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**Department of Health and  
Human Services**

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**County Criteria Analysis for Elevated Disease  
Transmission**

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# Purpose

As the COVID-19 pandemic evolves, the data and criteria used to monitor county-level progress must also be reconsidered in order to ensure that it remains relevant to the COVID-19 response.

## Current Methodology Used to Monitor County Level Disease Transmission:

1. **Average number of tests per day (per 100,000) < 150.** The average number of molecular tests conducted in the most recent complete two-week period in a county, divided by the number of people living in the county. This number is then multiplied by 100,000 to control for varying populations in counties. Due to reporting delay, this is reported over a 14-day period with a 7-day lag. Counties that average fewer than 150 tests per day will meet this criterion.

2. **Case rate (per 100,000) > 200.** The total number of cases diagnosed and reported over a 30-day period divided by the number of people living in the county. This number is then multiplied by 100,000 to control for varying populations in counties. Counties with a case rate greater than 200 per 100,000 will meet this criterion.

3. **Case rate (per 100,000) > 50 AND testing positivity > 7.0%.** The total number of positive molecular tests divided by the total number of molecular tests conducted. This number is then multiplied by 100 to get a percentage. Due to reporting delay (which may be different between positive and negative tests), this is reported over a 14-day period with a 7-day lag. Counties with a test positivity > 7.0% paired with case rate greater than 50 per 100,000 will meet this criterion.





## Average number of tests per day (per 100,000)

The average number of molecular tests conducted in the most recent complete two-week period in a county, divided by the number of people living in the county. This number is then multiplied by 100,000 to control for varying populations in counties. Due to reporting delay, this is reported over a 14-day period with a 7-day lag. Counties that average fewer than 150 tests per day will be flagged for this criterion.

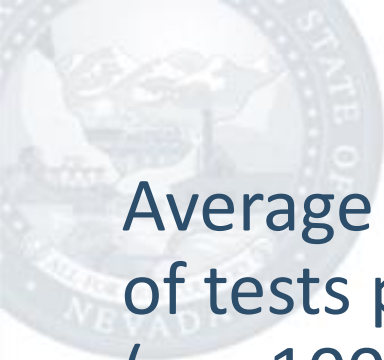
**The purpose of this measure is to ensure that counties are testing a sufficient proportion of their population.**

Current criteria: Average number of tests per day (per 100,000) < 150 gets flagged for elevated disease transmission.

Alternative thresholds: Federal reports use the following thresholds when measuring the total diagnostic tests resulted per 100,000 population per week:

- Green: >1000 (daily equivalent: >142)
- Yellow: 500-1000 (daily equivalent: 72-142)
- Red: <500 (daily equivalent: <72)

Proposal: **Average number of tests per day (per 100,000) < 100** gets flagged for elevated disease transmission (weekly equivalent: <700 weekly).



# Average number of tests per day (per 100,000)

The average number of molecular tests conducted in the most recent complete two-week period in a county, divided by the number of people living in the county. This number is then multiplied by 100,000 to control for varying populations in counties. Due to reporting delay, this is reported over a 14-day period with a 7-day lag. Counties that average fewer than 150 tests per day will be flagged for this criterion.

Current threshold: 150

Average number of tests per day (per 100,000) < 150 gets flagged for elevated disease transmission.

Data as of:	6/5/2020	6/12/2020	6/19/2020	6/26/2020	7/3/2020	7/10/2020	7/17/2020	7/24/2020	7/30/2020	8/6/2020	8/13/2020	8/19/2020	8/26/2020	8/31/2020	9/7/2020	9/14/2020	9/21/2020	9/28/2020	10/5/2020
Carson City	218.7	177.0	436.8	417.1	116.2	161.1	193.3	226.4	199.6	178.7	275.4	268.7	233.4	310.5	260.5	263.5	352.1	413.3	465.2
Churchill	247.3	201.8	124.5	109.6	89.4	128.4	212.0	251.5	264.7	181.1	185.0	194.6	180.3	157.6	99.4	144.1	291.8	342.6	289.3
Clark	152.7	146.4	145.4	142.7	180.3	273.1	303.3	295.2	319.7	290.1	240.5	221.4	236.2	226.8	207.0	210.1	208.3	199.2	210.7
Douglas	54.8	68.1	68.4	29.9	43.0	63.7	56.5	83.2	91.7	120.3	134.5	131.5	114.7	93.7	74.9	78.0	85.7	84.5	99.2
Elko	272.3	336.5	118.7	57.9	75.5	159.0	187.6	185.6	192.9	134.3	125.1	126.9	119.8	105.2	85.5	111.6	153.7	160.4	199.1
Esmeralda	95.3	58.7	36.7	44.0	110.0	176.0	139.3	88.0	110.0	117.3	132.0	80.7	58.7	73.3	124.7	132.0	80.7	80.7	80.7
Eureka	36.3	32.7	32.7	40.0	54.5	65.4	61.8	83.6	268.9	250.7	105.4	134.4	119.9	109.0	58.1	432.3	494.1	105.4	54.5
Humboldt	248.3	111.8	110.9	77.0	59.4	88.3	88.8	80.4	97.5	129.8	111.4	71.2	65.3	62.8	65.7	69.5	74.9	69.9	74.5
Lander	139.4	245.4	194.2	90.5	140.6	165.6	162.0	209.7	200.1	140.6	85.8	81.0	91.7	89.3	234.7	247.8	145.3	160.8	282.3
Lincoln	22.0	223.9	232.1	30.2	20.6	20.6	28.8	33.0	33.0	34.3	42.6	94.8	94.8	41.2	71.4	59.1	94.8	112.6	53.6
Lyon	73.7	61.0	72.9	57.9	41.6	62.8	72.6	77.2	87.5	84.0	73.9	76.7	67.9	71.6	58.9	63.7	88.1	95.1	95.2
Mineral	316.3	357.1	202.0	111.2	106.5	134.7	302.3	335.1	173.8	177.0	219.3	159.7	236.5	321.0	419.7	325.7	426.0	280.3	197.3
Nye	93.3	77.2	58.0	57.2	63.0	75.9	81.3	82.0	171.2	168.8	120.5	80.0	68.6	72.8	61.7	64.9	63.0	48.5	51.6
Pershing	169.3	666.9	2,247.9	2,035.5	335.5	82.1	142.6	151.8	123.1	80.0	101.6	303.7	427.8	441.2	263.7	253.4	417.6	373.5	339.6
Storey	9.6	11.2	9.6	25.6	24.0	8.0	16.0	19.2	19.2	27.2	27.2	20.8	11.2	11.2	8.0	19.2	28.8	22.4	27.2
Washoe	162.2	191.1	200.5	161.5	133.4	172.3	194.7	218.0	249.1	243.0	206.7	171.9	159.3	154.7	140.2	164.9	190.5	207.7	232.9
White Pine	157.2	168.0	141.0	191.0	311.7	1,093.1	1,153.8	560.0	404.8	377.2	350.9	467.6	506.7	466.2	404.8	557.3	482.4	520.2	664.6

Proposed threshold: 100

Average number of tests per day (per 100,000) < 100 gets flagged for elevated disease transmission.

Data as of:	6/5/2020	6/12/2020	6/19/2020	6/26/2020	7/3/2020	7/10/2020	7/17/2020	7/24/2020	7/30/2020	8/6/2020	8/13/2020	8/19/2020	8/26/2020	8/31/2020	9/7/2020	9/14/2020	9/21/2020	9/28/2020	10/5/2020
Carson City	218.7	177.0	436.8	417.1	116.2	161.1	193.3	226.4	199.6	178.7	275.4	268.7	233.4	310.5	260.5	263.5	352.1	413.3	465.2
Churchill	247.3	201.8	124.5	109.6	89.4	128.4	212.0	251.5	264.7	181.1	185.0	194.6	180.3	157.6	99.4	144.1	291.8	342.6	289.3
Clark	152.7	146.4	145.4	142.7	180.3	273.1	303.3	295.2	319.7	290.1	240.5	221.4	236.2	226.8	207.0	210.1	208.3	199.2	210.7
Douglas	54.8	68.1	68.4	29.9	43.0	63.7	56.5	83.2	91.7	120.3	134.5	131.5	114.7	93.7	74.9	78.0	85.7	84.5	99.2
Elko	272.3	336.5	118.7	57.9	75.5	159.0	187.6	185.6	192.9	134.3	125.1	126.9	119.8	105.2	85.5	111.6	153.7	160.4	199.1
Esmeralda	95.3	58.7	36.7	44.0	110.0	176.0	139.3	88.0	110.0	117.3	132.0	80.7	58.7	73.3	124.7	132.0	80.7	80.7	80.7
Eureka	36.3	32.7	32.7	40.0	54.5	65.4	61.8	83.6	268.9	250.7	105.4	134.4	119.9	109.0	58.1	432.3	494.1	105.4	54.5
Humboldt	248.3	111.8	110.9	77.0	59.4	88.3	88.8	80.4	97.5	129.8	111.4	71.2	65.3	62.8	65.7	69.5	74.9	69.9	74.5
Lander	139.4	245.4	194.2	90.5	140.6	165.6	162.0	209.7	200.1	140.6	85.8	81.0	91.7	89.3	234.7	247.8	145.3	160.8	282.3
Lincoln	22.0	223.9	232.1	30.2	20.6	20.6	28.8	33.0	33.0	34.3	42.6	94.8	94.8	41.2	71.4	59.1	94.8	112.6	53.6
Lyon	73.7	61.0	72.9	57.9	41.6	62.8	72.6	77.2	87.5	84.0	73.9	76.7	67.9	71.6	58.9	63.7	88.1	95.1	95.2
Mineral	316.3	357.1	202.0	111.2	106.5	134.7	302.3	335.1	173.8	177.0	219.3	159.7	236.5	321.0	419.7	325.7	426.0	280.3	197.3
Nye	93.3	77.2	58.0	57.2	63.0	75.9	81.3	82.0	171.2	168.8	120.5	80.0	68.6	72.8	61.7	64.9	63.0	48.5	51.6
Pershing	169.3	666.9	2,247.9	2,035.5	335.5	82.1	142.6	151.8	123.1	80.0	101.6	303.7	427.8	441.2	263.7	253.4	417.6	373.5	339.6
Storey	9.6	11.2	9.6	25.6	24.0	8.0	16.0	19.2	19.2	27.2	27.2	20.8	11.2	11.2	8.0	19.2	28.8	22.4	27.2
Washoe	162.2	191.1	200.5	161.5	133.4	172.3	194.7	218.0	249.1	243.0	206.7	171.9	159.3	154.7	140.2	164.9	190.5	207.7	232.9
White Pine	157.2	168.0	141.0	191.0	311.7	1,093.1	1,153.8	560.0	404.8	377.2	350.9	467.6	506.7	466.2	404.8	557.3	482.4	520.2	664.6



# Test Positivity Rate (paired with Case Rate)

The total number of positive molecular tests divided by the total number of molecular tests conducted. This number is then multiplied by 100 to get a percentage. Due to reporting delay (which may be different between positive and negative tests), this is reported over a 14-day period with a 7-day lag. Counties with a test positivity > 7.0% paired with case rate greater than 50 per 100,000 will be flagged for this criterion.

**The purpose of this measure is to measure current disease in Nevada's communities. The World Health Organization (WHO) recommends that the epidemic is controlled if less than 5% of samples are positive for COVID-19, at least for the last 2 weeks, assuming that surveillance for suspected cases is comprehensive.**

Current criteria: Test positivity rate > 7.0% (paired with case rate >50 per 100,000) gets flagged for elevated disease transmission.

Alternative thresholds: Federal reports use the following thresholds when measuring diagnostic test result positivity rate:

- Green: <5%
- Yellow: 5%-10%
- Red: >10%

Proposal: **Test positivity rate > 8.0%** (paired with case rate >50 per 100,000) gets flagged for elevated disease transmission.

# Test Positivity Rate (paired with Case Rate)

The total number of positive molecular tests divided by the total number of molecular tests conducted. This number is then multiplied by 100 to get a percentage. Due to reporting delay (which may be different between positive and negative tests), this is reported over a 14-day period with a 7-day lag. Counties with a test positivity > 7.0% paired with case rate greater than 50 per 100,000 will be flagged for this criterion.

Current threshold: 7%

Test positivity rate > 7.0% (paired with case rate > 50 per 100,000)

Data as of:	6/5/2020	6/12/2020	6/19/2020	6/26/2020	7/3/2020	7/10/2020	7/17/2020	7/24/2020	7/30/2020	8/6/2020	8/13/2020	8/19/2020	8/26/2020	8/31/2020	9/7/2020	9/14/2020	9/21/2020	9/28/2020	10/5/2020
Carson City	1.7%	2.4%	1.1%	0.8%	4.1%	5.2%	6.2%	7.6%	8.8%	7.3%	4.8%	5.0%	4.3%	2.8%	2.2%	2.6%	3.5%	2.5%	1.8%
Churchill	0.1%	0.5%	0.9%	0.3%	0.6%	2.2%	3.6%	3.0%	2.5%	2.7%	4.9%	8.7%	10.7%	9.8%	7.5%	1.3%	2.2%	2.0%	2.4%
Clark	2.9%	3.7%	5.1%	7.6%	10.5%	12.0%	13.8%	17.0%	17.1%	16.1%	15.5%	14.6%	13.0%	12.6%	11.2%	8.6%	7.1%	6.7%	6.9%
Douglas	2.4%	1.9%	1.7%	3.4%	3.3%	2.5%	4.6%	6.2%	7.6%	6.2%	3.8%	3.0%	2.9%	2.8%	4.4%	3.7%	3.0%	4.4%	6.2%
Elko	0.1%	0.2%	0.9%	3.6%	6.5%	7.5%	12.6%	13.0%	11.0%	15.0%	15.1%	14.8%	16.8%	17.9%	12.6%	6.2%	4.4%	4.0%	4.4%
Esmeralda	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Eureka	0.0%	0.0%	0.0%	0.0%	13.3%	11.1%	0.0%	0.0%	0.0%	0.0%	6.9%	5.4%	6.1%	0.0%	6.3%	5.9%	4.4%	0.0%	0.0%
Humboldt	6.6%	10.1%	3.4%	0.5%	2.1%	3.3%	2.8%	1.9%	11.4%	19.0%	15.4%	8.2%	5.8%	4.7%	5.1%	4.8%	3.4%	3.6%	8.4%
Lander	15.4%	6.8%	0.0%	9.2%	9.3%	8.6%	8.8%	6.0%	5.1%	5.1%	9.7%	13.2%	10.4%	8.0%	4.6%	3.8%	5.7%	2.2%	1.3%
Lincoln	0.0%	0.0%	5.9%	0.0%	0.0%	0.0%	0.0%	5.0%	6.3%	16.0%	9.7%	1.4%	1.4%	3.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Lyon	2.3%	5.3%	4.7%	3.0%	5.6%	5.3%	4.1%	5.3%	4.3%	3.2%	5.2%	6.9%	7.4%	7.1%	6.3%	7.4%	7.3%	7.9%	6.3%
Mineral	0.0%	0.9%	2.3%	2.8%	4.4%	2.3%	0.5%	3.2%	5.0%	2.7%	0.7%	0.0%	0.7%	3.9%	6.0%	8.2%	3.3%	0.6%	3.2%
Nye	1.3%	1.5%	1.8%	2.6%	8.4%	13.3%	17.6%	19.8%	14.3%	17.0%	17.2%	12.4%	14.7%	11.4%	6.4%	3.4%	1.6%	1.5%	4.0%
Pershing	0.6%	0.8%	0.3%	0.3%	0.9%	5.0%	5.0%	3.8%	0.0%	0.0%	1.0%	1.0%	0.5%	0.7%	1.2%	0.4%	0.0%	0.0%	0.3%
Storey	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.3%	8.3%	0.0%	0.0%	0.0%	0.0%	14.3%	20.0%	0.0%	0.0%	0.0%	0.0%
Washoe	4.4%	3.6%	4.1%	5.7%	8.4%	9.8%	8.5%	8.5%	9.0%	8.0%	7.8%	8.7%	9.1%	8.3%	7.3%	7.0%	6.9%	7.8%	8.4%
White Pine	0.0%	0.0%	0.0%	0.0%	0.4%	0.2%	0.4%	2.2%	1.5%	1.1%	1.3%	1.2%	1.7%	2.7%	2.3%	2.7%	5.3%	3.5%	2.2%

Proposed threshold: 8%

Test positivity rate > 8.0% (paired with case rate > 50 per 100,000)

Data as of:	6/5/2020	6/12/2020	6/19/2020	6/26/2020	7/3/2020	7/10/2020	7/17/2020	7/24/2020	7/30/2020	8/6/2020	8/13/2020	8/19/2020	8/26/2020	8/31/2020	9/7/2020	9/14/2020	9/21/2020	9/28/2020	10/5/2020
Carson City	1.7%	2.4%	1.1%	0.8%	4.1%	5.2%	6.2%	7.6%	8.8%	7.3%	4.8%	5.0%	4.3%	2.8%	2.2%	2.6%	3.5%	2.5%	1.8%
Churchill	0.1%	0.5%	0.9%	0.3%	0.6%	2.2%	3.6%	3.0%	2.5%	2.7%	4.9%	8.7%	10.7%	9.8%	7.5%	1.3%	2.2%	2.0%	2.4%
Clark	2.9%	3.7%	5.1%	7.6%	10.5%	12.0%	13.8%	17.0%	17.1%	16.1%	15.5%	14.6%	13.0%	12.6%	11.2%	8.6%	7.1%	6.7%	6.9%
Douglas	2.4%	1.9%	1.7%	3.4%	3.3%	2.5%	4.6%	6.2%	7.6%	6.2%	3.8%	3.0%	2.9%	2.8%	4.4%	3.7%	3.0%	4.4%	6.2%
Elko	0.1%	0.2%	0.9%	3.6%	6.5%	7.5%	12.6%	13.0%	11.0%	15.0%	15.1%	14.8%	16.8%	17.9%	12.6%	6.2%	4.4%	4.0%	4.4%
Esmeralda	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Eureka	0.0%	0.0%	0.0%	0.0%	13.3%	11.1%	0.0%	0.0%	0.0%	0.0%	6.9%	5.4%	6.1%	0.0%	6.3%	5.9%	4.4%	0.0%	0.0%
Humboldt	6.6%	10.1%	3.4%	0.5%	2.1%	3.3%	2.8%	1.9%	11.4%	19.0%	15.4%	8.2%	5.8%	4.7%	5.1%	4.8%	3.4%	3.6%	8.4%
Lander	15.4%	6.8%	0.0%	9.2%	9.3%	8.6%	8.8%	6.0%	5.1%	5.1%	9.7%	13.2%	10.4%	8.0%	4.6%	3.8%	5.7%	2.2%	1.3%
Lincoln	0.0%	0.0%	5.9%	0.0%	0.0%	0.0%	0.0%	5.0%	6.3%	16.0%	9.7%	1.4%	1.4%	3.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Lyon	2.3%	5.3%	4.7%	3.0%	5.6%	5.3%	4.1%	5.3%	4.3%	3.2%	5.2%	6.9%	7.4%	7.1%	6.3%	7.4%	7.3%	7.9%	6.3%
Mineral	0.0%	0.9%	2.3%	2.8%	4.4%	2.3%	0.5%	3.2%	5.0%	2.7%	0.7%	0.0%	0.7%	3.9%	6.0%	8.2%	3.3%	0.6%	3.2%
Nye	1.3%	1.5%	1.8%	2.6%	8.4%	13.3%	17.6%	19.8%	14.3%	17.0%	17.2%	12.4%	14.7%	11.4%	6.4%	3.4%	1.6%	1.5%	4.0%
Pershing	0.6%	0.8%	0.3%	0.3%	0.9%	5.0%	5.0%	3.8%	0.0%	0.0%	1.0%	1.0%	0.5%	0.7%	1.2%	0.4%	0.0%	0.0%	0.3%
Storey	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.3%	8.3%	0.0%	0.0%	0.0%	0.0%	14.3%	20.0%	0.0%	0.0%	0.0%	0.0%
Washoe	4.4%	3.6%	4.1%	5.7%	8.4%	9.8%	8.5%	8.5%	9.0%	8.0%	7.8%	8.7%	9.1%	8.3%	7.3%	7.0%	6.9%	7.8%	8.4%
White Pine	0.0%	0.0%	0.0%	0.0%	0.4%	0.2%	0.4%	2.2%	1.5%	1.1%	1.3%	1.2%	1.7%	2.7%	2.3%	2.7%	5.3%	3.5%	2.2%

# Additional Considerations

- Proposed changes maintain integrity of the current methodology while accommodating more recent testing needs in the community.
- Proposed changes continue to be well aligned with federal reporting thresholds.
- Slightly adjusting the general testing volume threshold down (from 150 to 100) and simultaneously loosening the test positivity threshold up (from 7% to 8%) will add “cushion” to help account for the issues identified around data quality of patient resident address being used for county assignment.
- With no counties currently subject to additional county-specific closures due to elevated disease criteria, timing is opportune to shift thresholds to a more sustainable “new normal.”





# Discussion

DHHS Office of Analytics

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