

June 27, 2013

Matthew Herynk
Stormont-Vail Cancer Center
1414 SW 8th Avenue
Topeka, Kansas 66606

Dear Mr. Herynk,

This letter summarizes the results of an investigation by the Kansas Department of Health and Environment (KDHE) in response to your concerns regarding the number of persons associated with certain zip codes in Shawnee County who have developed a specific type of lung cancer.

Background and Initial Assessment

On April 19, 2013, you contacted the KDHE Bureau of Epidemiology and Public Health Informatics regarding your concerns about lung cancer in several Shawnee County zip codes. You mentioned a seemingly increased number of cases within the Stormont-Vail Healthcare system. This suspected increase was seen in a report that you ran on cases whose date of admission was between January 1, 2005 and October 31, 2012.

In response to these concerns, KDHE developed an investigation design that entailed an analysis of the specific cancer incidence rate in the zip codes of interest. The analysis includes: 1) primary sites C340, C341, C342, C343, C348 and C349 combined, 2) histology codes 82503, 82513, 82523, 82533 and 82543 only, 3) diagnosis years 2000 through 2009, and 4) zip codes 66402, 66512, 66604, 66605, 66607, 66611, 66614 and 66616. Zip code 66801 was deleted from the list as it is located outside of Shawnee County.

Cancer Incidence Analysis

An incidence rate is the rate of occurrence of new cases diagnosed within a specific time period. Age adjustment is a statistical process applied to rates of disease, death, injuries or other health outcomes that allows communities with different age structures to be compared. Age-adjusted incidence rates are presented here for the zip codes of interest, Shawnee County, Region 10 (which includes Douglas, Franklin, Miami and Shawnee counties) and Kansas. Normally, incidence rates for Iowa would also be presented for comparison because of its demographic and geographic similarity to Kansas; however, it was not possible to extract the primary site and histology codes of interest from the publicly available data. In addition to the age-adjusted incidence rates, 95% confidence intervals are provided for the rates. A confidence interval is the range around a measurement that conveys how precise the measurement is. If the confidence intervals for the rates overlap, the rates are said to be similar and not statistically significantly different.

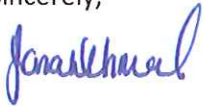
Between 2000 and 2009, for the zip codes of interest, the age-adjusted incidence rate of lung cancer was 3.14 cases per 100,000 population (95% CI: 2.01-4.23/100,000 population) (Table 1). For Shawnee County, the incidence rate was 3.12 cases per 100,000 population (95% CI: 2.25-3.99/100,000 population). The rates for the zip codes of interest and Shawnee County were similar to the rate for Region 10. However, the rates for the zip codes of interest, Shawnee County and Region 10 were statistically significantly higher than the rate for Kansas.

Impressions

Thus far, the investigation has used data available through the Kansas Cancer Registry. Although the registry data is a very reliable source for capturing cancer cases throughout the state, the data available on cancer risk factors is sparse. Known risk factors for non-small cell lung cancer include tobacco use, exposure to second-hand smoke, exposure to radon gas, long-term exposure to asbestos, industrial or workplace exposures including arsenic, chromium, nickel, soot or tar, exposure to diesel exhaust and air pollution, personal history of lung diseases, history of radiation therapy and family history.

We share your concern for the health of our Kansas communities and we thank you for your vigilance in reporting suspected increases in cancer cases. We at KDHE are committed to monitoring, and helping improve, the health of our communities. If you have any questions about this report, please contact the Bureau of Epidemiology and Public Health Informatics at 785-296-1415. For more information about cancer prevention, please contact the Bureau of Health Promotion at 785-296-1207.

Sincerely,



Farah S. Ahmed, MPH, PhD
Environmental Health Officer
Bureau of Epidemiology and Public Health Informatics



D. Charles Hunt, MPH
State Epidemiologist and Director
Bureau of Epidemiology and Public Health Informatics

PC: Allison Alejos, Director, Shawnee County Health Department
Gianfranco Pezzino, Health Officer, Shawnee County
Robert Moser, Secretary and State Health Officer, KDHE
Paula Clayton, Director, Bureau of Health Promotion, KDHE
Tom Langer, Director, Bureau of Environmental Health, KDHE
John Mitchell, Director, Division of Environment, KDHE
Mike Tate, Director, Bureau of Water, KDHE
Rick Brunetti, Director, Bureau of Air, KDHE
Leo Henning, Director, Bureau of Environmental Field Services, KDHE
Gary Blackburn, Director, Bureau of Environmental Remediation, KDHE
Bill Bider, Director, Bureau of Waste Management, KDHE
Miranda Steele, Director, Office of Communications, KDHE

Table 1: Incidence Rates for Non-Small Cell Lung Cancer, 2000-2009

Geographical Area	Number of Cases[†]	Age adjusted rate[§] (per 100,000 population)	95% Confidence Interval (per 100,000 population)
Zip codes of Interest [¶]	37	3.14	2.01 - 4.23
Shawnee County	57	3.12	2.25 - 3.99
Region 10 [‡]	70	2.33	1.82 - 2.83
Kansas	335	1.22	1.09 - 1.36

[¶] 66402, 66512, 66604, 66605, 66607, 66611, 66614 and 66616 combined

[‡] The Kansas Cancer Registry Region 10 counties include Douglas, Franklin, Miami and Shawnee counties

[†] Primary sites C340, C341, C342, C343, C348 and C349 combined with histology codes 82503, 82513, 82523, 82533 and 82543 only

[§] Rates are age-adjusted to the 2000 US standard population with 19 age groups