

Background

This addendum is to the April 27th, COVID-19 in Southeast New Mexico Perspective and Pathway and the First Addendum dated May 4th. Refer to the original documents for background. This is an update of data through Saturday, May 9, 2020.

Changes in New Mexico

COVID-19 infections continue to grow in New Mexico with the overwhelming majority of new cases in just a few counties. Between Saturday, May 2, and Saturday, May 9, the State count for positive tests went from 3,732 to 4,778 or an increase of 1,046. The largest increases were in McKinley, 392 new cases; San Juan, 305 new cases; Bernalillo, 167 new cases; Dona Ana, 48 new cases; Sandoval, 42 new cases; Cibola, 23 new cases; and Curry, 11 new cases. All other counties had only single digit increases or no increase. When compared with population, the “hot spots” stand out. McKinley County had 37.5% of the new cases but has only 3.5% of the State’s population. Similarly, San Juan County had 29.2% of the new cases with just 6.1% of the State’s population. Bernalillo County had the third highest number with 16.0%, but as the most populous county, it has 32.4% of the State’s population. The rest of the top counties have percentages of increases smaller than their portion of the state population except for Cibola County. Cibola had 2.2% of the increase with just 1.3% of the State population.

It should be noted that over the past week two thirds of the increases have occurred in just two counties with less than 10% of the State’s population.

Disparity in New Mexico region performances:

While the Department of Health orders have been in effect for the entire State, and it is assumed is uniformly enforced by State agencies, there have been significant differences in case increases. On Friday, April 10, 2020, Santa Fe County had 72 cases and Dona Ana had 44. Two weeks later on Friday, April 24, 2020, both counties had 94 cases. Two weeks after that, Santa Fe had 110 and Dona Ana had 206 cases (*on Saturday May 9th there were a net reduction of five (5) Dona Ana cases as some cases were recounted at the Federal Otero County Processing Center run by ICE*). In four weeks the second (Dona Ana) and third (Santa Fe) largest counties with the second (Las Cruces) and fourth (Santa Fe) largest cities completely flipped. Dona Ana went from just over half of Santa Fe’s numbers to nearly double the Santa Fe numbers. These are not remote communities, but are key and critical parts of the State. How is such disparity explained?

Similarly, compare Chaves and Cibola Counties. On Friday, April 10, 2020, the numbers were Cibola 24 and Chaves 18. On Friday, April 24, 2020, Cibola had 38 and Chaves had 22.

Two weeks later on May 8, 2020, Cibola was at 85 while Chaves was at 27. Cibola went from having one third more cases to having over three times the number of cases.

The situation in West Texas

Effective Friday, May 1, 2020, the Governor of Texas authorized significant relaxation of restrictions throughout Texas. As noted in the original document, there is significant economic, cultural, and personal interaction between Southeast New Mexico and West Texas. The Permian Oil basin, while centered in the Midland-Odessa area, extends into SE New Mexico. Even Curry and Roosevelt Counties have had some oil and gas operations. Concern had been expressed that the relaxation of restrictions in Texas could adversely impact SE New Mexico.

The Texas counties bordering SE New Mexico are Yoakum (Plains), Terry (Brownfield), Lubbock (Lubbock), Seminole (Gaines), Andrew (Andrews), Winkler (Kermit), Ector (Odessa) and Midland (Midland). The total population of this portion of Texas is approximately 700,000.

West Texas Permian Counties						
County	County Seat	Pop	Cases 4/30	Death 4/30	Cases 5/10	Death 5/10
Yoakum	Plains	8,568	1	0	2	0
Terry	Brownfield	12,715	10	0	12	0
Lubbock	Lubbock	305,225	507	43	583	49
Gaines	Seminole	20,638	2	0	3	0
Andrews	Andrews	17,722	19	0	21	0
Winkler	Kermit	7,574	3	0	3	0
Ector	Odessa	157,087	78	4	95	4
Midland	Midland	165,049	75	6	101	11
Total		694,578	695	53	820	64
Increase					125	9
% Inc					18.0%	

As reported on the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University (JHU) website, the above cases were listed at 3 PM, MDT on April 30, 2020 and at 3 PM MDT on May 10, 2020

By way of comparison, Bernalillo County with a population of about 678,000 had 812 cases on April 30. On May 9 there were 1,050 cases for an increase of 238 cases or 29.3%.

Sandoval, San Juan, Cibola and McKinley counties have a combined population of about

368,000 or close to half of the West Texas counties. On April 30 they had 2,089 cases. By May 9th that had increased to 3,061, an increase of 972 or 46.5%.

This data shows that Central and Northwest New Mexico pose a greater threat to Southeast New Mexico than the West Texas Permian counties which have had fewer restrictions on activity than New Mexico.

It should also be noted that there is very limited interaction between Southeast New Mexico and El Paso (with the possible exception of Lincoln County). Geography, economy and culture connect Southeast New Mexico with West Texas. The interaction between Eddy and Lea counties and the Midland/Odessa is particularly intense.

Moving the Goal Post

Originally the concern was that the COVID-19 pandemic would develop so rapidly, spreading quickly and intensely, such that hospitals would be overwhelmed. The stated objective was to “flatten the curve” so that while the disease continued to spread, it would be at a slower pace and health care facilities would be able to treat the situation. There were models that in early April predicted that by mid May Chaves County would have over a 1,000 positive cases. That is obviously not happening and thus number of cases is not a valid reason for continued restrictions.

The State has decided to start using R_0 figures as a benchmark for easing restrictions on citizens. While R_0 has been monitored since the beginning, the State has not publicly identified how exactly R_0 would be calculated or for which specific population. Furthermore, there are questions as to how accurately R_0 can be calculated.

For example:

“ We show that obtaining R_0 from empirical contact tracing data collected by epidemiologists and using this R_0 as a threshold parameter for a population-level model could produce extremely misleading estimates of the infectiousness of the pathogen, the severity of an outbreak, and the strength of the medical and/or behavioral interventions necessary for control.” (emphasis added)

“Theory versus Data: How to Calculate R_0 ?” by Matthew Baylis, Academic Editor, National Center for Biotechnology Information, U.S. National Library of Medicine Mar 14, 2007

Furthermore:

“Once a region begins to “flatten the curve” with extraordinary behavior changes, slowing the rate of transmission, a pure value for R_0 under normal circumstances becomes harder to calculate.” (emphasis added)

The Tricky Math Behind Coronavirus Death Predictions, Wall Street Journal, May 5, 2020, by Brianna Abbott *and* Paul Overberg

The difficulty to reliably, accurately and with precision determine R_0 , while using it as a standard for releasing restrictions on citizens actions leaves the State vulnerable to accusations that these decisions are *arbitrary and capricious*. Such a finding would place the State's action vulnerable to serious court challenge.

Better benchmark

The better, more precise and useful measure would be the number of current hospitalizations. The concern was that the virus would overwhelm the capacity to treat individuals. In fact this was the rationale for restricting citizens. Statewide the number in hospitals seems to have stabilized at the 150-200 range. On Saturday, April 25, the number hospitalized was 161 and two weeks later, Saturday, May 9th, it was 198. During that time the low was 148 on April 26 and the high was 201 on May 8.

To date Roswell has had five individuals in the hospital with COVID-19 since restrictions began. As of Friday, May 8th, only one was in the hospital. There were no other COVID-19 patients in the other Southeast New Mexico counties.

In addition, the Southeast New Mexico Counties are intimately connected to the health care facilities in Lubbock. Trauma and other serious matters are much more likely to be transferred to Lubbock hospitals than Albuquerque hospitals

Active Cases

Another more appropriate measure would be the number of "active cases". This is the number of total cases minus deaths and recovered patients. On Friday, April 24th, there were 2,521 total cases reported with 84 deaths and 614 recovered which yields 1,823 active cases. On Friday May 1st the numbers were 3,513 cases, 131 deaths and 785 recovered for 2,597 active cases or an increase of 774 active cases. Friday May 8th revealed 4,673 cases, 181 deaths and 1,189 recovered for 3,303 active cases. This is an increase of 706 cases. While this is a limited data set, it does point toward a slowing in active cases. Furthermore, this slowing has occurred while the number of cases has exploded in McKinley County in which approximately 170 new cases have been identified in three days (5/6 – 1,337 to 5/9 – 1,508). It would be helpful if DOH would release current and historical data on recoveries by county.

Conclusions

As stated in the original document and first addendum, "one size does not fit all." The data and science fully support relaxing restrictions in Southeast New Mexico.