



Front-line Essential Jobs in California: A Profile of Job and Worker Characteristics

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As the COVID-19 pandemic continues to evolve, there is growing concern about the essential workers who are still on the job and coming into frequent contact with customers and other workers, increasing their likelihood of exposure to the virus. Recent articles have examined the increased infection risk for workers in [hospitals](#), [home care](#), [nursing homes](#), [grocery stores](#), [warehouses](#), [meat processing plants](#), [trucking](#), and [public transit](#). Analysts are also [hypothesizing](#) that greater workplace exposure might be contributing to higher infection and mortality rates among workers of color.

In this blog, we provide a profile of *front-line essential jobs* in California likely to be at risk of workplace exposure to the coronavirus. We identify essential jobs via California's list of "[Essential Critical Infrastructure Workers](#)," designated by Governor Newsom as exempted from the state's stay at home directive in order to ensure the continuity of essential services and functions. We then profile these jobs in terms of the prevalence of low-wage work and their demographic characteristics,

focusing on front-line occupations that are likely to be most at risk of workplace exposure. (See Data and Methods at the end of the blog for more detail.)

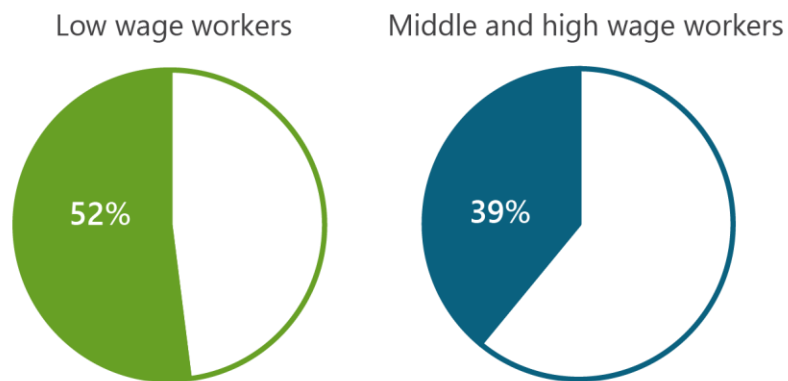
Given data limitations, we are not able to provide an accurate count of the number of workers currently employed in front-line essential jobs in California. Instead, our goal is to give a profile of the workers in these occupations.

Low-wage jobs

Figure 1 shows the percent of workers in California employed in front-line essential jobs, broken down by wage group. (Data is from 2018, which is the most recent available.) More than half (53 percent) of low-wage workers are employed in these jobs and therefore at greater risk of workplace exposure to the coronavirus, compared to middle- and high-wage workers (39

percent of whom are employed in these jobs).

Figure 1: Percent of workers employed in front-line essential jobs by wage level, California 2018



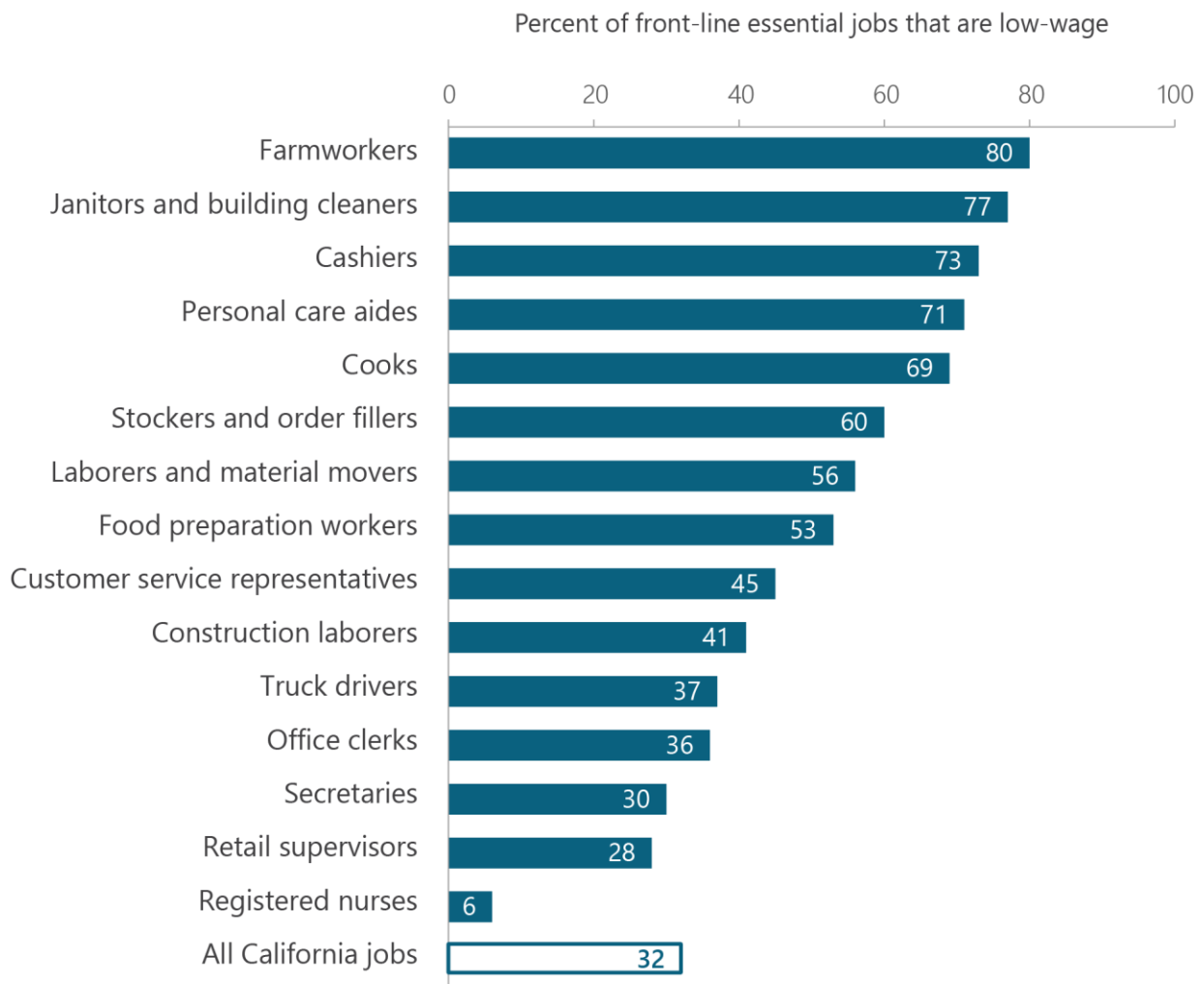
Source: Authors' analysis of IPUMS American Community Survey, 2018 and EPI Current Population Survey Outgoing Rotation Groups, 2018. See Data and Methods for details on analysis.



Figure 2 examines the prevalence of low-wage work among front-line essential jobs, focusing on the 15 largest occupations. Most of these occupations have higher rates of low-wage work than occupations in California as a whole, especially those involved in food production and preparation, retail operations, home care, the movement and distribution of goods, and janitorial services.

Overall, the rate of low-wage work among front-line essential jobs (39 percent) is higher than for California as a whole (32 percent).

Figure 2: Low wages in front-line essential jobs, top 15 occupations, California, 2018

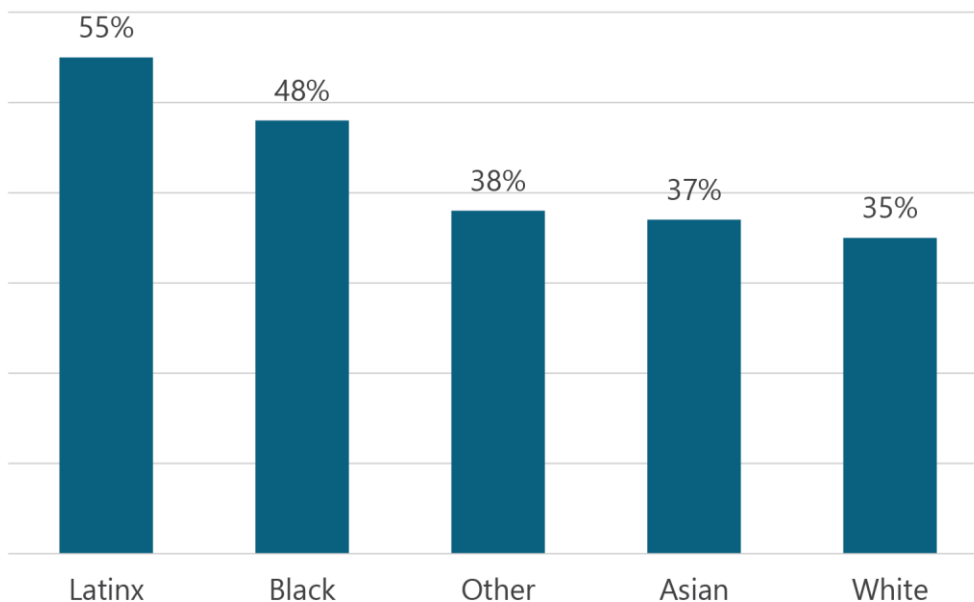


Source: Authors' analysis of IPUMS American Community Survey, 2018 and EPI Current Population Survey Outgoing Rotation Groups, 2018. See Data and Methods for details on analysis.

Race and ethnicity

Figure 3 shows the percent of workers in California employed in front-line essential jobs broken down by race/ethnicity. Overall, Latinx workers have the highest rate of employment in these jobs (55 percent), followed by Black workers (48 percent). As a result, both groups likely face greater risk of exposure to the coronavirus in the workplace than other race/ethnic groups.

Figure 3: Percent of workers employed in front-line essential jobs, by race and ethnicity, California 2018



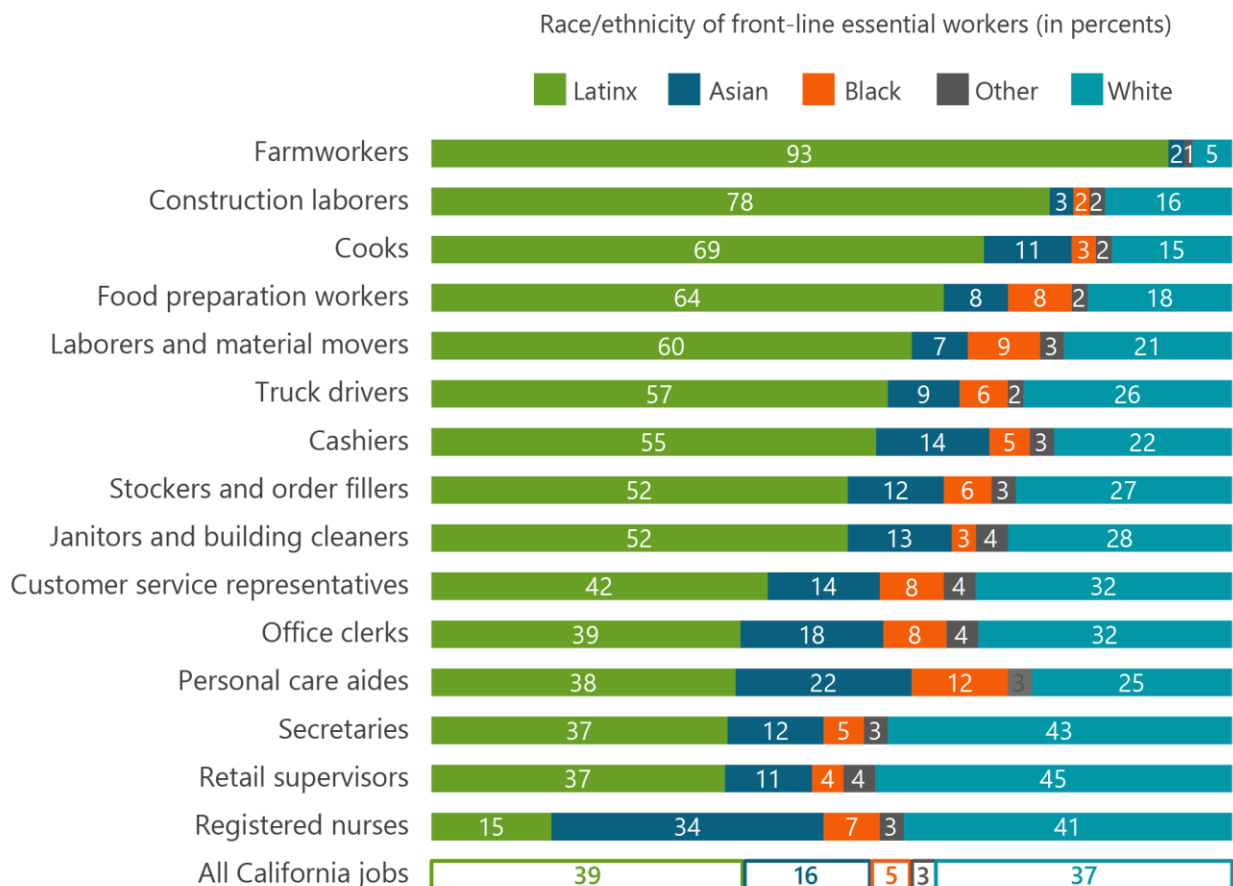
Source: Authors' analysis of IPUMS American Community Survey, 2018.
See Data and Methods for details.

Figure 4 examines the race/ethnicity composition of front-line essential jobs, focusing on the 15 largest occupations. Latinx workers are overrepresented in many of these occupations, especially agriculture, construction, trucking, material moving and stocking, and cooks and food preparation. Asian workers are overrepresented among registered nurses and personal care aides. Black workers are overrepresented among personal care aides, laborers and material movers, and food prep workers. And white workers are overrepresented in secretaries, supervisors of retail workers, and registered nurses.

In short, while workers of color are more likely to be employed in front-line essential jobs that put them at risk of workplace exposure to the

coronavirus, the specific occupations differ by race/ethnic group.

Figure 4: Race/ethnicity of front-line essential workers, top 15 occupations, California, 2018



Source: Authors' analysis of IPUMS American Community Survey, 2018.
See Data and Methods for details.

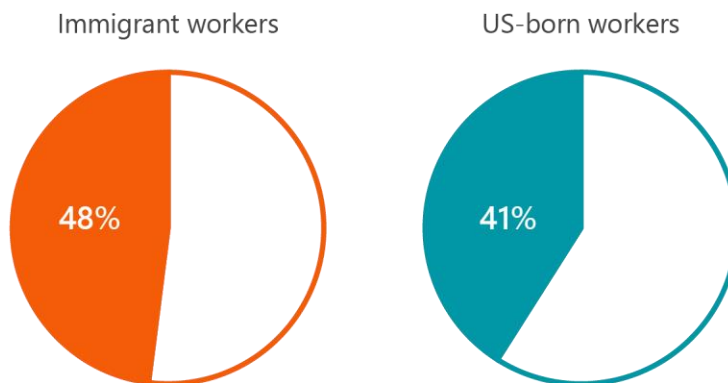


Immigrant workers

Figure 5 shows the percent of workers in California employed in front-line essential jobs broken down by immigration status. Nearly half (48 percent) of immigrant workers are employed in these jobs and therefore at greater

risk of workplace exposure to the coronavirus, compared to the 41 percent of US-born workers who are employed in these jobs . Note that this difference is likely understated because the dataset used in this blog, the American Community Survey, is known to undercount undocumented workers (for example, the [Pew Research Center](#) estimates an undercount of 5-7 percent).

Figure 5: Percent of workers employed in front-line essential jobs, by nativity, California 2018



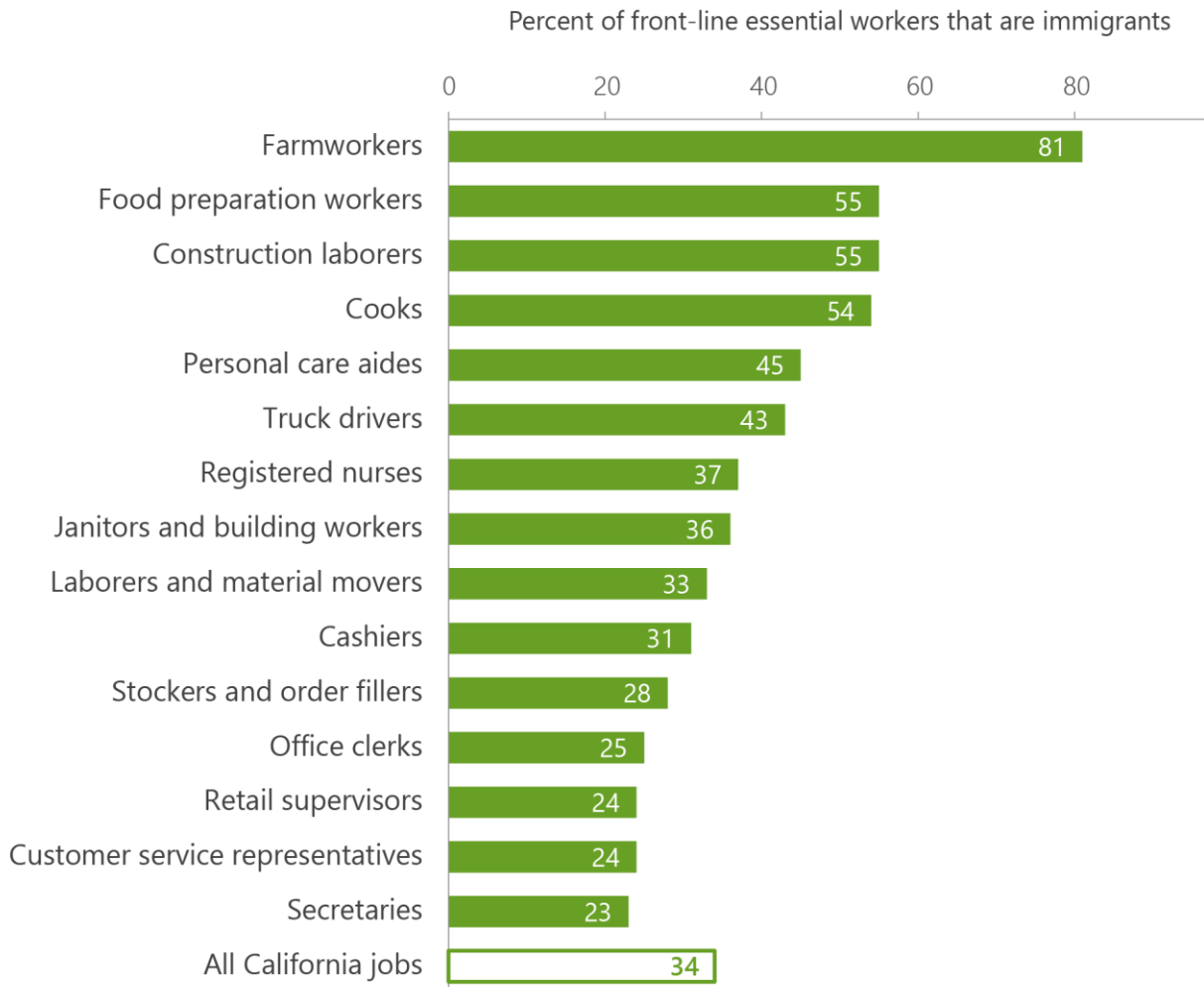
Source: Authors' analysis of IPUMS American Community Survey, 2018. See Data and Methods for details.



Figure 6 examines the prevalence of immigrant workers among front-line essential jobs, focusing on the 15 largest occupations. Immigrants are overrepresented in many of these occupations, especially farmworkers,

food preparation workers, construction laborers, and cooks.

Figure 6: Nativity of front-line essential workers, top 15 occupations, California, 2018

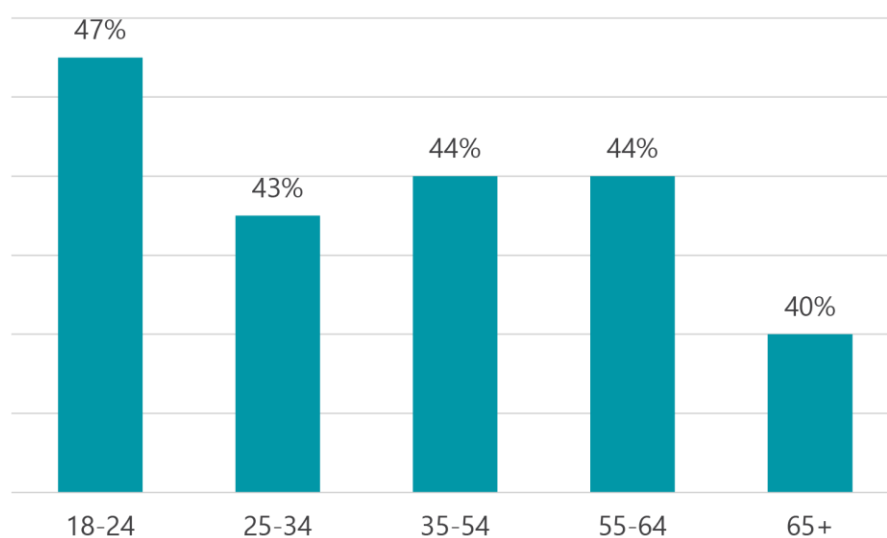


Source: Authors' analysis of IPUMS American Community Survey, 2018.
See Data and Methods for details.

Age

Figure 7 shows the percent of workers in California employed in front-line essential jobs broken down by age. The youngest workers (ages 18 to 24) have the highest rate of employment in these jobs (47 percent), although significant proportions of all age groups are at risk.

Figure 7: Percent of workers employed in front-line essential jobs, by age, California 2018



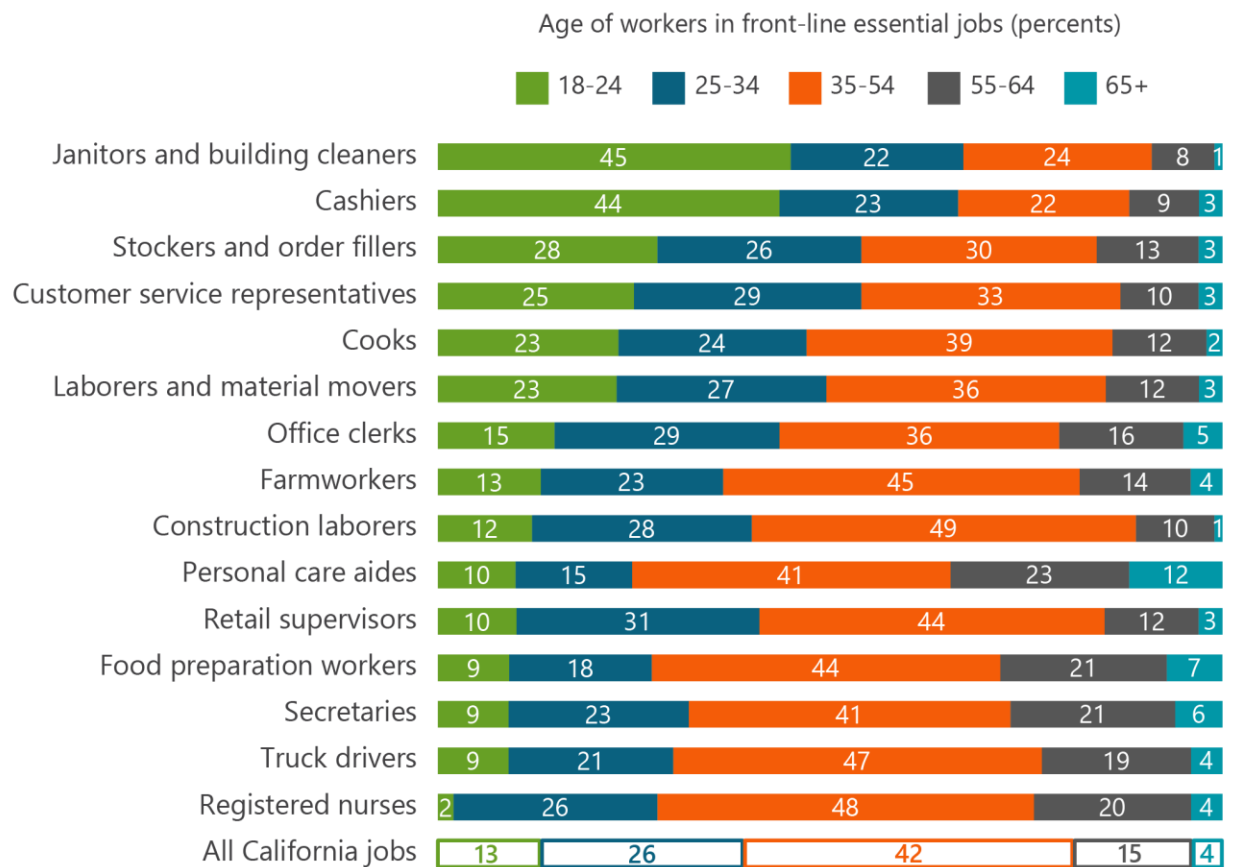
*Source: Authors' analysis of IPUMS American Community Survey, 2018.
See Data and Methods for details.*



Figure 8 examines the age distribution of workers in front-line essential jobs, focusing on the 15 largest occupations. Young workers are overrepresented in a number of these occupations, including janitors, cashiers, stockers, material movers, and cooks. Other occupations skew

disproportionately toward older workers, including personal care aides, secretaries, truck drivers, and registered nurses.

Figure 8: Age of front-line essential workers, top 15 occupations, California, 2018



Source: Authors' analysis of IPUMS American Community Survey, 2018.
See Data and Methods for details.

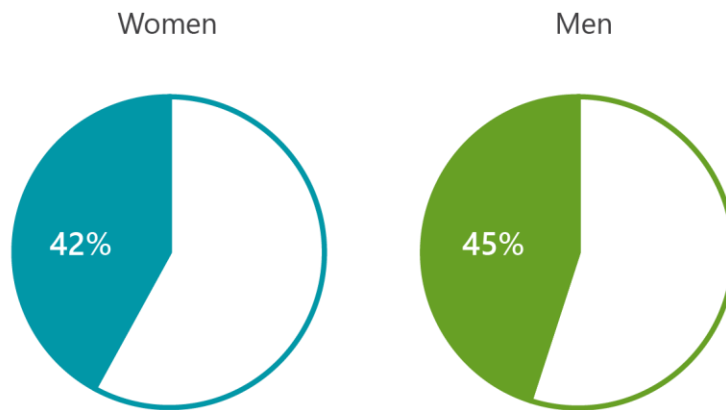


Gender

Figure 9 shows the percent of workers in California employed in front-line essential jobs broken down by gender. In aggregate, women and men do

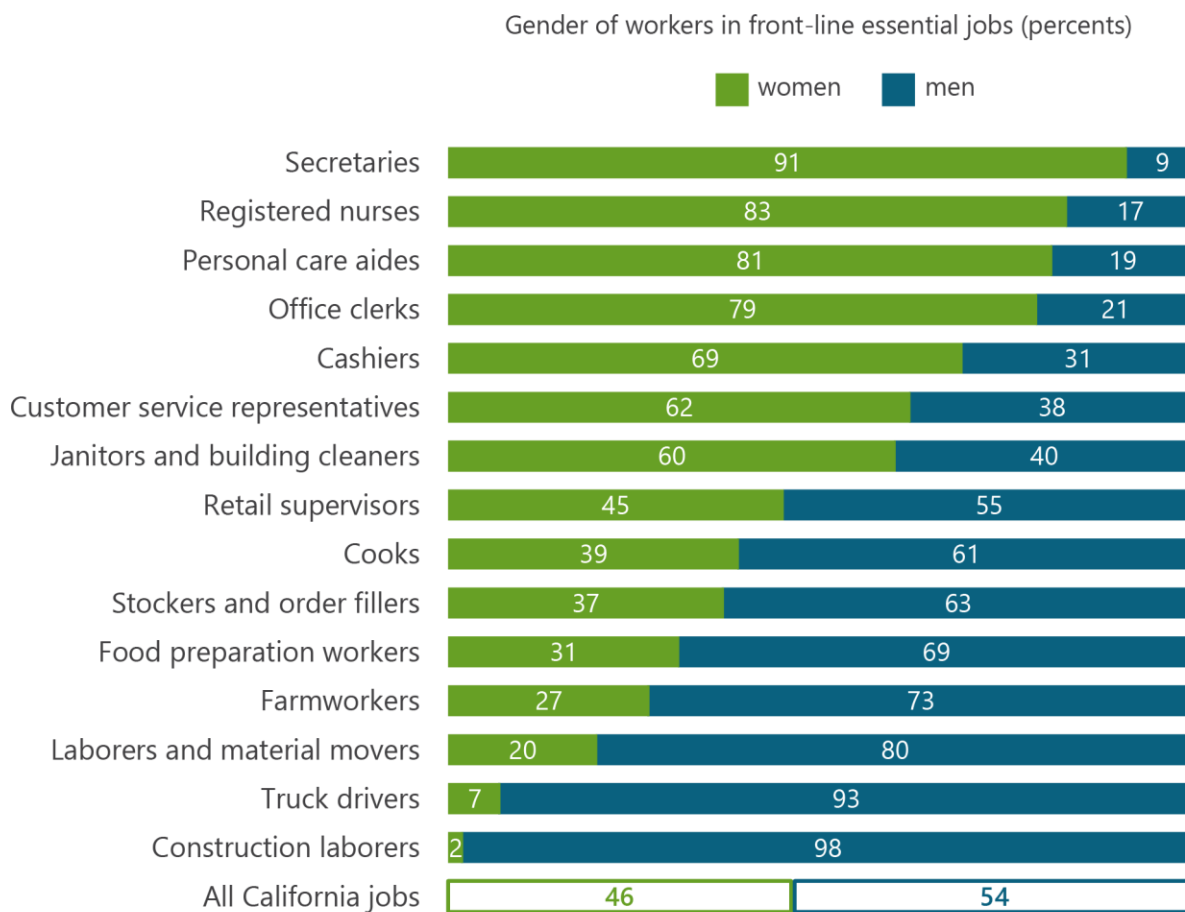
not differ substantially here. However, strong differences appear in Figure 10, which examines the gender distribution of workers in front-line essential jobs, focusing on the 15 largest occupations. Women are greatly overrepresented in a number of these occupations, including secretaries, nurses, personal care aides, office clerks, and cashiers. Men are also greatly overrepresented in a number of occupations, including construction laborers, truck drivers, material movers, stockers, farm workers, and food preparation workers.

**Figure 9: Percent of workers employed in front-line essential jobs,
by gender, California 2018**



*Source: Authors' analysis of IPUMS American Community Survey, 2018.
See Data and Methods for details.*

Figure 10: Gender of front-line essential workers, top 15 occupations, California, 2018



Source: Authors' analysis of IPUMS American Community Survey, 2018.
See Data and Methods for details.



Data and methods

Data source

We use IPUMS American Community Survey (ACS) data for 2018. We restrict our sample to wage and salary workers ages 18 and older who reside and

are employed in California. We exclude self-employed workers as well as unpaid family workers.

Definition of low wage

Following the definition developed by the OECD and used in the UC Berkeley Labor Center's [Low-Wage Work in California Data Explorer](#), we define low wage in California as two thirds of the state median wage. To calculate the median wage in California, we use the Economic Policy Institute's Current Population Survey Outgoing Rotation Groups dataset. We restrict our sample to workers ages 18 to 64 who are employed and reside in California. We exclude self-employed workers as well as unpaid family workers. We estimate that the median wage in California in 2018 was \$22.02; the resulting low-wage threshold is \$14.68.

Identification of front-line essential jobs

Jobs are considered “essential” by the state of California if the work is necessary for public health and safety and cannot be done from home. For our analysis, we define front-line essential workers as those who (1) are employed in an industry described as Essential Critical Infrastructure (ECI) in the state's shelter in place order and (2) are employed in a front-line occupation.

Selection of essential industries: In collaboration with the California Budget & Policy Center, we identify the industry categories in the ACS data that most closely align with the businesses described as ECI in the state's [April 28th update to the state's shelter-in-place order](#). We then make adjustments for three industries (construction, restaurants, and child day

care services) that are only considered to be ECI under particular circumstances.

Child day care services are considered essential if they are provided for the children of workers in other essential jobs. However, the ACS dataset does not allow us to match child care workers to the families that they provide services to. Instead, we assume that the proportion of child day care services that are essential is equal to the proportion of workers who are employed in front-line essential jobs (43.6%), and randomly sampled this proportion of child day care services workers for inclusion in our dataset.

Restaurants are considered essential under the state's order, but are only allowed to operate for take-out and delivery. However, the ACS dataset does not allow us to identify which restaurants are operating for take-out and delivery only, and how many workers are employed by them. Instead, we use an estimate of the proportion of restaurant workers that are still employed as a proxy for the proportion of restaurant workers that are considered essential. According to a [California Policy Lab analysis](#) of state unemployment insurance claims through April 25th, 65.9 percent of workers in the accommodation and food services industry are still employed; we randomly sampled this proportion of restaurant workers for inclusion in our dataset.

While the latest version of the state shelter-in-place order lists all construction work as essential, earlier versions identified only some subsets of construction work as essential (and Bay Area counties are still limiting allowable construction). According to the above-referenced California Policy Lab study, 78.4 percent of workers in the construction

industry are currently employed; we randomly sampled this proportion of construction workers for inclusion in our dataset.

Selection of front-line occupations: The shelter-in-place order states that workers are essential if they are employed by an industry that is included in the ECI list and their work cannot be done remotely from home. Our ACS dataset does not allow us to identify whether or not a worker is able to work from home. Instead, we select workers employed in front-line occupations (non-managerial and non-technical) as a proxy for whether or not a worker can do their work from home.

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