K-12 School COVID-19 Outbreak Report

11/2/2020

Coronavirus disease 2019 (COVID-19) outbreak surveillance in Washington State is based upon local health jurisdiction (LHJ) reporting of COVID-19 outbreaks to the Washington State Department of Health (DOH) through the Washington Disease Reporting System (WDRS). Investigation of cases to confirm a cluster meets an outbreak definition is time intensive, and outbreak reports can be updated over the course of an outbreak investigation. Given this dynamic nature of reporting, there may be a reporting delay, and the number of reported outbreaks may be underestimated for the most recent weeks. For example, outbreaks that started in October may not yet be reported.

We compute an Outbreak Reference Date to approximate the beginning of each outbreak, using all available information, including symptom onset date and outbreak report date. *This report includes data on outbreaks reported as of 11/2/2020.*

COVID-19 School Outbreak Definition

An outbreak in a school setting is defined by the following criteria:

1. Two or more cases of laboratory positive COVID-19 (PCR or antigen test) among students or staff, **AND**
2. The cases have symptom onsets within a 14-day period of each other, **AND**
3. Plausible epi-linkage in the school*, **AND**
4. No other known epi-linkage outside of the school (e.g. cases do not share a household, and no epi-linkage suggesting transmission is more likely to have occurred during extracurricular activities or in other settings)

*Defined as during the 14 days prior to the onset of symptoms or, for an asymptomatic case, prior to a laboratory positive COVID-19 test (PCR or antigen), cases:

- Had potential contact within 6 feet for 15 minutes or longer, OR
- Attended the same in-person classroom, pod, transportation (e.g. bus to school), or school sponsored extracurricular location (e.g., gym room)

Figure 1: COVID-19 Outbreaks in Washington State K-12 Schools by Week, 3/1/2020-11/2/2020

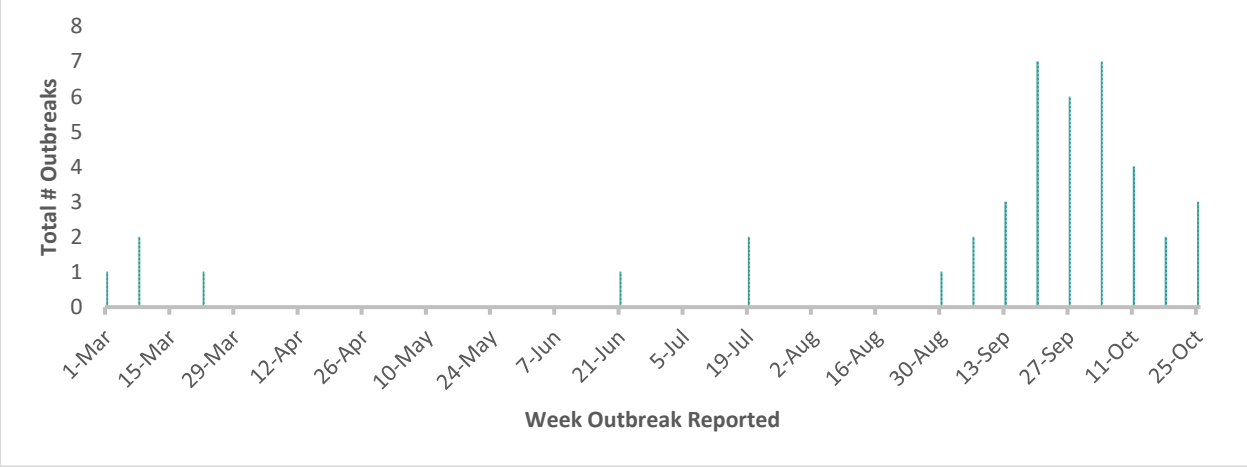

Table 1: COVID-19 K-12 School Outbreaks by County

County	Total # of Events
Clark	4
Douglas	1
Franklin	1
Grays Harbor	1
King	4
Kitsap	1
Pend Oreille	1
Pierce	1
Snohomish	7
Spokane	16
Stevens	1
Thurston	1
Walla Walla	1
Whitman	2

COVID-19 Outbreaks in K-12 Schools

There have been 42 outbreaks in K-12 schools reported to DOH between March 1, 2020 and November 2, 2020 (Figure 1). Of these outbreaks, 30 (71%) occurred in public schools, 12 (29%) were in private schools. These outbreaks occurred in 14 (36%) counties (Table 1). Of these, 9 counties reported one school outbreak and one county reported 16 outbreaks. Of 19 public schools that provided information on learning modality at the time of the outbreak, 10 were primarily remote, 3 were primarily in person, and 5 were using a hybrid modality. Hybrid learning includes schools that were alternating in person learning, using phased in grade levels, or some combination of both. One school reported no student involvement in their outbreak. Additionally, 5 schools reported that only students with disabilities were being served on site.

COVID-19 Activity Level

Based on the Decision Tree for Provision of In Person Learning among Public and Private K-12 Students during COVID-19, we define COVID-19 activity levels as >75 cases per 100,000 people over 14 days as high, 25-75 cases per 100,000 over 14 days as moderate, and <25 cases per 100,000 over 14 days as low. Of all K-12 outbreaks in WA State, 31 (74%) occurred in counties with high COVID-19 activity levels, 9 (21%) occurred in counties with moderate COVID-19 activity levels, and 2 (5%) occurred in counties with low COVID-19 activity levels. Both outbreaks that occurred during low COVID-19 activity levels were reported in March 2020. There have been 4 outbreaks with ≥5 linked cases (Table 2), and of those, 3 occurred in counties with high COVID-19 activity levels.

Table 2: Summary of K-12 school outbreaks with ≥5 linked cases

Week outbreak started	LHJ	# of Cases	Public/ Private	COVID activity level	Disease Transmission Rate*	County incidence **
9/20/2020	Spokane	9	Private	High	142	1,948
9/20/2020	Spokane	5	Private	High	142	1,948
9/20/2020	Whitman	5	Public	High	541	3,702
9/27/2020	Snohomish	7	Private	Moderate	51	1,138

*Cases per 100,000 per 14 days in the 2 weeks prior to the outbreak
** Overall incidence per 100,000 from February 1- November 4, 2020

COVID-19 Cases in K-12 Schools

There are 110 cases linked to K-12 school outbreaks in WDRS. Fifty percent of the cases were 17 years of age or younger (Table 3). Of those, 30% were among 11 to 17-year-olds. Among adult cases linked to these outbreaks, 30% of them were between the ages of 45 and -64.

This is an incomplete representation of the total number of cases associated with these outbreaks. Four of these outbreaks do not have any cases linked, and four of the outbreaks only have one case linked. The median number of cases linked to K-12 outbreaks is 2.

The largest outbreak occurred at a private school in Spokane County and had 9 cases linked. This outbreak started on September 21, 2020. At that time, COVID-19 activity level in Spokane County was high (>75 cases per 100,000 people over 14 days).

Of the cases linked to these outbreaks, no cases are reported to have been hospitalized overnight and there are no reported deaths. Compared to all Washington State cases between the ages of 0 and 18 years, there were 20 hospitalizations at least overnight and 5 deaths (Table 4).

Table 3: Age distribution of cases linked to outbreaks in K-12 schools in WDRS

Age group (years)	% of total cases
0-4	2%
5-10	18%
11-17	30%
18-44	18%
45-64	30%
65-79	2%

Table 4: COVID-19 summary of all cases aged 0-19 years in WA State

Age group (years)	Total cases	Hospitalizations*	Deaths
0-5	2809	5	1
6-10	3539	1	0
11-15	7289	2	0
16-19	2510	12	4
Total	16147	20	5

*Cases hospitalized at least overnight

Data Limitations

There are a number of limitations to these data. First, outbreak events are entered into WDRS at any point during an outbreak investigation. As a result, cases have not been consistently linked to outbreak events in WDRS and many key fields are left blank, making it difficult to understand the scope of the outbreaks or draw inference on the highest risk groups within these settings. Second, there may be some delay in receiving reports of outbreaks, so there could be underreporting, particularly in the most recent weeks.