

## Problems: 2004 Disease Detectives Solon Regional Meet

### Scoring rubric

**Question 1:** (3 point) Possible points include:

- significant illness among members of AAST
- possibility of further illness
- recommendations for future control and prevention
- legal liability

**Question 2:** (3 points) Should demonstrate an understanding of the concept of outbreak, which is the occurrence of more cases of disease or other health problem than would normally be expected for a given time or space.

**Question 3:** (7 pts) Initial steps (minimum of the top three) should include with a brief description the following (5pts) more points if they include step 4:

- **Prepare for field work;** research the disease, gather supplies and information, make necessary administrative arrangements for travel; consult all parties to determine your role in the investigation
- **Establish the existence of an outbreak:** look at time/place/person information, what is the background incidence of respiratory illness, what is the common denominator in the cases?
- **Verify the diagnosis:** how certain is the doctor's diagnosis?; etc.
- **Define and id cases:** establish a case definition (standard set of criteria for deciding whether a person should be classified as having the disease, id and count cases, decide if you need to conduct a survey, etc.

**Question 4:** (5 pts) should look similar to the one below: the chart must have location, ill, well columns (others optional)

Location	Went to location				did not go to location				Relative risk
	Ill	Well	Total	Attack rate	Ill	Well	Total	Attack rate	
Hotel A	140	560	700	20	140	660	800	18	1.1
Hotel b	28	260	288	9.7	252	960	1212	21	0.46
Hotel c	56	202	258	28	224	1018	1242	18	1.56
Hotel d	56	198	254	22	224	1022	1246	18	1.2
Ballroom B	238	610	848	28	42	610	652	6	4.6
Ballroom C	84	61	145	58	196	1159	1355	14	4.1
Display Hall	274	1171	1445	19	6	49	55	10.9	1.7

**Question 5:** (1 point) Ballroom b and c in the convention center

**Question 6:** (10 pts) in essence they need to discuss the difference between attack rates. They need to localize the fact that at the convention center two locations (ballroom B and C) had high attack rates while the display hall did not.

**Question 7:** (1 pt) cohort study

**Question 8:** (2 pt) relative risk;

Sample: display hall:  $19/10.9 = 1.7$

**Question 9:** (1 pt) no, students should mention that it represents mortality so this chart does not include people who are alive that have cancer

**Question 10:** (2 Pts) no, students should discuss the problem of generalizing from one small state to the entire country based on a variety of conditions (i.e., environmental, economic,)

**Question 11:** (2 pts) Pancreas

**Questions 12:** (2 pts.) Urinary bladder and oral

**Questions 13:** (2 pts) possible factors are:

- smoking rate for men is higher
- higher usage of chew tobacco amongst men
- higher usage of cigars amongst men