

# COVID-19 and the Missouri Workforce



## Executive Summary

As of February 2022, roughly 1 in 6 Missourians (~1,091,000) have been confirmed to have been infected with SARS-CoV-2, the virus responsible for COVID-19. The COVID-19 pandemic has had broad impacts on a variety of industries, including healthcare, manufacturing, and agriculture, which has accelerated shifts in commerce and employment-seeking. Twenty-two states employ state-level safety measures approved by the U.S. Occupational Safety and Health Administration (OSHA), which recommends health and sanitary measures to prevent the spread of infections. Trends toward automation and remote work have accelerated during the pandemic, and technology-related skills are likely to remain in high demand.

## Highlights

- The Occupational Safety and Health Administration (OSHA) has recommended face coverings, frequent testing, and social distancing as workforce mitigation strategies for the COVID-19 pandemic.
  - Missouri currently has a 55% vaccination rate across all eligible groups. Unvaccinated persons are at a 23 times higher hospitalization risk during the spread of the Omicron variant of COVID-19.
- COVID-19 has had negative impacts on the Missouri economy and workforce, including:
  - Outbreaks and supply chain issues have led to delays and increased prices in the manufacturing of goods and agricultural/food products.
  - Healthcare workers report higher levels of stress, anxiety, and burnout.
- Employment levels in Missouri have improved over the course of the COVID-19 pandemic, but have not returned to pre-pandemic levels.

## Limitations

- While pre-existing trends in job mobility were accelerated during the pandemic, it is yet unclear how long these trends will continue and/or decline.

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## Research Background

### Vaccination Rates & the Omicron Variant

As of February 2022, 55% of the population in Missouri has completed a vaccination series against COVID-19, including 21% of Missourians receiving a third dose (booster).<sup>1</sup> A recent study of 192 countries has shown that roughly 80% of individuals vaccinated is the minimum level to provide sustained reductions in the number of total infections and deaths from COVID-19.<sup>2</sup> Since 2019, the SARS-CoV-2 virus has continued to evolve, generating variants of increasing transmissibility, such as Delta and the recent Omicron variant.<sup>3</sup> This has resulted in

more than half of Americans reporting perceptions of large or moderate risk when participating in economic enterprises like airplane travel or general pre-COVID life activities.<sup>4</sup>

Unvaccinated individuals are 3.6 times more likely to be infected with the Omicron variant and 23 times more likely to be hospitalized than persons fully vaccinated and boosted against COVID-19.<sup>5</sup> Recent reports from the Centers for Disease Control and Prevention (CDC) have shown that Delta infection may provide better protection against re-infection with the Delta variant than double-vaccination alone.<sup>6</sup> However, this does not apply to other variants of COVID-19, including Omicron (which at publication accounts for 99% of current infections).<sup>5,6</sup> The CDC still recommends vaccination as the best way to reduce the severity of COVID-19 infections and hospitalization risk.<sup>5,6</sup>

For more information about the COVID-19 vaccine and efficacy of mitigation measures such as masks, see our note on [COVID-19 Delta Variant & Vaccine Efficacy](#).

### **Workplace Safety Practices & Requirements**

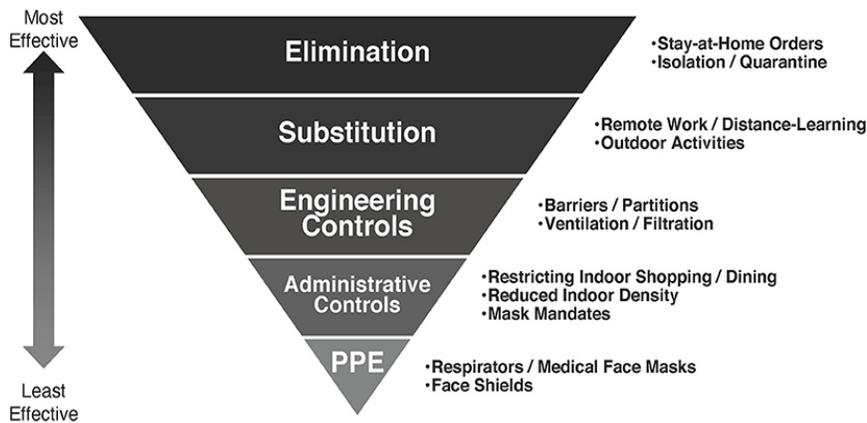
The U.S. Occupational Safety and Health Administration (OSHA) has recommended the following recommended work safety measures regardless of vaccination status as of August 2021<sup>7</sup>:

- Wear a mask in public indoor settings in areas of substantial/high transmission.
- Wear a mask regardless of level of transmission if particularly at risk.
- Get tested 3-5 days following a known exposure to someone with suspected/confirmed COVID-19, and wear a mask in public indoor settings for 14 days after exposure or until a negative test result.

OSHA also requires employers to make the following accommodations and steps for indoor work safety<sup>7</sup>:

- Facilitate employees getting vaccinated (paid time off for vaccination).
- Instruct any workers with known exposure to COVID-19 to stay home from work.
- Implement physical distancing for workers (particularly if unvaccinated).
- Provide workers with face coverings.
- Educate workers about COVID-19 policies/procedures.
- Suggest or require business patrons to wear masks.
- Maintain good ventilation systems.
- Perform routine cleaning/disinfecting.
- Record and report workplace COVID-19 infections and deaths.
- Implement protections for workers to voice concerns about COVID-19 related hazards.

Another study has recommended various levels of workplace controls that can be prioritized in mitigating workplace infection spread (**Figure 1**).



**Figure 1. Levels of administrative controls for the workplace.** The pyramid illustrates in descending order the types of controls most effective or feasible to reduce interpersonal interactions and prevent COVID-19 spread.<sup>10</sup> Illustration from the journal *Frontiers in Public Health*.

Twenty-two states and territories (including neighboring IA, KY, and TN) maintain state-level OSHA-approved plans for both private and government employees, and a further six (including Illinois) maintain plans for government employees only.<sup>8</sup> All others (including Missouri) fall under federal OSHA jurisdiction for both private and government employees.

One study showed that while 1 in 4 workers in the U.S. have been required to vaccinate as a result of employer requirement, only 5% of unvaccinated workers say they have left job as a result of vaccination requirements.<sup>9</sup>

### Effects of COVID-19 on the Workforce

The following is a sample of a few industries for the Missouri workforce. For more information about the effects of COVID-19 on the education workforce, see our Science Note on [COVID-19 & K-12 Education](#).

#### Healthcare Workforce (HCW)

Healthcare has gone through many changes and challenges during and as a result of the COVID-19 pandemic.<sup>11</sup> In addition to overall elevated levels of infections, an estimated 690,000 hospitalizations were preventable by vaccinations. Estimated preventable costs on both private and tax-payer-funded medical insurance are upwards of \$13.8 billion over a six-month period.<sup>12</sup> Furthermore, 75% of patients with COVID-19 were hospitalized primarily due to infection with SARS-CoV-2.<sup>12</sup>

Healthcare employment has generally not recovered to pre-pandemic levels, including 35% more job resignations despite higher pay since the start of the pandemic, and nursing and community care facilities in particular have had sustained losses (between 13-14%) since the start of the pandemic.<sup>13</sup> Given high reported healthcare workloads, increasing rates of emotional and physical exhaustion have been documented amongst the workforce. One Missouri study of university hospital workers found that 13% of respondents reported moderate to high levels of stress, 13% reported anxiety, 15.9% reported depression, and 43% reported high work exhaustion while on duty during the COVID-19 outbreak.<sup>14</sup> Of the HCW, 53% report at least one mental health condition, such as depression, anxiety, and burnout, as

well as recognition of COVID-19 as a difficult to prevent occupational hazard. These have major consequences on the quality of care and safety of all patients.<sup>11</sup>

### Agricultural & Food Production Workforce

COVID-19 has impacted agricultural output nationwide. A retrospective report on 2020 crop yields showed that even in a drought year, COVID-19 had a more outsized effect on decreased wheat output than decreased water supply, particularly in northern Missouri counties where drought was virtually nonexistent.<sup>15</sup> Further, lower-wage, closer proximity work in meat processing and farm facilities has made COVID-19 mitigation difficult; facilities in the beef, pork, and poultry industries in Missouri have experienced large COVID outbreaks.<sup>16</sup> In 2020, the agriculture industry grew minimally, with growth concentrated primarily in the support sector (which includes equipment operators, farm laborers, ranch-hands, agricultural sorting, and supervisors) according to the Department of Higher Education & Workforce Development.<sup>17</sup>

Another 2020 study determined that disruptions to farming material supply chains (including pesticides, fertilizers, seeds, and PPE) and labor disruptions to migrant workers (e.g., travel bans and missed work related to worker exposures), were the largest contributors to agricultural production losses.<sup>18</sup> Many factors, from lower inventory and COVID-19 shipping delays to employment shortages, have been contributed to a 26.7% increase in farm product prices in 2021.<sup>19</sup> Further, it was found that up to 50% of the agricultural workforce had exposure risks associated with their jobs, especially when jobs had frequent physical contacts with other workers of unknown COVID-19 status (due to working, living, and transportation situations, etc.).<sup>18</sup> Black and Latino frontline workers in particular are also overrepresented in jobs associated with high exposure risk and fewer COVID-19 workplace protections.<sup>16</sup>

### Manufacturing Workforce

Missouri is ~2,500 jobs short of pre-pandemic levels in the field of manufacturing, but wages have increased nearly 4%.<sup>19</sup> Manufacturing sectors have also suffered from supply chain disruptions. Re-engagement with domestic/localized supply sources, use of “big data” analytics to observe real-time changes and delays in supply chains, engagement and cooperation with new suppliers (particularly in the automobile industry), expansion of digital technologies for digital marketplace activities, personnel tracking for quarantining (particularly in the airline industry), and increased reliance on automation have been implemented to attempt to minimize manufacturing disruptions.<sup>20</sup>

### **Workforce Metrics and Changes in Workforce Patterns**

In 2021, Missouri’s unemployment rate was ~4.5%, which, while improved from 6.5% in 2020, was higher than the pre-pandemic unemployment rate of 3.5%. From July 2020 to July 2021, Missouri added 84,000 jobs, increasing employment by 3.0%. Further, wages increased 5.4% from 2019 to 2020, a partial result of the protections provided by the federal 2020 Coronavirus Aid, Relief, and Economic Security (CARES) Act.<sup>17</sup>

COVID-19 has accelerated several broad trends, including the shift to both remote work (telework/telehealth) and shopping (e-commerce), and an acceleration of the use of automation and artificial intelligence in manufacturing, retail, and customer service.<sup>21</sup> Since 2018, several areas have experienced declines in employment, including customer service, food service, warehousing and production, and office support staff. It is estimated that up to 25% of workers in these industries are likely to switch occupations and need new training in the future.<sup>21</sup>

Changes in worker sentiment upon returning to work during COVID-19 include: 1) better work-life balance, 2) better chances for personal growth, 3) changes in team dynamics and 4) satisfaction in the hybrid work model as a way to transition to in-office activities.<sup>22</sup> Several trends, including uncertain job security, unpaid overtime (particularly for hybrid workers), issues with proper pay and payment schedules, pay gaps between men and women, and “future-proofing” of jobs (particularly in younger workers), have been noted as reasons for workers to seek other jobs, a process coined the “Great Resignation.”<sup>23</sup> It is yet unclear how long these trends will continue after the COVID pandemic has stabilized.

Since the start of the pandemic, Missouri’s biggest job losses have occurred in the fields of arts, entertainment, recreation, hospitality, and food services. Conversely, the fields most in demand based on online advertisements have been in the sectors of healthcare, retail sales, sales & customer service representatives, transportation, and computer software & web development.<sup>17</sup> Unemployment was highest amongst women during the pandemic, and school K-12 reopenings have been associated with significant increases in employment hours among married women with school-aged children, particularly for women with older children.<sup>24</sup>

## Legislation

As of February 2022, masking is required in indoor public spaces in 12 states, and a further 22 states (including Illinois) require vaccinations (with exemptions) for employment or education in certain fields (particularly working for the state and healthcare workers).<sup>25</sup>

Federal legislation for worker protections and securities in 2020 included the Coronavirus Preparedness and Response Supplemental Appropriations Act and the Families First Coronavirus Response Act. The most recent and comprehensive legislation is the Coronavirus Aid, Relief, and Economic Security (CARES) Act, which included funding for paid sick leave, insurance coverage of coronavirus testing, nutrition assistance, support for the global response, and other health-related provisions.<sup>26</sup>

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