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COVID-19: Event Size Risk by Nevada County, January 2021

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COVID-19: Event Size Risk by Nevada County, January 2021

Health Fact Sheet No. 10 | January 2021

Prepared by: Olivia K. Cheche, Madison Frazee-Bench, Katie M. Gilbertson, Caitlin J. Saladino, and William E. Brown, Jr.

PURPOSE:

This fact sheet presents data on Nevada counties, drawing from the Georgia Institute of Technology's "COVID-19 Event Risk Assessment Planning Tool," as of January 14th, 2021.¹ Various risk scenarios are displayed based on event size for the rate of COVID-19 transmission in Nevada's 17 counties.

ABOUT THE DATA:

Professors Joshua Weitz and Clio Andris from the Georgia Institute of Technology update their "COVID-19 Event Risk Assessment Planning Tool,"² daily. This data tool presents the risk level of attending an event based on the event size and location.

The original data source offers risk data for all U.S. counties; this fact sheet highlights the risk level for each of the 17 counties in Nevada for event sizes of 10, 20, 50, and 100 attendees. The risk level is reported on a scale of 0-100 percent, representing the likelihood that at least one COVID-19 positive individual will be present at an event.

The original data source assumes that there are likely three times more cases than are being reported, which creates a 3:1 ascertainment bias. The tool also offers a 5:1 ascertainment bias, which assumes that there are five times more cases than are being reported. This fact sheet presents the risk level estimates for both ascertainment bias levels.

KEY FINDINGS:

1. For a gathering of 50 people in Clark County, there is a 71% likelihood of at least one COVID-19 positive attendee, with a 3:1 ascertainment bias.
2. For a gathering of 100 people in Clark County, there is a 92% likelihood of at least one COVID-19 positive attendee, with a 3:1 ascertainment bias; at a gathering of 100 people in Washoe County, there is a 76% likelihood of at least one COVID-19 positive attendee.
3. For a gathering of 100 people in Carson City, Churchill, Clark, Eureka, Humboldt, Nye, and Washoe counties there is over a 90% likelihood of a COVID-19 positive attendee, with a 5:1 ascertainment bias.
4. Esmeralda and Storey counties have a less than 1% risk of a COVID-19 attendee at a gathering 10, 20, 50, or 100 individuals, in both a 3:1 ascertainment bias and 5:1 ascertainment bias scenario.

¹ Joshua Weitz and Clio Andris, "COVID-19 Event Risk Assessment Planning Tool," 2020 (<https://covid19risk.biosci.gatech.edu/>)

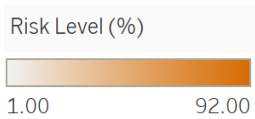
² Ibid.

Table 1 demonstrates the risk of at least one COVID-19 positive attendee at an event with 10, 20, 50 or 100 people in each Nevada county, with a 3:1 ascertainment bias. A 3:1 ascertainment bias assumes that there are three times more positive COVID-19 cases in a county than what is actually reported. The shading indicates the likelihood of at least one COVID-19 positive attendee at events of various sizes: light orange cells represent a lower likelihood of exposure, while dark orange cells represent a higher likelihood.

The likelihood of a COVID-19 positive attendee grows with event size. In Nevada, the highest risk is in Clark County, where there is a 22 percent likelihood of a COVID-19 positive attendee for a gathering of 10 people; there is a 92 percent likelihood in a gathering of 100 people, as shown by the color gradient. Mineral and Lincoln counties exhibit a nearly identical trend, with a risk of 10 percent at a 10 person gathering, and a 65 percent risk at a 100 person gathering. Due to small population size, Esmeralda and Storey counties are consistent at less than a one percent risk for each gathering size.

Table 1: Risk of COVID-19 at Events in Nevada Counties, with a 3:1 Ascertainment Bias

County	Percentage Risk of a COVID-19 Positive Attendee: 10 person gathering	Percentage Risk of a COVID-19 Positive Attendee: 20 person gathering	Percentage Risk of a COVID-19 Positive Attendee: 50 person gathering	Percentage Risk of a COVID-19 Positive Attendee: 100 person gathering
Carson City	18	32	62	86
Churchill	17	32	62	85
Clark	22	39	71	92
Douglas	11	21	45	70
Elko	8	16	35	58
Esmeralda	1	1	1	1
Eureka	13	24	50	75
Humboldt	15	27	55	80
Lander	8	16	35	58
Lincoln	10	19	40	65
Lyon	9	17	38	61
Mineral	10	19	41	65
Nye	13	24	50	75
Pershing	8	15	33	55
Storey	1	1	1	1
Washoe	13	25	51	76
White Pine	9	17	38	61



*Adapted from “COVID-19 Event Risk Assessment Planning Tool,” 2020

Table 2 identifies the risk of at least one COVID-19 positive attendee at an event with 10, 20, 50 or 100 people in each Nevada county, with a 5:1 ascertainment bias. Similar to the 3:1 ascertainment bias, the 5:1 ascertainment bias assumes that there are five times more positive COVID-19 cases in a county than what is actually reported. The shading indicates the likelihood of at least one COVID-19 positive attendee at events of various sizes: light orange cells represent a lower likelihood of exposure, while dark orange cells represent a higher likelihood.

The likelihood of a COVID-19 positive attendee grows with event size. Clark County has the highest risk level in each event size scenario, while Esmeralda and Storey Counties have a less than one percent risk regardless of event size. Notably, in Clark County a gathering with 20 attendees garners a 56 percent risk that at least one individual in attendance is COVID-19 positive.

Table 2: Risk of COVID-19 at Events in Nevada Counties, with a 5:1 Ascertainment Bias

County	Percentage Risk of a COVID-19 Positive Attendee: 10 person gathering	Percentage Risk of a COVID-19 Positive Attendee: 20 person gathering	Percentage Risk of a COVID-19 Positive Attendee: 50 person gathering	Percentage Risk of a COVID-19 Positive Attendee: 100 person gathering
Carson City	28	48	81	96
Churchill	27	47	80	96
Clark	34	56	88	98
Douglas	12	33	63	86
Elko	14	25	52	77
Esmeralda	1	1	1	1
Eureka	21	37	69	90
Humboldt	23	41	74	93
Lander	13	25	51	76
Lincoln	16	29	58	82
Lyon	15	27	55	79
Mineral	16	30	58	83
Nye	20	37	68	90
Pershing	12	24	49	74
Storey	1	1	1	1
Washoe	21	38	70	91
White Pine	15	27	55	79

*Adapted from “COVID-19 Event Risk Assessment Planning Tool,” 2020

