

Rochester Regional Health *Cancer Analysis*

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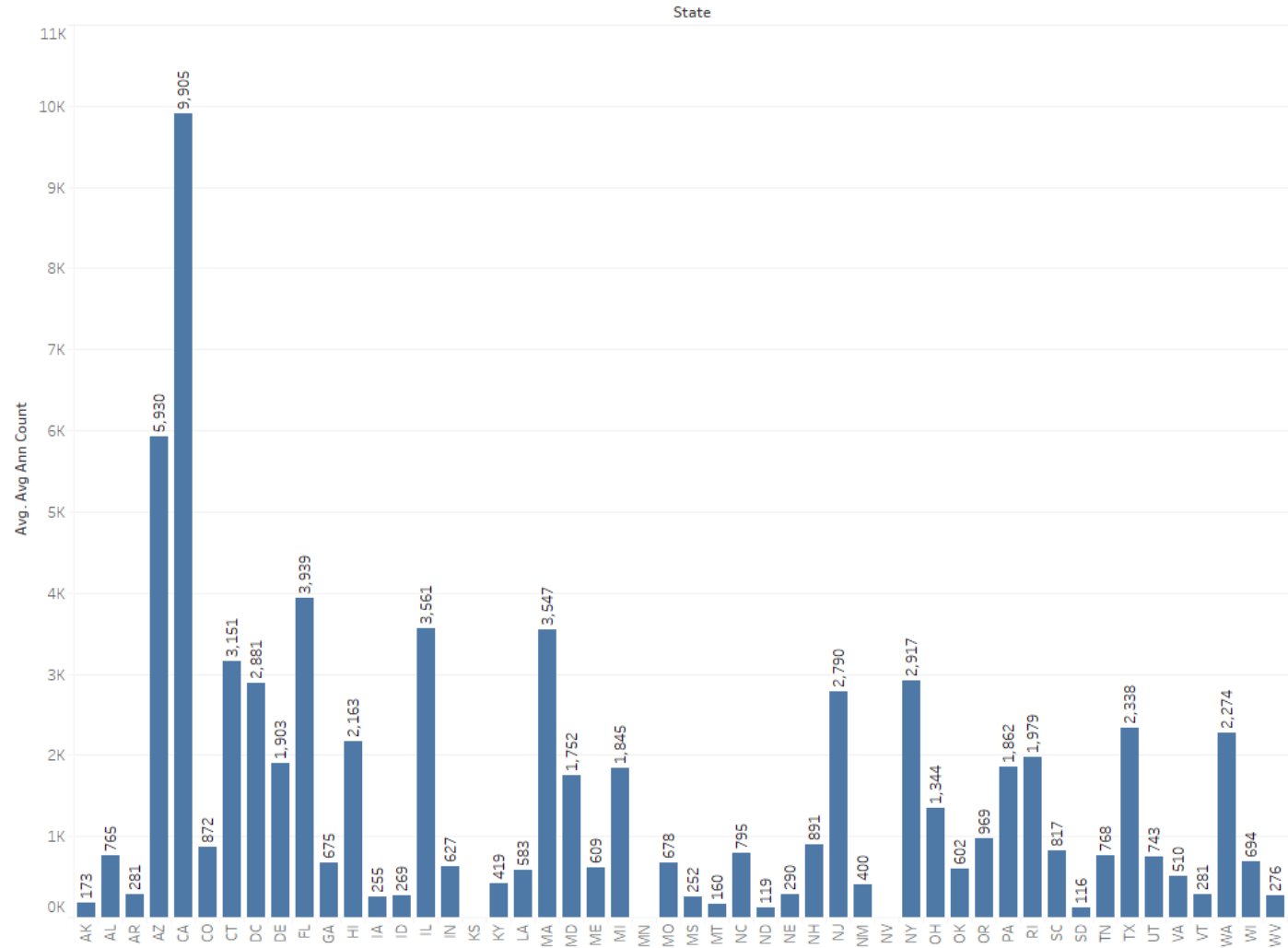
Factors Affecting or Increasing the chances of developing Cancer.

- It is usually not possible to know exactly why one person develops cancer and another doesn't. But research has shown that certain risk factors may increase a person's chances of developing cancer.
- Cancer risk factors include exposure to chemicals or other substances, as well as certain behaviors. They also include things people cannot control, like age and family history. A family history of certain cancers can be a sign of a possible inherited cancer syndrome.
- This being said, there are factors that can all together nullify the chances of developing cancer, such as the use of tobacco. Many such factors such as Skin cancer, usually occurring due to exposure of the skin to the sun without the use of sun screening lotions, can also be prevented.

Regions Most Prone To Cancer

- The figure below shows the graphical data of cancer prone regions in the United States.

Regions Most Prone to Cancer.



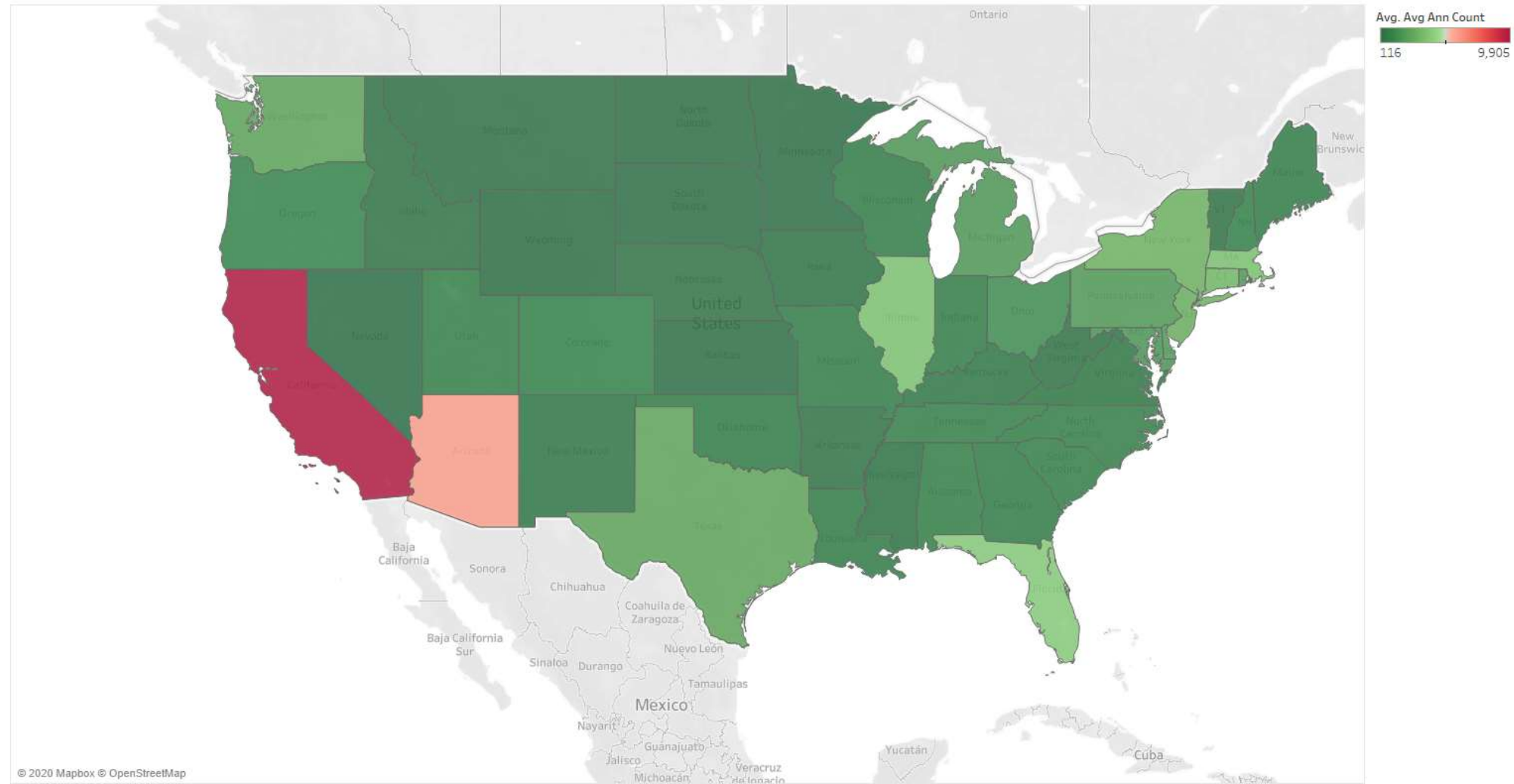
Top 5 Regions Prone to Cancer:

- California
- Arizona
- Florida
- Illinois
- Massachusetts

Regions Most Prone To Cancer.

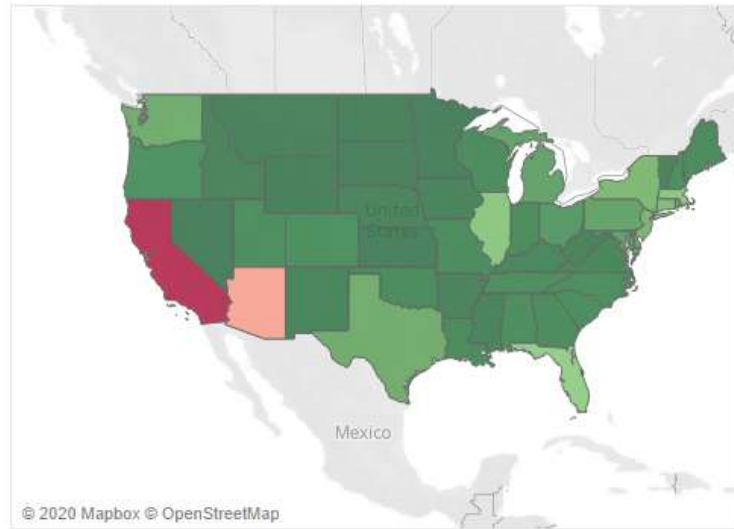
- From the data obtained we can picturise a geographical map of the areas/ states where the incidence rates of cancer is the maximum from the time period 2009-2013.

Incidence Rates of Cancer, per 100,000.

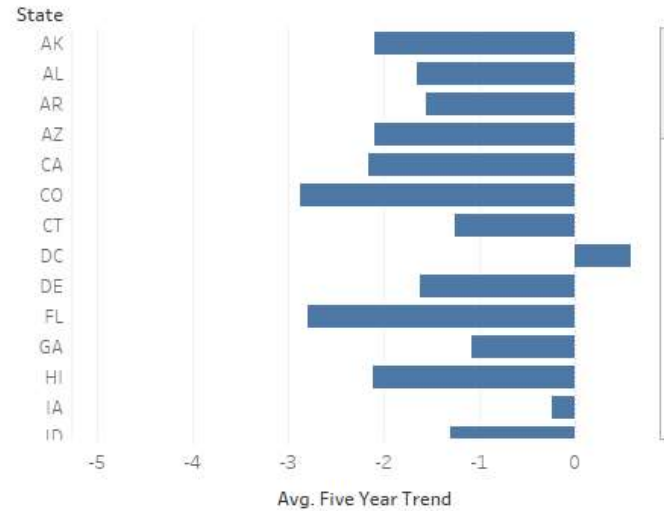


Regions Most Prone To Cancer.

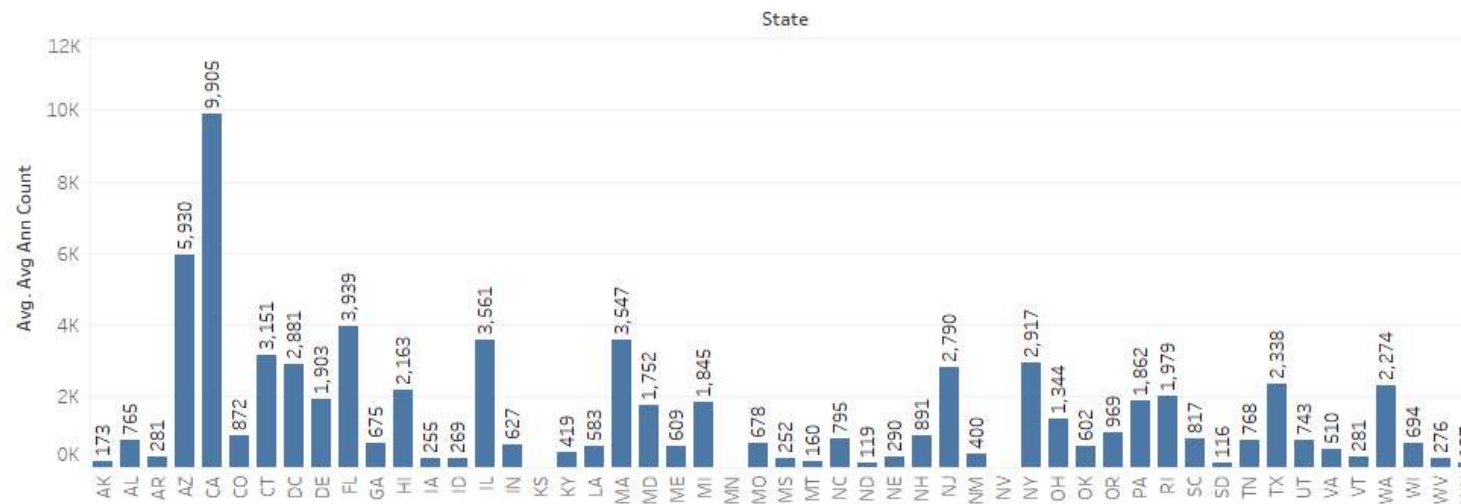
Incidence Rates of Cancer, per 100,000.



5 Year Trend



Regions Most Prone to Cancer.



Factors Affecting the Cancer by Region.

Factors Affecting Cancer

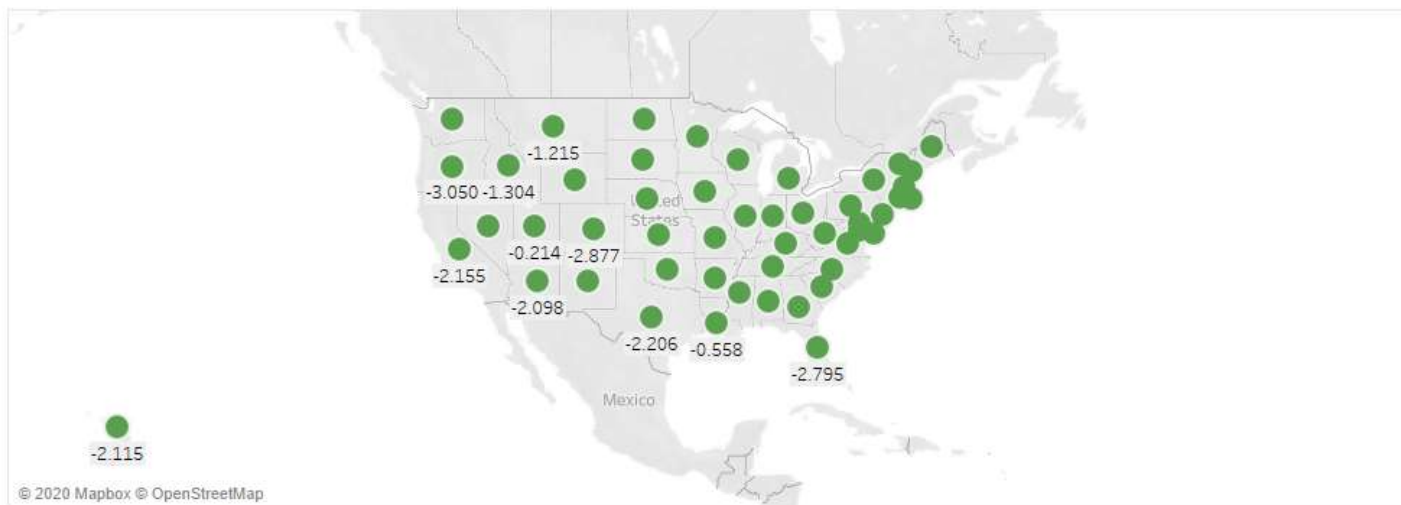


Factors Affecting Cancer by Region.

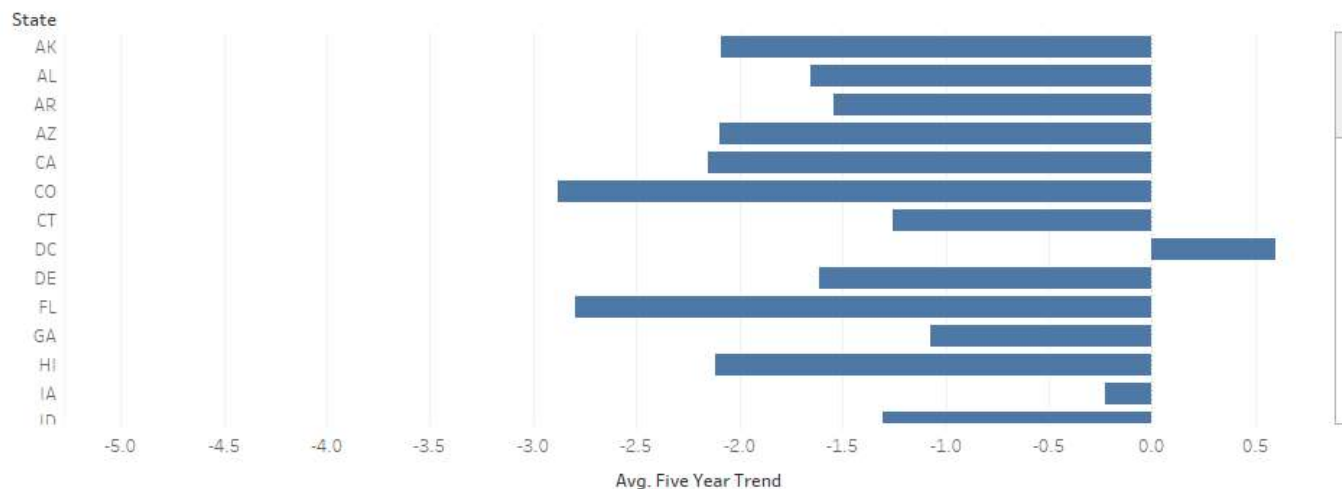
- From the previous Image, it is deduced that higher the population, the average count of cancer also increases, this can be due to a continuing lifestyle of the previous generation or also due to hereditary reasons.
- Poverty also plays a role. When the poverty percentage is high, the deaths per year also increase. This is mainly because of the fact that the population below the poverty line cannot afford good medical care.
- Another important factor that can be inferred is the fact that when the median income is high, the poverty percentage is low and the deaths per year is also low. This is mainly for the fact that the income of the population is nominally high and they can afford basic medical care.
- The next Slide shows the trends of cancer over the past 5 years. This gives a better view of how the cases of cancer were increasing or decreasing.

The figures below show the 5 year trend for cancer count in the United States.

Cancer Trend



5 Year Trend

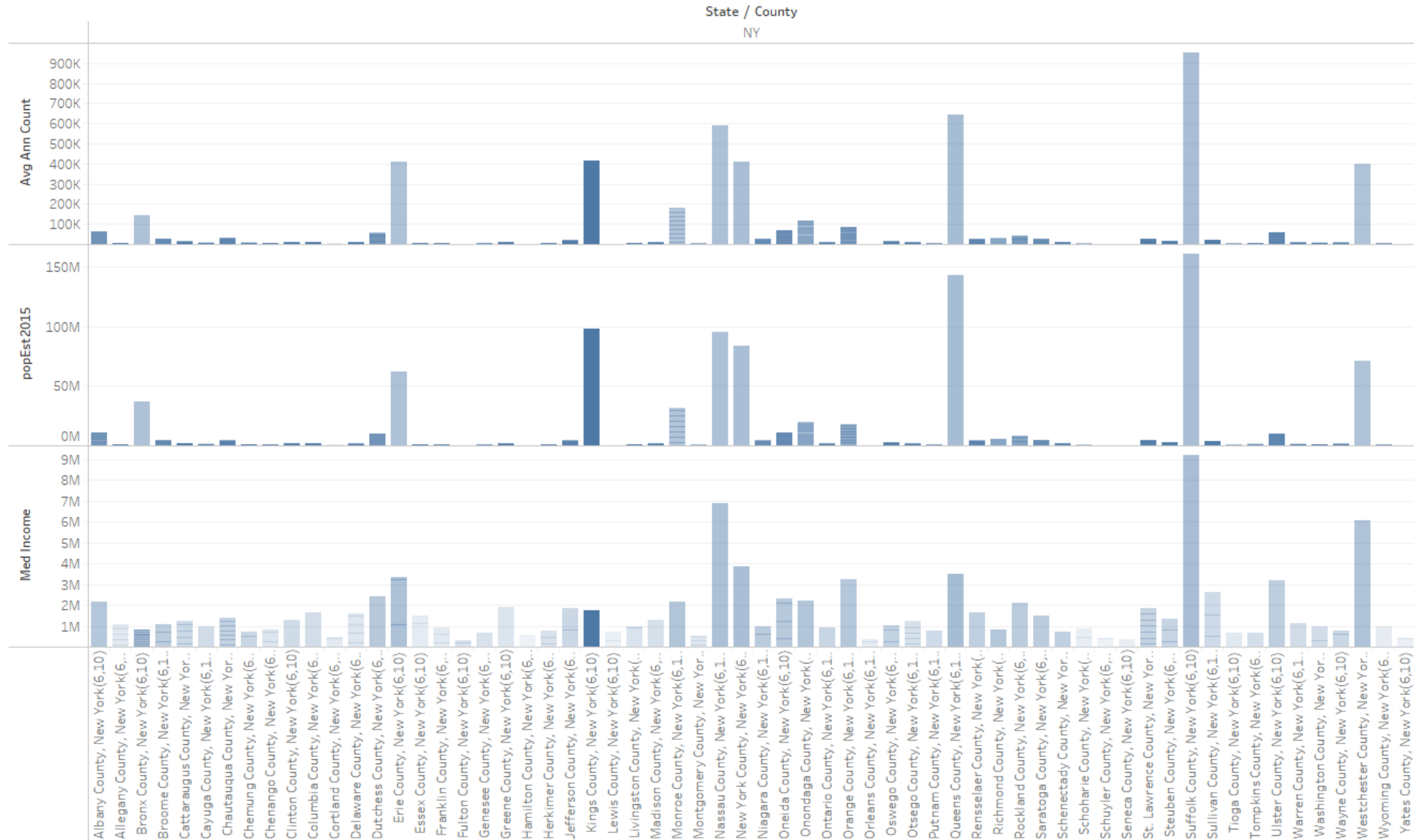


Considering the state of New York

- A report by the American Cancer Society Action Network revealed that more than 40,000 New Yorkers have been diagnosed with cancer every year between 2011 and 2015.
- Deaths due to cancer is also increasing, specifically deaths related to lung and bronchus cancer is the single largest cause of death causing nearly 2700 deaths from 2011 to 2015.
- The report showed that cancer cases and deaths related to cancer differ greatly among boroughs and neighbourhoods. Essentially, it shows that the lower economic regions are affected much more than the higher economic regions.
- The report also shows that Staten Island had the highest cancer incident rate of all the boroughs.
- The next graph compares the annual count of cancer, the population and the income in the areas.
- The graph clearly shows that when median income is nominal or high, the cancer count reduces. That is, when a family or household has enough income to afford good medical care, it reduces the risk of cancer as it can be diagnosed in the early stage or even before it affects a person.

Considering the state of New York.

New York wrt Population and Income.



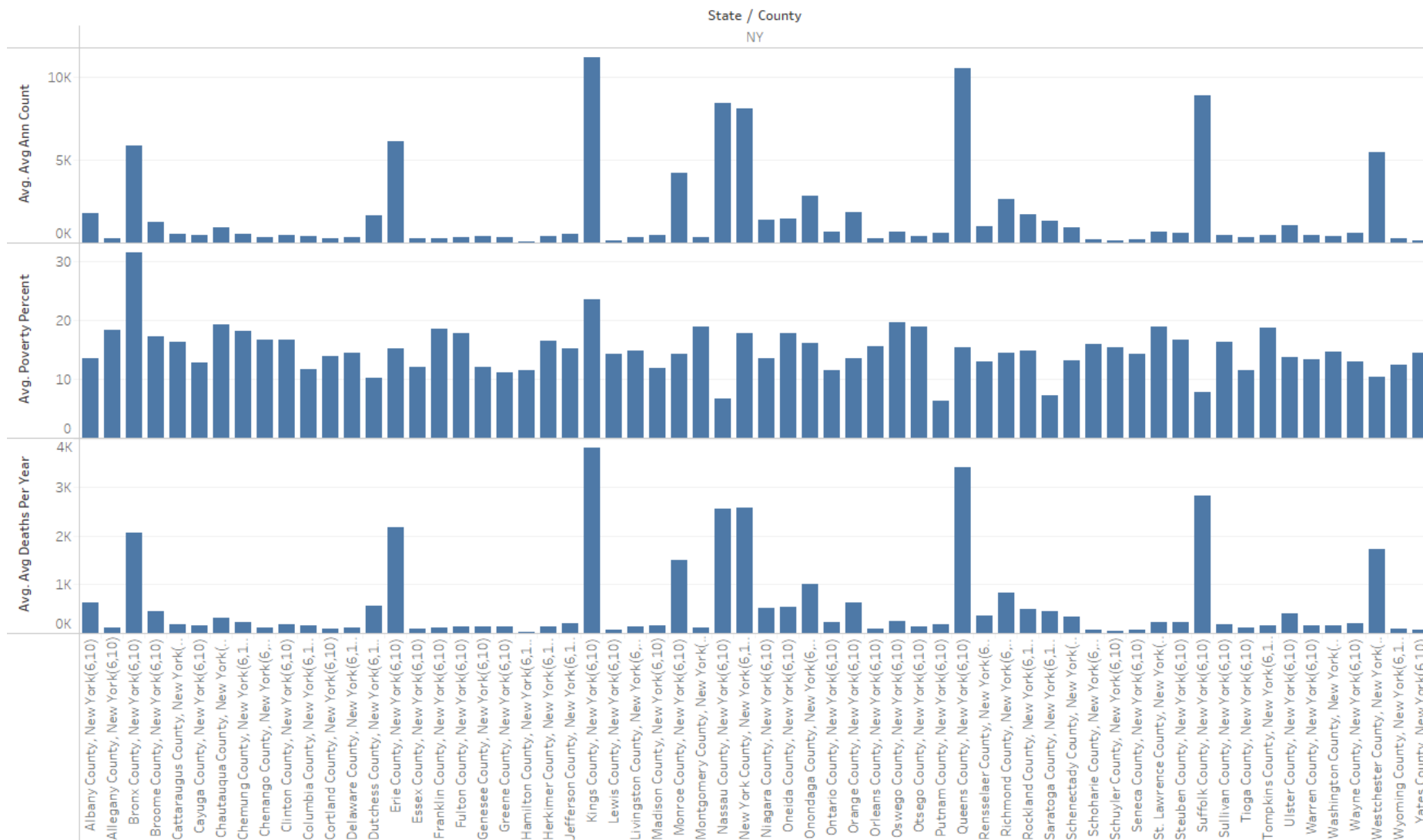
Considering the state of New York.

- Now, further diving into the data, we can compare the poverty percent and deaths per year.
- When the poverty percent is high, it can be seen in the graph that the deaths also increase. This is mainly because of the fact that cancer and cancer related illnesses usually require continuous medical attention and the cost of medical supplies required to battle cancer is very high.
- When poverty is considered, the basic health needs in itself is a tough task to obtain, treatment for cancer is nearly impossible. People or citizens living under the poverty line usually succumb to cancer.



Considering the state of New York.

New York wrt Poverty



Combating Cancer in New York

- Cancer is a disease that is still not clearly understood by researchers and medical professionals.
- With respect to the state of New York, one of the main factors is the poverty and population.
- Combating cancer and it affecting people is a huge task, a few steps have already been taken by the gov. of New York. (Articles Below)
- <https://pubmed.ncbi.nlm.nih.gov/26585707/>
- https://www.health.ny.gov/statistics/brfss/reports/docs/1802_brfss_smoking.pdf
- The articles mainly circles around the use of tobacco. Cancer caused by tobacco can easily be stopped by reducing or completely stopping the use of tobacco.
- Limiting exposure to avoidable risk factors can lower the risk of developing certain types of cancers.

Combating Cancer in New York

- A few steps that can be taken in combating cancer:-
 - Providing affordable health care to the citizens of the state.
 - Educating the public about types of cancer and how avoiding a few habits can reduce the chances of getting cancer.
 - Increasing the age to buy tobacco and its products.
 - Getting regular health check ups done.
 - Having a detailed health history of the family tree provides a good idea about how likely a person is going to get cancer in his life, that is, if the cancer is hereditary, it can help in being prepared and getting rid of the cancer as soon as its detected. Thus increasing the chances of survival.
- Coming to the business perspective, it is not easy to provide free health care to everyone. A few things that can be done to be sustainable is:
 - Providing basic insurance to everyone. When education is done at a good level, the types of cancer and cancer as a whole reduces. This gives a chance to the insurance companies to also have a good business.
 - RRH can have mandatory health check ups, not covered by the insurance.
 - Providing at home or mobile check up units also increases the outreach to the people and in turn increases revenue.
 - Approaching large companies to provide donation towards health care and research also increases revenue. The companies become more approachable when outcomes in combating cancer shows a positive trend.

Tableau Dashboard

- To understand the graphs and figures, click on the link below to have dynamic and interactive graphs.

https://prod-apnortheast-a.online.tableau.com/#/site/datavisualizationprojectmgis/workbooks/94128?:origin=card_share_link