Center on Rural Addiction
UNIVERSITY OF VERMONT

# COVID-19 Vaccine Uptake in Rural Populations with Substance Use Disorder

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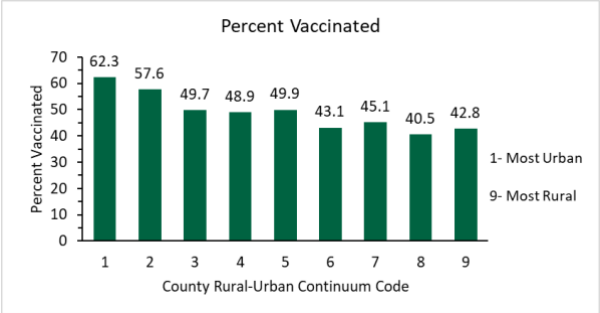
Research Spotlight

## The Problem: *Rural Vaccine Uptake*

COVID-19 is a highly infectious disease spread by respiratory droplets that causes people infected with the virus to experience mild to serious respiratory illness. COVID-19 vaccinations, a minimum of two injections separated 3-4 weeks apart, are the most effective vaccination cycle for preventing the spread of COVID-19. However, as of August 2021, rates in rural counties are notably lower (45.8%) than in urban counties (59.8%).[1] In fact, there is a negative linear relationship between urban/rural county designation and percent of adults vaccinated in that county, with more rural counties having fewer adults vaccinated (See Figure 1). Other variables that account for some of the disparity in vaccination in more rural counties include lower educational attainment, higher Trump vote share, lower household income, and fewer physicians per capita than in urban counties.




Considering there are several variables that impact rural Americans' decision and ability to get vaccinated, we need efforts to increase timely vaccination according to recommended dosing schedules. A foundation of research demonstrates that financial incentives (i.e., Contingency Management [CM]) for adherence to other vaccination schedules (e.g., Hepatitis B, flu, human papillomavirus) for individuals with substance use disorder result in 7 times the adherence relative to no incentives. CM is even more effective than commonly used interventions such as accelerated dosing schedules (2x adherence) and case management services (3x adherence). These findings are robust and can be extrapolated to impact adherence to COVID-19 vaccination schedules in rural populations.[2]

## An Intervention: *Contingency Management for Vaccine Uptake in SUD Populations*

A study in 2014 investigated the use of CM for Hepatitis B vaccination in an SUD population and could be used as an intervention for COVID-19 vaccine uptake[3]. The study was conducted at 12 substance use treatment clinics in the UK. Two incentive schedules (fixed and escalating) and a control group were compared for adherence to a 3-week Hepatitis B vaccination schedule. Participants were given vouchers of value ranging from 5 euros to 15 euros, depending on incentive schedule. Primary outcomes were the completion of the HBV vaccination within 28 days and within 3 months. Researchers found that both the fixed and escalating schedule incentives groups were 1) significantly more likely to complete the schedule in 28 days and 3 months (see Figure 2) and 2) significantly more likely to attend appointments on time.


***These data suggest financial incentives of moderate value should be utilized to increase COVID-19 vaccine uptake in rural populations with substance use disorder.[2]***

## Learn More

[1] "Rural-Urban and Within-Rural Differences in COVID-19 Vaccination Rates" was published in *The Journal of Rural Health*, in 2021.

[2] "Looking to the Empirical Literature on the Potential for Financial Incentives to Enhance Adherence with COVID-19 Vaccination" was published in *Preventive Medicine*, January 8, 2021.

[3] "Use of Contingency Management Incentives to Improve Completion of Hepatitis B Vaccination in People Undergoing Treatment for Heroin Dependence: A Cluster Randomised Trial" was published in the *Lancet Journal,* April, 9, 2014.

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