

Preliminary Estimates
 Paid Family and Medical Leave
 Washington State
 Prepared by Randy Albelda and Alan Clayton-Matthews
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This document provides estimates on the number of family and medical leaves for own health reasons, including those related to pregnancy, to bond with a new child, and to care for an ill relative in Washington currently and with a proposed program (and 2 variations). We are also able to estimate the length of those leaves, and costs associated with them. These costs include foregone wages, employer wage replacement, and in the case of a statewide program, the costs of benefits paid out in the form of wage replacement. The estimates do not depend (or change) based on how the program is paid (e.g. employer or employee contributions or through tax revenues) and do not include costs associated with administering a program. We do this by “simulating” leave-taking behavior among workers in a state based on known behavior revealed in a 2012 Department of Labor (DOL) sponsored survey and some informed decision-making for unknown behavior (such as take-up rates). Using the 2012 DOL survey, we construct the likelihood of an individual taking a leave, using employer pay, length of that leave, and use of a program based on the demographic characteristics of leave takers and those that need a leave. We then simulate that behavior on individual observations of the five-year American Community Survey (ACS) for all employees in Washington. For more information on how the model and our choice of take-up rates please see Appendix 1.

Please note, the simulator uses a “random wheel” in assigning probabilities to individuals in the ACS, meaning that it randomly starts processing ACS individuals and assigning probabilities of needing or taking a leave and the subsequent paths of decisions made by the simulator. As a result, simulation runs using different program parameters differ slightly from one another, because the sequence of events depending on the random wheel differ. But the differences are typically no more than 1 percent. This means that the “baseline” estimates (i.e. leaves and costs with no program) will differ slightly for different program specifications but are all close.

What follows are sets of tables with the estimates of number of leaves, length of leaves, costs, and wage replacement rates by various characteristics of workers associated with currently leave taking and a program that resembles the proposed Family Act, current legislation proposed in the US Congress to establish a federal program for paid family and medical leave. We provide estimates for Washington on three variations of the program, with key parameters summarized in the chart below. The basic program replaces 66.7% of weekly income up to \$934 a week with job protection up to 12 weeks and a minimum earnings threshold of \$2440 on the previous year. We vary the number of maximum weeks (all after a one week waiting period) and take-up rates. We include all wage and salary workers as well as self-employed. We have not excluded any government workers.

Program	Waiting Period	Program benefit	Maximum leave	Job Protection	Employment eligibility	Take-up rates
#1	One week	Replaces 66.7% of average weekly wages up to \$924	12 weeks for all leaves	All leaves up to 12 weeks	Has earned \$2440 in last year	40% OH; 100% PD & NC; 10% IC & IS; and 5% IP.
#2	One week	Replaces 66.7% of average weekly wages up to \$924	12 weeks for all leaves	All leaves up to 12 weeks	Has earned \$2440 in last year	50%OH; 100% PD & NC; 20% IC & IS; and 10% IP.
#3	One week	Replaces 66.7% of average weekly wages up to \$924	26 weeks for OH & PD; 12 weeks for NC, IC, IS, and IP	All leaves up to 12 weeks	Has earned \$2440 in last year	40% OH; 100% PD & NC; 10% IC & IS; and 5% IP.

OH = own health; PD=pregnancy disability; NC= new child; IC=ill child; IS=ill spouse; IP = ill parent.

The key provisions above differ slightly from the federal bill.

- Everyone taking a leave has a one week waiting period versus recouping that week if already providing care (for care leaves) provided for in the federal bill.
- The federal bill calls for a minimum of \$580 a month. We have not included this.
- The federal bill provides for monthly payments. We estimate weekly payments.
- The federal bill uses SSDI eligibility which has an earnings requirement over an employment history. Workers must earn a certain number of employment credits (earnings over each quarter) that vary with age. This requirement more or less translates to two credits a year (over several years). A credit in 2014 is defined as earnings of \$1220 a quarter (which is determined on an annual work basis). So we use \$2440 earnings as the eligibility threshold. This is a very comprehensive threshold, with 95% of workers with any earnings over the last year that needed or took a leave are able to meet. The workers that might not meet the federal criteria due to spotty or limited work history would be currently working younger mothers, long time homemakers, previously incarcerated workers, and workers that have faced high and persistent unemployment.

The model is applied to ACS files provided by the model user. In this case we had the model run ACS data from Washington and the bordering states of Oregon and Idaho to include as many possible workers that are employed in Washington State, regardless of state of residence. The simulator provides consistent ACS estimates of the employed population across all runs. Using the 2009-2013 ACS for the three states, there are 3,527,912 employed (including self-employed) workers in Washington. If self-employed people (just under 368,000) can opt out and federal government workers (114,500) are exempt, the leaves taken (total and with a program) and total costs estimates will be lower, but lengths and per worker costs will not change much. The total number of non-self-employed workers is 3,159,693.¹

Total leaves: currently and under proposed programs

Tables 1-3 depict the estimated total number of leaves taken currently and when a program is in place (columns 1 and 4), the distribution of those leaves (columns 2 and 5), and the percentage of workers with no wage replacement by type of leave (columns 3 and 6). It also depicts the total change in leaves (column 7), the percent of all leaves this change represents (column 8), and the percentage point change (columns 6-column 3) with no wage replacement in column 9. Note: this is NOT the number of leaves that will use a program, but the total number of leaves with or without any wage replacement.

Again, because the simulator uses a “random wheel” for where it starts processing the ACS data, the estimates for the current situation (columns 1-3 in each table) differ slightly, but by less than 1% of total leaves. The change in leave-taking is sensitive to take-up rates used (columns 4-6 in Program 2 versus columns 4-6 for Programs 1 and 3). This means higher usage of the program leads to more leaves, but the increase in total number of leaves taken is not large in any of the models (column 8 – 2.5% to 3.2% increase). The increase in the number of leaves results from leave “needers” – people that needed a leave but did not take one without a program – taking a leave with a program. The DOL survey finds that a large percentage of leave-needers indicate they do not take leave because they cannot afford it and our model reflects that. Percentages of leaves with no wage replacement decrease the most for the types of leaves with the higher take-up rates. As depicted in column 9, the percentage point change in leaves with no wage replacement for the two types of leaves with 100% take-up rates (pregnancy and new child) exhibit the largest increase in wage replacement, while the ill relative leaves exhibit the least.

¹ Quarterly Census of Employment and Wages indicates an annual average of 3,043,708 covered employees for 2014 (<https://fortress.wa.gov/esd/employmentdata/reports-publications/industry-reports/quarterly-census-of-employment-and-wages>).

Table 1: Total leaves, distribution, and percent with any wage replacement by type of leave currently and with **Program 1** (12 weeks for all leaves and take up rates as follows: OH-40%; PD&NC 100%; IS & IC 10%; IP 5%).

Type of leave	Current total leaves taken			Total leaves taken when Program 1 is in place			Change in leaves		
	Number (1)	Dis- tribu- tion (2)	% any wage replac- ement (3)	Number (4)	Dis- tributi- on (5)	% any wage replac- ement (6)	Change in number of leaves (7)	Percent change in leaves (8)	%-age point change in wage replacement (9)
Own health	354,325	59.6	69.2%	364,353	59.7	78.5%	10,028	2.8%	9.3
Pregnancy	44,134	7.4	69.8%	45,510	7.5	94.7%	1,376	3.1%	24.9
New child	50,518	8.5	74.3%	53,595	8.8	95.1%	3,077	6.1%	20.8
Ill relative	145,632	24.5	72.0%	146,580	24.0	73.6%	948	0.7%	1.6
Total	594,609	100	70.4%	610,038	100	80.0%	15,429	2.6%	9.6

Table 2: Simulator model output for **Program 2** (12 weeks for all leaves and take up rates as follows: OH-50%; PD&NC 100%; IS & IC 20%; IP 10%)

Type of leave	Current total leaves taken			Total leaves taken with Program 2 in place			Change in leaves		
	Number (1)	Dis- tribu- tion (2)	% any wage replac- ement (3)	Number (4)	Dis- tributi- on (5)	% no wage replac- ement (6)	Change in number of leaves (7)	Percent change in leaves (8)	%-age point change in wage replacement (9)
Own health	354,797	59.4	68.4%	367,907	59.8	80.1%	13,110	3.7%	11.7
Pregnancy	43,291	7.3	69.2%	44,836	7.3	93.1%	1,545	3.6%	23.9
New child	54,415	9.1	73.2%	56,706	9.2	94.9%	2,291	4.2%	21.7
Ill relative	144,518	24.2	71.8%	146,254	23.8	74.6%	1,736	1.2%	2.8
Total	597,021	100	69.7%	615,703	100	81.1%	18,682	3.1%	11.4

Table 3: Simulator model output for **Program 3** (26 weeks for OH & PD; 12 weeks for all other leaves and take up rates as follows: OH-40%; PD&NC 100%; IS & IC 10%; IP 5%).

Type of leave	Current total leaves taken			Total leaves taken with Program 3 in place			Change in leaves		
	Number (1)	Distr- ibuti- on (2)	% any wage replac- ement (3)	Number (4)	Distri- butio- n (5)	% any wage replacem- ent (6)	Change in number of leaves (7)	Percent change in leaves (8)	%-age point change in wage replacemen- t (9)
Own health	358,890	60.2	67.5%	369,144	60.4	76.6%	10,254	2.9%	9.0
Pregnancy	41,709	7.0	69.5%	43,128	7.1	93.3%	1,419	3.4%	23.8
New child	51,258	8.6	71.7%	53,512	8.8	94.1%	2,254	4.4%	22.4
Ill relative	144,011	24.2	72.8%	145,251	23.8	74.5%	1,240	0.9%	1.7
Total	595,868	100	69.3%	611,035	100	78.8%	15,167	2.5%	9.5

Despite the slight differences in the numbers of leaves currently taken across the three programs, currently workers in Washington take about 595,000 leaves annually. Sixty percent of those leaves are for non-pregnancy related own-health reasons, with 15% for the arrival of a new-born or adopted child (pregnancy-related health and new child bonding leaves), and one-quarter of those leaves are to care for an ill relative (depicted in column 2). The number of total leaves taken increases with each of the programs, by about 16,000 with Programs 1 and 3, and by about 18,000 with Program 3. The distribution of these leaves does not change much with a program (column 6).

All three of these programs are relatively successful at providing wage coverage for leaves by workers without it currently. Currently about 70 percent of all leaves have some employer wage replacement. All of the programs increase that, with between 79 to 81 percent of all leaves with any wage replacement, with the largest coverage for pregnancy and new child leaves.

We also calculate the number of workers taking leave (some take multiple leaves). For each program, the model estimates about 435,000 workers (12.2 percent) take at least one leave over the previous year. The 2012 DOL survey finds 13.1% of all workers took a leave in the previous 12 months. With a program, those percentages increase to 12.7% in programs 1 and 3 and to 12.8% with program 3.

Program use

Tables 4 depicts the number and distribution of program use leaves (i.e. estimated use) as well as the percent of all leaves using the program and program use leaves as a percent of the covered workforce by type of leave and program.

In programs 1 and 3 (same take-up rates), about 175,000 eligible leave claims would be covered in the new program. That is just under 30% of all leaves. The numbers of leaves using the program are higher when take up rates are higher (Program 2). In this case, almost 215,000 leaves, or 35% of all leaves, would turn to the new program for wage replacement. About 2/3rd of program-supported leaves are for own health, 30% for pregnancy and new child, and a little over 3% for ill relative leaves under programs 1 and 3. A higher percentage of leaves for own health and new relative are covered in Program 3.

The percent of leaves of the covered workforce is included since it is one of the few comparisons we can make with the other TDI/family leave states. A TDI leave is one for non-pregnancy own health and pregnancy leave while a family leave includes bonding with a new child and caring for an ill relative. In programs 1 and 3, all leaves are about 5% of the total covered workforce and in program 2 is it just over 6%. To the degree possible, we have calculated these same percentages for CA, NJ, and RI (we do not know the exact number of covered workers, except in the care of NJ). Over the four-year period of 2011-2014, leaves per persons in the covered workforce in California average 6.8% (5.2% for TDI and 1.6% for family leave) and in New Jersey the same four-year average is 4.5% (3.7% for TDI and 0.8 for family leave). Rhode Island started their family leave program in 2014 and the percentage of leaves to workforce was 0.8%; for TDI, the same four-year average is 6.8%. A bit of caution on the comparisons though. The programs differ considerably by length of leave allowed, maximum benefit, replacement rates and covered workers. For example, in NJ, maximum length is 26 weeks for TDI leaves and 6 weeks for family leaves, the benefit cap is \$604 and about 20 percent of all workers are exempt because they work for firms that provide their own TDI coverage (i.e. have opted out). They also have different eligibility criteria from each other. Also these three TDI program have been operating for over 70 years, so they are part of a work culture. The estimates above certainly fall in a reasonable range for a new program.

Table 4: Program usage by type of leave by program				
Leave type	Program leave usage	Distribution of program leaves	Percent of all leaves	Program leaves as % of work-force
PROGRAM 1				
Own health	116,387	66.0	31.9%	3.3%
Pregnancy	24,841	14.1	54.6%	0.7%
New child	29,791	16.9	55.6%	0.8%
Ill relative	5,432	3.1	3.7%	0.2%
Total	176,451	100	28.9%	5.0%
PROGRAM 2				
Own health	146,173	68.4	39.7%	4.1%
Pregnancy	24,745	11.6	55.2%	0.7%
New child	32,391	15.2	57.1%	0.9%
Ill relative	10,442	4.9	7.1%	0.3%
Total	213,751	100	34.7%	6.1%
PROGRAM 3				
Own health	114,814	65.9	31.1%	3.3%
Pregnancy	23,228	13.3	53.9%	0.7%
New child	30,302	17.4	56.6%	0.9%
Ill relative	5,933	3.4	4.1%	0.2%
Total	174,277	100	28.5%	4.9%

Length of leaves

Table 5 provides the average and median length of leaves taken currently and for each program. Leaves are measured in 5-day weeks. The top panel is an average of the current weeks for the three program variations (there is very little difference in these simulation runs). Without a program, the average length of all leaves is 6.5 weeks. However the median is 3 weeks. That means that most leaves are short. Pregnancy leaves are the longest with ill relative the shortest. Without a program, the average length of time with employer wage replacement is 4.3 weeks and with no wage replacement is 2.2 weeks, with a median on 1.3 weeks (7 days) for employer paid leave and a median of no weeks without wage replacement.

With program 1, average leave length increases by a bit more than one week, while average weeks with employer wage replacement staying the same. Weeks with no wage replacement drops as program weeks increase. Under Program 2, length of leaves are very similar to that of Program 1. This makes sense since the only thing different about the programs it the take-up rate, so leave lengths should be unaffected – which they pretty much are. Program 3 (which extends the maximum leave length to 26 weeks for the TDI leaves) not surprisingly lengthens leaves by 2 weeks for own health leaves and about a week for pregnancy leaves.

Table 5 provides two important pieces of information about a paid leave program. First, most leaves are short. Currently half of all leaves are 3 weeks. People with short leaves are not likely to use a program. There is a one week waiting period and employer sick days and/or vacation time (if available) are easier to use and are often a better replacement than the state-wide program. The program works to provide wage replacement for those taking their own (unavoidable) and/or planned longer absences from work, which explains why own-health and pregnancy leaves are longer with and without a program. Second, a leave program does lengthen many leaves (where possible, information from the 2012 DOL survey was

used to model the probability of extending a leave and the length of the leave extension), but not by very much over all. Based on the DOL survey, virtually all own-health (non-pregnancy) leaves are extended in the presence of a program.

	Current average weeks all leaves				Current median weeks, all leaves			
	Total weeks	Weeks employer pay	Weeks no wage replacement	Weeks program benefits	Total weeks	Weeks employer pay	Weeks no wage replacement	Weeks program benefits
Own health	7.1	4.7	2.4		4.0	1.7	0.0	
Pregnancy	12.3	7.8	4.5		9.0	6.0	0.0	
New child	5.0	3.3	1.8		2.0	1.0	0.0	
Ill relative	3.8	2.7	1.2		2.0	1.0	0.0	
Total	6.5	4.3	2.2		3.0	1.3	0.0	
	Program 1 average weeks all leaves				Program 1 median weeks, all leaves			
Own health	8.8	4.7	1.7	2.3	6.0	1.4	0.0	0.0
Pregnancy	12.8	7.2	1.8	3.7	11.0	5.0	0.0	1.0
New child	5.7	3.1	0.5	2.2	2.4	1.0	0.0	1.0
Ill relative	4.0	2.8	1.1	0.1	2.0	1.0	0.0	0.0
Total	7.7	4.3	1.5	1.9	4.0	1.0	0.0	0.0
	Program 2 average weeks all leaves				Program 2 median weeks, all leaves			
Own health	9.0	4.5	1.7	2.9	6.0	1.2	0.0	0.0
Pregnancy	12.7	7.4	1.8	3.6	10.0	4.6	0.0	1.0
New child	5.6	2.9	0.6	2.1	2.4	1.0	0.0	1.0
Ill relative	3.8	2.6	1.0	0.2	2.0	1.0	0.0	0.0
Total	7.7	4.1	1.4	2.2	4.6	1.0	0.0	0.0
	Program 3 average weeks all leaves				Program 3 median weeks, all leaves			
Own health	9.1	4.6	1.7	2.8	5.0	1.0	0.0	0.0
Pregnancy	13.2	7.1	1.5	4.5	10.0	3.8	0.0	1.0
New child	5.8	3.0	0.6	2.2	2.8	1.0	0.0	1.0
Ill relative	4.0	2.8	1.1	0.1	2.0	1.0	0.0	0.0
Total	7.8	4.2	1.4	2.2	4.0	1.0	0.0	0.0

Leave lengths using the program

Table 6 provides leave lengths under the three program variations for leaves that do not use any program benefits and for those that do. Length of leave for those not using any program benefits (the right hand side of the table) are very similar across programs. In all cases, non-program users take shorter leaves and typically rely more on employer pay than leaves by program users. The one exception is own health (non-pregnancy related) leaves. This mirrors the behavior in the DOL survey of employees which indicates workers say they would take a longer own health leave if it were paid. Our model estimates they are taking longer leaves and are also using employer benefits when they do so. The right hand side of the table indicates that program users take longer leaves and the average length of leave on the program is 6.4 weeks for programs 1 and 2 and 7.8 weeks for program 3.

These are shorter than the average weeks used for TDI leaves in CA, NJ, and RI (12-15 weeks). There are probably several reasons for this. First, these states have longer TDI leaves maxima (52 for CA, 30 for RI, and 26 for NJ). Second, our model uses the DOL survey, which is national data, so we cannot examine behavior in states with and without a TDI program. Third, our model does not assume changes

in employer behavior, such as promoting use of a state-wide program instead of providing employer pay. It is certainly possible that employers that provide some paid family leave might encourage their employees to use the program instead. It is, however, unlikely that employers will stop providing paid sick days or vacations time because of this program. Any program will serve as a complement to employer benefits, it will not completely substitute for them.

Table 6: Average leave lengths by Program use, by program, leave type and type of wage replacement

	Not using any program benefits			Using any program benefits			
	Total weeks	Weeks employer pay	Weeks no wage replacement	Total weeks	Weeks employer pay	Weeks no wage replacement	Weeks program benefits
PROGRAM 1							
Own health	6.7	4.6	2.1	13.1	4.9	1.0	7.2
Pregnancy	11.7	10.4	1.2	13.7	4.6	2.4	6.7
New child	4.6	4.2	0.3	6.7	2.1	0.7	3.9
Ill relative	4.0	2.8	1.1	4.3	1.2	0.8	2.3
<i>Total</i>	<i>5.9</i>	<i>4.3</i>	<i>1.6</i>	<i>11.9</i>	<i>4.3</i>	<i>1.1</i>	<i>6.4</i>
PROGRAM 2							
Own health	6.5	4.3	2.1	12.9	4.7	0.9	7.2
Pregnancy	12.6	10.7	1.8	12.9	4.6	1.7	6.6
New child	4.5	4.1	0.5	6.4	2.0	0.7	3.6
Ill relative	3.7	2.7	1.1	4.2	1.2	0.7	2.2
<i>Total</i>	<i>5.7</i>	<i>4.1</i>	<i>1.6</i>	<i>11.5</i>	<i>4.1</i>	<i>1.0</i>	<i>6.4</i>
PROGRAM 3							
Own health	6.5	4.4	2.2	14.7	5.0	0.7	9.0
Pregnancy	11.8	10.2	1.6	14.4	4.5	1.5	8.4
New child	5.0	4.5	0.6	6.3	1.9	0.7	3.8
Ill relative	3.9	2.8	1.1	4.5	1.0	1.2	2.2
<i>Total</i>	<i>5.9</i>	<i>4.1</i>	<i>1.7</i>	<i>12.8</i>	<i>4.2</i>	<i>0.8</i>	<i>7.8</i>

Cost of the program

Table 7 depicts the costs (in millions of dollars) associated with leave currently and with each of the programs. These include foregone wages, employer wage replacement, and program benefit costs. It does not include administrative costs.

For policy and administrative purposes, we report wages foregone, employer wage replacement, and how much a program would cost on an annual, or program year, basis. The annual cost of leave to workers and their employers is substantial with and without a program. Currently, on a 12-month basis, workers forego about \$1.1 billion in wages when they leave while employers replace just over \$2 billion in wages to workers while on leave. According to the DOL survey, the majority of employer pay is the form of paid sick days and paid vacation. With any program, the cost to workers and employers remains high. Employees will pay more, as more workers take leave with a program (there is a one week waiting period) while employer wage replacement will fall slightly. The cost of the program varies by program. Program 1 is the least costly (lower take up rate and 12 weeks for all leaves) at \$500 million, with Program 2 at the higher take-up rates being the most costly at \$590 million. The average weekly benefit in a program year is \$523 for Program 1, \$522 for Program 2, and \$517 for Program 3 (not shown on Table 7).

Table 7: Uncompensated wages, employer wage replacement and program benefit costs currently and with Program 1 by leave type						
Current costs in millions in program year			Program year costs in millions with program 1			
	Uncompensated wages	Employer replacement	Uncompensated wages	Employer replacement	Program benefits	
Own health	773.8	1367.8	984.2	1362.3	379.3	
Pregnancy	129.2	202.3	97.4	197.6	61.7	
New child	88.5	158.4	83.3	154.6	54.3	
Ill relative	118.3	362.4	120.3	362.4	5.8	
Total	1109.9	2090.9	1285.2	2076.9	501.2	
Current costs in millions in program year			Program year costs in millions with program 2			
	Uncompensated wages	Employer replacement	Uncompensated wages	Employer replacement	Program benefits	
Own health	782.7	1375.1	1060.8	1368.9	465.0	
Pregnancy	133.2	204.9	105.0	200.6	61.1	
New child	99.7	156.2	91.8	153.4	54.8	
Ill relative	104.5	346.2	110.0	346.2	9.1	
Total	1120.1	2082.4	1367.5	2069.1	590.1	
Current costs in millions in program year			Program year costs in millions with program 3			
	Uncompensated wages	Employer replacement	Uncompensated wages	Employer replacement	Program benefits	
Own health	778.2	1334.3	998.6	1323.8	432.7	
Pregnancy	115.6	184.1	80.4	176.9	66.9	
New child	94.4	162.0	82.8	158.9	52.7	
Ill relative	105.7	360.7	108.0	360.7	6.6	
Total	1093.9	2041.0	1269.9	2020.3	558.9	

Table 8 depicts the program costs as an average annual, weekly per worker cost, as a percent of total payroll, and as a percent of total payroll capped at \$113,400 (the 2013 FICA income subject to social security payroll taxes).

Table 8: Average annual and weekly per worker cost and cost as a percentage of payroll by program			
	Program 1	Program 2	Program 3
Average annual cost per covered workforce	\$142.07	\$167.25	\$158.42
Average weekly cost per covered workforce	\$2.73	\$3.22	\$3.05
Cost as a percent of total payroll	0.33%	0.38%	0.36%
Cost as a percent of payroll up to \$113,400	0.36%	0.43%	0.40%

At least in the initial years of a program, we estimate the cost to be about \$3.00 per week per employee representing between .36 and .43 percent of total payroll capped at \$113,400 (for a maximum payment of \$412 to \$490 a year). Again this does not include administrative costs. For comparison, in 2016 RI deducts 1.2% from the first \$66,300 of wages. In 2015, workers in New Jersey contribute .25% on the first \$32,000 for TDI and the employer assessment varies, but ranges from .1 to .75% of the first \$32,600. In 2016, employees are assessed .08% on the first \$32,600 for family leaves. In California the TDI and family leave program are covered by a 0.9% assessment on employees wages up to \$106,742 (in 2016). These programs vary considerably in length and benefit level, so comparisons should be made carefully.

Increased access to wage replacement

Table 9: Distribution of covered workforce, wage replacement currently and with program, and increase in wage replacement with programs by various characteristic of leave takers.						
	Percent of covered workforce (1)	Wage replacement currently (2)	Wage replacement Program 1 & 3 (3)	Percent-age point Increase (4)	Wage replacement Program 2 (5)	Percent-age point Increase (6)
Total	100.0%	69.8%	79.4%	9.6	81.1%	11.3
Race						
White	80.2%	70.6%	79.7%	9.1	81.7%	11.1
Black	3.3%	62.8%	74.4%	11.6	77.0%	14.2
Asian or PI	8.2%	73.3%	83.0%	9.7	82.7%	9.4
Other/2 or more	8.4%	61.2%	74.9%	13.8	75.2%	14.0
Sex						
Male	52.9%	71.4%	79.6%	8.3	81.8%	10.4
Female	47.1%	68.4%	79.2%	10.8	80.5%	12.1
Ethnicity						
Not latino	89.8%	70.9%	80.0%	9.2	81.7%	10.8
Latino	10.3%	60.3%	73.9%	13.7	76.1%	15.8
Educational attainment						
HS diploma or less	31.4%	61.6%	73.2%	11.7	75.2%	13.6
Some college	36.3%	67.4%	78.0%	10.6	79.7%	12.3
Bachelors or higher	32.3%	80.9%	87.4%	6.5	88.6%	7.8
Age group						
16-24	14.6%	40.7%	58.6%	17.9	63.5%	22.7
25-44	42.6%	69.3%	81.2%	11.9	82.6%	13.3
45-64	38.3%	76.8%	82.4%	5.6	84.1%	7.3
65&older	4.6%	65.7%	74.0%	8.3	74.4%	8.7
Family income level						
> Above median	47.5%	82.3%	87.9%	5.6	88.5%	6.2
At or below median	52.5%	56.5%	70.6%	14.1	73.5%	17.0
Federal poverty level						
Poor (below FPL)	9.3%	29.2%	51.8%	22.6	57.5%	28.3
Low inc(100-199% FPL)	13.3%	51.1%	68.7%	17.6	71.8%	20.6
200% FPL & above	77.4%	76.5%	83.9%	7.4	84.9%	8.4
Hourly wage level						
Earns \$15 or more	62.2%	76.7%	84.2%	7.5	86.0%	9.3
Earns less than \$15	37.8%	56.5%	70.3%	13.8	72.0%	15.5
Employer size						
1-9	21.4%	58.7%	71.1%	12.4	73.7%	15.0
10-49	14.7%	58.9%	73.7%	14.8	74.2%	15.3
50-99	7.0%	73.8%	81.8%	8.1	81.8%	8.0
100-499	12.5%	73.7%	81.5%	7.8	84.2%	10.5
500 or more	44.4%	74.8%	82.8%	8.1	84.6%	9.8

Table 9 depicts the distribution of the covered workforce by various characteristics of leave-takers (column 1). It also includes the wage replacement rates currently (column 2, an average of the 3 simulation runs for current situation) and with the programs (columns 3 and 5). Programs 1 and 3 wage replacement rates are averaged, as they should be the same. Columns 4 and 6 list the percentage point increase in wage replacement when taking a leave between the current coverage and with the program variations. So for example, low-wage earners (earning less than \$15 an hour) are just under 38% of the workforce in Washington. Almost 57% of leaves taken by low-wage workers have any employer wage replacement currently. Under programs 1 and 3, that percentage increases to 70% and under program 2 it is 72%. This represents between a 13.8 and 15.5 percentage point increase in wage replacement. This is considerably higher than the average percentage point increase. The average total increase for programs 1 and 3, depicted in column 4, is 9.6 percentage points (rising from the current 69.8% to 79.4%). While the percentage point difference between the current situation and program 3 is 11.3 percentage points (column 6).

The program will not provide universal wage replacement coverage due in part to the fact that leaves are short, with 20 percent of leaves currently one week or less (the program has an one week waiting period). But lack of knowledge of the program or fear of repercussions on the job will also keep some workers without any wage replacement from using the program even when eligible. Still, it is clear that a paid family and medical leave program allows many people that currently have no wage replacement to receive some. However, wage replacement is very uneven across the workforce. Workers who are poor, low-income, low-wage (earn less than \$15/hour), young, Latino, black and work in firms with less than 50 employees are the least likely of workers to have any form of wage replacement while on leave. As columns 4 and 6 indicate, it is precisely these workers that have higher than average increases in the wage replacement with all programs. While they do not catch up, the program narrows the wage replacement gap.

Appendix: A note on the simulator model

The estimates are produced by the Albelda & Clayton-Matthews/Institute for Women's Policy Research (ACM/IWPR) Paid Family and Medical Leave Simulator. Documentation on the model is available at http://scholarworks.umb.edu/econ_faculty_pubs/41/. The simulator model is built using information about leave-taking behavior gleaned from the 2012 the US Department of Labor (DOL) commissioned survey conducted by researchers at Abt Associates. We use responses to the survey to estimate the probability of who takes a leave, what type, for how long, and based on if they receive employer pay and their own income level, the likely use of a paid leave program. We calculate the probability for taking or needing six different types of leaves by gender (based on the age, marital status, employer size, type of pay (wage versus salary), age, race/ethnicity, and presence of children of leave-takers and leave-needers). We use these probability estimates to simulate leave taking and leave needing by individuals using the five-year (2009-2013) sample of the American Community Survey (ACS). In particular, we simulate the decision to take a leave and to use a program versus not to use a program based on several known (from the DOL survey complimented by ACS data) behavioral and personal characteristics that might go into this decision. These include the generosity of the program compared to employer benefits, length of leave taken, length of leave covered by the program, eligibility requirements, job protection, employment characteristics (size of employer and wage versus salaried) and individual demographics. We collapse the presentation of the six leaves into four here (leaves to care for ill parent, an ill child, or an ill spouse are presented together as care for an ill relative).²

The ACM/IWPR simulation model is able to base estimates on specific sets of policy parameters in a program such as the maximum length of leave allowed, wage replacement rate, wage replacement cap,

² We have made changes to the model but have yet to update the documentation since the latest version in November 2015. We will make that available when that is complete.

job protection provisions, and employer or employee eligibility requirements (e.g. requisite hours or earnings, covered employees). The documentation describes how we do that and the assumptions we make about decision paths for each leave taker and leave needer.

Model assumptions and take-up rates

The model assumes that individuals know and understand the program so that they are able to make informed decisions about whether to take a leave using the program or not and for how long. Further, we assume that it is seamlessly easy to apply for and receive program benefits when eligible. These are not entirely realistic assumptions, especially for a new program. The simulation model already adjusts program usage for short leaves and for use of an employer benefit if it is greater than that of the program. Since our model uses the 2012 DOL survey on current leave taking behavior, our estimates are already sensitized to the national workplace culture of taking leaves. However, we do not know if and how this might vary by state or region of the country or in states with a paid leave program (under the aegis our Women's Bureau paid family and medical leave grant, we requested but did not receive any geo-codes for TDI states from Abt Associates). Nor do we know for sure if the DOL sample survey provides an accurate reflection of all leave-takers and leave-needers.³ To adjust the model for many of these various unknowns we impose various take-up rates -- the percentages of leaves using a program among those that the model predicts are eligible and would use a program's wage replacement benefits -- for the different type of leaves.

In order to guide our selection of appropriate take up rates, we turned to a careful examination of the number, cost, and distribution of paid leaves in New Jersey and California, the two states with the longest track records of use of both paid medical (TDI) and family (care/bonding) leaves, and compared them with results from the simulation model using their program parameters. By comparing the model to actual usage in these states, we can see how well the simulation model predicts leave taking by type of leave and adjust by applying different take-up rates for different types of leaves. This comparison allows us to take into consideration some unknowable factors that might lead someone to use a program, including the likelihood that people are aware of a program, the administrative ease or difficulty associated with applying and using a program, the degree to which employers might opt out of a state program in favor of their own, or the possibility of employees self-insuring (e.g. private disability insurance). Still, we use some precaution with these comparisons because each state has different program parameters (from each other and the ones we are estimating), different covered workforces, and a long history of leave taking for TDI leaves (non-pregnancy related own health and pregnancy related leaves) as these programs have been in place for over 70 years.

With those caveats, we have decided that the best specification in terms of predicting cost and number of leaves for a new program is a 40% take-up rate for own health leaves, a 100% take-up rate for leaves associated with pregnancy disability and bonding with a new child, a 10% take-up rate for leaves to care for an ill spouse or child, and 5% to care for an ill relative. We anticipate that usage, and with it costs, will increase when the program becomes more established. The model is sensitive to take up rates, so using different take-up rates than these will produce different estimates. That is why we also include estimates for higher take-up rates (50% for own health, 100% for pregnancy-related leaves, 20% for ill child and ill spouse leaves, and 10% for ill parent leaves), which should provide a reasonable range of usage and costs. Estimates related to a statewide paid leave program are based on the specific sets of policy parameters in a program such as the maximum length of leave allowed, wage replacement rate, wage replacement cap, job protection provisions, and employer or employee eligibility requirements (e.g. requisite hours or earnings, covered employees).

³ The response rate to 2012 DOL survey was 15.1% (Kelly Daley, Courtney Kennedy, Marci Schalk, Julie Pacer, Allison Ackermann, Alyssa Pozniak, and Jacob Klerman, *Family and Medical Leave in 2012: Methodology Report*, 2012, p. 22).

The take-up rates we use among the various type of leaves varies widely. We choose take-up rates for own-health related pregnancy and new-born or adopted child bonding leaves of 100% since the model vastly under-predicted the number of these leaves against CA, NJ and RI as well as against a comparison of live births in these (and other) states. We think this might be based on the way the 2012 survey questions and reporting about pregnancy and new child bonding leaves. The response in the survey (and made available to us) provides for a single response from women who have taken a leave to have a child. They could respond that they took an own-health pregnancy related leave (which may have also including bonding time but required doctor's care), took a leave to bond with a new child (not requiring a doctor's care), or took a leave to do both. However, they could not indicate two separate leaves, one for pregnancy and one for bonding. As a result, we believe this conflates the two types of leaves, vastly underestimating both type of leaves for women in the model. Using 100% take up rate for new child probably overestimates the degree to which men take bonding leaves, but a 100% take up rate best approximates total leaves for pregnancy and new child for women (the main leave takers in this case) in applying our model to NJ and CA. It does this by better conforming to the percentage of total leaves taken divided by the covered workforce as well as to a ratio of leaves to live births in the state. We use low take up rates for all ill relative leaves solely based on our comparison of actual leave taking in the programs in NJ and CA. The 2012 survey reports a relatively large number of people reporting taking a leave to care for an ill child, spouse or parent (see column 1 in Table 1). Yet, only when using very low take-up rates are we able to approach the levels of program usage for these types of leaves in NJ and CA. We suspect that these types of leaves qualitatively differ from those of own health (including pregnancy). Care substitutes are much easier to find and use, further many of these leaves may be unpredictable and intermittent. Program use is probably much harder (for employees, employers, and administrators) when not used continuously. It may also be the case that because these paid leaves are newer in these states, there may not be as much personal or institutional knowledge of them, reducing late-up rates. Ultimately, because these are the most prevalent leaves, the size of our estimates are driven by non-pregnancy own-health leaves. The 40-50 percent take-up range best reflects the accuracy of the model when applied to NJ and CA and taking into consideration this will be a new program.

Model version and acknowledgements

The estimates here use the January 5, 2016 version of the ACM/IWPR Paid Family and Medical Leave Model. On occasion we update or modify the model, which could result in slightly different estimates. The simulation model used here builds on an earlier version developed 10 years ago in conjunction with the Institute for Women's Policy Research. We were able to update and revise the simulation model as part of a 2014 Paid Leave Analysis Grant awarded to Commonwealth Corporation (in Massachusetts) from the U.S. Department of Labor's Women's Bureau (WB-26510-14-60-A-25 awarded by the U.S. Department of Labor's Employment and Training Administration). Additional support was provided by IMPAQ International for model development through a grant from the U.S. Department of Labor, Chief Evaluation Office (DOLQ129633247). The model and the estimates do not necessarily reflect the official position of the U.S. Department of Labor.