Highest Risk, Hardest Hit:

Pandemic Impact on Washington's High-Risk, Low-Wage Workers

By Michael Mulcahy, Working Title Research,
and David West, Washington State Labor Education
and Research Center

March 2021

Executive Summary

Our previous research report (*Essential Precarious and At-Risk, Sept. 2020*) showed that a large percentage of the state's workforce work in economically precarious occupations (typically with low wages, lack of health insurance, and dependence on social assistance) and high hazards of exposure to SARS-CoV-2 at work, due to the type of work and work-place conditions. This workforce is predominantly women, and disproportionally non-white. In this report, we extend that research with an analysis of some of the economic impacts of the pandemic on these high-risk, low-wage occupational groups.[1, 2]

Highest Risk, Hardest Hit by Unemployment Fourteen of our 26 high-risk, low wage occupational groups, with about 580,000 workers, filed a disproportionally high number of UI claims in 2020 compared to their share of the total workforce (See Table 1.) On average, workers in our 26 high-risk, low wage occupation groups filed UI claims at significantly higher rates than other occupations in 2020.

Gig Workers and Unemployment Four occupational groups—Personal Care, Group Fitness, Personal Services and Construction Management had disproportionally high pandemic unemployment assistance (PUA) claims, reflecting the fact that many of these workers are labeled as independent contractors or gig workers and are not eligible for regular unemployment payments.

Job Loss Brings Higher Use of Food Stamps, TANF and Emergency Assistance The economic hardship caused by widespread unemployment is expressed, at least partially, in dramatic increases in applications for the main social assistance programs in Washington – TANF, SNAP and CEAP – in 2020, compared to 2019 levels.

Analyzing 2020 weekly data, we found significant positive relationships between high unemployment and applications for food stamps (SNAP), Temporary Assistance for Needy Families (TANF) and/or Consolidated Emergency Assistance (CEAP) in 22 of the 26 groups of workers in high-risk, low wage occupations.

Unemployment

The SARS-COV2 pandemic caused widespread unemployment in Washington.[3] Weekly initial unemployment claims peaked at about 12,000 in 2019, averaging about 6,500 initial claims per week throughout the year; in contrast, the Employment Security Department (ESD) received an average of nearly 40,000 initial unemployment claims per week in 2020. From mid-March through early April, ESD received an average of 132,500 initial claims per week – more than 10 times higher than the 2019 peaks.

[1] *Thanks to Anneliese Vance-Sherman (ESD), Marissa Baker (UW), Shane Riddle (DSHS), Carolyn Whitaker & Sara Wuellner (L&I) for assistance accessing and discussing data for this report.*

[2] *In Mulcahy, West and Baker 2020, we focused on "detailed occupations" (6-digit Standard Occupation Code); in the present research, due to data limitations, the we focus on "Minor Occupational Groups" (3-digit SOC).*

[3] *See the methods appendix for a discussion of the data sources, measures and methods used in this report.*

Figure 1: Washington Unemployment Rates for 2019 & 2020

The dramatic unemployment effects of the pandemic in 2020 are shown in Figure 1 above, in comparison to 2019 unemployment. The huge spike after mid-March (weeks 10-11 of 2020) shows the unemployment impacts of the pandemic, and Gov. Inslee's emergency proclamations in response—closing schools and 'non-essential' businesses and restricting the size of social gatherings. Unemployment trended downward after April, but reversed direction in November, and continued to increase again through December 2020.

Weekly Initial UI Claims by Occupational Group (3-digit SOC)

We analyzed total weekly unemployment data using Standard Occupational Codes (SOCs), to understand the unemployment and economic hardship in the high-risk, low-wage occupational groups identified in our first report.[4]

To get a sharper picture of the pandemic unemployment impacts, we analyzed weekly unemployment claims by occupational group (OG) – the unit of analysis in this study is the OG.[5, 6] In this report we focus on the 26 OGs containing the occupations identified in our first study as both highly hazardous with regard to exposure to COV19, and economically highly precarious.

[4] *See methods appendix for discussion of ESD data.*

[5] *See methods appendix.*

[6] *See Mulcahy, West and Baker 2020, Table 1.*

As shown in Table 1, these occupational groups submitted claims for all three unemployment programs—regular unemployment, PUA, and PEUC – at much higher rates than other OGs.[7]

Table 1: Average Weekly Number of Initial Unemployment Claims for High-Hazard/Low-Reward Occupational Groups (totals in parentheses), 2020

Hi-Hazard/Low-Reward Occupational Group?	Regular Initial Claims	PUA Initial Claims	PEU Initial Claims
Yes	727 (916,691)	218 (273,709)	191 (240,156)
No	301 (982,372)	73 (236,117)	73 (238,517)
Total	420 (1,899,063)	113 (509,826)	106 (478,673)

To determine if high-risk, low-wage OGs have had disproportionately higher unemployment claims, we compared each OG's share of weekly initial unemployment claims to their share of the labor force. We report these disproportionality scores for the 26 OGs analyzed in our first report. The high-risk, low-risk occupational groups are, on average, larger than other groups, but despite their larger size, the average weekly disproportionality score for these OGs is 1.29, significantly higher than the average disproportionality score of .86 for the remaining 68 occupational groups ($p<0.001$). Table 2 shows the 14 of our 26 occupational groups that are experiencing disproportionately high pandemic unemployment impacts in at least one of the unemployment programs we analyzed. Most of the occupational groups in Table 2 have high disproportionality scores on two or all three programs. The high disproportionality scores for Personal Care, Group Fitness, Personal Services and Construction Management for PUA claims reflects the fact that many of these workers are labeled as independent contractors or gig workers and are not eligible for regular unemployment payments.

[7] *T-tests of these differences between high-hazard/low-reward occupational groups and all other OGs were significant at the .001 level for all three types of claims.*

Table 2: Occupational Groups Experiencing Disproportionate Initial Unemployment Claims (Average of Weekly Claims)

Occupational Group Title	Total Employment	Regular Claims	PUA Claims	PECU Claims
Food and Beverage Serving Workers	172640	1.3	1.2	1.2
Motor Vehicle Operators	83640	1.7	1.4	1.3
Cooks and Food Preparation Workers	69210	1.5	1.4	1.3
Other Management Occupations	53640	3.3	3.0	2.8
Material Record, Sched, Dispatch, & Distrib. Workers	44030	1.8	1.7	1.7
Other Food Preparation and Serving Related Workers	32250	1.2	0.9	1.1
Supervisors of Food Preparation and Serving Workers	25860	1.4	0.9	1.5
Other Personal Care and Service Workers	25080	2.7	3.8	2.1
Personal Appearance Workers	17133	3.5	3.1	1.4
Entertainment Attendants and Related Workers	16290	1.3	0.6	0.9
Art and Design Workers	13650	2.1	1.9	1.2
Other Construction and Related Workers	10000	2.2	0.4	0.4
Other Transportation Workers	8490	1.5	1.0	1.6
Animal Care and Service Workers	4960	1.7	0.9	0.2

In our previous study, we characterized occupations as economically precarious on the basis of sub-livable wages, lack of health insurance, and dependence on social services to make ends meet.[8] We expect that unemployment in these OGs will result in extreme economic hardship. Although the social and economic pain associated with unemployment takes many forms, in this study we focus on applications for government social assistance programs as important indicators of economic hardship.

Weekly DSHS Social Assistance Applications

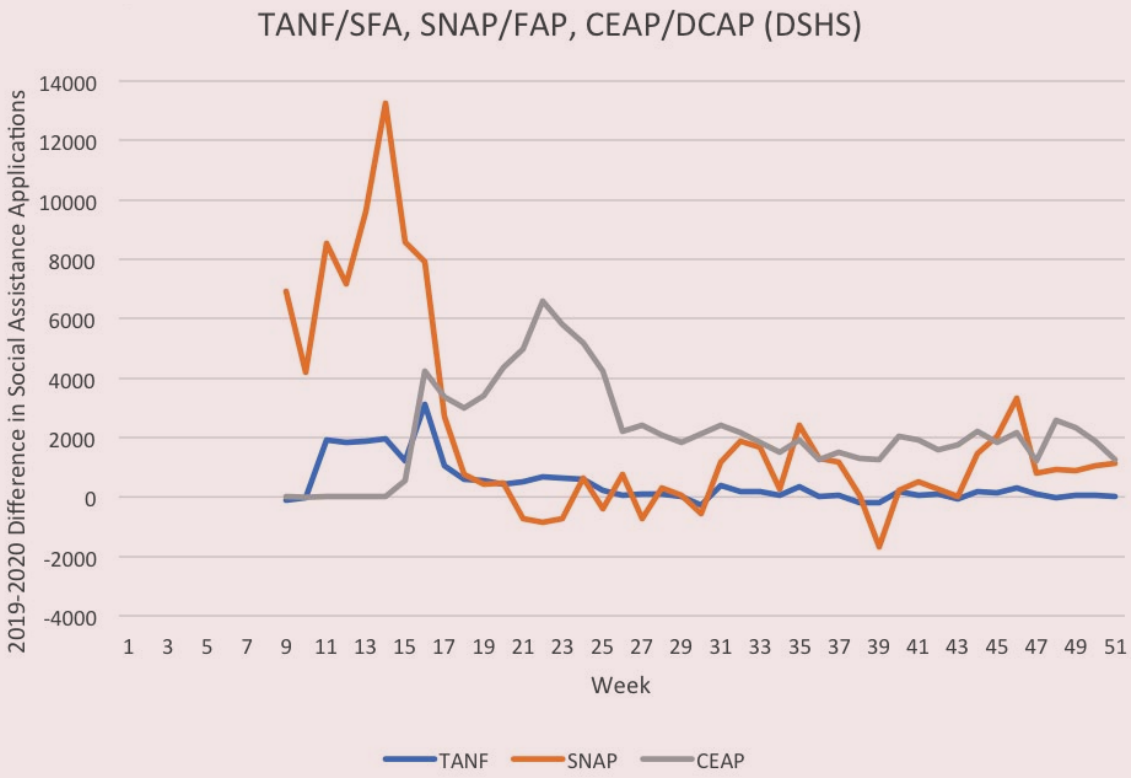
The response to the pandemic contributed to a surge in applications for social assistance programs administered by the Dept. of Health and Social Services (DSHS). To highlight the impact of the pandemic, Figure 2 presents the differences between 2019 and 2020, week-by-week, in applications for TANF, SNAP, and CEAP.[9] As shown in the graph below, applications for TANF and SNAP jumped in March and April (weeks 11-16), about 1-5

[8] *See Mulcahy, West and Baker 2020 for definition of the term, measurement, and analysis.*

[9] *TANF: Temporary Assistance for Needy Families; SNAP: Supplemental Nutrition Assistance Program; CEAP: Consolidated Emergency Assistance Program.*

weeks after Gov. Inslee's major emergency closure proclamations. After week 16, the 2019-2020 differences in TANF and SNAP applications trend towards zero, whereas CEAP applications surge first in week 16, with a second wave that starts in May and peaks in mid-June. Towards the end of April, CEAP seems to have absorbed much of the social assistance impact of the pandemic, and TANF and SNAP applications returned relatively quickly to 2019 levels (with greater volatility in SNAP applications).

Figure 2: Differences between 2019 and 2020 in Applications for TANF/SFA, SNAP/FAP, CEAP/DCAP (DSHS)



Relationship between unemployment insurance claims and social assistance applications

Figures 1 and 2 above show the timing of a few key economic ramifications of the pandemic. Initial unemployment claims took off in mid-March and peaked in late April. They trended haltingly downwards over the rest of 2020, without reaching 2019 levels. The surge in pandemic-related unemployment in WA (Fig. 1) was closely followed by surges in applications for TANF and SNAP (Fig. 2). By late summer, applications for these services began to trend back towards 2019 levels, whereas CEAP applications surged, in April and again in June. After that, CEAP applications trended downwards, yet remained above 2019 levels for the rest of 2020.

Taken together, Figures 1 and 2 raise the question of the link between unemployment and need for social assistance. We analyzed this connection in greater detail, using time-series regressions to examine the effect of specific occupational groups' unemployment on the need for social assistance.[10] We expect the link between unemployment and need for social assistance to be most pronounced among those occupational groups characterized by high degrees of economic precarity, and those most disproportionately affected by unemployment.

Table 3: Summary of Time-Series Regression Results for 26 Occupational Groups

	Effects of PUA claims on			Effects of PEUC claims on			Effects of regular UI claims on		
Occupational Group Title	**CE AP**	**SN AP**	**TA NF**	**CE AP**	**SN AP**	**TA NF**	**CE AP**	**SN AP**	**TA NF**
Construction & Other Management Occupations	.	P	.	P	.	P	.	.	.
Counselors, Social Workers, and Other Community and Social Service Specialists	.	.	.	.	.	N	.	P	.
Preschool, Primary, Secondary, and Special Education School Teachers	.	.	.	.	.	P	N	N	N
Librarians & Other Education, Training, and Library Occupations	.	P	P	.	.	.	N	.	N
Art and Design Workers	.	.	P	P	.	P	P	.	.
Health Technologists and Technicians	.	.	.	.	N	N	.	.	.
Nursing, Psychiatric, and Home Health Aides	.	.	.	.	.	N	P	N	.
Massage Therapists & Other Healthcare Support Occupations	P	.	P	P	.	P	N	.	.
Security Guards & Other Protective Service Workers	.	.	.	.	.	P	.	.	P
Supervisors of Food Preparation and Serving Workers	.	N	.	.	.	P	.	.	.
Cooks and Food Preparation Workers	.	.	.	.	.	.	N	.	.
Food and Beverage Serving Workers	.	.	P	.	.	.	.	.	.
Host/esses & Other Food Preparation and Serving Related Workers	.	.	.	.	.	P	N	.	.
Animal Care and Service Workers	.	.	.	.	.	.	P	.	.
Entertainment Attendants and Related Workers	.	.	P	.	.	.	.	.	N

[10] *See methods appendix.*

Table 3: Summary of Time-Series Regression Results for 26 Occupational Groups (Continued)

	Effects of PUA claims on			Effects of PEUC claims on			Effects of regular UI claims on		
Occupational Group Title	**CEAP**	**SNAP**	**TANF**	**CEAP**	**SNAP**	**TANF**	**CEAP**	**SNAP**	**TANF**
Personal Appearance Workers	P	.	.	.	.	.	.	.	.
Recreation Workers & Other Personal Care and Service Workers	.	.	P	.	.	.	.	.	.
Supervisors of Sales Workers	P	.	.	P	.	P	.	N	N
Retail Sales Workers	P	P	P	P	.	.	.	N	.
Financial Clerks	.	N	N	.	.	P	.	.	.
Information and Record Clerks	.	.	P	.	.	.	.	N	N
Material Recording, Scheduling, Dispatching, and Distributing Workers	.	.	P	P	.	.	P	.	P
Data Entry & Other Office and Administrative Support Workers	P	.	P	.	.	P	.	N	.
Construction Inspectors & Other Construction & Related Workers	.	.	.	.	.	.	.	N	.
Motor Vehicle Operators	.	.	P	.	.	.	.	.	.
Parking Attendants & Other Transportation Workers	.	.	.	.	.	P	P	.	.

Our time-series regressions of the weekly 2020-2019 differences in applications for social assistance support this expectation. The results of these analyses are summarized in Table 3 above. The table shows significant positive effects ("P") and significant negative effects ("N"), as well as the absence of any significant effect ("."). We found significant positive relationships between unemployment benefits claims and applications for SNAP, TANF and/or CEAP in regressions for 23 of the 26 occupational groups that encompass workers in precarious and high-hazard occupations in WA. Forty-four of the models included significant positive effects of unemployment on need for social assistance. In 24 of the models, the net effects were significant and negative.

The distribution of positive and negative effects across types of initial unemployment claim is striking: the effects of PUA and PEU claims on social assistance applications are overwhelmingly positive: of the 22 significant effects in our PUA models in table 3, 19 are positive effects; of the 21 significant effects in our PEU models, 17 are positive. In stark contrast, the effects of regular unemployment claims are more mixed, but significant negative effects on social assistance applications (17) outnumber significant positive effects (8). In the case of regular unemployment claims, then, the unemployment

benefits appear to decrease the need for social assistance for a number of occupational groups. Our results suggest, however, that the number of workers filing initial PUA and PEU claims is strongly and positively associated with increased need for social assistance – particularly with increased applications for CEAP and TANF.

Childcare

In contrast to the pandemic-driven peaks in applications for TANF, SNAP and CEAP, the caseloads for WA's primary childcare assistance program, Working Connections Child Care, began a decline in March that continued throughout 2020, with steep drops in April and again in September – as the pandemic caused daycare centers to close, and unemployed and working-from-home parents assumed childcare duties.[11] Figure 3 below compares WCCC caseloads for 2019 and January through October of 2020.

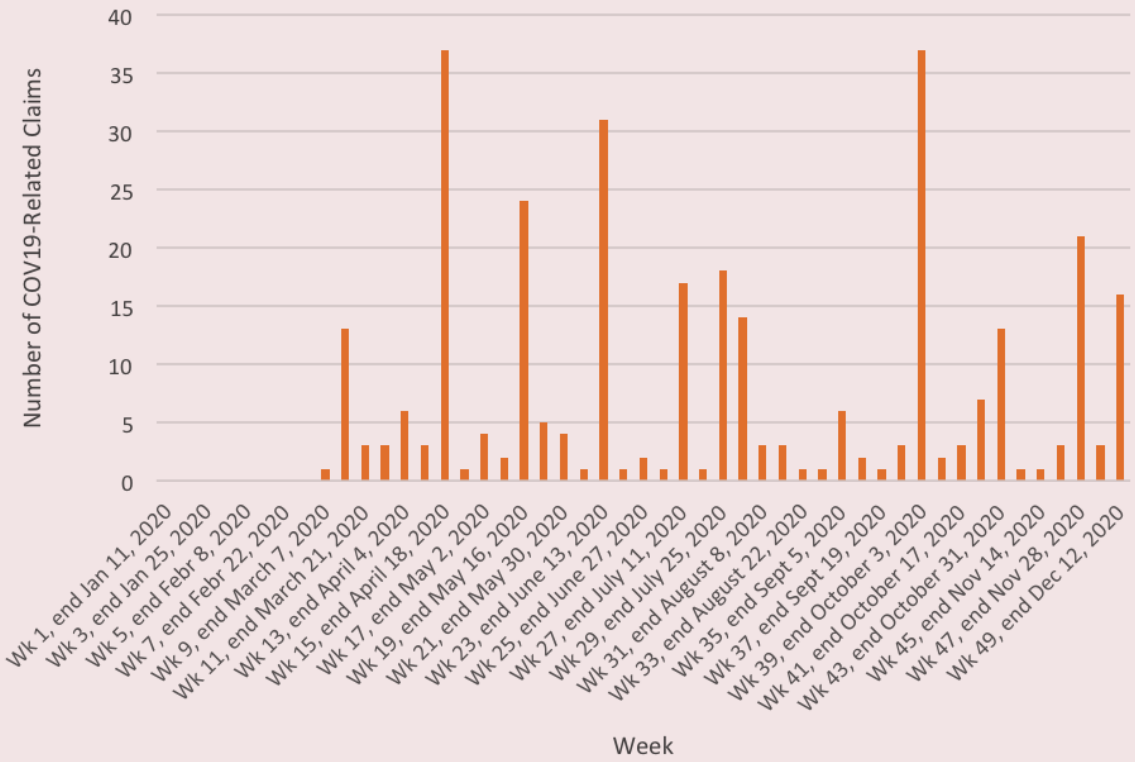
Figure 3: WA Working Connections Child Care Caseload 2014-2020 (DYFS)

[11] *The weekly WCCC data shown in Fig. 3 represent a linearly interpolated data series based on the original monthly data published by DSHS. For this reason, the WCCC data were not used in our regression analyses.*

COVID-19 Related Workers Compensation Claims

WA Labor and Industries also began reporting on COV19-related workers compensation claims in 2020. The graph below shows the distribution of COV-19 related workers compensation claims over the course of the year. COV19-related workers compensation claims surged in mid-April, mid-May, mid-June, from mid-July to early August, early October, and in several weeks of November and December (see Figure 4).

Figure 4: Weekly COV19-Related Workers Compensation Claims in WA, 2020

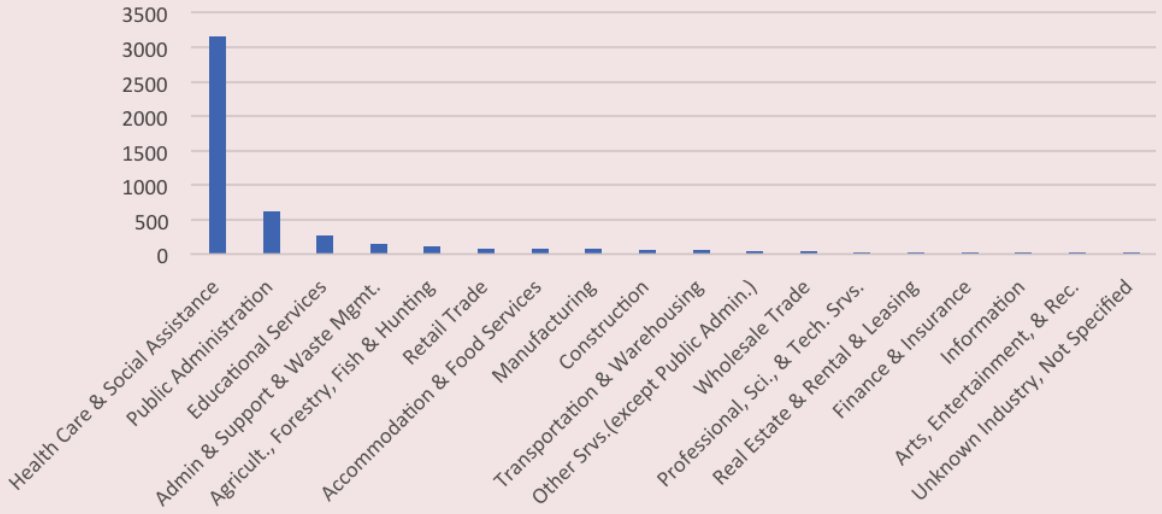


The clustering pattern likely reflects local outbreaks. The workers compensation data are not available by OG, but L&I has published industry level data for the claims they were able to code (see Figure 5).

As is clear from Figure 5 below, by far the most COV19-related workers compensation claims have come from the health care and social services sector. As L&I researchers note explicitly, however, there are numerous documented instances of outbreaks of COVID-19 in the agricultural and manufacturing industries that are likely seriously underrepresented in these data.[12]

[12] *See the rehttps://lni.wa.gov/safety-health/safety-research/covid-19.*

Figure 5: COV19-Related Worker's Comp Claims Filed Feb. 26 - Nov. 12, 2020, by Industry

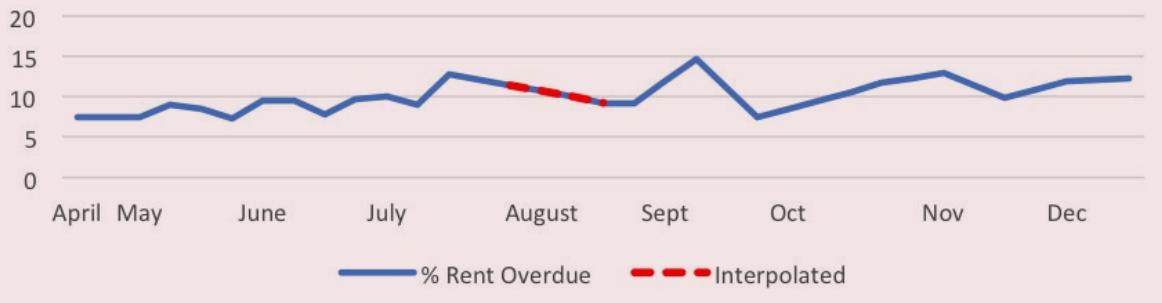


Housing Insecurity

The economic crisis caused by the pandemic also led to very high levels of housing insecurity. Gov. Inslee issued a moratorium on evictions on March 18, 2020, and has renewed/extended the moratorium repeatedly, most recently through the end of March 2021. The Census Bureau's Household Pulse Survey allows us to get a picture of housing insecurity in WA. The graph below (Figure 6) shows the percentage of WA residents responding to the survey who are at least one month behind on their rent.[13]

On average, about 10% of WA renters were behind on their rent throughout the data collection period (April – December 2020), with a peak of nearly 15% of renters behind on rent in early September.

Figure 6: % of WA Renters Behind on Rent (Census Bureau PULSE data)



[13] *https://www.census.gov/data/experimental-data-products/household-pulse-survey.html. Household Pulse Survey data collection was paused for several weeks in August 2020. We used linear interpolation for those weeks.*

Summary and Outlook

Many high-risk/low-wage occupations are experiencing disproportionate unemployment impacts during the pandemic. Unemployment among many of these occupations is increasing applications for food stamps and temporary/emergency assistance.

Outlook: With unemployment still disproportionately high for high-risk, low-wage jobs in early 2021, we expect continued high economic hardship, increased need for assistance and growing housing insecurity through the remainder of 2021.

Policy Recommendations

This research update details key pandemic impacts on high-risk, low-wage workers in Washington. In addition to the recommendations in our September 2020 report, we recommend the following measures to address the high risks and economic stress facing Washington's essential and precarious workers.

Worker Protection Act – Self-Help and Whistleblower Protection

While Washington has generally good worker protection laws, enforcement depends on state agency capacity to investigate and enforce safety standards. The pandemic has exposed the limits of the state's enforcement capacities. L&I's 130 inspectors are responsible for over 300,000 worksites—or 2,300 worksites for every inspector. In FY 2019, each inspector averaged 37 inspections. With the pandemic, these inspectors were stretched even further, conducting an additional 1,500 COVID inspections. In October 2020 alone, L&I received more than 1,300 COVID workplace complaints. L&I's enforcement process involves issuing warnings, follow-up visits, many resulting in fines, which are often appealed by employers. Washington is currently considering a Worker Protection Act that would give workers new tools to ensure enforcement by creating a private right of action to enforce workplace safety requirements and protect workers from retaliation.

Protective Standards

Washington State Department of Labor & Industries can issue an emergency temporary Airborne Transmissible Disease (ATD) Standard for up to 120 days, followed by the development of a permanent standard. In California, the standard developed by CalOSHA requires employers to have a written exposure control plan, implement training, engineering controls, work practice controls, provide appropriate personal protective equipment including respiratory protection, and offer medical services such as contact tracing, employee notification, and medical evaluations provided for those that were exposed. The standard also ensures that an employee's position, earnings, seniority, and benefits must be maintained even if removed from their job due to exposure or infection.

Unemployment

This report has detailed how many essential occupations in Washington have experienced disproportionately high pandemic unemployment. In addition, the number of UI claims has overwhelmed the state's UI system, causing long delays in receiving benefits, and some workers were forced to choose between protecting their health, or a family member, and having income for basic needs. The UI system should be modified to make it more flexible during emergencies like the COVID-19 pandemic, with more protections for vulnerable workers. The minimum benefits should be increased to a higher percentage of the average weekly wage (currently only 15 percent), and the system needs changes to improve access to benefits and claims processing.

Childcare

Washington's childcare system was already in crisis before the pandemic, and surveys indicate that a major reason for women leaving the workforce during the pandemic has been to provide care for their children as childcare providers closed or reduced service. To expand the supply of affordable childcare, Washington should expand the Working Connections Child Care (WCCC) program, expand its eligibility for middle-class families, fully cover the cost of care under the program, including affordable health insurance for providers, and ensure that essential workers can find coverage for nonstandard hours of care.

Methods Appendix

In this appendix, we outline the data sources, the construction of variables used in our analyses, and the model specification for the time series regressions.

Table A1: Variables and Data Sources

Variable	Data Source	Weeks included
Unemployment Claims (totals & occupational group subtotals)	WA ESD	Week 1 - 48
Applications for TANF, SNAP, CEAP and WCCC	WA DSHS	Week 9 - 51
% of WA renters ≥ 1 month behind on rent	U.S. Census Bureau PULSE Data	Week 16 - 50

Time-Series Dataset

When using 2020 unemployment data from WA ESD, it is important to note that ESD received many fraudulent unemployment claims in the early months of the pandemic.[14] At this time, "cleaned" weekly unemployment data by minor occupational group are not available for analysis. We have no reason to suspect, however, that fraudulent claims are distributed other than randomly across occupational groups. Because this source of error likely affects the magnitude of regression coefficients, we report statistically significant effects but not effect sizes.

The full dataset includes occupational data for 94 occupational groups. These OGs account for over 3.3 million WA workers – the vast majority of the WA workforce. The average size of these OGs is just over 35,000 workers, but OG size varies widely. The largest OG—retail sales workers (SOC 412)—includes 192,000 workers, and each of the 20 largest OGs encompasses more than 50,000 workers. Each of the 24 smallest OGs has fewer than 7,000 workers.

In the present report, we focus on a subset of these OGs, namely the 26 OGs encompassing the 55 detailed occupations identified in our first report. The 26 high-hazard/low-reward OGs on which we focus in this report are significantly larger than the remaining 68 OGs in our dataset – the average size of the high-hazard/low-reward OGs is about 56,000 workers, compared to an average size of about 27,000 for the other OGs.

The Household Pulse Survey data were collected weekly between April and August, 2020; data collection paused for several weeks in August, and resumed on a bi-weekly basis from late August through the end of 2020. Some of the weekly/bi-weekly data collection periods for the Household Pulse Survey begin and end mid-calendar week. In such cases, when linking the survey data to our time series dataset, which uses calendar weeks, we assigned the average of the two HPS weeks to the calendar week which they span. Our analyses are based on the "svy" suite of commands in Stata; we used the person-weights supplied with the dataset.

Time-series analysis

We used OLS time series regressions of weekly unemployment claims for the occupational groups to determine the impact of the pandemic on applications for social assistance (TANF; SNAP). The time unit is the week of 2020. Analyses were done using Stata 14.2 statistical software.

Dependent Variables

The dependent variables are the weekly 2019-2020 difference in applications for TANF and SNAP. Using the weekly 2019-2020 differences in applications adjusts for underlying cycles in social assistance applications, and better captures the impact of the pandemic.

[14] *https://www.seattletimes.com/business/economy/estimated-number-of-fraudulent-jobless-claims-jumps-41-in-washington-state/*

Independent variables
Our primary focus is on the impact of unemployment in the 26 occupational groups listed in Table 1 on applications for SNAP and TANF. To construct independent variables, we started with the weekly initial claims (initial claims for regular UI, PUA and PEU) for each 3-digit SOC. To adjust for group size, we then computed the ratio of those claims to all claims for that week – the share of weekly initial claims attributed to each occupational group. We also calculated each occupational group's labor force share. We then created, for each occupational group and each week, the following ratios: an occupational group's share of weekly UI claims / occupational group's share of labor force. We refer to these ratios as disproportionality scores. Values above one indicate that an OG is overrepresented among IUCs, relative to that OG's share of the overall labor force. Values of less than one indicate underrepresentation. We used these disproportionality scores as our main independent variables. We ran separate regressions for each of the 26 OGs encompassing the 55 detailed occupations that our previous research identified as a "highly precarious" and highly COV19 hazardous occupational group.

Control variables
The model also includes total weekly unemployment claims (logged), at lags of 0 through 4; it also includes a 1-week lag of the dependent variable on the right side of the model, to control for autocorrelation. After including the 1st lag of the dependent variable, the model residuals are not autocorrelated. We also included four so-called "regime" indicator variables to capture dramatic swings associated with business closures in WA.

The right side of the model looks like this:

- 1-week lag of dependent variable
- Total weekly unemployment @ lags 0-4
- Weekly unemployment @ 3-digit SOC-level @ lags 0-4
- "Regime" (i.e. period) dummy variables @ weeks 1-10, 11-16, and 21-49
- Interaction of total weekly unemployment X regime dummies
- Interaction of weekly 3-digit SOC unemployment X regime dummies

We use robust variance estimators in our models to correct for heteroskedasticity.

Regression results
We ran 26 OLS time-series regressions in Stata 14.2. The adjusted R-squareds for these models average between .90 and .95. Because these are finite distributed lag models, we estimated long term cumulative effects of our independent variables on the 2019-2020 weekly difference in applications for TANF and SNAP. The significant effects in table 3 refer to net significant effects of (0/4) lags of the independent variable and/or its interactions with our period dummy variables, net of controls, using a directional (positive) hypothesis and $p< 0.10$ critical value. We used the "lincom" command in Stata to test for the cumulative effects of these measures. In virtually all of the models reported in table 3, the lagged dependent variable was highly significant and positive; in most models, we found net positive, significant effects of the (0/4) lags of logged total weekly unemployment and its interactions with regime dummy variables. These regression results should be considered preliminary, pending availability of cleaned unemployment data.

About the Washington Labor Education and Research Center

The mission of the Washington State Labor Education and Research Center is to deliver high-quality education, training programs and research relevant to the working women and men of Washington State. The Labor Center creates the tools working people need to improve their work lives and their communities and promote a just economy through collective action. As a unique program within higher education in the state, we use the best practices of adult education and applied research to serve our dynamic and diverse labor force, including the new Rights at Work Washington website (www.RightsatWorkWA.org).

The Washington State Labor Education and Research Center
South Seattle College Georgetown Campus
6737 Corson Ave S, Seattle, WA 98108, Building B Room 106

Phone: 206.934.6671