

# Can **Vaccine Incentive** Reward Programs Increase COVID-19 Vaccine Uptake?

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Multiple states, including Ohio, West Virginia, and Minnesota, are offering sizable cash prizes through lotteries to incentivize uptake of the SARS-CoV2 vaccine. This has raised questions about the efficacy and ethics of vaccine incentive programs.

## Vaccine Incentives

Vaccine incentives are rewards used to encourage individuals to receive recommended immunizations. Incentive reward programs are distinct from interventions that make receiving a vaccine less burdensome, such as providing transportation or childcare for vaccination appointments or making vaccines free of cost. Incentive rewards include **monetary incentives** (gift cards, cash payments) and **non-monetary incentives** (meal vouchers, gift baskets).

## Evidence for Incentivizing Vaccination

Vaccine incentives are grounded in the psychology of how people make economic and health decisions. Studies on vaccine incentives show that they result in higher immunization uptake.

### Systematic Review

In 2015, the CDC Community Preventative Services Taskforce conducted a **systemic review** to **evaluate** the impact of incentive reward programs on vaccination in children and adults. Seven studies (four from the United States) were included in the review (search period: 1980–2012).

- Studies showed **vaccination rates increased by a median of 8%** when incentive rewards were included. Two study arms that assessed the effectiveness of incentive rewards alone showed similar changes in vaccination rates (8.5 and 9%). In the six remaining study arms, incentives were combined with additional interventions.
- Incentive rewards offered to individuals included **government payments** (i.e., \$208 and childcare assistance), **lottery prizes** (i.e., \$50 grocery voucher), **gift cards** (i.e., \$10 for baby products), and food vouchers.
- Based on four studies, the median intervention cost per person per year was \$372 (IQR: \$112 to \$559). Three estimates for **cost per additional vaccinated person ranged from \$248 to \$2,447**.
- These data suggest that **even small incentives can be effective in increasing vaccination rates** and the impact can be substantial when such incentives are provided as part of benefits within health plans.
- **Knowledge gaps:** relationship between size of incentive reward and intervention effectiveness (i.e., incentive thresholds), efficacy rates of incentives in communities with disparities in vaccination rates, efficacy of incentive rewards when used alone.

## Incentive program examples for patients

1. **Moran et al. (1996)** introduced a lottery-type incentive program to encourage **lower income patients in Massachusetts** to accept immunization against **influenza**. Immunized patients were eligible to win **\$50 grocery store gift certificates**. A modest monetary value was decided to ensure that the incentive was not perceived to be coercive. Those eligible for the incentive program were significantly more likely to be immunized compared to individuals who were not offered any incentive (**29% vs. 20%**).
2. **Yokley et al. (1984)** introduced an incentive program to encourage childhood vaccination among **children five years old or younger** at a public health clinic in a **Midwest U.S. city**. **Three lottery-type monetary incentives** (\$100, \$50 and \$25) were offered in combination with a specific prompt (e.g., the client's name and overdue immunizations). The combined monetary and specific prompt incentive was associated with statistically significantly higher vaccination rates compared to the control group (**22.5% vs. 5.9%**).
3. **Birkhead et al. (1995)** assessed different interventions that aimed to encourage **measles immunization** among **preschool children in New York** enrolled in the Special Supplemental Food Program for Women, Infants and Children (**WIC**). Interventions included passive referral for immunization, escort service to the clinic, and a third intervention that required families of children aged 12-59 months to pick up **WIC food vouchers** on a monthly instead of the typical two-monthly schedule. Children at voucher incentive sites were **2.9 times** more likely to be immunized than those at referral sites.

## Incentive program examples for providers

**Kouides et al. (1993)** assessed an incentive program among **primary care physicians in New York** who were participating in a Medicare-sponsored intervention. The program **rewarded physicians with immunization rates above 70%** with an additional 10% of the regular fee and physicians with rates of 85% or more with an additional 20%. The average physician immunization rate in the incentive group was significantly higher compared to the control group (**73.1% vs. 55.7%**).

## Ethical Considerations

Officials should consider several ethical issues when designing incentive reward programs, including coercion, risk to the recipient, and fairness. Incentive reward programs can rise to the level of **coercion** when people contending with extreme deprivation cannot reasonably decline the intervention. In the case of SARS-CoV2 vaccination in the U.S., concerns of coercion may only be relevant in specific circumstances. States should consider the magnitude of incentives as well as the vulnerability of targeted populations to ensure that incentive programs are not coercive. A second consideration includes **assessing the level of risk, or loss, to the recipient**.

For example, programs that offer incentives for people to undergo invasive procedures or take medicines with common and severe side effects, should be carefully scrutinized. SARS-CoV2 vaccines are both **efficacious and safe**, and incentivizing their uptake is thus comparatively less problematic than incentivizing people to enroll in scientific research experiments, for example. **Fairness**—that all people who are told they are eligible for the incentive have an equal chance of receiving it—is also important. This does not mean that incentive programs cannot be targeted toward certain populations, rather that it should be clear who is eligible and who is not. Finally, incentive programs are best used when promoting a true public health benefit, one in which the benefit to the average individual is less than the benefit to the population as a whole, as is the case in SARS-CoV2 vaccination.

## Conclusion

There is strong evidence to suggest that incentive reward programs for vaccination may be effective in increasing COVID-19 vaccine uptake. However, states are tasked with designing and implementing incentive program structures that effectively target their respective vaccine hesitant populations—considering variations in incentive types and amounts (monetary vs. non-monetary), targeted populations (adolescent vs. elder population; patient vs. provider), and length of reward programs. Lastly, states' incentive reward programs may be limited by ethical considerations of coercion and constraints of specific funding sources.