Washington COVID-19 Cases by Industry, January 2020–June 2020

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INTRODUCTION

The COVID-19 pandemic has had a substantial impact on Washington workers, causing job losses for some, a shift to telework for others, and a classification of "essential" for those working outside the home during stay-at-home orders to continue providing vital services in healthcare, utilities, agriculture, and other critical industries.

There have been countless reports of COVID-19 outbreaks occurring at workplaces including meat packing plants, agricultural operations, and health care facilities. Aside from known workplace outbreaks, there has been little information available regarding the distribution of COVID cases by industry of employment. While outbreak investigations focus on identifying specific worksites where the virus may be actively spreading and thus need immediate implementation of measures to stop transmission, summarizing work data across the population of COVID-19 cases can help identify workers at greater risk of contracting the illness, gaps in prevention efforts, and the potential for staffing shortages if transmission continues.

In Washington, work data is collected from all COVID-19 cases, not just from those where the disease is suspected to be occupationally acquired. The cases presented here likely reflect a mix of workplace and community transmission. This report summarizes industry data among COVID-19 cases in Washington through June 30, 2020.

METHODS

Washington health care providers, facilities, laboratories, and others are required to report confirmed, probable, and suspect cases of COVID-19 to the local health jurisdiction (LHJ). Once notified of a case, investigators from the LHJ contact the case to collect demographic information and identify possible routes of disease transmission. During the investigation, cases are asked whether they are employed, their occupation, industry, employer, and worksite location. The LHJ report these data to the Washington State Department of Health (DOH) to be maintained in a centralized state-wide data system.

A Data Sharing Agreement between DOH and the Washington State Department of Labor and Industries (L&I) allows L&I access to the case investigation data so that L&I can assign industry codes to the confirmed COVID-19 cases, based on the work data collected during the investigation. The North American Industry Classification System (NAICS) was used to classify industry. Coded case information is maintained in the DOH data system.

Data collected prior to June 17, 2020 were coded based on the industry and occupation narrative text fields. These data were cleaned to isolate the first job listed when multiple jobs were entered and to assign an industry code when a large employer was reported instead of a description of the industry. The cleaned data were uploaded to the NIOSH Industry and Occupation Computerized Coding System (NIOCCS), which uses a computer algorithm to assign industry and occupation codes. Trained staff at L&I reviewed cases to ensure that the codes assigned by NIOCCS were accurate and to assign codes to the cases NIOCCS was unable to code.

To improve the level of detail reflected in the industry code, data collected on or after June 17, 2020 were coded based on industry, occupation, and employer data. We compare the employer name as reported in the COVID case investigation to state agency administrative databases in order to identify industry codes assigned to employers by Washington's Worker's Compensation and Unemployment Insurance programs. Record linkage procedures allow for minor differences in employer names between data sources. For employers with multiple NAICS codes in the administrative databases, the industry and occupation narrative text collected for COVID cases were used to select the most appropriate code. NIOCCS was used to assign an industry code when the employer data was insufficient for identifying an agency-assigned industry code. Staff at L&I reviewed cases to ensure that codes were accurate and to assign codes when one could not be identified from administrative databases nor was assigned by NIOCCS.

We used employment data from the Quarterly Census of Employment and Wages (QCEW) for Washington, 2020Q1–2020Q2, the most current data available at the time of analysis. QCEW data include monthly employment by industry, as reported by employers each quarter. We averaged monthly employment to calculate a point estimate of employment for the first six months of 2020.

To align COVID cases with the QCEW employment data, we excluded cases identified as self-employed and cases among military personnel. Cases with an employer listed as 'SELF' or 'NONE' were classified as self-employed. Military personnel were defined as cases assigned the NAICS code for National Security (928110). Cases not classified as self-employed or military were classified as employed for wages, and are the focus of this report.

We report PCR-positive cases of COVID-19, hospitalized COVID cases, and COVID-related deaths in Washington with an event date (defined as date of symptom onset or, if symptom onset date is unknown, date of positive test result) between January 1, 2020 and June 30, 2020, based on data collected through November 12, 2020. Hospitalized COVID cases and deaths are subsets of the PCR-positive cases. Industry categories with case counts between 1 and 4 do not meet state agency publication standards; they are not reportable and shown as "NR".

RESULTS

Among Washington's COVID-19 cases reported through June 30, 2020, industry data were collected for 45.8% of all cases, and 56.8% of cases among individuals age 18-64 years (approximately working age). The percent of cases age 18-64 with industry data declined each month from a high of 75.7% of cases in February to a low of 48.2% of cases in May; June was slightly higher than previous months with industry data collected for 56.8% of cases age 18-64.

In total, industry data was available for 17,337 cases at the time of data analysis. Over 96% were employed for wages (16,741), 2.7% were self-employed, and 0.7% were military personnel. Of the 16,741 cases among workers employed for wages, there were 1054 hospitalized cases, and 107 COVID-related deaths.

Table 1 presents cases among individuals employed for wages by industry sector. Agriculture, Forestry, Fishing and Hunting experienced the highest rate of COVID-19 cases, with 203.9 cases per 10,000

workers, more than twice the rate observed for any other industry sector. The Agriculture, Forestry, Fishing and Hunting sector employs 2.9% of the total workforce, but had 11.3% of COVID cases among workers.

Accounting for more than one in four COVID cases among workers, Health Care and Social Assistance had the greatest number of cases (4443 cases) and the second highest case rate (92.5 cases per 10,000 workers.

Compared to their share of employment, cases occurred disproportionately in three sectors: Agriculture, Forestry, Fishing and Hunting, Health Care and Social Assistance, and Manufacturing (i.e., the percent of cases exceeded the percent of employment).

Agriculture, Forestry, Fishing and Hunting also experienced the highest rate of hospitalized COVID cases and COVID deaths. The sector with second-highest rate of hospitalized cases was Transportation and Warehousing.

Table 2 displays the distribution of cases and hospitalizations by subsector, among subsectors with the highest case rates or greatest number of cases. The two subsectors with the highest case rates were Food Manufacturing (279.5 cases per 10,000 workers) and Support Activities for Agriculture and Forestry, which includes postharvest fruit sorting and packing (271.0 cases per 10,000 workers). Other subsectors with rates greater than 100 cases per 10,000 workers included: Crop Production, Animal Production, and Nursing and Residential Care Facilities.

Food Manufacturing had the highest rate of hospitalized cases (13.6 per 10,000 workers), followed by Nursing and Residential Care Facilities (9.2 per 10,000 workers). Support Activities for Agriculture and Forestry and Crop Production had similarly high rates of hospitalized cases (8.2 and 8.9 per 10,000 workers, respectively).

Of the subsectors evaluated, ten had case percentages that exceeded their share of employment, including Food Manufacturing, which accounted for 12.7% of the Manufacturing workforce and 57.7% of the COVID cases in the Manufacturing sector.

Subsector estimates underestimate the true occurrence of the disease, in part because of the inability to assign sector cases to specific subsectors based on the work data provided. For example, within the Health Care and Social Assistance sector, 1935 cases (43.6%) of the 4443 COVID cases in the Health Care and Social Assistance sector could not be assigned to a subsector because of insufficient detail provided in the work data collected.

Table 3 displays the distribution of cases by industry and month, for the first half of 2020. Cases with work data increased through March (4209 cases), decreased somewhat over the next two months, then peaked in June at 5425 cases. Trends over time differed by industry sector: cases among Agriculture, Forestry, Fishing and Hunting increased each month over the six month time period, while cases among Health Care and Social Assistance peaked in March, and cases among Manufacturing were consistently high in April, May, and June.

Table 4 presents the case rates by industry and month for March through June 2020 (estimates for January and February were omitted because of small case numbers).

In March, Health Care and Social Assistance had the highest rate of any sector (30.4 cases per 10,000 workers), followed by Transportation and Warehousing (14.7 cases per 10,000 workers). In April, the rate among Health Care and Social Assistance declined to 25.3 cases per 10,000 workers, and was exceeded by the rate among Agriculture, Forestry, Fishing and Hunting (46.8 cases per 10,000 workers). In addition to Agriculture, Forestry, Fishing and Hunting, sectors experiencing the greatest increase in case rates between March and April included Manufacturing, Wholesale Trade, and Accommodation and Food Services.

In June, the rate in Agriculture, Forestry, Fishing and Hunting was nearly threefold the rate in Health Care and Social Assistance, while the rate in Accommodation and Food Services (21.0 cases per 10,000 workers) was approaching the rate in Health Care and Social Assistance (21.3 cases per 10,000 workers).

Between May and June, sectors with some of the lowest case rates overall experienced the greatest month-over-month increase, including: Real Estate and Rental and Leasing; Professional, Scientific, and Technical Services; Finance and Insurance; and Information.

DISCUSSION

Data presented here are not limited to cases resulting from workplace exposure to the virus, and there was no attempt to differentiate occupationally-acquired cases from community-acquired cases. Despite this lack of characterization, these results clearly demonstrate that COVID-19 has a disproportionate impact on certain workplaces. Workers in Food Manufacturing and Agriculture-related industries experienced rates of COVID-19 cases and hospitalizations substantially higher than all other industries, including Health Care-related industries. Within Health Care, risk was not distributed evenly; Nursing and Residential Care workers suffered a much higher burden of disease than workers in Hospitals and Ambulatory Health Care Services. Better prevention measures are needed for these worker populations.

Case rates by month suggest that virus transmission can be mitigated with appropriate prevention strategies. Health Care and Social Assistance (arguably the industry sector most likely to implement disease control efforts, barring PPE or equipment shortages), saw declining rates with each passing month through May, and among the smallest rate increase in June. Acknowledging that workplaces differ qualitatively both across and within industries, disease control measures proven to be effective in some settings may be adaptable for use in other settings.

There are several limitations to this study. First, while 73% of Washingtonians age 18-64 are in the workforce, work data was collected from 56.8% of COVID cases of the same age. Although individuals who tested positive for the virus may be less likely to be in the workforce, the lower percentage may also be due to missing work data among COVID cases.

We may have misclassified self-employed individuals as employed for wages, potentially inflating case counts and rates among industries more likely to include self-employed individuals (e.g., Barber Shops, Landscaping). We may also have misclassified industry among cases employed for wages; the quality of the data collected is dependent on the investigator and respondent's understanding of the concepts of industry and occupation. Using the employer name to find agency-assigned industry codes allowed us to

assign a more detailed industry code, but when multiple industry codes were associated with a single employer, we relied on the industry and occupation fields to identify the most appropriate code.

PCR positive case numbers are an underestimate of the true occurrence of disease in the population. Especially when testing resources were scarce, testing was reserved for more severe cases and workers in certain industries. Case numbers likely reflect a combination of disease and testing availability. Numbers of hospitalized cases and deaths should be less impacted by testing biases, although these measures are also likely to be undercounted.

Industry could not be classified for all cases. Unfortunately, severe cases were more likely to be considered nonclassifiable than less-severe cases. If these cases were not equally distributed across industries but instead, clustered within a few, rate ranks for hospitalizations and deaths may change, suggesting different industries to prioritize for prevention.

Finally, industry groups may include workers at increased risk of disease, which is masked by the heterogeneous mix of occupations within the industry. For example, nurses in hospitals may experience COVID case rates that far exceed the rates of their fellow hospital staff. One cannot assume that industry-specific rates apply to all worker groups within an industry. An evaluation of case rates by occupation – and rates by occupation within industries – would help better identify risks among workers.

Table 1. COVID-19 cases by industry sector among workers employed for wages, Washington State, January–June 2020.

NAICS Sector	COVID-19 case rates per 10,000 workers (95% CI)			COVID-19 case counts (%)			
	PCR positive cases	Hospitalized cases	Deaths	PCR positive cases	Hospitalized cases	Deaths	Employment (thousands)
Agriculture, Forestry, Fishing and Hunting	203.9 (194.9, 213.3)	8.8 (7.1, 10.9)	1.0 (0.5, 1.9)	1899 (11.3)	82 (7.8)	9 (8.4)	93.1 (2.9)
Health Care and Social Assistance	92.5 (89.8, 95.3)	4.8 (4.2, 5.5)	0.4 (0.2, 0.6)	4443 (26.5)	230 (21.8)	17 (15.9)	480.2 (14.7)
Manufacturing	61.3 (58.5, 64.2)	3.5 (2.9, 4.3)	0.2 (0.1, 0.5)	1788 (10.7)	103 (9.8)	7 (6.5)	291.6 (8.9)
Transportation and Warehousing	52.4 (48.6, 56.5)	5.4 (4.2, 6.8)	0.6 (0.3, 1.3)	664 (4.0)	68 (6.5)	8 (7.5)	126.7 (3.9)
Construction	44.9 (42.1, 48.0)	3.5 (2.8, 4.4)	0.3 (0.1, 0.7)	875 (5.2)	68 (6.5)	6 (5.6)	194.7 (6.0)
Accommodation and Food Services	42.3 (39.8, 45.0)	2.8 (2.2, 3.6)	0.4 (0.2, 0.8)	985 (5.9)	66 (6.3)	10 (9.3)	232.8 (7.1)
Retail Trade	39.8 (37.8, 41.9)	2.2 (1.8, 2.7)	0.3 (0.2, 0.5)	1476 (8.8)	82 (7.8)	11 (10.3)	370.6 (11.3)
Other Services (except Public Administration)	36.7 (33.0, 40.9)	2.8 (1.9, 4.2)	NR	337 (2.0)	26 (2.5)	NR	91.8 (2.8)
Administrative and Support and Waste Management and Remediation Services	33.2 (30.5, 36.1)	3.0 (2.2, 4.0)	NR	534 (3.2)	48 (4.6)	NR	161.0 (4.9)
Wholesale Trade	31.1 (28.2, 34.3)	1.7 (1.1, 2.6)	NR	402 (2.4)	22 (2.1)	NR	129.2 (4.0)
Public Administration	29.3 (26.8, 32.0)	1.7 (1.2, 2.4)	NR	486 (2.9)	28 (2.7)	NR	166.0 (5.1)
Finance and Insurance	28.0 (24.9, 31.6)	1.3 (0.7, 2.2)	0	266 (1.6)	12 (1.1)	0 (0)	94.9 (2.9)
Real Estate and Rental and Leasing	27.7 (23.7, 32.5)	1.8 (1.0, 3.3)	NR	155 (0.9)	10 (0.9)	NR	55.9 (1.7)
Utilities	24.5 (18.3, 32.8)	NR	0	45 (0.3)	NR	0 (0)	18.3 (0.6)
Arts, Entertainment, and Recreation	24.3 (20.6, 28.6)	2.9 (1.8, 4.7)	0.9 (0.4, 2.1)	141 (0.8)	17 (1.6)	5 (4.7)	58.1 (1.8)
Mining, Quarrying, and Oil and Gas Extraction	NR	NR	0	NR	NR	0 (0)	2.0 (0.1)
Professional, Scientific, and Technical Services	16.5 (14.8, 18.3)	0.9 (0.6, 1.4)	NR	355 (2.1)	20 (1.9)	NR	215.7 (6.6)
Educational Services	15.8 (14.4, 17.4)	1.1 (0.8, 1.6)	NR	439 (2.6)	31 (2.9)	NR	277.7 (8.5)
Information	9.5 (8.1, 11.2)	NR	NR	144 (0.9)	NR	NR	151.4 (4.6)
Management of Companies and Enterprises	NR	NR	NR	NR	NR	NR	44.1 (1.4)
Nonclassifiable	-	-	-	1299 (7.8)	131 (12.4)	19 (17.8)	11.8 (0.4)

NR = Not reportable due to small numbers.

Table 2. COVID-19 cases among select NAICS Industry subsector among workers employed for wages, Washington State, January–June 2020. Asterisk (*) indicates percent of cases that exceed the percent of employment.

Industry sector Subsector	COVID-19 case rates per 10,000 workers (95% CI)		COVID-19 case counts (%)		
	PCR positive cases	Hospitalized cases	PCR positive cases	Hospitalized cases	Employment (thousands)
Agriculture, Forestry, Fishing and Hunting					
Support Activities for Agriculture and Forestry	271.0 (251.2, 292.5)	8.2 (5.3, 12.7)	664 (4.0)*	20 (1.9)*	24.5 (0.7)
Crop Production	186.4 (175.6, 198.0)	8.9 (6.8, 11.7)	1067 (6.4)*	51 (4.8)*	57.2 (1.8)
Animal Production	131.6 (107.1, 161.8)	NR	90 (0.5)*	NR	6.8 (0.2)
Agriculture, Forestry, Fishing and Hunting, Other	54.6 (36.9, 80.9)	NR	25 (0.1)	NR	4.6 (0.1)
Agriculture, Forestry, Fishing and Hunting, Unspecified	-	-	53 (0.3)	5 (0.5)	-
Health Care and Social Assistance					
Nursing and Residential Care Facilities	151.6 (142.4, 161.4)	9.2 (7.1, 11.8)	977 (5.8)*	59 (5.6)*	64.4 (2.0)
Ambulatory Health Care Services	43.8 (40.7, 47.3)	1.7 (1.2, 2.5)	678 (4.0)	27 (2.6)	154.7 (4.7)
Hospitals	34.8 (31.8, 38.2)	2.1 (1.4, 3.0)	468 (2.8)	28 (2.7)	134.3 (4.1)
Social Assistance	30.4 (27.5, 33.6)	1.0 (0.6, 1.8)	385 (2.3)	13 (1.2)	126.8 (3.9)
Health Care and Social Assistance, Unspecified	-	-	1935 (11.6)	103 (9.8)	-
Manufacturing					
Food Manufacturing	279.5 (263, 297.1)	13.6 (10.3, 17.9)	1031 (6.2)*	50 (4.7)*	36.9 (1.1)
Beverage and Tobacco Product Manufacturing	57.0 (43.4, 74.8)	NR	52 (0.3)	NR	9.1 (0.3)
Paper Manufacturing	50.9 (37.2, 69.7)	NR	39 (0.2)	NR	7.7 (0.2)
Fabricated Metal Product Manufacturing	41.2 (33.1, 51.2)	NR	81 (0.5)	NR	19.7 (0.6)
Transportation Equipment Manufacturing	19.6 (17.2, 22.4)	2.2 (1.5, 3.3)	216 (1.3)	24 (2.3)	110 (3.4)
Manufacturing, Other	20.7 (18.2, 23.6)	1.0 (0.6, 1.8)	224 (1.3)	11 (1.0)	108.3 (3.3)
Manufacturing, Unspecified	-	-	145 (0.9)	14 (1.3)	-
Transportation and Warehousing					
Air Transportation	63.1 (51.6, 77.0)	NR	96 (0.6)*	NR	15.2 (0.5)
Couriers and Messengers	56.2 (45.7, 69.0)	NR	91 (0.5)	NR	16.2 (0.5)
Warehousing and Storage	54.3 (44.1, 66.7)	NR	90 (0.5)	NR	16.6 (0.5)

Table 2. Continued

Industry sector Subsector	COVID-19 case rates per 10,000 workers (95% CI)		COVID-19 case counts (%)		
	PCR positive cases	Hospitalized cases	PCR positive cases	Hospitalized cases	Employment (thousands)
Truck Transportation	53.5 (44.8, 63.9)	7.5 (4.6, 12.0)	122 (0.7)	17 (1.6)	22.8 (0.7)
Transit and Ground Passenger Transportation	50.0 (40.4, 61.9)	NR	84 (0.5)	NR	16.8 (0.5)
Postal Service	36.7 (27.2, 49.5)	NR	43 (0.3)	NR	11.7 (0.4)
Support Activities for Transportation	29.4 (23.0, 37.6)	NR	64 (0.4)	NR	21.8 (0.7)
Transportation and Warehousing, Other	33.6 (21.5, 52.7)	NR	19 (0.1)	NR	5.6 (0.2)
Transportation and Warehousing, Unspecified	-	-	55 (0.3)	9 (0.9)	-
Construction					
Specialty Trade Contractors	23.7 (21.1, 26.5)	1.7 (1.1, 2.6)	293 (1.8)	21 (2.0)	123.9 (3.8)
Construction of Buildings	19.9 (16.4, 24.2)	NR	101 (0.6)	NR	50.8 (1.6)
Heavy and Civil Engineering Construction	13.0 (8.9, 19.1)	NR	26 (0.2)	NR	20 (0.6)
Construction, Unspecified	-	-	455 (2.7)	39 (3.7)	-
Accommodation and Food Services					
Food Services and Drinking Places	43.0 (40.2, 45.9)	2.6 (2.0, 3.4)	884 (5.3)	54 (5.1)	205.7 (6.3)
Accommodation	37.4 (30.7, 45.4)	4.4 (2.5, 7.8)	101 (0.6)	12 (1.1)	27 (0.8)
Retail Trade					
Food and Beverage Stores	56.9 (51.4, 62.9)	3.6 (2.4, 5.3)	383 (2.3)*	24 (2.3)*	67.4 (2.1)
Health and Personal Care Stores	49.5 (39.6, 61.9)	NR	77 (0.5)	NR	15.5 (0.5)
General Merchandise Stores	40.0 (35.6, 45.1)	1.6 (0.9, 2.9)	274 (1.6)	11 (1.0)	68.4 (2.1)
Motor Vehicle and Parts Dealers	37.3 (31.7, 43.8)	NR	148 (0.9)	NR	39.7 (1.2)
Building Material and Garden Equipment and Supplies Dealers	33.5 (27.6, 40.6)	NR	103 (0.6)	NR	30.8 (0.9)
Gasoline Stations	32.4 (24.0, 43.9)	NR	42 (0.3)	NR	13 (0.4)
Retail Trade, Other	15.4 (13.4, 17.6)	NR	209 (1.2)	NR	135.8 (4.2)
Retail Trade, Unspecified	-	-	240 (1.4)	20 (1.9)	-
Other Services (except Public Administration)					
Private Households	93.5 (73.0, 119.6)	NR	63 (0.4)*	NR	6.7 (0.2)
Repair and Maintenance	38.5 (31.5, 47.0)	NR	95 (0.6)	NR	24.7 (0.8)

Table 2. Continued

Industry sector Subsector	COVID-19 case rates per 10,000 workers (95% CI)		COVID-19 case counts (%)		
	PCR positive cases	Hospitalized cases	PCR positive cases	Hospitalized cases	Employment (thousands)
Religious, Grantmaking, Civic, Professional, and Similar Orgs	27.9 (22.6, 34.5)	NR	86 (0.5)	NR	30.8 (0.9)
Personal and Laundry Services	31.5 (25.7, 38.6)	NR	93 (0.6)	NR	29.5 (0.9)
Administrative and Support and Waste Management and Remediation Services					
Waste Management and Remediation Services	51.0 (41.2, 63.1)	NR	84 (0.5)	NR	16.5 (0.5)
Administrative and Support Services	31.1 (28.4, 34.2)	NR	450 (2.7)	NR	144.5 (4.4)
Wholesale Trade					
Merchant Wholesalers, Nondurable Goods	59.2 (52.6, 66.7)	2.6 (1.5, 4.6)	270 (1.6)*	12 (1.1)	45.6 (1.4)
Merchant Wholesalers, Durable Goods	16.2 (13.4, 19.6)	NR	109 (0.7)	NR	67.2 (2.1)
Wholesale Electronic Markets and Agents and Brokers	9.1 (5.5, 15.2)	NR	15 (0.1)	NR	16.4 (0.5)
Wholesale Trade, unspecified	-	NR	8 (0)	NR	-
Public Administration					
Justice, Public Order, and Safety Activities	84.6 (74.8, 95.7)	4.7 (2.8, 7.9)	254 (1.5)*	14 (1.3)*	30 (0.9)
Administration of Human Resource Programs	24.0 (18.4, 31.2)	NR	55 (0.3)	NR	23 (0.7)
Executive, Legislative, and Other General Government Support	12.9 (10.6, 15.7)	NR	101 (0.6)	NR	78.4 (2.4)
Public Administration, Other	10.7 (7.7, 14.7)	NR	37 (0.2)	NR	34.7 (1.1)
Public Administration, Unspecified	-	-	39 (0.2)	5 (0.5)	-
Information					
Telecommunications	31.2 (24.2, 40.4)	NR	58 (0.3)	NR	18.6 (0.6)
Information, Other	6.1 (4.9, 7.6)	NR	81 (0.5)	NR	132.8 (4.1)
Information, unspecified	-	-	5 (0)	NR	-
All other industry sectors	18.4 (17.4, 19.4)	1.2 (1.0, 1.5)	1409 (8.4)	94 (8.9)	766.7 (23.5)
Nonclassifiable	-	-	1299 (7.8)	131 (12.4)	11.8 (0.4)

Some subsectors were grouped within sectors due to small case numbers. Sectors with small numbers, low rates across all subsectors, and sector comprising only one subsector were combined into one group.

NR = Not reportable due to small numbers.

Table 3. COVID-19 cases (PCR positive) by NAICS industry sector and month of event date[a] among workers employed for wages, Washington State, January–June 2020.

	Jan	Feb	Mar	Apr	May	June
Agriculture, Forestry, Fishing and Hunting	NR	NR	74 (1.8)	433 (11.6)	648 (20.1)	743 (13.7)
Health Care and Social Assistance	NR	68 (45.6)	1499 (35.6)	1165 (31.2)	697 (21.6)	1013 (18.7)
Manufacturing	NR	NR	267 (6.3)	531 (14.2)	460 (14.3)	527 (9.7)
Transportation and Warehousing	NR	NR	192 (4.6)	156 (4.2)	99 (3.1)	215 (4.0)
Construction	NR	NR	197 (4.7)	157 (4.2)	156 (4.8)	362 (6.7)
Accommodation and Food Services	NR	NR	189 (4.5)	195 (5.2)	163 (5.1)	431 (7.9)
Retail Trade	NR	NR	285 (6.8)	279 (7.5)	292 (9.0)	615 (11.3)
Other Services (except Public Administration)	NR	NR	93 (2.2)	57 (1.5)	51 (1.6)	133 (2.5)
Administrative and Support and Waste Management and Remediation Services	NR	NR	115 (2.7)	121 (3.2)	106 (3.3)	188 (3.5)
Wholesale Trade	NR	NR	20 (0.5)	41 (1.1)	130 (4.0)	211 (3.9)
Public Administration	NR	NR	154 (3.7)	85 (2.3)	87 (2.7)	156 (2.9)
Finance and Insurance	NR	NR	83 (2.0)	32 (0.9)	35 (1.1)	116 (2.1)
Real Estate and Rental and Leasing	NR	NR	51 (1.2)	27 (0.7)	11 (0.3)	64 (1.2)
Utilities	NR	NR	NR	NR	NR	23 (0.4)
Arts, Entertainment, and Recreation	NR	NR	50 (1.2)	19 (0.5)	22 (0.7)	48 (0.9)
Mining, Quarrying, and Oil and Gas Extraction	NR	NR	NR	NR	NR	NR
Professional, Scientific, and Technical Services	NR	NR	130 (3.1)	55 (1.5)	25 (0.8)	138 (2.5)
Educational Services	NR	NR	170 (4.0)	46 (1.2)	65 (2.0)	149 (2.7)
Information	NR	NR	34 (0.8)	15 (0.4)	22 (0.7)	69 (1.3)
Management of Companies and Enterprises	NR	NR	NR	NR	NR	NR
Nonclassifiable	NR	26 (17.4)	596 (14.2)	304 (8.2)	151 (4.7)	222 (4.1)
Total	2 (100)	149 (100)	4209 (100)	3729 (100)	3227 (100)	5425 (100)

[a]Date of symptom onset or, if symptom onset date is unknown, date of positive test result.

NR = Not reportable due to small numbers.

Table 4. Rate of COVID-19 cases (PCR positive) by NAICS industry sector by month of event date[a], among workers employed for wages, Washington State, March–June 2020. Data presented are cases per 10,000 workers (95% CI).

Industry sector	Mar	Apr	May	Jun
Agriculture, Forestry, Fishing and Hunting	8.5 (6.8, 10.7)	46.8 (42.6, 51.4)	66.3 (61.4, 71.6)	61.9 (57.6, 66.5)
Health Care and Social Assistance	30.4 (28.9, 31.9)	25.3 (23.9, 26.8)	15.1 (14.0, 16.2)	21.3 (20.1, 22.7)
Manufacturing	8.9 (7.9, 10.0)	18.9 (17.4, 20.6)	16.5 (15.1, 18.1)	18.5 (17.0, 20.1)
Transportation and Warehousing	14.7 (12.8, 16.9)	12.8 (10.9, 14.9)	8.2 (6.7, 9.9)	17.4 (15.2, 19.9)
Construction	9.6 (8.4, 11.0)	9.2 (7.9, 10.7)	8.2 (7.0, 9.6)	18.1 (16.4, 20.1)
Accommodation and Food Services	6.9 (6.0, 8.0)	11.0 (9.6, 12.7)	8.9 (7.6, 10.4)	21.0 (19.1, 23.1)
Retail Trade	7.4 (6.6, 8.3)	8.1 (7.2, 9.2)	8.4 (7.5, 9.4)	16.5 (15.3, 17.9)
Other Services (except Public Administration)	9.1 (7.4, 11.2)	7.1 (5.5, 9.3)	6.5 (4.9, 8.5)	15.7 (13.3, 18.7)
Administrative and Support and Waste Management and Remediation Services	6.8 (5.7, 8.2)	8.0 (6.7, 9.6)	7.0 (5.8, 8.4)	12.0 (10.4, 13.9)
Wholesale Trade	1.5 (1.0, 2.3)	3.3 (2.4, 4.5)	10.4 (8.7, 12.3)	16.7 (14.6, 19.1)
Public Administration	9.2 (7.8, 10.7)	5.2 (4.2, 6.4)	5.3 (4.3, 6.6)	9.4 (8.1, 11.0)
Finance and Insurance	8.7 (7.0, 10.8)	3.4 (2.4, 4.8)	3.7 (2.7, 5.2)	12.3 (10.3, 14.8)
Real Estate and Rental and Leasing	8.8 (6.7, 11.6)	5.0 (3.4, 7.3)	2.1 (1.1, 3.7)	11.8 (9.2, 15.0)
Utilities	NR	NR	NR	12.5 (8.3, 18.8)
Arts, Entertainment, and Recreation	6.7 (5.1, 8.8)	4.7 (3.0, 7.3)	6.1 (4.0, 9.3)	10.2 (7.7, 13.5)
Mining, Quarrying, and Oil and Gas Extraction	NR	NR	NR	NR
Professional, Scientific, and Technical Services	5.9 (5.0, 7.0)	2.6 (2.0, 3.4)	1.2 (0.8, 1.8)	6.5 (5.5, 7.7)
Educational Services	5.8 (5.0, 6.7)	1.7 (1.3, 2.2)	2.5 (2.0, 3.2)	5.8 (4.9, 6.8)
Information	2.2 (1.6, 3.1)	1.0 (0.6, 1.7)	1.5 (1.0, 2.2)	4.5 (3.6, 5.8)
Management of Companies and Enterprises	NR	NR	NR	NR
Nonclassifiable	-	-	-	-

[a]Date of symptom onset or, if symptom onset date is unknown, date of positive test result.

NR = Not reportable due to small numbers.