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PA 706

Prof. Silverman

Community Health Care

The City of South San Francisco has brought me in as a data analyst to look at the community's health care needs and how to increase community access to health care.

After randomly sampling employees and residents in South San Francisco, information was gathered in order to assess the community's health care needs as well as how to increase the community's access to healthcare, a lot of information was gathered regarding the community.

Presentation of Hypothesis and Questions:

The research questions that are being posed are: Do residents in South San Francisco have health care coverage? What are the ages of residents that do not have health care coverage? What is the ethnicity of those who do not have health care coverage? Thus, the hypothesis is that children, seniors, and minorities represent a large uninsured population in South San Francisco.

Statistical Tests:

Firstly, univariate statistics will be looked at. The variable that will be looked at is what percentage of those who were polled are residents of South San Francisco.

Therefore, I will conduct a percentage test because I am looking at one variable and it is nominal. I will also construct a pie chart in order to get a better visual picture of the individuals who were sampled and whether or not they are residents. Using a pie chart, works with univariate variables that are nominal. Next, I will look at the gender of the

residents in South San Francisco and since gender is a nominal variable I will construct a bar graph as well as look at the mode of gender in South San Francisco.

Bivariate statistics will also be looked at. The first relationship I will look at is whether residents in South San Francisco have health care coverage or not? I will be looking at the amount of residents who have health care coverage compared to those residents who do not have health care coverage. The test that will be used in order to look at the relationship is a cross tabulation. I will use a cross tabulation test because I will be looking at two nominal variables. At this time, I am looking at a descriptive relationship and that is why cross tabs are useful. A chi-square test will also be used in order to determine the relationship between residents and whether or not they have health care coverage.

Next, I will look at the resident's amount of health care coverage? The question I will be looking at in this test is the range of health care coverage residents have. Therefore, I will be looking at a dichotomy and interval data, so a point by serial correlation co-efficient will be used to obtain descriptive information and a two sample t-test for difference of means will be used to obtain inferential information.

The following question that needs to be answered is what are the ages of residents that do not have health care coverage? Age is an interval variable and whether or not the resident has health coverage is nominal. Therefore, a point by serial correlation co-efficient will be used to obtain descriptive information and a two sample t-test for difference of means will be used to obtain inferential information. Once again, inferential statistics allows me to assess the relationship between the age of residents and whether or not they have health care coverage.

What is the ethnicity of those who do not have health care coverage is the following question that is going to be looked at. Therefore, a cross tabulation and a chi-square test needs to be performed since I will be analyzing two nominal variables. A cross tabulation will provide descriptive information, and a chi-square test will provide information regarding the relationship between ethnicity and health care coverage. The descriptive information that I will obtain is the percentages of the various ethnicities that have health care coverage as well as the percentages of the various ethnicities that do not have health care coverage.

The number of children in a household is also an important variable to look at in order to access the amount of children without healthcare coverage. Comparing the amount of residents who do not have health care coverage to the number of children 18 years old and younger in their families entails a point bi-serial coefficient as well as a two sample t-test for difference of means. The previous two tests will be used because the variables which are being looked at are a dichotomy and interval.

After running the various statistical tests outlined in the previous report, the City of South San Francisco will be better equipped to assess the community's needs as well as increase the community's access to health care. In addition, South San Francisco will be much better informed of its residents and their needs. As a data analyst the information that I will be looking at is who in the community does not have health care coverage? What are their ages? What is their ethnicity? After answering these questions, increasing these individuals access to health care will seem reasonable because we will know who needs access to health care and we will be able to identify whether the current health center needs to be modified in order address their needs.

