

# Group Exercises: Instructor Answer Key

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## Exercise 1

The choice of information to include in a line listing is somewhat arbitrary. The following categories are often included:

### Identifying information

- Identification number or case number, usually in the left-most column
- Names or initials as a cross-check

### Clinical information

- Physician diagnosis
- Was diagnosis confirmed? If so, how?
- Symptoms
- Laboratory results
- Was the patient hospitalized? Did the patient die?

### Descriptive epidemiology—time

- Date of onset
- Time of onset

### Descriptive epidemiology—person

- Age
- Sex
- Occupation, if relevant, or other seemingly relevant characteristics

### Descriptive epidemiology—place

- Street, city, or county
- Worksite, school, day care center, etc., if relevant

### Risk factors and possible causes

- Specific to disease and outbreak setting

**ONE POSSIBLE ANSWER:**

Here is one way that a line listing might be drawn up from the six case report forms on the Cleveland-McKay wedding outbreak:

ID #	Initials	Date of Onset	Diagnosis	How Confirmed	Age	Sex	County	Physician	Cleveland-McKay Wedding
1	DM	7/27	trichinosis	Biopsy	33	M	Columbia	Baker	Yes
2	JG	8/14	probable trichinosis	Not done	26	M	Columbia	Gibbs	Yes
3	RD	7/25	trichinosis	Serologia	45	M	King	Webster	Yes
4	NT	8/4	trichinosis	Not done	27	F	Columbia	Stanley	Yes
5	AM	8/11	R/O trichinosis	Pending	54	F	Clayton	Mason	Yes

**Exercise 2**

You would use a cohort study because the outbreak is small and confined. The appropriate measure of association for a cohort study is relative risk, which is calculated in this case as the attack rate for workers exposed to celery divided by the attack rate for those who were not exposed.

	# exposed (to celery)				# not exposed (to celery)				Relative Risk
	Rash	No rash	Total	Attack Rate	Rash	No rash	Total	Attack Rate	
<b>Celery</b>	25	31	56	44.6%	5	65	70	7.1%	6.3

- The attack rate for exposed workers is 25 / 56, or 44.6%.
- The attack rate for workers who were not exposed is 5 / 70, or 7.1%.
- Thus, the relative risk for exposure to celery is 44.6 / 7.1, or 6.3.

This means that workers who were exposed to celery were 6.3 times more likely to develop the rash illness than those who were not exposed, and it is therefore likely that celery was the source of the outbreak. However, before you could draw this conclusion, you would need to compare the relative risk for celery with that for other vegetables and fruits to see if the implication is stronger for any of them.

Then, to test the likelihood of the findings, calculation of a test of statistical significance is needed, such as chi-square for the item with the highest relative risk and a look up of the corresponding p-value in a table of p-values. If the p-value was below .05, your findings would be considered statistically significant.