

	GENERAL POPULATION RATES (NOT ADJUSTED)		EXPECTED RATES AMONG AMAZON EMPLOYEES (ADJUSTED FOR AGE)		ACTUAL RATES AMONG AMAZON EMPLOYEES	
State	State Cases Per 1000 People	State Case Rates	Amazon Expected Cases Per 1000 People	Amazon Expected Case Rates	Amazon Actual Cases Per 1000 People	Amazon Actual Case Rates
Total	20.6	2.06%	24.7	2.47%	14.4	1.44%
Alaska	9.1	0.91%	N/A	N/A	N/A	N/A
Alabama	29.5	2.95%	38.6	3.86%	24.0	2.40%
Arkansas	24.9	2.49%	N/A	N/A	N/A	N/A
Arizona	29.8	2.98%	38.7	3.87%	19.9	1.99%
California	19.8	1.98%	25.4	2.54%	14.6	1.46%
Colorado	11.3	1.13%	13.8	1.38%	6.8	0.68%
Connecticut	15.5	1.55%	19.7	1.97%	7.8	0.78%
District of Columbia	21.2	2.12%	25.9	2.59%	8.2	0.82%
Delaware	20.1	2.01%	24.7	2.47%	9.5	0.95%
Florida	32.0	3.20%	38.2	3.82%	24.9	2.49%
Georgia	29.0	2.90%	35.8	3.58%	18.8	1.88%
Hawaii	8.0	0.80%	8.6	0.86%	6.7	0.67%
Iowa	25.3	2.53%	N/A	N/A	N/A	N/A
Idaho	21.2	2.12%	25.0	2.50%	17.2	1.72%
Illinois	21.6	2.16%	27.1	2.71%	13.8	1.38%
Indiana	16.6	1.66%	20.0	2.00%	13.9	1.39%
Kansas	18.0	1.80%	22.5	2.25%	18.0	1.80%
Kentucky	13.7	1.37%	16.4	1.64%	10.3	1.03%
Louisiana	34.4	3.44%	40.9	4.09%	14.8	1.48%
Massachusetts	18.4	1.84%	22.2	2.22%	10.8	1.08%
Maryland	19.8	1.98%	24.7	2.47%	12.1	1.21%
Maine	3.8	0.38%	N/A	N/A	N/A	N/A
Michigan	12.8	1.28%	16.3	1.63%	9.6	0.96%
Minnesota	15.8	1.58%	19.1	1.91%	31.7	3.17%
Missouri	18.4	1.84%	23.3	2.33%	11.1	1.11%
Mississippi	31.2	3.12%	39.2	3.92%	20.3	2.03%
Montana	9.6	0.96%	N/A	N/A	N/A	N/A
North Carolina	18.5	1.85%	23.0	2.30%	10.6	1.06%
North Dakota	23.2	2.32%	N/A	N/A	N/A	N/A
Nebraska	21.1	2.11%	25.9	2.59%	10.5	1.05%
New Hampshire	5.8	0.58%	7.0	0.70%	6.7	0.67%
New Jersey	22.4	2.24%	27.1	2.71%	13.5	1.35%
New Mexico	13.1	1.31%	N/A	N/A	N/A	N/A
Nevada	24.9	2.49%	31.9	3.19%	24.5	2.45%
New York	23.0	2.30%	28.9	2.89%	11.5	1.15%
Ohio	12.3	1.23%	15.3	1.53%	11.5	1.15%
Oklahoma	19.2	1.92%	24.1	2.41%	11.2	1.12%
Oregon	7.3	0.73%	9.1	0.91%	5.9	0.59%
Pennsylvania	12.0	1.20%	14.4	1.44%	10.1	1.01%
Rhode Island	22.3	2.23%	27.8	2.78%	10.5	1.05%
South Carolina	27.0	2.70%	33.5	3.35%	17.3	1.73%
South Dakota	20.9	2.09%	N/A	N/A	N/A	N/A
Tennessee	26.8	2.68%	33.9	3.39%	18.3	1.83%
Texas	24.7	2.47%	30.9	3.09%	19.3	1.93%
Utah	19.9	1.99%	25.8	2.58%	12.4	1.24%
Virginia	16.4	1.64%	20.4	2.04%	9.4	0.94%
Vermont	2.7	0.27%	N/A	N/A	N/A	N/A
Washington	10.9	1.09%	13.5	1.35%	5.8	0.58%
Wisconsin	17.1	1.71%	21.3	2.13%	14.3	1.43%
West Virginia	7.7	0.77%	9.4	0.94%	13.1	1.31%
Wyoming	8.3	0.83%	N/A	N/A	N/A	N/A

* States marked as "N/A" have less than 1000 Amazon employees, which is too small of a population for meaningful analysis. In states where we have between 1-999 employees, the Amazon employee case rate is not statistically different from the state case rate.

* Amazon data includes both Amazon and Whole Foods Market front-line employees.

* For external data, we use the U.S. Census to get the population by age for every county and state.

* Johns Hopkins University data captures the cumulative number of cases by state (as of Sep 19).

* The employee population includes all employees who have ever worked at Amazon from Mar 01-Sep 19.

* The case counts include both confirmed and presumed cases for all employees who have ever worked at Amazon from Mar 01-Sep 19.

* When calculating rates, we distribute the employees with missing location information across states in proportion to the non-missing data.

* Case rates are known to differ by age across the population. However, few states report the breakdown of cases by age.

* We selected Missouri as a source for the age-imputations, as it reports cases at every age level.

* Along with Missouri data, we use the age distribution of the population in each state, and Bayes rule to impute the total cases in each state per five-year age bands.

* Adjusting expected rates for age reduces statistical bias in the difference between expected and actual Amazon rates as compared to naively using an overall statewide average. Recently, case counts skew towards a younger population making the age adjusted rates higher than the general population rates within a state.

* To determine whether our estimates differ from the population, we create statistical bands around the expected rates. We assume cases are distributed by a simple Poisson distribution to compute lower and upper bounds (not shown here).