

8-18-2020

COVID-19: The Risk of Reopening Nevada Schools

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Repository Citation

Saladino, C. J., Frazee-Bench, M., Llamas, Y., Martinez, M., Brown, W. E. (2020). COVID-19: The Risk of Reopening Nevada Schools. *K-12 Education Fact Sheet No. 1 1-4*.

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COVID-19: THE RISK OF REOPENING NEVADA SCHOOLS

K-12 Education Fact Sheet No. 1 | August 2020

Prepared by: Caitlin J. Saladino, Madison Frazee-Bench, Yanneli Llamas, Magdalena Martinez, and William E. Brown, Jr.

PURPOSE:

This fact sheet presents data on Nevada schools, drawing from the *New York Times* report, “The risk that students could arrive at school with the Coronavirus,”¹ published on July 31, 2020. Various risk scenarios are presented based on school size for the local conditions in 17 Nevada counties.

ABOUT THE DATA:

The original report offers a dataset created by Lauren Ancel Meyers and Spencer Fox, of the University of Texas at Austin and Michael Lachmann, of the Santa Fe Institute. Using projections based on the current estimated prevalence of COVID-19 in each U.S. county, the authors estimate how many COVID-19 infected people might arrive at schools of various sizes if in-person classes started during the first week of instruction.

The original report states that in the nation’s “highest risk areas – including Miami, Fort Lauderdale, Nashville, and Las Vegas – at least five students or staff would be expected to show up infected with the virus at a school of 500 people.”² Nevada is one of eight U.S. states in which most people live in a county where a school of only 100 people would likely see an infected person in the first week if school started today.³

On Tuesday, July 21, 2020 the school district including Las Vegas public schools - the Clark County School District (CCSD) - voted to begin the school year with a full online instruction model, amid rising coronavirus cases and indicators.⁴ Nevertheless, a Nevada-focused presentation of data presents the varying degrees of estimated risk across 17 Nevada counties if schools were to open under current COVID-19 conditions.

KEY FINDINGS:

1. Esmeralda, Eureka, Lincoln, Pershing, and White Pine counties have a very low probability of an infected person entering a school in the first week of instruction; each county is estimated to have 0 infected individuals arrive in the first week, regardless of school size.
2. Among Nevada counties, Clark County holds the highest estimated risk of COVID-19 infected people arriving at a school in the first week of the school year. A Clark County school of 500 people would expect to see an estimated 7 individuals arrive infected with COVID-19; for schools of 1,000 people, Clark County is estimated to see 14 individuals arrive with COVID-19 in the first week.
3. The majority of CCSD schools (298 of 365 schools) had enrollment of over 500 students during the 2018-2019 school year; this means 95.37% of CCSD students attend a school with 500 or more enrolled students.

¹ Glanz, James, Benedict Carey, and Matthew Conlen. (July, 2020) “The risk that students could arrive at school with the Coronavirus.” *New York Times*. <https://www.nytimes.com/interactive/2020/07/31/us/coronavirus-school-reopening-risk.html>

² Ibid, paragraph 5.

³ Ibid, paragraph 22.

⁴ MacNeil, Sara. (July, 2020). “Clark County School Board approves online-only instruction to start the year.” *Las Vegas Sun*. <https://lasvegassun.com/news/2020/jul/21/clark-county-school-board-online-only-start-year/>

Table 1 displays data on 17 Nevada counties, and shows 3 different school size scenarios for the reopening of schools. The risk associated for schools of 100, schools of 500, and schools of 1,000 are shown in a heat-map visualization, where school sizes with greater risk of estimated infected individuals appear in dark red, while lower risk of estimated infected individuals appears in light red. A rate of 0 indicates a “low probability” that an infected person will arrive at a school during the initial week of instruction.⁵

Among Nevada counties, Esmeralda, Eureka, Lincoln, Pershing, and White Pine counties have low probability of an infected person entering a school in the first week of instruction; each county is estimated to have 0 infected individuals arrive in the first week across each of the three scenarios of school size.

Clark County holds the highest estimated risk of infected people arriving in the first week of the school year. A Clark County school of 500 would expect to see an estimated 7 individuals arrive infected with COVID-19; for schools of 1,000, Clark County is estimated to see 14 individuals arrive with COVID-19 in the first week.

Table 1: Estimated COVID-19 Infected People Arriving to a School in First Week, by Nevada County

County	School of 100	School of 500	School of 1000
Clark	1	7	14
Elko	1	4	9
Washoe	1	3	7
Nye	1	3	6
Douglas	0	2	4
Carson City	0	1	3
Humboldt	0	0	3
Churchill	0	1	2
Lyon	0	1	2
Storey	0	1	1
Mineral	0	1	1
Lander	0	1	0
Esmeralda	0	0	0
Eureka	0	0	0
Lincoln	0	0	0
Pershing	0	0	0
White Pine	0	0	0

⁵ Adapted from Glanz, James, Benedict Carey, & Matthew Conlen. (July, 2020) “The risk that students could arrive at school with the Coronavirus.” *New York Times*.





⁵ Ibid.

Figure 1 presents enrollment size data for the Clark County School District, in order to offer context for the numbers presented in the New York Time original report. Using CCSD school enrollment data available from Nevada ReportCard, we offer a snapshot of the 2018-2019 school year enrollment sizes of the 365 total schools serviced by CCSD: 1 to 99 students; 100 to 499 students; 500 to 999 students; and 1,000 to 3,450 students⁶.

Figure 1 accounts for the enrollment total at all CCSD school types, including behavioral, specialty, elementary, middle, and high schools, as included in the Nevada ReportCard.⁷ While these enrollment totals do not correspond directly to the school size infection scenarios presented in the *New York Times* study, it is important to recognize that the vast majority of CCSD schools (298 of 365 schools, or 81.6%) have enrollment of over 500 students.

Additionally, the original data source presents calculations based on the total number of people present at a school - staff *and* students. Figure 1 presents only student enrollment data. Figure 1 does not account for the number of teachers, support staff, administrative professionals, custodial, and other individuals. With this in mind, the “school size” of people gathering in CCSD may be much larger than enrollment numbers of students can capture.

Figure 1: Number of Schools in the Clark County School District by Enrollment Size, 2018-2019

	25	<i>CCSD schools with 1 to 99 enrolled students</i>
	42	<i>CCSD schools 100 to 499 enrolled students</i>
	210	<i>CCSD schools with 500 to 999 enrolled students</i>
	88	<i>CCSD schools with 1,000 to 3,450 enrolled students</i>

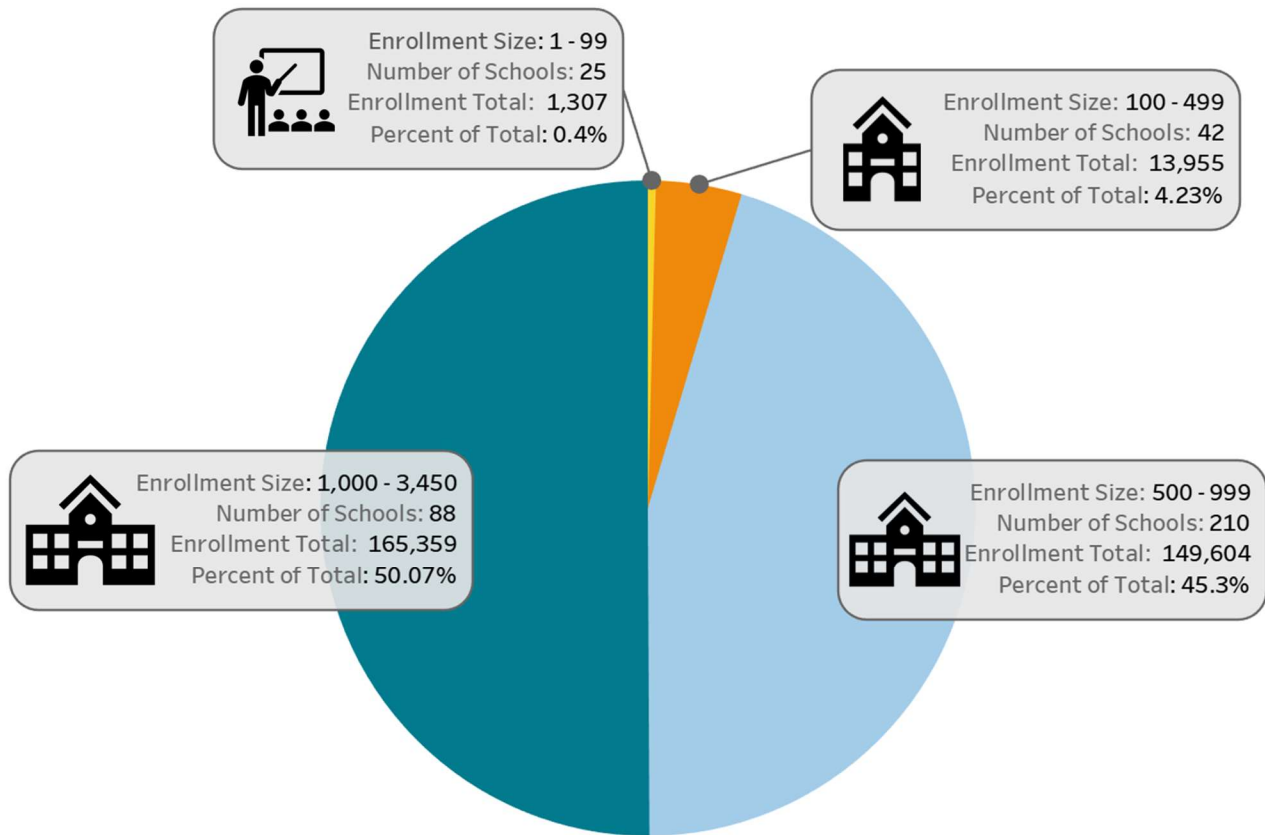
⁶ CCSD School Enrollment available via the NevadaReportCard: nevadareportcard.nv.gov/di/report/reportcard_1?report=reportcard

⁶ CCSD’s most populous school is Coronado High School

⁷ Complete demographic and enrollment data for the each of the reported 365 schools serviced by the Clark County School District are publicly available via the Nevada ReportCard website at: nevadareportcard.nv.gov/di/report/reportcard_1?report=reportcard

Figure 2 provides the share of CCSD students enrolled in each school size category. In a school district of 330,225⁸ students, 95.37% of CCSD students attend a school with 500 or more enrolled students.

Figure 2: Student Enrollment by School Size in the Clark County School District, 2018-2019



*CCSD School Enrollment available via the NevadaReportCard: nevadareportcard.nv.gov/di/report/reportcard_1?report=reportcard

⁸ The Nevada ReportCard reports that there are 325,081 enrolled students in Clark County. However, the sum of individual school enrollment data for all Clark County schools presented via the Nevada ReportCard equals 330,225 enrolled students. The data file can be retrieved from the Nevada ReportCard website at: nevadareportcard.nv.gov/di/report/reportcard_1?report=reportcard