

**EVE 486
Public Health**

HW #4

Due: 20 September, 2019

1. Find an article (scientific journal, newspaper, magazine, etc.) that discusses an epidemiologic study (environmental epi preferable, but not required). Your article must present the data required for you to accomplish the following:
 - a. Determine whether the study is a case-control or cohort design (please limit your search to one or the other).
 - b. Set up the appropriate contingency table.
 - c. Determine the analytic measures appropriate for the type of study selected.
 - d. Interpret the results.

Please attach a copy of the article you find to your homework submission.

2. On June 24, 2016, a request was made to the Arizona Department of Health Services to assist in the investigation of an outbreak of diarrheal disease at a resort. To determine the extent of the outbreak, persons who had either stayed overnight or eaten at the resort between April 1 and April 30 were telephoned and interviewed.
 - a. A review of resort records identified 2923 persons who stayed or ate at the resort during April 1-30. 1791 individuals were contacted and 1722 agreed to be interviewed. A total of 764 cases of diarrheal disease were identified.
 - i. Calculate the attack rate among those persons who had been interviewed.
 - ii. Why is the denominator of the attack rate the number of individuals interviewed instead of the number of individuals who stayed or ate at the resort?
 - b. The disease occurred more frequently among persons who had drunk resort tap water or had used resort ice (695 of 1138) compared to those who had not (69 of 584).
 - i. Calculate the attack rate for persons who had drunk tap water (or used ice) and the attack rate for those who did not.
 - ii. What is the ratio of these two attack rates, comparing those who were exposed to resort water to those who were not exposed to resort water?

- iii. What is the ratio of *cases* who had drunk tap water (or used ice) compared to the *cases* who did not? Does this ratio provide the same information about the relationship between exposure and disease as the ratio calculated in b.ii? Why (not)?
- c. Giardiasis is usually a self-limited illness, lasting several days to weeks. The severity of the illness is dependent on the health status of the host. The following table shows the duration of illness for the cases at the resort.
- i. Of the individuals with a known duration of illness, what proportion had a duration of illness of less than or equal to one week?
 - ii. What is the median duration of illness?
 - iii. Why might a median be more useful than a mean when trying to determine the “average” of a distribution?

Duration of symptoms (days)	Number of cases
0 – 2	2
3 – 4	33
5 – 7	146
8 – 12	173
13 – 14	234
15 – 17	115
18 – 21	19
Unknown	42
Total	764