

Cancer Concerns in Vinton County

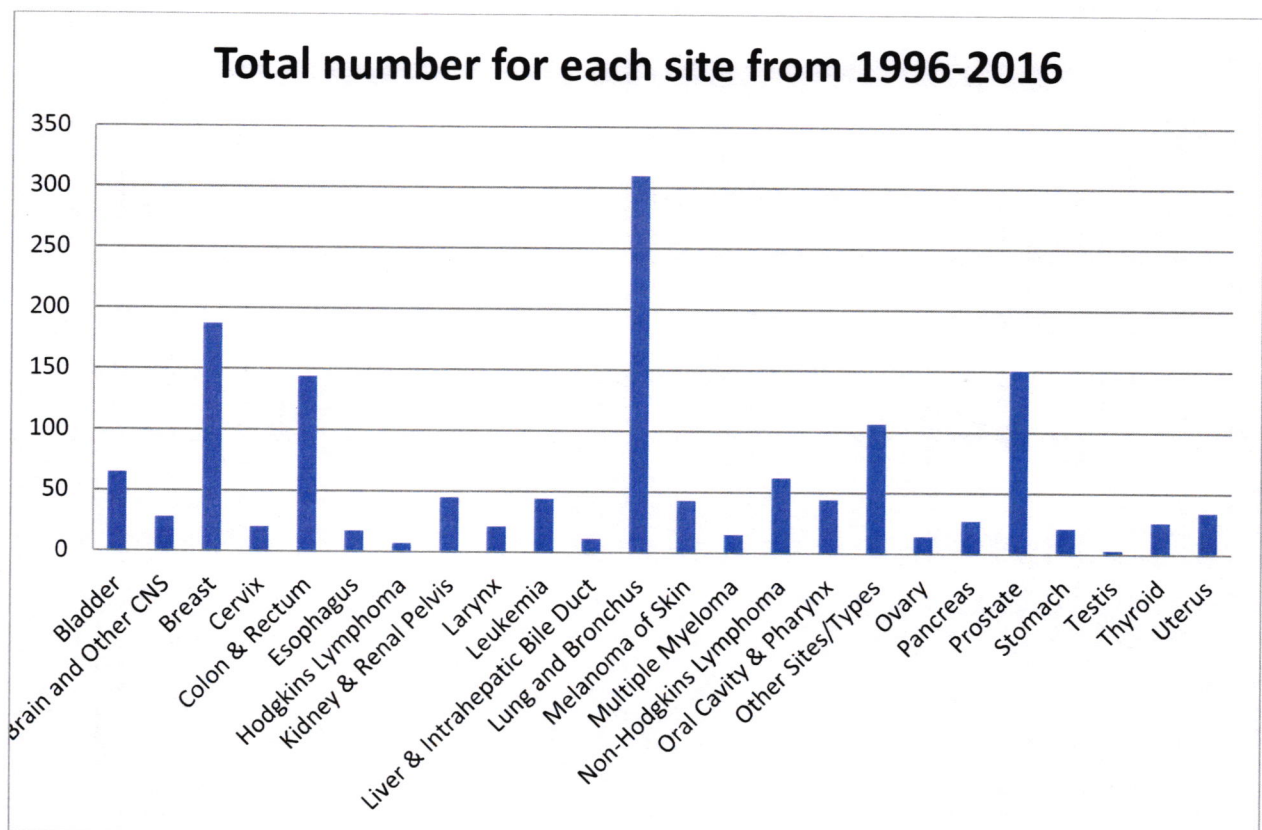
Mikie Strite, MPH

3/31/2017

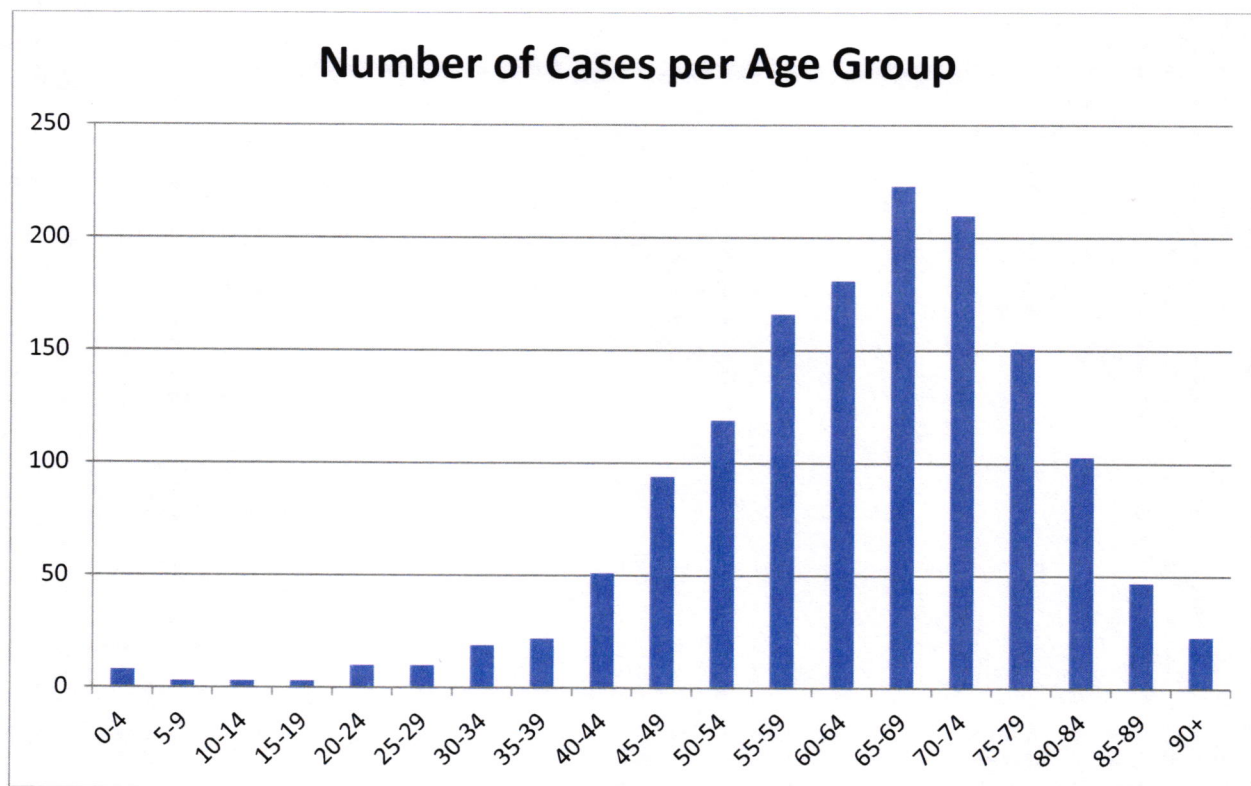
In August of 2016, the Vinton County Health Department was notified of a cancer concern in the county. It was at this point that the Epidemiologist for this region was notified and a statistical analysis was conducted. The epidemiologist requested access to the secured data warehouse at the Ohio Department of Health. It was through this service that the cancer cases were identified. The statistical analysis included cancer rates per year for Vinton County and Ohio, individual cancer rates for Vinton County and Ohio, and a Dot Density map of the addresses of cases. This information and the analysis can be found below.

*Disclaimer: Because of the smaller population of Vinton County, some of the results may appear more drastic than what they are. One case of cancer in Vinton County can change the rate by roughly 15. These rates are also NOT age-adjusted.

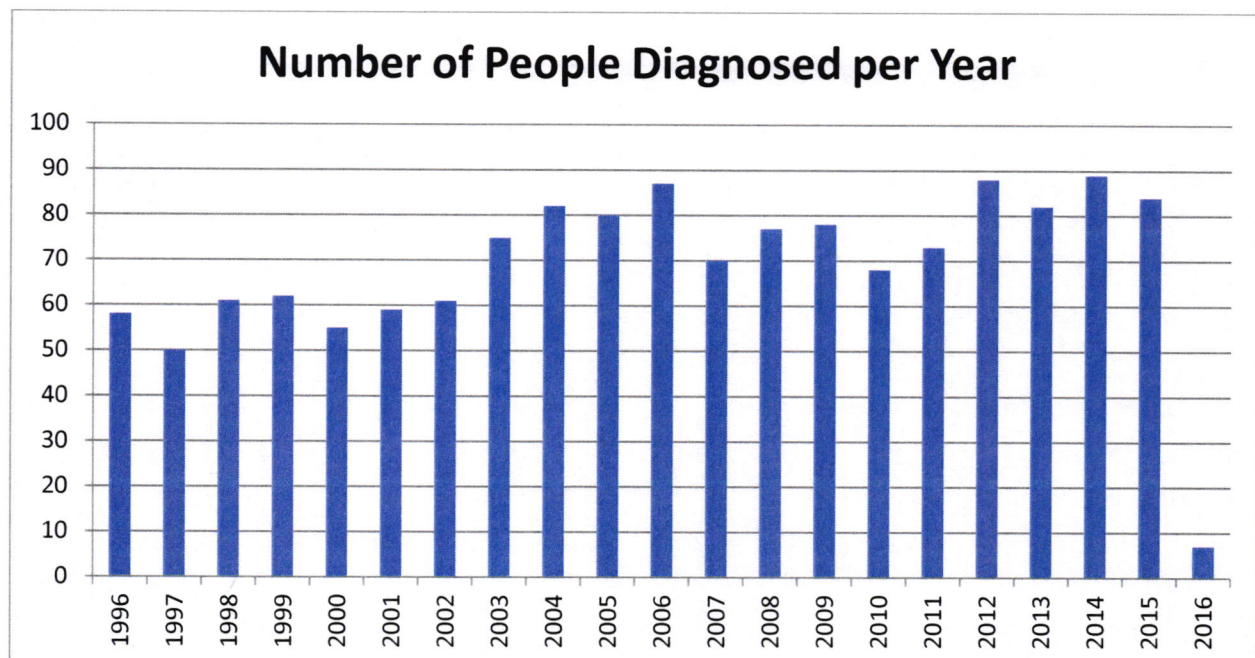
As seen below, the number of cases of cancer for each site for the past 20 years is in the graph. The top 5 types of cancer are in the following order: Lung and Bronchus (310), Breast (187), Prostate (151), Colon and Rectum (144), and Other (107). The large difference between the top 2 types can most likely be attributed to the higher rates of smoking in the county.



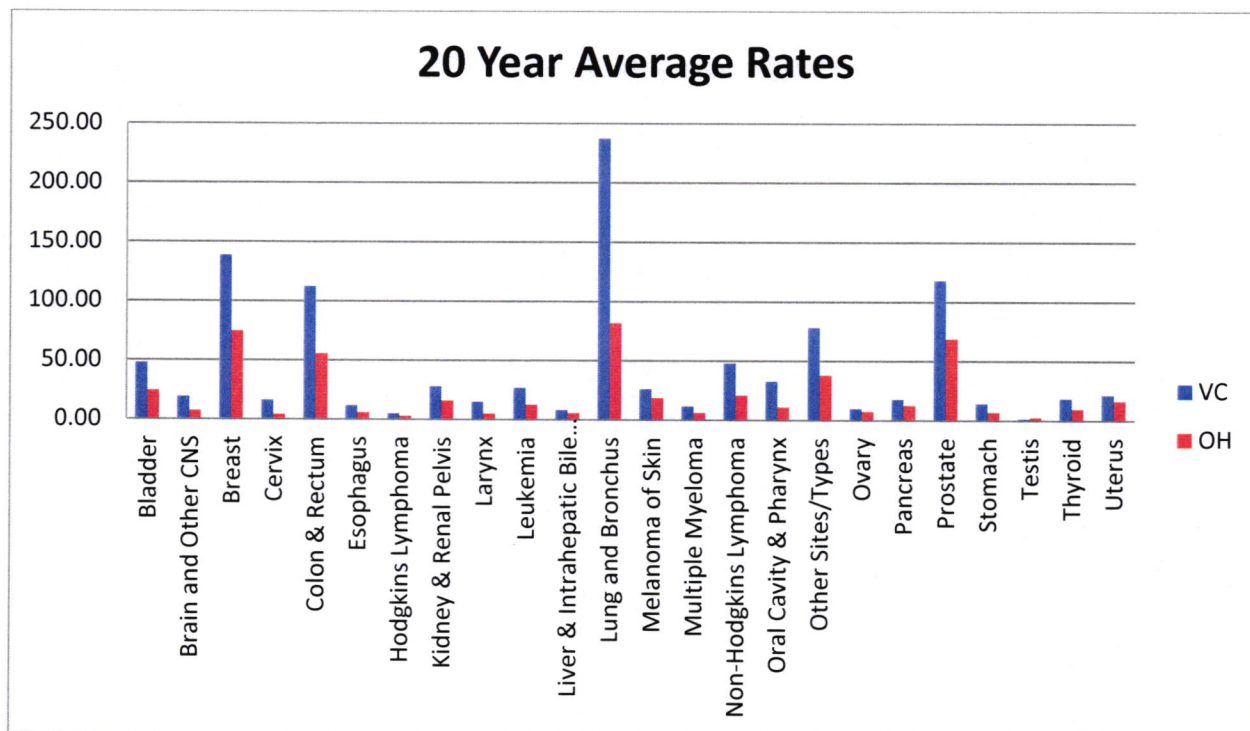
Below is the number of cases per age group in the past 20 years. As is to be expected, the majority of cases are in the senior population.



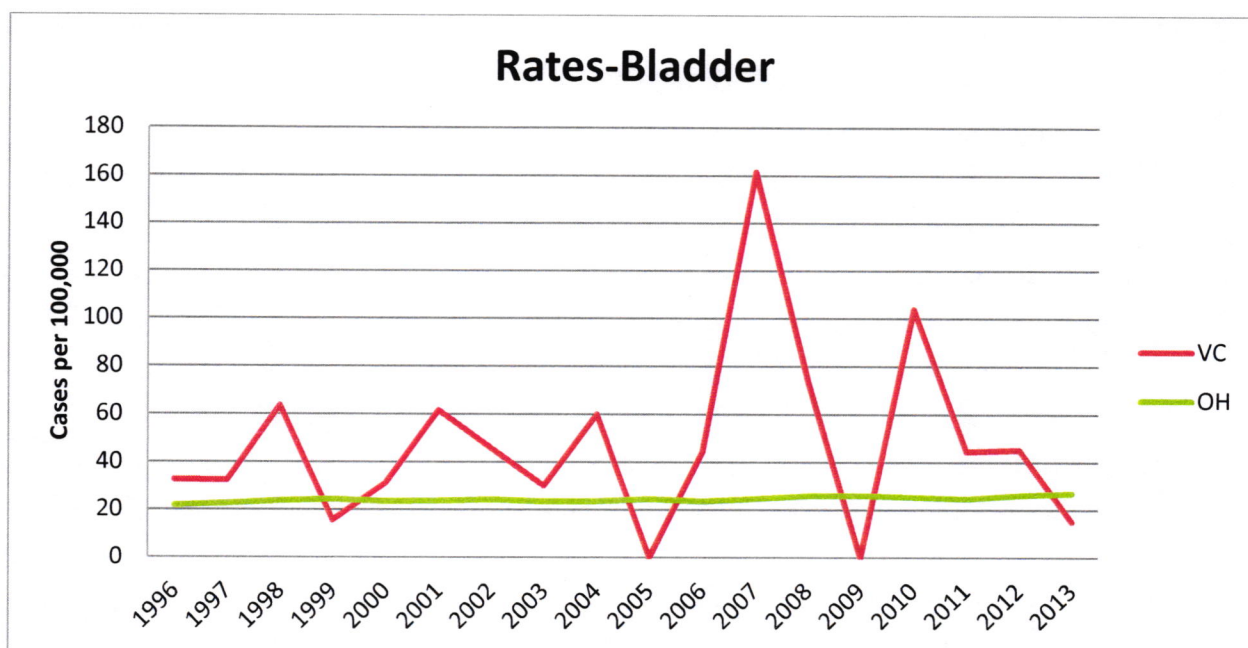
Below is the number of people diagnosed per year for the past 20 years. The number of cases per year has risen slightly over the past 20 years. This could possibly be attributed to more preventative care and education within the county (i.e. mammograms, colonoscopies, prostate exams, etc).



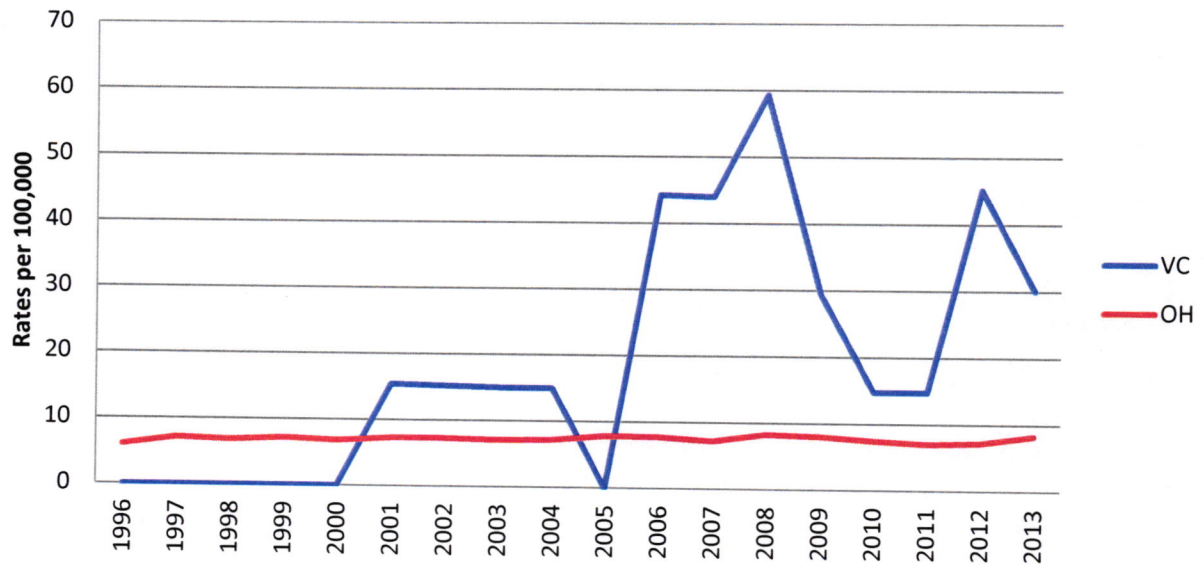
Below is the 20 year averages for the rates of different cancer types. These rates compare Ohio and Vinton County. Most of the averages are fairly similar, with the exception of Breast, Colon & Rectum, Lung & Bronchus, and Prostate. Keep in mind, as mentioned earlier; one case in Vinton County can shift the rate by 15.



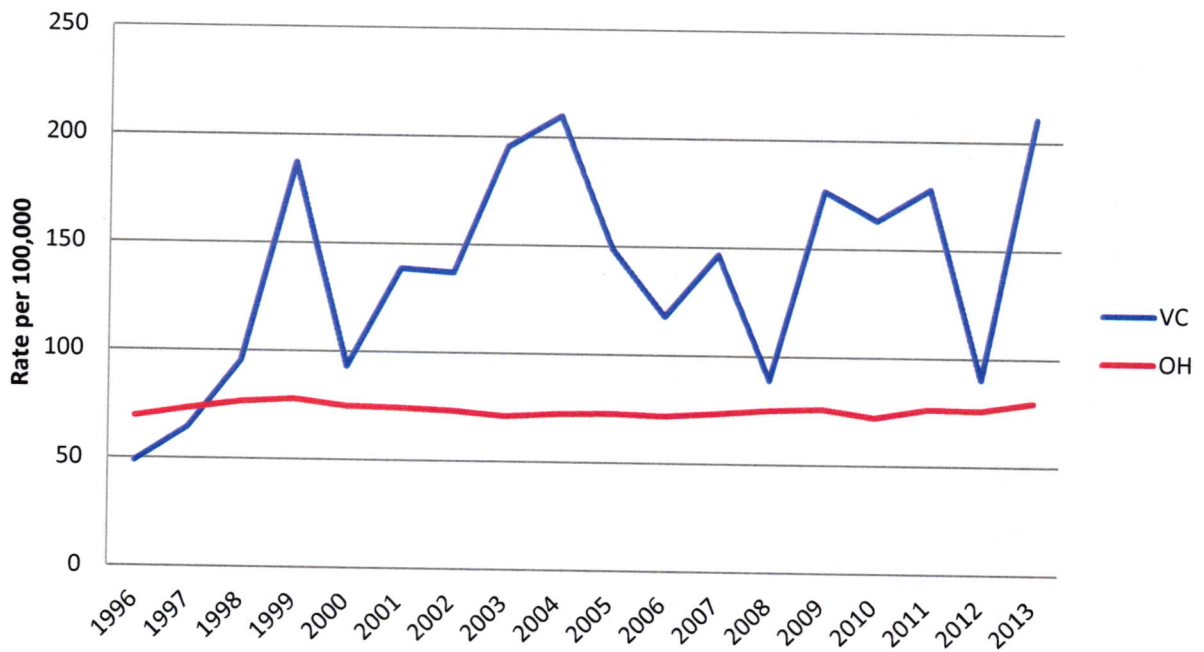
Below you will find the Rates per Year for Ohio and Vinton County for each individual cancer.



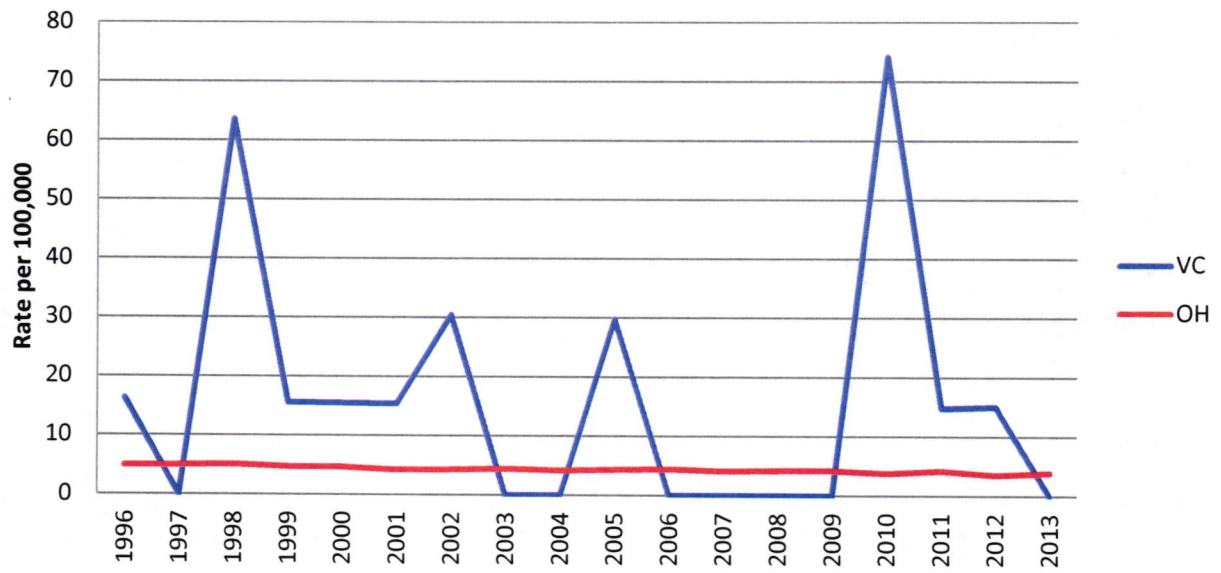
Rates-Brain



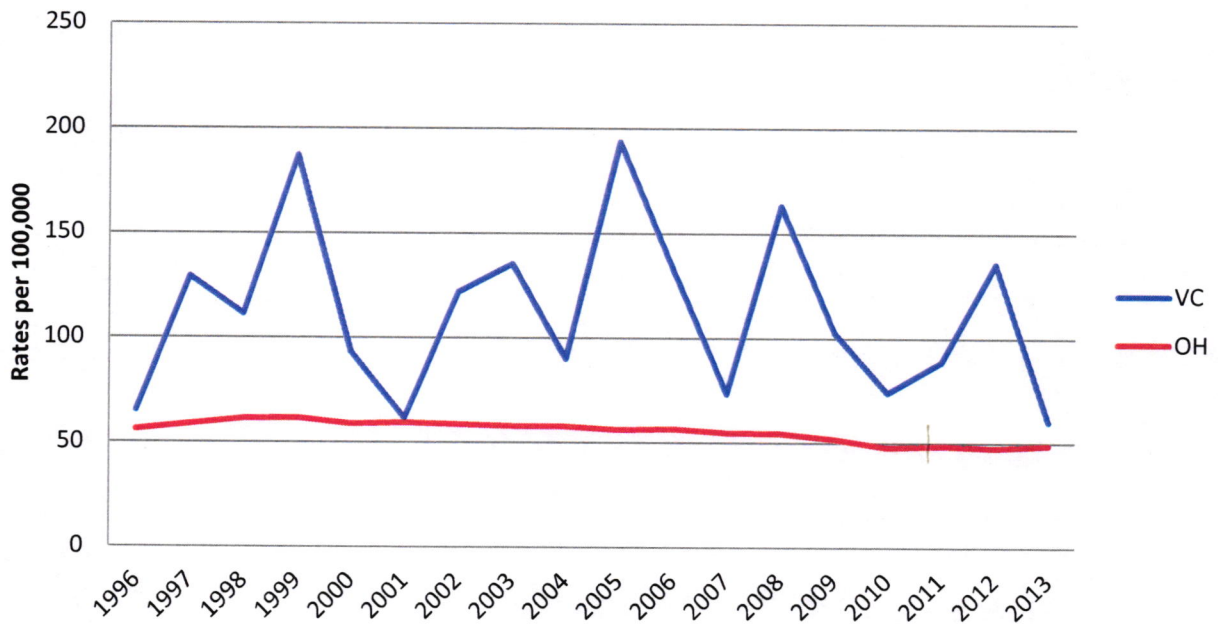
Rate-Breast



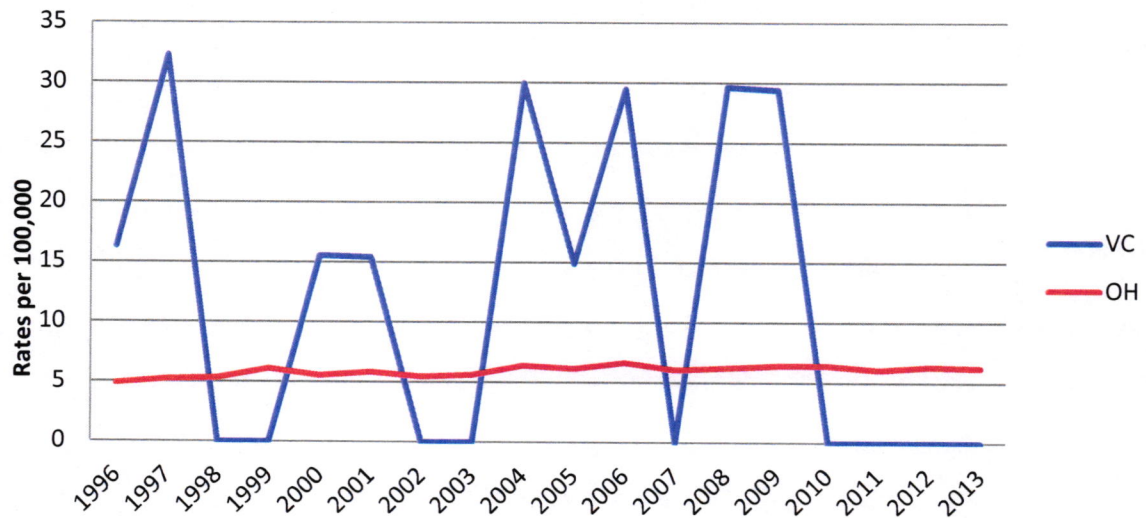
Rates-Cervical



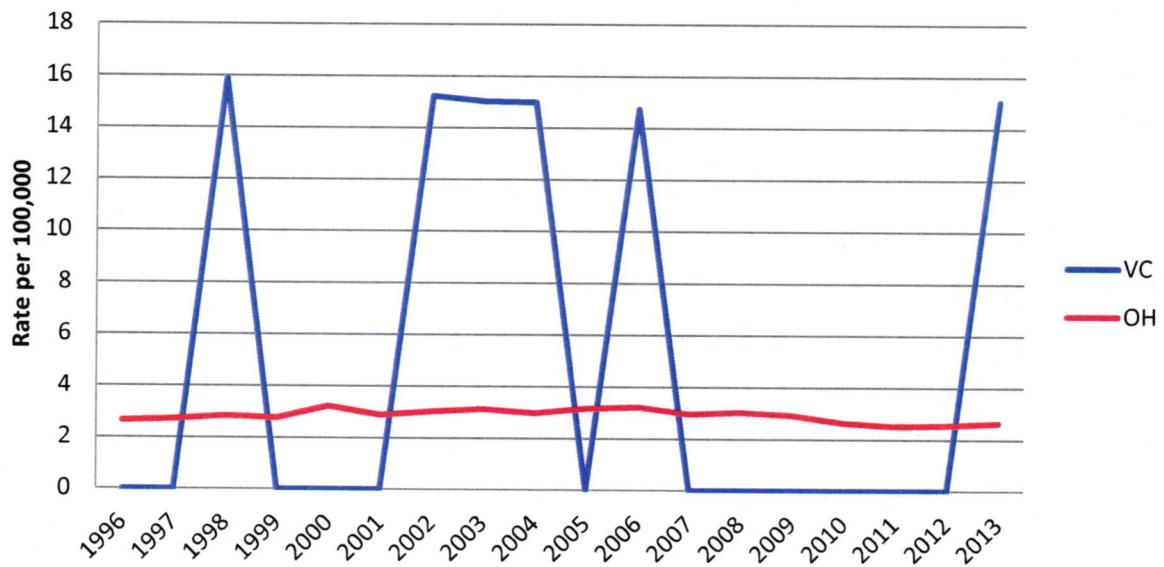
Rates-Colon/Rectum



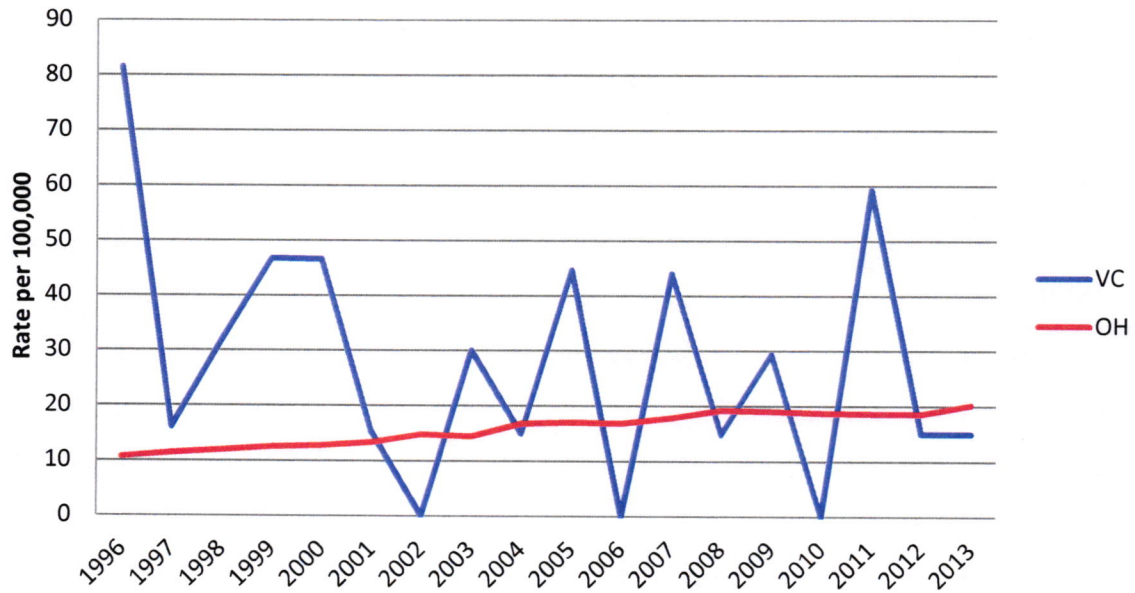
Rates-Esophagus



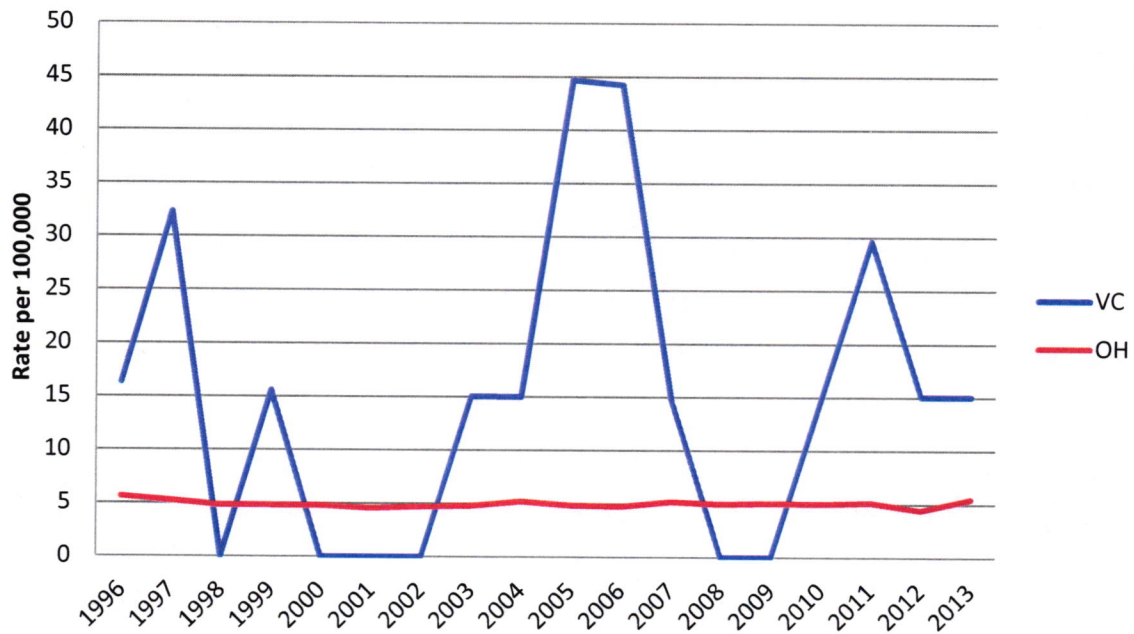
Rate-Hodgkins Lymphoma



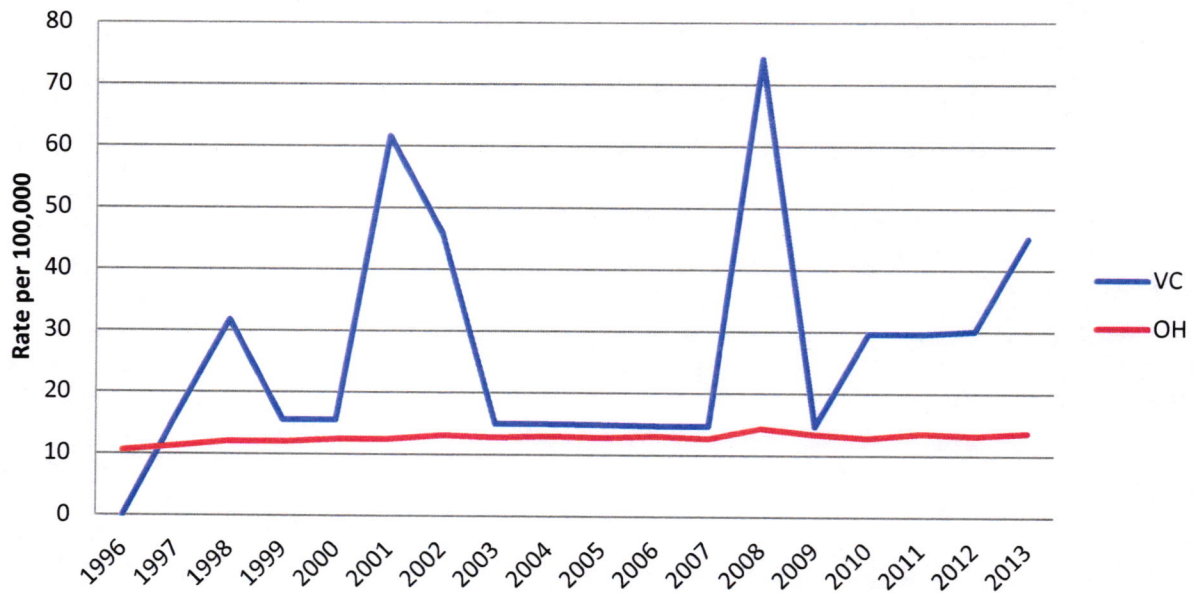
Rate-Kidney/Renal



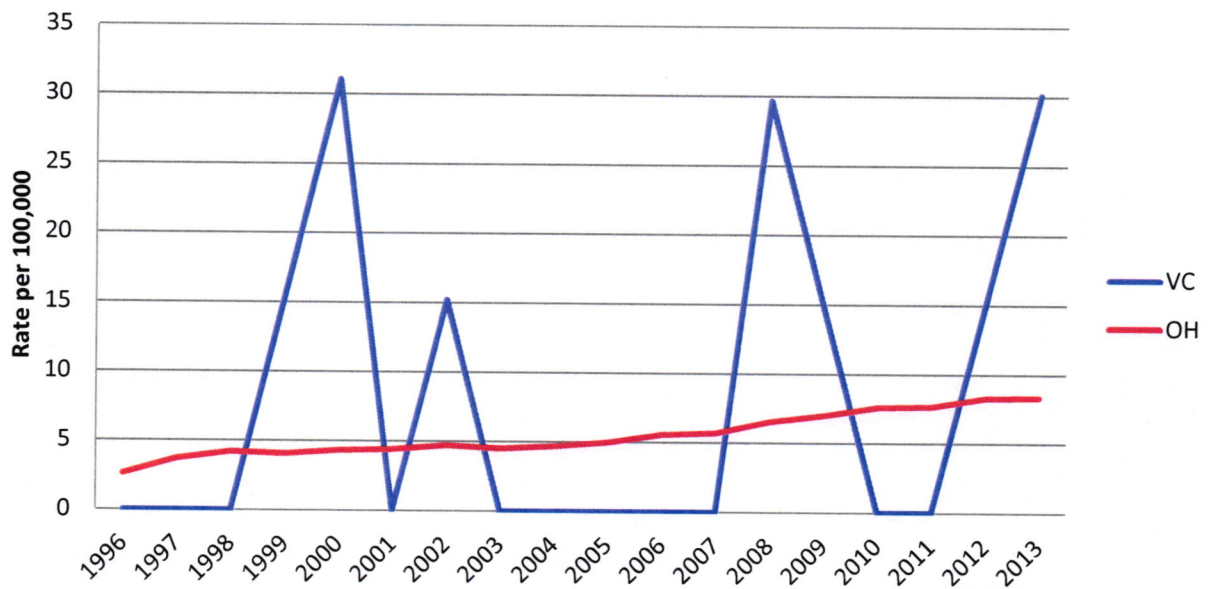
Rates-Larynx



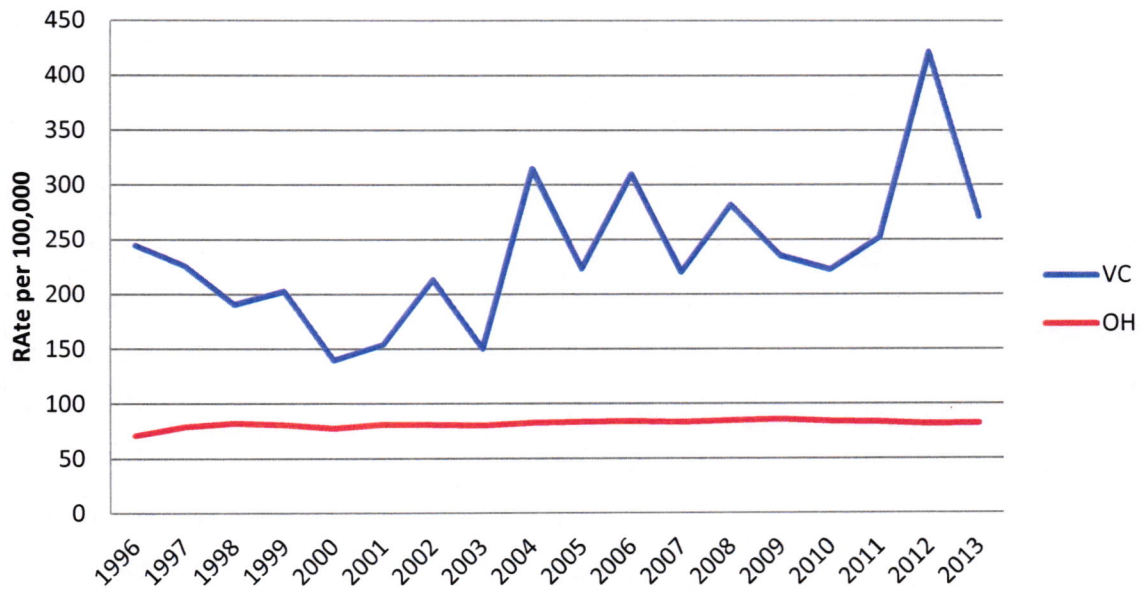
Rates-Leukemia



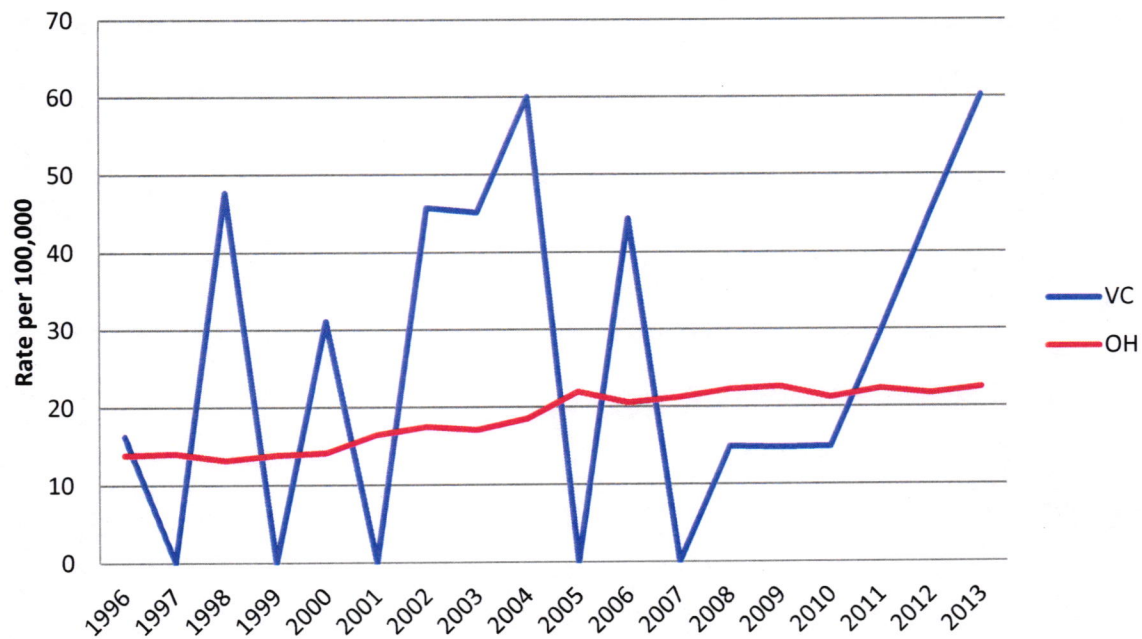
Rates-Liver



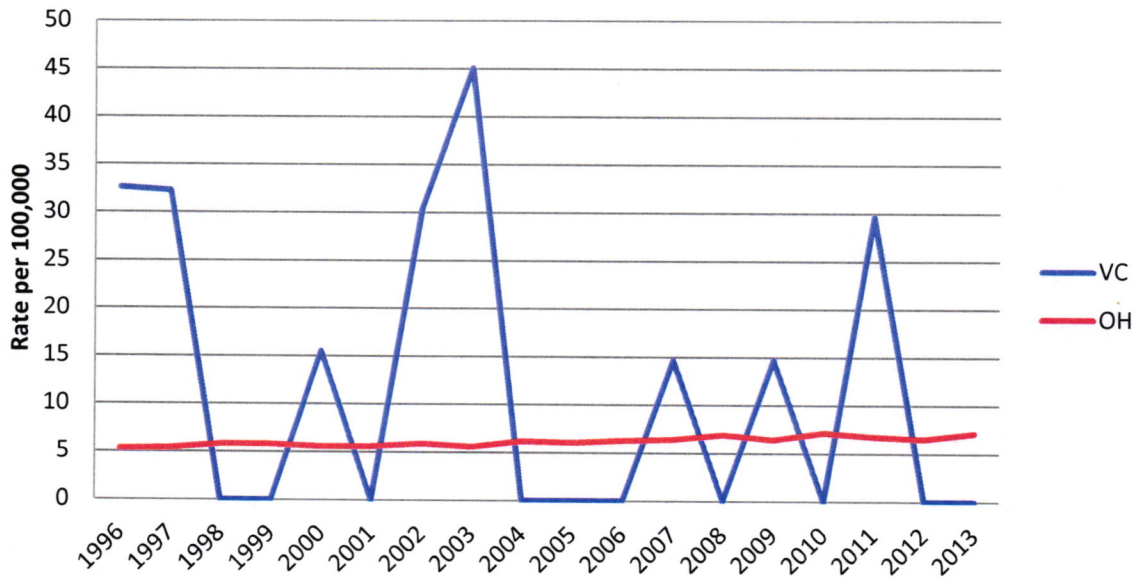
Rates-Lung



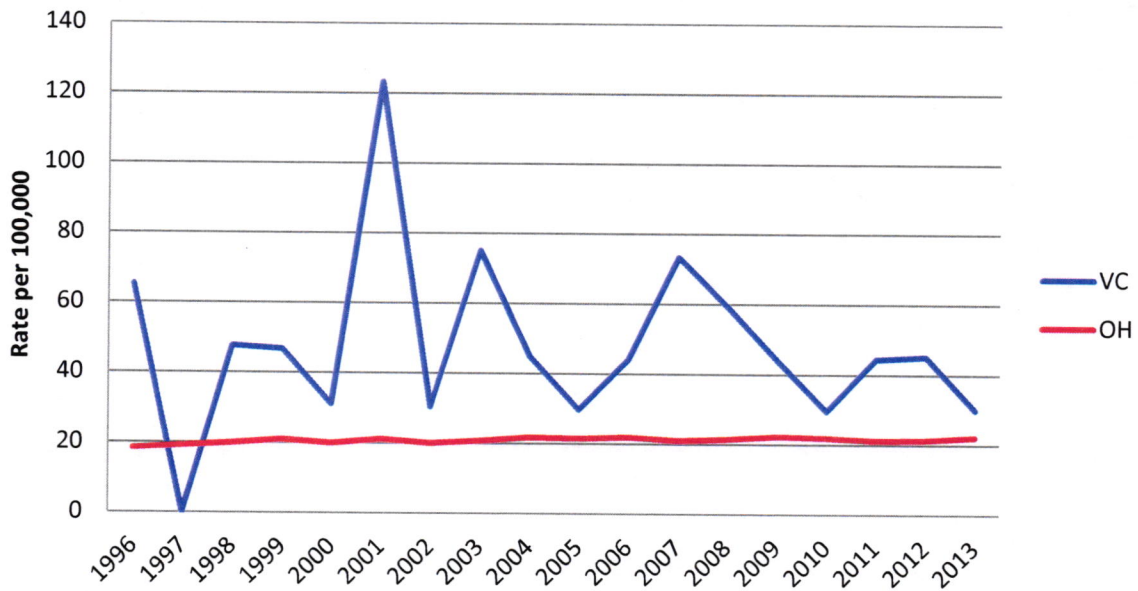
Rates-Melanoma



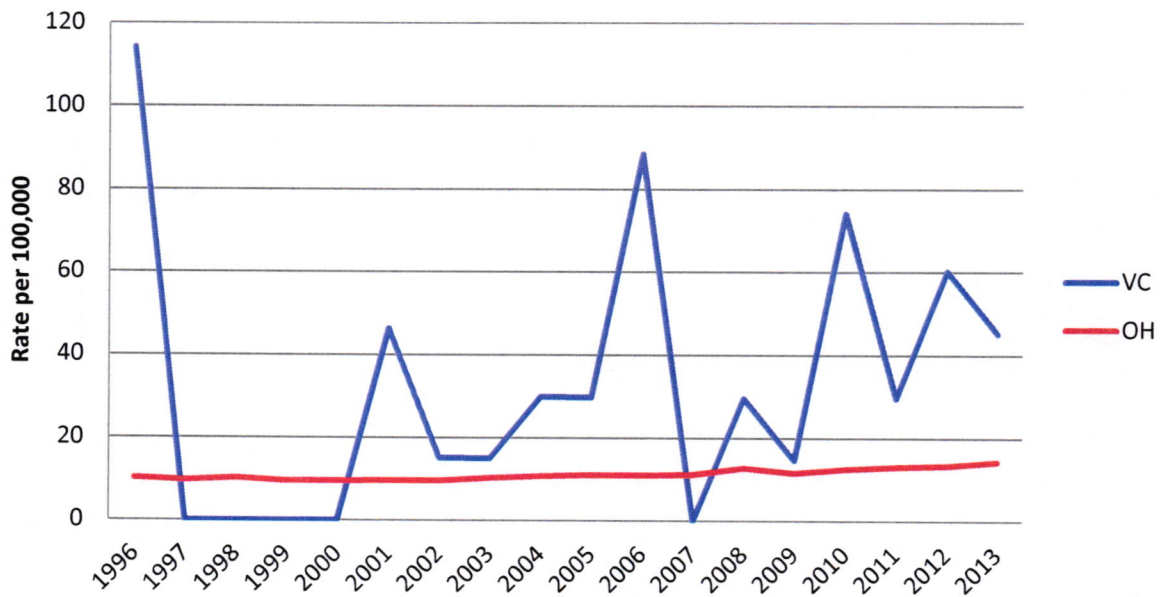
Rates-Multiple Myeloma



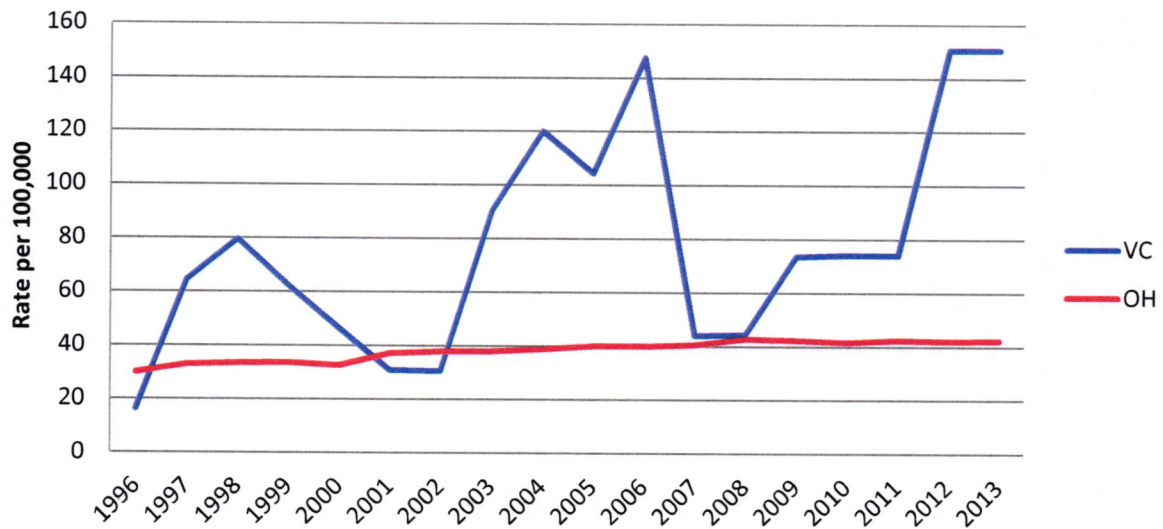
Rate-Non-Hodgkins



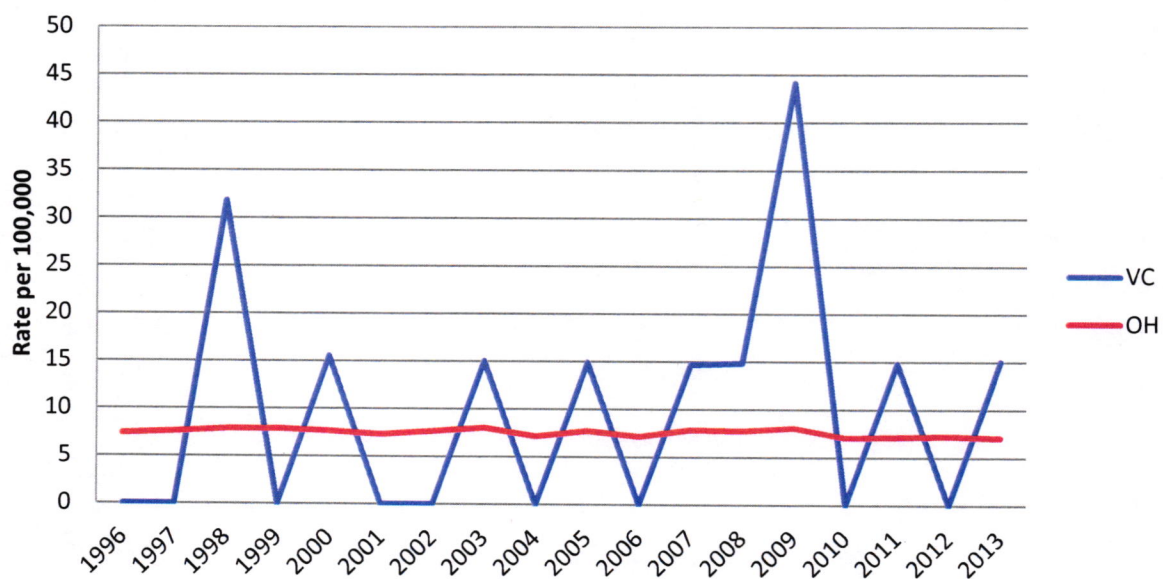
Rates-Oral Cavity



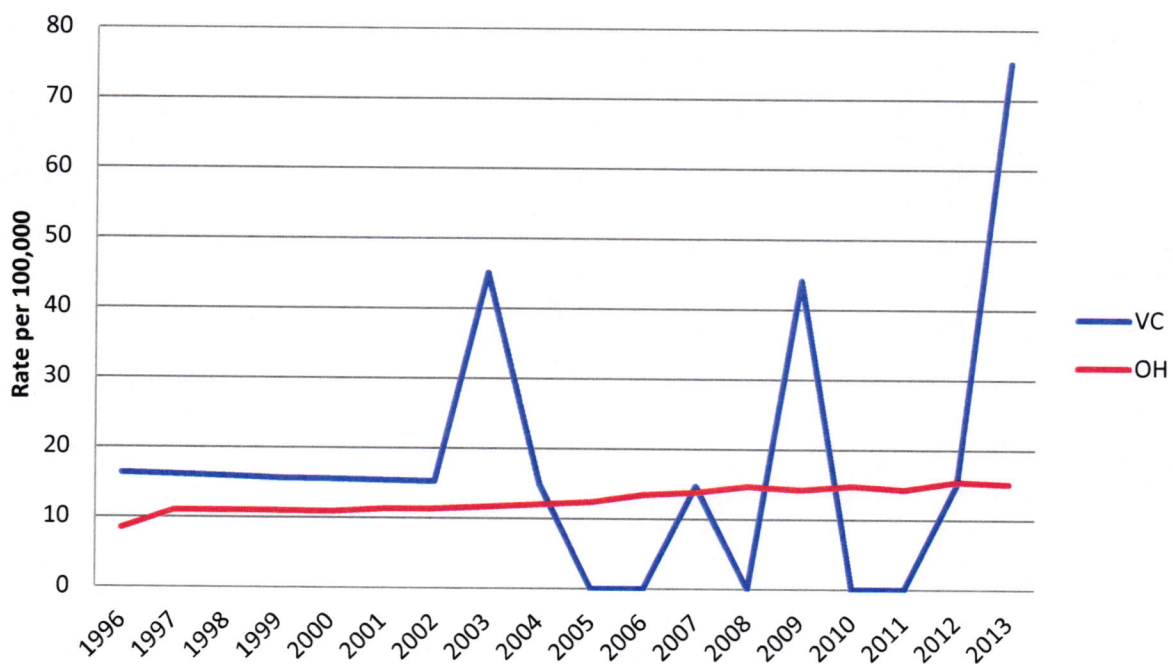
Rates-Other



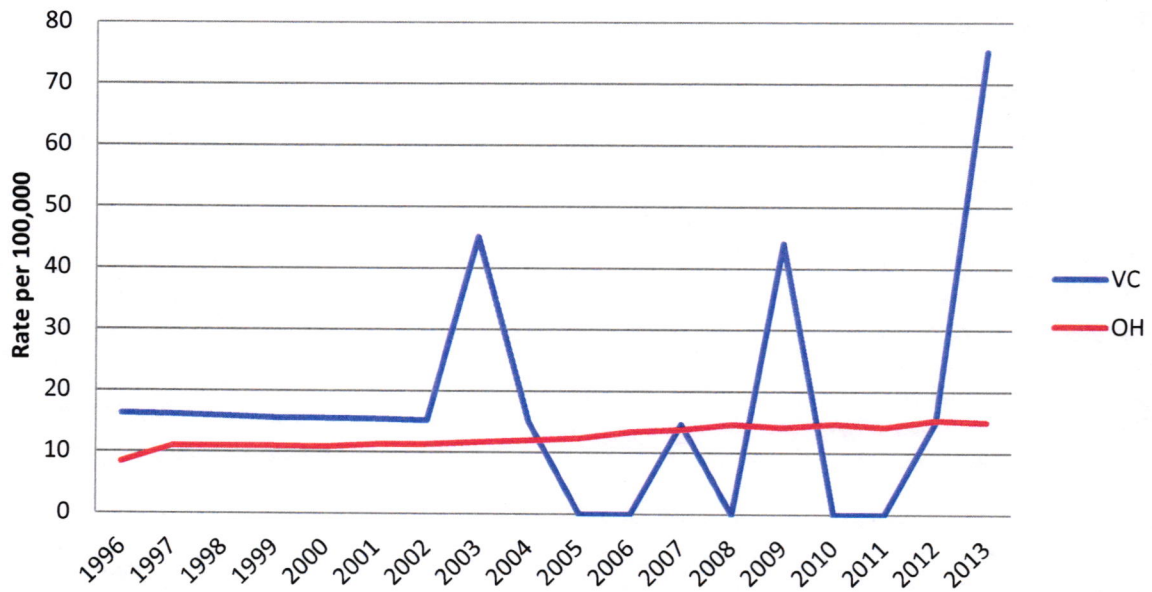
Rate-Ovary



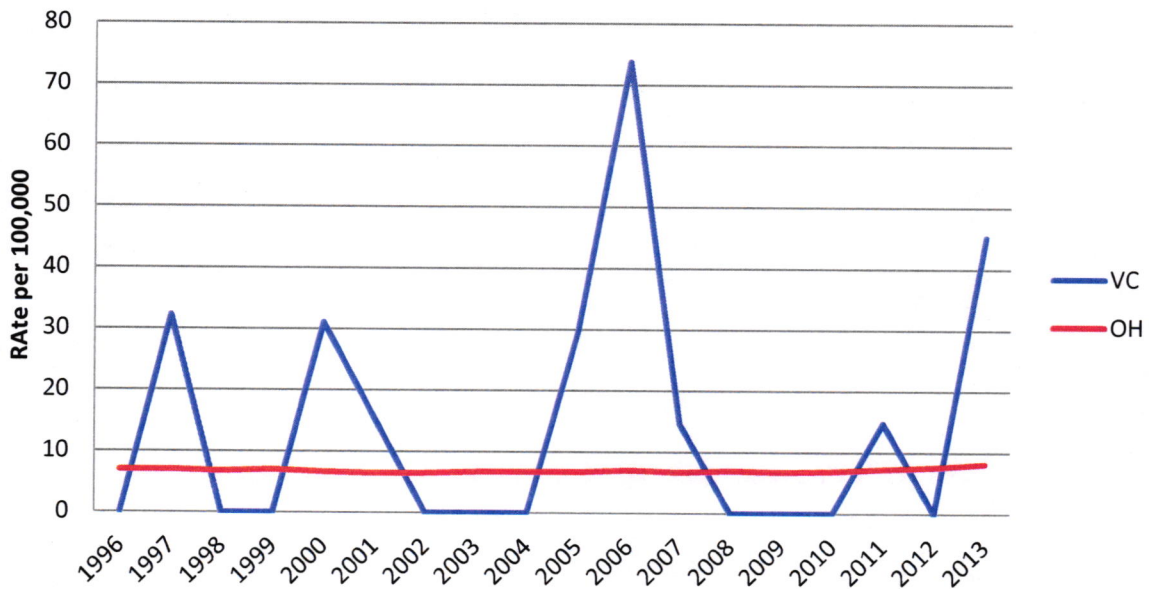
Rate-Pancreas



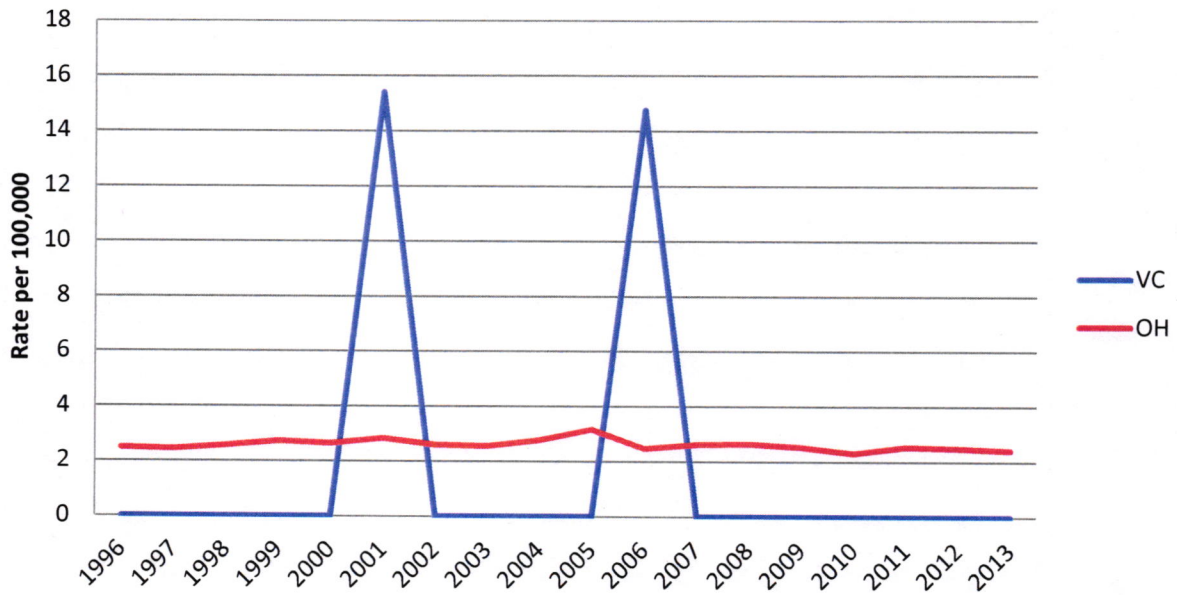
Rate-Pancreas



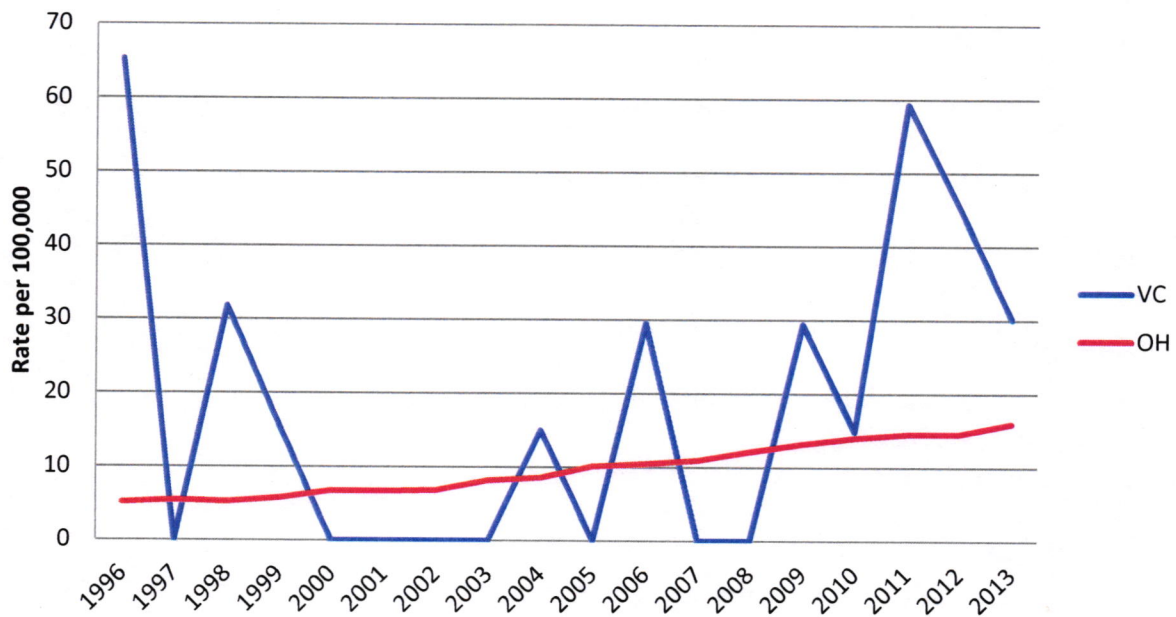
Rate-Stomach

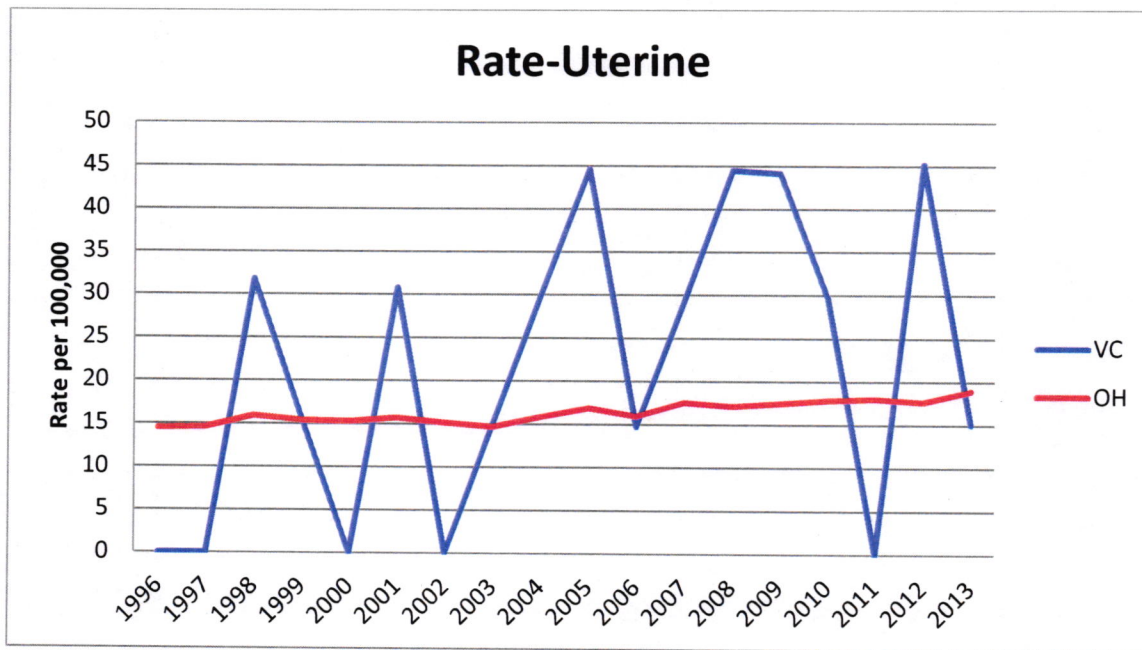


Rate-Testicular

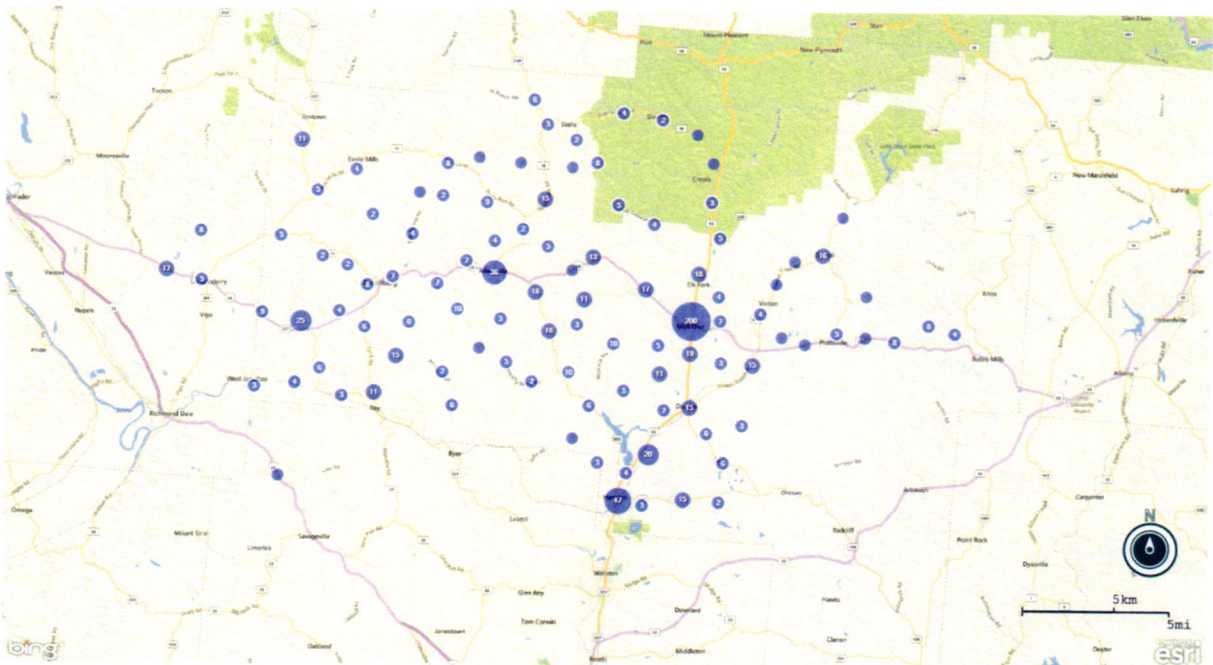


Rate-Thyroid





This is the Dot Density map generated by the address at diagnosis. This may or may not correlate with environmental factors, as the complete address history of the individual is unknown.



When sharing these results with ODH, the following reply was received:

“The community cancer concern that was received in August 2016 regarded brain cancer in Vinton County. When rates are calculated and compared to state and national rates, only invasive cancer cases with the addition of *in situ* bladder cases are counted. The observed number of cases are

compared to the expected number of cases using the Excel spreadsheet in the *Cancer Data Toolkit* (see attached). This shows that in 5 years (2009-2013) 5 cases of invasive brain and other CNS cancer cases would be expected compared to 3 invasive (malignant) cases observed in Vinton County during that time period. This does not include benign brain tumors. If you include the benign brain cases, then there would be 9 cases, giving a falsely higher than expected number.

It appears that the increase in brain tumors that was reported to Vinton county HD may be due to benign brain cases. Unfortunately, we don't have much to say regarding benign brain cases in Ohio. However, the invasive brain counts appear to be as expected for a population the size of Vinton County.

Also, we would not be looking at environmental sources at this point in the assessment. Environmental and modifiable risk factors for brain cancer include only ionizing radiation: Radiation to the head, e.g., for treatment of ringworm or another cancer. Non-modifiable risk factors include: Gene mutations (Rare genetic mutations such as those causing neurofibromatosis, tuberous sclerosis, Li-Fraumeni syndrome and Von Hippel-Lindau (VHL) disease) and family history of brain and other CNS cancer."