Projected Economic Impacts of Paid Family Leave in Colorado

by

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Executive Summary

Colorado is poised this year to consider passing a comprehensive paid family and medical leave measure. Despite several unsuccessful attempts in recent years, changes in the state legislature and in voter sentiment point to building momentum in support of the policy. Passing it would make Colorado the seventh state in the U.S., plus the District of Columbia, to pass a statewide initiative.

Drawing from data about similar programs in other states, this report examines what a comprehensive paid family and medical leave initiative might look like in Colorado. Specifically, we estimate that approximately 5% of eligible workers per year are likely to access leave benefits under the new program, with an average weekly benefit of about $671. To fund the program, workers and private-sector employers will each need to contribute about .34% of wages each year.

At this premium rate, the program will be able to fully fund a wage replacement scheme that matches or comes close to matching wages of the lowest earners, with a maximum weekly benefit cap of either $1000 or $1200/week.

Overall, the program seems feasible and is likely to bring a number of important benefits to workers and employers across the state, in exchange for a modest investment in the form of premium contributions.

Key Findings

- A premium of approximately .678% of total state payroll, divided roughly evenly between workers and private-sector employers, would fully fund a statewide paid leave benefit with job-protected leave of up to 12 weeks per claim. This premium level translates to roughly $4 per week in terms of average weekly contribution by workers, though this level varies by income: those in the lowest third of income would pay just under $1 per week, while those in the highest third of income would pay under $7 per week.
- Approximately 131,000 Coloradans would access leave benefits in each benefit year, at a rate of approximately 5% of eligible workers per year. Workers would receive an average weekly benefit of approximately $671 per week. We estimate that the average duration of leave will be approximately 9 weeks.
- Like workers, private-sector employers would pay premiums of .34% of payroll for each eligible worker. The smallest firms would likely receive discounts of 50-75%, depending on firm size. As a result, the smallest firms would pay only .085% of payroll, while mid-size firms would pay .170% and larger firms would pay the full .339%. Because of these discounts, and because public-sector employers would likely not contribute to the program, workers would pay slightly more than half of the overall programs costs.
- Although employers will experience modest increases in payroll costs due to mandatory participation in this program, firms with an employee who takes leave will save the cost of that employee's salary for the duration of the leave period. This savings on wages will help to offset the cost of hiring a temporary worker or paying overtime to other employees. In addition, those employers will likely see savings associated with the return of the employee on leave, with fewer dollars spent on hiring and training a new worker, a cost that research suggests would be much higher than the .34% of payroll. Furthermore, as previous research indicates, the existence of a paid leave benefit may have positive effects on worker morale and productivity.

FAMLI Costs and Revenues

Total Program Costs	Wage Replacement Model 1 (90/50/1000)	Wage Replacement Model 2 (100/60/1200)
Claim Payments	$792 million	$836 million
Administrative Costs	$24 million	$25 million
Total	**$816 million**	**$861 million**

Total Revenues		
From Workers	$608 million	$608 million
From Employers	$384 million	$384 million
Total	**$992 million**	**$992 million**

Introduction

Global and U.S. context

The United States remains one of few countries around the world that does not guarantee some amount of paid maternity leave and paid sick days for workers. In fact, across the U.S. population, only about 17% of civilian workers, 156% of private industry workers and 25% of state and local government workers have access to paid time away from work for serious family and medical issues.[1] Even when narrowing the view to maternal leave, only about 50% of U.S. workers are able to take ANY paid time away from work after giving birth, and about a quarter of leaves last for only two weeks or less.[2,3] Workers have even less access to other types of paid family leave to care for a seriously ill or injured loved one.

Importantly, access to paid leave is far less prevalent for lower income households. Specifically, only 8% of those at the bottom quartile of income have access to paid family leave, 19% have access to short-term disability insurance, and fewer than 50% have any paid sick days.[4]

The situation is no different in Colorado: In the leisure and hospitality industry, which employs more than 332,000 people, only 6% have access to paid leave despite the fact that these jobs are often physically demanding and difficult to complete when one has just given birth or has been up all night with a sick child.[5] And the situation is not much better among those in education and health care, which employs more than one-fifth of working Coloradans: among these workers, less than 19% have access to paid family and medical leave.

Meanwhile, population trends are making the need for paid family leave more urgent. Colorado is one of the states most affected by the aging of the Baby Boomer generation, ranking third in terms of the rate of growth of the population aged 65 and above.[6] It is estimated that 10% of Colorado's workforce, or roughly 500,000 residents, provide some informal (unpaid) care work for a Coloradan aged 50 and above.[7] The population of people aged 65 and above is expected to increase by 61% by 2030, and more than one-third of those older adults will need some form of long-term care.[8]

At the same time, the birth rate of the U.S. population is decreasing, and a lack of paid leave and the resulting financial uncertainty associated with childbirth may be one factor influencing young workers to hold off on having children.[9] Research from countries with more robust parental leave policies suggests that a constellation of policies are needed to support increased fertility rates, and that paid leave is a necessary piece, though not sufficient on its own.[10]

Key Terms

For the purposes of this report, we use the following terms as defined here.

Family leave insurance (FLI): an insurance program that is administered by a private company or a public agency that provides at least partial wage replacement when an eligible worker files a claim for paid family leave.

FMLA: The Family and Medical Leave Act (FMLA) of 1993 established the right for many U.S. workers to take up to 12 weeks of *unpaid,* job-protected leave to manage their own serious health issue, bond with a newborn or adopted child, care for an immediate family member with a serious health issue, or address issues that arise as a result of a family member's military deployment. Because of restrictions on which workers qualify for FMLA leave, only about 60% of U.S. workers are eligible for FMLA.

Paid leave: refers generally to any time off of work during which employees are paid with at least partial wage replacement.

Paid family leave (PFL): refers specifically to leave taken from work for the purposes of bonding with a newborn or adopted child, or for caring for a family member or loved one; while on leave, the worker receives at least partial wage replacement. The four states that have implemented paid family leave programs have slightly different names for similar programs: Paid Family Leave in California and New York, Family Leave Insurance in New Jersey and Temporary Caregiver Insurance in Rhode Island.

Paid medical leave (PML): leave taken by a worker for the purposes of treating and/or recovering from a serious illness or injury; while on leave, the worker receives at least partial wage replacement.

Paid Sick Days: Paid sick days are job-protected days off from work in the event of a short-term health concern. Some employers and states allow sick days to be used to care for a dependent who is ill as well. Typically, paid sick days differ from paid family and medical leave in that they are intended to address emergent or unexpected short-term illnesses, rather than longer term caregiving or health concerns. Also, paid sick days are provided by employers, while paid family and medical leave programs make wage replacement possible by pooling contributions in an insurance pool.

Temporary disability insurance (TDI): an insurance program that is administered by a public agency or private company that provides at least partial wage replacement when an eligible worker files a claim for paid medical leave. Currently, five states (California, Hawaii, New Jersey, New York, and Rhode Island) and one territory (Puerto Rico) have state-mandated TDI programs.

Growing Momentum for Passage of Paid Leave Statutes

As a result of the growing demand for paid leave and research on the benefits of leave for workers, employers, and the public, several states have recently enacted paid leave laws, and several more states are considering measures this year. Although many of these programs are still quite new, some research is beginning to emerge to offer insights into how the differences in the state plans affect utilization in those states, and how the premiums and utilization of benefits impact employers. This report examines the existing research on paid leave programs in the U.S. and applies those findings to the Colorado context to estimate how implementation of a statewide paid leave plan might affect workers and employers across the state.

We first offer a review of the relevant literature on the benefits of leave for various stakeholder groups, and then review the historical context for Colorado's paid leave proposal. Second, we present analysis of the specific potential costs and benefits of access to a universal paid leave program for Colorado workers and employers. Our analysis is guided by the following questions:

1. Are the proposed premiums likely to have negative impacts on the economic security of Colorado households and Colorado employers?
2. Will anticipated economic benefits outweigh potential economic harms among Colorado households and/or Colorado businesses?

What We Know About Paid Family Leave in the U.S.

Workers are Caregivers

Working adults are caregivers as well. According to the Pew Research Center, almost two-thirds (62%) of U.S. workers say they have taken or are very likely to take time off from work for family or medical reasons. More than one quarter (27%) say that they took time off over the last two years due to the birth or adoption of a child, to care for a family member with a serious health condition, or to deal with their own serious health condition. In addition, 16% of those who were employed in the past two years report that there was a time during this period when they needed or wanted to take time off from work but were unable to do so.[11]

Thus, it is not surprising that paid leave is a coveted benefit. A 2018 survey of working adults conducted by Unum, a leading provider of employee benefits, found that paid family leave was desired by 58% of employees surveyed and "outranks other popular perks, like flexible and remote working options (55%), sabbatical leave (38%), student loan repayment assistance (35%), pet-friendly offices (15%), and pet insurance (15%)."[12] A recent study by Harvard Business School researchers, Fuller and Raman, found that paid leave was the benefit most often used when offered by employers, with 55% of eligible employees using the benefit provided by their workplace.[13] However, in their survey, only 59% of employers offered some paid leave as a benefit.

The Lack of Paid Leave Has Costs for Workers, Employers, and the Public

One reason for the high demand for paid leave is that when workers do not have access to the benefit, they report decreased connection to the workforce and lower productivity when they remain employed. Caregiving (including care of infants, children, and adult family members) is associated with reducing work hours, taking a less demanding job, early retirement, or giving up work entirely.[14] Fuller and Raman's study of how caregiving impacts employment found that 32% of employees had left a job at some point because of caregiving, and 80% of employees with caregiving responsibilities reported that their caregiving had negative impacts on their productivity.[15] Unfortunately, the costs associated with lower productivity and turnover are often difficult to measure. However, there is growing recognition among employers that caregiving is a reality that cannot be ignored in the workplace.

While employee turnover has costs for businesses, the effects on households can be far more serious, causing long-term implications for economic security and retirement preparation. A 2011 report by the MetLife Mature Market Institute found that caregivers of aging parents who had to take time off of work because of caregiving responsibilities lost an average of $303,880 of wages, benefits, and Social Security and private pension contributions during their lapse in employment.[16] These losses were higher among women, who lost $324,044 on average, versus $283,716 in losses among male caregivers.

The growing body of research on the impacts of caregiving on employment and earnings has contributed significantly to the shift in thinking about paid leave. In fact, the U.S. Department of Labor (DOL) released a report on paid family leave in 2015 entitled, *The Cost of Doing Nothing*, in which the DOL argued that the country lost an estimated $500 billion in economic activity each year as a result of our lack of a national paid leave policy.[17] The Federal Reserve Board of San Francisco found recently that a lack of paid leave access among new mothers contributes significantly to low workforce attachment among women.[18] States have also begun to take notice, and there are now six states plus the District of Columbia that have passed paid leave statutes, with other states considering enactment of these policies as well.

Current costs of caregiving for Colorado households

Collectively, the cost of providing care can add up. In 2015, the Colorado Health Institute (CHI) estimated that 576,000 Colorado caregivers provide $6.6 billion in unpaid care each year.[19] Another CHI analysis estimated the cost of caregiving for older adults in Colorado at $7,400 per caregiver in 2015, with an additional cost to employers of $1,100 per caregiver.[20] According to their report, 78% of this cost to caregivers was a result of lost wages as a result of reduced hours and/or leaving jobs altogether. CHI estimated that the overall lost earnings and lost productivity due to caregiving will double in Colorado by 2030.

Benefits Associated with Paid Leave

As state paid leave plans have been implemented, research on outcomes of paid leave has begun to emerge. Though not exhaustive, the following is a summary of some of the key benefits of paid leave that have been identified in the growing scientific literature on this topic.

Greater Attachment to Work

Studies consistently show stronger labor force attachment after paid leave.[21] In California, workers who took advantage of the statewide paid leave benefit were more likely to return to work, with 8% more likely to be employed immediately after taking leave, and 14% more likely to be employed a year after leave ended.[22] A study of leave takers in Rhode Island compared the outcomes of different leave options for those who experienced significant life events that would be eligible for temporary caregiver insurance (TCI). TCI leave takers, "compared to other leave groups, were significantly more likely to report satisfaction with their ability to reorganize their lives to be both good workers and good caregivers." They were more likely to have fewer absences, see increases in income after the life event and somewhat more likely to return to the same job. Notably, they experienced lower levels of stress.[23]

Less Turnover and Absenteeism for Employers

Research from California indicates that the state's paid leave program was associated with lower turnover costs for employers.[24] Unfortunately, however, it is difficult to quantify the dollar value of this effect because estimates of the cost of employee turnovers are inconsistent at best. In 2016, the Society for Human Resource Management reported that the average cost to replace a worker was $4,129 and the average time it took to fill a position was 42 days.[25] The Center for American Progress review of 11 research papers on turnover finds that business spend about one-fifth of an employee's annual salary to replace them.[26] These estimates often do not include less quantifiable costs related to productivity, morale, etc. A 2016 Colorado Health Institute report on caregiving for older adults found that turnover costs borne by Colorado employers amounted to $427 million in 2015, with another $65 million and $72 million of the costs accounted for by presenteeism and absenteeism, respectively.[27] While not all caregivers will opt to stay in the workforce, even when paid leave is available, a significant number may, as the results of the California study indicates. Thus, contributing to a statewide paid leave program may, ultimately, help employers to retain good workers and to save on turnover costs.

Paid leave's role in helping businesses to recruit and retain good workers is reflected in the large majority of small business owners who support enactment of a federal paid leave plan. In a study by the Small Business Majority and Center for American Progress, 70% of small business owners were in favor of a policy that would create a social insurance program with up to 12 weeks of paid leave as a benefit for workers.[28] These business owners reported that having a universally available paid leave program for workers would level the playing field in terms of helping them recruit and retain workers.

Another costly impact of caregiving for employers is worker absenteeism. A study of Rhode Island's temporary caregiver insurance program found that workers who accessed TCI were significantly less absent from work than those who did not use TCI.[29] Also, TCI leave takers were less likely to be let go from their employer.

Household Economic Security

Access to paid leave translates to increased earnings for U.S. families. A recent analysis by the Center for American Progress found that families lose an average of $20.6 billion dollars each year because of a lack of paid family and medical leave.[30] This is particularly important for families in which women are breadwinners: in Colorado, 73% of Black mothers, 48% of white mothers and 53% of Latina mothers are the sole earners or contribute 40 percent or more to the household's total earnings.[31] In another 35% of households, children are being raised by a single parent. Lost income and lost employment for these households often result in significant economic insecurity. Indeed, a multi-year analysis of earnings by the Institute for Women's Policy Research found that the annual earnings of women who took one year off of work between 2001 and 2015 were 39% lower than women who worked all 15 years.[32]

The economic effect of caregiving as workers themselves age is also significant. Caregivers have a significantly higher probability of becoming poor and also experience a smaller percentage growth in assets—particularly among those who care for spouses.[33] Colorado's own Strategic Action Plan on Aging recommended creation of a TCI program, similar to those in the other states mentioned here, as a way to support the significant number of current and future caregivers in balancing their work and caregiving responsibilities.[34] Their report referenced the 2016 CHI analysis, which estimated the cost of caregiving at $7,400 per caregiver in 2015.[35]

Since the economic effects of caregiving fall disproportionately on the shoulders of women, the economic security that paid leave affords by creating income stability and work attachment can help to close the persistent earnings gap. In California, for instance, new mothers who had worked for at least 20 weeks during their pregnancy were nearly 20% more likely to be employed one year after giving birth when they had access to paid leave.[36] New mothers also had a 24% increase in wages in the year after their child's birth when compared to new mothers who gave birth before paid leave was available. These effects continued into the second year of the child's life, with workforce attachment and wages continuing to increase among mothers.[37]

Public Assistance Utilization

Wage replacement may help families avoid public assistance or high-interest debt. In a national survey of leave takers, Horowitz et al. found that leave takers with lower incomes (<than $30,000 household income) were less likely to receive wage replacement during time off from work following the birth or adoption of their child. One in six report they took on debt and about half say they went on public assistance or put off paying their bills (46%) to make ends meet.[38] According to unpublished data from the Pew Research Center, use of public assistance to cover lost wages or salary is also a common strategy among middle-income workers who take leave; they find that 18% of workers earning $30,000 to $74,900 per year went onto public assistance to cover lost wages during their leave. Research consistently shows that both women and men who take paid leave are less likely to receive public cash assistance or food stamps the year following the birth of a child,[39,40] and mothers who took advantage of paid family leave were less likely to have income below the poverty line one year after the birth of a child.[41,42]

Health Outcomes

There is a growing body of research documenting significant health benefits when paid leave is available. These benefits operate through a number of mechanisms, some of which relate to the decreased financial stress and role conflict experienced by working caregivers. For instance, Earle and Heymann "found that paid leave and sick days buffered the strains of caregiving and improved both self-rated mental health and self-rated physical health" among working caregivers of family members with special health needs.[43] Silver, Mederer, and Djurdjevic's 2016 study of Rhode Island's TCI program found that workers who took paid family leave reported significantly better physical health than those who did not take leave or who used other types of leave while balancing caregiving responsibilities.[44]

Another study by Lichtman-Sadot and Bell found that health outcomes among elementary age children (i.e., overweight, ADHD, and hearing related problems) were negatively linked with many factors that are influenced by access to maternity leave such as increased breastfeeding, prompt medical checkups at infancy, reduced prenatal stress, and reduced non-parental care during infancy.[45] Study results were driven by children from low-income backgrounds, further illustrating the impact of paid family leave on low-income families who previously did not have access to this benefit.

Lastly, some benefits of paid leave are the result of leave-takers' increased access to preventive care and/or to decreased anticipatory financial stress, particular among pregnant workers. Paid family leave is significantly associated with reduced infant rates of congenital anomalies, low birthweights, prematurity, and overall mortality,[46] results that may be partly explained by the increased ability to engage in prenatal care and the decreased stress experienced by pregnant people during pregnancy.

When women take maternity leave, rates and costs of hospitalization decline. In one study, Jou and colleagues found that offering paid maternity leave led to a 47% decrease in the odds of re-hospitalization for infants and a 51% decrease in the odds of mothers being re-hospitalized themselves at 21 months postpartum when compared to women taking unpaid or no leave.[47] Similarly, Pihl and Basso found that infant hospitalizations in California declined by 3 to 6 percent after that state implemented its paid family leave program.[48]

Improving infant health outcomes, particularly for infants born to our most vulnerable mothers—the least likely to have had access to paid leave before—may help to close the Black/White infant mortality gap. The Black infant mortality rate in the United States is two times greater than the White infant mortality rate, a disparity that has remained unchanged for over 35 years. In Denver, infants born to Black women are four times more likely to die within their first year than infants born to White women.[49] These disparities may be reduced by implementation of a paid leave plan, and paid leave may have similar beneficial effects on the growing maternal mortality rate among Black women.

Mental Health and Substance Use

A number of studies find that paid leave is associated with better mental health, especially for new mothers—and that these benefits can be long-lasting. For instance, Avendano and colleagues found that generous maternity leave during the birth of a first child is associated with a reduced score on the Euro-D depressive symptom scale when mothers reach old age.[50] This may be explained in part by the finding that women who take paid maternity leave increase their odds of doing well with exercise and stress management, compared to women taking only unpaid leave.[51] Dagher, et al., found that worse postpartum depression scores were associated with higher total workload and lower job flexibility, among other factors; these are concerns that could be mitigated—at least in part—by access to paid leave.[52] In fact, a study by Mandal found that the negative psychological effect of returning to work early after giving birth was alleviated by having paid leave.[53]

Substance use disorders and overdoses are growing epidemics across the country and in Colorado. The Colorado Health Institute reports that overdose deaths have more than doubled in Colorado since 1999.[54] When compared to other states, Colorado ranks in the top 10 in terms of rates of use of cocaine, marijuana, alcohol, and opioids. Paid family leave would enable workers time off to address their own mental health or substance use disorders or to care for a child or other family member who is struggling with an addiction or mental health challenge.

Challenges Associated with Paid Leave

Fraud and Misuse

In any insurance program, there is the potential for fraud and misuse of the system. The states that have enacted paid leave programs have implemented a number of strategies designed to prevent or catch fraud and misuse. These include use of data-sharing with other state agencies (including cross-check of unemployment insurance claims with TDI and TCI claims), review of medical providers' claim history, regular benefit audits that compare wage data with claims data, and other administrative processes.[55] As a result of these efforts, reports of fraud and misuse are relatively small. In California in 2017, out of 948,897 paid leave claims (TDI and PFL) filed, only 16 cases were prosecuted as fraudulent claims; all of these were related to the state's temporary disability program, with no cases of fraud detected in the PFL program.[56] There were also 563 cases of fraudulent overpayments in the TDI system, with no cases of overpayments brought in the PFL program.

Replacing Workers On Leave

One other concern about implementing a statewide paid leave benefit is the potential difficulty employers may face when they are required to hold a position open when an employee is on leave. There are some intangible losses related to productivity or morale when a worker is absent, and potentially some small costs associated with hiring and training a temporary worker. However, research from other states indicates that overall improvements in job satisfaction and worker attachment associated with paid leave programs generally offset these temporary costs. In fact, a report on the first decade of experience with California's paid family leave program found that 99% of businesses surveyed saw employee morale improve or remain positive after implementation of the PFL benefit.[57] The same report found a "positive effect" or "no noticeable effect" on productivity (89%), profitability (91%), and turnover (96%).

Recent Legislative Approaches in the U.S.

Overview of Existing Statewide Paid Leave Programs

The first statewide temporary disability insurance program was implemented in Rhode Island in 1942. To date, five states and one territory have statewide, mandatory TDI programs. Paid leave programs have been a more recent policy advance, with the first statewide program enacted in California in 2002. Washington State followed suit in 2007, but failed to allocate funding for the program and delayed implementation until new legislation moved forward in 2017. New Jersey was the second state to implement a leave program, passing the law in 2008 and beginning implementation in 2009. Rhode Island implemented a Temporary Caregiver Insurance program in 2013. More recent activity includes new programs in New York (implemented in 2018), Washington State (implemented January 2019), and Massachusetts (due for implementation in July 2019). In addition, New Jersey has just signed into law an expansion of their paid family leave program; likewise, California is considering legislation to expand that state's program.

This year has brought additional legislative activity. New Jersey, for instance, has just signed into law an expansion of their paid family leave program; likewise, California has already made some program improvements and is now considering legislation to expand that state's program. In all, 25 states, including Colorado, have a paid leave proposal under consideration in the state legislature.

In California, New Jersey, Rhode Island and New York, paid leave programs build upon existing short term disability programs offered by or required by the state (TDI), though in each of these states the eligibility and benefits premiums differ between the TDI and family leave programs that cover caregivers.

All six programs vary in how they are funded, length of leave, and job protection offered. Descriptions of the features of these plans are available from DOL,[58] the National Partnership for Women and Families[59] and AARP[60] and are summarized in Table 1, below.

*Table 1. Comparison of State Paid Leave Programs Covering Family Caregivers**

State (year premiums implemented)	Wage Replacement	Job Protection During Leave	Maximum Length of Leave	Eligibility Requirements	Premium Costs
California (2004)	70% for workers paid up to 1/3 Average Quarterly Wage; otherwise higher of 60%, or 23.3% of Average Weekly Wage (max=$1,252)	Yes, for parental leave for employees of employers with 20 or more employees, and for pregnancy disability for employees of employers with 5 or more employees; Otherwise no additional protections	6 weeks	Earnings at least $300 in last year	1% on the first $118,371 of wages (worker-only contributions)
New Jersey* (2009)**	66% (max=$650)	No additional protections	6 weeks	20 calendar weeks of employment in last year or earnings over $8.600	For TDI, ~0.34% of the first $34,400 in wages (split between employers and workers); For FLI, 0.08% of first $34,400 in wages (worker-only contributions)
Rhode Island (2014)	~60% (max=$831)	Yes, for family leave; No, for disability leave	4 weeks	Earnings of at least $12,600 over last year	1.1% of the first $71,000 of wages (worker-only)
New York (2018)	For family leave: 55% (max=55% Average Weekly Wage); increases to 67% by 2021 For medical leave: 50% (max=$170)	Yes, for family leave; No, for disability leave	10 weeks in 2019; up to 12 weeks in 2021	26 or more consecutive weeks of employment (or 175 days of employment for part-time workers)	For TDI, 0.05% of wages up to $0.60 per week paid by worker and balance paid by employer; For FLI, 0.153% of first $70,569 in wages (worker-only contributions)

State (year premiums implemented)	Wage Replacement	Job Protection During Leave	Maximum Length of Leave	Eligibility Requirements	Premium Costs
Washington (2019)	90% up to 50% of Average Weekly Wage + 50% of wages above 50% of Average Weekly Wage (max=$1000)	Yes, for six weeks of pregnancy disability for employees of employers with 8 or more employees; Otherwise no additional protections	12 weeks (up to 16 weeks combined own serious health condition plus family leave, and 2 additional weeks for pregnancy-related incapacitating serious health condition)	820 hours in 4 of last 5 quarters	.4% of wages up to the cap on taxable wages for Social Security ($132,900 in 2019 paid by employers (who may deduct the full FLI premium and 45% of the medical leave premium from employees)
Massachusetts (2019)	80% up to 50% of Average Weekly Wage + 50% of wages above 50% of Average Weekly Wage (max=$850)	Yes	12 weeks (up to 26 weeks combined own serious health condition plus family leave)	Earnings of over $4700 in last year	0.63% of wages paid by employers (who may deduct the full FLI premium and 40% of the medical leave premium from employees)
Washington, D.C. (2019)	90% up to 150% of minimum wage + 50% of wages above 150% of minimum wage (max = $1000)	Yes, for employees at businesses with 20 or more employees (DC FMLA)	8 weeks parental leave; 4 weeks family leave; 2 weeks medical leave	Over 50% of work time in DC in past 52 weeks	0.62% of wages (employer-only contributions).

**These are the parameters in effect as of January 2019.*

***Maximum length of leave describes potential available leave for child bonding and family care; state TDI programs may offer longer leave for an individual's serious health conditions, including pregnancy and childbirth recovery.*

****Details of the New Jersey policy do not include the expansion of paid leave that was signed into law on February 19, 2019. The expanded program, once implemented, will include up to 12 weeks of paid leave and will expand wage replacement up to 85% of wages.*[71]

The Colorado FAMLI Act

Attempts to implement a paid family leave program in Colorado began in 2015 with a bill introduced by then-Representative Faith Winter (D-Westminster) entitled the Family and Medical Leave Insurance (FAMLI) Act. The bill was successful in three committee votes, but failed on the floor of the House. A similar measure was introduced in the 2017 and 2018 legislative sessions, each time passing in the House but failing in initial committee votes in the Senate. For the purposes of this report, we assume that a version of the FAMLI Act will be introduced in the Colorado General Assembly in 2019.

Model Assumptions

In order to provide specific estimates of the impacts of this proposal, we assume the proposal will have the following characteristics, which are modeled after similar statutes enacted in Massachusetts and Washington State:

1. Statewide eligibility for all workers:
    a. Opt-in for independent contractors (ICs) and micro-firms
    b. Mandatory participation for all other private-sector workers and firms
    c. Mandatory participation for all public-sector workers
    d. Eligible workers will have worked at least 680 hours in Colorado in the 12 months prior to start of leave period.
2. Premium contributions by all workers and most employers:
    a. Contributions by all private- and public-sector workers
    b. Contributions by independent contractors (opt-in, though we model with all ICs participating)
    c. Contributions by all private-sector employers (with small employers receiving a discount, but with all contributing)
3. Wage replacement equal to 90% of wages up to the stateside average weekly wage (AWW), with additional 50% of wages above AWW up to $1000 per week (maximum benefit).
    a. We also model an alternative scenario with 100% wage replacement up to AWW.

Analysis of Potential FAMLI Act Outcomes: The Colorado Story

FAMLI, like any insurance policy, will be funded through premium contributions by everyone who is eligible for coverage, with the idea that not everyone who pays will receive a benefit in a given year. Spreading the risk across a pool of eligible workers and employers helps to lower costs, but also means that in any given year, more people will contribute than will expect to receive benefit payments. While premiums for this program, as in other states, will be relatively small, any contribution is an additional expenditure for low-income workers and small businesses that operate with smaller profit margins. Premium levels may be discounted for small businesses in the Colorado proposal. Low-income workers will be eligible for a higher wage replacement level if they file a claim. Overall, the modest premiums allow for a significant payout for those who need to take leave. They will facilitate improved health and wellbeing for all Coloradans while supporting higher levels of productivity and workforce attachment, balanced with the need to minimize costs to both workers and employers.

Summary of Projected Costs and Benefits

We estimate the costs and benefits of implementing a FAMLI program in Colorado using preliminary components of this year's anticipated FAMLI bill as well as data from the 2017 American Community Survey, the Bureau of Labor Statistics, and the Census Bureau. The implementation of the FAMLI program would generate an average weekly benefit of $671 and cover 131,000 workers. (See the appendix for discussion of methodology and data.) With an average leave duration of 9 weeks, total benefits for qualifying workers is $792 million dollars; adding administrative costs of $24 million generates a total program cost of $816 million annually. The program is fully funded if employers and workers contribute a maximum of 0.678% of payroll.

Table 2: Summary of FAMLI Program Impact

Average Weekly Benefit	$671
Workers Eligible	2,622,978
Expected Claims	131,149
Total Benefits	$792 million
Administrative Costs	$24 million
Total Costs	**$816 million**
Total Payroll	$120.4 billion
Percent Payroll	0.678%

Utilization Rates and Leave Duration

Evidence about utilization rates and leave duration in states that have already enacted paid leave are an important source of information to inform an estimate of how many Coloradans are likely to access paid leave if a statewide program is available. One challenge with this type of analysis is that wage replacement rates and the length of leave available are different across the states with universal leave. A second challenge is that family leave programs in the three states for which utilization data are available were built on and now complement existing temporary disability programs, while Colorado does not have a short term disability program. Temporary disability programs offer longer lengths of leave for workers who are ill, pregnant, or who have suffered non-work-related injuries, but typically do not cover leave to care for family members. The following table summarizes Temporary Disability and Family Leave Insurance claims in 2017 for the three states that have implemented paid leave. In each case TDI claims activity dwarfs family leave. Approximately 80% of the family leave claims across the three programs are for bonding with a new child; one-third to three-quarters of the claimants were female.

As the Colorado FAMLI Act builds a comprehensive program of paid family and medical leave (TFI and TDI) for workers where none existed before, our estimate of utilization was developed by looking at utilization across three states where claims data were available: CA, NJ, and RI. We estimate a utilization rate of 5% and an average leave duration of 9 weeks. Our estimate assumes that Colorado's utilization will be lower than RI's rate, but higher than those reported by CA and NJ. See Appendix A for a full discussion of this estimate.

Table 3. Comparison of utilization and benefits by state

2017	Number of Claims	Average Weekly Benefit	Average Duration of Leave (% of Max Allowed)	Utilization Rate
California[61]				
TDI	632,755	$540	16.2 weeks (31%)	
FLI	244,853	$599	**5.4 weeks** (33-90%[62])	
TOTAL	**877,608**			**.047**
New Jersey[63]				
TDI	89,242	$468	10 weeks (38%)	
FLI	33,540[64]	$538	**5.1 weeks** (85%)	
TOTAL	**122,782**			**.025**[65]
Rhode Island[66]				
TDI	47,075	$492	13.1 weeks (44%)	
FLI	11,153	$542	**3.6 weeks** (90%)	
TOTAL	**58,228**			**.11**

Eligibility

Using 2017 American Community Survey data, 2,622,978 workers in Colorado met the 680 "hours worked" criteria for eligibility to begin accessing a FAMLI-style paid leave benefit. The average weekly wage of eligible workers was $1,173 in 2017. Assuming wage replacement criteria at 90% of weekly earnings up to 50% of the average weekly wage, then 50% of weekly wages beyond that average weekly wage and a maximum wage replacement of $1000, the average wage replacement will be $671 a week. Thirty-two percent of eligible workers qualify to earn 90% of their wages (we categorize these as "low" income), while 44% will earn the maximum replacement wage of $1000 (we categorize these as "high" income). The remaining 24% are categorized as "medium" income workers in the following tables.

Benefit Scenarios

» **Worker One** earns $200/week; Replacement Wage = 90%*$200 = $180

» **Worker Two** earns $700/week; Replacement Wage = (90%*$587) + (50%*(700-(90%*$587)) = $528 + $86 = $614

» **Worker Three** earns $1200/week; Replacement Wage = $1000

Table 4: Worker Characteristics[67]

2017 Labor Force		
	Number	**Percent**
Labor Force	3,029,796	100%
Employed	2,937,962	97.0%
Eligible for FAMLI	2,622,978	89.3%
Not Eligible	314,984	10.7%
Weekly Earnings for Eligible Workers		
Average Wage	$1,173	
50% of Average Wage	$587	
Average Replacement Wage	$671	
Workers by Weekly Earnings and FAMLI Wage Replacement Criteria		
	Number	**Percent**
High	1,295,641	44.1%
Medium	693,359	23.6%
Low	948,962	32.3%

At a utilization rate of 5%, we estimate 130,000 total claims from 2017 data. The average weekly benefit per worker is $671. This is a benefit of $4,026 over 6 weeks of leave and $6,039 over 9 weeks. Assuming an average claim duration of 9 weeks, the total claims paid to all workers is $792 million.

Table 5: Benefits to Workers

Claims Per Year			
Projected Eligible Workers	2,622,978		
Claim Rate	5%		
Total Claims	131,149		
Average Claim Duration	1 week leave	6 week leave	9 week leave
Claims Paid Per Worker	$671	$4,026	$6,039
Claims Paid to All Workers	$88,000,979	$528,005,874	$792,008,086

We examined two wage replacement options to evaluate different benefit rates. The first wage replacement structure provides up to 90 percent of a worker's weekly wages with a maximum of $1000. This is the wage structure applied in Table 4 above. Under this structure, 44% of eligible workers earn the maximum benefit and 32% of workers earn 90% of their wages. The second wage replacement structure expands benefits by providing 100% of weekly wages for eligible workers earning up to 60% of average weekly wages, then 60% of weekly wages up to a maximum of $1200. This structure allows 41% of the lowest earning workers to receive 100% wage replacement with an average wage replacement for this income group of $363 a week and increases the 9 week leave total for all workers by roughly $34 million. It improves the economic security of all workers taking leave, providing the most benefit to those earning the least. One in four families in Colorado do not have enough income to cover basic necessities without resorting to public assistance,[68] and many others struggle to balance their budgets.[69] An increase in benefits may slightly increase utilization rates and the duration of leave; however, those with the greatest incentive to take leaves of longer duration are those who earn the least. As demonstrated in the scenarios described below, the benefits are adequate to keep vulnerable families financially secure during a caregiving episode.

Table 6: Comparison of Wage Replacement Benefit Levels

Wage Replacement Structure 1: 90% of weekly wages up to 50% of average weekly wages, then 50% of weekly wages with a maximum of $1000 for a 9 week leave					
Percent of Workers	**Income Level**	**AWW**	**Replacement Wage**	**% of weekly wages**	**Total**
44%	High	$2,035	$1,000	49.10%	$519,349,565
24%	Medium	$769	$618	80.40%	$175,068,017
32%	Low	$290	$261	90.00%	$98,581,990
	Tiered Income Total				$792,999,572

Wage Replacement Structure 2: 100% of weekly wages up to 60% of average weekly wages, then 60% of weekly wages with a maximum of $1200 for a 9 week leave					
Percent of Workers	**Income Level**	**AWW**	**Replacement Wage**	**% of weekly wages**	**Total**
35%	High	$2,310	$1,200	51.94%	$413,119,350
25%	Medium	$926	$840	90.68%	$247,919,705
41%	Low	$363	$363	100.00%	$175,461,685
	Tiered Income Total				$836,500,740

How Paid Leave Supports Economic Self-Sufficiency

Scenario #1: A High-Income Beneficiary
Kimberly, a 32 year old Summit County woman, is working full-time at her dream job where she earns $1200 per week, well above the state's median weekly wage for women. Her annual earnings are $62,400, close to the self-sufficiency standard needed for one adult and an infant. She is not married and lives alone. During her third year on the job, her first child is born with some health challenges that require her to manage her care. She arranges a 12-week leave of absence from work to care for her newborn.

Under the more limited replacement scheme (90/50/1000) she will receive $1000 per week in wage replacement, or $4,000 a month. This allows her to meet most of the basic necessities identified in the self-sufficiency standard, other than child care that she will not need while she is staying home. These include: housing ($1419), food ($543), transportation ($262), health care costs ($472), taxes ($1053), and miscellaneous ($411) with a little left over. Paid leave allows her to focus on the care of her child and removes the strain of this life challenge being compounded by financial hardship.

Scenario #2: A Low-Income Beneficiary
Daniela, a 56 year old living in Weld County Colorado is working a minimum wage job 25 hours a week to supplement family income when she is not caring for her children and her elderly parents. She brings in $278 a week, or $1,110 a month, which covers the self-sufficiency housing costs ($937) for her two children and partner. Daniela's mother was recently diagnosed with breast cancer and needs a caregiver for 4 weeks during her chemo treatments.

Under the more limited replacement scheme (90/50/1000) she will receive $250 a week, or $1,000 a month—enough to continue covering her family's housing needs. This will allow her to provide the necessary care for her mother while not putting financial strain on the family.

Data on the Self Sufficiency Standard are drawn from the Colorado Center for Law and Policy 2018 online reporting of the Self Sufficiency Standard in Colorado. https://cclponline.org/pub_library/self-sufficiency-standard-for-colorado-2018/#

Premiums for Workers and Employers
The worker share of premiums in other states that have implemented a similar social insurance program have generally been set at less than 1% percent of wages.[70] In Washington State, for instance, workers contribute .4% of wages up to the cap on taxable wages for Social Security ($132,900 in 2019). In New Jersey, workers contribute .34% of the first $33,500 in wages. In California, the premium is equal to 1% on the first $118,371 of wages. Only in Rhode Island does the premium amount to more than 1% of wages: there it is set at 1.1% of the first $71,000 of wages and only the employees pay into the fund. There is wide variation in rules that guide funding of these programs: for instance, in a majority of states, employers and workers both contribute, but in states that already had TDI programs, shared responsibility between employers and workers may be different across programs. Additionally, many states have implemented caps on the wage base used to set premium rates, with NJ's cap set at the first $33,500 in wages, for instance, while Washington state has indexed the wage base to the Social Security taxable wage cap. Recent estimates of the Colorado FAMLI Act have projected a premium rate of .34% of total payroll to fully fund the program;[71] similarly, the state's fiscal note for the 2018 version of the bill estimated a minimum premium rate of .33%.[72]

We estimate a slightly higher premium rate, based on a different estimate of utilization, in order to understand the upper threshold of funding that could be needed to offer paid leave in Colorado. We expect that this premium estimate, 0.678% of wages, is higher than will actually be needed to fully fund the program, in part because it is likely that Colorado workers will be slow to access available leave benefits. Experience from other states indicates that it can take several years for constituents to learn of new benefits, even when they have already begun paying into the fund.

Table 7 presents the projected costs to employers and workers when they split the premium costs. We base our projections on the level of funding necessary to pay out all anticipated benefits at a 5% program utilization rate. Under this scenario, a worker premium of 0.339% is the minimum rate needed to cover half the program costs; **a combined employer and worker rate of 0.678% is sufficient to fully fund the program at a 5% utilization rate and with 90-100% wage replacement for families with the greatest need.** With an average weekly contribution of roughly $4, for a yearly total of $207, workers generate roughly $607.5 million in program funds; with matching funds from employer contributions, this is sufficient to fully fund both program benefits and administrative costs.

Table 7: Estimated Worker Premiums

Worker Premium at 0.339%			
	Total	**Weekly**	**Yearly**
Average	$607,501,323.22	$3.98	$207
High Income	$463,959,067	$6.90	$359
Medium Income	$122,024,145	$3.33	$173
Low Income	$48,061,486	$0.98	$51
Tiered Total	$634,044,698		

Similar to the premiums paid by workers, we estimate contributions from private-sector employers using the same assumptions. Recognizing that premiums may be more of a burden for smaller firms, we included a discount rate for small firms. Employers with 0-4 workers receive a 75% discount and employers with 5-9 workers receive a 50% discount on the premium rate. Using these assumptions, a premium rate of 0.339% brings in $383.5 million in contributions.

Table 8: Estimated Employer Premiums

Firm Size	Percent of Firms	Yearly Costs	% of Payroll
0-4	64%	$5,264,040	0.085%
5-9	15%	$8,831,501	0.170%
10+	22%	$369,432,545	0.339%
Total		**$383,528,086**	

In summary, at a premium rate of 0.678% of wages/payroll, a fund of $992 million is created with a surplus of $176 million, providing adequate reserves to sustain the program. The costs and revenues are summarized in Table 9.

Table 9: FAMLI Costs and Revenues

Total Program Costs	Wage Replacement Model 1 (90/50/1000)	Wage Replacement Model 2 (100/60/1200)
Claim Payments	$792 million	$836 million
Administrative Costs	$24 million	$25 million
Total	$816 million	$861 million
Total Revenues		
From Workers	$608 million	$608 million
From Employers	$384 million	$384 million
Total	**$992 million**	**$992 million**
Program Reserve	+$176 million	+$131 million

Conclusion

Our analysis of a potential paid family and medical leave insurance plan, the Colorado FAMLI program, finds that a premium level of approximately .678% of total state payroll, divided roughly evenly between workers and private-sector employers, would fully fund a statewide paid leave benefit with job-protected leave of up to 12 weeks per claim. This premium level translates to roughly $4 per week in terms of average weekly contribution by workers, though this level varies by income: those in the lowest third of income would pay just under $1 per week, while those in the highest third of income would pay under $7 per week.

We estimate that approximately 131,000 Coloradans would access leave benefits in each benefit year, at a rate of approximately 5% of eligible workers per year. Workers would receive an average weekly benefit of approximately $671 per week. We estimate that the average duration of leave will be approximately 9 weeks, though it is likely that length of leave would be quite variable, depending on the reason for taking leave and the level of wage replacement. If wage replacement for the lowest income workers is increased to 100%, utilization, leave length, and average weekly benefits would increase slightly; however, we estimate that premiums of .678% of total statewide payroll would continue to be adequate to pay for the program costs.

Like workers, private-sector employers would pay premiums of .34% of payroll for each eligible worker. The smallest firms would likely receive discounts of 50-75%, depending on firm size. As a result, the smallest firms would pay only .085% of payroll. Because of these discounts, and because public-sector employers would likely not contribute to the program, workers would pay slightly more than half of the overall program's costs.

Although employers will experience modest increases in payroll costs due to mandatory participation in this program, firms with an employee who takes leave will save the cost of that employee's salary for the duration of the leave period. This savings on wages will help to offset the cost of hiring a temporary worker or paying overtime to other employees. In addition, those employers will likely see savings associated with the return of the employee on leave, with fewer dollars spent on hiring and training a new worker, a cost that research suggests would be much higher than the .34% of payroll. Furthermore, as previous research indicates, the existence of a paid leave benefit may have positive effects on worker morale and productivity.

Creation of the FAMLI program would result in overall program revenues of $992 million per year; these revenues would be almost entirely expended through benefit payments to eligible claimants, with 3% of revenues spent to hire program staff and otherwise administer the program. Approximately $176 million would be available as program reserves.

Because of the dynamic nature of revenue collection and benefit payments, this program would redistribute a small amount of wages from non-caregiving, healthy workers to those with a caregiving or medical need. Benefit payments would contribute to overall economic activity in the state at a level that would match or exceed the cost to economic activity from premiums paid into the program by workers and employers.

Importantly, the overall economic transfers would also facilitate achievement of other benefits to households, employers, and the state. These include benefits to workers' economic security, health, and mental health; employment stability, reduced turnover costs, and increased productivity at Colorado workplaces; and reduced dependence on public assistance among low-income families, especially after childbirth. In our estimation, therefore, the overall benefits make this program well worth the investment required.

Appendix A: Methodology of FAMLI Estimates

Estimating the economic impact of a paid family leave program to workers, employers, and the state of Colorado is dependent upon the available data on wages, hours of work, and predicting the likelihood of workers taking leave. Here we outline key parameters in our estimations and the methodology implemented to determine the impact of paid leave.

Key Parameters

Utilization rate

We estimate that 5% of all eligible workers will access paid leave benefits in a given calendar year. This estimate is modeled as a compromise between the experience of California and New Jersey, which report utilization rates of less than 2.5%, and Rhode Island, which reports a utilization rate of more than 6%. A key factor in understanding the difference in these states' reported utilization rates is that Rhode Island's program is exclusively a public insurance pool, while the other states allow employers to utilize private insurance and/or self-insurance, as long as those private plans provide benefits at least as generous as the state plan. In states with some private insurance options, the private plans are not required to disclose utilization rates; therefore, utilization rates based on use of the public programs likely underreport total episodes of leave-taking by workers in those states. Additional reasons for estimating Colorado's utilization at just under Rhode Island's rate include:

1. The CA and NJ plans do not offer job protection beyond that already provided through the federal FMLA guidelines, while RI's plan offers job protection of up to four weeks for family leave, and up to 30 weeks for medical leave. Colorado's leave program will offer 12 weeks of leave for both categories, and while it is likely that those who use it for bonding leave will take the entire 12 weeks, those who use it for medical leave are likely to take shorter leaves—and as we have learned from other states, medical leave accounts for a large share of all leaves taken when both TCI and TDI are available.
2. Although Colorado's population is rapidly aging, the average age in Colorado remains low, especially in comparison to RI. The presence of a higher percentage of older adults makes it likely that RI will experience a higher rate of disability leave-taking as well as more claims for caregiving leave than Colorado will experience in the near-term.
3. CA, NJ, and RI all had TDI programs in place long before enacting their PFL programs. Therefore, it is likely that uptake of TDI will be lower for the first few years of the program in Colorado as it will take some time for workers to learn that this benefit is available.

Nine weeks of leave

We estimate that the average rate of leave will be 9 weeks. The average length of leave for combined TDI and PFI in California is 10.8 weeks, for New Jersey is 7.55, and Rhode Island is 8.35. The average duration of leave for all three states with established programs is 8.9 weeks. Tables 1 and 3 provide expanded description of these leave programs and leave duration by TDI and PFI.

680 hours of work for eligibility
In prior iterations of the Colorado FAMLI proposal, eligibility has been set at 680 hours of work in the 12 months prior to the leave claim. This positions Colorado between California's eligibility level (300 hours of work) and Washington's eligibility level (820 hours). Other states have used different metrics, such as a minimum level of wages earned or minimum number of weeks of employment at a covered employer. We assume that Colorado's eligibility standard will remain consistent with prior proposals in this state and count eligible workers as those who have worked 680 hours or more in the prior 12 months.

Methodology

Eligible Workers and Benefits
The 2017 American Community Survey (ACS) data provides information on usual weekly hours worked, weeks worked, and annual earnings. These variables allow for the calculation of hours worked per year and average weekly wages—both essential for determining eligible workers and benefits. Hours worked per year equals the usual weekly hours times weeks worked and those workers with hours worker per year greater than 680 qualify for the paid leave program. Average weekly wages are then tabulated for eligible workers.

Administrative Costs
We estimate that administrative costs will be 3% of program costs. This is consistent with other estimates of administrative costs for implementing paid leave in Colorado.[73, 74]

Premiums
We use the total costs calculated (benefits plus administrative costs) and compared this value to 2017 payroll data from the Census Bureau's 2016 County Business Pattern to identify the percentage of payroll needed (0.678%) to cover total program costs. This rate is then split between employers and workers. Worker premiums are determined using wage data from the 2017 ACS and 2017 Colorado labor market information from the Bureau of Labor Statistics, while 2016 County Business Pattern provides information on firm size, number of workers, and payroll. The average worker premium is calculated using the average weekly wage times 0.339%. Total premiums for the year equal the number of employed workers multiplied by the average worker premium and 52. Employer premiums are the average yearly payroll multiplied by 0.339% with firm sizes of 0–4 receiving a 75% discount and firm sizes 5–9 with a 50% discount.

Endnotes

[1] United States Bureau of Labor Statistics. *National Compensation Survey.* Washington, D.C., 2018. Retrieved from: https://www.bls.gov/ncs/ebs/benefits/2018/employee-benefits-in-the-united-states-march-2018.pdf

[2] Lynda Laughlin. Maternity Leave and Employment Patterns of First-Time Mothers: 1961-2008. October 2011. U.S. Census Bureau. Retrieved from https://www.census.gov/prod/2011pubs/p70-128.pdf

[3] Jacob A. Klerman, Kelly Daley and Alyssa Pozniak. (2012). Family and medical leave in 2012: Technical report. Cambridge, MA: Abt Associates. Retrieved from https://www.dol.gov/asp/evaluation/fmla/FMLA-2012-Technical-Report.pdf

[4] United States Bureau of Labor Statistics, 2018.

[5] Bell Policy Center. *Testimony: Support FAMLI to Give Colorado Workers Paid Leave.* February 7, 2018. Retrieved form http://www.bellpolicy.org/2018/02/07/famli-colorado-paid-leave/

[6] Colorado Department of Public Health and Environment. (2017). *Healthy Aging in Colorado: Colorado adults, ages 65 and older.* [Infographic]. Retrieved from: https://www.cohealthdata.dphe.state.co.us/chd/Age/Healthy-Aging-in-Colorado-Infographic-Older-Adult-Population.pdf

[7] Colorado Health Institute. *Putting a Price on Informal Caregiving in Colorado: Research for the Strategic Action Planning Group on Aging.* 2016. Retrieved from: https://www.colorado.gov/pacific/sites/default/files/SAPGA%20Caregiving%20Report_1.pdf

[8] Colorado Health Institute. *Long-Term Services and Support in Colorado: A Growing Need.* Retrieved from: https://www.coloradohealthinstitute.org/sites/default/files/file_attachments/LTSS_2_pager1.pdf

[9] Kaelyn Forde. "Lack of paid family leave, support at work partly to blame for 30-year low in fertility rates: Experts" ABC News. January 12, 2019. Retrieved from: https://abcnews.go.com/US/lack-paid-family-leave-support-work-partly-blame/story?id=60330818

[10] Hanna Wang. *The Role of Fertility and Family Leave Policies in Shaping Fertility and Female Labor Supply: A Comparative Perspective.* American Institute for Contemporary German Studies. September 19, 2018. Retrieved from: https://www.aicgs.org/publication/the-role-of-fertility-and-family-leave-policies-in-shaping-fertility-and-female-labor-supply-a-comparative-perspective/

[11] Juliana M. Horowitz, Kim Parker, Nikki Graf and Gretchen Livingston. "Americans Widely Support Paid Family and Medical Leave but Differ over Specific Policies." March 17, 2017. Pew Research Center. Retrieved from: http://www.pewsocialtrends.org/2017/03/23/americans-widely-support-paid-family-and-medical-leave-but-differ-over-specific-policies/

[12] Unum. "Paid family leave ranks as most coveted work perk, Unum finds." August 9, 2018. Retrieved from: https://www.unum.com/about/newsroom/2018/august/paid-family-leave-ranks-as-most-coveted-work-perk

[13] Joseph. B. Fuller and Manjari Raman. (2019). *The Caring Company: How Employers Can Cut Costs And Boost Productivity By Helping Employees Manage Caregiving Needs.* Harvard Business School. Retrieved from: https://www.hbs.edu/managing-the-future-of-work/research/Pages/the-caring-company.aspx

[14] AARP 2018. *Breaking New Ground: Supporting Employed Family Caregivers with Workplace Leave Policies.* Retrieved from https://www.aarp.org/content/dam/aarp/ppi/2018/08/breaking-new-ground-supporting-employed-family-caregivers-with-workplace-leave-policies.pdf

[15] Fuller and Raman (2019).

16 Met Life. *The MetLife Study of Caregiving Costs to Working Caregivers.* June 2011. Retrieved from: https://www.aarp.org/content/dam/aarp/livable-communities/old-learn/health/metlife-study-of-caregiving-costs-to-working-caregivers-2011-aarp.pdf

17 U.S. Department of Labor. *The Cost of Doing Nothing.* September 2015. Retrieved from: https://www.dol.gov/wb/resources/cost-of-doing-nothing.pdf

18 https://www.frbsf.org/economic-research/publications/economic-letter/2018/november/why-are-us-workers-not-participating/

19 Colorado Health Institute. "Silver Tsunami Could Wash Away Unpaid Caregivers." April 11, 2017. Retrieved from: https://www.coloradohealthinstitute.org/research/silver-tsunami-could-wash-away-unpaid-caregivers

20 Colorado Health Institute. *Putting a Price on Informal Caregiving in Colorado: Research for the Strategic Action Planning Group on Aging.* 2016.

21 Linda Houser and Thomas P Vartanian. *Pay Matters: The Positive Impact of Paid Family Leave for Families Business and the Public.* Center for Women and Work, Rutgers University, January 2012. Retrieved from: http://www.nationalpartnership.org/our-work/resources/workplace/other/pay-matters.pdf

22 Joelle Saad-Lessler and Kate Bahn, *The Importance of Paid Leave for Caregivers: Labor Force Participation Effects of California's Paid Family and Medical Leave.* Center for American Progress. 2017. Retrieved from: https://www.americanprogress.org/?p=439684

23 Barb Silver, Helen Mederer and Emillja Djurdevic. *Launching the Rhode Island Temporary Caregiver Insurance Program (TCI): Employee Experiences One Year Later.* University of Rhode Island, April 2016. Retrieved from: https://www.dol.gov/wb/media/RI_paid_leave_report.pdf

24 Kelly Bedard and Maya Rossin-Slater. *The Economic and Social Impacts of Paid Family Leave in California: Report for the California Employment Development Department.* Technical Report, 2016.

25 Society for Human Resource Management. "Average Cost-per-Hire for Companies is $4,129, SHRM Survey Finds." August 3, 2016. Retrieved from: https://www.shrm.org/about-shrm/press-room/press-releases/pages/human-capital-benchmarking-report.aspx

26 Center for American Progress. *There are Significant Business Costs to Replacing Employees.* Washington D.C. November 16, 2012. Retrieved from: https://www.americanprogress.org/issues/economy/reports/2012/11/16/44464/there-are-significant-business-costs-to-replacing-employees/

27 Colorado Health Institute. *Putting a Price on Informal Caregiving in Colorado: Research for the Strategic Action Planning Group on Aging.* 2016.

28 Small Business Majority. *Small Businesses Support Paid Family Leave Programs.* March 30, 2017. Retrieved from https://smallbusinessmajority.org/our-research/workforce/small-businesses-support-paid-family-leave-programs.

29 Barbara E. Silver, Helen Mederer, and Emilija Djurdvevic. *Launching the Rhode Island Temporary Caregiver Insurance Program (TCI): Employee Experiences One Year Later.* April 2016. University of Rhode Island. Retrieved from https://web.uri.edu/ssirep/files/RI-Paid-Leave-Final-Report-April-2016.pdf.

30 Sarah Jane Glynn and Danielle Corley. "The Cost of Work-Family Police Inaction." September 22 , 2016. Center for American Progress. Retrieved from: https://www.americanprogress.org/issues/women/reports/2016/09/22/143877/the-cost-of-inaction/

31 Institute for Women's Policy Research. *Breadwinner mothers by race/ethnicity and state.* September 8, 2016. Retrieved from: https://iwpr.org/publications/breadwinner-mothers-by-raceethnicity-and-state/.

[32] Stephen J. Rose and Heidi Hartmann. 2018. *Still a Man's Labor Market.* Washington, DC. Institute for Women's Policy Research. Retrieved from: http://iwpr.org/wp-content/uploads/2018/11/C474_IWPR-Still-a-Mans-Labor-Market-update-2018-1.pdf

[33] Barbara Butrica and Nadia Karamcheva. 2014. *The Impact of Informal Caregiving on Older Adults; Labor Supply and Economic Resources; Final Report to the DOL.* Urban Institute. (p.7) Retrieved from: https://www.dol.gov/sites/default/files/ebsa/researchers/analysis/retirement/the-impact-of-informal-caregiving-on-older-adults-labor-supply-and-economic-resources.pdf

[34] Strategic Action Plan on Aging. *The Path Forward.* November 2016. Retrieved from: https://www.colorado.gov/pacific/sites/default/files/Action%20Plan-Recommendations.pdf

[35] Colorado Health Institute. *Putting a Price on Informal Caregiving in Colorado: Research for the Strategic Action Planning Group on Aging.* 2016.

[36] Baum and Ruhm, 2016.

[37] Maya Rossin- Slater, Christopher J.Ruhm, Jane Waldfogel. "The Effects of California's Paid Family Leave Program on Mothers' Leave-Taking and Subsequence Labor Market Outcomes," *Journal of Policy Analysis and Management* 32, 2 (2013). DOI:10.3386/w17715

[38] Juliana M. Horowitz, Kim Parker, Nikki Graf and Gretchen Livingston. "Americans Widely Support Paid Family and Medical Leave but Differ over Specific Policies." March 17, 2017. Pew Research Center.

[39] Houser and Vartanian. *Pay Matters: The Positive Impact of Paid Family Leave for Families Business and the Public.* January 2012.

[40] Marci Ybarra, Alexandra Stanczyk and Yoonsook Ha, "Paid Leave, Welfare, and Material Hardship After a Birth," *Family Relations* 68, (2019): 85-103. DOI:10.1111/fare.12350

[41] Kang, Ji Young and Marcia K. Meyers, Jennifer Romich. 2016. *The Effect of Maternity Leave on TANF and SNAP Use; Final Report.* University of Washington. https://www.dol.gov/wb/media/WA_Paid_Leave_UW_Final_Report_SNAP_TANF.pdf

[42] Marci Ybarra, Alexandra Stanczyk and Yoonsook Ha, "How do paid leave and TANF generosity affect welfare participation and material hardship around a birth?" *Focus* 34, no. 1 (2018). Retrieved from: https://www.irp.wisc.edu/wp/wp-content/uploads/2018/06/foc341c.pdf

[43] Alison Earle and Jody Heymann, "Protecting the Health of Employees Caring for Family Members with Special Health Care Needs," *Social Science & Medicine* 73, no. 1 (2011): p. 74.

[44] Silver, Mederer, and Djurdvevic. 2016.

[45] Shirlee Lichtman-Sadot and Neryvia Pillay Bell. "Child Health in Elementary School Following California's Paid Leave Program." *Journal of Policy and Management* 36, no.4 (2017): 790-827. DOI:10.1002/pam.22012

[46] Adam Burtle and Stephen Bezruchka. "Population Health and Paid Parental Leave: What the United States Can Learn from Two Decades of Research," *Healthcare* 4, vol. 2 (2016):30. DOI: 10.3390/healthcare4020030

Kristen Rowe-Finkbeiner, Ruth Martin, Brett Abrams, et al. "Why Paid Family and Medical Leave Matters for the Future of America's Families, Businesses and Economy," *Maternal and Child Health Journal* 20, S8-12 (2016). DOI 10.1007/s10995-016-2186-7

Christopher J. Ruhm, "Policies to assist parents with young children," *Future Child* 21, no. 2 (2011):37-68. Retrieved from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3202345/pdf/nihms-278529.pdf

[47] Judy Jou, Katy B. Kozhimannil, Jean M. Abraham et. al., "Paid Maternity Leave in the United States: Associations with Maternal and Infant Health," *Maternal and Child Health Journal* 22, no.2 (2018): 216-225. DOI: 10.1007/s10995-017-2393-x

[48] Ariel Marek Pihl and Gaetano Basso,"Did California Paid Family Leave Impact Infant Health?" *Journal of Policy Analysis and Management* 38, no.1 (2019): 155-180. DOI:10.1002/pam.22101

[49] Denver Public Health. (2016). African American/Black Infant Mortality Rates in Denver. Retrieved from: http://www.denverpublichealth.org/-/media/dph-files-and-docs/community-health-promotion/maternal-child-health/dph-pdf-mch-aa-infant-mortality-health-indicator-20180509.pdf?la=en&hash=66264DBE7C77F1EC3769ABDA9B8C8E69982B4FB0

[50] Mauricio Avendano, Lisa F. Berkman, Agar Brugiavini et al.,"The long-run effect of maternity leave benefits on mental health: Evidence from European countries," *Social Science and Medicine.* 132 (2015):45-53. DOI: 10.1016/j.socscimed.2015.02.037

[51] Jou et al., "Paid Maternity Leave in the United States: Associations with Maternal and Infant Health." (2018).

[52] Rada K. Dagher, Patricia M. McGovern, Bryan E. Dowd, and Ulf Lundberg, "Postpartum depressive symptoms and the combined load of paid and unpaid work: a longitudinal analysis," *International Archives of Occupational and Environmental Health.* 87, no. 7 (2011):735-43. DOI: 10.1007/s00420-011-0626-7

[53] Bidisha Mandal, "The Effect of Paid Leave on Mental Health," *Maternal and Child Journal* 22, 10 (2018):1470-1476. DOI: 10.1007/s10995-018-2542-x

[54] https://www.coloradohealthinstitute.org/Research/Snaps

[55] Colorado Employment Development Department. (2018). *Annual Report: Fraud Deterrence and Detection Activities.* [Report]. Retrieved from: https://www.edd.ca.gov/About_EDD/pdf/Fraud_Deterrence_and_Detection_Activities_2018.pdf

[56] ibid.

[57] Appelbaum and Milkman. 2011.

[58] Montana Budget & Policy Center. *Paid Leave in Four States: Lessons for Montana Policymakers and Advocates.* December 2015. Retrieved from: https://www.dol.gov/wb/media/Paid%20Family%20Medical%20Leave%20in%20Four%20States%20FINAL.pdf

[59] National Partnership for Women and Families. *State Paid Family and Medical Leave Insurance.* February 2019. Retrieved from: http://www.nationalpartnership.org/our-work/resources/workplace/paid-leave/state-paid-family-leave-laws.pdf

[60] AARP. 2018. *Breaking New Ground: Supporting Employed Family Caregivers with Workplace Leave Policies.*

[61] CA Employment Development Department, Fiscal Programs Division. *October 2018 Disability Insurance (DI) Fund Forecast.* Retrieved from: https://edd.ca.gov/about_edd/pdf/EDDDIForecastOct18.pdf

[62] California offers paid family leave of 6 weeks with up to 16 weeks for pregnancy.

[63] New Jersey Department of Labor and Workforce Development. *Annual Report for 2017 Family Leave Insurance and Temporary Disability Insurance Programs.* New Jersey, September 2018. Retrieved from: https://myleavebenefits.nj.gov/labor/myleavebenefits/assets/pdfs/ANNUAL_FLI-TDI_REPORT_FOR_2017.pdf

[64] This number includes 14,666 FLI claims immediately following a TDI claim.

[65] To calculate the utilization rate for New Jersey we did not include the 14,666 FLI claims made following a TDI claim as we assumed that they represented a single leave experience.

[66] Rhode Island Department of Labor and Training. *2017 Annual Report.* Rhode Island, 2017. Retrieved from: http://www.dlt.ri.gov/pdf/2017DLTAnnualRpt.pdf

[67] Source: Authors' calculations using data from 2017 American Community Survey, Colorado Department of Labor, and Bureau of Economic Analysis

[68] Colorado Center for Law and Policy. 2018. *Overlooked and Undercounted: Struggling to Make Ends Meet in Colorado.* Retrieved from: https://cclponline.org/wp-content/uploads/2018/12/CO18_Demo.pdf

[69] Bell Policy Center. 2018. *Colorado's {Middle Class} Families.* Retrieved from: http://www.bellpolicy.org/wp-content/uploads/2018/07/Colorados-Middle-Class-Families.pdf

[70] Maryland Department of Legislative Services. *Report of the Task Force to Study Family and Medical Leave Insurance.* Annapolis, MD, December 1, 2017. Retrieved from http://dls.maryland.gov/pubs/prod/HHS/2017-Report-of-the-Task-Force-to-Study-Family-and-Medical-Leave-Insurance.pdf

[71] Chris Stiffler. *Estimating the Costs and Financing of Family and Medical Leave Insurance in Colorado.* Colorado Fiscal Institute. September 16, 2013.

[72] Colorado Legislative Council Staff. *Final Fiscal Note, HB18-1001.* Denver, CO, July 23, 2018. Retrieved from: https://leg.colorado.gov/sites/default/files/documents/2018A/bills/fn/2018a_hb1001_f1.pdf

[73] Stiffler, 2013.

[74] Colorado Legislative Council Staff, 2018.