

# COVID-19 Cases by Industry

## Washington, March 2020–April 2021

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## SUMMARY FINDINGS

Certain industries experience a disproportionate risk of COVID-19 infections and hospitalizations, although the risk has changed over time.

Between March 2020 and January 2021, the two industries with the highest monthly case rates were Health Care and Social Assistance and Agriculture, Forestry, Fishing and Hunting. As of March 2021, rates among these two groups fell below the rates of nine other industries. In April 2021, the highest rates of COVID cases occurred in Construction and Accommodation and Food Services, exceeding case rates in all other industries.

Industry trends in case rates likely reflect the combination of vaccine uptake, the adoption of transmission control efforts like use of personal protective equipment, improved ventilation, and telework, and enforcement of workplace safety regulations.

As the pandemic continues to evolve with emerging variants, shifting behaviors, and changing policies, prevention strategies must also continue to adapt to the current environment. Limited data on the industry and occupation of COVID cases impedes development of such strategies. Work information continues to be a relevant piece of information for understanding and controlling this pandemic.

## 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 from March 1, 2020 through April 30, 2021.

## 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 COVID-19 cases, based on the work data collected during the investigation.

COVID case data were cleaned to isolate the first job listed for an individual when multiple jobs were entered. The primary job was then coded based on industry, occupation, and employer data. We compared the employer name as reported in the COVID case investigation to state agency administrative databases in order to identify industry codes associated with employers in Washington’s Worker’s Compensation and Unemployment Insurance programs. Both the Worker’s Compensation and Unemployment Insurance programs classify industry according to the North American Industry Classification System (NAICS). Matching procedures allowed for minor differences in employer names between the COVID case investigation data and the administrative databases. 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. When the employer data was

insufficient for identifying an agency-assigned industry code, cases were uploaded to the NIOSH Industry and Occupation Computerized Coding System (NIOCCS), an auto-coding system that uses machine learning to assign codes based on the industry and occupation narrative text fields. Trained staff at L&I reviewed all cases to ensure that assigned codes were accurate. NAICS codes were cross-walked to Census Industry codes. Cases that did not crosswalk to a Census Industry code were reviewed and assigned a code manually.

We report positive cases of COVID-19, hospitalized COVID cases, and COVID-related deaths in Washington between March 1, 2020 and April 30, 2021 (date of symptom onset or, if symptom onset date is unknown, date of positive test result), based on data collected through May 12, 2021. Positive cases of COVID-19 are defined as positive molecular test or positive antigen test with no positive molecular test. Hospitalized COVID cases and deaths are subsets of positive cases.

We used the 2019 American Community Survey to estimate the number of Washington residents employed by industry and calculate rates of cases, hospitalizations, and deaths, expressed per 10,000 workers. We exclude military personnel and volunteers, but include all other workers including the self-employed and workers employed for wages.

Industry categories with case counts between 1 and 9 do not meet state agency publication standards; they are not reportable and shown as “NR” for not reportable. Negative binomial regression models were used to estimate rates and rate ratios. Statistical significance was defined as  $p < 0.05$ .

## RESULTS

Among Washington’s COVID-19 cases that occurred between March 1, 2020 and April 30, 2021, industry data was collected from 38.6% of cases age 18-64 (approximately working age). The percent of cases age 18-64 with industry data declined over time, from a high of 70.1% of cases in March 2020 to 33.4% of cases in April 2021.

Table 1 presents COVID cases, hospitalizations, and deaths by industry between March 1, 2020 and April 20, 2021. Accounting for 12.9% of Washington’s workforce, Health Care and Social Assistance experienced 19.9% of COVID cases, 20.8% of COVID hospitalizations, and 16.7% of the COVID-related deaths among workers. Retail Trade saw the second highest number of cases ( $n=13,953$ ) and accounted for 12.1% of cases among workers, a proportion slightly greater than their share of the workforce (11.3%).

Table 2 presents rates of COVID cases, hospitalizations, and deaths by industry. Agriculture, Forestry, Fishing and Hunting experienced the highest rate of COVID-19 cases, hospitalizations and deaths. Health Care and Social Assistance had the second highest rate of cases and hospitalizations, while Transportation and Warehousing saw the second highest death rate. Professional, Scientific, and Technical Services had the lowest rate of COVID cases and hospitalizations. Compared to Professional, Scientific, and Technical Services, hospitalization rates were nearly eight times higher among Agriculture, Forestry, Fishing and Hunting, and more than five times higher among Health Care and Social Assistance and Transportation and Warehousing.

Table 1. Distribution of positive COVID-19 cases, hospitalized COVID-19 cases, and deaths from COVID-19 by industry, Washington March 2020 – April 2021. Data Presented are n (%), ordered by number of cases.

INDUSTRY	Positive cases		Hospitalized cases		Deaths		Employment	
	n	(%)	n	(%)	n	(%)	n	(%)
Health Care and Social Assistance	22,980	(19.9)	706	(20.8)	38	(16.7)	484,000	(12.9)
Retail Trade	13,953	(12.1)	353	(10.4)	23	(10.1)	425,000	(11.3)
Manufacturing	10,488	(9.1)	361	(10.6)	24	(10.6)	351,000	(9.3)
Construction	10,113	(8.8)	265	(7.8)	17	(7.5)	272,000	(7.2)
Accommodation and Food Services	8,736	(7.6)	208	(6.1)	18	(7.9)	259,000	(6.9)
Agriculture, Forestry, Fishing, and Hunting	6,040	(5.2)	193	(5.7)	20	(8.8)	94,000	(2.5)
Educational Services	5,984	(5.2)	152	(4.5)	NR	(<4.0)	312,000	(8.3)
Transportation and Warehousing	5,585	(4.8)	248	(7.3)	19	(8.4)	175,000	(4.7)
Administrative and support and waste management services	5,061	(4.4)	187	(5.5)	15	(6.6)	147,000	(3.9)
Public Administration	4,762	(4.1)	141	(4.2)	NR	(<4.0)	190,000	(5.0)
Other Services, Except Public Administration	4,296	(3.7)	116	(3.4)	NR	(<4.0)	184,000	(4.9)
Professional, Scientific, and Technical Services	4,231	(3.7)	95	(2.8)	NR	(<4.0)	366,000	(9.7)
Wholesale Trade	3,883	(3.4)	107	(3.2)	NR	(<4.0)	104,000	(2.8)
Finance and Insurance	2,759	(2.4)	66	(1.9)	NR	(<4.0)	109,000	(2.9)
Real Estate and Rental and Leasing	2,113	(1.8)	57	(1.7)	NR	(<4.0)	79,000	(2.1)
Information	1,887	(1.6)	48	(1.4)	NR	(<4.0)	85,000	(2.2)
Arts, Entertainment, and Recreation	1,664	(1.4)	72	(2.1)	NR	(<4.0)	87,000	(2.3)
Utilities	637	(0.6)	14	(0.4)	NR	(<4.0)	30,000	(0.8)
Management of companies and enterprises	123	(0.1)	NR	(<0.2)	NR	(<4.0)	7,000	(0.2)
Mining, Quarrying, and Oil and Gas Extraction	78	(0.1)	NR	(<0.2)	NR	(<4.0)	4,000	(0.1)
TOTAL	115,373	(100)	3392	(100)	227	(100)	3,763,000	(100)

Source: Author’s calculations of Washington State Department of Health data and 2019 American Community Survey data.

NR = Not reportable due to small numbers.

Table 2. Rates of positive COVID-19 cases, hospitalized COVID-19 cases, and death from COVID-19 by industry, Washington March 2020 – April 2021. Data presented are rate (cases per 10,000 workers) and 95% confidence interval.

INDUSTRY	Case Rate	Hospitalized case rate	Fatality rate
Agriculture, Forestry, Fishing, and Hunting	645.6 (629.5, 662.1)	20.6 (17.9, 23.8)	2.1 (1.4, 3.3)
Health Care and Social Assistance	474.7 (468.6, 480.9)	14.6 (13.5, 15.7)	0.8 (0.6, 1.1)
Wholesale Trade	373.7 (362.1, 385.6)	10.3 (8.5, 12.4)	NR)
Construction	371.7 (364.5, 379.0)	9.7 (8.6, 11.0)	0.6 (0.4, 1.0)
Administrative and support and waste management services	343.3 (333.9, 352.8)	12.7 (11.0, 14.6)	1.0 (0.6, 1.7)
Accommodation and Food Services	337.9 (330.9, 345.0)	8.0 (7.0, 9.2)	0.7 (0.4, 1.1)
Retail Trade	327.9 (322.5, 333.4)	8.3 (7.5, 9.2)	0.5 (0.4, 0.8)
Transportation and Warehousing	318.4 (310.2, 326.9)	14.1 (12.5, 16.0)	1.1 (0.7, 1.7)
Manufacturing	299.1 (293.4, 304.9)	10.3 (9.3, 11.4)	0.7 (0.5, 1.0)
Public Administration	288.0 (279.9, 296.3)	8.5 (7.2, 10.1)	NR
Real Estate and Rental and Leasing	268.3 (257.1, 280.0)	7.2 (5.6, 9.4)	NR
Finance and Insurance	253.0 (243.7, 262.6)	6.1 (4.8, 7.7)	NR
Other Services, Except Public Administration	234.0 (227.1, 241.1)	6.3 (5.3, 7.6)	NR
Information	223.1 (213.2, 233.3)	5.7 (4.3, 7.5)	NR
Utilities	211.0 (195.2, 228.0)	4.6 (2.7, 7.8)	NR
Mining, Quarrying, and Oil and Gas Extraction	192.7 (154.3, 240.6)	NR	NR
Educational Services	191.8 (187.0, 196.7)	4.9 (4.2, 5.7)	NR
Arts, Entertainment, and Recreation	191.5 (182.5, 200.9)	8.3 (6.6, 10.4)	NR
Management of companies and enterprises	164.2 (137.6, 195.9)	NR	NR
Professional, Scientific, and Technical Services	115.6 (112.2, 119.2)	2.6 (2.1, 3.2)	NR

Source: Author’s calculations of Washington State Department of Health data and 2019 American Community Survey data.  
 NR = Not reportable due to small numbers.

Table 3 presents COVID rates by industry and month. The monthly case rate among Health Care and Social Assistance was higher than any other industry in March 2020 and again in October through December 2020. From April 2020 through September 2020, the case rate among Agriculture, Forestry, Fishing and Hunting exceeded the rate of any other industry. Nearly all industries saw their highest case rate in November 2020; one notable exception was Agriculture, Forestry, Fishing and Hunting which experienced its highest rate, 100.5 cases per 10,000 workers, in July 2020. As of March 2021, rates among Health Care and Social Assistance and Agriculture, Forestry, Fishing and Hunting fell below the rates of nine other industries. In April 2021, the highest rates of COVID cases occurred in Construction and Accommodation and Food Services, exceeding case rates in all other industries.

Figure 1 presents the trends in cases over time for the eight industries with the highest number of cases. Case counts were standardized to the total population to allow for direct comparisons between groups. Figures were overlaid with observed (unstandardized) counts for the eight industries, presented on the secondary axis, to show total case numbers.

Health Care and Social Assistance, Manufacturing, and Agriculture, Forestry, Fishing and Hunting – industries largely made up of workers who continued to work outside the home during the initial months of the pandemic – experienced a surge of cases early in the pandemic when case numbers were relatively low among other industries.

In March and April 2021, while most industries were experiencing another increase in cases, cases among Health Care and Social Assistance and Agriculture, Forestry, Fishing and Hunting remained relatively low. Retail Trade, Construction, and Accommodation and Food Services, which had low numbers of case in the early months of the pandemic, saw their share of cases increase compared to other industries during those same months.

Educational Services, which experienced relatively few cases during the first six months of the pandemic, saw the bulk of their cases occur between November 2020 and March 2021. The trend among Transportation and Warehousing generally followed the trend among all industries.

Table 4 presents the average monthly percent change (AMPC) in COVID-19 case rates by industry, from the peak in November 2020 through April 2021. Although point estimates suggested that all twenty industries experienced a decline in rates of some magnitude, rate decreases were statistically significant for nine industries. The greatest decline in case rates was observed among Health Care and Social Assistance, with an average monthly decrease of 30.2% (95% CI: -12.4%, -44.3%).

Table 5 presents COVID-19 cases and hospitalizations by detailed industry. Case and Hospitalization rates varied widely within Industries. For example, Manufacturing saw both some of the highest rates and the lowest rates (Food Manufacturing and Chemical Manufacturing, respectively). Even within Health Care and Social Assistance, rates varied by detailed industry, where hospitalized case rates among Skilled Nursing Care Facilities were two and a half times higher than among Hospitals, and more than five times higher than among Outpatient Care Centers. The highest hospitalization rate observed was among Support Activities for Agriculture and Forestry (46.7 hospitalized cases per 10,000 workers). Skilled Nursing Care Facilities, Residential Care Facilities, and Food Manufacturing also experienced high rates of hospitalized cases, with rates approaching or exceeding 30 cases per 10,000 workers.



## CONCLUSION

Certain industries experience a disproportionate risk of COVID-19 infections and hospitalizations, but the risk changes over time. Trends in rates reflect the combination of the adoption of transmission control efforts like use of personal protective equipment, improved ventilation, and social distancing, telework, school closures, and enforcement of workplace safety regulations. The declines in rates throughout 2021 observed among Health Care and Social Assistance relative to other industries suggest that vaccines, initially available only to frontline healthcare workers, were effective in reducing the burden of COVID-19 among this group of workers. The substantial decline in rates among Agriculture, Forestry, Fishing and Hunting in 2021 compared to their rates in 2020 provides another example of successful mitigation efforts which included adoption of emergency rules for farmworker housing and issuing substantial workplace safety and health fines for non-compliant employers.

Industries currently in need of better prevention efforts appear to include Construction and Accommodation and Food Services, two industries that experienced the highest positive COVID case rates in April 2021.

The pandemic continues to evolve as variants emerge, behaviors shift, and policies change. Prevention strategies must also continue to adapt to the current environment; however, limited data on the industry and occupation of COVID cases impedes development of such strategies. Collection of these data elements has declined over time. In April, just one in three cases among working age adults included industry and occupation data; for hospitalized cases, it was less than one in four cases. For deaths among working-age cases reported between January 2021 and April 2021, less than 12% included industry and occupation data. Work information continues to be a relevant piece of information for understanding and controlling this pandemic. Efforts to collect or otherwise ascertain this information should not be diminished.

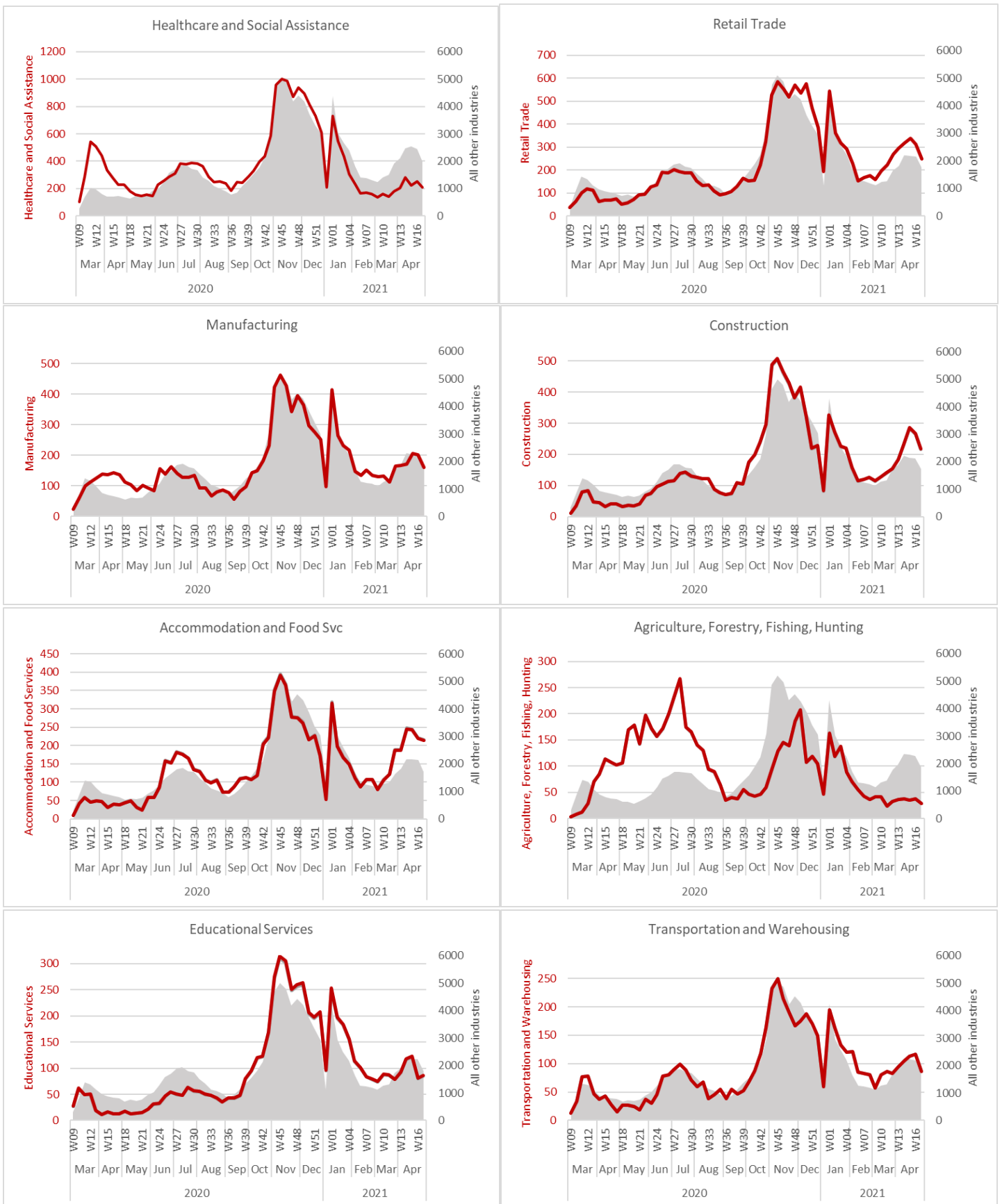
Table 3. Rates of COVID cases (cases per 10,000 workers) by industry and month, Washington March 2020–April 2021. Shaded boxes indicate the industry with the highest case rate for that month. Rates in bold red font indicate the month during which each industry experienced its highest case rate.

INDUSTRY	Cases	2020										2021			
		Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Health Care and Social Assistance	22,980	34.2	25.3	14.7	21.4	34.5	26.1	20.3	39.3	<b>84.9</b>	76.3	46.8	14.6	14.8	21.7
Retail Trade	13,953	8.5	7.6	7.2	14.7	19.7	13.8	11.6	21.5	<b>55.5</b>	55.3	41.0	16.6	23.6	31.4
Manufacturing	10,488	9.6	17.2	12.9	15.2	17.3	10.8	9.5	21.4	<b>50.1</b>	42.3	35.7	16.0	17.8	23.2
Construction	10,113	8.5	6.3	6.0	14.1	20.9	18.7	12.9	35.1	<b>73.0</b>	53.1	42.1	18.5	22.7	39.7
Accommodation and Food Services	8736	6.9	6.8	6.4	16.8	27.8	18.5	15.5	26.9	<b>57.4</b>	41.4	35.2	15.9	22.9	39.2
Agriculture, Forestry, Fishing, and Hunting	6040	8.4	44.8	69.3	79.7	<b>100.5</b>	53.7	20.4	22.8	59.3	71.8	60.0	22.0	16.7	16.2
Educational Services	5984	6.3	1.9	2.1	4.8	7.8	6.7	6.4	17.3	<b>38.6</b>	33.6	28.9	11.5	11.7	14.4
Transportation and Warehousing	5585	12.7	8.5	5.9	12.4	22.4	13.3	11.9	26.2	<b>53.4</b>	45.7	39.1	20.7	20.1	26.3
Administrative and support and waste management services	5061	8.9	9.4	7.6	13.7	25.0	17.0	12.8	29.8	<b>67.1</b>	52.8	37.4	14.6	16.1	31.0
Public Administration	4762	10.3	5.7	4.9	8.4	15.5	9.7	8.1	19.5	48.8	<b>49.2</b>	34.1	9.8	11.2	15.8
Other Services, Except Public Administration	4296	5.9	3.7	3.2	8.2	13.7	9.9	7.7	19.9	<b>42.9</b>	37.5	31.2	12.1	16.1	21.9
Professional, Scientific, and Technical Services	4231	3.6	1.5	0.7	4.0	6.6	3.8	3.2	10.8	<b>20.1</b>	17.9	16.6	5.7	8.9	12.2
Wholesale Trade	3883	8.9	8.2	13.6	20.7	23.2	24.2	13.0	24.9	<b>65.9</b>	53.1	42.6	18.7	24.9	31.8
Finance and Insurance	2759	8.6	3.2	3.2	10.8	15.9	9.7	10.1	22.5	<b>45.9</b>	35.7	31.3	13.8	16.9	25.5
Real Estate and Rental and Leasing	2113	10.9	5.0	1.5	9.3	14.0	11.7	11.4	24.3	<b>47.0</b>	35.7	36.3	15.4	19.3	26.7
Information	1887	9.2	3.0	3.1	8.3	12.6	6.6	7.1	18.6	<b>35.5</b>	33.0	31.4	11.1	17.0	26.6
Arts, Entertainment, and Recreation	1664	9.8	3.0	2.6	5.8	12.0	6.8	6.4	17.1	<b>37.4</b>	26.5	18.4	9.0	12.7	24.1
Utilities	637	3.3	2.3	2.0	7.9	14.9	8.3	4.3	16.6	<b>44.7</b>	33.5	25.8	11.6	16.6	19.2
Management of companies and enterprises	123	NR	NR	NR	NR	NR	NR	6.7	32.0	<b>26.7</b>	14.7	13.3	8.0	22.7	22.7
Mining, Quarrying, and Oil and Gas Extraction	78	NR	NR	NR	NR	NR	NR	7.4	19.8	<b>44.5</b>	37.1	27.2	24.7	4.9	19.8
<b>Total cases among workers</b>	<b>115,373</b>	<b>4277</b>	<b>3717</b>	<b>3145</b>	<b>5337</b>	<b>7915</b>	<b>5511</b>	<b>4233</b>	<b>9081</b>	<b>20,189</b>	<b>17,478</b>	<b>13,437</b>	<b>5342</b>	<b>6415</b>	<b>9296</b>

Source: Author’s calculations of Washington State Department of Health data and 2019 American Community Survey data.

NR = Not reportable due to small numbers.

Figure 1. Trends in weekly cases among select industries compared to cases among all other industries, Washington.



Source: Author's calculations of Washington State Department of Health data.

Table 4. Average monthly percent change (AMPC) in COVID-19 case rates by industry, from the peak in November 2020 through April 2021. Data presented are AMPC and 95% confidence interval (CI).

INDUSTRY	AMPC	95% CI
Health Care and Social Assistance	-30.2%	(-12.4%, -44.3%)
Agriculture, Forestry, Fishing, and Hunting	-26.5%	(-3.7%, -43.9%)
Public Administration	-26.4%	(-6.5%, -42.1%)
Educational Services	-22.3%	(-8.2%, -34.2%)
Administrative and Support and Waste Management Svc	-20.1%	(+0.6%, -36.5%)
Utilities	-19.1%	(-4.3%, -31.6%)
Mining, Quarrying, and Oil and Gas Extraction	-18.9%	(+0.7%, -34.6%)
Manufacturing	-18.6%	(-4.7%, -30.5%)
Wholesale Trade	-17.6%	(-2.3%, -30.5%)
Other Services, Except Public Administration	-17.2%	(-0.4%, -31.2%)
Transportation and Warehousing	-17.2%	(-5.1%, -27.7%)
Construction	-16.0%	(+4.3%, -32.4%)
Retail Trade	-16.0%	(+1.7%, -30.6%)
Finance and Insurance	-15.3%	(+2.0%, -29.6%)
Real Estate and Rental and Leasing	-14.2%	(+2.3%, -28.1%)
Professional, Scientific, and Technical Services	-13.8%	(+5.1%, -29.3%)
Arts, Entertainment, and Recreation	-12.5%	(+12.3%, -31.9%)
Accommodation and Food Services	-10.9%	(+11.1%, -28.6%)
Information	-10.3%	(+10.8%, -27.3%)
Management of companies and enterprises	-0.5%	(+28.0%, -22.6%)

Source: Author's calculations of Washington State Department of Health data and 2019 American Community Survey data.

Table 5. Positive COVID-19 cases and hospitalizations by detailed industry, Washington March 2020 – April 2021. Ordered by rate of hospitalized cases.

INDUSTRY	Positive Cases	Cases per 10,000 workers	Hospitalized cases	Hosp. per 10,000 workers
<b>Agriculture, Forestry, Fishing, and Hunting (all)</b>	<b>6040</b>	<b>645.6</b>	<b>193</b>	<b>20.6</b>
Support activities for agriculture and forestry	1915	1986.9	45	46.7
Crop production	3349	553.4	116	19.2
Animal production and aquaculture	354	373.1	15	15.8
Forestry except logging	28	151.4	NR	NR
Logging	76	146.5	NR	NR
Fishing, hunting and trapping	93	135.3	NR	NR
Agriculture, Forestry, Fishing, and Hunting , unspecified	225	-	11	-
<b>Health Care and Social Assistance (all)</b>	<b>22,980</b>	<b>474.7</b>	<b>706</b>	<b>14.6</b>
Nursing care facilities (skilled nursing facilities)	2676	1083.1	87	35.2
Residential care facilities, except skilled nursing facilities	2775	899.7	91	29.5
Individual and family services	2212	488.1	93	20.5
Offices of physicians	1890	613.4	48	15.6
Hospitals	5950	405.5	204	13.9
Home health care services	920	322.6	33	11.6
Offices of dentists	1075	371.2	33	11.4
Child day care services	1712	480.3	33	9.3
Community food and housing, and emergency services	259	426.2	NR	NR
Offices of other health practitioners	528	575.2	NR	NR
Outpatient care centers	1398	246.9	37	6.5
Other health care services	379	137.5	11	4.0
Offices of optometrists	130	415.3	NR	NR
Offices of chiropractors	218	415.0	NR	NR
Vocational rehabilitation services	115	245.2	NR	NR
Health Care and Social Assistance, unspecified	743	-	18	-
<b>Transportation and Warehousing (all)</b>	<b>5585</b>	<b>318.4</b>	<b>248</b>	<b>14.1</b>
Truck transportation	1129	338.7	72	21.6
Services incidental to transportation	903	418.1	46	21.3
Bus service and urban transit	450	287.9	28	17.9
Postal Service	445	346.4	18	14.0
Rail transportation	158	342.4	NR	NR
Warehousing and storage	500	274.6	19	10.4
Couriers and messengers	959	351.6	25	9.2
Air transportation	700	342.5	17	8.3
Water transportation	83	133.2	NR	NR
Taxi and limousine service	196	133.2	11	7.5
Transportation and Warehousing, other	7	131.8	0	0.0
Transportation and Warehousing, unspecified	55	-	1	-

INDUSTRY	Positive Cases	Cases per 10,000 workers	Hospitalized cases	Hosp. per 10,000 workers
<b>Administrative and support and waste management svc (all)</b>	<b>5061</b>	<b>343.3</b>	<b>187</b>	<b>12.7</b>
Services to buildings and dwellings (except cleaning during construction and immediately after construction)	1753	464.9	70	18.6
Landscaping services	1248	480.6	46	17.7
Waste management and remediation services	735	532.0	24	17.4
Investigation and security services	531	304.4	19	10.9
Business support services	183	207.7	NR	NR
Employment services	354	154.7	17	7.4
Other administrative and other support services	189	207.9	NR	NR
Travel arrangements and reservation services	59	50.4	NR	NR
Administrative and support and waste management, unspecified	9	-	0	-
<b>Wholesale Trade (all)</b>	<b>3883</b>	<b>373.7</b>	<b>107</b>	<b>10.3</b>
Merchant Wholesalers, Durable Goods	1892	366.3	58	11.2
Merchant Wholesalers, Non-Durable Goods	1784	360.6	46	9.3
Wholesale Electronic Markets and Agents and Brokers	207	744.9	NR	NR
<b>Manufacturing (all)</b>	<b>10,488</b>	<b>299.1</b>	<b>361</b>	<b>10.3</b>
Food	3071	800.4	115	30.0
Petroleum and coal products	166	520.9	NR	NR
Electrical equipment, appliances, and components	92	145.1	10	15.8
Nonmetallic mineral products	310	363.3	13	15.2
Printing and related support activities	165	309.8	NR	NR
Wood products	474	367.5	14	10.9
Transportation equipment	2457	199.9	103	8.4
Metal and metal products	765	263.3	22	7.6
Miscellaneous manufacturing	664	235.1	21	7.4
Paper	282	287.6	NR	NR
Machinery	432	254.3	12	7.1
Furniture and related product manufacturing	210	268.2	NR	NR
Beverage and tobacco products	371	443.1	NR	NR
Computer and electronic products	320	120.3	NR	NR
Chemicals	219	146.3	NR	NR
Leather and allied products	25	269.4	0	0.0
Apparel	56	249.1	0	0.0
Plastics and rubber products	303	598.1	NR	NR
Textile mills and textile products	79	263.0	NR	NR
Manufacturing, unspecified	27	-	3	-
<b>Construction</b>	<b>10,113</b>	<b>371.7</b>	<b>265</b>	<b>9.7</b>

INDUSTRY	Positive Cases	Cases per 10,000 workers	Hospitalized cases	Hosp. per 10,000 workers
<b>Retail Trade (all)</b>	<b>13,953</b>	<b>327.9</b>	<b>353</b>	<b>8.3</b>
Other direct selling establishments	831	667.2	19	15.3
Gasoline stations	320	336.7	13	13.7
Department and other general merchandise stores	2987	500.2	73	12.2
Building material and garden equipment and supplies dealers	1042	340.5	34	11.1
Food and beverage stores	2251	286.1	77	9.8
Motor vehicle and motor vehicle parts and supplies merchant wholesalers	1712	411.4	36	8.7
Electronic shopping and mail-order houses	1934	363.7	41	7.7
Health and personal care, except drugstores	179	226.5	NR	NR
Furniture and home furnishing merchant wholesalers	354	272.3	NR	NR
Used merchandise, gift, novelty, and souvenir, and other miscellaneous stores	573	209.5	14	5.1
Sporting goods, and hobby and toy stores	295	172.2	NR	NR
Pharmacies and drug stores	392	300.9	NR	NR
Clothing and accessories, including shoe stores	657	208.9	NR	NR
Vending machine operators	16	199.3	0	0.0
Musical instrument and supplies stores	17	167.3	0	0.0
Book stores and news dealers	17	136.9	0	0.0
Fuel dealers	24	80.2	0	0.0
Office supplies and stationery stores	86	357.3	NR	NR
Florists	33	289.2	NR	NR
Sewing, needlework, and piece goods stores	40	270.3	NR	NR
Jewelry, luggage, and leather goods stores	58	144.3	NR	NR
Electronics stores	71	48.0	NR	NR
Retail Trade, unspecified	64	-	1	-
<b>Arts, Entertainment, and Recreation (all)</b>	<b>1664</b>	<b>191.5</b>	<b>72</b>	<b>8.3</b>
Amusement, Gambling, and Recreation Industries	1384	254.6	60	11.0
Performing Arts, Spectator Sports, and Related Industries	209	101.1	10	4.8
Museums, Historical Sites, and Similar Institutions	58	49.0	NR	NR
Arts, Entertainment, and Recreation, unspecified	13	-	NR	NR
<b>Accommodation and Food Services (all)</b>	<b>8736</b>	<b>337.9</b>	<b>208</b>	<b>8.0</b>
Drinking places, alcoholic beverages	260	732.4	NR	NR
Traveler accommodation	877	273.7	33	10.3
Restaurants and other food services	7539	341.6	167	7.6
Recreational vehicle parks and camps, and rooming and boarding houses, dormitories, and workers' camps	56	243.4	NR	NR
Accommodation and Food Services, unspecified	4	-	NR	NR

INDUSTRY	Positive Cases	Cases per 10,000 workers	Hospitalized cases	Hosp. per 10,000 workers
<b>Public Administration (all)</b>	<b>4762</b>	<b>251.1</b>	<b>141</b>	<b>7.4</b>
Executive, Legislative, and Other General Government Support	1378	301.8	51	11.2
Justice, public order, and safety activities	2203	391.7	48	8.5
Administration of human resource programs	623	175.4	27	7.6
Administration of economic programs and space research	295	174.4	11	6.5
Administration of environmental quality and housing programs	140	126.9	NR	NR
Public Administration, unspecified	123	-	NR	NR
<b>Real Estate and Rental and Leasing (all)</b>	<b>2113</b>	<b>268.3</b>	<b>57</b>	<b>7.2</b>
<b>Other Services, Except Public Administration (all)</b>	<b>4296</b>	<b>234.0</b>	<b>116</b>	<b>6.3</b>
Personal and laundry services	1602	261.6	43	7.0
Repair and maintenance	1012	238.2	32	7.5
Private households	496	249.2	12	6.0
Religious, grant making, civic, professional, and similar organizations	1180	196.7	28	4.7
Other Services, Except Public Administration, unspecified	6	-	1	-
<b>Finance and Insurance</b>	<b>2759</b>	<b>253.0</b>	<b>66</b>	<b>6.1</b>
<b>Information</b>	<b>1887</b>	<b>223.0</b>	<b>48</b>	<b>5.7</b>
<b>Educational Services (all)</b>	<b>5984</b>	<b>191.8</b>	<b>152</b>	<b>4.9</b>
Elementary and secondary schools	4486	223.6	112	5.6
Other schools and instruction, and educational support services	288	134.7	NR	NR
Colleges, universities, and professional schools, including junior colleges	1066	123.8	28	3.3
Business, technical, and trade schools and training	96	248.7	NR	NR
Educational Services, unspecified	48	-	NR	NR
<b>Utilities</b>	<b>637</b>	<b>211.0</b>	<b>14</b>	<b>4.6</b>
<b>Management of companies and enterprises</b>	<b>123</b>	<b>164.2</b>	NR	NR
<b>Professional, Scientific, and Technical Services</b>	<b>4231</b>	<b>115.6</b>	<b>95</b>	<b>2.6</b>
<b>Mining, Quarrying, and Oil and Gas Extraction</b>	<b>78</b>	<b>192.7</b>	NR	NR

Source: Author's calculations of Washington State Department of Health data and 2019 American Community Survey data.

NR = Not reportable due to small numbers.