

**WHITE HOUSE REPORT:**  
Vaccination Requirements Are  
Helping Vaccinate More People,  
Protect Americans from COVID-19,  
and Strengthen the Economy

OCTOBER 7, 2021



THE WHITE HOUSE  
WASHINGTON



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## Executive Summary

President Biden has been clear that vaccinations are the best tool in our fight against the COVID-19 pandemic. Since January, the Biden-Harris Administration has taken aggressive actions to make vaccinations free and convenient, executed a robust campaign to educate Americans about the importance of getting vaccinated, and deployed hundreds of millions of dollars in resources for states, localities, Tribes, and community organizations to encourage vaccinations.

These efforts have led to tremendous success. At the start of the year, only 34% of adult Americans were eager to get vaccinated. Today, 78% of adults have at least their first shot. Overall, more than 185 million Americans are fully vaccinated—up from just 2 million when the President took office. The unprecedented pace of the President’s vaccination campaign saved over 100,000 lives and prevented 450,000 hospitalizations.

This is significant progress, but after months of education and incentives, additional actions needed to be taken in order to reach the tens of millions of people who remained unvaccinated. The strain on our hospital systems, our economy, and the risk to our children was too great not to use every tool available. To that end, last month, the President laid out a six-part plan to accelerate our path out of the pandemic. Central to that plan is getting remaining Americans vaccinated, and to do so, the President announced vaccination requirements that in total will cover approximately 100 million people.

As this report demonstrates, it is clear that vaccination requirements result in millions more people getting vaccinated. Without vaccination requirements, we face endless months of chaos in our hospitals, further detrimental impacts on our economy, and anxiety in our schools. With them, we will accelerate our path out of the pandemic.

According to a White House analysis:

### **Vaccination requirements result in more people vaccinated and save lives.**

- **Vaccination requirements have increased vaccination rates by 20+ percentage points to over 90% in many organizations.** An analysis of health care systems, educational institutions, public-sector agencies, and private businesses shows that organizations with vaccination requirements have seen their vaccination rates increase by more than 20 percentage points and have routinely seen their share of fully vaccinated workers rise above 90%. That is substantially higher than broader working-age vaccination rates for Americans aged 18 to 64 where only 63% are fully vaccinated.
- **Vaccination requirements have already helped cut the rate of unvaccinated Americans by one-third.** In late July, when the President announced the first vaccination requirement for the federal government, 95



million eligible Americans were unvaccinated. Today, thanks in part to vaccination requirements, that number has been reduced to 67 million unvaccinated eligible Americans. Increasing vaccination rates among workers by 20 percentage points or more—consistent with what vaccination requirements have been able to accomplish to date—would reduce the number of unvaccinated Americans by tens of millions of people, profoundly reducing the risk of COVID-19 to individuals and communities.

### **Vaccination requirements are good for the economy.**

- **Increasing vaccination rates could return up to 5 million workers to the labor force.** An economic analysis by Goldman Sachs found that “an increase in vaccination and almost full vaccination at workplaces should encourage many of the 5 million workers that have left the labor force since the start of the pandemic to return.” In addition to workers who are no longer employed, nearly 5 million American workers reported missing work in early September because they had COVID-19 or were caring for someone with COVID-19, an increase of 2.8 million relative to late June.
- **Higher vaccination rates lead to lower COVID-19 rates and a stronger economy.** During the recent spread of the Delta variant, cases, hospitalizations, and deaths were roughly two-and-a-half times higher in states with low vaccination rates compared to high-vaccination states. Small business employee hours grew faster and stayed higher during the rise of the Delta variant in the states that have higher working-age vaccination rates, versus states with lower vaccination rates.

### **Vaccination requirements are becoming the standard across all sectors and have broad public support.**

- **More than 3,500 organizations have already stepped up to require vaccinations, and thousands more will require vaccinations in the weeks ahead.** Vaccination requirements are in place at 25% of businesses, 40% of hospitals, and colleges and universities serving 37% of all graduate and undergraduate students. While this is extraordinary progress in a short period of time, thousands more businesses will put in place requirements over the weeks ahead as new rules for employers with 100 or more workers are finalized.
- **Businesses, labor unions, workers, and a majority of the public support vaccination requirements.** The Business Roundtable—which represents more than 200 businesses that employ a total of 20 million workers—as well as some of the largest labor unions in the country, including the National Education Association and the American Federation for Teachers, all support the President’s plan to increase vaccinations. And, public polls from Fox News, Axios, and the Associated Press among others, show that strong margins of Americans support vaccination requirements.



# History of Vaccination Requirements

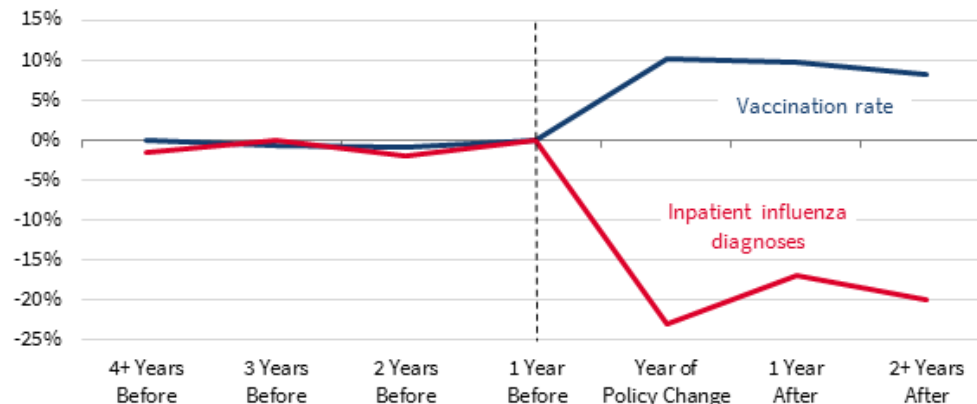
Vaccination requirements have a long history in the United States dating back to the American Revolution. More than 90% of deaths among Continental soldiers in the American Revolution were due to disease.<sup>1</sup> As a result, before he was our first President, George Washington mandated smallpox inoculations for the soldiers under his command in 1777, writing, “Necessity not only authorizes but seems to require the measure, for should the disorder infect the Army . . . we should have more to dread from it, than from the Sword of the Enemy.” Smallpox largely disappeared among the Continental Army’s ranks after the requirement went into effect.

Vaccination requirements continued in the centuries to come. Boston Public Schools required smallpox vaccination for students as early as 1827. Urbana, Ohio, enacted a requirement in 1867 that in any future epidemic, “the heads of families must see that all the members of their families have been vaccinated.”

We can also look at more recent experiences with requirements to see the impact. In California, some counties introduced flu vaccination requirements for all workers in licensed health care facilities between 2017 and 2019, whereas other counties did not institute such requirements. One study compared health outcomes in counties before and after they adopted these requirements relative to counties in California with no requirements over the same period. It found these requirements increased the vaccination rate of health care workers by 10 percentage points, from 74% to 84%, and reduced the number of inpatient influenza diagnoses by 20%, as shown in Figure 1.<sup>2</sup>

**Figure 1. Flu Vaccine Requirements for Healthcare Workers Reduced Hospital-Acquired Infections in California**

*Change in percentage points from year before county vaccine mandate*



Source: White, C. (2021). Measuring social and externality benefits of influenza vaccination. *Journal of Human Resources*, 56(3), 749-785.

<sup>1</sup> <https://loc.gov/rr/scitech/GW&smallpoxinoculation.html>

<sup>2</sup> <https://muse.jhu.edu/article/798143>



A similar study of statewide flu vaccination requirements for nursing-home workers and residents found that when states introduced these requirements, flu cases and deaths in nursing homes fell 20% and 10% respectively, relative to states without changes in policy over the same period.<sup>3</sup>

Among K-12 students, all 50 states require vaccinations for school attendance, and every state has held student vaccination requirements for the last 40 years.<sup>4, 5</sup> Vaccine requirements have been key to reducing vaccine inequities that have existed among school-age children.<sup>6</sup>

Evidence of the effectiveness of vaccination requirements for children abound. During the 20th century, measles infected an average of more than 500,000 Americans each year; by 2005, after decades of school vaccination requirements and vaccination rates higher than 90%, it infected 66 people.<sup>7</sup>

In Alaska, when major outbreaks of measles were occurring, the state announced a strict measles vaccination requirement for students. When enforcement of the requirement went into effect, about 7,400 students failed to provide proof of vaccination and were excluded from school. After one month, more than 7,300 of those students were in compliance with the requirement and no further cases of measles occurred.<sup>8</sup>

Disease	20th Century Annual Morbidity <sup>†</sup>	2020 Reported Cases <sup>††</sup>	Percent Decrease
Smallpox	29,005	0	100%
Diphtheria	21,053	1	> 99%
Measles	530,217	13	> 99%
Mumps	162,344	621	> 99%
Pertussis	200,752	5,398	97%
Polio (paralytic)	16,316	0	100%
Rubella	47,745	6	> 99%
Congenital Rubella Syndrome	152	0	100%
Tetanus	580	15	97%
<i>Haemophilus influenzae</i>	20,000	11*	> 99%

<sup>†</sup> JAMA. 2007;298(18):2155-2163  
<sup>††</sup> Centers for Disease Control and Prevention. National Notifiable Diseases Surveillance System, Weekly Tables of Infectious Disease Data. Atlanta, GA: CDC Division of Health Informatics and Surveillance. Available at: [https://wonder.cdc.gov/nndss/nndss\\_weekly\\_tables\\_menu.asp?mmwr\\_year=2020&mmwr\\_week=53](https://wonder.cdc.gov/nndss/nndss_weekly_tables_menu.asp?mmwr_year=2020&mmwr_week=53). Accessed on January 7, 2021.  
\* *Haemophilus influenzae* type b (Hib) < 5 years of age. An additional 7 cases of Hib are estimated to have occurred among the 136 notifications of *Haemophilus influenzae* (< 5 years of age) with unknown serotype.

National Center for Immunization & Respiratory Diseases  
Historical Comparisons of Vaccine-Preventable Disease Morbidity in the U.S.  
2/4/2021

Figure 2, Credit: Centers for Disease Control and Prevention

<sup>3</sup> [https://www.katherinewen.com/wen\\_influenzaVax\\_nov2020.pdf](https://www.katherinewen.com/wen_influenzaVax_nov2020.pdf)

<sup>4</sup> <https://www.ncsl.org/research/health/school-immunization-exemption-state-laws.aspx#Table1>

<sup>5</sup> <https://www.nytimes.com/2021/09/09/us/politics/vaccine-mandates-history.html>

<sup>6</sup> <https://pubmed.ncbi.nlm.nih.gov/18310176/>

<sup>7</sup> <https://fivethirtyeight.com/features/vaccines-mandates-work-but-theyre-messy-business/>

<sup>8</sup> [https://www.cdc.gov/vaccines/imz-managers/guides-pubs/downloads/vacc\\_mandates\\_chptr13.pdf](https://www.cdc.gov/vaccines/imz-managers/guides-pubs/downloads/vacc_mandates_chptr13.pdf)



# The Biden Administration's Vaccination Requirements

From Day One, President Biden marshalled a wartime effort to make vaccinations free, convenient, and available to all.

Over the past eight months, the Biden-Harris Administration has pulled every lever possible to get more shots in arms—from implementing a tax credit for businesses that provide paid time off for vaccinations, to encouraging incentive programs, to engaging with celebrities, trusted messengers, and professional sports leagues, to giving states resources to run lotteries.

Starting in July when the President announced the first requirement for the federal government, 95 million eligible Americans were unvaccinated. Today, only 67 million are unvaccinated. We are now in a pandemic of the unvaccinated, and after months of the vaccine being free and available to everyone 12 years and older in the country, the most effective way to drive up vaccination rates is through vaccination requirements.

Starting in July, the President announced a series of vaccination requirements, including:

*Requiring all federal executive branch employees, including the military, and all federal contractors be fully vaccinated.* The President signed an Executive Order to require all federal executive branch workers to be vaccinated and another Executive Order extending this standard to employees of federal contractors. Prior to the President's Executive Order, the Department of Veterans Affairs (VA), the Department of Defense (DoD), and the Department of Health and Human Services (HHS) announced requirements for certain employees to be fully vaccinated. The new requirement covers more than 3.5 million people and ensures a consistent standard across the federal government.

*Ensuring that all businesses with 100 or more employees require every worker be fully vaccinated or tested weekly.* The Occupational Health and Safety Agency (OSHA) is developing an Emergency Temporary Standard that will require employers with 100 or more employees to ensure their workforce is fully vaccinated or require any workers who remain unvaccinated to be tested weekly. This requirement will impact over 80 million workers in private sector businesses with 100 or more employees.

*Requiring workers in health care settings that receive Medicare or Medicaid funding be fully vaccinated.* In the coming weeks, the Centers for Medicare & Medicaid Services (CMS) will take action to require that workers in most health care settings that receive Medicare or Medicaid reimbursement be fully vaccinated. This action builds on an earlier vaccination requirement for nursing



facilities announced by CMS, and will apply to nursing home staff as well as staff in hospitals and other CMS-regulated settings. These requirements will apply to approximately 50,000 providers and cover more than 17 million health care workers across the country.

*Requiring all Head Start educators, teachers and staff at federally-run schools be fully vaccinated.* To help ensure the safety of students, families, and their communities, in the coming weeks, HHS will implement a requirement that educators, teachers and staff at Head Start and Early Head Start programs be fully vaccinated. In addition, vaccination requirements are being implemented for teachers and youth program personnel at the DoD and teachers and staff at Bureau of Indian Education-operated schools. These schools and programs collectively serve more than 1 million children each year and employ nearly 300,000 staff.

In total, the Administration's vaccination requirements apply to about 100 million Americans—two-thirds of all U.S. workers.

And since the President first announced COVID-19 vaccination requirements, hundreds of private and public sector institutions have stepped up and adopted requirements of their own, covering tens of millions of Americans.

The rationale is simple: Vaccination requirements work. They drive up vaccination rates, which in turn makes our communities and schools safer, and strengthens our economic recovery. That is why they are widely supported—and becoming the standard across the country.





# Vaccination Requirements Sector Analysis

## In Brief

Vaccination requirements dramatically drive up vaccination rates across economic sectors. As data demonstrate, when organizations implement vaccination requirements, vaccination rates have soared to 90% or greater among the workforce.

As this section illustrates, health care systems, private businesses, public employers, and schools have all successfully instituted vaccination requirements and have seen rising vaccination rates without a correspondingly undesirable impact on their labor force.

Across industries, thousands of employers have stepped up to require vaccinations—more than 2,500 hospitals, hundreds of private businesses, and more than 1,050 colleges and universities. These vaccination requirements cover millions of employees, and they are critical to helping accelerate our path out of the pandemic.

## Health Care Sector Analysis

COVID-19 vaccination requirements for health care workers have become common across the U.S. to protect patients and workers from the virus. On April 1, Houston Methodist became the first health system in the country to require all of its employees be vaccinated against COVID-19. A significant increase in health systems adopting similar policies followed in July and August, amid an announcement by the President that America's largest health system, the Department of Veterans Affairs, would ensure its entire health care workforce would be vaccinated. Today, almost 2,500 hospitals, 40% of all U.S. hospitals, have announced vaccination requirements for their workforce. They span all 50 states, the District of Columbia, and Puerto Rico. In addition, eight states—California, Colorado, Maine, New Mexico, New York, Oregon, Rhode Island, and Washington—and the District of Columbia are requiring all health care workers in the state to get vaccinated, and four states—Delaware, Illinois, Maryland, and New Jersey—are requiring health workers to get vaccinated or tested regularly, according to the Kaiser Family Foundation.

Leading health care organizations like the American Medical Association, American Hospital Association, American Nurses Association, and American Academy of Pediatricians, which represent millions of workers, called for “mandatory COVID-19 vaccination for health care workers to protect the safety of patients and residents of long-term care facilities and make the health care sector a leader in COVID-19 vaccinations.”

Health care providers and states have adopted requirements for a simple reason—vaccination requirements work.



At Houston Methodist, out of 25,000 employees, 98% got vaccinated.<sup>9</sup> Trinity Health, one of the largest Catholic health care systems in the nation, went from 75% to 96% of its 123,000 employees vaccinated and in compliance. Henry Ford Health System in Detroit went from 68% vaccinated to 98% of its workforce vaccinated or in compliance.<sup>10</sup> Two of the largest health systems in North Carolina, UNC Health and Novant Health, reached 97% and 99% staff vaccination rates respectively after implementing a vaccination requirement.<sup>11</sup> In New York, 92% of employees at hospitals and nursing homes received a shot by the September 29 state-wide deadline to do so, a major increase from just a week earlier—when only 82% of nursing home employees had received a shot.<sup>12</sup>

Figure 3 illustrates the significant impact of vaccination requirements on the health care sector. In the five days leading up to New York’s vaccination deadline, the twenty New York City nursing homes with the highest proportion of unvaccinated employees saw substantial increases in their staff vaccination rates. Fourteen of those nursing homes saw the proportion of their staff vaccinated increase greater than 20 percentage points in the five-day period. Twelve of the nursing homes eclipsed 95% staff vaccination rates by the deadline.

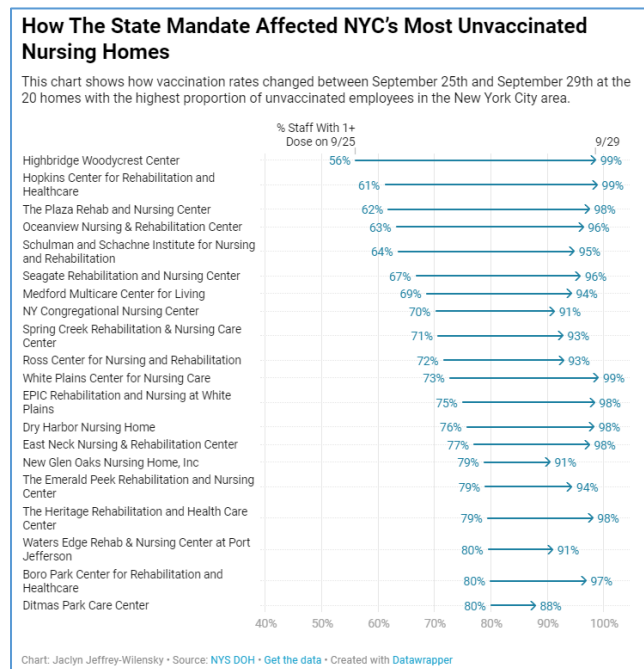


Figure 3, Credit: Gothamist

<sup>9</sup> <https://www.webmd.com/lung/news/20210528/texas-standoff-illustrates-battle-over-covid-vaccines>

<sup>10</sup> [https://www.henryford.com/news/2021/09/sept-13-covid19-media-briefing#:~:text=Henry%20Ford%20Health%20System%20Achieves%2098%25%20COVID%20D19%20Vaccination%20Compliance&text=DETROIT%20\(September%2013%2C%202021\),10](https://www.henryford.com/news/2021/09/sept-13-covid19-media-briefing#:~:text=Henry%20Ford%20Health%20System%20Achieves%2098%25%20COVID%20D19%20Vaccination%20Compliance&text=DETROIT%20(September%2013%2C%202021),10)

<sup>11</sup> <https://www.nytimes.com/2021/09/29/health/us-hospital-workers-vaccine.html>

<sup>12</sup> <https://www.nytimes.com/2021/09/28/nyregion/vaccine-health-care-workers-mandate.html>



Importantly, vaccination requirements have not led to widespread resignations, as some predicted. At Houston Methodist, the hospital lost only 153 out of 25,000 employees.<sup>13</sup> A rural health system in Kentucky, St. Claire Healthcare, lost less than 4% of their 1,100 employees. Novant Health in North Carolina suspended only about 375 of its over 35,000 employees for failing to get vaccinated.<sup>14</sup> 200 of those suspended employees decided to get vaccinated so they could return to their jobs.<sup>15</sup>

Maine's two largest health care providers, MaineHealth and NorthernLight, lost only 65 out of 33,000 employees.<sup>16</sup> Medical University of South Carolina Health had to let go only five of its more than 17,000 employees for failing to comply with their requirement.<sup>17</sup> At Hanceville Nursing & Rehab Center in Alabama, six of 250 workers quit rather than get a shot. Only five of 527 employees quit at Jewish Home Family in New Jersey, and only two of 250 employees left at Westminster Village in Illinois.<sup>18</sup>

Health care worker vaccination requirements have been shown to work time and time again. They boost vaccination rates and result in limited resignations and dismissals. They are an essential tool to help protect U.S. patients and health care personnel.

## Corporate and Public Sector Analysis

Vaccination requirements in private businesses and public employers are becoming the standard.

Currently, one in four companies have instituted a vaccination requirement and an additional 13% of companies plan to put a requirement in place in the months ahead. These numbers have increased sharply after President Biden announced that all employers with 100 or more employees would be required to get workers vaccinated or tested weekly, according to human resources consultant Gartner.<sup>19</sup> And these data are supported across job postings. The number of job postings that list COVID-19

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<sup>13</sup> <https://www.cnn.com/2021/06/22/us/houston-methodist-employees-covid-vaccine-resign-fired/index.html>

<sup>14</sup> <https://www.washingtonpost.com/health/2021/09/28/nc-hospital-175-unvaccinated-fired/>

<sup>15</sup> <https://www.wsocvtv.com/news/local/fewer-than-200-novant-health-employees-fired-not-getting-covid-19-vaccine/WBV64JW6QZC5FKXNVUIG2RA7VI/>

<sup>16</sup> [https://mainebeacon.com/few-health-workers-actually-quitting-over-vaccine-mandate-despite-ongoing-protests/?fbclid=IwAR2wNVKC3DJFGHU7Ugmm\\_m0dBqbYz7CXKO7FnDdVwCLmA4pmGrWkQ8Vj51I](https://mainebeacon.com/few-health-workers-actually-quitting-over-vaccine-mandate-despite-ongoing-protests/?fbclid=IwAR2wNVKC3DJFGHU7Ugmm_m0dBqbYz7CXKO7FnDdVwCLmA4pmGrWkQ8Vj51I)

<sup>17</sup> <https://www.thestate.com/news/charleston/article252780718.html>

<sup>18</sup> <https://www.scientificamerican.com/article/unvaccinated-workers-say-theyd-rather-quit-than-get-a-shot-but-data-suggest-otherwise/>

<sup>19</sup> <https://www.bloomberg.com/news/articles/2021-09-30/one-in-four-companies-now-have-vaccine-mandate-after-biden-order?srnd=markets-vp>



vaccination as a requirement jumped 20 times in the past two months, according to LinkedIn data.<sup>20</sup>

The reason is simple: Vaccination requirements work.

On August 6, United Airlines announced that all 67,000 of its employees would need to be vaccinated within five weeks after FDA's approval of a COVID-19 vaccine. When United began its vaccination requirement, only 59% of its employees were vaccinated. In fewer than two months, United announced that 99% of its employees were vaccinated and in compliance. As United began the process of separation from workers who refused to comply, about half of the remaining unvaccinated chose to get the shot.<sup>21</sup> In less than 60 days, the company with 67,000 employees faced the prospect of losing less than 200 individuals. More than 99% of workers stepped up to comply with the vaccination requirement.

A similar trend is happening right now at Tyson Foods. On August 3, when Arkansas-based Tyson Foods announced its employees would need to be vaccinated, only 45% of its workforce had gotten a shot. Today, that number stands at 91%. That's a 102% increase in two months. The company's vaccination requirement covers all of its 120,000 U.S. employees, and the company's vaccination rate will continue to rise as workers have until November 1 to get vaccinated.<sup>22</sup>

Some of the largest employers in the U.S., like AT&T, Bank of America, CVS, Disney, Google, Hess, Johnson & Johnson, Microsoft, Netflix, Procter & Gamble, and Walgreens already have a vaccination requirement. And, more and more companies step up to require vaccinations each week.

Organizations have taken different approaches. Some places like Amtrak are implementing a system to allow workers to test weekly or get vaccinated, so they will be prepared for the upcoming rule from the Department of Labor requiring all employers with 100 or more employees implement such a system. Other companies, such as United Airlines and Tyson Foods, do not allow for a testing opt-out and have seen some of the highest vaccination levels in the private sector.

The trend of vaccination requirements working holds true in the public sector as well.

In Orange County, Florida, the Tax Collector's office went from 45% of staff vaccinated to above 90% in little more than a month. In deciding to implement a requirement,

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<sup>20</sup> <https://www.newsweek.com/companies-listing-being-vaccinated-requirement-job-postings-jumped-20-times-1634043>

<sup>21</sup> <https://www.nytimes.com/2021/10/02/business/united-airlines-coronavirus-vaccine-mandate.html>

<sup>22</sup> <https://www.nytimes.com/2021/09/30/business/tyson-foods-vaccination-mandate-rate.html>



Scott Randolph, Orange County’s Tax Collector noted “Our healthcare is paid by taxpayer dollars...it’s not right for them to pay for something that is easily avoidable.”<sup>23</sup>

Republican Governor Charlie Baker of Massachusetts announced a vaccination requirement for Commonwealth workers on August 19. All 42,000 state employees, including hospital workers, executive branch employees, and state troopers would need to get vaccinated. According to the Boston Globe, “despite claims by the Massachusetts State Police union that ‘dozens of troopers’ have submitted their resignation papers due to a COVID-19 vaccination requirement, a State Police spokesman said late Monday that only one trooper has definitively said he will retire because of the mandate.”

## Education Sector Analysis

Across the country, we have seen the power of vaccination requirements at colleges and universities and in K-12 educational settings.

### *Higher Education*

Currently, there are more than 1,050 institutions of higher education (IHEs) with a vaccination requirement. Cumulatively, these institutions represent about 17% of all IHEs, and serve about 37% of all graduate and undergraduate students.

### College Announcements by Date

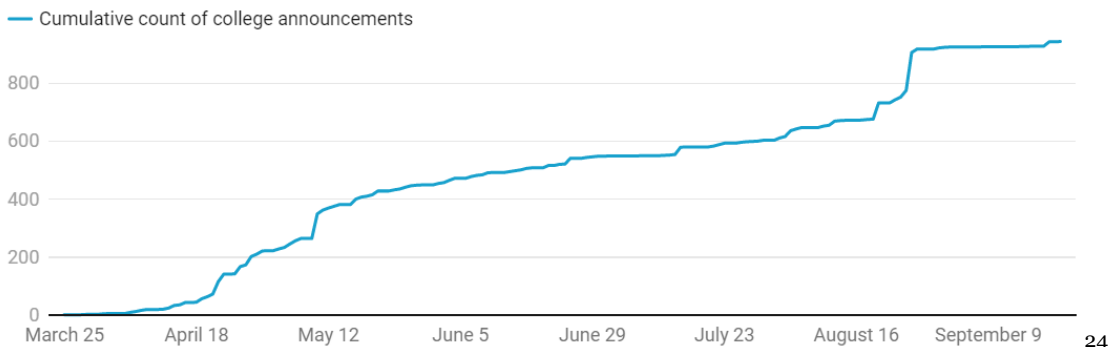


Figure 4, Credit: *Chronicle of Higher Education*

The American College Health Association—an organization advising colleges and universities on their health protocols—has called on all higher education settings to adopt vaccination requirements, citing both the “enormous impacts on our college

<sup>23</sup> <https://www.wftv.com/news/local/12-people-chose-quit-their-jobs-instead-get-vaccine-documents-reveal-why/EAGV5GTU45CGXA5SLQFLZVREOY/>

<sup>24</sup> <https://www.chronicle.com/blogs/live-coronavirus-updates/heres-a-list-of-colleges-that-will-require-students-to-be-vaccinated-against-covid-19>



communities, including economic, academic, social, physical, and mental health consequences for students, faculty, and staff.”<sup>25</sup>

The Association stated “vaccination requirements for students attending institutions of higher education in the United States are not new and are time-tested. Most U.S. campuses have had vaccination requirements for decades, recognizing that vaccination is a primary strategy for advancing campus health by preventing outbreaks of vaccine-preventable diseases.”

There have been numerous examples of colleges and universities across the country that have implemented vaccination requirements and seen significant increases in vaccination rates.

Rutgers University was the first institution of higher education in the nation to implement a vaccination requirement, promulgating a policy in March 2021. The University achieved a vaccination rate of 99.5% across its 71,000 students.<sup>26</sup>

Indiana University requires its more than 100,000 students and employees to get the COVID-19 vaccine. The University’s requirement has been upheld by the U.S. Supreme Court, and today the flagship campus has a 93% vaccination rate for students and staff.<sup>27</sup>

The University of Illinois Chicago has taken a number of creative approaches to getting its students vaccinated, including extensive education and outreach, incentives, and on-campus vaccinations. As of today, the University has achieved a 96% vaccination rate among staff and students.<sup>28</sup>

Following FDA approval of the Pfizer-BioNTech vaccine, Louisiana State University required vaccination for students, faculty and staff. Students who do not submit proof of vaccination, or produce a weekly negative COVID-19 test can be removed from enrollment. In mid-September, 1,200 of the 34,000 enrolled students had yet to comply with the school’s COVID-19 protocol, so a text message was sent to those students informing them of the rules and the potential they would be disenrolled. After that, the pool of students not in compliance was reduced to just 78 people.

Over the summer, the University of California system implemented a COVID-19 vaccination requirement for all 280,000 students and 227,000 faculty and staff across

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<sup>25</sup> [https://www.acha.org/ACHA/About/ACHA\\_News/ACHA\\_Recommends\\_COVID-19\\_Vaccination\\_Requirements\\_for\\_Fall\\_2021.aspx#:~:text=Therefore%2C%20where%20state%20law%20and,incluing%20exemptions%20for%20medical%20contraindications.](https://www.acha.org/ACHA/About/ACHA_News/ACHA_Recommends_COVID-19_Vaccination_Requirements_for_Fall_2021.aspx#:~:text=Therefore%2C%20where%20state%20law%20and,incluing%20exemptions%20for%20medical%20contraindications.)

<sup>26</sup> <https://www.rutgers.edu/president/my-weekly-message-on-fall-planning-vaccination-rates-town-halls>

<sup>27</sup> <https://www.washingtonpost.com/education/2021/06/23/colleges-covid-vaccine-mandates-divide/>

<sup>28</sup> <https://covid-dashboard.uic.edu/view/>





10 campuses. For example, UC Berkeley, now boasts a vaccination rate of 98% of graduate and undergraduate students, as well as 91% of faculty and staff.<sup>29</sup>

Finally, COVID-19 vaccination requirements are well accepted by most students. An Axios study from August 2021 of a representative sample of students nationwide showed that 73% of students said their schools should implement a vaccination requirement for those on campus.<sup>30</sup> Similarly, a Kaplan survey from September 2021 found “overwhelming support” among college students for vaccination requirements on campus, showing 72% supported colleges requiring students to be vaccinated if they want to attend in-person classes, and that support for vaccination requirements among college student is up since they last surveyed in May 2021.<sup>31</sup>

### *K-12 Schools*

For those too young to be vaccinated, it is especially critical that they are surrounded by vaccinated people. Studies released by the CDC found that the rate of hospitalization for children was nearly four times higher in states with the lowest vaccination rates compared to states with high vaccination rates.

Even one unvaccinated teacher can lead to dozens of sick school children. Vaccination requirements give comfort to the parents across the country that rely on schools and early childhood centers to keep their children safe every day. And when coupled with strategies we know work to keep unvaccinated children under 12 years old safe—like mask wearing, maintaining physical distancing, and improving ventilation—vaccination requirements are a key way that we can keep our students safely learning in-person where they belong.

Currently, 10 states, as well as the District of Columbia and Puerto Rico, have vaccination requirements for K-12 school staff, including California, Connecticut, Delaware, Hawaii, Illinois, New Jersey, New Mexico, New York, Oregon, and Washington.

Where states and school districts have implemented vaccination requirements for school staff, they have seen strong results.

The Hawaii Department of Education implemented a requirement beginning August 30 that all unvaccinated employees be tested once a week for COVID-19. As of late September, about 89% of its salaried employees are fully or partially vaccinated against

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<sup>29</sup> <https://coronavirus.berkeley.edu/dashboard/immunization/>

<sup>30</sup> [https://fbdb594b-a366-4562-bad6-31eaf606c53a.filesusr.com/ugd/b2ee84\\_55ca98a2c7664c37acd8de2bb590f0f6.pdf](https://fbdb594b-a366-4562-bad6-31eaf606c53a.filesusr.com/ugd/b2ee84_55ca98a2c7664c37acd8de2bb590f0f6.pdf)

<sup>31</sup> <https://www.kaptest.com/blog/press/2021/09/20/survey-finds-72-percent-of-college-students-support-vaccine-mandate-on-campus-mask-mandate-support-at-near-80-percent/>



COVID-19.<sup>32</sup> Prior to the requirement, the state teacher’s union estimated 80% of teachers were vaccinated.<sup>33</sup>

In July, prior to New York City putting into place vaccination requirements, only about 60% of New York City Department of Education educators and staff were vaccinated.<sup>34</sup> Following implementation of a full requirement for all 150,000 school staff across 1,600 public schools, the City reported that more than 95% of all K-12 teachers and staff were vaccinated by the city’s deadline.<sup>35</sup> This included an increase of about 10 percentage points for all staff over the course of the final weeks before deadline to submit proof of vaccination, leading to a significant uptick of last-minute vaccinations.<sup>36</sup>

In mid-August, Portland Public Schools, the Portland Association of Teachers, and the Portland Federation of School Professionals came to an agreement that all employees—including classroom teachers, school-based and central office staff—will be required to be vaccinated against COVID-19. As of early October, with the vast majority of staff reporting, 95% of staff is fully vaccinated, and another 1% of staff has received at least one shot.<sup>37</sup>

Educators and their unions overwhelmingly support vaccination requirements. The National Education Association released polling in September indicating that nearly 90% of members are vaccinated, and nearly two-thirds (65%) support their school district requiring school staff to receive COVID-19 vaccinations.<sup>38</sup> Polling from the American Federation of Teachers also demonstrates that two in three of its members support vaccination requirements. Educators of color voice particularly strong support for a requirement—78% among Black members, 73% among Hispanic members—as do those with someone in their household at high risk (75%).<sup>39</sup>

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<sup>32</sup>

<https://www.hawaiipublicschools.org/ConnectWithUs/MediaRoom/PressReleases/Pages/HIDOE-school-office-vaccinations.aspx>

<sup>33</sup> <https://bigislandnow.com/2021/08/03/doe-teachers-union-clash-over-return-to-in-person-learning-exclusively/>

<sup>34</sup> <https://www.thecity.nyc/coronavirus/2021/7/25/22590939/nyc-delta-covid-wave-hospitalized>

<sup>35</sup> <https://www.nytimes.com/2021/10/04/nyregion/vaccine-mandate-teachers-nyc.html>

<sup>36</sup> <https://slate.com/news-and-politics/2021/09/vaccine-mandates-work-misleading-mass-firings-headlines.html>

<sup>37</sup> <https://www.pps.net/Page/18151>

<sup>38</sup> <https://www.nea.org/about-nea/media-center/press-releases/nea-survey-nations-educators-are-vaccinated-and-school-last>

<sup>39</sup> <https://www.aft.org/press-release/poll-90-aft-members-are-vaccinated-and-two-thirds-support-vaccine-mandates>





# Vaccination Requirements Economic Impact

## In Brief

Increased vaccination coverage could result in as many as 5 million American workers going back to work<sup>40</sup> and would have a positive impact on communities of color who were disproportionately impacted by the economic consequences of COVID.<sup>41</sup> And because high rates of COVID-19 cases can also suppress economic demand—particularly for in-person services businesses—increased vaccination rates that keep cases, hospitalizations, and deaths low likely increase consumers’ confidence to travel, dine out at restaurants, and engage in other in-person commercial activity.

As documented in earlier sections of this report, vaccination requirements have repeatedly been shown to increase vaccination rates among workers by 20 to 25 percentage points, and in some cases by significantly more. More than three out of four (75.5%) working-aged adult Americans are currently in the labor force, so increasing the share of workers who are fully vaccinated by 20 to 25 percentage points could vaccinate an additional 30 to 38 million working-age Americans, cutting the total share of unvaccinated Americans roughly in half. This could have a major effect on case rates, hospitalization rates, and death rates—preventing future waves of the virus from having as significant an effect as occurred during the spread of the Delta variant. At an individual level, unvaccinated people are more than five times as likely to get a symptomatic case of COVID-19 and more than 10 times as likely to be hospitalized or to die from COVID-19.

The economic rationale for vaccination requirements follows from the effect of vaccinations on health outcomes. Higher vaccination rates will keep more workers safe, healthy, and on-the-job, reducing worker morbidity and mortality as well as worker absenteeism both for the newly-vaccinated workers and people who work with them. In turn, safer and more vaccinated workplaces will likely have a positive impact on worker productivity, increase participation in the labor market, and increase consumer spending by diminishing the actual and perceived health risks of COVID-19. The bottom line is that increased vaccination rates through requirements enables a faster and stronger economic recovery.

As University of Michigan economist Justin Wolfers has noted, “Viewing [President] Biden’s vaccine mandate as simply economic policy, it’s surely the cheapest and most powerful economic stimulus ever enacted.” Wolfers went on to explain that “People are

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<sup>40</sup> <https://www.gspublishing.com/content/research/en/reports/2021/09/13/cd67a3b5-bb9e-4659-b605-6618d5aa825f.html>

<sup>41</sup> <https://www.brookings.edu/blog/up-front/2021/09/02/a-hot-labor-market-wont-eliminate-racial-and-ethnic-unemployment-gaps/>



more likely to work when they feel safe.”<sup>42</sup> Mark Zandi, chief economist at Moody’s Analytics, has similarly stated that “more vaccinations means fewer infections, hospitalizations and deaths, which in turn means a stronger economy.”<sup>43</sup>

## Avoided Health and Economic Costs

Since the first case of COVID-19 was recorded in the United States in January 2020, COVID-19 has claimed more than 700,000 lives in America alone. Studies have shown that over 90% of those hospitalized were unvaccinated.<sup>44, 45</sup>

Unvaccinated Americans are more likely to miss work due to illness and less likely to recover from COVID-19. In May and June of this year 2% of adults aged 18 to 44 could not work because they or a family member had COVID-19.<sup>46</sup> In early September, 4.6 million Americans reported not working because they were either caring for someone—or sick themselves—with COVID-19.<sup>47</sup> That is an increase of 2.8 million compared to late June, before the spread of the Delta variant.

Furthermore, the pandemic has imposed health costs on Americans who do not fall ill with COVID-19 but who need medical care for other reasons. When hospitals reach capacity with unvaccinated COVID-19 patients, people are more likely to be turned away or to receive lower-quality care, putting health and life at risk.<sup>48</sup>

## Increased Job Creation and Labor Force Participation

In addition to the 4.6 million workers not working because they or someone they cared for had COVID-19 in September, another 4.7 million Americans reported in September having been laid off or furloughed due to the pandemic, with 2 million reporting their employer was temporarily closed due to the pandemic and another 1.5 million reporting their employer went out of business due to the pandemic.

These survey results are also visible in the economic data. Though the unemployment rate has steadily declined in recent months, it remains nearly two percentage points above pre-pandemic levels, representing about 5.7 million additional unemployed workers relative to pre-pandemic. Nonfarm payroll employment remains about 5.3 million below pre-pandemic levels, and those missing jobs are concentrated in in-person

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<sup>42</sup> <https://twitter.com/JustinWolfers/status/1436300106702233600>

<sup>43</sup> <https://apnews.com/article/technology-joe-biden-health-business-coronavirus-pandemic-6ab9a65961289d5415984e2c52c7bb83>

<sup>44</sup> <https://www.sciencenews.org/article/covid-coronavirus-vaccines-hospital-cases-rates-unvaccinated>

<sup>45</sup> <https://www.cdc.gov/mmwr/volumes/70/wr/mm7037e1.htm>

<sup>46</sup> <https://www.cdc.gov/nchs/covid19/rands/work.htm>

<sup>47</sup> <https://www.census.gov/data/tables/2021/demo/hhp/hhp37.html#tables>

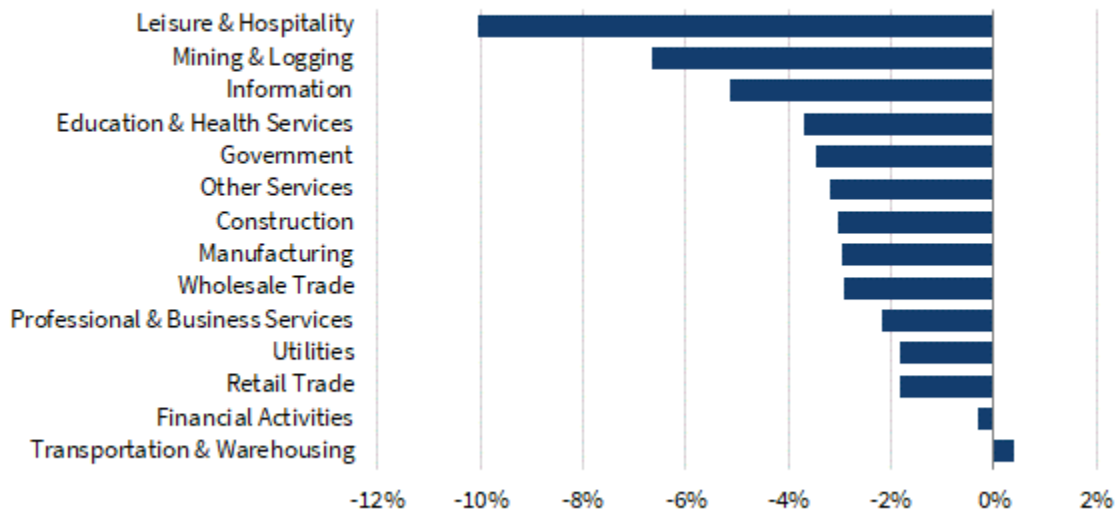
<sup>48</sup> <https://www.journalofhospitalmedicine.com/jhospmed/article/234348/hospital-medicine/analysis-hospital-resource-availability-and-covid-19>



service sectors where both workers and customers are concerned about their safety, leading to less labor supply and consumer demand. The 1.7 million fewer leisure and hospitality jobs than before the pandemic account for nearly one-third of the total job declines since February 2020 and represent a 10% decline from pre-crisis levels.

### Pandemic Employment Gaps Across Sectors

*Difference in employment, Feb. '20 to Aug. '21 (percent)*



Source: Bureau of Labor Statistics, CEA calculations.

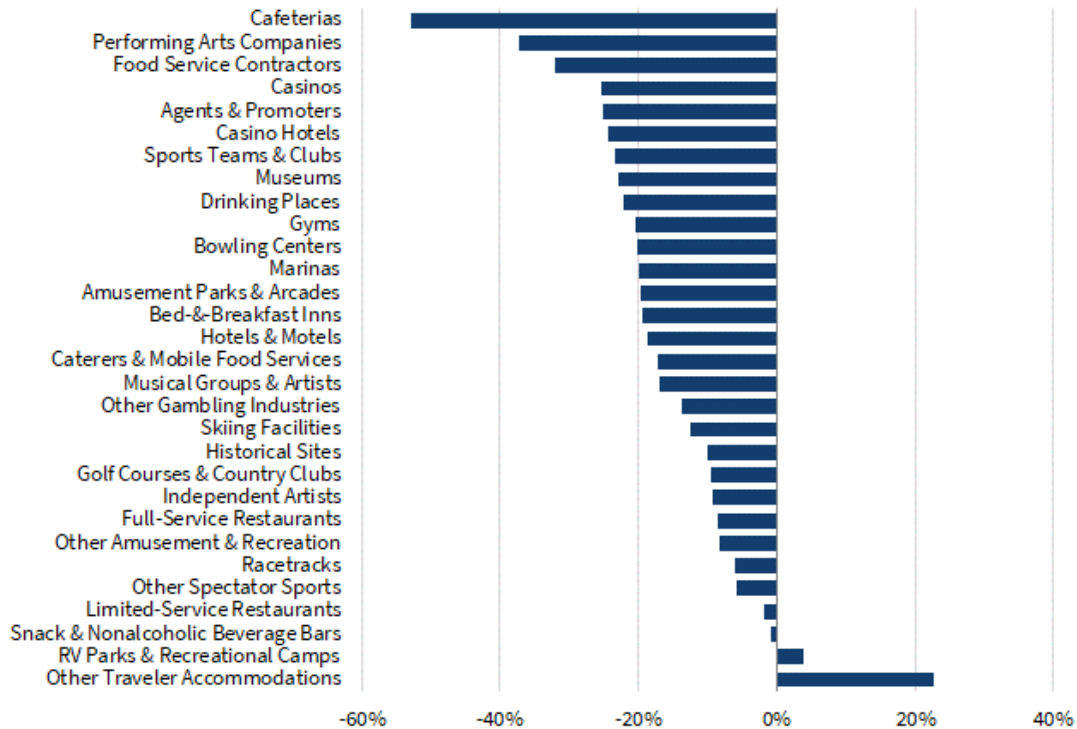
Figure 5

Substantial employment declines persist across nearly all leisure and hospitality industries.



## Pandemic Employment Gaps in Leisure & Hospitality Industries

Difference in employment, Feb. '20 to Jul. '21 (percent)

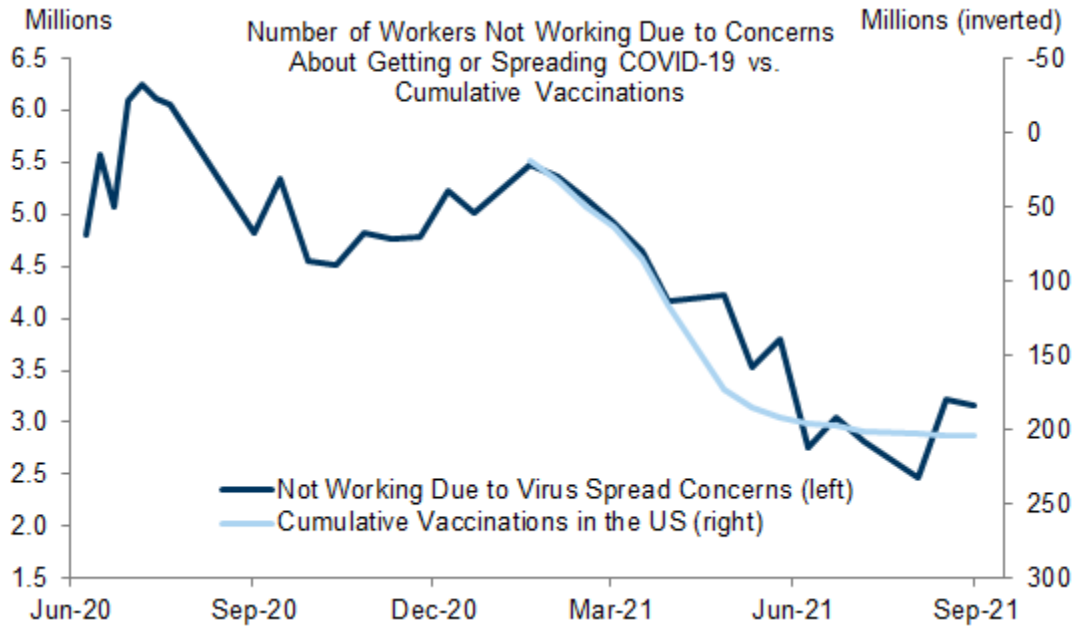


Source: Bureau of Labor Statistics, CEA calculations.

Figure 6

Other measures show similar pandemic-induced shortfalls in employment, with prime-age labor force participation down about one percentage point from pre-pandemic levels and overall labor force participation down about 1.6 percentage points.

As vaccination rates increased throughout the spring, a recent Goldman Sachs analysis showed there was a sharp decline in the number of people reluctant to return to the labor market due to the virus. In that analysis, the authors anticipated “that an increase in vaccination and almost full vaccination at workplaces should encourage many of the 5 million workers that have left the labor force since the start of the pandemic to return.”



Credit: Goldman Sachs  
Figure 7

Some employers have been hesitant to require vaccinations without collective action from the government or other employers. One survey, fielded in August 2021, showed that the top three concerns that were cited among employers regarding COVID-19 vaccination requirements were resistance from employees, impact on company culture/morale, and loss of staff.<sup>49</sup>

Government vaccination requirements can help employers overcome barriers to instituting their own vaccination requirements. If one firm requires vaccinations and others do not, workers who refused to get vaccinated can move to the firm that does not require vaccinations. However, if the government calls for vaccination requirements among whole industries or sectors, the risk to employers of employees leaving is mitigated, and the resulting level of vaccination is likely to be higher.

## Impact on Consumer Spending

Recent evidence suggests that geographic variation in vaccination rates may be driving regional variations in economic activity. For example, small business employee hours as measured by Homebase, a scheduling firm, grew faster and stayed higher during the rise of the Delta variant in the states that have higher working-age (18-64) vaccination rates, versus states with lower vaccination rates (see figure below). The post-May wedge that has opened up was not present in the months immediately before Delta.

However, note that the damage from increased case rates extends across the country. Hours have been falling in all four groups of states in absolute terms over the past two

<sup>49</sup> <https://www.littler.com/publication-press/press/littler-survey-employers-increasingly-consider-vaccine-mandates-covid-19>



months, even as the high vaccination states remain relatively better off. That shows that we are truly all in this together—and if we are able to increase vaccination rates across the country consistent with the highest vaccination states, the economic benefits will extend to every community.

### US Small Business Hours by State Vaccination Group

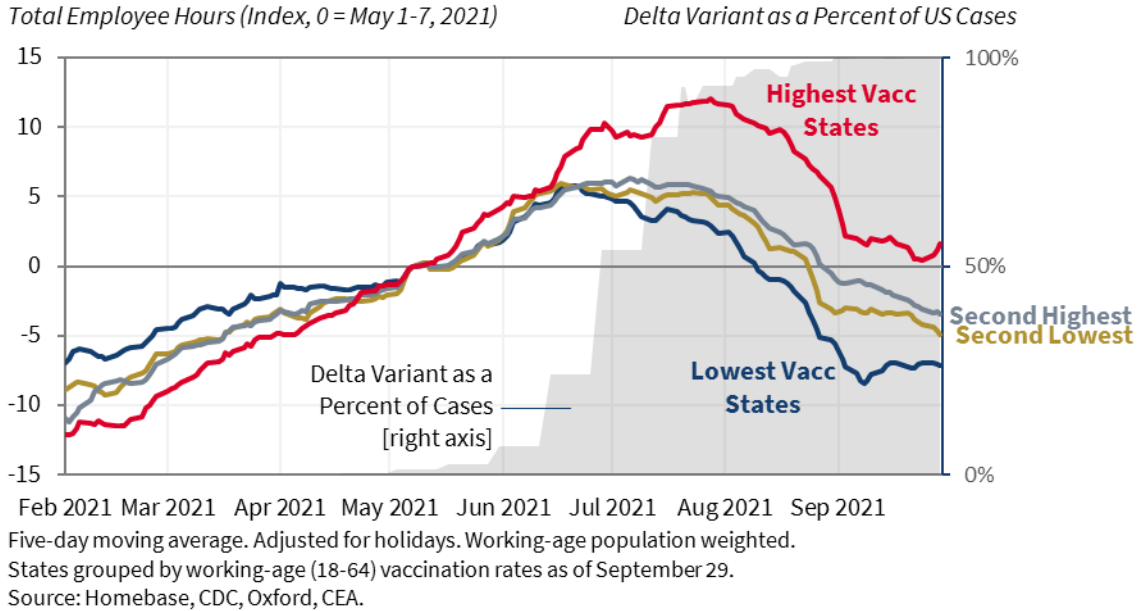


Figure 8

Over the same period, OpenTable reservations have opened up a small gap between the highest and the lowest vaccination states; pre-Delta, the highest vaccination states were relatively middle of the pack in OpenTable reservations (see figure below). But like small business hours, reservations have plateaued or even declined slightly in all four groups of states since July.

The difference between high vaccination states and low vaccination states is 5.9 percentage points between early May and September 29 (i.e., the highest vaccination states had grown 5.9 percentage points closer to pre-pandemic OpenTable bookings than lowest vaccination states.) Similar to the Homebase data, Delta-driven declines extended everywhere, showing that increasing vaccination coverage nationwide will help build consumer confidence and spending and drive growth in every community as well.



## OpenTable Reservations by State Vaccination Group

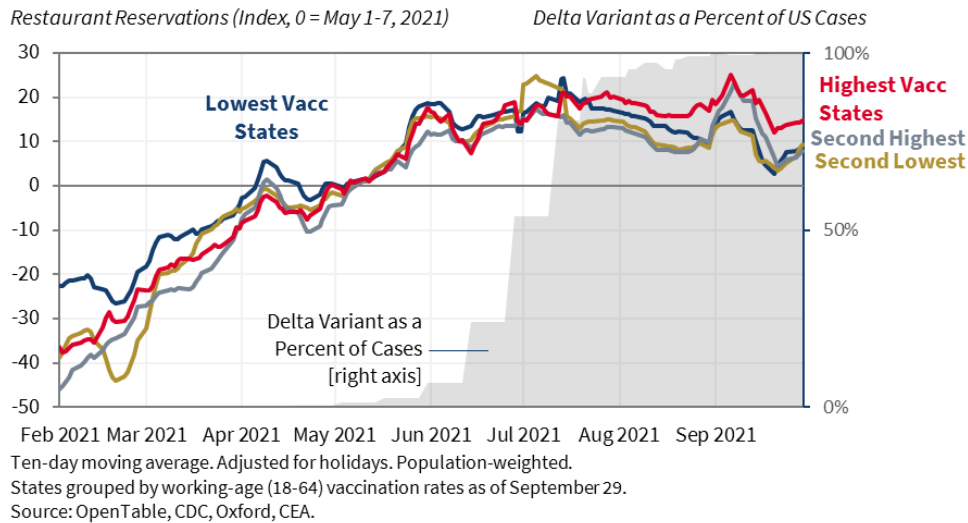


Figure 9

Both of these analyses are consistent with a tangible link between vaccinations and economic activity, but also suggest that common factors, such as media reports of surges in infections, hospitalizations, and deaths, play a role in impacting economic activity too.

Moreover, it is not just the direct impact of COVID-19—sickness, hospitalization, and death—that has economic costs, but the indirect impacts as well, such as consumer fear and social distancing. A 2020 study found that the lion’s share of the decline in economic activity early in the pandemic was caused not by lockdowns or other legal restrictions, but by concerns about infection risk.<sup>50</sup>

At the outset of the pandemic, the University of Michigan Consumer Sentiment Index—a measure of consumer confidence—dropped by nearly 30%. It had fitfully regained nearly half of that decline by spring of 2021, but then dropped to a pandemic low during the spread of Delta to about 30% below pre-pandemic levels in August.

For these reasons, economies across the world were severely disrupted by the onset of the COVID-19 pandemic. Before the pandemic, the U.S. Congressional Budget Office (CBO) projected that the U.S. economy would grow by 2.2% in inflation-adjusted terms in 2020, whereas real GDP actually contracted by 2%.<sup>51,52</sup> Though today the U.S. economy is now bigger than it was just before the pandemic, it is still more than 2% smaller than CBO had projected it would be at this time—the equivalent of about \$450 billion of reduced annual output.

<sup>50</sup> <https://www.sciencedirect.com/science/article/abs/pii/S0047272720301754>

<sup>51</sup> [https://www.cbo.gov/publication/56073#\\_idTextAnchor074](https://www.cbo.gov/publication/56073#_idTextAnchor074)

<sup>52</sup> <https://www.bea.gov/news/2021/gross-domestic-product-4th-quarter-and-year-2020-advance-estimate>



Economic forecasts for the upcoming fiscal year have been revised down recently, largely due to the spread of the Delta variant.<sup>53</sup> Restaurant reservations, hotel reservations, and hotel occupancy have also recently decreased—again, likely because of the Delta variant. In August 2021, growth in nonfarm employment in the U.S. slowed to 235,000—a decline of 73% from the monthly rate of 876,000 from May to July. One should never overinterpret a single month of jobs data; that said, some of the slowdown in the August recovery likely stems from continuing COVID-induced labor market disruption.

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<sup>53</sup> [https://www.nabe.com/NABE/Surveys/Outlook\\_Surveys/september-2021-Outlook-Survey-Summary.aspx](https://www.nabe.com/NABE/Surveys/Outlook_Surveys/september-2021-Outlook-Survey-Summary.aspx)



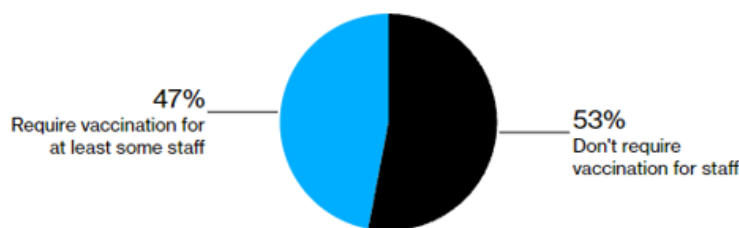


## Public Support for Vaccination Requirements

In the days and weeks ahead, it is anticipated that additional organizations will announce vaccination requirements or the results of requirements currently in progress.

Under the President's Executive Order, federal contractors have until December 8 to ensure their workers are fully vaccinated. The Department of Labor and OSHA are moving forward to issue a rule applying to employers with 100 or more workers that will be finalized in the weeks ahead. According to Bloomberg News, as of early September, roughly half of all companies in America with 100 or more employees had announced a vaccination requirement for workers.

Figure 10: Share of companies with vaccination requirements



Source: Company press releases, news stories and Bloomberg reporting

In the weeks since the President laid out vaccination requirements, major companies have taken steps to implement the President's requirements, including 3M, AT&T, and Procter & Gamble. America's largest aerospace and defense companies—Lockheed Martin, Raytheon, and Northrop Grumman—also announced they will move ahead to implement vaccination requirements.

Since the President's September 9 announcement around vaccination requirements, numerous public, non-partisan polls including Fox News, Gallup, and the Associated Press show considerable support for the President's plan to require vaccinations in different settings.

According to Fox News, nearly 60% of Americans support the federal government requiring federal employees to be vaccinated and 56% support businesses requiring workers to be vaccinated or regularly tested. According to Axios, a majority of Americans, 60%—including a majority of voters—support vaccination requirements for federal workers as well as private companies. According to Gallup, roughly six in 10 U.S. adults are in favor of vaccination requirements for federal government workers, employees of large companies, and workers at hospitals that receive federal health care funds.



### Americans Favor Worker Vaccine Requirements in Biden COVID-19 Plan

Now thinking about President Biden's new plan to deal with the coronavirus, do you favor or oppose each of the following elements of that plan?

	<b>Favor</b>	<b>Oppose</b>
	<b>%</b>	<b>%</b>
Requiring all federal government employees to be vaccinated against COVID-19	60	40
Requiring companies with 100 or more employees to have all their employees vaccinated against COVID-19, or be tested weekly for it	58	42
Requiring hospitals and other healthcare facilities that receive Medicare or Medicaid reimbursement money to have all their employees vaccinated against COVID-19	63	37
Requiring companies with more than 100 employees to provide paid time off for employees to get vaccinated or to recover from vaccine side effects	68	32

GALLUP PANEL, SEPT. 13-19, 2021

Figure 11, Credit: Gallup



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