

measurement exercise v

Here are two headlines and leads for a newspaper story that reports the results of a national study of the rate of new cases of kidney cancer in the more than 3000 counties, parishes, and boroughs in the United States. The rate of new cases for any disease is the number of new cases per 100,000 people.

**Study of Kidney Cancer in the United States Shows Remarkable Pattern**

A new study reports that states in the Midwest, the South, and the West have the lowest rates of kidney cancer in the United States. The press release notes that cancer rates are lowest in sparsely populated rural counties located at distance from large population centers, and in which the economy is dominated by agriculture and ranching.

**Study of Kidney Cancer in the United States Shows Remarkable Pattern**

A new study reports that states in the Midwest, the South, and the West have the highest rates of kidney cancer in the United States. The press release notes that cancer rates are highest in sparsely populated rural counties located at distance from large population centers, and in which the economy is dominated by agriculture and ranching.

For each headline and lead, develop as many explanations as you can that might explain the reported “remarkable pattern,” and then narrow your list to the three that are most plausible. After you generate your two sets of possible explanations, decide which, if either, story is correct. Be prepared to share your group’s analysis and conclusions.

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Here are two headlines and leads for a newspaper story that reports on the effect of a school's enrollment on its students' performance on achievement tests. The specific test mentioned in the lead is part of the annual Pennsylvania System School Assessment program, which is used to evaluate school performance.

**Study of Math Scores in Pennsylvania Shows Remarkable Pattern**

A new study reports on achievement scores of students in Pennsylvania public schools. The press release notes that average math scores for 5<sup>th</sup>-grade students were lowest in those schools with smaller overall enrollments.

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Here are two headlines and leads for a newspaper story that reports on the frequency of automobile accidents in the 200 largest cities in the United States. One aspect of the study is the average time, in years, between accidents for drivers who have an accident during the current year.

### **Study of Auto Accidents in the United States Shows Remarkable Pattern**

A new study from the Allstate Insurance Company reports on auto safety in the nation's 200 largest cities. The press release notes that the 10 safest cities, based on the average time between a driver's accidents, are those with smaller populations. The safest city was Sioux Falls, SD with a population of 133,834 (rank of 170) and an average of 14.3 years between accidents.

### **Study of Auto Accidents in the United States Shows Remarkable Pattern**

A new study from the Allstate Insurance Company reports on auto safety in the nation's 200 largest cities. The press release notes that the 10 least safe cities, based on the average time between a driver's accidents, are those with smaller populations. The least safe city was Newark, NJ with a population of 277,911 (rank of 64) and an average of 5.0 years between accidents.

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Here are two headlines and leads for a newspaper story that analyzes hospital safety in England. The study uses a standardized mortality ratio that reports the absolute number of deaths experienced at the hospital relative to the expected number of deaths given the ages and illnesses of the hospital's patients. A ratio of less than 1 means that the hospital experienced fewer deaths than expected.

### **Study of Hospital Mortality Shows Remarkable Pattern**

A new study of hospitals in England reports that mortality rates are lowest for those facilities with fewer than 65,000 patients. The press release notes that the best performing hospital was the Royal Free Hampstead NHS Trust, which had a Hospital Standardized Mortality Ratio of 0.74 for 62,062 admissions. Admission rates for the hospitals in the study ranged from 24,269 to 232,033.

### **Study of Hospital Mortality Shows Remarkable Pattern**

A new study of hospitals in England reports that mortality rates are greatest for those facilities with fewer than 65,000 patients. The press release notes that the worst performing hospital was the George Eliot Hospital NHS Trust, which had a which had a Hospital Standardized Mortality Ratio of 1.43 for 42,577 admissions. Admission rates for the hospitals in the study ranged from 24,269 to 232,033.

For each headline and lead, develop as many explanations as you can that might explain the reported "remarkable pattern," and then narrow your list to the three that are most plausible. After you generate your two sets of possible explanations, decide which, if either, story is correct. Be prepared to share your group's analysis and conclusions.