

Colorado Vaccine Distribution Disparity Research

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Terry (Terrence) O'Brien, CPA (retired)

- 1) Project initiated as a personal project to confirm or refute a Delta County Commissioner's public assertion that Delta County was not receiving enough COVID vaccination doses due to political bias.**
- 2) Project was expanded by CCRC staff to research the current county (LPHA or other) order fulfillment process.**
- 3) Delta County Commissioner Don Suppes (R) provided a chart showing Age 70+ population by all counties and vaccine doses shipped by the State to 16 selected counties as of 1/29/2021.**
- 4) Colorado State Assembly Representative, the Honorable Matt Soper (R), provided a count of 344,861 State Health Care/First Responders to vaccinate as part of Phases 1A and 1B.1. This amount was then allocated based on an average of relative county population and Age 70+ population.**
- 5) Most current available vaccine doses were derived by KDVR Fox News article posted February 9, 2021: <https://kdvr.com/news/coronavirus/why-are-two-counties-getting-twice-their-share-of-vaccines/>**

This chart shows the possible disparity in the COVID vaccine distribution to individual counties. It takes the actual Age 70+ population of each county and adds the allocation of the 344,861 Health/First Responders, for an estimate of vaccine doses required for Phase 1A & 1B.1.

The counties are colorized either RED, BLUE, or PURPLE based on the voting percentages in the US 2020 Presidential Election. PURPLE counties were within 2% of the vote percentage to each candidate.

Although the chart shows that 10 of the top 12 oversubscribed counties are BLUE, the chart also shows that the top 2 undersubscribed counties are also BLUE. And 4 out of the top 8 undersubscribed counties are BLUE.

Health Equity and Equality Analysis of Vaccine Distribution						
Sorted by most Dose Undersubscribed Counties						
	County	State	Medical & Front Line	Estimated Phase 1A & Phase 1B.1	Derived Doses Shipped	Inequity of Doses Shipped
Index	Colorized From Vote Percent	Age 70+ Population	Est. by Avg.	Phase 1A & Phase 1B.1	Shipped	Shipped
1	Arapahoe	57,473	37,514	94,987	46,000	-48,987
2	Jefferson	63,994	37,333	101,327	64,100	-37,227
3	Weld	26,807	18,044	44,851	26,000	-18,851
4	Douglas	27,936	19,193	47,129	35,100	-12,029
5	El Paso	63,657	41,347	105,004	93,700	-11,304
6	Fremont	7,570	3,784	11,354	3,800	-7,554
7	Larimer	38,382	22,610	60,992	53,500	-7,492
8	Broomfield	7,192	4,344	11,536	5,600	-5,936
9	Mesa	20,949	11,125	32,074	26,200	-5,874
10	Delta	6,027	2,805	8,832	4,400	-4,432
11	Teller	3,800	1,941	5,741	1,500	-4,241
12	Montrose	7,295	3,547	10,842	6,800	-4,042
13	Elbert	2,766	1,660	4,426	500	-3,926
14	Archuleta	2,473	1,188	3,661	700	-2,961
15	Park	2,382	1,304	3,686	900	-2,786
16	Morgan	3,390	1,924	5,314	4,400	-914
17	Montezuma	4,027	2,035	6,062	5,200	-862
18	Chaffee	3,724	1,766	5,490	4,700	-790
19	Rio Grande	1,602	835	2,437	1,700	-737
20	Clear Creek	1,243	677	1,920	1,200	-720
21	Bent	1,030	487	1,517	800	-717
22	Ouray	911	431	1,342	800	-542
23	Custer	1,109	496	1,605	1,100	-505
24	Washington	707	367	1,074	600	-474
25	Crowley	650	383	1,033	600	-433
26	Logan	2,681	1,504	4,185	3,800	-385
27	Saguache	1,100	546	1,646	1,300	-346
28	Conejos	1,135	598	1,733	1,400	-333
29	Dolores	410	189	599	300	-299
30	Huerfano	1,571	695	2,266	2,000	-266
31	Prowers	1,476	823	2,299	2,100	-199
32	Kit Carson	845	475	1,320	1,200	-120

Health Equity and Equality Analysis of Vaccine Distribution						
Sorted by most Dose Oversubscribed Counties						
	County	State	Medical & Front Line	Estimated Phase 1A & Phase 1B.1	Derived Doses Shipped	Inequity of Doses Shipped
Index	Colorized From Vote Percent	Age 70+ Population	Est. by Avg.	Phase 1A & Phase 1B.1	Shipped	Shipped
1	Adams	36,089	26,704	62,793	139,700	76,907
2	Denver	56,703	39,390	96,093	145,400	49,307
3	Boulder	30,938	19,378	50,316	58,700	8,384
4	Pueblo	21,928	11,855	33,783	42,100	8,317
5	Eagle	4,178	2,949	7,127	15,400	8,273
6	La Plata	6,254	3,626	9,880	16,900	7,020
7	Alamosa	1,511	955	2,466	7,600	5,134
8	Summit	2,719	1,773	4,492	8,700	4,208
9	Gunnison	1,479	982	2,461	6,100	3,639
10	Routt	2,529	1,553	4,082	6,200	2,118
11	Garfield	5,022	3,359	8,381	10,200	1,819
12	Pitkin	2,320	1,253	3,573	4,800	1,227
13	Rio Blanco	722	414	1,136	2,100	964
14	Sedgwick	434	202	636	1,600	964
15	Moffet	1,395	831	2,226	3,100	874
16	Kiowa	223	111	334	1,200	866
17	Phillips	738	357	1,095	1,800	705
18	San Juan	139	65	204	800	596
19	San Miguel	704	464	1,168	1,600	432
20	Cheyenne	251	133	384	800	416
21	Lake	737	472	1,209	1,600	391
22	Mineral	180	79	259	600	341
23	Hinsdale	200	87	287	600	313
24	Las Animas	2,600	1,242	3,842	4,100	258
25	Baca	656	311	967	1,200	233
26	Lincoln	780	413	1,193	1,400	207
27	Yuma	1,282	698	1,980	2,100	120
28	Costilla	780	359	1,139	1,200	61
29	Jackson	229	113	342	400	58
30	Gilpin	594	371	965	1,000	35
31	Otero	2,662	1,374	4,036	4,000	-36
32	Grand	1,753	1,016	2,769	2,700	-69

This chart compares actual COVID Deaths, as reported by the State’s Dashboard, to the county’s undersubscribed/oversubscribe calculation and to other metrics.

Health Equity and Equality Analysis of Vaccine Distribution										
Data from State Dashboard and 2019 Census Information							February	February		
	County	County	State	Calculated	Cumul.	Inequity of	Deaths	Deaths	Odds of	Cases
	Colorized From	Population	Age 70+	Age 70+ %	Scaled	Doses Shipped	Increase	Increase	Dying	By
Index	USA Today Vote %	2019 Census	Population	Ver. to Chart	Deaths	Avg. of the 2	Actual	Scaled	By Cases	Population
1	Arapahoe	656,590	57,473	8.75%	97.6	-48,987	26	4.0	73.3	7.16%
2	El Paso	720,430	63,657	8.84%	101.1	-11,304	23	3.2	68.7	6.94%
3	Larimer	356,899	38,382	10.75%	60.0	-7,492	17	4.8	89.1	5.34%
4	Jefferson	582,881	63,994	10.98%	119.8	-37,227	16	2.7	51.7	6.19%
5	Adams	517,421	36,089	6.97%	116.2	76,907	14	2.7	78.4	9.11%
6	Mesa	154,210	20,949	13.58%	120.6	-5,874	13	8.4	69.4	8.37%
7	Denver	727,211	56,703	7.80%	103.1	49,307	13	1.8	77.1	7.95%
8	Boulder	326,196	30,938	9.48%	68.4	8,384	10	3.1	81.3	5.56%
9	Weld	324,492	26,807	8.26%	96.8	-18,851	7	2.2	78.5	7.60%
10	Montrose	42,758	7,295	17.06%	119.3	-4,042	6	14.0	61.9	7.39%
11	Fremont	47,839	7,570	15.82%	89.9	-7,554	6	12.5	124.0	11.15%
12	Pueblo	168,424	21,928	13.02%	214.9	8,317	6	3.6	40.9	8.78%
13	Logan	22,409	2,681	11.96%	285.6	-385	4	17.8	57.7	16.48%
14	Delta	31,162	6,027	19.34%	179.7	-4,432	4	12.8	43.3	7.78%
15	Conejos	8,205	1,135	13.83%	85.3	-333	3	36.6	60.9	5.19%
16	Eagle	55,127	4,178	7.58%	36.3	8,273	3	5.4	237.8	8.63%
17	Broomfield	70,465	7,192	10.21%	103.6	-5,936	3	4.3	49.3	5.11%
18	Rio Grande	11,267	1,602	14.22%	106.5	-737	2	17.8	55.4	5.90%
19	Otero	18,278	2,662	14.56%	333.7	-36	2	10.9	29.7	9.92%
20	Summit	31,011	2,719	8.77%	22.6	4,208	2	6.4	414.4	9.35%
21	La Plata	56,221	6,254	11.12%	64.0	7,020	2	3.6	79.2	5.07%
22	Douglas	351,154	27,936	7.96%	62.7	-12,029	2	0.6	92.3	5.78%
23	Baca	3,581	656	18.32%	111.7	233	1	27.9	67.5	7.54%
24	Bent	5,577	1,030	18.47%	376.5	-717	1	17.9	67.8	25.52%
25	Yuma	10,019	1,282	12.80%	169.7	120	1	10.0	40.8	6.92%
26	Morgan	29,068	3,390	11.66%	309.6	-914	1	3.4	26.7	8.27%
27	Garfield	60,061	5,022	8.36%	63.3	1,819	1	1.7	130.8	8.28%
28	Alamosa	16,233	1,511	9.31%	172.5	5,134	0	0.0	43.9	7.58%
29	Archuleta	14,029	2,473	17.63%	7.1	-2,961	0	0.0	626.0	4.46%
30	Chaffee	20,356	3,724	18.29%	113.0	-790	0	0.0	60.0	6.78%
31	Cheyenne	1,831	251	13.71%	273.1	416	0	0.0	24.8	6.77%
32	Clear Creek	9,700	1,243	12.81%	20.6	-720	0	0.0	177.5	3.66%
33	Costilla	3,887	780	20.07%	51.5	61	0	0.0	86.5	4.45%
34	Crowley	6,061	650	10.72%	231.0	-433	0	0.0	137.9	31.86%
35	Custer	5,068	1,109	21.88%	19.7	-505	0	0.0	163.0	3.22%
36	Dolores	2,055	410	19.95%	0.0	-299	0	0.0	0.0	3.16%
37	Elbert	26,729	2,766	10.35%	44.9	-3,926	0	0.0	102.7	4.61%
38	Gilpin	6,243	594	9.51%	48.1	35	0	0.0	54.0	2.59%
39	Grand	15,734	1,753	11.14%	31.8	-69	0	0.0	233.4	7.42%
40	Gunnison	17,462	1,479	8.47%	34.4	3,639	0	0.0	195.8	6.73%

Colorado Vaccine Distribution Disparity Research Conclusions

- 1) Although there were appearances of possible political bias, there were also appearances that vaccine allocation is not political motivated. Direct contact with CDPHE Vaccine Distribution will be attempted to resolve.**
- 2) The actual vaccine distribution algorithm to the counties could not be determined by the analysis. Neither the Governor's Office nor CDPHE has publicly provided the specific details on vaccine allocation.**
- 3) Vaccine doses distributed to each county, on what appears to be weekly shipments, are not published in the State's otherwise very complete dashboard metrics and data files.**
- 4) The second chart, showing February COVID Deaths by County, generates the following hypothesis: Reallocating more vaccine doses to the undersubscribed counties will have the most immediate impact to possibly decrease COVID deaths in the State.**

Terry O'Brien is a retired CPA/auditor, data analyst, and software executive with over 30 years' experience, managing and analyzing Big Data databases, many over several hundred million rows.

The author has formal education in Statistics, Mathematics, Computer Programming, Accounting, Finance, Economics and Forecasting from Colorado Mesa University, University of Denver, and Harvard's Graduate School of Business. Please email tobrien@disc.com with questions.