the Centers for Disease Control and Prevention's COVID-19 Response Team, and the University of Arizona.

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