

Core Assignment #2:

**Epidemiological Outbreak Report of
Lab-Confirmed COVID-19 Staff and Student
Cases in an Elementary School**

University of Victoria

HINF 381: Epidemiology, Population Health and Public Health

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1 | SUMMARY (4-6 points of interest)

A COVID-19 outbreak was observed in an elementary school during October, 2023, with the following points of interest:

- Out of 40 cases, 34 (85%) were among students while only 6 (15%) were among teachers
- The majority of cases were under the age of 19
- 25 (63%) of cases were female
- Only 5 (13%) of cases were hospitalized, most of which were students
- There were no deaths

2 | SUMMARY TABLE

A summary table of demographic information (mean, min and max of age; sex) and severity (ever hospitalized; deceased) for teachers and students is as follows, **Figure 1**:

Oct. 2023 COVID-19 School Outbreak: Demographic Information and Severity for Staff and Student Cases			
Characteristic	Overall N = 40 (100%) ¹	Student N = 34 (85%) ¹	Teacher N = 6 (15%) ¹
Age	13 (6 - 52)	9 (6 - 12)	39 (29 - 52)
Sex			
Female	25 (63%)	20 (59%)	5 (83%)
Male	15 (38%)	14 (41%)	1 (17%)
Hospitalized	5 (13%)	3 (8.8%)	2 (33%)
Deceased			
No	40 (100%)	34 (100%)	6 (100%)

¹ Mean (Range); n (%)

Figure 1: Demographic Information of Oct. 2023 COVID-19 School Outbreak

3 | DATA INTERPRETATION

The majority of COVID-19 cases linked to this outbreak were students below the age of 19, **Figure 2**. Given that the outbreak occurred in an elementary school—with a higher proportion of students to teachers—this data is congruent with our expectations.

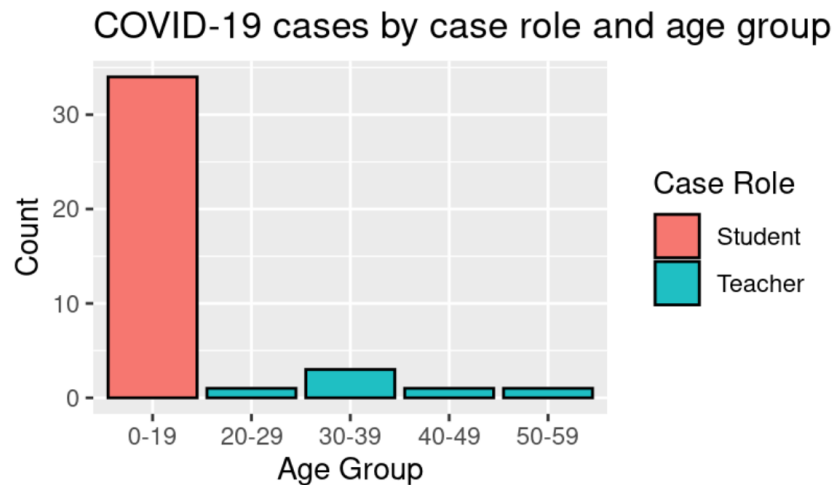


Figure 2: COVID-19 Cases by Case Role and Age Group

Primarily, the cases among both teachers and students were female—indicating a possible overrepresentation among teachers and students of girls and women, **Figure 3**.

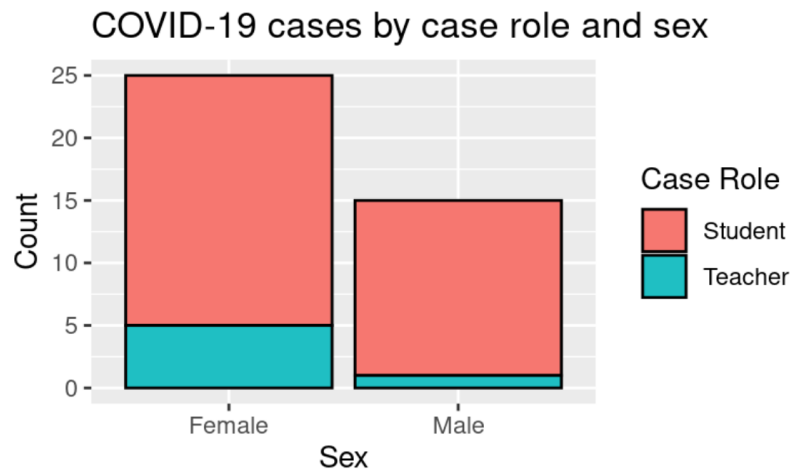


Figure 3: COVID-19 Cases by Case Role and Sex

Only 5 hospitalizations occurred with no deaths in this outbreak, **Figure 4**. Given the young age of the cases, and that the majority of Canadians received at least one COVID-19 vaccine before October 2023, this data is congruent with our expectations.

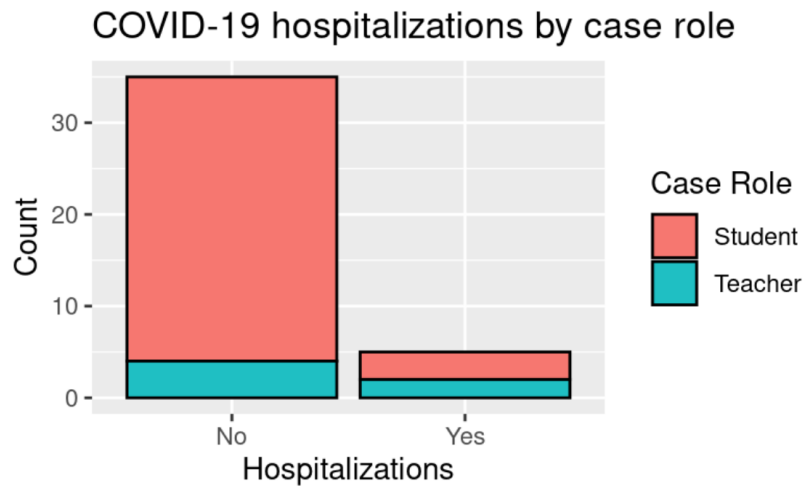


Figure 4: COVID-19 Hospitalizations and Case Role

4 | EPIDEMIOLOGIC CURVE

The trend of this outbreak is displayed in **Figure 5** as the number of staff and student cases by episode date. Interestingly, no new cases occurred on the 11th and 12th, a Wednesday and Thursday respectively, with decreasing trends afterward. This may indicate the possible shutdown of the school during that week.

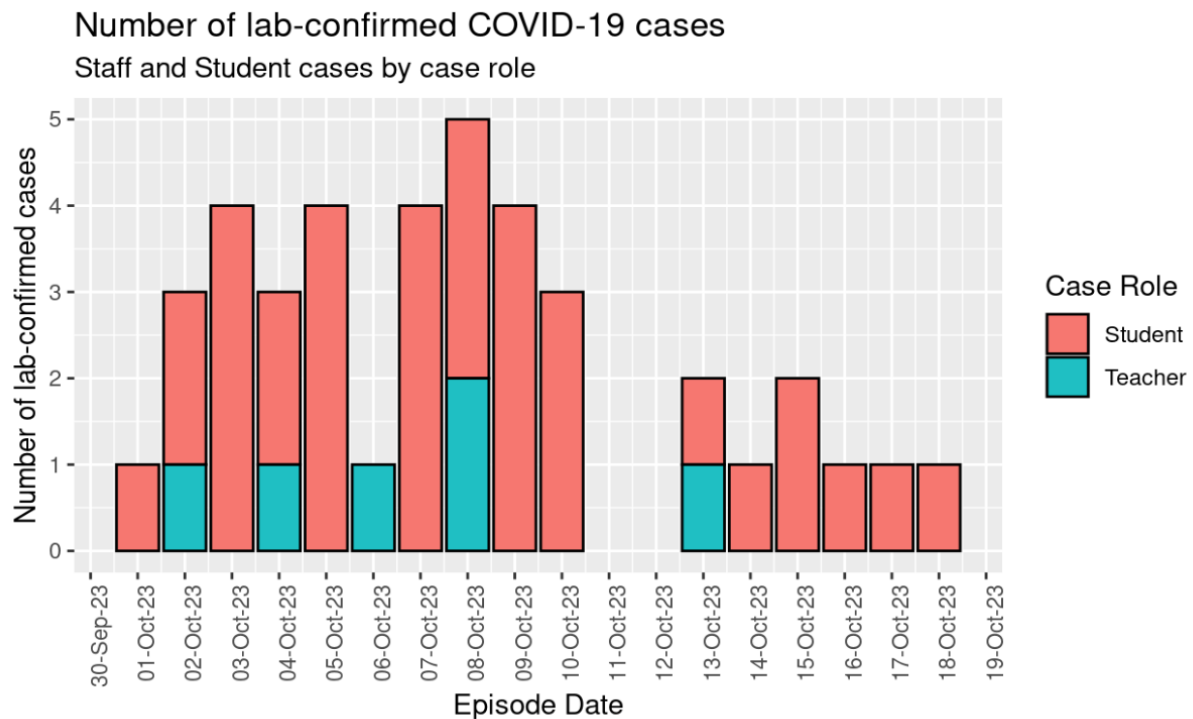


Figure 5: Number of Lab-Confirmed COVID-19 Cases by Episode Date