While working on a community health assessment for your agency, the Washington County Health Department, you notice a significant increase in COPD/bronchiectasis hospitalizations between 2011 and 2013. You discuss your concerns with staff from the Franklin County Department of Health and the Warren County Health Department, which are also located within the St. Louis Metro BRFSS Region. Together, you decide to use the MICA system to determine whether or not there is an increasing problem with COPD in the area. If so, you would be interested in applying for grant dollars to allow you to partner with local hospitals to stage an intervention. You begin researching grant opportunities to find out what sorts of data may be required.

1. Use the Inpatient Hospitalization MICA to determine the 2011 and 2013 age-adjusted COPD/bronchiectasis hospitalization rates for residents of the state, each of the three partner counties, and the three counties combined.  The Franklin County information is provided as a guide.  (HINT:  If County/City is selected as the row variable in Step One and all three counties are selected using the CTRL key in Step Five, the Total for Selection row provides the combined rates for all three counties.)

|  | **2011** | **2013** | **Did rate increase?** |
| --- | --- | --- | --- |
| Missouri | **23.7** | **20.2** | **No** |
|  |  |  |  |
| Franklin County | 22.0 | 20.7 | No |
| Warren County | **13.0** | **15.0** | **Yes** |
| Washington County | **31.7** | **56.1** | **Yes** |
|  |  |  |  |
| Tri-county area | **21.6** | **25.0** | **Yes** |

Rates per 10,000 residents; Age adjustment uses 2000 Standard Population

1. You want to determine if any changes in Washington County and in the tri-county area are meaningful and if there are meaningful differences between your area and the state overall. Return to the query screen and add 95% confidence intervals to your table. What are the confidence intervals for the following areas of interest?

|  | **2011** | **2013** |
| --- | --- | --- |
| Missouri | 23.4 to 24.1 | 19.9 to 20.5 |
|  |  |  |
| Washington County | 25.2 to 39.3 | 47.8 to 65.5 |
|  |  |  |
| Tri-county area | 19.5 to 23.9 | 22.8 to 27.4 |

Is the difference between the 2011 and 2013 Washington county rates statistically significant? **Yes.** If so, how? **The 2013 Washington County COPD/bronchiectasis hospitalization rate is significantly higher than the 2011 rate.**

Is the difference between the 2011 and 2013 tri-county rates statistically significant?  **No.**

If so, how? **The 2013 tri-county COPD/bronchiectasis hospitalization rate is not significantly different from the 2011 rate**.

Are the 2013 Washington County and Missouri rates statistically significantly different? **Yes.**  If so, how? **The Washington County rate is significantly higher than the Missouri rate.**

Are the 2013 tri-county and Missouri rates statistically significantly different?  **No.** If so, how? **The tri-county rate is not significantly different from the Missouri rate.**

1. Many of the grant opportunities you review ask that grantees target the age groups that are most impacted by high COPD/bronchiectasis rates.  Revise your query so that you can view rates by age for the 2013 data.  Which age group(s) have the highest rates in Washington County and the tri-county area? (HINT:  Click the All Ages hyperlink to view more detailed age groups.)

Washington County **The highest COPD/bronchiectasis hospitalization rates in Washington County occur among residents ages 75 to 84 (277.8 hospitalizations per 10,000 residents) and 65 to 74 (219.6).**

Tri-county area **The highest COPD/bronchiectasis hospitalization rates in the tri-county area occur among residents ages 65 to 74 (105.5 hospitalizations per 10,000 residents) and 75 to 84 (105.2).**

1. Based on the data gathered in the questions above, should the partners move forward in applying for grant dollars to fund a COPD intervention?  Why or why not? **Based on the data, Washington County should definitely consider applying. The Washington County rates are significantly high compared to the state overall and are on the rise. It is less clear whether the tri-county areas as a whole should apply. The Franklin and Warren rates did not change much; in fact, additional analysis of their confidence intervals reveals that there was no significant difference between the 2011 and 2013 rates. Furthermore, the Franklin County rates are only slightly lower than the state rates for these years, while the Warren County rates are considerably lower. (Additional analysis of the confidence intervals for Warren County would reveal that the Warren County rates are significantly lower than the state rates.)**