

COVID-19 vaccination status and hesitancy reasons of US and New Hampshire workers across work settings (Aug2021 - Aug2022)

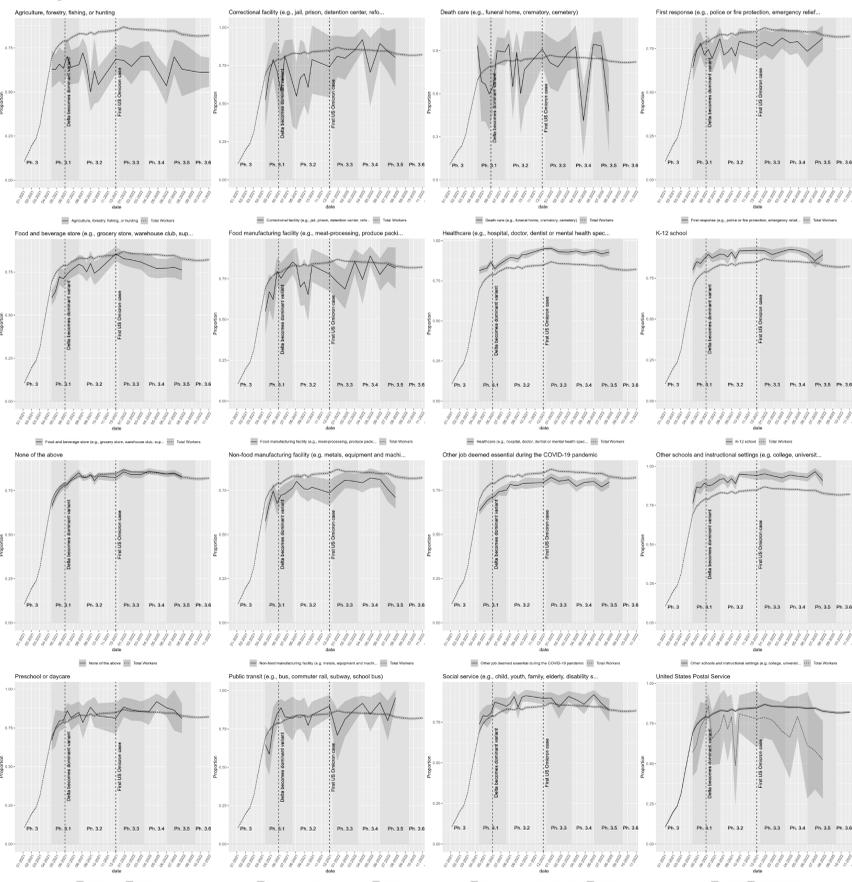
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Background

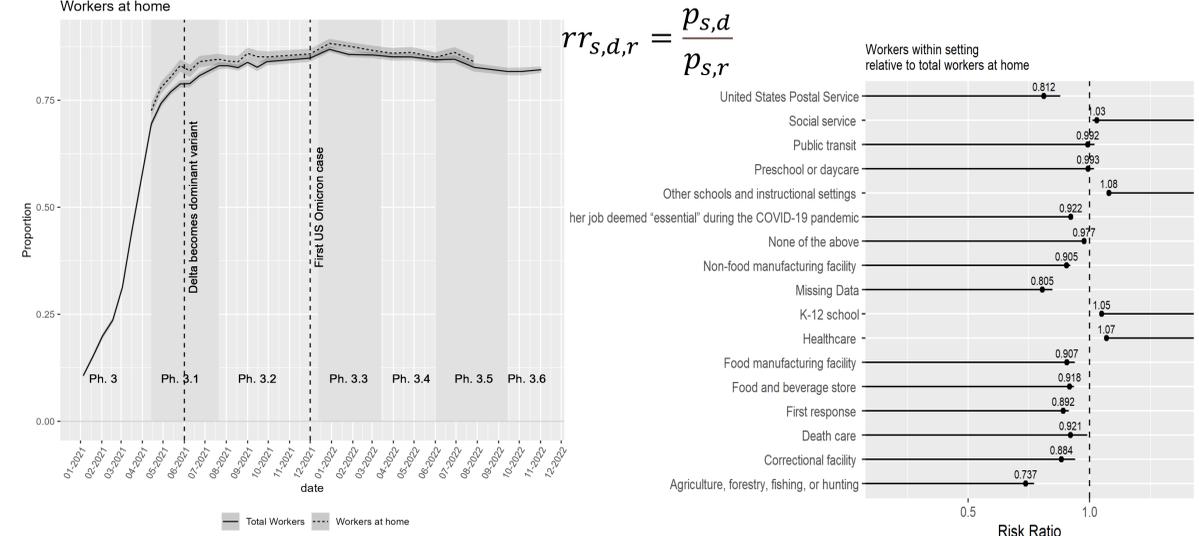
Workers in certain industries and occupations are essential to the core functions of the economy and society, especially during a pandemic; however, they often faced higher SARS-CoV-2 (COVID-19) infection risk from workplace transmission. COVID-19 vaccines protect individual workers and build herd immunity in the workplace. Existing studies report varied vaccination intake in certain industries and occupations. In the present study, we aimed to systematically examine COVID-19 vaccination status patterns, focusing on data late in the vaccination campaign (August 2021 to August 2022), among US workers across work settings (a combination of industry and occupation) at national level and in New Hampshire state, and to identify reported vaccine holdout cohorts and hesitancy reasons.

Methods

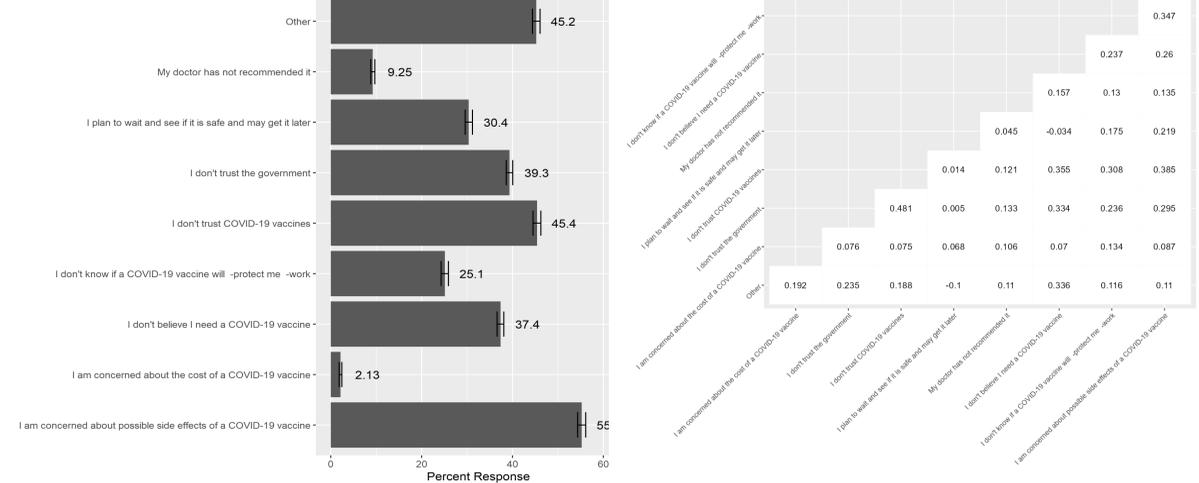
The US Census Household Pulse Survey [1] was analyzed for vaccination status and vaccine hesitancy reasons across work settings and stratified by demographic groups (age, gender, race, education, and disability status), using complex survey statistical models. Vaccination rate ratios were compared with three comparative denominators: total workers, workers at home, and across demographics. Estimated population size, population percentage, and corresponding standard errors (SE) were computed for both vaccination status and hesitancy. Statistical analyses were conducted using SAS (v. 9.4) and R 4.2.1 (2022-06-23 ucrt).



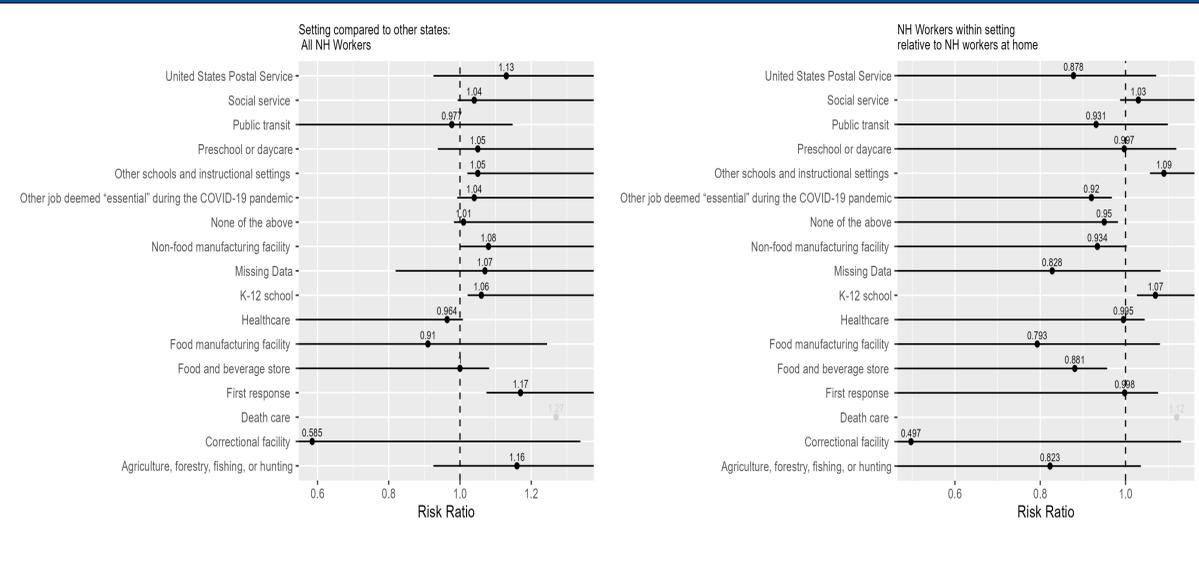
Analysis – US Workers



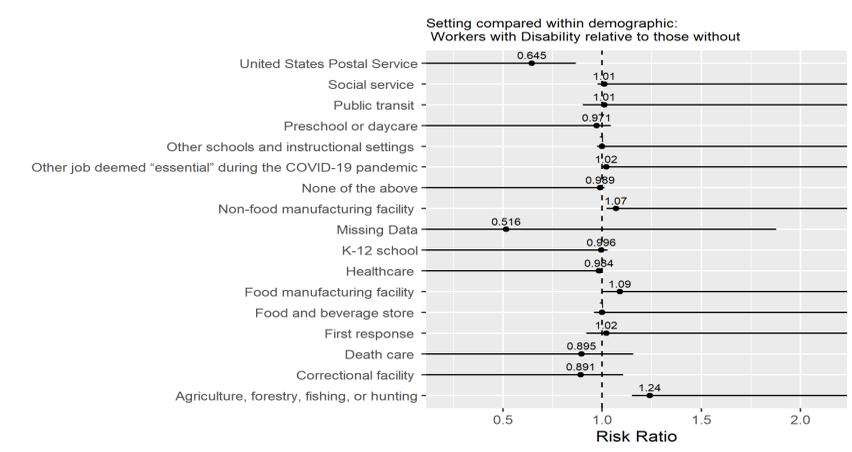
Reasons:



Reason Correlation:



Analysis - Workers with and without Disability



Results

The study showed COVID-19 vaccination proportions within work setting varied by race, age, education and disability status. Within work settings, lowest vaccination rate was observed for *Agriculture, forestry, fishing, or hunting* (63.2%, SE: 1.7%). Vaccination risk ratio of this work setting relative to workers at home was 0.73 (95% Confidence Interval (CI): 0.70-0.78; one-sided 95% CI: 0.77).

Regarding vaccine hesitancy, 55.2% (SE: 0.47%) of fully unvaccinated respondents chose the reason “*I am concerned about possible side effects of a COVID-19 vaccine*”, making it the most common reason. However, the most common coincident reasons were “*I don't trust the government*” and “*I don't trust COVID-19 vaccines*”.

New Hampshire “*First response*” workers had higher vaccination proportion compared to all other states’ “*First response*” workers – risk ratio 1.17 (one-sided 95% CI: 1.07).

See our draft interactive dashboard at: <https://unhod.shinyapps.io/vaccination-v2/>

Conclusions

While the dynamics of the vaccination campaign were not captured within work setting (due to late inclusion of this variable) – the PULSE survey does provide available opportunity to show the disparity in vaccination campaign success within the selected demographics and work settings at the national level, and within work settings at the NH state level.

References

[1]Bureau, U. S. C. (2022, December 28). Household pulse survey: Measuring social and economic impacts during the coronavirus pandemic. Census.gov. Retrieved January 13, 2023, from <https://www.census.gov/programs-surveys/household-pulse-survey.html>