Research on **Paid Leave** in Missouri

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Executive Summary

This study examines Missouri workers current access to paid sick leave and potential economic and health impacts of expanded access to short-term, paid sick leave for one's own health needs or to attend to the needs of a family member or loved one. Particular attention is given to the availability of paid leave for different groups of workers, including essential workers, by occupation, and among women, individuals with low incomes, and racial and ethnic minority populations.

The research, which utilizes the U.S. Department of Labor Microsimulation Model on Worker Leave (*Worker PLUS*), generates robust estimates of all formally employed Missourians without access to paid sick leave and those who had access to the Families First Coronavirus Response Act (FFCRA; Study 1); examines the society-wide and employer costs and benefits of three hypothetical statewide paid sick leave programs (Study 2); and estimates the percent of Missourians employed in the private sector who lack access to paid leave and would use paid sick leave under a hypothetical state program and their demographic, socioeconomic, and employment characteristics (Study 3).

Literature Review: Health and Economic Outcomes of Access to Paid Leave

- Research indicates that access to paid sick leave has direct and long-term positive effects on worker health and the health of workers' families.
- Workers with paid leave make long-term investments in their health and are more likely to report they are in good health, compared to those without access to paid sick leave.[1]
- Employees without paid sick leave are more likely to face higher annual health care costs, economic hardship (e.g., food insecurity and income below the poverty threshold), and struggle to afford prescription medicine, dental care, visits to a specialist, and mental health care.[2]

Study 1: Predicted Lack of Access to Paid Leave and Eligibility for the FFCRA

- Among public and private sector Missouri workers who live and work in the state, 345,777 are estimated to lack access to paid leave (189,183 females and 156,594 males).
- The estimated lack of access to short-term paid leave among all public and private sector Missouri workers and Missouri essential workers differed by sex, race/ethnicity, educational attainment, occupational prestige, and household income.
    - Lack of access to paid leave was higher among females than males.
    - Lack of access to paid leave was highest among American Indian/Alaska Natives and Other and lowest among whites and Asians; Black and Hispanic workers were in between.
    - Among public and private sector Missouri workers, lack of access to paid leave was highest among those with the least educational attainment, those with service-oriented occupations, and those with the lowest household income.
- The estimated lack of access to short-term paid leave among Missouri public-facing essential workers revealed discrepancies between management and front-line workers.
    - For individuals employed in education and child care, lack of access to paid leave was highest among those employed in child care compared with those employed in education and as education and child care managers.
    - Nurses had higher lack of access to paid leave than doctors and medical managers.

    - Emergency medicine directors and front-line workers had approximately equivalent lack of access to paid leave.
    - Retail and food service workers had greater lack of access to paid leave than retail and food service managers.
- Worker PLUS estimates of Missourians' access to FFCRA varied by Missouri workers' sex, race/ethnicity, education, and household income, however there is no clear indication that those most likely to lack access (e.g., those with less education and lower household incomes) had greater predicted access.
    - More males were predicted to be eligible for FFCRA than females (54% versus 46%, respectively) and of those eligible, 81% were White.
    - Of those eligible for FFCRA, 28% had income less than $50,000 and 37% earned between $75,000 and $150,000.

Study 2: Estimating Society-Wide and Employer Costs and Benefits of Paid Sick Leave Proposals

- The cost-benefit analysis takes advantage of the new generation of research on paid leave that compares outcomes under conditions of the presence or absence of paid sick leave mandates (in contrast to the presence or absence of employer-provided paid leave).
- The analysis indicates that while employers bear costs associated with paid sick leave mandates, cost-savings, or benefits, also accrue through workplace improvements (e.g., reduced absenteeism, reduced health care costs due to employee influenza, reduced workers' compensation).
- Cost-savings also accrue to society through spillover effects including reduced flu prevalence among the population, fewer emergency room (ER) visits from delayed care, and low economic productivity associated with sick workers.
- Cost estimates to employers and society include the actual cost of covering paid sick leave and paid leave related to domestic violence, state administration and enforcement costs, and employer administration and compliance costs.
- Based on the cost-savings and cost estimates, the three hypothetical paid sick leave mandates considered in this analysis (days of paid leave provided by small employers/days of paid leave provided by large employers: 0/3, 3/5, and 5/7) would generate net society-wide benefits.
- For employers, the 0/3 and 3/5 hypothetical mandates produced a net benefit but the 5/7 mandate did not.

Study 3: Estimating Private Sector Missouri Workers Lack of Access to Paid Leave and New Instances of Paid Leave Taken Under 3/5 Policy Scenario

- Among private sector workers who work in Missouri, including those who live in the state and those who commute across state lines, 211,020 are estimated to lack access to paid leave (102,531 females and 108,489 males).
- The estimated lack of access for short-term paid leave among private sector workers employed in Missouri revealed differences by socio-demographic characteristics.
    - The lack of access to paid leave was approximately equal between private sector female and male workers.

    - The lack of access to paid leave was highest among other racial groups, Hispanic, and Black Missouri private sector workers and lowest among Asian and white private sector workers. Native American/Alaska Natives were in between.
    - The lack of access to paid leave increased as household income and educational attainment decreased for all private sector workers employed in Missouri.
- Utilization of a hypothetical state mandated paid leave program by private sector workers employed in Missouri showed differences by socio-demographic characteristics.
    - Estimated utilization rates for male and female private sector workers were approximately equal.
    - Estimated utilization rates are higher for Black, Hispanic, American Indian/Native American and other racial group Missouri workers compared to white and Asian Missouri private sector employees.
    - Estimated utilization varies slightly by household income and decreases as educational attainment increases.
- Estimates of lack of access to paid leave and utilization of a hypothetical paid leave program are both relatively high for Missouri private sector workers employed in: mining, quarrying, and oil and gas extraction; arts, entertainment, and recreation, and accommodation and food Services; and, construction.

Introduction

Purpose of the Research

In August 2021, Missouri Foundation for Health contracted with the MU Institute of Public Policy to conduct an extensive study of paid leave in Missouri. The primary focus of this study is to examine current access to and potential (economic/health) impacts of expanded access to short-term, paid sick leave for one's own health needs or to attend to the needs of a family member or loved one. Particular attention is given to the availability of paid leave for different groups of workers, including essential workers, by occupation, and among women, individuals with low incomes, and racial and ethnic minority populations. The project was motivated in part by findings from past research demonstrating favorable health and economic outcomes for workers with paid sick leave compared to workers without.

Definitions and Key Terms

This section provides a brief introduction to several key terms used throughout this report related to paid leave and associated concepts. Programs and policies distinguish between different forms of paid leave offered to workers based on the reason for the leave and the funding mechanism that pays for the leave. Short-term paid sick leave is the focus of this analysis.

Key Term	Length	Reasons	Paid for by	Wage Replacement
Paid sick leave	Short-term leave (24-80 hours)	Own illness or family member	Employer	100%
Paid family or medical leave	Long-term leave	Own long-term illness, family illness, parental leave	Payroll tax	Typically 50-67%
Family Medical Leave Act (FMLA)	Long-term leave	Own long-term illness, family illness, parental leave	Unpaid	N/A

Key Term	Definition
Paid leave mandates	State and local government requirements that certain employers provide paid leave to their employees[3]
Presenteeism	Employees are present but unable to fully function due to illness[4]
Absenteeism	Employees are absent from work, generally used to refer to absences for health reasons[5]

Literature Review: Outcomes Associated With Paid Sick Leave

This section briefly reviews literature regarding prominent outcomes associated with access to paid sick leave and provides context for the impact of paid sick leave and our estimates of the costs and benefits associated with a hypothetical paid leave mandate in Missouri.

Health Outcomes for Workers With and Without Employer-Provided Paid Sick Leave

Research indicates that workers with paid sick leave are more likely to report they are in good health, than those without paid sick leave.[6] They are able to make long-term investments in their health, such as flu vaccines or preventative care. They are also more likely to talk to a doctor and are less likely to be injured at work or use emergency care.[7,8,9] The more paid sick days workers have access to, the more likely they are to utilize preventative services, and are less likely to delay medical care for themselves or their family.[10] Employees with paid sick leave are more likely to report flu-like symptoms to employers and are less likely to come to work sick, reducing the likelihood of other workers becoming ill.[11] Children of workers with paid leave are more likely to see a doctor and more likely to stay home when sick.[12] One study suggests that the absence of paid sick leave is associated with higher mortality. In an 11-year follow-up study of workers aged 18-85, those employees with paid sick leave were 10% less likely to have died compared to those without paid sick leave, after controlling for age, gender, income, and chronic disease status, and survey year.[13] Based on this research, paid sick leave appears to be associated with long-term positive effects on worker health and the health of their families.

The effects of paid leave on the physical and economic health of workers are not evenly distributed. The disparities in access may be made greater due to disparities in need. Unpaid FMLA leave requires a certain size of employer and for the worker to have been with that employer for at least 12 months and 1,250 hours. Research indicates that these stipulations disproportionately exclude women, particularly Black and Hispanic women, and Black and Hispanic men compared to White men, as they are more likely to work part-time.[14] Because Black and Hispanic workers tend to earn less than White workers, they are also less likely to be able to afford to take leave, even when they may be eligible.[15]

Economic Outcomes for Workers With and Without Employer-Provided Paid Sick Leave

Employees without paid sick leave are more likely to face higher annual health care costs, face economic hardship, such as food insecurity and income below the poverty threshold, and report struggling to afford necessary health care like prescription medicine, dental care, visits to a specialist, or mental health care.[16] Workers without paid leave are also more likely to worry about their finances and are more likely to leave their jobs, which may compound personal economic precarity and result in additional costs for employers associated with workplace turnover.[17,18] One study estimated that U.S. employers could have saved between $630 million and $1.88 billion in 2016 dollars, due to reduced contagion and subsequent absences from work, if people without paid sick leave gained access.[19] The benefits of paid sick leave may also extend to government cost savings. People without paid sick leave were between 1.3-1.4 times as likely to require various welfare services, such as transportation, rental assistance, and child care supports, as those with paid sick leave, after controlling for factors including work status and income. This is likely due to the fact that those without paid sick leave had greater wage loss when they were absent from work.[20] This literature highlights the need to examine the observed impact of policy implementation on leave-taking behaviors, economic impacts, and health effects.

Health Outcomes for Workers With and Without State- and City-Mandated Paid Sick Leave

Research on state- and city- mandates allows for a better understanding of the causal impacts from paid leave programs. The research presented below examines the association of paid leave and health and economic outcomes when the paid leave is mandated by state and local governments and often compares outcomes to a relevant control group that did not attain paid leave under the mandate. As discussed in the definitions section above, mandates require certain employers to provide their employees with paid sick leave. Employees with paid sick leave as part of an employment contract were more likely to take advantage of preventative health care services – including use of mental health care, flu vaccines, Pap smears, dental visits and check-ups – after mandates went into effect in Minnesota and Connecticut.[21] Additionally, workplace injuries decreased more quickly in Connecticut after its mandate went into effect than in nearby states without mandated paid sick leave, and decreased more rapidly in industries that were subject to the law than in other industries.[22] [23] A 2021 study of ten state-level programs found a drop in influenza-like illness activity of 11%, based on the Centers for Disease Control (C.D.C.)'s weekly Influenza Surveillance Report.[24]

The effects of access to paid leave on the physical and economic health of workers are not evenly distributed. The disparities in access may be made greater due to disparities in need. While research on unpaid FMLA leave, which requires a certain size of employer and for the worker to have been with that employer for at least 12 months and 1,250 hours, indicates that these stipulations disproportionately exclude women, particularly black and Hispanic women, and black and Hispanic men compared to white men, as they are more likely to work part-time.[25] Since black and Hispanic workers tend to earn less than white workers, they are also less likely to be able to afford to take leave, even when they may be eligible.[26]

Economic Outcomes for Workers With and Without State- and City-Mandated Paid Sick Leave

Evaluations of the economic impact of paid sick leave policies at the state and local level have been limited and typically report mixed, small, or insignificant effects on the labor market. While some studies found minimal negative short-term effects on employment and wages,[27] other studies of state and local mandates reported no statistically significant impact of paid sick leave policies on employment rates or wages.[28] The most extensive of these studies is a 2020 working paper for the National Bureau of Economic Research which found no evidence of declines in wages or non-mandated benefits like vacation or holidays after mandates went into effect in several states. The study concluded that, on balance, mandates are welfare-improving due to the positive externalities created, as previously mentioned.[29]

More recently, the unequal conditions of employment created by COVID-19 raised new concerns about paid sick leave policies. The pandemic placed additional stress on already burdened systems (e.g., health care, education, child care), pulled essential workers into the spotlight, and amplified the problems associated with uneven access to paid sick leave, including disparities in infection rates, employment impacts, and workforce participation. Members of racial and ethnic minority groups were more likely to

have lost their jobs during the pandemic. Early studies show that although the difference between Black unemployment and white unemployment in April 2020 was not significantly different from pre-pandemic differences, the gap between Black and white unemployment rates increased over time. This was due to more Black workers choosing to exit the labor force, being moved from a temporary to a permanent layoff, or not getting hired back after spring layoffs throughout the summer and fall of 2020 when white workers were rehired at higher rates. The difference between Hispanic and white unemployment rates increased significantly in April 2020 and continued to be disproportionately higher for Hispanic workers than for white workers throughout the summer of 2020.[30]

The research reported below: 1) provides an overview of access to paid sick leave in the U.S. and Missouri; 2) describes the current landscape of local, state, and federal paid sick leave mandates, including the Families First Coronavirus Response Act (FFCRA); 3) summarizes prospects for expanded paid sick leave mandates; and, 4) reports findings from the U.S. Department of Labor Microsimulation Model on Worker Leave (hereafter referred to as *Worker PLUS*). These findings include estimates of formally employed public and private sector Missourians' access to paid leave and eligible Missourians' access to FFCRA (Study 1), results from a cost-benefit analysis of three short-term paid leave program options (Study 2), and estimates of private sector Missouri workers lack of access to paid leave and instances of new leave-taking behavior under a hypothetical statewide paid sick leave mandate (Study 3). All analyses maintain an intentional equity focus throughout and estimate variation in access to paid leave among different groups of workers.

Background: Paid Sick Leave in the U.S. and Missouri

Paid Sick Leave in the United States

Access to paid sick leave in the United States is highly uneven. Although some employers provide paid sick leave as part of employment, many American workers do not receive paid sick leave as part of their benefits package. Two long-published, high-quality surveys conducted by the federal government – the National Health Information Survey (NHIS) administered by the Centers for Disease Control and Prevention (C.D.C.) and the National Compensation Survey (NCS) directed by the U.S. Bureau of Labor Statistics – depict the national landscape of access to paid sick leave in the current policy context.

The NHIS is an annual survey that collects information about illness, insurance and health care access, and health services in the United States. Typically conducted through in-person interviews, the survey was modified during the COVID-19 pandemic to be a telephone-only survey for the second quarter (Q2) of 2020 and telephone-first for Q3-Q4 of 2020. These modifications reduced the response rate and skewed toward respondents that were relatively older and more affluent. The questions cover general health, specific categories of physical and mental health issues, health insurance coverage and utilization, access to care, work, home, and personal information, and information on income and food security. The NHIS provides the broadest view of who has access to paid sick leave in the United States.

Below we present NHIS data from 2019 and 2020 to show the percent of workers with access to paid sick leave by demographic, health, and occupational characteristics and region and urbanicity. It is important to note that the NHIS does not account for how workers come to have access to paid leave. For instance, access may be due to a local mandate or a private employers' benefit package for

employees. In 2020, access could have been due to the Family First Coronavirus Response Act of 2020 (FFCRA), which expanded access to paid sick leave and paid family and medical leave for reasons directly related to COVID-19. The NHIS also does not account for access to paid leave through this policy mechanism (i.e., FFCRA). Therefore, it is not possible to explain differences between access to paid leave between 2019 and 2020 on the basis of how workers come to have access in the first place.

For the analyses that follow, access to paid sick leave was determined with the question: "Regarding your job or work last week, is paid sick leave available if you need it?" The question was asked of adults 18 years of age and older "who were working last week, or who were not working because they were temporarily absent or performed seasonal work, contract work, or worked at a job or business but not for pay." The sample of workers characterized in Tables 1 through 4 includes employees of private companies and federal, state, and local government employees and excludes self-employed individuals and those working without pay for a family farm or business.

As shown in Table 1, in 2019, 62% of U.S. workers had access to paid sick leave and, in 2020, 73% of workers had access to paid sick leave. Further examination of the demographic characteristics of workers with access to paid sick leave indicates that paid sick leave is not equally available to all workers. By sex, there are virtually no differences in access within year; in 2019, 62% of both males and females had access to paid leave and, in 2020, 73% of males and 72% of females reported paid sick leave. Greater variation emerges by ethnicity and race with Hispanic workers having lower access in 2019 and 2020 than non-Hispanic workers and Asian workers having the highest access in both years compared with American Indian/Alaska Native workers, who had the lowest access (72% and 78% versus 56% and 70%, respectively). Rates of access to paid leave fluctuate modestly within year among Black, white, and other race/multi-race workers and range, in 2019, from 61% to 64% and, in 2020, from 72% to 74%.

Table 1 shows more pronounced variation in access to paid leave when considering educational attainment, citizenship status, and family income. For both 2019 and 2020, access to paid leave was lower among those with a high school diploma or less when compared to those with some college or more. Additionally, in 2019, 47% of workers without U.S. citizenship did not have paid sick leave; in 2020, this percent rose to 58%. NHIS data from both 2019 and 2020 also indicate that access to paid leave increases as family income increases. For instance, in 2019, 40% of families earning $34,999 or less annually had paid leave compared to 72% of families earning $100,000 or more.

Table 1: Percent of U.S. Workers with Sick Leave Availability [a] by Demographic Characteristics (NHIS)		
	2019	**2020**
Demographic Characteristics	**Percent With Paid Sick Leave**	**Percent With Paid Sick Leave**
Workers [b]	62%	73%
Sex		
Male	62%	73%
Female	62%	72%
Ethnicity		
Hispanic	54%	65%
Non-Hispanic	64%	75%
Race		
American Indian/Alaska Native only	56%	70%
Asian only	72%	78%
Black/African American only	64%	72%
Other (American Indian/Alaska Native and other group, other single and multiple races)	64%	74%
White only	61%	73%
Education		
High school graduate or less	51%	60%
Some college or more	68%	79%
U.S. Citizenship		
Not a U.S. citizen	47%	58%
Family Income		
$0 to $34,999	40%	46%
$35,000 to $49,999	52%	65%
$50,000 to $74,999	63%	72%
$75,000 to $99,999	70%	78%
$100,000 or greater	72%	83%

2019 N= 18,591

2020 N= 15,182

[a] Paid sick leave access determined with, "Regarding your job or work last week, is paid sick leave available if you need it?" Question asked of adults 18+ "who were working last week, or who were not working because they were temporarily absent or performed seasonal work, contract work, or worked at a job or business but not for pay."

[b] Includes employees of private companies, federal government employees, state government employees, and local government employees and excludes self-employed individuals and those working without pay for a family farm or business

Table 2 presents access to paid leave for U.S. workers by region and urbanicity. In both 2019 and 2020, workers in the West and the Northeast had the greatest access to paid sick leave (66% and 78%, and 66% and 75%, respectively) and those in the Midwest and the South had the lowest access (60% and 70%, and 59% and 70%, respectively). In both 2019 and 2020, residents of counties within metropolitan statistical areas, defined by the federal Office of Management and Budget as urban areas with a population of at least 50,000 people, were more likely to have paid sick leave than residents living in regions defined as rural (63% and 74% versus 56% and 65%, respectively).[31]

Table 2: Percent of U.S. Workers with Paid Sick Leave Availability by Geography (NHIS)		
	2019	**2020**
	Percent with PaidSick Leave	**Percent with Paid Sick Leave**
Workers	62%	73%
County Type		
Metropolitan	63%	74%
Non-metropolitan	56%	65%
Region		
West	66%	78%
Northeast	66%	75%
Midwest	60%	70%
South	59%	70%

Table 3 presents access to paid sick leave and select health-related measures of U.S. workers who participated in the NHIS. NHIS respondents' self-reports of health status in 2019 and 2020 indicate that workers who report fair or poor health are less likely to have access to paid sick leave than workers who report their health as good, very good, or excellent. In both 2019 and 2020, workers with health insurance were also more likely to have access to paid sick leave than workers without health insurance. Similar to NHIS shortcomings regarding how workers come to have access to paid sick leave, the NHIS also does not account for how workers have access to health insurance (e.g., through employment, through publicly-funded programs). Nonetheless, it is not surprising that access to paid sick leave for individuals with health insurance is slightly higher than overall access for workers (in 2019, 67% versus 62%, respectively) because employers who provide health insurance may also be more likely to provide access to paid sick leave.

Table 3 also includes access to paid sick leave and NHIS respondents' self-reports of their thoughts and behaviors concerning health care. In both 2019 and 2020, access to paid sick leave was higher among those who reported no worries about medical bills (66% and 76% versus 58% and 70%, respectively). Those NHIS respondents who reported delaying or skipping medical care because of costs had lower access to paid sick leave than either of the respondent groups previously described (45% and 58%). Combined with the disparities in access to paid leave among workers with and without health insurance, these descriptive findings about reluctance to utilize health care point to the importance of access to paid sick leave as a vital feature of the health care ecology. We cannot speculate on the inter-relations among access to paid sick leave, access to health insurance, and ability to attend to one's health care needs without psychic and financial worry but it seems likely that they are inter-related in expected ways. That is, not having access to health insurance and paid sick leave will make a person more likely to delay seeking health care because of the trade-offs between paying out for health care and losing income due to missing work.

Also shown in Table 3, in 2019 and 2020, access to paid sick leave among those with child and older-adult caregiving responsibilities did not vary considerably from the overall rate of access to paid sick leave for workers (62% and 73%, respectively). For those with at least one child at home, access was 62% in 2019 and 72% in 2020, and for respondents 65 years or younger with at least one adult older than 65 in the home, access to paid leave was 59% in 2019 and 69% in 2020.

In 2020, the NHIS asked a set of employment-related questions associated with COVID-19. Of interest here are the findings about access to paid sick leave and the presence of social-distancing measures in effect at the workplace. As presented in Table 3, for respondents who reported social distancing measures at their workplace, 74% had access to paid sick leave versus 45% of those who reported no social distancing measures in effect at their workplace. The presence of social-distancing measures at work is an interesting proxy for occupational category of work performed; Table 4 presents access to paid sick leave by occupational category in 2020 (comparable data from 2019 were not available).

Table 3: Percent of U.S. Workers with Paid Sick Leave Availability by Health Characteristics (NHIS)		
	2019	**2020**
Employee Health Characteristics	**Percent With Paid Sick Leave**	**Percent With Paid Sick Leave**
Workers	62%	73%
Self-Described Health		
Good, very good, or excellent	63%	73%
Fair or poor	51%	63%
Health Insurance		
Insured	67%	77%
Uninsured	30%	41%
Thoughts and Behaviors about Health Care		
Not at all worried about medical bills	66%	76%
Very or somewhat worried about medical bills	58%	70%
Delayed or skipped medical care due to cost	45%	58%
Caregiving Responsibilities		
At least one child in the home	62%	72%
At least one person older than 65 in home (respondents 65 and under)	59%	69%
Social Distancing Measures in Effect at Workplace		
Yes	N/A	74%
No	N/A	45%

As shown in Table 4, the level of access to paid sick leave varies widely between and within different occupational categories. The percent of workers with the uniformly highest access to paid sick leave is among Management, Professional, and Related Occupations (ranging from 76% to 91%). For those in Service Occupations, access to paid sick leave fluctuates from lows of 42% and 43% among workers in personal care and service and food preparation and serving-related, to highs of 80% and 86% for workers in protective service and community social services. Similar fluctuations in access to paid sick leave emerge in Health Care Occupations (59% to 82%), Arts and Sciences Occupations (69% to 89%), and Physical Occupations (38% to 74%). Interestingly, some of the occupations with the lowest levels of access to paid sick leave include those with a high level of contact with the public, such as personal care and service – which includes the sub-category of childcare workers – and food preparation and serving. This fact poses a special concern as workers in public-facing occupations are more likely to be infected and unknowingly spread contagious disease.[32]

Table 4: Percent of U.S. Workers with Sick Leave Availability by Occupations of U.S. Workers (NHIS, 2020 only)	
	2020
Employee Occupation	**Percent With Paid Sick Leave**
Workers	73%
Management, Professional, and Related Occupations	
Architecture and engineering	91%
Computer and mathematical occupations	91%
Legal	91%
Business and financial operations	89%
Management	87%
Office and administrative support	76%
Service Occupations	
Community and social services	86%
Protective service	80%
Sales and related	69%
Building and grounds cleaning and maintenance	58%
Personal care and service	43%
Food preparation and serving related	42%
Production Occupations	
Production	68%
Health Care Occupations	
Healthcare practitioners and technical	82%
Healthcare support	59%
Arts and Sciences Occupations	
Life, physical, and social science	89%
Education, training, and library	86%
Arts, design, entertainment, sports, and media	69%
Physical Occupations	
Installation, maintenance, and repair	74%
Transportation and material moving	59%
Construction and extraction	48%
Farming, fishing, and forestry	38%

As shown in Table 5, the U.S. Bureau of Labor Statistics' National Compensation Survey (NCS) revealed different estimates of American workers access to paid sick leave than the NHIS results reported above.[33] The NHIS indicated 62% (2019) of all U.S. workers have access versus 79% of all workers in the NCS. This difference in access to paid sick leave could be due to two factors. First, the C.D.C. and the U.S.

Bureau of Labor Statistics survey different populations. The NCS gathers data directly from employers, rather than the general public, as the C.D.C.'s NHIS does. This approach is a unique characteristic of the NCS methodology because it yields employer-reports of workplace characteristics not captured by the NHIS, such as workplace size. A second reason discussed later in this report is that a disconnect can exist between the availability of paid sick leave at a workplace and workers' knowledge of and ability to use the benefit.

Also shown in Table 5 and similar to the NHIS, employer reports indicate that access to paid sick leave is highest among management, professional, and related occupations (93%) and lowest among service occupations (63%). Part-time employed workers have lower access than full-time workers (48% versus 89%) and those employed by large employers (500 or more workers) have higher access than those employed in small workplaces (1 to 49 workers) (92% versus 68%).

Table 5:
Employer Reports of Access to Paid Sick Leave
(NCS, March 2021)

Employee Characteristic	**Percent With Paid Sick Leave**
All workers	79%
Occupation Type	
Management, professional, and related occupations	93%
Service occupations	63%
Production occupations	73%
Work Schedule	
Full-time	89%
Part-time	48%
Income	
Lowest 10 percent	35%
Highest 10 percent	95%
Workplace Size	
1 to 49 workers	68%
500 workers or more	92%

Paid Sick Leave in Missouri

The NHIS and NCS data presented above are intended to serve as national estimates of access to paid sick leave and, accordingly, do not yield reliable information at the state level. It is this gap that the Worker PLUS microsimulation addresses. However, prior to implementing Worker PLUS, preliminary information about access to paid sick leave in Missouri was obtained from a 2009 C.D.C. study of the public health response to H1N1 or swine flu. The National H1N1 Flu Survey (NHFS; 2009) interviewed more than 70,000 people, including 1,200 Missourians, about themselves and their response to the H1N1 pandemic.[34] The survey was designed to offer insights on the success of the public health response to H1N1 and provides a rare state-level perspective on paid sick leave coverage.

In 2009, 59% of employed or self-employed Missourians had access to paid sick leave, ranking 33rd among the 50 states and the District of Columbia in terms of the percentage of the population with this benefit (Table 6). This is 3% lower than the 62% of U.S. workers with access to paid sick leave from the NHIS 2019 estimates in Table 1. The survey also asked if workers with paid sick leave could use that time off to care for a sick family member; 82.2% of Missouri workers with access to paid sick leave answered affirmatively.

Table 6:
Missouri and Comparison States:
Percent of Workers Eligible to Receive Paid Leave with Full Pay and State Rank (NHFS, 2009)

		State			
Type of Leave	**U.S.**	**MO**	**MD**	**MI**	**NV**
Eligible to Receive Paid Leave with Full Pay Missouri	61.0%	58.8%	72.0%	60.0%	46.0%
Of adults eligible to receive paid leave, % who can take paid sick leave for a family member	79.0%	82.2%	81.8%	77.4%	81.7%
RANK	-	33	1	26	51

Table 7 presents paid sick leave access in 2009 by demographic, health, occupational, and household factors. Among the uninsured, 8.8% had access to paid sick leave whereas 68.4% of the insured did. Similar discrepancies appear for educational attainment, with access to paid sick leave lower for those without a high school diploma (18.9%) compared to those with a college degree (81%). One in two (51%) individuals with chronic health conditions had access to paid sick leave and for those with at least one child at home, 70.4% had access to paid sick leave.

Further detailed demographic analysis of paid leave access from the 2009 NFHS study is not possible due to the small state-level sample. Specifically, a more refined analysis that addresses ethnicity, race, age, metropolitan-vs.-non-metropolitan area residency, and gender is not possible due to the lack of representativeness among Missouri respondents who participated in the study.

Table 7:
Percent of Missouri Workers Eligible to Receive Paid Sick Leave (Regardless of Use) by Demographic Characteristics (NFHS, 2009)

	Eligible to Receive Paid Sick Leave
All Missouri workers	58.8%
Health Insurance	
Uninsured	8.8%
Insured	68.4%
Education	
Less than high school	18.9%
College graduate	81.0%
Income	
Less than or equal to $75,000	50.2%
Equal to or more than $75,001	78.3%
Health Status	
Chronic medical condition	51.0%
Health Care Occupations	
Health Care workers	71.8%
Health Care workers with direct patient contact	72.8%
Caregiving Responsibilities	
At least one child in household (sick leave)	70.4%
Can take paid sick leave for family member	61.2%

Equity Summary: Access to Paid Sick Leave

As mentioned earlier, access to paid sick leave in the U.S. and Missouri is uneven. The research reviewed above does not distinguish between access to paid leave as part of an employment contract versus access to paid leave because the respondent is benefiting from a local or state mandate. The 2019 NHIS indicates some variation in access to paid sick leave on the basis of ethnicity and race and virtually none on the basis of sex. Hispanic workers and American Indian/Alaska Native workers have the lowest access to paid sick leave followed by Whites, Blacks, and Other races and multiple races. Asian workers have the highest access. Issues of equity in access to paid leave are most apparent in worker characteristics such as educational attainment, the occupation one holds, the number of hours worked per week, and various measures of household income. It is these factors that show the greatest disparity in access to paid sick leave in the national estimates from NHIS (2019, 2020; Table 1), NCS (2021; Table 5), and the Missouri-specific NFHS (2009; Table 7).

As per the 2019 NHIS, 51% of workers with a high school diploma or less had access to paid leave compared to 68% of workers with some college or more. Similarly, the NFHS (2009) indicated that 18.9% of workers with less than a high school diploma and 81.0% of workers who graduated from college had access to paid sick leave. Educational attainment plays a central role in one's occupation. In both the NHIS (2020) and the NCS (2021), individuals with managerial and professional occupations had the highest levels of access to paid sick leave (ranging from 76% to 93%) and those in particular sectors of service occupations had the lowest levels of access to paid sick leave; in the NHIS (2020), 42% of workers in food preparation and serving had access to paid leave, and in the NCS (2021), 63% of service occupations overall had access. The NCS (2021) also reported that 89% of full-time workers had access to paid sick leave compared with 48% of part-time employees.

Low educational attainment and what are widely-viewed as low-paying occupations (i.e., service sector jobs) are likely intertwined with the patterns between household income and access to paid sick leave. Workers living in households with the lowest incomes also have the lowest access to paid sick leave as per the NHIS (2019, 2020), the NCS (2021), and the NHFS (2009). The NHIS provides the most fine-grained analysis and indicates that in 2019, 40% of workers with household incomes between $0 and $34,999 have access to paid leave; 52% with household incomes between $35,000 and $49,999; 63% with incomes between $50,000 and $74,999; 70% between $75,000 and $99,999; and, lastly, 72% of NIHS (2019) respondents with household incomes at or above $100,000 have access to paid sick leave.

Overview: State and Local Paid Sick Leave Mandates

Overview of State and Local Programs

Since 2007, 18 states and nearly as many cities have passed laws requiring employers to provide paid sick leave.[a] Although the wave of paid sick leave mandates was slow to start, with only five states passing paid sick leave laws from the first voter initiative in 2007 and through 2015, the remaining 13 were passed in the last six years.[35] In some cases, including Wisconsin and Texas, local efforts to pass paid sick leave have been preempted by their state governments.

These state and local plans vary widely in terms of which employers are mandated to provide paid sick leave, the amount of time workers can take off, and the reasons leave can be used (e.g., personal illness, to care for a family member).

See Table A1 in the appendix for greater detail on state and local program variation.

Of the 36 jurisdictions considered here:

- 26 allow smaller workplaces to offer fewer paid sick hours than larger businesses
- 23 have different accrual rates depending on the size of the business
- Three have accrual rates depending on the size of the business
- Nine jurisdictions place a lower cap on hours of sick leave earned for smaller workplaces
- Two jurisdictions have lower caps as well as lower rates of accrual for smaller workplaces
- Eight jurisdictions allow workers at smaller workplaces to accrue unpaid leave but not paid leave
- Five jurisdictions exempt smaller workplaces entirely from mandates for paid sick leave
- Two have delayed implementation for smaller workplaces to allow time to adjust to the law
- For those programs with only two tiers of workplace size, the median workplace size cut-point is 15 employees, although it can be as low as five or as high as 56 employees
- State programs are more likely to exempt the smallest workplaces altogether or have lower caps for smaller workplaces than local programs
- Across all jurisdictions, the median cap on hours earned for larger workplaces is about 56 hours and the cap for smaller workplaces is about 40 hours

The most common rate for a paid sick leave program with a single rate of accrual is one hour earned for every 30 hours worked. The average rate is a little higher, approximately one hour of leave earned for every 33 hours worked. Most programs require workers to wait for a set period after the start of employment before they can use their accrued days. This number ranges from 30 calendar days to one year, though 90 days is the most common requirement.

[a] States with mandates include Arizona, California, Colorado, Connecticut, Maine, Maryland, Massachusetts, Michigan, Minnesota, Nevada, New Jersey, New Mexico, New York, Oregon, Rhode Island, Vermont, Washington, and Washington, D.C. Cities and counties with mandates include Chicago; Cook County, Illinois; Minneapolis; Philadelphia; Pittsburgh; Duluth; San Francisco; San Diego; San Antonio; Dallas; Oakland; Emeryville; New York City; Austin; Berkeley; Saint Paul; Seattle; and Montgomery County, Maryland. Some mandates overlap because cities passed mandates before their state did so.

All of the state and city paid sick leave programs listed in Table A1 allow employees to take time off for their own illness or to care for an ill family member. All but six allow time off to seek help in the wake of domestic violence. Nearly half allow use of the time when a public health official closes a workplace for health reasons.

Emergency Measure: Families First Coronavirus Response Act (FFCRA)

FFCRA Coverage

The Families First Coronavirus Response Act (FFCRA) was passed in March 2020 and remained in effect from April 1, 2020 to December 31, 2020. This legislation was intended to expand access to paid sick leave and paid family and medical leave for reasons directly related to COVID-19. Later in the report, results are presented from the Worker PLUS microsimulation that estimate which groups of Missouri workers had access to this temporary benefit, based on expected employer size.

FFCRA applied to certain public employers not covered under FMLA (most federal employees are covered under FMLA and only qualify for the paid sick leave provision) and private employers with fewer than 500 employees (exempting some employers with fewer than 50 employees). It carried the following requirements for covered employers:

- Provide all employees with up to 80 hours of paid sick leave at regular pay when an employee was quarantined "and/or experiencing COVID-19 symptoms and seeking a medical diagnosis"
- Provide up to 80 hours of paid sick leave at 2/3 pay for an employee who was caring for someone in quarantine, caring for a child whose school or child care provider was closed, and/or the employee themselves was experiencing a similar condition

For eligible employees who were employed for at least 30 days, their employers were also required to provide up to 10 weeks of paid expanded family and medical leave at 2/3 pay to care for a child whose school or child care provider was closed due to COVID-19. The employer's cost of this mandate was recovered through a tax credit program. Qualifying wage reimbursements for employers were paid through tax credits under FFCRA.

As of January 1, 2021, employers were no longer required to provide paid sick leave through FFCRA but were incentivized to provide leave through the Consolidated Appropriations Act (2021), which extended the tax credits offered to employers for paid sick leave and expanded family and medical leave to March 31, 2021.[36]

FFCRA Usage

A national study of FFCRA usage showed that about 45% of all workers and 15% of part-time workers were aware that they were eligible for FFCRA benefits.[37] Of employees surveyed, 5.4% used sick leave under FFCRA from April to December 2020, or approximately 8 million working adults in the U.S.[b] In fact, states that did not previously have paid leave mandates but gained access through FFCRA reduced their

[b] "The Cornell Institute for Social and Economic Research, fielded a nationally representative survey from 6 October to 7 December 2020, using a telephone survey with dual frame random digit dial and cell phone sampling. Analysis restricted to current employees (*n* = 371)."

daily number of new reported cases of COVID-19 by over 400 cases, a decrease of 56%, between March and May 2020.[38] When paid sick leave was provided voluntarily, similar significant decreases in employees coming to work while sick were seen.[39]

Prospects for Expanded Paid Sick Leave Mandates

Federal

Public Support

Polling has typically shown support for paid sick leave mandates. The National Opinion Research Center (NORC, 2010) found that 86% of respondents favored mandating seven days of paid sick leave per year, suggesting that the public might be open to programs with more guaranteed paid sick days than are currently proposed in the United States. A hypothetical program that would allot nine days of paid leave per year for full-time workers garnered 71% support. Only a few cities on the West Coast have that many days as part of their local paid leave requirements, and they apply only to large employers.

Exemptions for small employers are common for paid sick leave mandate programs. However, these exemptions are not universally supported by the public. Half of respondents opposed a total exemption for businesses with fewer than 15 employees, and one-third supported a requirement for small employers to provide the same amount of paid sick leave as larger employers. When presented with seven arguments in favor of paid sick leave and seven arguments against it, respondents found more of the pro-paid leave arguments more convincing than the arguments against it. For example, whereas 63% of respondents found the statement “If executives in a company get paid sick days, then all employees should also get sick leave” very convincing; while only 35% of respondents found the statement “Legislating paid sick days opens the doors to abuse by employees...” very convincing.[40] Table 8 lists the arguments for and against paid leave and their level of support.

Table 8: Percent of Americans Opinions About Arguments For and Against Paid Sick Leave[41] (NORC, 2010)				
Arguments in Favor of Paid Sick Leave [a]	**Very Convincing**	**Somewhat Convincing**	**A Little Convincing**	**Not Convincing at All**
If executives in a company get paid sick days, then all employees should also get paid sick days.	63%	18%	5%	13%
Paid sick days are particularly important for workers in the restaurant, child care, and health care industries. Most food service workers get no sick days and show up in the restaurants coughing, sneezing, and feverish as they prepare and serve meals. This puts all of us at risk. We will all be healthier when all workers get paid sick days.	55%	25%	9%	11%
Requiring paid sick days doesn't hurt employers' bottom line. Sick employees who show up at work are less productive, and they remain sick and less productive longer when they work while sick. Also, they infect other workers and this further reduces productivity and hurts profits.	54%	26%	9%	12%
In America, you shouldn't have to risk your job to take care of your family and shouldn't have to put your family at risk just to do your job. Unfortunately, many workers face these choices every day. … Our nation needs new labor standards to accommodate the needs of today's working families.	54%	22%	8%	15%
Given the high cost of gas, food, and other goods, workers can't afford to lose their wages when they are ill or have to care for a sick child or family member. They need to have guaranteed paid sick days.	52%	24%	10%	13%
Companies give their CEOs huge salaries and stock bonuses. They could cut back on such wasteful expenses and provide sick days to their employees.	46%	25%	9%	18%
Over 135 countries already guarantee paid sick days for workers. Having American workers receive this will not put their employers at a competitive disadvantage.	31%	33%	9%	25%
Arguments Against Paid Sick Leave	**Very Convincing**	**Somewhat Convincing**	**A Little Convincing**	**Not Convincing at All**
Legislating paid sick days opens up the door to abuse by employees. Some employees will use paid sick days as vacation days but without giving advance notice... Abuse of paid sick days translates into lost dollars for businesses and higher costs for consumers.	35%	27%	15%	22%
Forcing all employers to provide paid sick leave is unfair to small businesses. Many simply won't be able to bear the added costs and more small businesses will be driven out of business and replaced by large, national corporations and chain stores.	32%	27%	16%	23%
Given the economic downturn we are now in, businesses can't afford to add new benefits like paid sick leave.	26%	25%	16%	32%
If employers are forced to increase costs by providing for paid sick days, they will cut other costs by reducing wages or benefits like health care coverage.	22%	26%	21%	28%
A one-size-fits-all, paid sick leave mandate from the government would threaten workers' wages and benefits. Government mandated benefits that increase business costs would have to [be] made up by cuts in wages or benefits.	21%	30%	17%	31%
Given the amount of economic competition in the world today, American employers shouldn't be burdened with new government mandates. Requiring paid sick days will just accelerate the loss of jobs overseas.	21%	23%	17%	37%

[a] Response options included: very convincing, somewhat convincing, a little convincing, not convincing at all and, don't know. See: Paid Sick Days: A Basic Labor Standard for the 21st Century (nationalpartnership.org) for survey methodology.

NORC also reported that support for paid sick leave is higher among women than men, Democrats than Republicans, Black and Hispanic Americans than white Americans, and lower-income workers than higher-income workers who already have greater access to paid leave.

Other polls support NORC's 2010 findings. A series of polls conducted by YouGov on behalf of the Huffington Post similarly reported support for paid sick leave above 70% in 2013, 2015, and 2020. Data for Progress, a left-leaning social policy thinktank, found two-thirds of voters supported mandatory paid sick leave in a 2020 survey.[42] Polling in Colorado (78% support in 2020), Texas (75% in 2020), North Carolina (69% in 2008), Virginia (88% in 2021), Maryland (74% in 2021), and Michigan (86% in 2015) suggests that the issue continues to win majorities in very different parts of the country.[43]

Employer Support

Few polls have explored support for paid sick leave mandates among employers. In polls conducted in each location, a substantial majority of employers in New York City[44], Connecticut[45], San Francisco[46], and Seattle[47] said they supported such laws (see Table 9 for details). Many of these employers already provided paid sick leave at the mandated level and could benefit from a mandate that required their competitors to match their benefits. One final issue of note is that not all employers reported being aware of the laws in their jurisdiction and therefore had not changed their policies at all. This finding highlights a gap between mandates, enforcement, and compliance. If employer compliance with the law is not monitored, the impact of paid leave mandates is difficult to accurately estimate.

Table 9:
Percent of Employers Supporting Paid Leave Mandates by State and City*

Jurisdiction	Level of Support	Survey Support Choices
New York City (2016)	Very supportive (53.1%) Somewhat supportive (32.6%)[48]	Very supportive, somewhat supportive, not too supportive, not at all supportive
Connecticut (2014)	Very supportive (39.5%) Somewhat supportive (37%)[49]	Very supportive, somewhat supportive, not too supportive, not at all supportive
San Francisco (2014)	Supportive (72%)[50]	Very supportive and somewhat supportive are combined, the source did not indicate other possible responses
Seattle (2014)	Very supportive (45%) Somewhat supportive, (25%)[51]	Very supportive, somewhat supportive, not too supportive, not at all supportive

These polling results have typically been borne out at the ballot box. Paid sick leave mandates have been approved by voters in Milwaukee (ballot year: 2008, percent voting in favor of the law: 69%), Massachusetts (2014, 59%), Chicago (2015, 82%), Arizona (2016, 58%), San Diego (2016, 63%), and Washington (2016, 57%). [52] The Arizona, San Diego, and Washington ballot initiatives also involved minimum wage increases. In Michigan and Maine, the prospect of hard-to-beat initiative campaigns prompted state legislatures to implement scaled-back proposals that kept paid sick leave off the ballot.[53] On the other hand, a 2017 paid sick leave initiative in Albuquerque lost (albeit by around 700 votes of more than 100,000 cast),[54] and a 2011 Denver initiative lost by a margin of nearly two to one.[55]

Previous Legislative Proposals

Federal

The public support for paid leave policies described above has not been sufficient to prompt action at the federal level. Since 2004, supporters of a national paid sick leave standard have repeatedly introduced the Healthy Families Act in Congress.[56] If passed, employers with more than 15 employees would be required to allow their employees to earn an hour of paid sick leave for every 30 hours worked, up to a total of 7 days.[57]

A 2010 analysis published by Congress's Joint Economic Committee estimated that the Healthy Families Act would expand paid sick leave to another 30.3 million workers, a 56% increase in coverage.[58] The gain would be concentrated among low-wage workers and access to paid sick leave would increase by 186% for the bottom quartile of wage-earners. The report highlighted the effect on occupations whose frequent contact with the public or with sick people makes working while ill especially dangerous and estimated that access to paid sick leave would nearly quadruple for food service workers and double for personal care workers. A 2017 U.S. Department of Labor analysis estimated a twelve-percentage point increase in eligibility for paid leave, with somewhat higher gains for women and for Black, Hispanic, American Indian and Alaska native and other/mixed-race workers and much higher gains for employees with low income.[59]

The direct cost of paying for the additional leave taken was estimated to be 0.2% of payroll, or $13.8 billion.[60] The National Federation of Independent Businesses (NFIB), a lobbying group that represents employers, estimated that the bill would result in 430,000 fewer private sector jobs by 2020 and a reduction of $72.1 billion in U.S. real GDP by 2021.[61] Advocates of paid sick leave mandates have criticized the NFIB's research on this issue for failing to weigh this cost against the benefits they expect from paid sick leave mandates, including reduced spread of contagious diseases.[62]

The Healthy Families Act has yet to advance to a vote. An attempt by Democratic lawmakers to put similar provisions for permanent paid leave in an emergency COVID-19 proposal also failed. The bill was reintroduced in the 117th Congress and co-sponsored by 35 and endorsed by President Joe Biden.[63]

Missouri

In recent decades, Missouri lawmakers have introduced several pieces of legislation to mandate paid sick leave, though none has passed. The Paid Sick Leave Act, introduced in 2009 and 2010, had a somewhat unusual program design, simply granting 7 days of paid sick leave after 12 months of work, in comparison to the more common approach of accruing leave on a per-hour basis.[64] The Healthy Families, Healthy Communities Act, introduced several times between 2007 and 2010, has a more conventional accrual method: one hour of leave for every 37 hours worked for businesses with 10 or more employees.[65] These bills did not proceed past assignment to the relevant committee.

The state legislature's activity on the issue has focused instead on *preventing* the adoption of paid sick leave mandates in Missouri. A 2015 law, passed over then-Governor Jay Nixon's veto, created a blanket prohibition against local governments setting a higher minimum wage or requiring other benefits, including paid sick leave. As of 2020, 23 states had laws preempting local paid sick leave requirements.[66]

Interestingly, for full-time Missouri state employees, state regulations provide for the accumulation of 10 hours of sick leave per month for every month worked.[67]

Jobs With Justice (JWJ) Proposals

Missouri voters appear more supportive of legislation improving labor standards than their elected legislators, as seen in a recent vote to raise the minimum wage and overturn a right-to-work law. Missouri Jobs With Justice, a pro-labor advocacy organization, took steps to put paid sick leave on the ballot in a statewide referendum in 2018 and 2022.

The 2022 proposal featured six prospective programs that varied along several dimensions (e.g., employer size, industry, and union status) and allowed the organization to advance different policy designs based on assessments of their effectiveness and likelihood of passage. Taken together, they represent one organization's estimation of the range of paid sick leave policies that might be politically and economically feasible in Missouri. The cost-benefit analysis reported later in this report uses a simplified version of the JWJ proposals as the basis for two of the three paid sick leave policy scenarios considered.

All JWJ proposals allowed the accrual of one hour of leave for every 30 hours worked but vary in how they treat different groups of workers and the cap in accrual for different businesses. For example, one proposal provides 40 hours of paid sick leave (5 days) for businesses with more than 15 employees and 24 hours (3 days) for smaller businesses. Another proposal would provide 56 hours of paid sick leave (7 days) for large employers and 40 hours (5 days) for smaller employers. The first proposal is similar to Arizona's, and the latter is similar to New York's, though with a different threshold for what constitutes a small employer (15 employees in MO, 4 employees in NY).

Under the JWJ proposals, leave could be taken for personal illness, to look after a sick family member, or to handle legal, medical, or practical matters after experiencing domestic violence. Three proposals have been submitted for each cap: one including all workers, one excluding workers in the construction industry, and one allowing collective bargaining agreements to waive the requirement. According to a JWJ representative, these exemptions reflect their understanding that benefit structures in the construction industry generally do not include paid sick leave and that the bargaining power of unionized workers means there is little risk that unions will bargain away the benefit unless they receive something they value more highly in return.[68]

The 2018 and 2022 JWJ initiatives considered plans regarding the administration of paid sick leave laws in Missouri. Both proposals empower the state to enforce the law but do not mandate that the state do so. In response to the 2018 initiative, the Missouri Department of Labor and Industrial Relations (MO DOLIR), if tasked with enforcement of the law, estimated 1.5% of businesses covered would generate complaints that required 3.5 additional full-time equivalent employees to address 613 complaints per year.[69] The department published a more extensive response to the 2022 proposals that generated a much higher estimate: 10 additional full-time equivalent employees if the department handled 100 complaints per year at a total cost of over $1.2 million per year.[70]

Missouri JWJ submitted a letter to the state auditor related to the 2018 proposals, estimating the savings of the proposal for employers and the community at large to be worth more than $200 million

and citing background research from the Institute of Women's Policy Research (IWPR). The letter did not estimate corresponding costs associated with the proposal.[71] A submission by the Missouri Budget Project concerning the 2022 JWJ proposals estimated a net savings of $17.4 million for employers due to reduced flu contagion, reduced presenteeism, and reduced turnover.[72]

Methodology

The primary goal of the current research is to utilize the U.S. Department of Labor Microsimulation Model on Worker Leave (*Worker PLUS*) to generate robust estimates of formally employed public and private sector Missourians without access to paid sick leave and those who had access to FFCRA (Study 1); to examine the social, (from here on referred to as "society-wide") and employer costs and benefits of three hypothetical statewide paid sick leave programs (Study 2); and, to make predictions about private sector workers employed in Missouri who lack access to paid sick leave and utilization of paid leave by private sector workers employed in Missouri under a hypothetical state program (Study 3). The paid sick leave programs considered by Worker PLUS in Study 2 are based on the JWJ proposals described above.

Department of Labor IMPAQ Worker PLUS Model

The Microsimulation Model on Worker Leave (Worker PLUS) is a publicly available simulation tool developed in 2020 by IMPAQ International and the Institute for Women's Policy Research (IWPR) through a contract with the U.S. Department of Labor. Based on the Albelda Clayton-Matthews/IWPR Paid Family and Medical Leave Simulation Model, the Worker PLUS model employs public microdata from the Department of Labor's Family and Medical Leave Act (FMLA) Employee Survey and demographic data from the American Community Survey (ACS) to produce estimates of the individual and employment characteristics of public- and private sector employed Missourians predicted to need or lack access to paid sick leave and predicted to have had access to FFCRA (Study 1) and the individual and employment characteristics of private sector workers employed in Missouri that are predicted to lack access to paid sick leave and to utilize new instances of paid leave under a hypothetical statewide paid leave program (Study 3). For Study 2, Worker PLUS estimates employers' payroll costs associated with paid sick leave programs based on user-entered inputs that specify paid leave program parameters.[73]

Data Sources

Census Bureau Data

The American Community Survey (ACS) is a monthly survey conducted by the U.S. Census Bureau of independent and nationally representative samples drawn from the United States and Puerto Rico with results aggregated annually. It collects data on American population and housing characteristics that are mandatory or required for numerous federal departments and agencies and are of great use to researchers. The questions have changed little over time. The ACS Public Use Microdata Sample (PUMS) consists of individual records by person and housing unit, with disclosure protection to prevent identification; these extracts from the microdata provide state-level and Public Use Microdata Area (PUMA) geographic divisions. State governments drew up their own PUMAs, each of which consists of approximately 100,000 people.

Each year's estimates are available in the fall of the following calendar year (e.g., 2020 data is available in September-December 2021), with five-year estimates available for all geographic subdivisions, three-year data available for geographic areas with more than 20,000 residents, and one-year data available for geographic areas with over 65,000 residents.

The data also includes two sets of survey weights, one for each sample person record and one for each sample housing unit record; these weights are used to match the sample characteristics more closely to those of the population of interest and to account for potential selection biases. The ACS aggregate data creates estimates using these sample weights. The studies reported below indicate which year of ACS data were utilized.

Family and Medical Leave Act (FMLA) Data

The Family and Medical Leave Act Employee Public Use File data is made available by the U.S. Department of Labor. The surveys of employers and employees have been conducted at irregular intervals and examine how the different groups experience the Family and Medical Leave Act (FMLA). The 2018 survey, used by the Worker PLUS model, was separated into a worksite survey (i.e., employer responses) and an employee survey. Data from the employee survey was used in the Worker PLUS model. The employee survey was conducted via random-digit-dialing and a web-based application, with most of the responses coming from the online version. The employee sample was comprised of 4,470 individuals employed in the public or private sector in the past 12 months.[74]

Study 1: Estimating Public and Private Sector Missouri Workers' Lack of Access to Paid Leave and Eligibility for FFCRA

Populations of Interest

Worker PLUS was utilized to produce estimates of formally employed Missourians who lack access to paid leave and who are predicted to have had access to FFCRA separately for 1) all public and private Missouri workers of all wage rates, part-time and full-time workers, and all employer sizes and 2) Missourians employed as essential workers in the public and private sector. For this study, only people who live in Missouri and work in the public and private sectors were included and those who commute across-state borders for work were excluded. Estimates were weighted accordingly to be representative of the state's population.

The categorization of essential workers is based on the C.D.C.'s guidelines cited in Missouri Governor Mike Parson's stay-at-home order issued April 3, 2020, and effective April 6 through May 4, 2020. The order set limits on the number and distancing of people attending social gatherings depending upon the necessity and function of the social gathering. Any entity that did not employ essential workers was constrained by the social gathering limits and social distancing guidelines. Less stringent guidelines were allowed when the work was deemed necessary, leading to the classification of "essential workers" by the U.S. Department of Homeland Security, Cybersecurity, and Infrastructure Security Agency (CISA). CISA identified 16 "critical infrastructure sectors:" chemical, commercial facilities, communications, critical manufacturing, dams, defense industrial base, emergency services, energy, financial services, food and agriculture, government facilities, healthcare and public health, information technology, nuclear reactors, materials and waste, transportation systems, water and wastewater, and education.

Worker PLUS Model Parameters and Variable Definitions

To generate estimates of the percentage of Missourians who need paid sick leave and lack access to it, the Worker PLUS model was used to simulate a paid leave program that required employers to provide a maximum of zero days of paid leave and exclude no participants. These parameters allowed the model to predict leave-taking and leave-needing behavior[c] for individuals with employers that voluntarily provide paid and unpaid leave. Because the model is intended to predict these behaviors given program parameters that users supply, the estimates obtained by setting the maximum days of leave to zero reflects the current state of paid leave among employed individuals in Missouri. Missouri currently has no state mandate for paid sick leave; therefore, employers do not have to provide any.

The Worker PLUS output files that contained the population of interest were merged with 2018 ACS person and household files so that estimates could take into consideration demographic, economic, and employment characteristics, including access to health insurance and citizenship status. To estimate the percentage of MO workers' eligible for the FFCRA and their demographic characteristics, ACS 5-year data from 2020 were imported into the Worker PLUS model and integrated with the 2018 FMLA data. Because FFCRA eligibility was conditioned primarily on employer size and type, it was necessary to combine demographic data from the 2020 ACS with employer data from the 2018 FMLA study to obtain estimates of individuals eligible for the FFCRA.

The Worker PLUS model, and the ACS and FMLA surveys do not directly identify respondents based on their eligibility for paid sick days, paid family leave, or paid medical leave through their employer. Thus, need for and lack of access to leave is modelled indirectly through the simulations of the Worker PLUS model. Accordingly, based on the simulated output of the model on need for and lack of access to paid leave and utilization of paid leave, we define individuals that: 1) need and lack access to short-term paid leave; 2) need and lack access to short-term paid sick leave for themselves; and, 3) need and lack access to short-term paid leave for family members. Note, the categories "Need and Lack Access to Paid Sick Leave for Self" and "Need and Lack Access to Paid Leave for Family" are subsets of "Need Paid Leave" but are not mutually exclusive. Individuals without need for paid leave include both 1) individuals who took leave and received pay, and 2) individuals whose predicted behaviors did not require any leave during the year.

- **Need and Lack Access to Paid Leave:** Individuals that need and lack access to short-term paid leave are based on two factors independent of the type of leave needed:

    1) Whether the individual is predicted to need and lack access to paid leave or

    2) whether the individual is predicted to take leave without pay.

- **Need and Lack Access to Paid Leave for Self:** Individuals that need and lack access to short-term paid sick leave for themselves are predicted by Worker PLUS to:

[c] Based on FMLA survey questions: (leave-taking) "Have you taken leave from work in the last 12 months to care for a new child, your own or someone else's serious health condition, pregnancy or military deployment?" (leave-needing), "Have you needed but did not take leave in the past 12 months?"

1) Need and lack access to paid leave for their own illness or

2) take leave for their own illness without pay.

- **Need and Lack Access to Paid Leave for Family:** Individuals that need and lack access to short-term paid leave for family and loved ones are predicted by Worker PLUS to:

  1) Lack access to paid leave for a child's illness, a parent's illness, a spouse's illness, newborn child bonding, or maternity disability leave, or

  2) take leave for the reasons above without pay.

These definitions differ from those presented in the Introduction; they specifically reference the model-predicted need for and lack of access to paid leave for combinations of the reasons included in the model (own health, spouse's illness, child's illness, new child, maternity), while the definitions in the Introduction focus on programmatic aspects of paid leave. Accordingly, the findings to be reported refer to paid leave in terms of predicted or estimated need for and lack of access, and not the measured eligibility or availability of paid leave through an employer.

For ease of reading and comprehension, the duration of the report will refer to "lack of access to paid leave," "lack of access to paid leave for self," and "lack of access to paid leave for family."

Study 1: Findings of Predicted Lack of Access to Paid Leave and Eligibility for the FFCRA

Formally Employed Missourians Who Lack Access to Paid Leave, Paid Sick Leave for Self, and Paid Sick Leave for Family (both public and private sector workers)

Tables 10 through 14 present estimates of the characteristics of Missourians formally employed in the public or private sector who were predicted to lack access to paid leave in 2018. The tables also present estimates of the same characteristics for Missouri workers classified as essential. According to C.D.C. guidelines, 45% of employed Missourians were classified as essential. Comparing the predicted lack of access for all employed Missourians to that of essential workers employed in Missouri shows that the predicted lack of access to paid leave is approximately 1 to 2 percentages points higher for essential workers. Table 15 presents estimates of lack of access to paid leave for a select group of public-facing essential workers. Each column describes the percentage of workers who lacked access to paid leave (i.e., any leave, own sick leave, family leave).

Demographic Characteristics Associated With Lack of Access to Paid Leave

All Employed Missourians

Table 10 presents the demographic characteristics of individuals who live and work in Missouri and lack access to paid leave. Fourteen percent of Missouri employed women and 11.25% of Missouri employed men lack access to paid leave. Similarly, 9.06% of women and 6.01% of men are predicted to lack access to paid sick leave for self. The model estimates similar lack of access to paid family leave between employed women and men (5.94% and 5.81%, respectively).

The model estimates revealed some disparities in access to paid leave on the basis of race and ethnicity. Those with the highest lack of access to paid leave are American Indian and Alaska Native Missourians at 23.08%, followed by 18.25% for Black Missourians, 13.59% for Hispanic Missourians, 11.78% for white Missourians, and 11.01% for Asian Missourians. Black Missourians are predicted to have higher lack of access to paid sick leave for self and paid sick leave for family than white residents. Missourians who identify as Hispanic lack access to paid leave for family at higher rates white Missouri workers.

The model estimates show differences in the lack of access to paid leave on the basis of worker age. Those younger than 30 are predicted to lack access at the highest rates (20.36%). Employed Missourians between the ages of 30 and 59 are less likely to lack access to paid sick leave for self than both their younger and older counterparts, while employed Missourians age 60+ are the least likely to lack access to paid leave for family. This may be due to the age range when family-building occurs.

Employed Missourians without children are the least likely to lack access to paid leave (9.80%) compared to Missourians with one child (18.43%). The lack of access to paid sick leave for self is between 7.0% and 7.83% across all family sizes. The predicted lack of access to paid leave for family again shows large discrepancies, where 3% of Missourians without children lack access to paid leave for family compared to 10-12% of Missourians with one or more children. Those Missourians without children are unlikely to need leave for maternal disability purposes or to care for an ill child, which constitute two of the primary reasons for which individuals need paid leave for family.

Worker PLUS also estimates lack of access to paid leave based on citizenship status. In Missouri, it is estimated that U.S. citizens are less likely to lack access to paid leave for family, but more likely to lack access to paid sick leave for self. We note that non-citizens constitute 3% of the Missourian workforce.

Missouri Essential Workers

As presented in Table 10, essential workers are predicted lack access at higher rates than the Missouri general working population. Both male and female essential workers were predicted to lack access than the general employed Missouri population. Female essential workers have a higher estimated lack of access to paid sick leave than the full population of employed Missouri women (15.76%, 14.25%, respectively). Female essential workers have a higher rate of lack of access to male essential workers (15.76% vs. 12.12%, respectively). However, the difference between female and male essential workers lack of access to lack of access to paid leave for family is negligible (6.08% vs. 6.00%).

Similar racial and ethnic disparities of those seen in the general population are also found in the population of essential workers, with Native American and Alaska Native Missourians and Black Missourians predicted to lack access to paid sick leave for self at higher rates than white, Asian, and Hispanic Missourians. Across all races, essential workers experienced a higher rate of lack of access to paid leave than the public and private sector Missouri workers.

Essential workers younger than 30 years lack access to paid leave, paid sick leave for self, and paid sick leave for family, at twice the rate of essential workers between the ages of 30-59 and those age 60 and over.

Table 10: Percent of Public- and Private Sector Missouri Workers and Missouri Essential Workers Estimated to Lack Access to Paid Leave: Demographic Characteristics						
	All Employed Missourians			**Missouri Essential Workers**		
		Paid Leave Types			**Paid Leave Types**	
	Lack Access to Paid Leave	**Lack Access to Paid Leave for Self**	**Lack Access to Paid Leave for Family**	**Lack Access to Paid Leave**	**Lack Access to Paid Leave for Self**	**Lack Access to Paid Leave for Family**
Sex						
Female	14.25%	9.06%	5.94%	15.76%	10.57%	6.08%
Male	11.25%	6.01%	5.81%	12.12%	6.83%	6.0%
Race/Ethnicity						
American Indian/ Alaska Native	23.08%	17.33%	7.5%	24.49%	19.98%	6.97%
Asian	11.01%	5.15%	6.38%	11.72%	5.12%	7.21%
Black	18.25%	12.63%	6.72%	20.04%	14.53%	6.80%
Hispanic	13.59%	5.98%	8.39%	13.83%	6.80%	7.60%
Other	22.46%	8.75%	16.26%	26.13%	10.96%	17.83%
White	11.78%	6.91%	5.44%	12.85%	7.98%	5.57%
Age						
Under 30	20.36%	11.73%	10.31%	22.98%	14.21%	10.90%
30-59	10.47%	6.06%	4.75%	11.04%	6.75%	4.62%
60 and over	8.38%	6.10%	2.52%	8.93%	6.97%	2.22%
Number of Children						
0	9.80%	7.49%	2.60%	10.98%	8.81%	2.53%
1	18.43%	7.83%	12.08%	19.80%	9.17%	12.35%
2	16.73%	7.0%	10.82%	18.20%	8.29%	11.24%
3+	16.72%	7.72%	10.16%	18.06%	8.76%	10.77%
Citizenship Status						
Citizen (all designations)	12.7%	7.52%	5.84%	14.02%	8.84%	6.01%
Not a citizen	13.17%	6.68%	7.04%	14.17%	7.07%	7.29%

Source: Worker PLUS Model, ACS 2018, FMLA 2018

Note: Each column represents the predicted percentage of Missourians who either needed but did not take leave or took leave without pay in the past year.

Socioeconomic Characteristics Associated with Lack of Access to Paid Leave

All Employed Missourians

Table 11 presents predicted lack of access to paid leave by household income, education, and marital status. [75] Households making less than $50,000 per year have higher rates of lack of access to paid leave than all other income categories (15.76% versus 10.25% to 13.09%). The lack of access to paid leave for self and paid leave for family decreases as household income increases.

Worker PLUS estimates also indicate that employed Missourians with lower levels of education also have higher lack of access to paid leave, paid leave for self, and paid leave for family. The differences are large, with 18.44% of Missouri workers with less than a high school education lacking access to paid leave and 6.91% of Missouri workers with a bachelor's degree or more lacking access to paid leave.

Also shown in Table 11, Missouri workers who have never married lack access to paid leave, paid leave for self, and paid leave for family at higher rates (17.81%, 11.51%, and 7.56%, respectively) than workers who are married, widowed, or divorced/separated. This finding could be illustrative of the age at which individuals marry; recall that lack of access to paid leave was highest among workers aged 30 years and younger.

Essential Workers

As presented in Table 11, Worker PLUS estimates of lack of access to paid leave for Missouri essential workers also vary by household income, educational attainment, and marital status. In general, the lack of access to paid leave for essential workers was predicted to be higher than, and to follow the same trends as, those reported for Missouri's public and private sector workforce. For instance, as household income increases, lack of access to paid leave decreases. Similarly, essential workers with lower levels of education were estimated to have greater lack of access to paid leave of all types, and never-married essential workers were the most likely to lack access to both paid sick leave for self and paid sick leave for family.

Table 11: Percent of Public- and Private Sector Missouri Workers and Missouri Essential Workers Estimated to Lack Access to Paid Leave: Socioeconomic Characteristics						
	All Employed Missourians			**Missouri Essential Workers**		
		Paid Leave Type			**Paid Leave Type**	
	Lack Access to Paid Leave	**Lack Access to Paid Leave for Self**	**Lack Access to Paid Leave for Family**	**Lack Access to Paid Leave**	**Lack Access to Paid Leave for Self**	**Lack Access to Paid Leave for Family**
Household Income Categories						
Less than $50,000	15.76%	9.94%	6.58%	17.58%	11.82%	6.80%
$50,000 - $74,999	13.09%	7.20%	6.50%	13.99%	8.58%	6.05%
$75,000 - $149,999	10.73%	6.04%	5.28%	12.07%	7.04%	5.68%
$150,000 or more	10.25%	6.21%	4.76%	11.17%	6.95%	5.20%
Highest Level of Education						
Less than high school	18.44%	10.14%	9.49%	18.32%	11.26%	8.08%
High school	17.02%	10.22%	8.01%	19.15%	12.36%	8.33%
Some college	14.69%	9.25%	6.06%	15.72%	10.32%	6.11%
Associate	11.41%	7.18%	4.62%	11.89%	8.04%	4.30%
Bachelor's	6.91%	3.69%	3.38%	6.67%	3.65%	3.19%
More than a bachelor's	6.42%	2.46%	4.14%	7.54%	2.61%	5.07%
Marital Status						
Married	10%	4.94%	5.47%	10.28%	5.31%	5.35%
Widowed	10.49%	7.33%	3.45%	12.97%	10.38%	3.01%
Divorced/separated	12.42%	8.71%	4.14%	13.52%	9.86%	4.25%
Never married	17.81%	11.51%	7.56%	20.44%	13.9%	8.17%

Source: Worker PLUS Model, ACS 2018, FMLA 2018

Note: Each column represents the predicted percentage of Missourians who either needed but did not take leave or took leave without pay in the past year.

Employment Characteristics Associated with Lack of Access to Paid Leave

All Employed Missourians

Table 12 shows estimates of lack of access to paid leave for workers by employment characteristics, including health insurance and employer size. Employed Missourians without health insurance are more likely to lack access to paid leave than employed Missourians with health insurance (16.85% vs. 12.20%, respectively). This difference also applies to lack of access to paid leave for self and paid leave for family. Lastly, lack of access to paid leave, paid leave for self, and paid leave for family is greatest among employees working for firms with 49 or fewer employees.

Essential Workers

On the basis of health insurance coverage and employer size, Worker PLUS estimates of lack of access to paid leave for Missouri essential workers were slightly higher than among the population of all private and public sector Missouri workers. The trends, however, were similar, with lack of access higher among essential workers without health insurance than those with health insurance (18.43%, 13.48%, respectively) and for those employed by firms with 49 or fewer employees (15.46% versus 13.16% and 13.42%).

Table 12:
Percent of Public- and Private Sector Missouri Workers and Missouri Essential Workers Estimated to Lack Access to Paid Leave: Employment Characteristics

	All Employed Missourians			Missouri Essential Workers		
		Paid Leave Type			Paid Leave Type	
	Lack Access to Paid Leave	Lack Access to Paid Leave for Self	Lack Access to Paid Leave for Family	Lack Access to Paid Leave	Lack Access to Paid Leave for Self	Lack Access to Paid Leave for Family
Health Insurance						
Yes	12.20%	7.18%	5.66%	13.48%	8.34%	5.93%
No	16.85%	10.06%	7.60%	18.43%	12.48%	6.95%
Employer Size						
1-49 employees	13.73%	8.50%	6.04%	15.46%	10.36%	6.08%
50-999 employees	12.37%	7.20%	5.83%	13.42%	8.43%	5.77%
1,000 or more employees	11.93%	6.71%	5.74%	13.16%	7.66%	6.18%

Source: Worker PLUS Model, ACS 2018, FMLA 2018

Note: Each column represents the predicted percentage of Missourians who either needed but did not take leave or took leave without pay in the past year.

Employer Industry and Employee Lack of Access to Paid Leave

All Employed Missourians

Table 13 shows Worker PLUS estimates of lack of access to paid leave by employer industry as classified by the North American Industry Classification System (NAICS). The table lists employer industries in order from highest predicted lack of access to paid leave to lowest predicted lack of access. These rankings change for access to paid sick leave for self and paid leave for family. Industries with the highest predicted lack of access to paid leave are mining, quarrying, and oil and gas extraction (25.11%),

arts, entertainment, and recreation, and accommodation and food services (22.56%), and information (16.31%). Industries with the lowest lack of access to paid leave include public administration (8.56%), agriculture, forestry, fishing, and hunting (8.48%), and professional, scientific, and management, and administration, and waste management services (8.17%).

Essential Workers

Worker PLUS estimates of lack of access to paid leave by industry for Missouri essential workers were again slightly higher than the general population. The estimates also followed a mostly similar ranking of highest to lowest access, by industry, as among public and private sector Missouri workers.

Table 13:
Percent of Public- and Private Sector Missouri Workers and Missouri Essential Workers Estimated to Lack Access to Paid Leave: By Industry

Industry	All Employed Missourians			Missouri Essential Workers		
		Type of Paid Leave			Type of Paid Leave	
	Lack Access to Paid Leave	Lack Access to Paid Leave for Self	Lack Access to Paid Leave for Family	Lack Access to Paid Leave	Lack Access to Paid Leave for Self	Lack Access to Paid Leave for Family
Mining, quarrying, and oil and gas extraction	25.11%	4.23%	21.76%	26.34%	4.23%	22.66%
Arts, entertainment, recreation, and accommodation and food services	22.56%	16.41%	7.97%	24.69%	17.96%	8.89%
Information	16.31%	13.7%	3.49%	16.36%	13.70%	3.59%
Other services except public administration	15.40%	9.45%	7.08%	-	-	-
Transportation and warehousing	13.89%	9.45%	5.35%	13.94%	9.41%	5.46%
Construction	13.49%	5.93%	8.09%	-	-	-
Wholesale trade	13.46%	6.64%	7.53%	14.31%	6.88%	8.15%
Educational services, and health care and social assistance	12.59%	7.79%	5.33%	13.86%	8.52%	5.93%
Finance and insurance, and real estate, and rental and leasing	9.29%	6.24%	3.47%	8.69%	5.63%	3.39%
Manufacturing	9.07%	5.07%	4.42%	9.10%	5.14%	4.43%
Public administration	8.56%	4.14%	4.75%	8.61%	3.95%	4.97%
Agriculture, forestry, fishing, and hunting	8.48%	4.29%	4.50%	7.04%	3.34%	3.97%
Professional, scientific, and management, and administrative, and waste management services	8.17%	3.04%	5.31%	-	-	-

Source: Worker PLUS Model, ACS 2018, FMLA 2018
Note: Each column represents the predicted percentage of Missourians who either needed but did not take leave or took leave without pay in the past year.

Employee Occupation and Lack of Access to Paid Leave

All Employed Missourians

Table 14 shows lack of access to paid leave by employee occupation and, similar to Table 13, lists occupation in order from highest lack of access to lowest predicted lack of access. Missouri public and private sector workers with the highest estimated lack of access to paid leave are employed in service occupations (21.26%), installation, maintenance, and repair (14.55%), and construction and extraction (14.34%). Worker PLUS predictions of lowest lack of access, by occupation, include arts and sciences (8.62%) and management, business, and financial (7.33%). Lack of access to paid leave for self and paid leave for family follow approximately similar trends by occupation.

Essential Workers

Essential workers' lack of access to paid leave, by occupation, differs only slightly from the general employed Missouri population's access. Missouri essential workers employed in service occupations have the highest lack of access to paid leave (22.09%) followed by construction and extraction (16.53%) and sales (16.20%). Essential workers in arts and sciences (9.05%) and management, business, and financial (8.35%) are estimated to have the lowest lack of access to paid leave.

Table 14:
Percent of Public- and Private Sector Missouri Workers and Missouri Essential Workers Estimated to Lack Access to Paid Leave: By Occupation

Occupation	All Employed Missourians			Missouri Essential Workers		
		Type of Paid Leave			Type of Paid Leave	
	Lack Access to Paid Leave	Lack Access to Paid Leave for Self	Lack Access to Paid Leave for Family	Lack Access to Paid Leave	Lack Access to Paid Leave for Self	Lack Access to Paid Leave for Family
Services	21.26%	13.95%	8.74%	22.09%	15.01%	8.66%
Installation, maintenance, and repair	14.55%	8.21%	7.06%	14.40%	8.68%	6.23%
Construction and extraction	14.34%	6.31%	8.76%	16.53%	7.30%	10.50%
Sales	14.30%	8.11%	7.06%	16.20%	9.86%	7.52%
Production	13.33%	8.93%	5.07%	14.30%	9.36%	5.86%
Farming, fishing, and forestry	13.24%	6.39%	7.97%	10.01%	4.69%	6.62%
Transportation and material moving	12.71%	7.02%	7.52%	13.94%	7.65%	7.33%
Office and administrative support	10.72%	6.41%	4.72%	12.06%	7.57%	4.97%
Arts and sciences	8.62%	4.87%	4.07%	9.05%	5.14%	4.22%
Management, business, and financial	7.33%	4.21%	3.31%	8.35%	5.35%	3.22%

Source: Worker PLUS Model, ACS 2018, FMLA 2018

Note: Each column represents the predicted percentage of Missourians who either needed but did not take leave or took leave without pay in the past year.

Public-Facing Missouri Essential Workers

Table 15 presents Worker PLUS estimates of lack of access to paid leave for a narrower group of essential workers to counter-balance the broadness of the C.D.C. guidelines. Five categories of occupation are included: education and child care, medical professions, emergency medicine, retail, and food service. These occupations are further divided into management and non-management positions.

Overall, Missouri essential workers in non-managerial positions are predicted to lack access to paid leave at a higher rate than those in managerial positions. This difference is notable between child care workers, and education and child care managers, where 26.72% and 6.72% lack access to paid leave, respectively. Food service workers are also predicted to lack access to paid leave at high rates, with 24.65% lacking access to paid leave, 17.90% lacking access to paid leave for self, and 8.61% lacking access to paid leave for family. Although food service managers also lack access to paid leave at relatively high levels compared to other essential occupations, when compared to food service workers, they have relatively lower lack of access to paid leave (17.40%). The medical professions are estimated to have lower lack of access to paid leave among these essential worker occupations, though nurses have a higher lack of access than medical managers and doctors (13.58%, 8.26%, 8.19%, respectively). Missourians working in emergency medicine however, are more likely to lack access than some of their peers in the above-mentioned medical professions (11.30% of EMTs lacked access).

Table 15:
Percent of Public- and Private Sector Missouri Workers in Public-Facing Essential Occupations Estimated to Lack Access to Paid Leave

	Lack Access to Paid Leave	Lack Access to Paid Leave for Self	Lack Access to Paid Leave for Family
Education and Child Care			
Education and child care managers	6.72%	4.12%	2.75%
Education	8.23%	4.68%	3.91%
Child care	26.72%	17.03%	11.97%
Medical Professions			
Medical managers	8.26%	5.55%	2.98%
Doctors	8.19%	8.25%	5.84%
Nurses	13.58%	8.25%	5.97%
Emergency Medicine			
Emergency management directors	12.03%	12.03%	0%
EMTs and paramedics	11.30%	6.99%	4.31%
Retail			
Retail managers	10.88%	5.21%	6.01%
Retail workers	18.96%	11.06%	9.39%
Food Service			
Food service managers	17.40%	13.67%	5.21%
Food service	24.65%	17.90%	8.61%

Source: Worker PLUS Model, ACS 2018, FMLA 2018 Note: Each column represents the predicted percentage of Missourians who either needed but did not take leave or took leave without pay in the past year.

Missourians Predicted to Have Access to the FFCRA (April-December 2020)

The Families First Coronavirus Response Act (FFCRA) required employers to provide paid sick leave for individuals quarantining due to COVID, caring for family members with COVID, or caring for children whose schools and/or child care programs were closed due to COVID. Private employers with fewer than 500 employees were covered under FFCRA, with the exception that employers with fewer than 50 employees could apply for an exemption if the leave requirements jeopardized the viability of the business.[76] The U.S. Department of Labor further specified that public sector employees were generally entitled to *paid sick leave* with exceptions, such as those for emergency responders. However, because most federal employees are covered instead by Title II of the FMLA, they were not entitled to expanded *family and medical leave* under FFCRA.[77]

Using the Worker PLUS model, the 2020 ACS demographic data, and the 2018 FMLA survey data, we estimated private sector employer size for all working Missourians, and found that FFCRA applied to 44.6% of people employed in Missouri based on an employer size of fewer than 500 employees in the private sector. Excluding small businesses (<50 employees), this estimate decreased to 21.8%.

Demographic Characteristics of Missouri Workers Predicted to be Eligible for FFCRA

Table 16 shows the demographic characteristics of Missouri workers predicted to be eligible for FFCRA, based on private sector employment, an employer size fewer than 500 employees, and 2020 ACS data. To account for potential small business exemptions, Table 16 also includes estimates based on private sector employment, 2020 ACS results, and an employer size between 50 and 499 employees.

FFCRA eligibility varied by sex, race/ethnicity, and age. About 46% of FFCRA eligible workers were women employed by companies with fewer than 500 employees (48.03% when excluding small businesses). Among workers predicted to be eligible based on employer size, 81.30% were white, 9.15% Black, 2.18% Asian, 4.80% Hispanic, and 0.49% American Indians and Alaska Natives[78] Of all FFCRA eligible workers, 59.86% were between the ages of 30 and 59, and 64.32% did not have children. Eligibility estimates were similar when exempting small businesses.

Table 16: Percent of Employed Missourians Predicted to be Eligible for FFCRA Based on Employer Size (Private Employers): Demographic Characteristics		
	Employers With Fewer Than 500 Employees	**Employers Between 50 and 499 Employees**
Sex		
Female	45.92%	48.03%
Male	54.08%	51.97%
Race/Ethnicity		
American Indian/Alaska Native	0.49%	0.44%
Asian	2.18%	2.20%
Black	9.15%	9.45%
Hispanic	4.80%	4.69%
Other	2.09%	2.11%
White	81.30%	81.11%
Age		
Under 30	27.09%	27.77%
30-59	59.86%	59.46%
60 and over	13.05%	12.77%
Presence of Children in the Home		
No children	64.32%	64.40%

Source: Worker PLUS Model, ACS 2020, FMLA 2018

Socioeconomic and Employment Characteristics of Missouri Workers Predicted to be Eligible for the FFCRA

Table 17 presents socioeconomic and employment characteristics of Missouri workers predicted to be eligible for paid sick leave under FFCRA, based on private businesses with fewer than 500 employees, and private businesses with between 50 and 500 employees. For all eligible individuals, 28.08% were living in households earning less than $50,000; 20.97% resided in households earning $50,000-$75,000; 36.85% lived in households earning $75,000 - $149,000; and 14.37% with $150,000 or more. These estimates are approximately similar to the estimates for FFCRA eligibility when excluding small businesses (i.e., employers with between 50 and 499 employees). In 2020, the median annual household income of Missourians was $57,290, illustrating that FFCRA benefited households above the median income at a higher rate than households with lower incomes.[79]

Eligibility for FFCRA also varied across educational attainment. Most eligible workers had attained a high school diploma (38.83%), followed by those who had completed some college (34.35%). Relatively lower percentages of eligible workers had earned a bachelor's degree (18.52%). Again, the eligibility estimates are similar when excluding small businesses.

Just over half of workers predicted to be FFCRA eligible were married (50.54%) and 26.64% have never married, and 73.05% of FFCRA eligible Missourians had access to health insurance through their employer.

Table 17: Percent of Employed Missourians Predicted to be Eligible for FFCRA Based on Employer Size (Private Employers): Socioeconomic and Employment Characteristics		
	Employers with Fewer Than 500 Employees	**Employers Between 50 and 499 Employees**
Education		
Less than high school	1.66%	1.49%
High school	38.83%	36.77%
Some college, no degree	34.35%	34.04%
Bachelor's	18.52%	19.84%
More than a bachelor's	26.82%	29.19%
Household Income Categories		
Less than $50,000	28.08%	27.61%
$50,000-$74,999	20.97%	20.83%
$75,000-$149,999	36.58%	36.60%
$150,000 or more	14.37%	14.96%
Marriage Status		
Married	50.54%	50.66%
Never married	26.64%	26.77%
Widowed	1.77%	1.67%
Divorced/separated	11.22%	11.13%
Health Insurance Through Employer		
Yes	73.05%	74.04%

Source: Worker PLUS Model, ACS 2020, FMLA 2018

Equity Summary: Worker PLUS Estimates of Lack of Access to Paid Leave and FFCRA in Missouri

The Worker PLUS estimates above predict the lack of access to paid leave among formally employed Missourians who work in both the public and private sector. Although there are some similarities in access to paid leave among the Worker PLUS estimates, the national data (NHIS 2020, NCS, 2021), and the state data (NHFS, 2009) presented earlier, we caution against direct comparisons of these results. The Worker-PLUS model predicts need for and lack of access to paid leave based on reported need in the previous year, therefore limiting the analysis and excluding those for whom access to paid leave was not available and not needed in the previous year. The data presented in the first section of the report focus on the eligibility of workers for paid leave programs regardless of need or leave-taking behaviors.

That said, the Worker PLUS estimates of lack of access to paid leave among public- and private sector Missouri employees and Missouri essential workers revealed disparities on the basis of sex and race/ethnicity and followed similar trends for education, occupation, and household income. For example, lack of access to paid leave was higher among females than males and showed wider variation for different racial and ethnic groups. Specifically, lack of access to paid leave was highest among American Indian/Alaska Natives and Other races and lowest among Whites and Asians; Black and Hispanic workers were in between.

Additionally, among public and private sector Missouri workers, lack of access to paid leave was highest among those with the least educational attainment, those with service-oriented occupations, and those in the lowest household income category. The Worker PLUS estimates of Missourians employed in public-facing essential occupations yielded sharp contrasts in lack of access to paid leave for those in "managerial" positions versus those on the front-line. About 27% of child care workers were predicted to lack access to paid leave versus about 8% of those in education or child care management. The direct provision of child care is a notoriously low-paying service occupation that requires limited educational attainment to enter the field. For those who want to pursue child care as a career, advancement often takes the form of child care managerial or administrative positions that require more education, and offer better pay and, on the basis of this analysis, more benefits such as paid leave. Worker PLUS estimates revealed similar disparities between managers and front-line workers in retail and food service, also low-paying occupations that require little educational attainment. These discrepancies in access to paid leave between front-line workers and their managers underlie the structural inequalities associated with lower prestige occupations within the same industry and represent the likely beneficiaries of a paid leave mandate in Missouri.

Worker PLUS estimates of Missouri workers' access to the Families First Coronavirus Response Act (FFCRA) are difficult to interpret with an equity lens. Although the estimates vary by Missouri workers' sex, race/ethnicity, education, and household income, there is no clear indication that those most in need (e.g., those with less education and lower household incomes) had greater predicted access. For example, more males were predicted to be eligible for the FFCRA than females (54.08% versus 45.92%, respectively) and of those eligible 81.30% were White. For those eligible for FFCRA, 28.08% were in households with less than $50,000 in annual income, and 36.58% of those in households earning between $75,000 and $149,999.

Study 2: Estimating Society-Wide and Employer Costs and Benefits of Paid Sick Leave Proposals

Population of Interest

To estimate the costs and benefits of the hypothetical paid sick leave proposals, the population of interest includes private-sector workers employed in Missouri of all wage rates, part-time and full-time workers, and all employer sizes, including workers who commute across state lines to work. Those working for federal, state, and local government employers and self-employed workers are excluded.

Worker PLUS Model Parameters and Variable Definitions

The Worker PLUS model was also used to simulate short-term leave-taking behaviors under three policy scenarios (described below). Using the R-version of the interface and 2018 ACS and FMLA data, we obtained the estimated cost to employers of each paid sick leave scenario from new employee leave.

Parameters were set such that the share of dual receivers (individuals who could receive benefits both from their employer and from the hypothetical state paid leave program) was set to one; the wage replacement rate was one hundred percent; and, the wait period between when an employee applies for paid leave and when the benefit is received was set to zero.

Because the proposed scenarios do not specify any fiscal administration or required employee contribution, the benefit financing structure in the Worker PLUS model was set such that the payroll tax was zero. No eligibility requirements were set (i.e., the values for minimum earnings, annual hours worked, and employer size were zero). This indicates a state program that would apply to workers of all wage rates, part-time and full-time workers, and to all employer sizes. The minimum required weeks worked was four to reflect time for accrual; this is a common design element in most proposed policies. For all three scenarios, only private sector employers are covered under the mandate and federal, state, and local government employers and self-employed workers are excluded.

Policy Scenarios

Using existing state and local paid leave programs to inform hypothetical policies, we examined three paid leave mandate scenarios based on the number of days of paid leave an employer is required to provide, and the employer size based on number of employees, with a small employer defined as less than 15 employees, and large 15+. We refer to these scenarios as the "0/3 option," the "3/5 option," and the "5 /7 option." In the 0/3 scenario, small employers are not required to offer any paid leave and large employers are required to offer at least three days of paid sick leave to all employees. In the 3/5 scenario, small employers are required to offer at least three days of leave and large employers at least five days. The 5/7 scenario requires small employers to offer at least five days of paid sick leave and large employers to offer at least seven days of paid leave.

Across all scenarios, the term *paid sick leave* reflects the terminology common across similar state and local policies, characterized as short-term leaves taken for a variety of reasons. Reasons for leave are modelled by the Worker Plus model as defined above and include overall need for leave; need for leave

for own-health reasons; and, need for leave for an ill-spouse, ill-dependent, child bonding, and maternity leave.

Worker PLUS produced policy scenario data files based on the employer size of each individual. These files were thus used to simulate leave-using behavior under each policy scenario for each individual and to estimate total benefits paid by employers in the Cost-Benefit Analysis section that appears below. The data were also utilized for Study 3 to predict leave-utilization behavior by worker demographic, socioeconomic, and employment characteristics under the 3/5 scenario.

Approach to Cost-Benefit Analysis

For nearly two decades, the Institute for Women's Policy Research (IWPR) has conducted cost-benefit analyses of state and national sick leave programs under their program "Valuing Good Health." Our cost-benefit analysis expands on the earlier IWPR analyses by incorporating new research on paid leave. This new research focuses on paid sick leave mandates and the measured effects on a range of health and economic outcomes. Before the expansion of paid leave mandates starting around 2012, research on paid leave relied on comparing individuals with and without paid sick leave that was provided voluntarily by employers. Because earlier paid leave research focused on paid leave as a benefit offered by employers, its generalizability to research and cost-benefit analysis of paid leave mandates is limited.

The cost-benefit analysis reported below takes advantage of the new generation of research on paid leave by comparing outcomes under conditions of the presence or the absence of paid sick leave mandates. This research indicates that while employers do bear costs associated with paid sick leave mandates, cost-savings (i.e., benefits) also accrue to them through workplace improvements (e.g., reduced absenteeism, reduced health care costs due to employee influenza, reduced workers' compensation). These cost-savings can also accrue to society through spillover effects (i.e. externalities) by reducing flu prevalence among the population, ER visits from delayed care, and low economic productivity caused by sick workers. The cost-benefit analysis conducted accordingly distinguishes between society-wide cost-benefits and employer cost-benefits.

Using findings from research on paid sick leave mandates and the Worker PLUS model, we examined the following factors to estimate the society-wide and employer benefits (i.e., cost savings, cost adjustments) of a paid sick leave mandate: employee absenteeism, presenteeism, and retention, workplace health, workers compensation, employee emergency room utilization, and nursing home workplace conditions. The cost factors estimated include the overall cost of new days of paid leave under the three different policy scenarios (i.e.,0/3, 3/5,5/7), the inclusion of addressing the health and legal issues related to domestic violence as a reason for leave, state government program administration and enforcement, and employer program administration and compliance. To the extent possible, figures below are from the year 2018 to align with the data used in the Worker PLUS model; all monetary amounts presented reflect 2018 dollars. In general, results indicate that the benefits of a paid sick leave mandate likely exceed the costs for society as a whole and for employers directly.

Limitations to Cost-Benefit Analysis Approach

Limitations on our approach must be noted. Importantly, research on paid leave mandates has not estimated if, and how, effects vary by different policy scenarios, such as the number of days of paid

leave that employees are granted. When possible, we note how the mandates examined in the research differ from our hypothetical paid leave scenarios. The variation in mandate policy design (e.g., number of days mandated, rate at which time toward leave is accrued, employer size and type) makes exact comparisons impossible. Thus, with the exception of employer cost adjustments for wages paid to workers with low productivity and the cost to include domestic violence as a reason for paid leave, the cost-benefit analysis conducted applies the same evidence-based assumptions across the 0/3, 3/5, and 5/7 policy scenarios. Note, because the potential benefits of including domestic violence as an approved reason for leave are not yet well-documented, we included only cost (and not benefit) estimates of this program design feature in our analysis.

When judgement was required in parameter selection, every attempt was made to provide a cost-benefit analysis with conservative estimates for the effect on benefits, or cost savings. As noted above, we excluded findings from earlier research that compared workers with and without paid sick leave provided through employment contracts. Additionally, a finding from the new generation of paid leave research that linked Connecticut's mandate to increased use of preventative medicine (e.g., Pap smears, dental visits, or influenza vaccinations) is also not included because a credible estimate of the effect was not available.[80] When multiple plausible estimates were available, we relied on a cautious approach such that the higher possible cost and the lower possible benefit were used to estimate the paid sick leave scenario's cost-benefit.

Lastly, there are factors that may affect the cost-benefit to employers or society that we are unable to evaluate. For instance, due to differences between Missouri's labor market and population health, and the labor market and health of the regions with mandated paid sick leave that provided the multipliers for our analysis, the estimated benefits may be affected in ways that cannot currently be calculated.

For a preview of the society-wide and employer-specific cost-benefit summary, see Table 30. Below, the rationale and supporting documentation for calculating each benefit factor (i.e., cost savings, cost adjustments) and each cost factor is described in detail.

Study 2: Findings of the Cost-Benefit Analysis

Predicted Benefits of a Paid Leave Mandate in Missouri

a) Reduced Absenteeism

Although the Worker PLUS model predicts that workers gaining paid sick leave will take more time off after a mandate goes into effect, that does not necessarily imply that the overall number of absences will increase. Reduced overall absenteeism is likely to occur if the mandate allows workers with contagious illnesses to stay home and, as a result, fewer illnesses occur for workers who would have also acquired the illness.

Stearns and White (2018) conducted a study of absenteeism after paid sick leave mandates went into effect in Washington D.C. and Connecticut and found an 18% decrease in illness-related absenteeism.[81] Because some of these absences would have been paid, this represents a cost savings to employers. Using this estimated reduction, we estimate the *cost savings* from reduced absenteeism by calculating

the cost of leave paid by employers without a mandate and multiply this by the reduction in absences expected by a mandate in Missouri (see Table 18).

Table 18: Employer Cost Savings from Reduced Absenteeism		
Cost Factor	**Value**	**Source**
Current cost paid by employers for employee's own sick leave	$1,807,573,562	Worker-PLUS model with a zero-state policy to reflect no state-level mandate or paid sick leave policy
Reduction in illness-related absenteeism	18%	Stearns and White, 2018. Based on Washington, D.C. and Connecticut mandates
Total	**$325,363,241**	

Generalizability and Limitations

Both Connecticut's and Washington D.C.'s mandates are not particularly generous.[d] Connecticut's mandate excludes workplaces with fewer than 50 employees and all non-service sector occupations. Washington D.C. covers all workers but limits workers in workplaces with less than 25 employees to a relatively low cap (three days) and a very low rate of accrual (one hour per 87 hours worked).

b) Employee Presenteeism

Presenteeism represents when employees are present, but unable to fully function due to illness[82]. Sick workers tend to be less productive than healthy workers. Without a paid leave mandate some sick workers show up to work and work less productively, but still draw their normal pay. Table 19 shows an employer's costs of a sick worker under two hypothetical scenarios: with and without paid leave. Under scenario 1) with a paid leave mandate, the worker would take the day off and is paid $100 a day, and the employer receives no valued work (i.e., productivity = 0%). In scenario 2) without paid leave, that the worker would still come to work to receive wages but do so less productively (i.e., productivity = 80%) due to the illness. In scenario 1 (with a mandate) the employer cost of the illness is $100 and in scenario 2 (without a mandate) the illness costs to the employer is $20. Therefore, the net cost of the mandate to the employer is $80 with the net cost incorporating an adjustment for the next best alternative (i.e., the worker coming to work sick and working less productively).

Therefore, we adjust the total cost of leaves paid by the typical productivity of sick workers (who are now absent). This method of adjustment is similar to research conducted by the Institute for Women's Policy Research on the cost-benefit of paid sick leave programs in other states and localities and appears in Table 19.

[d] Connecticut's mandate applies only to service sector workplaces with more than 50 employees. Washington D.C.'s mandate is steeply graded by workplace size, with 24 hours at one hour per 87 hours worked for workplaces with under 24 workers.

Table 19: Hypothetical Example of Cost Adjustment from Low Productivity of a Sick Worker			
	A. Wage Cost	**B. Productivity**	**Employer's Net Cost of Employee Illness (A-B)**
C. With Mandate			
Absent worker paid, not replaced	$100	0%	$100
D. Without Mandate, No Sick Days			
Sick worker is present but less productive	$100	80% (=$80)	$20
		Total Cost of Mandate (C-D)	**$80**

Research on worker productivity from 2001 suggests that employees reported being roughly 50% less productive while working with the flu.[83] A more modest result of a 17% decline in overall productivity was found in a 2012 survey asking workers about their own productivity and presenteeism due to illness over a three-month period.[84] A 17% overall reduction in productivity is a conservative estimate, as the productivity losses would be greatest when the worker was actually sick, and the 17% estimate reflects overall productivity loss for the whole three months. This estimate also does not account for "contagious presenteeism," or the costs associated with a sick employee potentially infecting others, resulting in absences or reduced productivity, and increased healthcare costs.[85]

To calculate the cost adjustment, we multiplied the loss of productivity (17%) by the cost of new days of sick leave under each proposed policy scenario. The resulting figure represents a discount of the cost of new paid leaves under a mandate, given that the these "presentee" workers would have not been operating at their usual productivity if they had come in to work sick. These figures and calculations are shown in Table 20 below.

Table 20: Cost Adjustment for Wages Currently Paid to Workers With Low Presenteeism		
Cost Factor	**Value**	**Source**
Cost of days of paid leave (0/3 Mandate Model)	$250,421,180	Worker PLUS Model
Cost of days of paid leave (3/5 Mandate Model)	$436,336,530	Worker PLUS Model
Cost of days of paid leave (5/7 Mandate Model)	$612,048,408	Worker PLUS Model
Productivity difference between sick and healthy workers	17%	Robertson et al. (2012)
Cost discount to adjust for productivity loss (0/3 Mandate Model)	$42,571,600	
Cost discount to adjust for productivity loss (3/5 Mandate Model)	$74,177,210	
Cost discount to adjust for productivity loss (5/7 Mandate Model)	$104,048,229	

Generalizability and Limitations

This cost adjustment (i.e., benefit) is the only parameter sensitive to mandate design (i.e., number of days of paid leave), because it reflects an adjustment of the total cost of leave taken under each policy scenario.

c) Reduced Turnover

Employee turnover is costly to employees and employers. Employers who do not currently offer paid sick leave will benefit from a paid sick leave mandate in terms of employee retention and lower costs associated with advertising for, hiring, and training new employees. A 2012 review of literature on the cost of employee turnover across a variety of industries finds that turnover typically costs employers 21.4% of the employee's annual salary.[86] Workers with access to paid sick leave are better able to address their own health needs and those of their family without risking termination.

A 2013 study found a 2.5% reduction in turnover for employees when they reported having paid sick leave.[87] A 2021 study looked at the effect of a paid leave mandate on turnover in Seattle and found a 4.7% reduction in turnover for employees with low income in small firms (under $15 an hour at a workplace with four to fifty employees).[88] Because the Seattle study looked at the actual effects of a mandate rather than the association between contractual paid leave and turnover, we use the latter figure for this estimate. Though the rate of reduction is larger, it is applied to a subset of the population, making it the more conservative of the two available figures.

To calculate the reduction in employer costs due to reduced turnover, we multiply the payroll for Missouri employees who earn less than $15.00 per hour at private firms with between 4 and 50 employees by the predicted reduction in turnover costs, based on the Seattle (2012) study, as a percentage of annual salaries, see Table 21.

Table 21:
Cost Savings from Reduced Turnover

Cost Factor	Value	Source
Payroll for all Missouri employees who make less than $15 an hour and work for firms with 4 to 50 employees	$3,697,108,788	Worker-PLUS model with a 3/5 mandate policy option
Employer cost of turnover as a percent of employee annual salary	21.4%	Bushey et al (2012)
Reduction in turnover from paid sick leave access	4.7%	Wething (2021) Based on Seattle mandate
Cost savings from reduced turnover	**$37,185,520**	

Generalizability and Limitations

Seattle's policy is comparable to our 5/7 policy scenario. However, the five-day minimum paid leave requirement applies to employers with up to 50 employees and another tier is added that provides nine days of leave at an accelerated rate of accrual for employers with more than 250 employees.

d) Society-Wide Reduction in Economic Burden of Illness

A 2021 study that utilized C.D.C. Weekly U.S. Influenza Surveillance Report data indicated that city level mandates for paid sick leave reduced influenza like illnesses by 28% in ten states, including the District of Columbia.[89] A 2018 study found that the median prevalence of flu cases from 2010 to 2016 was 8.3 percent.[90] A more recent estimate of the annual economic burden of influenza in the United States found that costs per case are, on average, $5,333, including health care costs and some indirect costs but excluding the costs of lost productivity and earnings due to non-fatal illness (these are excluded because they should be captured at least in part by our calculations around absenteeism and presentee productivity).[91] These values were used in our model to estimate the society-wide cost savings from reduced influenza-related economic burden, see Table 22.

Table 22:
Society-Wide Cost Savings from Reduced Healthcare Costs Associated with Influenza Cases

Cost Factor	Value	Source
Missouri population	6,154,913	U.S. Census
Prevalence of flu cases	8.3%	Tokars (2018)
Reduction in rate of influenza like illnesses from mandate	28%	Pichler et al (2021) Based on the effect in ten mandate states
Cost to society of a flu case, excluding productivity losses due to illness	$5,333.39	Molinari (2007)
Cost savings from reduced economic burden of influenza	**$762,889,056**	

Note: Monetary amounts are in 2018 dollars, all numbers rounded to the nearest dollar

Generalizability and Limitations

This calculation assumes that the average employer-provided health care costs for flu cases among cases prevented by the policy is the same as the average healthcare cost of a flu case in general.

e) Employer Reduction in Health Care Costs of Influenza Among Employees

Some employers pay a portion of their employee's health care costs. These costs will be reduced if paid sick leave results in fewer flu cases. A 2013 study estimated the flu-related health care costs were $454 per case, borne by employers through employer-sponsored healthcare plans.[92] Using the same baseline flu prevalence and reduction after a mandate goes into effect, we calculated the number of prevented cases of the flu among the 52.3% of Missourians with employer-sponsored health care plans (see Table 23).[93] The resulting employer savings are a subset of the society-wide cost savings calculated above that can be credited to employers in our employer cost-benefit analysis.

Table 23: Employer Share of Cost Savings from Reduced Economic Burden of Influenza Cases		
Cost Factor	**Value**	**Source**
Missouri population	6,154,913	U.S. Census
Prevalence of flu cases	8.3%	Pichler et al (2021)
Reduction in rate of influenza like illnesses from mandate	28%	Pichler et al (2021) Based on the effect in ten mandate states
Employer healthcare cost for influenza per 100,000 plan members	$779,060	Karve et al (2013)
Flu cases per 100,000 plan members among study population	1,715	Karve et al (2013)
Employer health care cost per flu case	$454.26	Calculation
Share of Missouri population covered by employer health plans	52.3%	Kaiser Family Foundation
Employer share of cost savings from reduced influenza health care costs	**$33,983,197**	

Note: Monetary amounts are in 2018 dollars

Generalizability and Limitations

This calculation assumes that the average cost for flu cases among cases prevented by the policy is the same as the average cost of a flu case in general. The ten states considered in the 2021 study cited above varied widely in the generosity of their paid sick leave mandates.

f) Reduced Workers' Compensation Costs

The effect of paid sick leave on non-fatal occupational injuries and resulting workers' compensation has been identified in a recent study. Hawkins and Zhu (2019) estimated the effect of a mandate directly and compared service workers who gained paid sick leave in Connecticut to: 1) workers in sectors not covered by Connecticut's law; 2) uncovered workers in neighboring New York state; and, 3) uncovered workers nationally.[94] While occupational injuries declined for all of these populations in the study period, they found that the decline in occupational injuries after the implementation of paid sick leave was greater for those covered by the policy. Based on this study, workers with paid sick leave provided through a mandate are less frequently injured on the job than similar workers without paid sick leave.

In 2018, Missouri workers were paid $967,719,000 in workers compensation payments.[95] Using the most conservative rate of decline in injuries from the Connecticut study (a 4.9% decline when comparing Connecticut workers to uncovered workers in New York state) we estimated the society-wide cost savings from reduced workers' compensation payments.

Employers also bear a share of the costs associated with workers' compensation payments through deductibles and direct payments for self-insured employers. According to Murphy et al, in 2018 these costs accounted for 42.6% of national workers' compensation benefits. On this basis, the 42.6% share of the reduction in workers' compensation costs calculated above is credited as employer cost-savings in the employer cost-benefit analysis, see Table 24.

Table 24:
Employer Share of Cost Savings from Reduction in Workers Compensation Due to Reduced Occupational Injuries

Cost Factor	Value	Source
Total worker compensation benefits paid, Missouri, 2018	$967,719,000	Murphy et al. (2020)
Rate of reduction in occupational injuries	4.9%	Hawkins (2019). Based on Connecticut mandate
Cost savings from reduced workers compensation costs	$47,418,231	
Percentage of workers' compensation benefits paid by employer, 2018	42.6%	Murphy et al. (2020)
Employer cost savings from reduced workers compensation costs	**$20,200,166**	

Note: Monetary amounts are in 2018 dollars

Generalizability and Limitations

The method described above assumes that the injuries avoided by a mandate are typical of occupational injuries in general and in terms of associated workers' compensation costs. If the prevented occupational injuries are more or less expensive than occupational injuries in general, our estimates would correspondingly be over- or under-estimates. These estimates are also subject to the nuances of Connecticut's paid sick leave mandate, which covered only large establishments (50 or more employees) in the service sector. Because Hawkins and Zhu (2019) did not distinguish workers based on establishment size, their estimate of the effect of the law may be reduced by the inclusion of many non-covered workers.[96] The effect on non-service sector occupations, meanwhile, may be systematically different from the effect of paid sick leave on other sectors.

Finally, not all costs associated with occupational injuries are paid for by workers compensation insurance. For instance, workplace injuries may require employers to pay overtime to uninjured employees and reduce the productivity of uninjured workers.[97] The analysis reported here does not attempt to calculate the value of these savings.

g) Reduction in Emergency Room Visits

According to a 2021 study of New York City's mandate, paid sick leave is associated with fewer trips to the emergency room among employed Medicaid participants between 40 and 60 years of age.[98] Some of these trips were avoided altogether, while some less-serious illnesses and conditions were addressed in less costly primary care settings rather than emergency rooms. Findings also indicated that the

decline in emergency room visits was accompanied by increased outpatient visits during the study period.

Because some of the emergency room visits were replaced with outpatient visits, it would be inaccurate to simply credit paid sick leave with the cost of avoided emergency room visits. The benefit of replaced ER visits is not the sum cost of ER visits, but rather the difference between the cost of emergency room visits and outpatient care. To address this downward shift in health care expenditures, we made the conservative assumption that the full reduction in ER visits was replaced by outpatient visits.

According to the Medical Expenditure Panel Survey (MEPS), the average cost of emergency department care is $1,060 in 2018 dollars, where expenditures include the total amount paid by all parties, including insurers.[99] The average cost of an office-based physician visit was $281, indicating $779 per-visit cost savings from utilizing primary care settings.[100]

The Agency for Healthcare Research Quality (AHRQ) provides data on emergency room utilization through the Healthcare Cost and Utilization Project (HCUP). In 2018, Missouri health care settings had 2.4 million emergency room visits for patients 19 years or older (see Table 25).[101]

Table 25:
Cost Savings from Reduced ER Visits

Cost Factor	Value	Source
2018 ER visits in Missouri	2,474,100	Agency for Healthcare Research Quality – HCUP Fast Facts
Reduction in ER visits	0.6%	Ko and Glied (2021) Based on New York and New York City mandates
A. Cost of ER visit	$1,060.36	MEPS via Consumer Health Ratings
B. Cost of physician's office visit	$281.26	MEPS
Cost savings per visit	$779.10	A – B
Cost savings from reduced ER visits	**$11,565,428**	

Note: Monetary amounts are in 2018 dollars

Generalizability and Limitations

Ko and Glied (2021) studied employed, 40- to 60- year-old Medicaid recipients living in New York City. The population that would gain access to paid sick leave under a mandate in Missouri would be much broader and might respond differently to this new benefit.

Further, similar to our hypothetical 5/7 scenario, New York City requires the largest businesses to provide 56 hours of leave and smaller businesses to provide 40 hours of leave. The New York City mandate is more limited than our 5/7 proposal because more businesses fall into the lowest tier (i.e., tier 1 cutoff is an employer size of more than 100 employees) and because the very smallest businesses, with four or fewer employees or less than $1 million in revenue, are only required to provide unpaid leave.

h) Improved Conditions in Nursing Homes

In nursing home workplaces without paid sick leave, residents may be especially vulnerable. A recent working paper from Michigan State University reported that paid sick leave mandates were associated with improvements in several indicators of nursing home quality, including a reduction in pressure ulcers, fewer patients on psychotropic medications (sometimes over-prescribed to make patients easier to manage), reduced severe nursing home regulatory violations, and increased staffing hours per resident.[102] Although these factors are not directly related to contagious disease, they are associated with other nursing home workplace performance measures. Specifically, these factors are linked with reduced absenteeism, improved presenteeism, decreased workload responsibilities associated with controlling contagious disease, and reduced turnover. All of these factors are associated with reduced nursing home violations and resident mortality.[103]

To estimate the benefits associated with the introduction of paid leave mandates, national cost data on pressure ulcers and psychotropic drug regimens were utilized. Specifically, we estimate the society-wide and employer-specific cost savings associated with these improvements in medical care and reduced violations as they apply to the 2020 Missouri nursing home population of 36,755.[104] Cost savings from reduction in violations and fines is identified as savings accrued directly by employers, the benefits of reduced pressure ulcers and psychotropic drug use is identified as a society-wide cost saving.

According to Pappas (2008), *medical care costs* for pressure ulcer care and psychotropic drug administration are $3,171 and $1,712 respectively.[105] With a pressure ulcer prevalence of 11% based on a National Center for Health Statistics study and an estimated 12% reduction in pressure ulcer occurrence, the estimated *medical cost savings* is $1,538,325. [106] A 2010 study found that 63.2% of nursing home residents received psychotropic drugs annually, and an estimated 5% lower share of residents taking such medications in facilities with paid sick leave for workers results in the estimated medical cost savings of $1,988,590. [107]

Improved quality of care in nursing homes associated with the introduction of paid leave programs may also lead to a reduction in severe regulatory violations, as noted by Datta (2021). Investigative reporting by ProPublica calculates that nursing homes in the state of Missouri incurred $8.52 million in fines over the course of three years based on reports obtained through the Freedom of Information Act.[108] With a 7.5% reduction in nursing home violations due to paid sick leave policies, the cost savings to nursing homes will be $213,000 per year.[109] This estimation approach assumes that the reduction of serious nursing home violations found by Datta extends to all fine-earning violations (see Table 26).

Table 26: Cost Savings from Improved Nursing Home Care		
Cost Factor	**Value**	**Source**
Missouri nursing home population	36,755	Kaiser Family Foundation – State Health Facts
Pressure ulcers prevalence	11%	Park-Lee and Caffrey (2009)
Reduction in pressure ulcer prevalence	12%	Datta (2021) working paper. Based on mandates in nine states and ten localities
Cost of pressure ulcer treatment	$3,170.72	Pappas (2008)
Subtotal: Cost savings from pressure ulcers in nursing homes	$1,538,325	
Prevalence of psychotropic drug regimes in nursing homes	63.2%	Bhattacharjee et al (2010)
Reduction in psychotropic drug prescription	5.0%	Datta (2021) working paper. Based on mandates in nine states and ten localities
Average cost of psychotropic drug claim	$1,712.15	Pappas (2008)
Subtotal: Cost savings from psychotropic drug reduction	$1,988,590	
Missouri penalties for nursing home violations	$2,840,000	ProPublica – Nursing Home Inspect
Reduction in severe penalties under paid sick leave mandate	7.5%	Datta (2021) working paper. Based on mandates in nine states and ten localities
Subtotal: Cost savings from reduction in violations and fines	$213,000	
Total Cost Savings for Nursing Home Care	**$3,739,916**	

Note: Monetary amounts are in 2018 dollars

Generalizability and Limitations

The cost estimates include only the health care costs of pressure ulcer care and psychotropic drug administration and do not include indirect costs from improved quality of care, such as the cost of resident falls associated with psychotropic drug use. They are therefore likely under-estimates of the actual total nursing home care cost savings. Additionally, the nine states and 10 municipalities examined by Datta (2021) have mandates with a variety of different designs and degrees of generosity. The significant reductions in violations and corresponding improvements in patient care were found consistently regardless of mandate specification, so the above calculations will apply across all mandate scenarios.

Costs of a Paid Leave Mandate in Missouri

i) Cost of Paid Leave

The costs of paid leave simulated by the Worker PLUS model represent the wages paid by employers due to new, short-term leave-taking by employees. The Worker PLUS model uses ACS and FMLA survey responses to predict leave-taking behavior under defined program conditions. The outputs of the model estimate the *additional* costs of new leave-taking for employer payrolls. Our policy scenarios focus on Missouri private sector employers. These calculations were made for each proposed policy scenario. Without a mandate, Missouri employers currently pay an estimated $3,215,321,829 in benefits for paid leave; the policy scenarios would increase spending by an estimated 8-19%.

- Under the 0/3 policy mandate, an additional 533,920 people would use an average of 2.89 days of paid leave, costing employers an additional $250,421,181 in paid leave.
- Under the 3/5 policy mandate, an additional 565,754 individuals would use an average of 4.78 days of paid leave, costing employers an additional $436,336,530 in paid leave.
- Under the 5/7 policy mandate, an additional 565,754 individuals would use an average of 6.67 days of leave, costing employers an additional $612,048,408 in paid leave.

j) Cost of Paid Leave to Address Domestic Violence-Related Issues

As shown in Appendix Table A1, most paid sick leave policies allow paid time off to address health and legal issues related to domestic violence. The National Intimate Partner and Sexual Violence Survey, conducted in 2010 by the C.D.C., found that 6.8% of men and 18% of women had experienced intimate partner violence in the previous year.[110] According to the same report, about 7.7% of female and 3.6% of male victims in the United States had taken at least one day off work as a result of intimate partner violence in the previous year, but there is little research on how leave-using behavior interacts with paid leave laws, especially laws that make specific allowances for domestic violence reasons.[111] The rate at which people choose to use at least some leave will presumably increase once a mandate goes into effect, because individuals begin to utilize the benefit who previously could not afford to, or did not have access. In the absence of any real-world evidence about the scale of this increase, we rely on the only in-depth report on mandated paid domestic violence leave authored by an Australian think tank, which assumes that the rate of leave will double.[112] Using the 3/5 policy scenario, the average paid benefit for a new leave-user is $162 per day. According to the Worker Plus model, 2,929,867 workers in Missouri will be eligible for paid sick leave under a 3/5 mandate with 48.33% being female and 51.67% male. If workers who are victims of domestic violence and are eligible for paid leave use all of their available days of paid leave provided by a mandate, then total cost of paid leave for domestic violence purposes can be estimated. Cost factors for the calculation are listed in Table 27.

Table 27: Cost of Paid Leave to Address Domestic Violence		
Cost Factor	**Value**	**Source**
Estimated percentage of Missouri men experiencing intimate partner violence in the last 12 months	6.8%	The National Intimate Partner and Sexual Violence Survey, CDC
Estimated percentage of Missouri women experiencing intimate partner violence in the last 12 months	18%	The National Intimate Partner and Sexual Violence Survey, CDC
Estimated percentage of male victims who took at least a day off work in the last 12 months	3.59%	The National Intimate Partner and Sexual Violence Survey, CDC
Estimated percentage of female victims / took at least a day off work in the last 12 months	7.7%	The National Intimate Partner and Sexual Violence Survey, CDC
Estimated ratio of post-mandate to pre-mandate leave-taking	2	The Australia Institute
Average wage for paid leave gainers per day	$162	Worker PLUS Model
Working population in Missouri	2,928,867	Worker PLUS Model
Portion of Missouri employees working at firms with less than 15 employees	12.7%	Statistics of U.S. Business, U.S. Census Bureau
Days available for worker at firm with less than 15 employees	0, 3, or 5, depending on mandate	Mandate design
Days available for worker at firm with 15 or more employees	3, 5, or 7, depending on mandate	Mandate design
Cost of domestic violence leave (0/3 mandate design)	$20,730,680	
Cost of domestic violence leave (3/5 mandate design)	$37,566,933	
Cost of domestic violence leave (5/7 mandate design)	$53,397,920	

Generalizability and Limitations

This estimate was computed separately from the cost estimate of leave-using behaviors produced by the Worker PLUS model. Leaves taken by domestic violence victims to address their injuries or other related medical problems are already included in the Worker PLUS model estimates of reasons for paid leave. However, other reasons for leave possibly needed by domestic violence victims, such as seeking legal support, counseling, or new housing, are not included in the Worker PLUS model. Therefore, the resulting cost estimates may be on the high side for this type of leave.

Additionally, this analysis does not attempt to quantify the impacts or potential benefits of this policy in terms of reduced domestic violence, increases in those seeking support, and diminished barriers for those exploring options to leave volatile relationships. The Australian report examining similar policy

proposals speculates that many of the other benefits calculated, such as reduced turnover and absenteeism, and higher productivity, would also offset the costs of domestic violence leave to employers.[113]

k) State Government Administrative Costs

The costs of administration and enforcement of a paid sick leave mandate in Missouri have been estimated in two reports by the Department of Labor and Industrial Relations (DOLIR) to the state auditor. These reports estimated the costs to the state associated with enforcing mandates proposed in ballot language submitted by the labor-rights organization Jobs with Justice. DOLIR's 2021 report estimated that enforcing a paid sick leave mandate would cost $1.2 million a year and require the hiring of 10 new full-time employee equivalents to address 240 annual complaints, equating to 24 complaints for each new full-time position[114]

An earlier Missouri DOLIR report (2016) for a broadly similar set of ballot proposals projected a need to add only 3.5 full-time equivalent positions to address 613 complaints a year, or one full-time equivalent position for every 175 cases. The 2016 estimate was based on the rate at which investigators resolve minimum wage cases.

Language used in proposed ballot referendums submitted in Missouri do not require the state to spend any money enforcing the law, so the cost estimate for enforcement could be as low as $0. Proposing ballot referendums allowing zero cost for administration and enforcement would presumably reduce compliance by employers and in turn lessen the costs and benefits estimated in this analysis.

A series of implementation studies published by the Center for Law and Social Policy (CLASP) suggests that the cost of enforcement would be somewhere between these two estimates of $0 and $1.2 million. CLASP reported that San Francisco implemented its paid sick leave mandate without hiring any new employees and spent less than $350,000 over six years on educational campaigns to address 52.5 complaints a year.[115] Seattle added one new full-time equivalent position and spent a little more than $100,000 on outreach and $200,000 for evaluation. Connecticut dedicated no new funds to their paid sick leave program. [116]

In order to produce a conservative analysis, we relied on the estimate provided by the Missouri DOLIR and utilized the highest value of the three years for which the state estimated costs (i.e. $1,263,854 in 2024, or $1,089,117 in 2018 dollars after adjusting for inflation using Congressional Budget Office projections), see Table 28.[117]

Table 28:
Cost of State Government Administration and Enforcement

Cost Factor	Value	Source
Estimated state enforcement costs	$1,089,117	Missouri State Auditor's Office Fiscal Note (22-028)

l) Employer Administrative Costs

Some employers will incur new administrative costs associated with the law based on the need to track the hours of paid leave their employees have earned and used. Surveys of employers in mandate jurisdictions have generally found that these employers report that new administrative costs are modest. However, the surveys do not provide actual cost estimates that could be scaled to this analysis.[118] [119] [120] Any estimate is complicated by the provision in many paid sick leave mandates that permits employers to front-load leave, allowing workers to take all the leave they are expected to earn in the year at any date rather than tracking accrued and used leave over the course of the year. Front-loading leave reduces the record-keeping requirements and associated costs while increasing instances of paid leave. The Worker PLUS model allows workers to take leave at any point after an eligibility period, effectively simulating a program in which all employers have opted to front-load leave. Existing research does not address the question of how many employers will opt for this front-load option.

In the absence of better options, we use an estimate of the per-employer administration cost of the Families First Coronavirus Response Act (FFCRA) paid leave published by the U.S. Department of Labor's Bureau of Wages and Prices.[121] Differences between the FFCRA paid leave program and traditional paid sick leave programs make direct cost comparisons unreliable, but instead provide a broad estimate of the costs associated with fulfilling paid leave program familiarization, documentation, and notification requirements. The resulting estimate of $86 per employer is applied below to the number of eligible private sector employers in Missouri under different mandate designs (see Table 29).

Table 29:
Cost of Employer Administration

Cost Factor	Value	Source
U.S. estimated cost of employer administration of FFCRA paid leave	$514,483,916	Wage and Hour Division, U.S. Department of Labor (2021)
National employers eligible for FFCRA paid leave	5,976,761	Wage and Hour Division, U.S. Department of Labor (2021)
Cost of administration per U.S. employer	$86.08	Calculation
Number of Missouri employers, 2018	153,710	Statistics of U.S. Business, U.S. Census Bureau
Cost of administration for employers under 3/5 or 5/7 mandate types	$13,231,357	
Missouri employers with more than 15 employees	55,883	Statistics of U.S. Business, U.S. Census Bureau
Cost of administration for employers under 0/3 mandate type	$4,810,409	

Summary of Cost-Benefit Analysis for a Paid Leave Mandate in Missouri

As shown in Table 30, based on the cost-savings and cost estimates reported above, the three hypothetical paid sick leave mandates (0/3, 3/5, and 5/7) considered in this analysis would generate net society-wide benefits. For employers, all but the 5/7 policy produced a net benefit.

The society-wide net benefits presented in Table 30 reflect the aggregate costs and benefits of the program, including those paid or earned by employers, employees, governments, and other third parties, such as nursing home residents. The employer net benefits in Table 30 reflect only the costs and benefits of the program accrued by employers, including additional wages paid, reduced absenteeism, improved presenteeism, and reduced workers compensation costs.

Table 30: Summary of Cost-Benefit Analysis

	Society-Wide			**Employer-Specific**		
Cost Savings	**0-3 Scenario**	**3-5 Scenario**	**5-7 Scenario**	**0-3 Scenario**	**3-5 Scenario**	**5-7 Scenario**
a) Reduced absenteeism	$325,363,241	$325,363,241	$325,363,241	$325,363,241	$325,363,241	$325,363,241
b) Improved presenteeism	$42,571,601	$74,177,210	$104,048,229	$42,571,601	$74,177,210	$104,048,229
c) Reduction in turnover	$37,185,520	$37,185,520	$37,185,520	$37,185,520	$37,185,520	$37,185,520
d) Society-Wide reduction in economic burden of influenza	$762,889,056	$762, 889,056	$762, 889,056	-	-	-
e) Employer reduction in health care costs of influenza among employees	-	-	-	$33,983,197	$33,983,197	$33,983,197
f) Reduction in workers' comp costs [a]	$47,418,231	$47,418,231	$47,418,231	$20,200,166	$20,200,166	$20,200,166
g) Reduced ER visits	$11,565,428	$11,565,428	$11,565,428	-	-	-
h) Improved nursing home care [b]	$3,739,916	$3,739,916	$3,739,916	$213,000	$213,000	$213,000
Costs	**0-3 Scenario**	**3-5 Scenario**	**5-7 Scenario**	**0-3 Scenario**	**3-5 Scenario**	**5-7 Scenario**
i) Paid sick leave	$250,421,181	$436,336,530	$612,048,408	$250,421,181	$436,336,530	$612,048,408
j) Paid domestic violence leave	$20,730,680	$37,566,933	$53,397,920	$20,730,680	$37,566,933	$53,397,920
k) State admin and enforcement	$1,089,117	$1,089,117	$1,089,117	-	-	-
l) Employer admin and compliance	$4,810,409	$13,231,357	$13,231,357	$4,810,449	$13,231,357	$13,231,357
Summary Net Cost-Benefit	**Society-Wide Summary**			**Employer-Specific Summary**		
	0-3 Scenario	**3-5 Scenario**	**5-7 Scenario**	**0-3 Scenario**	**3-5 Scenario**	**5-7 Scenario**
Total cost-savings	$1,230,732,993	$1,262,338,602	$1,292,209,621	$459,516,725	$491,122,334	$520,993,353
Total costs	$277,051,387	$488,223,937	$679,766,802	$275,962,270	$487,134,820	$678,677,685
Net cost-benefit (cost-savings minus costs)	$953,681,606	$774,114,665	$612,442,819	$183,554,455	$3,987,514	-$157,684,332

Note. Totals from component tables are rounded to the nearest dollar for the Summary.

[a] Workers' Compensation: 42.6% of the reduction in workers compensation costs is credited to the employer only

[b] Nursing Home: *Employer uses* reduction in violations and fines only

Cost-Benefit Analysis Assumptions and Limitations

The results of this cost-benefit analysis should be treated as an indication that the program has a mostly net positive effect rather than as a precise estimate of the scale of the effect. Below we address the implications and limitations of our findings in greater detail.

As shown in Table 30, the society-wide and employer-specific cost-benefit estimates indicate a gap in the net benefit expected between the 0/3 and the 5/7 scenarios. These findings should be treated with caution. As discussed earlier, research on paid sick leave mandates generally does not differentiate effects based upon program design, such as the number of days provided. Instead, states and cities are compared based on whether they have a mandate or not. With the exception of a couple of cost and benefit factors, the Worker PLUS model estimates for the 0/3, 3/5, and 5/7 scenarios build from the assumption that all three scenarios will generally have the same estimated benefits. For instance, a paid sick leave program that allows workers to take as many as seven days of paid leave is treated as having the same impact on flu transmission as a program that allows workers to take at most three days of paid leave.

A more precise simulation would account for the variation in benefits associated with more and less generous paid leave mandates. For example, the 0/3 policy scenario by design excludes workers at small businesses from benefitting from the mandate and presumably reduces the impact of the mandate on flu transmission. Our model, however, assumes that the 0/3 scenario would reduce flu contagion at the same rate as the 3/5 scenario or the 5/7 scenario. The lack of research on the effects caused by variation in paid leave policy design means that the current state of cost-benefit analysis modelling cannot account for these marginal differences. That said, our model's principal cost estimate (i.e., paid sick leave) does increase with the number of days of paid leave (i.e., wages and benefits paid to employees for paid time off). For this reason, more precisely estimated figures would likely be more compressed than the figures given here.

The effect of these limitations on the overall cost-benefit analysis is unclear. However, research on Connecticut's mandate highlights that small policy changes can have measurable and beneficial impacts. Connecticut was the first state to implement a paid sick leave mandate and researchers have taken advantage of the relatively long post-mandate period to conduct outcome studies. Our cost-benefit findings reported earlier for reduced absenteeism and occupational injuries - that relied on multipliers taken from research on Connecticut's mandate - suggest that a modest mandate like Connecticut's, which provides 5 days of paid leave for only service sector employee in workplaces with fewer than 50 employees, can have significant, positive effects such as increased use of preventative healthcare services and reduced workplace injuries.

Noteworthy across the three policy scenarios are the differences in the Worker PLUS model's estimated number of workers predicted to use new time-off with paid leave. From the 0/3 to the 3/5 scenarios, we see an increase in the estimated number of workers using time-off from 533,920 to 565,754, respectively, that most likely captures the increase in paid leave days from 0 to 3 for those working for small employers. However, between the 3/5 and 5/7 scenarios, the number of workers using new leave did not change (565,754 for both). Thus, longer paid leave lengths do not necessarily increase the

number of workers predicted to use new time-off but do increase the number of days of paid leave utilized.

This analysis also finds a net benefit of the 3/5 paid leave policy for private employers; however, these benefits are unlikely to be equally distributed across employers. Many of the benefits of paid sick leave will accrue to all employers, yet the cost of new paid sick leave absences will largely be borne by employers who are not currently providing it. Similarly, our estimates of the employer net benefit of paid sick leave assumes a static model where employers do not respond to such a policy by shifting some of the wage costs to their employees by cutting wages, benefits, or positions, or by raising prices for their customers. The ability of employers to respond to changes in labor costs varies by industry, and again, ultimately, depends upon the demand and supply elasticities in both the higher-wage and lower-wage labor markets, and the competitiveness of each employer's industry. Thus, individual employer's net benefits are complex. This analysis is beyond the scope of this report, but suggests that the exact values of employer costs reported here should be treated with caution. In particular, it may be that the negative net benefit for employers under the 5/7 policy design would turn positive if our analysis allowed employers to shift their costs to other economic actors.

Study 3: Estimating Lack of Access to Paid Leave for Private Sector Workers Employed in Missouri and New Instances of Paid Leave Utilized Under 3/5 Policy Scenario

Population of Interest

For Study 3, Worker PLUS was utilized to estimate the percent of formally employed, private sector workers and essential workers employed in Missouri, that lack access to paid leave. More specifically, the populations of interest included 1) private-sector workers employed in Missouri of all wage rates, part-time and full-time workers, and all employer sizes, including workers who commute across state lines to work. Those working for federal, state, and local government employers and self-employed workers are excluded, and 2) private-sector workers employed in Missouri as public-facing essential workers, including those who commute across state lines. Similar to Study 1, the categorization of essential workers is based on the C.D.C.'s guidelines cited in Missouri Governor Mike Parson's stay-at-home order issued April 3, 2020, and effective April 6 through May 4, 2020. Data was examined separately by demographic, socioeconomic, and employment characteristics and estimates were weighted accordingly to be representative of the population of interest.

Worker PLUS was also used to estimate *new* instances of paid leave utilized under the 3/5 scenario (i.e., 3 days of paid sick leave for small employers and 5 days for large employers) by private sector workers employed in Missouri (as described above). Because the hypothetical policy scenarios apply to only private sector employers in Missouri, the estimates presented in this section likewise consider only private sector workers employed in the state. For the 3/5 paid leave scenario, 6.4% of workers in Missouri were employed by small employers (<15 employees) and 93.6% were employed by large employers.

Worker PLUS Model Parameters and Variable Definitions

As described in Study 2 above, the Worker PLUS program constructed policy scenario data files based on the employer size for each individual. Parameters were set such that the share of dual receivers (individuals who could receive benefits both from their employer and from the hypothetical state paid leave program) was set to one; the wage replacement rate was one hundred percent; and, the wait period between when an employee applies for paid leave and when the benefit is received was set to zero. The benefit financing structure was set such that the payroll tax was zero. No eligibility requirements were set (i.e., the values for minimum earnings, annual hours worked, and employer size were zero). The minimum required weeks worked was four to reflect time for accrual.

For the analyses reported below, the data were utilized to estimate the percentage of private sector workers employed in Missouri who lack access to paid sick leave and to whom the hypothetical state-mandated paid sick leave program would apply. The data were then used to predict leave-using behavior, among the same group of private sector workers, under the 3/5 scenario. Recall, the 3/5 scenario allows at least 3 days of paid sick leave for those employed by small employers and at least 5 days of paid leave for those employed by large employers.

Study 3: Findings

Workers Employed in Missouri's Private Sector Who Lack Access to Paid Sick Leave

Demographic Characteristics

All Private Sector Workers and Essential Workers Employed in Missouri

Table 31 presents Worker PLUS estimates of the percent of private sector workers and essential workers employed in Missouri who lack access to paid leave by sex, race/ethnicity, age, children in the home, and citizenship status. Estimates of lack of access are mostly equal by sex (9.03% for females and 9.07% for males) and show minimal differences for essential workers (9.61% for females and 8.81% for males), with females having slightly greater lack of access.

Worker PLUS estimates vary considerably by race/ethnicity for private sector workers employed in Missouri that lack access to paid sick leave. White and Asian private sector employees (8.48%, 8.40%, respectively) have the lowest predicted lack of access and the highest estimated lack of access is for Black (10.70%), Hispanic (13.60%), and Other (16.40%) private sector workers. Estimates are somewhat different by race/ethnicity for essential workers in Missouri's private sector with White workers predicted to have the lowest lack of access (8.52%) followed by Asian and Black workers (11.54%, 11.29%, respectively) and Hispanic (11.38%), Native American/Alaska Native (12.90%), and Other race/ethnicity categories (19.62%).

Also seen in Table 31, Worker PLUS estimates indicate that among private sector workers employed in Missouri to whom a mandated paid leave program would apply, lack of access to paid sick leave decreases as age increases. About 12.53% of private sector workers in Missouri under age 30 years, 8.24% of 30- to 59-year-olds, and 4.82% for those age 60 years and older lack access to paid leave. The same trend applies to essential workers employed in Missouri. Estimates of private sector workers and essential workers lack of assess to paid leave also fluctuates by the number of children in the home. The highest rates are among those with 1 or 2 children (16.02%, 14.83% respectively for private sector workers) and lowest for those with no children (6.44%) and those with 3 or more children in the home

(7.66%). Worker PLUS estimates also indicate differences on the basis of U.S. citizenships status with lack access to paid leave among private sector workers employed in Missouri higher for non-citizens (11.77%) than citizens (9.55%).

Table 31:
Percent of Private Sector Workers Employed in Missouri Estimated to Lack Access to Paid Leave: Demographic Characteristics

	All Private Sector			Essential Workers		
		Paid Leave Types			Paid Leave Types	
	Lack Access to Paid Leave	Lack Access to Paid Leave for Self	Lack Access to Paid Leave for Family	Lack Access to Paid Leave	Lack Access to Paid Leave for Self	Lack Access to Paid Leave for Family
Sex						
Female	9.03%	5.26%	4.18%	9.61%	6.27%	3.79%
Male	9.07%	4.43%	5.06%	8.81%	4.59%	4.62%
Race/Ethnicity						
Asian	8.40%	3.65%	4.91%	11.54%	4.59%	7.30%
Black	10.70%	7.57%	3.61%	11.29%	8.75%	3.14%
Hispanic	13.60%	4.58%	9.66%	11.38%	4.82%	7.05%
Native American/Alaska Native	9.09%	8.91%	0.19%	12.90%	12.68%	0.22%
Other	16.40%	10.20%	8.08%	19.62%	13.17%	9.65%
White	8.48%	4.39%	4.46%	8.52%	4.86%	4.01%
Age						
Under 30	12.53%	6.69%	6.58%	13.62%	8.19%	6.31%
30-59	8.24%	4.22%	4.33%	7.92%	4.55%	3.64%
60 and over	4.82%	3.54%	1.47%	4.80%	3.54%	1.36%
Number of Children						
0	6.44%	4.50%	2.14%	6.77%	5.10%	1.85%
1	16.02%	7.17%	9.84%	15.93%	8.01%	8.94%
2	14.83%	5.71%	9.82%	14.29%	6.38%	8.52%
3+	7.66%	3.13%	4.98%	7.76%	3.78%	4.62%
Citizenship Status						
Citizen (all designations)	9.55%	5.14%	4.85%	9.79%	5.89%	4.36%
Not a citizen	11.77%	5.05%	7.31%	11.74%	5.25%	7.05%

Source: DOL Worker PLUS model, ACS 2018 data, FMLA 2018 data

Socioeconomic Characteristics

All Private Sector Workers and Essential Workers Employed in Missouri

The Worker PLUS estimates of private sector workers employed in Missouri who lack access to paid leave show very clear trends by family income and worker education; these trends are the same for private sector workers and essential workers. Specifically, as shown in Table 32, the estimated lack of access to paid leave decreases as family income and worker educational attainment increase. The differences are somewhat stark. For private sector workers employed in Missouri with less than $50,000 family income, 15.84% are estimated to lack access to paid leave versus 5.25% of private sector workers

with family incomes of $150,000 or more; similar differences in lack of access to paid leave are also present for essential workers employed in Missouri.

Also shown in Table 32, Worker PLUS estimates of predicted lack of access to paid leave among private sector workers employed in Missouri decrease as worker educational attainment increases. For those workers with a high school diploma or less, between 14.40% and 16.60% are estimated to lack access to paid leave and for essential workers employed in Missouri with the same educational attainment, between 15.10% and 17.27% are estimated to lack paid leave. Conversely, for the same groups of workers with a Bachelor's degree or more, Worker PLUS estimates of those who lack access to paid leave are closer to 4%. On the basis of workers' marital status, those to whom a state-mandated paid leave program would apply is highest among never married and divorced or separated private sector and essential workers employed in Missouri (10.92% and 10.52%, and 12.22% and 11.17%, respectively) and lowest for those workers who are widowed (about 4% for both worker groups).

Table 32:
Percent of Private Sector Workers Employed in Missouri Estimated to Lack Access to Paid Leave: Socioeconomic Characteristics

	All Private Sector			Essential Workers		
		Paid Leave Types			Paid Leave Types	
	Lack Access to Paid Leave	Lack Access to Paid Leave for Self	Lack Access to Paid Leave for Family	Lack Access to Paid Leave	Lack Access to Paid Leave for Self	Lack Access to Paid Leave for Family
Family Income Categories						
Less than $50,000	15.84%	8.94%	7.80%	15.89%	10.49%	6.31%
$50,000 - $74,999	12.02%	5.96%	6.65%	12.38%	6.74%	6.27%
$75,000 - $149,999	8.71%	4.07%	4.97%	8.50%	4.30%	4.50%
$150,000 or more	5.25%	3.17%	2.28%	5.55%	3.59%	2.18%
Education						
Less than HS	16.60%	9.37%	8.79%	17.27%	9.81%	9.53%
High school	14.40%	8.00%	7.26%	15.10%	9.69%	6.33%
Some college	9.64%	5.67%	4.31%	9.51%	6.04%	3.83%
Associate's	7.98%	4.57%	3.54%	7.66%	4.58%	3.15%
Bachelor's	3.82%	1.27%	2.61%	3.68%	1.26%	2.45%
More than Bachelor's	4.31%	1.03%	3.36%	4.33%	0.79%	3.61%
Marital Status						
Married	8.73%	3.66%	5.46%	8.01%	3.72%	4.63%
Widowed	3.77%	2.24%	1.57%	4.22%	2.72%	1.58%
Divorced/Separated	10.52%	6.56%	4.36%	11.17%	7.54%	3.99%
Never married	10.92%	6.97%	4.52%	12.22%	8.43%	4.49%

Source: DOL Worker PLUS model, ACS 2018 data, FMLA 2018 data

Employment Characteristics

All Private Sector Workers and Essential Workers Employed in Missouri

Table 33 shows Worker PLUS estimates of those private sector workers employed in Missouri who lack access to paid leave by health insurance status and employer size. About 13.71% of private sector workers and 14.55% of essential workers without health insurance are estimated to lack access to paid leave, compared to 9.09% and 9.21%, respectively, with health insurance. On the basis of employer size, there is limited variation in lack of access to paid leave for private sector workers employed in Missouri (8.38% for the largest employers to 9.57% for the smallest) and essential workers employed in the state (8.63% for the largest employers to 9.83% for the smallest).

Table 33:
Percent of Private Sector Workers Employed in Missouri Estimated to Lack Access to Paid Leave: Employment Characteristics

	All Private Sector			Essential Workers		
		Paid Leave Types			Paid Leave Types	
	Lack Access to Paid Leave	Lack Access to Paid Leave for Self	Lack Access to Paid Leave for Family	Lack Access to Paid Leave	Lack Access to Paid Leave for Self	Lack Access to Paid Leave for Family
Health Insurance						
Yes	9.09%	4.78%	4.70%	9.21%	5.31%	4.30%
No	13.71%	7.95%	6.55%	14.55%	10.03%	5.44%
Employer Size						
1-49 employees	9.57%	5.22%	4.78%	9.83%	6.05%	4.27%
50-999 employees	9.21%	4.94%	4.70%	9.34%	5.42%	4.27%
1,000 or more employees	8.38%	4.33%	4.42%	8.63%	5.04%	4.02%

Source: DOL Worker PLUS model, ACS 2018 data, FMLA 2018 data

By Industry

All Private Sector Workers and Essential Workers Employed in Missouri

Table 34 presents Worker PLUS estimates of those who lack access to paid leave by industry; the table is organized by highest to lowest for private sector workers employed in Missouri. The highest lack of access, including essential workers, is among those employed in mining, quarrying, and oil and gas extraction (23.61%, 25.27%, respectively) and arts, entertainment, and recreation, and accommodation and food services (16.13%, 17.24%, respectively). Private sector workers employed in construction and agriculture, forestry, fishing, and hunting have the next highest lack of access to paid leave (13.47%, 11.07%, respectively). About 9.98% or less of private sector workers and essential workers employed in all remaining industry categories are estimated to lack access to paid leave. The lowest rates of lack of access to paid leave are for private sector workers and essential workers employed in Missouri in transportation and warehousing (4.94%, 4.96%, respectively), finance and insurance, real estate, and rental and leasing (4.00%, 2.80%, respectively), and information (3.92%, 3.68%, respectively).

Table 34: Percent of Private Sector Workers Employed in Missouri Estimated to Lack Access to Paid Leave: By Industry						
	All Private Sector			**Essential Workers**		
		Paid Leave Types			**Paid Leave Types**	
	Lack Access to Paid Leave	**Lack Access to Paid Leave for Self**	**Lack Access to Paid Leave for Family**	**Lack Access to Paid Leave**	**Lack Access to Paid Leave for Self**	**Lack Access to Paid Leave for Family**
Mining, Quarrying, and Oil and Gas Extraction	23.61%	0%	23.61%	25.27%	0%	25.27%
Arts, Entertainment, and Recreation, and Accommodation and Food Services	16.13%	11.32%	5.87%	17.24%	12.49%	5.90%
Construction	13.47%	5.41%	8.58%	-	-	-
Agriculture, Forestry, Fishing, and Hunting	11.07%	4.47%	7.20%	9.98%	5.06%	5.78%
Other Services, Except Public Administration	9.66%	5.18%	4.88%	-	-	-
Educational Services, and Health Care and Social Assistance	9.01%	6.64%	2.74%	10.12%	7.50%	3.01%
Wholesale Trade	8.33%	2.67%	5.89%	8.88%	2.73%	6.42%
Professional, Scientific, and Management, and Administrative, and Waste Management Services	8.28%	4.78%	4.07%	-	-	-
Manufacturing	7.92%	2.69%	5.57%	7.64%	2.76%	5.21%
Transportation and Warehousing	4.94%	2.19%	2.98%	4.96%	2.21%	2.99%
Finance and Insurance, and Real Estate, and Rental and Leasing	4.00%	1.62%	2.51%	2.80%	1.13%	1.75%
Information	3.92%	1.13%	2.91%	3.68%	1.29%	2.54%
Public Administration	-	-	-	-	-	-

Source: DOL Worker PLUS model, ACS 2018 data, FMLA 2018 data

By Occupation

All Private Sector Workers and Essential Workers Employed in Missouri

Worker PLUS estimates of the private sector workers employed in Missouri that lack access to paid leave by occupation are shown in Table 35. Similar to Table 34, the table is organized by highest to lowest lack of access to paid leave. For private sector workers employed in Missouri, the three occupations with the highest lack of access to paid leave include farming, fishing, and forestry (17.59%) services (17.05%), and installation, maintenance, and repair (16.82%). The ranking varies for essential workers employed in Missouri with the three occupations that lack access to paid leave at the highest rates including construction and extraction (21.72%), services (18.15%), and farming, fishing, and forestry (17.25%). The occupations with the lowest lack of access to paid leave, for both categories of private sector workers, include production (5.35%, 5.21%, respectively), arts and sciences (4.11%, 4.22%, respectively), and management, business, and financial (3.80%, 3.93%, respectively).

Table 35:
Percent of Private Sector Workers Employed in Missouri Estimated to Lack Access to Paid Leave: By Occupation

	All Private Sector			**Essential Workers**		
		Paid Leave Types			**Paid Leave Types**	
	Lack Access to Paid Leave	**Lack Access to Paid Leave for Self**	**Lack Access to Paid Leave for Family**	**Lack Access to Paid Leave**	**Lack Access to Paid Leave for Self**	**Lack Access to Paid Leave for Family**
Farming, Fishing, and Forestry	17.59%	8.28%	10.27%	17.25%	10.07%	8.88%
Services	17.05%	13.08%	4.86%	18.15%	14.45%	4.55%
Installation, Maintenance, and Repair	16.82%	11.19%	6.71%	13.62%	8.71%	5.96%
Construction and Extraction	15.09%	4.18%	11.57%	21.72%	6.05%	16.36%
Transportation and Material Moving	12.00%	5.04%	7.61%	10.00%	3.56%	6.75%
Sales	8.95%	2.59%	6.70%	9.05%	3.06%	6.58%
Office and Administrative Support	6.29%	3.30%	3.13%	5.42%	3.04%	2.55%
Production	5.35%	3.67%	1.91%	5.21%	3.63%	1.84%
Arts and Sciences	4.11%	1.53%	2.67%	4.22%	1.71%	2.60%
Management, Business, and Financial	3.80%	1.65%	2.31%	3.93%	1.72%	2.43%

Source: DOL Worker PLUS model, ACS 2018 data, FMLA 2018 data

Public-Facing Private Sector Essential Workers Employed in Missouri

Table 36 presents the percent of private sector, public-facing essential workers employed in Missouri that are estimated to lack access to paid leave. Variation in these estimates appears within and among the different types of employment. For example, although private sector food service workers have the highest rates of lack of access, there is a difference between front-line workers (17.64%) and food service managers (13.33%). Similar differences between front-line workers and managers appear for education and child care; 13.82% of child care workers are estimated to lack access to paid leave versus 3.99% of education and child care managers. Retail exhibits the same trends in lack of access (10.64% for retail workers and 7.52% for retail managers). Similar differences also emerge for health care related jobs. In emergency medicine, 0% of emergency management directors are estimated to lack access to paid leave compared to 12.58% of EMTs. Among medical professions, nurses have the highest estimated lack of access to paid leave (7.88%) followed by doctors (6.32%) and medical managers (3.25%). These differences between front-line essential workers and managerial essential workers are mirrored by the findings presented earlier about lack of access to paid leave among Missouri public- and private sector workers.

Table 36:
Percent of Private Sector, Public-Facing Essential Workers Employed in Missouri Estimated to Lack Access to Paid Leave

		Paid Leave Types	
	Lack Access to Paid Leave	**Lack Access to Paid Leave for Self**	**Lack Access to Paid Leave for Family**
Education and Child Care			
Education and Child Care Managers	3.99%	1.92%	2.06%
Education	3.11%	1.62%	1.49%
Child Care	13.82%	12.06%	2.17%
Medical Professions			
Medical Managers	3.25%	1.86%	1.39%
Doctors	6.32%	1.12%	5.48%
Nurses	7.88%	5.66%	2.49%
Emergency Medicine			
Emergency Management Directors	0%	0%	0%
EMTs and Paramedics	12.58%	7.53%	5.05%
Retail			
Retail Managers	7.52%	1.10%	6.47%
Retail Workers	10.64%	3.71%	7.45%
Food Service			
Food Service Managers	13.33%	8.99%	5.57%
Food Service	17.64%	13.48%	5.18%

Source: DOL Worker PLUS model, ACS 2018 data, FMLA 2018 data

Private Sector Workers Employed in Missouri Predicted to Use 3/5 Paid Leave Program

Demographic Characteristics

Table 37 presents the demographic characteristics of employees who would use a new instance of paid leave under the 3/5 policy scenario. As per Worker PLUS, these individuals would not have used paid leave otherwise. Results indicate that 27.01% of women are predicted to use new *paid leave* compared to 26.33% of men. Women are predicted to take 17.30% of paid sick leave for their own needs and 11.59% for family compared with 15.29% of men (paid sick leave for self) and 12.72% for family.

Rates of utilizing new instances of paid leave under the 3/5 policy scenario vary by race/ethnicity. As shown in Table 37, white workers in the private sector would use new instances of paid leave at the lowest rate (25.62%) and Black, Hispanic, and "Other Race" were all predicted to use new paid leave at rates above 30% (31.50%, 31.31%, and 35.15%, respectively). When separating paid leave into paid leave for self and paid leave for family, considerable variation by race/ethnicity emerges with Black private sector workers employed in Missouri predicted to use new instances of paid sick leave for self at the highest rates (24.65%) and Asian workers predicted to use paid sick leave for self at the lowest rates (10.37%). Workers identifying as Hispanic and "Other Race" were predicted to take paid leave for family at the highest rates (above 20%) whereas Black workers were predicted to use new instances of paid leave for family at the lowest rates (9.25%).

Workers under 30 years of age are the most likely to use new instance of paid leave (32.23%), followed by workers ages 30-59 (25.53%) and workers 60 and older (19.34%). Predicted use of paid leave for self and paid leave for family is approximately equal for those ages 30 and younger (~ 18% for both types of leave). For those ages 30 to 59, 15.71% are predicted to use paid sick leave for self and 11.26% to use paid leave for family. Among workers over age 60, predicted use of paid leave is primarily for paid leave for self (16.08%) compared to paid leave for family (3.98%).

Worker PLUS predictions indicate that private sector workers employed in Missouri with one or more children are the most likely to use new instances of paid leave (> 36%) and paid family leave (> 25%) under the 3/5 policy scenario. Workers employed in Missouri's private sector and with no children are more likely to use instances of paid sick leave for self (17.33%) compared with workers that have one or more children (approximately 14% to 15%).

Also shown in Table 37, 26.59% of workers employed in Missouri's private sector who are U.S. citizens are predicted to use new paid leave compared with 30.06% of Missouri workers who are not U.S. citizens. Between these two groups, utilizing paid sick leave for self differs (16.40% for citizens and 13.80% for non-citizens) as does utilizing paid leave for family (11.99% for citizens and 17.72% for non-citizens).

Table 37: Percent of Private Sector Workers Employed In Missouri Predicted to Use a 3/5 Paid Leave Program: Demographic Characteristics			
	Would Use Paid Leave	**Would Use Paid Leave for Self**	**Would Use Paid Leave for Family**
Sex			
Female	27.01%	17.30%	11.59%
Male	26.33%	15.29%	12.72%
Race/Ethnicity			
American Indian/ Alaska Native	29.46%	19.65%	11.23%
Asian	27.07%	10.37%	18.85%
Black	31.50%	24.65%	9.25%
Hispanic	31.31%	13.74%	20.07%
Other	35.15%	17.06%	21.69%
White	25.62%	15.45%	11.78%
Age			
Under 30	32.23%	17.61%	17.56%
30-59	25.53%	15.71%	11.26%
60 and over	19.34%	16.08%	3.98%
Number of Children			
0	21.09%	17.33%	4.49%
1	36.68%	14.90%	25.77%
2	35.98%	13.81%	25.38%
3+	36.80%	14.62%	25.82%
Citizenship			
Citizen (all designations)	26.59%	16.40%	11.99%
Not a citizen	30.06%	13.80%	17.72%

Source: DOL Worker PLUS model, ACS 2018 data, FMLA 2018 data

Socioeconomic Characteristics

As presented in Table 38, Worker PLUS predictions of new leave utilization under a 3/5 paid leave program indicate that 28.79% of new instances of paid leave would occur for those private sector workers employed in Missouri in households earning less than $50,000 annually whereas 24.86% of instances would occur in households earning $150,000 and above. In between these extremes of household income, 27.79% of households earning between $50,000 and $75,000 would use new instances of paid leave and about 24.89% of private sector workers employed in Missouri and earning between $75,000 and $150,000 would use new instances of leave. The pattern for using new leave under a 3/5 paid leave scenario is similar for the sub-category of "would use paid leave for self," with the percentage of private sector workers highest for those in the lowest income category (19.37% versus 12.94% in the highest income category). The percentage of workers using new instances of paid leave for family ranges from 11.31% for the lowest household income category to 13.35% for the highest income category.

Also presented in Table 38 are predicted rates of using new instances of paid leave by educational attainment. Worker PLUS estimates of using paid sick leave are highest among private sector workers employed in Missouri with a high school diploma or less (between 33% and 34%). For private sector workers in the state with some college and an Associate's degree, the estimates for using paid leave are somewhat lower at 27.56%, and 26.52%. For those with a Bachelor's degree and more than a Bachelor's, predicted use of paid leave is 17.26% and 18.62%, respectively.

Private sector workers employed in Missouri who have never married are predicted to use paid leave at the highest rates (28.53%) compared to other marital status categories and widowed workers are predicted to take paid leave at the lowest rates (19.26%). These differences likely reflect age differences typical in these categories of marital status. Divorced or separated workers are predicted to be the most likely to use new instances of paid leave for self (20.11%), and married workers would be the most likely to use new instances of family leave (13.67%).

Table 38:
Percent of Private Sector Workers Employed In Missouri Predicted to Use a 3/5 Paid Leave Program: Socioeconomic Characteristics

	Would Use Paid Leave	Would Use Paid Leave for Self	Would Use Paid Leave for Family
Household Income Categories			
Less than $50,000	28.79%	19.37%	11.31%
$50,000 - $74,999	27.79%	17.19%	12.63%
$75,000 - $149,999	24.89%	14.51%	12.06%
$150,000 and over	24.86%	12.94%	13.35%
Education			
Less than high school	33.90%	20.14%	17.23%
High school	33.37%	21.47%	14.47%
Some college	27.56%	18.17%	11.23%
Associate	26.52%	17.77%	10.62%
Bachelor's	17.26%	7.94%	10.06%
More than bachelor's	18.62%	8.05%	11.24%
Marital Status			
Married	25.94%	13.99%	13.67%
Widowed	19.26%	15.01%	4.75%
Divorced/separated	26.17%	20.11%	7.47%
Never married	28.53%	18.43%	12.22%

Source: DOL Worker PLUS model, ACS 2018 data, FMLA 2018 data

Employment Characteristics

Table 39 shows the Worker PLUS estimates of private sector workers employed in Missouri predicted to use new leave under a 3/5 mandated paid sick leave policy by health insurance status and employer size. The predicted use of paid leave for workers with health insurance coverage are consistently lower than the predicted use of paid leave for workers without coverage (26.06% and 31.64%, respectively). Lastly, workers employed in Missouri's private sector who work for employers with 50 to 999 employees are the most likely to use new instances of paid leave (32.92%) compared to those working for employers with 1 to 49 employees (29.47%) and those with 1,000 or more employees (20.20%). These same patterns also apply to new instances of using paid leave for self or for family.

Table 39:
Percent of Private Sector Workers Employed In Missouri Predicted to Use a 3/5 Paid Leave Program: Employment Characteristics

	Would Use Paid Leave	Would Use Paid Leave for Self	Would Use Paid Leave for Family
Health Insurance			
Yes	26.06%	15.90%	11.90%
No	31.64%	19.67%	14.10%
Employer Size			
1-49 employees	29.47%	18.13%	13.22%
50-999 employees	32.92%	21.40%	14.18%
1,000 or more employees	20.20%	11.21%	9.99%

Source: DOL Worker PLUS model, ACS 2018 data, FMLA 2018 data

By Industry

Table 40 presents Worker PLUS predictions for new instances of paid leave under the 3/5 policy scenario by industry. Private sector workers employed in Missouri in the mining, quarrying, and oil and gas (48.33%); agriculture, forestry, fishing, and hunting (37.83%); and, construction (33.31%) industries are the most likely to use new instances of paid leave. The lowest levels of new leave utilization are private sector workers employed in the professional, scientific, management, administrative, and waste management services (20.54%) and finance and insurance (19.68%) industries.

Table 40:
Percent of Private Sector Workers Employed In Missouri Predicted to Use a 3/5 Paid Leave Program: By Industry

Industry	Would Use Paid Leave	Would Use Paid Leave for Self	Would Use Paid Leave for Family
Mining, quarrying, and oil and gas extraction	48.33%	13.95%	41.70%
Agriculture, forestry, fishing, and hunting	37.83%	23.14%	17.80%
Construction	33.31%	16.76%	19.24%
Arts, entertainment, recreation, and accommodation and food services	31.66%	21.24%	12.92%
Information	30.21%	22.78%	9.32%
Educational services, and health care and social assistance	27.99%	19.84%	10.26%
Other services except public administration	27.60%	16.76%	12.34%
Wholesale trade	26.27%	14.03%	13.78%
Manufacturing	25.26%	14.34%	12.26%
Transportation and warehousing	24.75%	14.87%	11.61%
Professional, scientific, management, administrative, and waste management services	20.54%	11.23%	10.65%
Finance and insurance, and real estate, and rental and leasing	19.68%	10.85%	9.69%
Public administration	-	-	-

Source: DOL Worker PLUS model, ACS 2018 data, FMLA 2018 data

By Occupation

Table 41 presents Worker PLUS estimates of new paid leave use by occupation. The occupation with the highest predicted utilization of paid leave is the farming, fishing, and forestry occupations (48.92%) followed by construction and extraction occupations (33.76%). The occupations least likely to use new instances of paid leave are arts and sciences (21.25%) and management, business, and financial occupations (18.16%).

Table 41:
Percent of Private Sector Workers Employed In Missouri Predicted to Use a 3/5 Paid Leave Program: By Occupation

Occupation	Would Use Paid Leave	Would Use Paid Leave for Self	Would Use Paid Leave for Family
Farming, fishing, and forestry	48.92%	34.91%	18.65%
Construction and extraction	33.76%	16.13%	20.60%
Services	33.32%	25.25%	10.59%
Installation, maintenance, and repair	33.26%	23.55%	12.30%
Production	30.09%	20.02%	12.12%
Transportation and material moving	29.83%	17.05%	15.10%
Sales	26.83%	11.31%	17.17%
Office and administrative support	24.70%	16.44%	9.68%
Arts and sciences	21.25%	11.22%	11.14%
Management, business, and financial	18.16%	10.76%	8.23%

Source: DOL Worker PLUS model, ACS 2018 data, FMLA 2018 data

Equity Summary: Lack of Access to Paid Leave and Utilization of a 3/5 Paid Leave Program in Missouri

The Worker PLUS estimates of lack of access to paid leave and utilization of new paid leave under a 3/5 policy scenario among private sector workers employed in Missouri mostly mirror the earlier estimates of all formally employed Missourians who lack access to paid leave. For instance, the results indicate that predicted lack of access to paid leave and utilization of new instances of leave are higher for private sector Black, Hispanic, American Indian/Native American and "other" workers compared to white and Asian private sector workers employed in Missouri. Additionally, the trend identified by Worker PLUS estimates that lack of access to paid leave increases as household income and education decrease was confirmed by Worker PLUS predictions of private sector lack of access to and utilization of new paid leave. Interestingly, these trends did not map as well onto the estimates of who would take new instances of leave. Keeping lack of access to paid leave in mind, which varied by household income, instances of new leave taking behavior fluctuated only between 24.86% and 28.79% across the full range of household income. The trend associated with worker educational attainment, however, remained the same. As educational attainment increased, the percentage of Missouri private sector workers predicted to take new instances of paid leave under a 3/5 program decreased. Lastly, the sex-based differences in Worker PLUS estimates of lack of access to paid leave for Missouri public and

private sector workers (14.25% for females and 11.25% for males) are not quite as pronounced in the Worker PLUS estimates of lack of access to paid leave for private sector workers employed in Missouri (both sexes and worker categories range from 7% to 8.35%) and utilization (27.01% for females and 26.33% for males). This could be due to differences in the population of interest. Study 1 examined all public and private sector Missouri workers, excluding those who commute across state lines to work, and Study 3 examined private sector workers employed in Missouri, including both Missouri residents and those who commute across state lines to work.

When considering Worker PLUS estimates of lack of access to paid leave and utilization of a hypothetical paid leave program, estimates are relatively high for Missouri private sector workers employed in: mining, quarrying, and oil and gas extraction (23.61% lack access, 48.33% utilization); arts, entertainment, and recreation, and accommodation and food Services (16.13% lack access, 31.66% utilization); and, construction (13.47% lack access, 33.31%, utilization). In summary, the findings suggest that a state-mandated 3/5 paid sick leave program has the potential to reach those Missouri private sector employees who need it most.

Conclusion

This report has broadly analyzed access to paid leave in Missouri through previous research and original research conducted using a new statistical model developed by the U.S. Department of Labor, IMPAQ International, and IWPR. It provides an overview of the current state of paid sick leave both nationwide and in Missouri based on previous literature and survey research. The research described the prospects for expanded paid leave programs and introduced the Worker PLUS model to estimate characteristics of the workers employed in Missouri who lack access to paid leave, to estimate potential costs and benefits of a statewide paid leave program, and to also describe the characteristics of workers employed in Missouri who would utilize such a program.

Previous research shows that access to paid sick leave programs is inequitably distributed across groups; workers who are Black, Hispanic, and American Indian/Alaskan Natives tend to have less access, as do employees with lower levels of educational attainment and lower household incomes. This finding is supported by the analyses conducted using Worker PLUS that indicated lack of access to paid leave is also inequitably distributed across demographic groups. A greater relative percentage of women are predicted to lack access to paid leave than men, primarily among Missouri's public and private sector workers and to a slightly greater extent among Missouri's essential workers, also. Black, American Indian/Native Alaskan, and Missouri workers identified as "some other race" were all more likely to lack access to paid leave when compared with white Missouri workers. Additionally, Missouri workers with lower household incomes and lower levels of educational attainment were more likely to lack access to paid leave than workers with higher household incomes and levels of educational attainment.

COVID-19 exacerbated issues of paid leave access while creating a situation necessitating its use for many Americans. FFCRA expanded paid leave access across the country, and to the employed Missouri population. Although the estimates vary by Missouri workers' sex, race/ethnicity, education, and household income, there is no clear indication that those most in need (e.g., those with less education and lower household incomes) had greater predicted access.

Paid leave has demonstrable benefits, but can be costly to the state and to employers. Using existing national and state paid leave programs for references and Worker PLUS, three policy scenarios were simulated on the basis of employer size (<15 employees vs. 15 or more employees) and the days of leave offered (0/3, 3/5, and 5/7) and a cost-benefit analysis performed. The findings from the cost-benefit analysis indicated that the net society-wide and employer benefits of a state paid leave program are likely to outweigh the costs. Furthermore, Worker PLUS estimates of the utilization of the 3/5 policy scenario by private sector workers employed in Missouri indicated that such a paid leave program could ameliorate some of the existing disparities in lack of access to paid leave.

Appendix

Table A1: State and Local Paid Leave Programs																	
	Top Cap	Middle Cap	Bottom Cap	Top Rate	Middle Rate	Bottom Rate	1st Size Cutoff	2nd Size Cutoff	Waiting Period	Own Health	Family Health	Dom. Violence	Health Closure	Weather Closure	Bereavement	Parental	Any Reason
CA	24	-	-	30	-	-	-	-	90	■	■	■					
RI	40	-	U	30	-	-	18	-	90	■	■	■	■				
NY	56	40	U	30	-	-	100	5	0	■	■	■					
MA	40	-	U	30	-	-	11	-	90	■	■	■					
CO	48	-	-	30	-	-	-	-	0	■	■	■	■				
CT (*)	40	-	0	40	-	-	50	-	76	■	■	■					
ME	40	-	0	40	-	-	10	-	120	■	■	■	■	■	■	■	■
MD	64	-	U	30	-	-	15	-	106	■	■	■				■	
MI	40	-	0	35	-	-	50	-	90	■	■	■	■				
NV	40	-	0	52	-	-	50	-	90	■	■	■	■	■	■	■	■
OR	40	-	U	30	-	-	10	-	90	■	■	■	■		■	■	
AZ	40	-	24	30	-	-	15	-	90	■	■	■	■				
D.C.	56	40	24	37	43	87	100	25	90	■	■	■	■				
VT	40	-	-	52	-	-	-	-	365	■	■	■	■				
WA	40	-	-	40	-	-	-	-	90	■	■	■	■				
NJ	40	-	-	40	-	-	-	-	90	■	■	■	■				
NM	64	-	40	40	-	-	10	-	30	■	■	■	■				
VA (**)	40	-	-	30	-	-	-	-	0	■	■						
Chicago	40	-	-	40	-	-	-	-	180	■	■	■	■				
Cook Co.	40	-	-	40	-	-	-	-	180	■	■	■	■				
Minneapolis	48	-	U	30	-	-	5	-	90	■	■	■	■	■			
Philadelphia	40	-	U	40	-	-	9	-	90	■	■	■					
Pittsburgh	40	-	24	35	-	-	15	-	90	■	■		■				
Duluth	40	-	0	50	-	-	5	-	90	■	■	■					
San Francisco	72	-	40	30	-	-	10	-	90	■	■						
San Diego	40	-	-	30	-	-	-	-	90	■	■	■	■				
San Antonio	56	-	-	30	-	-	-	-	90	■	■	■					
Dallas	64	-	48	30	-	-	15	-	60	■	■	■					
Oakland	72	-	40	30	-	-	10	-	90	■	■						
Emeryville	72	-	48	30	-	-	56	-	30	■	■	■					
N.Y.C.	56	40	U	30	-	-	100	4	0	■	■	■	■				
Austin	64	-	48	30	-	-	15	-	60	■	■	■					
Berkley	72	-	48	30	-	-	15	-	90	■	■						
Saint Paul	48	-	-	30	-	-	-	-	90	■	■	■	■	■			
Seattle	72	56	40	30	40	40	250	50	90	■	■	■	■	■			
M.C. (***)	56	-	32	30	-	-	5	-	90	■	■	■	■				
0/3 scenario	24	-	0	30	-	-	15	-	0	■	■	■	■				
3/5 scenario	40	-	24	30	-	-	15	-	0	■	■	■	■				
5/7 scenario	56	-	40	30	-	-	15	-	0	■	■	■	■				

Rates: A rate of "30" indicates the worker earns one hour of leave for every 30 hours worked.
Size Cutoffs: The number of employees that trigger higher leave requirements.
Cap: "U" indicates that the guaranteed hours can be unpaid.
(*) Connecticut only covers service workers. (**) Virginia only covers home healthcare workers (***) Montgomery County, Maryland

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