

A Refined Approach to Measuring Take-Up Rates in Paid Family Leave Programs: A Case Study from The District of Columbia’s Paid Family Leave Program

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Abstract

In order to understand the reach and impact of paid family leave (PFL) programs, it is essential to examine a program’s take-up rate. While there is no well-defined quantitative measure used by government agencies to calculate the take-up rate for PFL benefits accurately, it has been calculated by comparing the total population covered by the program to the portion of that population that participates in the program. In this paper, we calculate a take-up rate using adjustments for the eligible population. The adjustment for the eligible population, instead of the covered population, and the use of public data sets to augment administrative data from the program provide a different perspective on take-up and program participation. These estimates may enable stakeholders to refine forecasting of program expenditures, improve program administration and budgeting, and potentially identify and better serve underrepresented subpopulations. Take-up rates obtained using the eligible-population method differ significantly from those calculated from all workers, highlighting the importance of accounting for program eligibility and disparities in program use. We illustrate these findings using the DC PFL program as a case study and present a summary of our results that can provide additional contextual information for states.

Introduction

DC began administering PFL benefits to all private-sector workers in 2020, allowing workers to take paid leave to bond with a new child (parental leave), care for a family member (family leave), or care for their own medical condition (medical leave)². PFL programs often measure program success with what can be termed a “covered take-up rate” (CTUR) derived by dividing the number of approved claims by the covered population, as used in Applebaum and Milkman (2011) and Budoff (2016). However, this measure does not consider variations in demographic

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² Due to subsequent legislative changes in 2021, workers gained access to up to two weeks of paid leave for prenatal medical care. However, our paper does not address these prenatal leave benefits due to insufficient data.

and employment characteristics unique to the covered population of the program. In this paper, we propose a method for measuring what can be termed the “eligible take-up rate” (ETUR) for social insurance programs, particularly PFL programs. This method builds on the work by Bana, Bedard, and Rossin-Slater (2018) to provide a means for workforce agencies to obtain more refined evaluations of their program’s reach to populations of potentially eligible individuals. This perspective will in turn enhance their decisions in areas such as outreach, managing trust funds, and adjusting program parameters.

A new framework for measuring take-up rates

Accurately measuring a program’s take-up rate is essential for gaining a complete understanding of its reach and impact. The basic way to conceptualize a take-up rate for a social insurance program is to compare the total population covered by the program or policy to the portion of that population that takes advantage of or participates in the program over a certain period of time. As applied to a PFL program, the denominator would be the total number of covered workers, generally being those whose wages are subject to mandatory program contributions, while the numerator would be the number of covered workers who actually file for and are approved for benefits within a specified period of time. This metric can be termed the CTUR. Plugging numbers into a CTUR model would indeed provide a rough picture of a program’s reach and impact but relying on this metric alone may obscure important details about the program’s success at achieving its mission. For this reason, we propose supplementing this measure through the use of an ETUR, which is the number of approved claims divided by an estimate of the population that could be approved for benefits. We provide a more in-depth definition of the ETUR in the next section of this paper.

While we advocate in this paper for the use of benefit eligibility rather than program coverage as the denominator in take-up rate analyses of PFL programs, we acknowledge that additional factors drive the ultimate unit of analysis in the numerator: the number of approved claims. The population eligible for benefits (measured in the denominator of the ETUR) is a subset of the population covered by the program (measured in the denominator of the CTUR). But further sub-populations of the eligible population can be identified. These could be termed a “knowledgeable population” (those among all eligible workers who know about the program) and a “motivated population” (those among all knowledgeable workers who actually take the time to file a claim). Finally, the population with approved PFL claims are naturally a subset of the population that filed for claims because not all claims are approved. The relationship between these various PFL populations is illustrated on Figure 1.

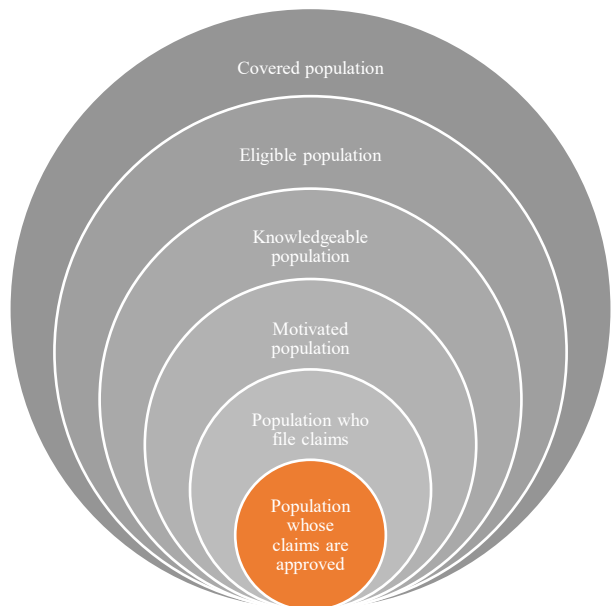


Figure 1. Visual representation of the relationship between various PFL populations.

Factors driving take-up rates that involve program knowledge and motivation are addressed in later sections of this paper. These factors may include industry mix, age of the covered population, the benefit replacement rate relative to population-wide median wages, the proportion of temporary employment arrangements, rates of cross-state commuting, effectiveness of outreach, and many more. In this paper we focus primarily on those factors that determine the size of the eligible population and, more specifically, measurable proxies for the size of this population: fertility rates for parental leave, injury rates for medical leave, and rates of caregiving for family leave.³

Since the ultimate goal of many workforce agencies and worker advocates is to increase the proportion of approved claims from *eligible* workers (as opposed to *covered* workers), using the ETUR as a metric of program performance is highly beneficial. The ETUR allows agencies and advocates to focus on the factors driving claim filing behavior that may be more directly influenced by administrative action, such as having an effect on knowledge and motivation factors. Conversely, factors driving program eligibility, which are captured in the CTUR, such as regional fertility rates or injury rates, cannot be as directly influenced by administrators and thus do not provide the basis for as actionable a metric for informing the efforts of an administrative agency. After controlling for eligibility factors, as the ETUR does, the remaining influencers driving claim filing behavior related to knowledge and motivation can be more easily isolated. Increasing the number of knowledgeable and motivated individuals, who are a subset of the eligible population, is a crucial way of improving a program's reach and ultimate success.

The eligible take-up rate

The ETUR for PFL is defined as the number of approved claims divided by an estimate of the covered population that has experienced or is expected to experience a qualifying insured event over a period of time. The distinction between the concept of “eligibility” and “coverage” is crucial. Coverage is a necessary but not sufficient condition for benefit receipt. In addition to being covered by the program, a worker must also be eligible.

The case of unemployment insurance (UI) may serve as an illustrative example of the value of observing the ETUR relative to the CTUR. In a UI program, a high take-up rate measured as the CTUR is not generally perceived as a positive event. If a large proportion of the total UI-covered population is receiving unemployment compensation, thereby leading to a measurably high CTUR, there are likely mass layoffs and an economic downturn occurring in the region or country. This high CTUR is likely to be viewed as undesirable by most policy analysts and political actors. Yet many of these same individuals may consider it to be a positive outcome when those who are eligible to receive UI (because they have lost their job) actually do receive benefits when they need them. The Bureau of Labor Statistics (BLS) approximates this measurement by reporting the proportion of unemployed workers receiving unemployment compensation, termed the “UI benefit reciprocity” rate. In contrast to the CTUR, a high “benefit reciprocity” rate measured as by the ETUR would likely be viewed favorably by those same policymakers who would view a high UI CTUR as an undesirable event.

³ These are only proxies for benefit eligibility because there are additional criteria for benefit eligibility. See the discussion in the next section.

BLS's concept of "benefit reciprocity" approaches our concept of the ETUR. Of course, there are additional criteria that a worker must meet in order to be eligible for unemployment compensation in addition to being unemployed. Similarly, a private-sector worker in DC must meet a number of eligibility criteria in order to be eligible for PFL benefits, only one of which, to use the example of parental leave, is to have recently had a baby. Yet simply accepting the occurrence of a qualifying insured event as a rough proxy for eligibility (being unemployed for UI and having a baby for PFL) represents a significant step towards focusing on the actionable metrics that contribute to the program's success.

The insights provided by observing the ETUR in addition to, or in place of, the CTUR are vital for workforce development agencies as they seek to provide services to more claimants. As the DCPFL program matures, the analysis of take-up rates, measured using both the ETUR and CTUR, can provide insight into the effect of expansions to the allowable length of leave or point to the need for changes to outreach and communications strategies. Other studies of PFL take-up rates focus primarily on benefit coverage (Applebaum and Milkman (2011) and Budoff (2016)) or perform an initial eligibility calculation (Bana, Bedard, and Rossin-Slater (2018)). However, in this paper we consider benefit eligibility as a refined methodology for estimating program take-up rates.

Applying the ETUR to DC's PFL program

DC's DOES administers various programs, including a PFL program that became law in April 2017 as DC's Universal Paid Leave Amendment Act. The passage of this law made DC the first state-level jurisdiction in the country to pass a combined paid family and medical leave program. Four states had previously passed PFL legislation over the 15 years prior to DC's law, but those states had existing temporary disability programs.⁴ By the time DOES began receiving claimant applications for benefits in July 2020, only one additional state had enacted a new PFL policy and started paying benefits under it.⁵

As mentioned above, DC began administering PFL benefits in 2020 to all private-sector workers, which included benefits for parental leave, family leave, and medical leave. The goal of DC's PFL program is to provide eligible, covered employees with paid time away from work to care for a new child, be a caregiver for a family member with a serious health condition, or address their own serious medical issues. A year and a half after the program's start, nearly 20,000 claims have been approved for PFL benefits from DOES. With several changes to DC's PFL program occurring in 2022, such as longer allowable leave lengths and a new prenatal leave option, take-up rates are an important metric to help determine the program's reach to eligible populations, predict demand for benefits, and provide comparisons with other PFL programs.

Eligibility for DC's PFL benefits varies by benefit type. For example, to be eligible for parental leave, a worker must have welcomed a new child into their home in the last year through birth, adoption, foster care, or other legal action. We use the occurrence of this qualifying insured event as a proxy for eligibility for parental leave. In reality, workers must meet other eligibility

⁴ The states were California (PFL added in 2002), New Jersey (in 2008), Rhode Island (in 2013), and New York (in 2016).

⁵ Washington State passed paid family and medical leave legislation in June 2017 and began paying benefits in January 2020.

requirements in order to receive benefits. These include having received covered wages during a specific period of time, not receiving other kinds of wage-loss benefits during the same period for which the worker seeks PFL benefits, not performing certain kinds of work during the same period for which the worker seeks PFL benefits, not having “exhausted” the individual’s entitlement to DCPFL benefits in a particular benefit year by already having received the maximum amount of a different type of benefits,⁶ and being currently employed at the time the PFL claim is filed.

The following are three kinds of qualifying insured events in the DC PFL program:

- Parental leave events: The worker’s child was born or placed in the home in the past year.
- Family leave events: The worker’s family member experienced or was diagnosed with a serious health condition.
- Medical leave events: The worker experienced or was diagnosed with a serious health condition.

Our aim is to obtain a reliable estimate of the number of people who experienced at least one of these events over a period of time. The occurrence of one of these qualifying insured events by a private-sector worker in DC covered by the PFL program would be included in the denominator of the ETUR, regardless of whether a claim was filed or approved for that event. If the claim was approved, that claim would be included in the numerator.

Methodology and data inputs

To calculate the denominator of the ETUR for parental leave, we use Quarterly Census of Employment and Wages (QCEW) in each industry in DC as the baseline covered population and then apply a modifier derived from a combination of the DC fertility rate and population of women aged 16-44 to estimate the eligible population for parental leave. The ETUR for parental leave is thus calculated as the quotient of the number of individuals with approved parental leave claims in 2021 divided by the eligible population for parental leave in 2021.

For medical leave, we again use the QCEW to identify a baseline covered population and then estimate the number of DC employees with injuries and illnesses sustained both at work and outside of work to serve as a proxy of the eligible population. We use two public data sets to derive the eligible population: the BLS injury and illness rates and the Center for Disease Control and Prevention (CDC) 2020 National Health Interview Survey.

Lastly, for family leave, the eligible population is estimated by examining the proportion of caregivers in DC and the proportion of caregivers with eligible relatives and applying modifiers derived from these estimates to the same baseline covered population.

Using these methods, we estimate the ETUR in bonding, medical, and family care claims to be 51.9 percent, 23.2 percent, and 4.1 percent, respectively, for calendar year 2021.

⁶ For example, receiving medical leave earlier in a year could disqualify a covered employee from receiving parental leave later in the year because the program caps benefits of all types at 12 weeks during a 52-week period.

Our detailed methodology for measuring the ETUR for parental leave, family leave, and medical leave is provided below. We then turn to a study of the disparity of benefits utilization as a way to investigate the other factors driving take-up rates such as disparities in population motivation and knowledge. To do this, we analyze the claims data of parental leave only, which is the largest benefit type by benefits paid to date in DC. We want to understand whether workers in certain industries utilize the parental leave benefits more than others due to motivation or knowledge factors. To explore motivational factors, we investigate disparities in gender by comparing program take-up rates between males and females. To explore knowledge factors, we investigate disparities across industries.

Parental leave

For parental bonding claims, parents of a biological or adopted child can receive up to 12 weeks of paid time away from work, either continuously or intermittently, up to one year after the addition to their family. The ETUR for parental leave is calculated by:

$$ETUR_P = \frac{AC_P}{EP_P}$$

Where $ETUR_P$ is the eligible take-up rate for parental leave, AC_P is the number of approved parental leave claimants, and EP_P is the eligible population of parental leave.

The number of approved parental claimants is provided by DOES, while the eligible population (EP_P) is estimated using publicly available data. The eligible population is calculated by:

$$EP_P = P_{Child_bearing} \times R_F \times 2$$

Where $P_{Child_bearing}$ denotes the DC working childbearing population, R_F is the DC fertility rate estimate. The product of these two variables yields an annual birth estimate in DC. This number is then doubled to account for two parents.⁷

Table 1: Data sources for parental leave take-up rate calculation

Variable	Estimate	Data source
Total DC private industry employment estimate	485,484	BLS QCEW Report, 2021 Annual Averages
DC private industry employment 16-44 age range	275,831	BLS Employed Persons by Detailed Industry and Age report, as of 2020
DC private industry employment females in 16-44 age	139,501	BLS Employed Persons by Detailed Occupation and Sex Report, as of 2020
DC Fertility rate	46.14 births per 1,000 women	CDC's National Center for Health Statistics, 2020

⁷ Our analysis does not include adoptions, new foster care arrangements, or other legal assumptions of parental responsibility, all of which are valid parental leave events. The primary reason for this is that these types of claims make up only a very small fraction of total parental leave claims received by the program, less than 2 percent of submitted claims. Another reason is that data on adoptions, foster care, and other legal assumptions of parental responsibility are much more limited. Future research in this area could explore these components of the eligible take-up rate.

The QCEW data was chosen rather than DOES employment data due to its public availability and accuracy in counting individuals. For example, the DOES data counts Social Security Numbers, which may double-count individuals who hold multiple jobs or transitioned jobs during the year.

The DC working and childbearing population is estimated to be 139,501 by counting the number of DC private industry female workers between 16 to 44. This population is then multiplied by the DC fertility rate, 46.14 births per 1,000 women, which results in an estimated 6,436.5 annual births. Finally, this was multiplied by two to account for eligible partners, giving an estimate of 12,873 for the eligible population. Dividing the total number of approved claimants (6,434) by this eligible population gives an overall uptake rate of 51.9 percent for parental leave. For parental leave, *claimants* were used in the calculation rather than *claims* to remove multiple claims for a single qualifying event that arises during intermittent leave requests.⁸

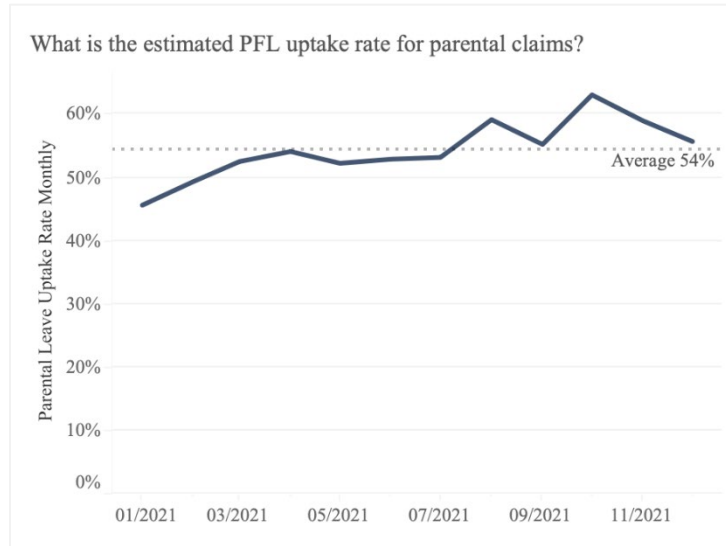


Figure 2. Graph of the parental leave ETUR by month for 2021. Confirmed fraud claims are removed.

Medical leave

Medical leave most often applies to employees who are unable to work for at least three days due to injury or illness as certified by a physician. The program’s broad eligibility criteria for medical leave means that individuals experiencing many other conditions may also be eligible for medical leave such as those with chronic conditions or who receive intermittent treatments for longstanding illnesses. We use incapacity for three days as a proxy for medical leave eligibility because it is the most commonly used criteria for eligibility and captures most cases. The take-up rate for medical leave is calculated by:

$$ETUR_M = \frac{AC_M}{EP_M}$$

Where $ETUR_M$ is the eligible take-up rate for medical leave, AC_M is the number of approved medical leave claims, and EP_M is the eligible population of medical leave. The number of approved medical leave claims is provided by DOES, while the eligible population is estimated using publicly available data with the following calculation:

⁸ Throughout this paper, we count claimants and claims from claimants only when the associated actors submitting a claim have passed required identity-screening processes. The purpose of these processes is to verify that the identity of the actor submitting a claim matches the individual on whose behalf a claim is filed. Any claims submitted by an unverified actor have been excluded, but claims submitted by authorized representatives of incapacitated claimants are included.

$$EP_M = (R_{Workplace} \times P_{DC_working}) + (R_{Home} \times P_{DC_working})$$

Where $R_{Workplace}$ is the DC workplace injury rate estimate, R_{Home} is the DC home injury rate estimate, and $P_{DC_working}$ is the DC covered population, people working in DC. Table 2 presents the data sources for medical leave take-up rate calculation.

Table 2: Data sources for medical leave take-up rate calculation

Variable	Estimate	Data source
Total DC private industry employment estimate	485,484	BLS QCEW Report, 2021 Annual Averages
Employment by industry	Employment differs by industry	QCEW, Private, High-level industries, District of Columbia, BLS, 2021 Annual Averages
Employer-reported workplace injuries, illnesses, and fatalities	Recordable cases differ by industry, ranging from .3 to 2.7 cases with days away from work per 100 full-time workers.	BLS – Incidence rates of nonfatal occupational injuries and illnesses by industry and case types, 2020
Number of nonfatal occupational injuries and illnesses involving days away from work	Cases differ by number of days away from work and industry	BLS – Detailed industry by number of days away from work, 2020
Workplace injuries and illnesses	0.94 injuries per 100 workers (weighted average of industry injury and illness rates using industry size)	BLS Workplace Injury and Illness Rates
Nonworkplace injuries and illnesses	1.25 nonworkplace injuries leading to days away from work per workplace injury leading to days away from work	CDC’s National Health Interview Survey, as of 2020

To calculate the eligible population for medical leave, we estimate the eligible population with workplace injuries and illnesses and the eligible population with nonworkplace injuries and illnesses.⁹ First, BLS workplace injury and illness rates that involve missing days of work were compiled by industry. Then, national BLS data containing all industries was used to calculate the proportion of injuries and illnesses that lead to missing an additional two days of work or more excluding the day of the incident. This is to approximate the DC medical leave definition of a qualifying injury or illness, which is three days away from work. The percentage of incidents

⁹ Although receiving temporary total or temporary partial disability benefits under the DC’s private-sector Workers’ Compensation law would be considered the primary wage-replacement program for work-related injuries in DC, we nevertheless include an estimate of work-related injuries in our eligible population for two reasons. First, receiving both workers’ compensation benefits and PFL benefits during the same time is not technically prohibited under the PFL law, though it may be discouraged or prohibited under private insurers’ workers’ compensation policies. Thus, a worker would not be denied PFL benefits by DOES due to the receipt of short-term workers’ compensation benefits. Second, even if workers did avoid receiving both workers’ compensation and PFL benefits at the same time by choice or insurance restriction, it remains a fact that many lost-time work-related injuries would in fact be eligible for PFL benefits, and workers retain the ability to apply for PFL benefits if they wish. Therefore, a work-related injury is properly counted as a PFL-eligible event in the denominator of the ETUR. An individual’s failure to file a PFL claim for this injury, or their conscious decision not to do so, is thus accounted for as a motivational or knowledge factor driving claim behavior within the eligible population.

involving two or more missed days of work was found to be 84.62 percent and each industry's injury and illness rate was multiplied by this percentage.

The estimated qualifying workplace injury and illness claims are calculated by applying each industry's rate to its employment population. District-wide estimated workplace injury and illness claims are found by summing claims from all industries.

The eligible population of nonworkplace injuries and illnesses is estimated using data from the CDC's National Health Interview Survey, filtering the sample to respondents who work 30 hours or more a week and have missed work due to an

injury within the last year. This refines the sample to only include working respondents who match program eligibility and to remove potential bias from retired respondents. The total number of respondents with nonworkplace injuries was then divided by the total with workplace injuries to calculate a ratio of 1.25. Each industry's workplace injury and illness rates are multiplied by 1.25 to calculate the nonworkplace injury and illness rates. This assumes industries have different physical requirements that are already reflected in each industry's rate. An identical injury or illness may have a different effect on the number of days missed for individuals in different industries.

The DC covered population is estimated at 485,484 people and this population is multiplied by two different injury rates. The DC workplace injury rate is 0.94/100 and the DC home injury rate is 1.18/100. This estimates the medical leave eligible population to be 10,280 people. Dividing this population by the total number of claims (2,387) results in an overall uptake rate of 23.2 percent for medical leave. For medical leave, *claims* were used in the calculation rather than *claimants* because individuals can have more than one qualifying medical leave event in a single year. These multiple events would be captured in the denominator as well as the numerator based on our data specifications.

Family leave

Employees are eligible for family leave to take care of an eligible family member and perform caregiver duties full-time or part-time for up to 12 weeks. The ETUR for family leave is calculated in the following manner:

$$ETUR_F = \frac{AC_F}{EP_F}$$

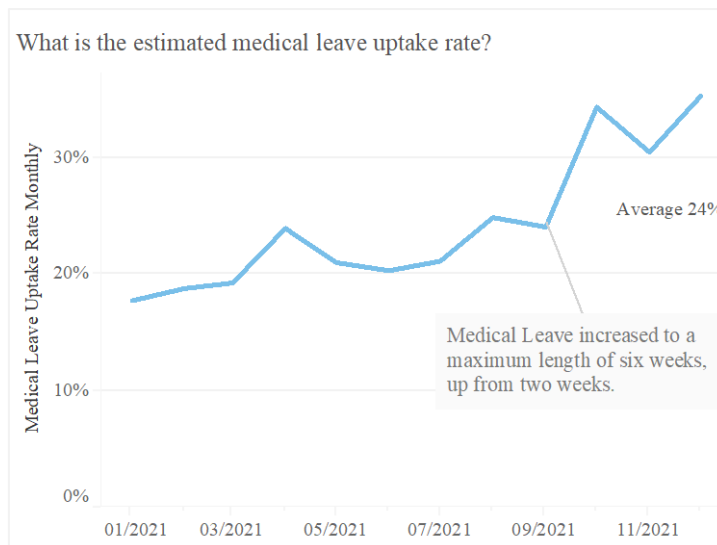


Figure 3. Graph of the medical leave ETUR by month for 2021. Confirmed fraud claims are removed.

Where $ETUR_F$ is the eligible take-up rate for family leave, AC_F is the number of approved family leave claims, and EP_F is the eligible population of family leave.

The number of approved family leave claims is provided by DOES, while the eligible population is estimated using publicly available data with the following calculation:

$$EP_F = P_{DC\ working} \times R_{Caretakers} \times R_{eligible}$$

Where $P_{DC\ working}$ is the DC covered population, $R_{Caretakers}$ is the proportion of caregivers in DC, and $R_{eligible}$ is the rate of caregivers that provide care to eligible relatives. Table 3 presents the data source for family leave take-up rate calculation.

Table 3: Data source for family leave take-up rate calculation

Variable	Description	Estimate	Data source
Total DC private industry employment estimate	Total employment in the private industry in DC	485,484	BLS Quarterly Census of Employment and Wages Report, 2021 Annual Averages
Number of family caregivers	Number of family care givers in the District of Columbia in 2017	81,000	American Association of Retired Person’s (AARP) “Valuing the Invaluable: 2019 Update: Charting a Path Forward,” as of 2019
Total state population	Population of the District of Columbia in 2017	694,000	AARP’s “Valuing the Invaluable: 2019 Update: Charting a Path Forward,” as of 2019
Number of caregivers at any given time	Number of family caregivers in the District of Columbia during any given time in 2009 (excluding childcare)	68,000	AARP’s “Valuing the Invaluable: 2011 Update: The Growing Contributions and Costs of Family Caregiving,” as of 2011
Number of caregivers at any time during the year	Number of caregivers in the District of Columbia that spend some time taking care of family members during 2009 (excluding childcare)	99,000	AARP’s “Valuing the Invaluable: 2011 Update: The Growing Contributions and Costs of Family Caregiving,” as of 2011
Caregiver adjustment factor	The percentage of care recipients aged 18 or older	94.6%	AARP’s “Valuing the Invaluable: 2019 Update: Detailed Methodology,” as of 2019
Adjustment factor based on relationship between caregivers and care recipients	Percentage of taking care of mother, father, mother-in-law, father-in-law, child, husband, wife, brother or brother-in-law, sister or sister-in-law, grandmother, grandfather, grandchild, and other relatives	83.67%	CDC BRFSS Land-Line and Cell Phone (LLCP) 2020 Codebook Report Overall version data weighted with _LLCPWT Behavioral Risk Factor Surveillance System
Adjustment factor based on number of hours provided	Percentage of caregivers that provide 40 hours or more a week to their care recipient	21.19%	LLCP 2020 Codebook Report Overall version data weighted with _LLCPWT Behavioral Risk Factor Surveillance System (BRFSS)

The first step is finding the total number of unpaid caregivers working in DC. Using the 2019 AARP study, the proportion of caregivers at any time in the DC resident population is calculated by dividing the caregiver estimate of 81,000 people by the Census estimate of DC’s population of 694,000 from the year the study was conducted. The proportion calculated is 11.7 caregivers per 100 DC residents (or 11.7 percent). The estimate assumes this proportion has not changed in the years since 2017 and that DC’s private workforce shares the same percentage of unpaid caregivers as its resident population.

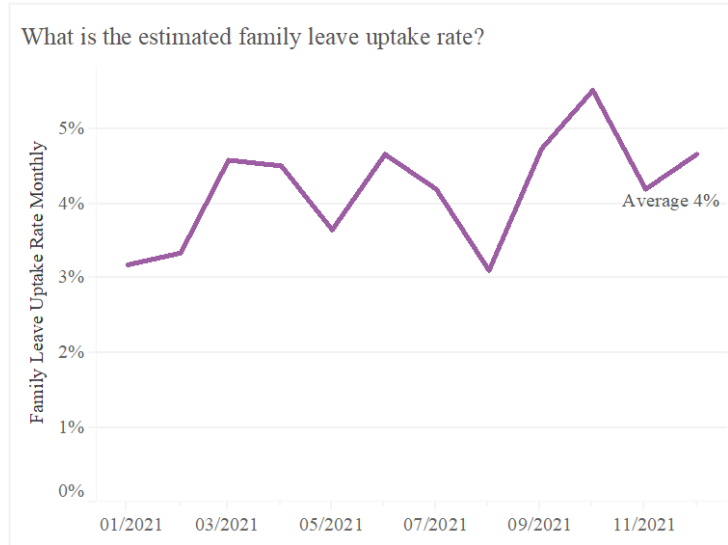


Figure 4. Graph of the family leave ETUR by month for 2021. Confirmed fraud claims are removed.

The 2019 AARP study only estimates the number of caregivers in DC at any given time; however, their 2011 study estimated both the total number of unique caregivers in a 12-month period and at any given time. For our analysis, the number of caregivers during a 12-month period is more appropriate since an employee can receive DCPFL benefits at any time during a benefit year. Therefore, the total number of caregivers in a 12-month period from the 2011 report is then divided by the estimated number of caregivers at any time from the 2011 report to calculate a multiplier of 1.46. The multiplier is then applied to the proportion calculated above from the 2019 report (i.e., 11.7 percent) to estimate the proportion of unpaid caregivers over a 12-month period (resulting in an estimate of 17.0 percent). It is assumed this multiplier has not changed over time.

The 2019 AARP estimate also removed caregivers providing for individuals under the age of 18. The DCPFL program does not provide family leave benefits for employees to provide childcare to healthy children, but the program does provide benefits to covered employees for the purpose of providing care or companionship to a child under the age of 18 who has a serious health condition. For this reason, we are careful to exclude instances of employees providing childcare, while also including instances of employees providing care to children with serious health conditions. The AARP methodology multiplied their estimate by 0.946 to remove the subpopulation of caregivers providing care to children with serious health conditions because this modifier was required for their analysis. But since we require the inclusion of this population for an accurate estimate of the eligible population for family leave benefits, we divided the proportion of unpaid caregivers over a 12-month period calculated above by 0.946. This produces an estimate that 18 percent of DC’s population acts as a caregiver for some time over a 12-month period. The calculated proportion is then applied to the estimated private covered employment in DC of 485,484. This yields an estimated 87,211 privately employed workers providing unpaid caregiving in DC for 2021.

To estimate those eligible for DC's family leave program, survey data from the BRFSS is used to remove the estimated number of caregivers providing for ineligible recipients, such as friends or cousins. An estimated 83.7 percent of caregivers are providing for eligible care recipients. Then, hours of care provided per week is used as a proxy for the requirement of a serious health condition and necessary care to further adjust the estimate. Data from the same BRFSS survey found that only 21.2 percent of caregivers provide 40 hours of assistance or more per week on average. These survey results are assumed to be independent of one another and are then multiplied together to calculate that an estimated 17.7 percent of caregivers are eligible for DC's Family Leave program.

The estimated 87,211 caregivers are then multiplied by 17.7 percent to calculate the estimated eligible population for family care leave in DC, this yields 15,462 people. Dividing the total number of claims (637) by this eligible population gives an overall uptake rate of 4.1 percent for family care leave. Figure 4 presents the family care leave ETUR by month in the same year. For family leave, *claims* were used in the calculation rather than *claimants* due to the difficulty of distinguishing between duplicate claims and different qualifying events in the data.

Program disparity in parental leave

These calculations allowed us to measure how the ETUR for parental leave, family leave, and medical leave changed over time and according to demographics. Looking at demographic variations in particular allows us to analyze how motivation and knowledge factors may differ across the eligible population. To explore applications of the ETUR methodology to shed light on program disparities, we examined how parental leave take-up rates differ across industry and gender. We selected parental leave in this study because it provided the richest dataset during the second year of the DCPFL program's existence. Data used is from calendar year 2021.

To examine the disparity of parental leave benefit usage across industry, we first estimate the eligible employment population (female with age of 16-44, multiplied by DC fertility rate) in each industry defined by NAICS code using national workforce demographics data from the BLS and the assumption of a uniform fertility rate across industries. The share of the total estimated eligible population is then calculated using the eligible population in each industry divided by the total eligible population of all industries. For example, the leisure and hospitality industry consists of about 13.0 percent of the total eligible population. The share of approved claimants across an industry is calculated by dividing the number of approved claimants in each industry by the total approved claimants in all industries from the same period of time. In addition, the ETUR, which is the ratio of approved claimants in a particular industry to the estimated eligible employment in that same industry, is also calculated.

Take-up rates by industry

Table 4: Disparity of parental leave usage across industries¹⁰

Industry	Estimated eligible employment	Share of total eligible population	Approved claimants	Share of all parental leave claimants ¹¹	ETUR ¹²
Education and health services	4,107	31.9%	1,972	32.4%	48.0%
Professional and business services	3,591	27.9%	2,041	33.5%	56.8%
Other services	1,756	13.6%	870	14.3%	49.5%
Leisure and hospitality	1,672	13.0%	282	4.6%	16.9%
Financial activities	647	5.0%	306	5.0%	47.3%
Trade, transportation, and utilities	581	4.5%	257	4.2%	44.2%
Information	422	3.3%	283	4.6%	67.1%
Construction	83	0.6%	75	1.2%	90.4%
Manufacturing, natural resources, and mining	15	0.1%	9	0.1%	60.0%
Totals ¹³	12,874	99.9%	6,095	99.8%	-

¹⁰ 1,003 approved parental claimants were excluded from the table above since they did not have a matching NAICS code. These claimants were included in the overall take-up rate calculation. Claimants with multiple jobs are included twice; however, they are only counted once in the overall take-up rate calculation.

¹¹ Orange highlight indicates the industry has a lower proportion of claimants in the program than is represented in the workforce. Figure 5 reflects the orange highlighting as well.

¹² Small industries, such as Construction and Manufacturing, with a sample size less than 100 estimated eligible claimants may not reflect an accurate ETUR.

¹³ Totals do not sum exactly due to rounding in the table.

There are two main ways to analyze the chart and graphs in figures 4 and 5. The first is to look at the share of approved claimants in a particular industry and compare that to its share of the total eligible population, which could reveal which industries are underrepresented in terms of approved claimants. The second is to look directly at the ETUR for the industry. Using the first method of analysis, the two industries that have a lower share of total parental leave claimants compared to their share of the total eligible population are 1) trade, transportation, and utilities, and 2) leisure and hospitality. Looking especially at the hospitality industry where the sample size is more reliable, the result indicates that the parental leave benefit may be under-utilized in the leisure and hospitality industry. This industry is under-represented in terms of approved claimants compared to its share of the total eligible population.

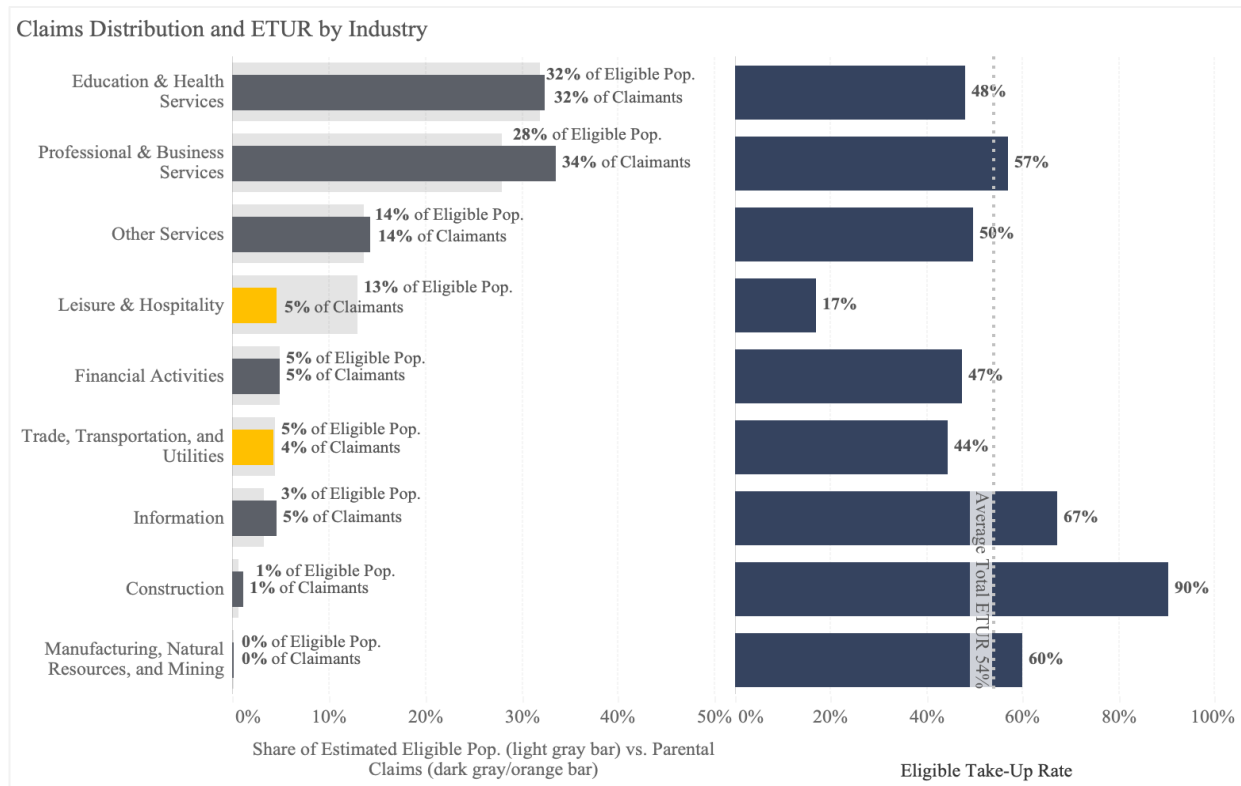


Figure 5. Comparison of parental leave distribution (dark gray/orange bar) to estimated eligible population (light gray bar). Orange bars indicate industries with a lower parental leave distribution than the estimated eligible population distribution. The righthand dark blue bars indicate the industry ETUR.

Looking directly at the ETUR across industries, the leisure and hospitality industry stands out as having a very low take-up rate. The ETUR for this industry is much lower than other industries, at 16 percent with the next lowest industry ETUR at 44 percent. There are a few possible explanations for the low ETUR of the leisure and hospitality industry.

First, this industry has a high employee turnover rate,¹⁴ which may cause reluctance in newly hired employees to take parental leave. Especially high turnover rates in this industry occurred at

¹⁴ As measured by BLS, the nationwide seasonally adjusted rate of separations is higher for the leisure and hospitality industry than the average across private-sector industries. On average in 2021 (our study year), the

the onset of COVID-19 in 2020 and during the rise of the Omicron variant in 2021. The industry's high turnover rate reflects a higher likelihood that employees in this industry have gaps in employment that would lower their wage replacement under paid leave programs and make them ineligible for certain job protections during periods of leave. Both of these factors may have disincentivized leisure and hospitality workers from taking leave in our study year (2021).

Second, this industry has a lower average wage compared to other industries,¹⁵ resulting in a low PFL benefit amount. Although the DC's PFL benefit calculation is designed to be progressive, providing a higher wage replacement for lower-wage workers (90 percent for workers earning less than 1.5 times the minimum wage), this still may not be enough to encourage claim filing. This factor represents an important motivational factor acting as a barrier to claim filing.

Third, program outreach efforts may not be as effective at reaching workers in this industry such that workers are not adequately made aware of their eligibility for benefits under this program. This factor represents an important knowledge factor acting as a barrier to claim filing. In order to improve the utilization of the benefits and ensure equity in benefit usage, DOES can consider surveying workers in the leisure and hospitality industry to gain insights into the reasons behind this quantitative result and to address eligibility, motivational, and knowledge factors suppressing claim filing.

Take-up rates by gender

Parents of any gender are eligible for parental leave benefits, and both parents may receive benefits at the same time. We estimate women constitute 50.8 percent of DC's private employment; however, they accounted for 67.3 percent of parental leave claims during calendar year 2021. This result indicates that male workers in DC under-utilize the parental leave benefit compared to their share of the eligible population. Historically, male workers sought less and received less paid parental leave than female workers. Although the DCPFL program offers parental leave benefits to both male and female workers, male workers receive benefits at lower rates, which may indicate a continuing reluctance to apply for the benefits.

leisure and hospitality industry experienced 7.1 separations per 100 employees, more than one-and-a-half times the rate of the total private industry at 4.4 separations per 100 employees.

¹⁵ According to the State Occupational Employment and Wage Estimates from the Bureau of Labor Statistics, the mean hourly wage in DC was \$47.29 across all industries in 2021. The mean hourly wage for the Food Preparation and Serving Related Occupations group was \$20.12 (57 percent below the mean for all occupations). This pattern continues for other occupations related to the leisure and hospitality industry such as Hotel, Motel, and Resort Desk Clerks (\$21.93 mean hourly wage; 54 percent below the mean for all occupations); Janitors and Cleaners (\$18.07 mean wage; 62 percent below); and Maids and Housekeeping Cleaners (\$18.73 mean wage; 60 percent below).

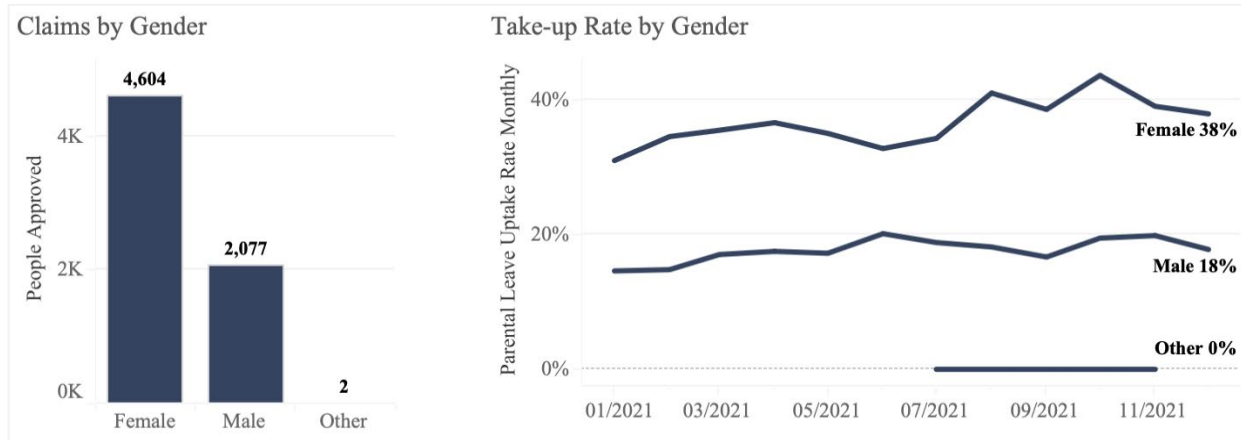


Figure 6. Parental ETUR by gender for 2021. Confirmed fraud claims are removed.

The reasons for this may be related to structural, motivational, or knowledge factors. A structural and motivational factor related to program design could be the wage-replacement amount offered by the PFL program. Since males tend to earn more than females, the wage-replacement percentage offered by the program may be lower and present a barrier to claim filing if couples are concerned about family finances. In particular, the maximum benefit amount could be set at a level that is too low for workers earning above the area median wage to receive a benefit amount large enough to motivate long stretches of leave from work. Societal pressure or expectations about males taking leave or being caregivers could be additional motivational factors suppressing claim-filing behavior. And a lack of awareness about their eligibility for benefits and the level of benefits could be a knowledge factor affecting males. For DC to improve its utilization rate, DOES may consider studying the wage-replacement rate or increasing its outreach efforts among male workers to address these or other motivation and knowledge factors.

Limitations and future analysis

There are a few limitations in this study. Because medical leave and family leave benefits usage are significantly smaller than parental leave, we do not calculate the program utilization disparity in these two types of benefits. As the program matures and more data become available, analysis could be performed to examine the disparity in these two leave types. To study the disparity in parental leave usage, we only focus on heterogeneity across industries and gender; we do not analyze the heterogeneity across other demographic variables, such as firm size, race, ethnicity, and income. We can consider exploring these in the future.

There are other factors that may impact the heterogeneity across industries. For example, some industries may have a higher number of temporary workers who may not be eligible for DCPFL by the time they need the benefit, or may not be eligible for job protections during periods of leave, which can lead to a lower utilization of the program in such industries. Leave benefits provided by employers can also play a role in utilization of PFL benefits. For example, employees of an employer who provides a higher benefit amount to its employees may be less motivated to use the PFL benefits. On the other hand, employees of employers that offset their benefits for DCPFL benefits are incentivized to apply for DCPFL benefits and may do so at higher rates to make up for their reduced private benefits. These factors are not accounted for in this study but are worth exploring in the future.

Claims were used as the numerator for both medical and family care calculations rather than claimants due to the difficulty in distinguishing between duplicate claims and different qualifying events for individuals. For example, someone working in an industry with high rate of injury risk may be eligible for medical leave more than once in a year for different qualifying events. For family leave, someone could be a caregiver more than once in the year for different relatives, or for the same relative with two separate qualifying events. As such, the medical and family leave estimates for eligibility are based on the occurrence of events happening to individuals throughout a 12-month period and are put into proportion of the number of claims. However, claimants were used in the parental leave calculation due to the duplication of claims for intermittent leave around the same qualifying event. According to the program's guidelines, it is very rare for an individual to have multiple qualifying events for parental leave within a calendar year.

Finally, we present our proxies for the eligible population as only models for other researchers to consider when applying a similar method for estimating a program's take-up rate. We advocate for the usefulness of examining the ETUR in combination with the CTUR, but since this analysis is highly sensitive to the estimate of the eligible population, further refinements are encouraged. Available datasets allowed us to consider factors such as fertility rates and injury rates, but researchers in other states and with access to alternative datasets could identify additional factors to include when developing estimates of the eligible population.

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