

## **Pandemic Policy Making**

The COVID-19 pandemic has plunged the world into a state of uncertainty, pressuring nations worldwide to implement stay-at-home mandates, limit interactions, and encourage mask use. Understanding the pandemic is crucial to formulating global strategies to mitigate the impact of, or, ideally, prevent future outbreaks. Gaining insights into the virus is essential for developing effective public health policies. On June 26, 2021, the world reached an all-time high in COVID-19 vaccination efforts, administering 43.69 million doses. However, fast-forward nearly three years to January 2024 and a stark reality emerges: only 10,010 doses were administered globally, marking a considerable decline (Mathieu et al.). Various factors have contributed to this decline, and the decrease does not signify that we have reached universal vaccination. As of this year, the global vaccination rate—counting those who have received at least one dose—stands at 70.6%, with 67.18% having completed the full vaccine series and 5.3% having received only partial vaccination (Mathieu et al.).

The focus shifts to identifying those who are not receiving vaccinations. Understanding the factors influencing vaccination uptake is pivotal for the effectiveness of public health initiatives and the ultimate goal of achieving widespread immunity. Survey data indicates that the willingness to accept a novel COVID-19 vaccine hovers around 65% among the general population (Kahn et al.). Various factors contribute to this, including concerns about vaccine safety and the unprecedented speed of vaccine development. Distrust in the government, the medical research community, and pharmaceutical companies also plays a big role. KFF provides statistical data on COVID-19 vaccination rates across different racial groups as of July 2022, more than a year after the peak of COVID-19 vaccination efforts. Data from 36 states where total vaccination rates could be calculated by race reveals disparities—87% of Asian individuals, 67% of Hispanic individuals, and 64% of White individuals received at least one dose of the vaccine, surpassing the rate for Black individuals, which stood at 59% (Nambi Ndugga). This disparity can be largely attributed to a history of systemic mistrust and discrimination within the healthcare system, particularly affecting marginalized communities. Instances of medical research exploitation, such as the infamous Tuskegee study, have contributed to a justified sense of distrust towards government-sponsored medical initiatives.

Apart from those who have gotten vaccinated and those who refuse the vaccine, there lies a third category: those who are still deciding. This group surpasses those who outright decline vaccination (Kahn et al.), with many individuals adopting a “wait and see” approach—casually observing developments and seeking information before committing to vaccination. Recent findings reveal stark disparities in cognitive responses between vaccine-inclined and vaccine-hesitant individuals. Those leaning towards vaccine hesitancy often exhibit diminished perceptions of COVID-19 severity and susceptibility, as well as lower confidence in vaccine efficacy and protection against the virus. Emotional responses intertwine with cognitive perceptions, as vaccine-hesitant individuals report heightened negative emotions and diminished positive sentiments compared to their vaccine-inclined counterparts. Research consistently indicates that elevated negative emotions can trigger maladaptive coping strategies, hindering individuals’ ability to assess risk and impeding proactive health measures (Yanmengqian et al.). It becomes evident that emotional turmoil coupled with cognitive biases forms formidable

barriers to vaccine acceptance, highlighting the necessity of addressing these psychological dimensions in promoting vaccination efforts.

Recognizing the influence of the extrinsic motivation of social approval is crucial; healthcare provider recommendations to get the vaccine carry weight, for example, while conflicting choices in one's social circle can weaken motivation. Applying behavioral economics principles, motivated reasoning relevant to the politicization of vaccination. The integration of political identities into discussions about health-related issues highlights how individuals engage in motivated reasoning, allowing preexisting affiliations to shape their decision-making. Donald Trump downplaying the COVID-19 threat and labeling it a "political hoax," for example, exemplifies how political cues can influence public perception. Another aspect within the realm of behavioral economics is present bias, which underscores the need for policies that counteract immediate barriers to vaccination. Time constraints, job-related issues, and accessibility concerns lead to present bias, preventing individuals from recognizing the long-term benefits of vaccination. By acknowledging and harnessing motivational drivers, policies can be tailored to not only combat hesitancy but also incentivize and facilitate vaccination.

I propose an s-frame intervention to counter present bias and facilitate vaccine accessibility. This initiative, developed in collaboration with the US Government's Department of Labor, entails implementing a policy where employers grant a paid day off for employees when they have a vaccination appointment. This policy allows individuals to rid themselves of the immediate pressure associated with present bias, allowing individuals to weigh the long-term benefits of vaccination without the distraction of short-term concerns about time and accessibility. Regarding corporations themselves, it is imperative to address concerns about workforce capacity. It is unrealistic for every employee to take the same day off simultaneously, as this would disrupt business operations and hinder productivity. To address these legitimate concerns, the proposed initiative will be capped daily at 5% of the total staff. This limitation ensures that the impact on daily operations remains manageable while still allowing a significant portion of the workforce to participate. Employees will have the option to sign up and reserve their preferred vaccination date, thereby facilitating a smoother scheduling process and minimizing disruptions to workflow.

Beyond the immediate advantages of individual vaccination, this policy fosters a broader workplace culture that places a premium on health and community well-being. By actively promoting and facilitating vaccination, employers signal their commitment to safeguarding the health of their workforce and the broader community. This stance embodies the importance of collective responsibility in combating public health challenges. By prioritizing vaccination accessibility within the workplace, we can contribute to the larger societal effort to achieve herd immunity and mitigate the spread of infectious diseases. This proposal can serve as a model for responsible corporate citizenship, reinforcing employer's responsibility to their employees and the community at large.

To gauge the efficacy of this intervention, I propose conducting a field experiment focused on tracking vaccination rates within the target population. Optional surveys and interviews would be especially helpful in gathering qualitative feedback on the effectiveness of the intervention. A survey would include demographic questions as well as asking each participant what brought

them to the vaccination site on that particular day. This initiative will involve collaborating with healthcare providers and public health agencies to obtain comprehensive data on vaccination uptake, including the number of vaccinations administered and demographic information of participants. Cooperation from healthcare organizations is crucial for obtaining accurate and reliable data. Regular communication and coordination will ensure the success of the intervention and facilitate the analysis of trends. The effectiveness of this intervention will be evaluated through quantitative measures, including data collected on vaccination rates before and after the intervention launch. Comparisons will be made to assess the impact of the intervention on increasing vaccination uptake among the employed population.

There are two major confounding variables that I will consider during my analysis. First and foremost, demographic factors. Characteristics such as age, gender, and ethnicity might influence an individual's likelihood of getting vaccinated. As mentioned previously, variations in vaccination rates differ across demographic groups, which could confound the intervention's outcomes if not accounted for during data analysis. By analyzing vaccination data stratified by demographic variables and adjusting for demographic differences, we can mitigate the influence of these factors on the results. Another major confounding variable is public health messaging, which directly affects motivated reasoning. Public health messaging and media coverage related to vaccine efforts may influence individuals' attitudes and behaviors toward vaccination. Positive or negative media portrayals of vaccines, misinformation, or vaccine hesitancy campaigns could affect vaccination uptake independently of the intervention. Monitoring and controlling for the impact of external messaging on vaccination rates will be important for interpreting the intervention's effects accurately.

The feasibility of implementing this approach hinges on several factors. Firstly, successful execution relies on collaboration with healthcare providers and public health agencies. This entails not only establishing effective channels of communication but also fostering strong partnerships built on mutual trust and shared objectives. Moreover, securing buy-in from employers is decisive in implementing the s-frame policy. Convincing employers to allocate resources for initiatives such as providing paid time off for vaccination may require compelling evidence of the intervention's potential benefits. Employers may raise objections related to the financial implications of implementing the intervention or concerns about disruptions to workflow and productivity. Therefore, addressing any concerns among employers regarding feasibility or impact is crucial in gaining their support. In addition to the challenges mentioned, it is important to acknowledge a significant drawback of the proposed intervention: its limited impact on individuals who are not employed (or self-employed). The focus on providing a paid day off for vaccination excludes a portion of the population, such as retirees, students, and those without traditional employment. This limitation raises concerns about equity and inclusivity, as the benefits of the intervention may not reach all sectors of society equally. According to the Bureau of Labor Statistics, the unemployment rate in the United States stands at 3.7% (U.S. Department of Labor). These 6.1 million Americans, in addition to retirees and students, may not have access to the same workplace-based interventions and benefits as those who are employed full-time. While the proposed intervention may capture a supermajority of American citizens due to high employment rates, further considerations should be made to ensure vaccination efforts are equitable and inclusive for all.

While the proposed approach holds potential, its effectiveness hinges on successful implementation across various fronts, which may be influenced by regional, cultural, and economic factors. To achieve widespread impact, we must keep in mind collaboration and adaptability. In conclusion, although the proposed intervention is a promising starting point, its feasibility and effectiveness will continue to benefit from thoughtful consideration and potential adjustments to cater to the diverse needs of the population.

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