DELAWARE HEALTH AND SOCIAL SERVICES
Division of Public Health

Analysis of Census Tracts with 2001-2005, 2002-2006 and 2003-2007 Elevated All-Site Cancer Rates
March, 2012

In March 2012, the Delaware Division of Public Health (DPH) released its annual *Cancer Incidence & Mortality Report.* This report included cancer statistics for the most recently available five-year time period, 2003-07.

As part of the report, and in accordance with Delaware legislation, DPH calculated 2003-07 all-site cancer incidence rates for each of Delaware's 196 census tracts. This is the third time that census tract analyses have been done for the all site cancer incidence rates; the previous two five- year time periods are 2002-2006 and 2001-2005. All-site cancer incidence rates measure the overall cancer burden for an area over a specific period of time. Cancer incidence rates are expressed as the average annual number of new cases diagnosed per year per 100,000 people.

All-site cancer incidence rates for each census tract were compared to the all-site cancer incidence rate for Delaware as a whole. DPH used standard statistical procedures to determine if the difference between each census tract rate and the state rate reached the threshold of statistical significance. If a census tract rate is significantly different from the state rate, the difference between the rates would be interpreted as statistically significant or "larger than would be expected by chance alone." If a census tract rate is not significantly different from the state rate, it is commonly interpreted as "no meaningful difference" between rates.

For the 2003-2007 time period, 59 census tracts had elevated all site cancer incidence rate compared to the all-site cancer incidence rate for Delaware as a whole. For the 2002-06 and 2001-05 time periods, the number of census tracts with elevated all-site cancer incidence rate compared to the all-site cancer incidence rate for Delaware were 45 and 29 respectively.

People might assume that an increase in the number of elevated tracts reflects an increase in Delaware's cancer burden; but, there are several reasons entirely unrelated to cancer that may account for the increased number of tracts with elevated rates. Some of these reasons are listed below:

- ***Improved geocoding capabilities at the Delaware Cancer Registry (DCR)*** — For 2001-05, 96.5% of all cases were successfully assigned to their correct census tract. DPH was able to assign 97.4% of all 2002-06 cases to their correct census tract. For 2003-2007, the number increased to 98%. This is a positive scenario because Delaware's cancer data is improving in terms of accuracy and completeness. Although improved geocoding is excellent from a data accuracy standpoint, it has the unavoidable drawback of creating a sudden increase in cancer rates. Incidence rate calculation takes into account the total number of cases diagnosed over a certain time period; therefore, as DPH is able to include more and more cases because of improved geocoding abilities, cancer rates increase as a result. The increase in cancer rates does not necessarily reflect a true increase in cancer burden.

- ***Trends in completeness of cancer case data collection from hospitals and non-hospital sources at DCR***—during the period 2005-2011, the DCR increased its completeness of data collection from various reporting sources, particularly from non-

hospital sources such as physician offices, path labs, and ambulatory surgery centers. Increase in non-hospital data collection could lead to an increase in incidence for types of cancer diagnosed or treated outside the hospital setting. From 2005-current, number of physician offices reporting to the DCR has more than doubled. The number of cases collected only from non-hospital sources has more than doubled for diagnosis years 2003 to 2009. The most common types diagnosed or treated outside a hospital setting include melanoma, noninvasive bladder tumors, small eye tumors, oral or genital tumors, some prostate and breast tumors, tumors in colorectal polyps, lymphoma, leukemia, multiple myeloma, and other bone marrow primaries.

- ***Difficulty in estimating population size for small areas—***incidence rates are calculated by dividing the total number of cancer cases in an area by the total number of people living in that area. Although it may seem counter-intuitive, estimating population sizes for very small areas (like census tracts) is more difficult than estimating population sizes for large areas (like counties or states). This is because there are far fewer resources that collect data at the census tract level compared to the county or state levels. Researchers rely on these types of data to determine how the population is changing for a particular area. Vital statistics data, tax data, school enrollment data, and so forth are typically aggregated to the county or state level. This makes it harder for researchers to know exactly how many people live in a particular census tract. "Another problem that complicates studies in community settings arises from inaccurate data on the population at risk in small geographic areas or demographic subgroups. Census data are less accurate for cities or counties than for states. *The uncertainty is greatest for demographic subgroups of the population during the 10-year interval between national census counts*" [1]. Thun and Sinks continue on to summarize two instances in which breast cancer clusters were identified in the 1990s. However, when updated population data were released from the 2000 Census, rates were re-calculated and it was determined that breast cancer rates in these communities were NOT higher than expected. Specifically, "the alarming increase in incidence reported during the 1990s appears to have been an artifact of inaccurate projections of the underlying population". For this report census tract populations were calculated using estimates from the Delaware Population Consortium (DPC) and the 2000 census.

- ***Increases in cancer screening means more cancer cases are detected earlier—*** cancer clusters may also reflect better access to health care. For example, if residents from City A are more likely to have cancer screening services compared to residents from City B, the odds are that more cases will be detected in City A. But, simply living in City A might not elevate a person's cancer risk. City B residents may have the same number of cancer cases, but those cases just haven't been diagnosed yet. When clusters exist because of increased access to screenings, it is actually a positive scenario. It means that more cases are being caught in their earlier stages, when the cancer is more treatable.

- ***Small group analyses—***in a small group, such as a census tract, the snapshot changes a lot from year to year. If one case of cancer is diagnosed in a census tract one year, and three cases of cancer are diagnosed in the same census tract the next year, the

[1] Thun, M. & Sinks, T. (2004). "Understanding Cancer Clusters". Cancer: A Cancer Journal for Clinicians, 54(5), 273-280

cancer rate for that census tract will change dramatically from one year to the next. These big fluctuations do not typically occur in larger populations. If we compare the cancer rate for a census tract to the cancer rate for the whole state of Delaware for a given time period, it would not be unusual to find the comparison different (perhaps even reversed) the following time period. The all-site cancer incidence fluctuations in census tract 102.00 illustrate this key point. For the 2001-05 time period, 63 cancer cases were diagnosed and the all-site cancer incidence rate of 625.3 per 100,000 in census tract 102.00 was not elevated compared to the all-site cancer incidence rate for Delaware as a whole. In 2002-06, the number of cancer cases decreased by two and there were 61 cancer cases. However, despite the decrease in the number of cases the all-site cancer incidence rate for this period increased to 671.6 per 100,000. This rate was found to be elevated compared to the all-site cancer incidence rate for Delaware as a whole. For the most recent time period 2003-07, the number of cancer cases diagnosed in this census tract decreased to 55 and the all-site cancer incidence rate of 537.3 per 100,000 was not significantly different compared to the all-site cancer incidence rate for Delaware as a whole.

As stated above, there is an inherent instability in calculating cancer incidence rates at the census tract level. Keeping this in view, further analyses for 2003-2007 cancer data were limited to the census tracts with consistently elevated all-site cancer incidence rates across these three time periods (2001-2005, 2002-2006, 2003-2007). Twenty three census tracts were found to have consistently elevated all-site cancer incidence rates.

To get a better sense of cancer patterns in these areas, DPH analyzed cancer data pertaining to each of the 23 census tracts. This was done to determine the local need for screening and prevention services. Further, unique patterns could suggest an environmental, occupational, or other unusual cause.

Sex of Cases

To determine if the elevated overall cancer rate in a census tract affected males and females within that census tract differently, age-adjusted 2003-07 all-site cancer incidence rates were calculated separately for males and females. Male- and female-specific rates for each census tract were compared to those at the state level. The 23 census tracts fell into one of the following four categories:

Compared to Delaware as a whole,

- **13 census tracts (57%) had significantly elevated all-site cancer incidence rates for males and females.** Within these tracts, both sexes had a higher-than-expected overall cancer rate.

- **1 census tract (4%) did not have significantly elevated all-site cancer incidence rates for either males or females.** Within this tract, neither sex had a substantially higher-than-expected overall cancer rate. Rather, minor (non-significant) elevations in the male and female cancer rates produced a significantly elevated overall cancer rate for both sexes combined.

- **5 census tracts (22%) had significantly elevated all-site cancer incidence rates for males only.** Within these tracts, only males had a higher-than-expected overall cancer rate. The cancer rate for females was not higher than expected.

- **4 census tracts (17%) had significantly elevated all-site cancer incidence rates for females only.** Within these tracts, only females had a higher-than-expected overall cancer rate. The cancer rate for males was not higher than expected

Age of Cases

The median age for all cancer cases in the years 2003-07 was 66.0 years. In other words, half of all Delawareans diagnosed with cancer during this time period were younger than 66.0 years; the other half were older than 66.0 years. The median age of cancer cases in each census tract was compared to the median age of cancer cases at the state level. A younger median age at diagnosis could suggest a unique exposure, such as carcinogenic exposure through occupation. Statistical significance was determined by a test called the “sign test.” Of the 23 census tracts analyzed:

- **11 census tracts (48%) had a significantly lower median age at diagnosis;**

- **1 census tract (4%) had a significantly higher median age at diagnosis; and**

- **11 census tracts (48%) had a median age at diagnosis that did not differ significantly from the state's median age at diagnosis.**

Cancer Type

For each of the 23 census tracts with significantly elevated all-site cancer incidence rates, the incidence rate was calculated for the 24 most-commonly diagnosed cancers. These analyses helped to determine which specific cancers may be contributing to the higher-than-expected overall cancer rate. Results are described below and shown below in Figure 1.

All 23 census tracts were elevated for one or more specific cancer types

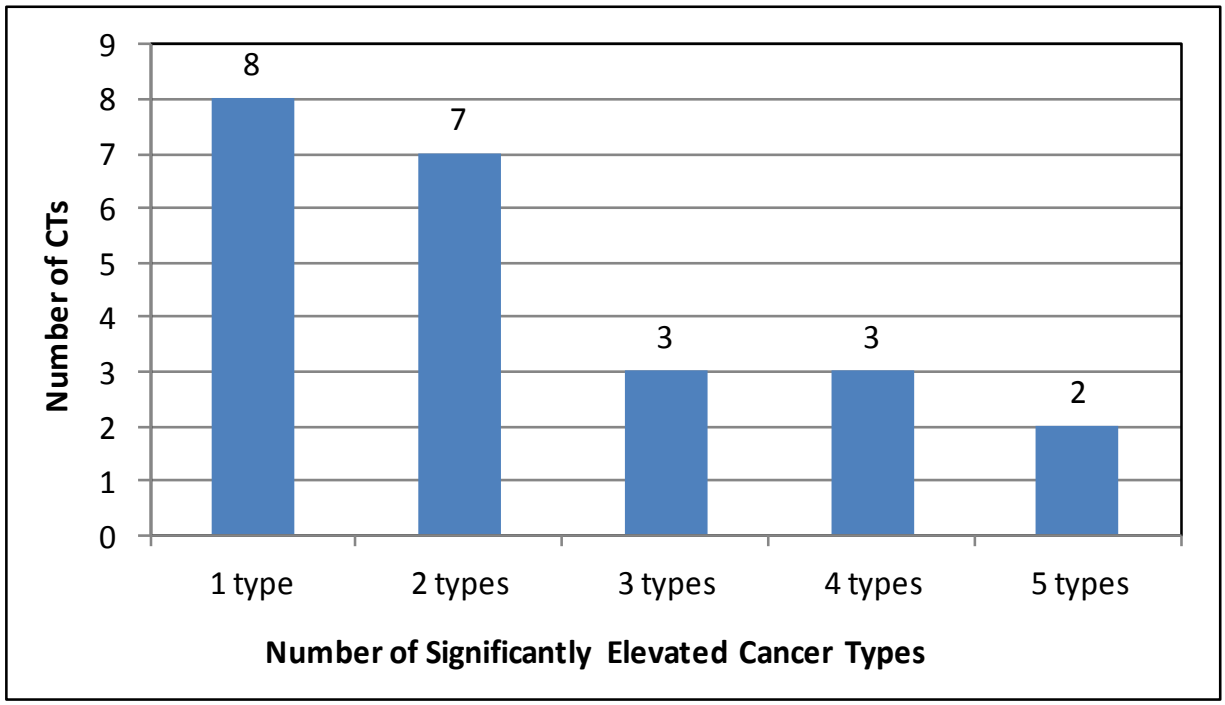
- **15 census tracts (65%) were significantly elevated for either one or two specific cancer types.**

- **3 census tracts (13%) were significantly elevated for three specific cancer types.**

- **5 census tracts (22%) had significantly elevated incidence rates for four or five specific cancer types.**

- **None of the 23 census tracts were significantly elevated for more than five specific cancers.**

Figure 1: Number of Elevated Cancer Types for 23 Census Tracts (CTs) with Age-Adjusted Cancer Rates that were significantly Higher than the State across Three Time Periods: Delaware 2003-07.



Cancer is a generic term used to describe more than 100 different diseases. Although 23 of Delaware's 196 census tracts had significantly elevated all-site cancer incidence rates across three time periods, 2001-05, 2002-06 and 2003-07, it is important to note that these census tracts were not elevated for every individual cancer type. The higher-than-expected cancer incidence rates are confined to several cancer types.

Figure 2, below, shows which specific cancer types were most often significantly elevated within the 23 census tracts analyzed in this report. The frequencies in Figure 2 do not sum to 23 because (as shown in Figure 1), 15 of the 23 census tracts under review were significantly elevated for more than one specific cancer type.

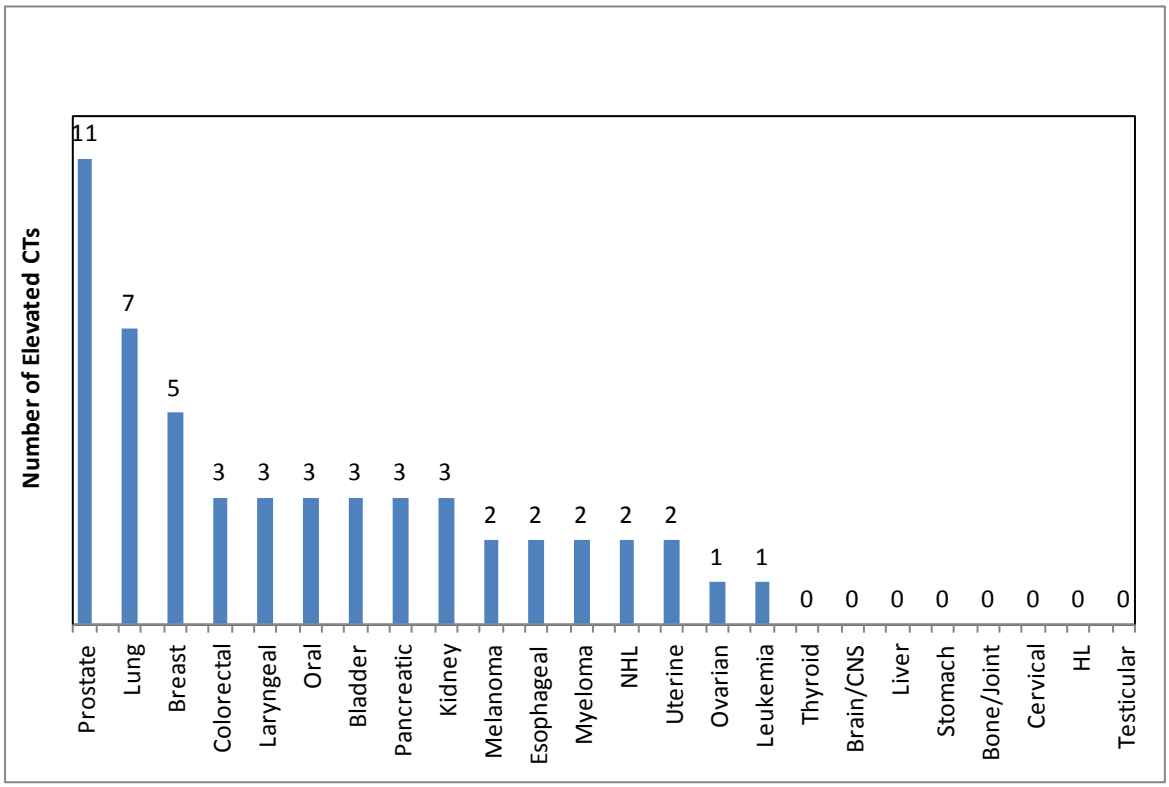
The Delaware Cancer Consortium identified seven cancer types with substantiated environmental risk factors: (a) bladder; (b) brain/CNS; (c) Hodgkin's lymphoma; (d) leukemia; (e) liver; (f) non-Hodgkin's lymphoma; and (g) thyroid. It is important to note that while these seven cancers are associated with environmental risk factors, they may also be related to modifiable risk factors. For example, in addition to exposure to chemicals used in the manufacturing of dyes, rubber and leather, tobacco use is the primary risk factor for bladder cancer.

- **6 census tracts (26%) had significantly elevated rates for one of the seven cancer types with substantiated environmental risk factors.**

- **17 census tracts (74%) were not significantly elevated for any of the seven cancers with environmental risk factors.** Rather, the most-commonly elevated cancer

types involved those thought to be caused mostly by non-environmental risk factors. For example, prostate cancer was significantly elevated in 11 of the 23 census tracts under review. Seven of the 23 census tracts had significantly elevated lung cancer rates. These findings are not surprising. Breast, colorectal, lung and prostate cancers are the four most commonly diagnosed cancers in Delaware and the U.S. For 2003-07, these four cancers accounted for 55 % of all new cancer cases in Delaware.

Figure 2: Specific Elevated Cancer Types for 23 Census Tracts with Age-Adjusted Cancer Rates that were Significantly Higher than the State: Delaware 2003-07.



The four most-frequently elevated cancer types within the 23 census tracts with high overall cancer rates were breast, colorectal, lung, and prostate cancers – the same four most-frequently diagnosed cancers at the state and national levels. Fortunately, three of these cancers can be detected in their earliest stages via reliable screening tests (i.e., mammograms, colonoscopies/sigmoidoscopies, and prostate-specific antigen (PSA) tests).

Of these four common cancers, research has identified a primary causal factor for lung cancer only. An estimated 87% of lung cancers are caused by smoking cigarettes, cigars or pipes.[2] However, all of these cancers have known risk factors.

When census tracts have elevated rates for cancers with many risk factors, it is difficult to pinpoint any single causal factor. Rather, the elevated cancer rate is likely due to a mix of non-modifiable and modifiable risk factors. Adding to the complexity, the interaction of several risk

[2] U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health. (2004). The Health Consequences of Smoking: A report of the Surgeon General. Washington, D.C.

factors may increase a person's cancer risk more than the sum of the individual risk factors. The American Cancer Society (ACS) cites 19 substantiated risk factors for breast cancer alone: 12 of these risk factors are non-modifiable (e.g., age, family history); the remaining seven are modifiable (e.g., lack of exercise, being overweight/obese). The impact of another seven potential breast cancer risk factors is still under scientific review.

While breast, colorectal, lung, and prostate cancers were the most commonly elevated cancers in these 23 census tracts, other cancers, some with environmental risk factors, were also statistically higher compared to the state average. These may simply be statistical aberrations resulting from the very small number of cancer cases in these communities, or, especially when combined with unusual sex and age distributions, there may be underlying occupational or environmental causes that need further investigation. Further investigation of these concerns cannot be conducted with data routinely collected by DPH.

Table 1 summarizes the 2003-07 analyses for each of the 23 census tracts including a list of specific cancer-related concerns. Table 2 draws a comparison of the significantly elevated specific cancer types in the 23 census tracts across the three time periods: 2001-05, 2002-06 and 2003-07. Table 3 lists risk factors associated with each cancer. DPH will work to address these concerns and risk factors within these communities by:

- Educating residents about the findings in this report;
- Seeking guidance from the Environment Committee of the Delaware Cancer Consortium about the policy implications of this report;
- Assuring access to screening and prevention services, including the promotion of healthy lifestyles that prevent cancer from occurring;
- Discussing environmental and occupational concerns with residents and other agencies, including exploration of possible known sources of environmental carcinogens; and
- Collecting and analyzing additional information as appropriate.

Table 1. Characteristics of 23 Census Tracts with Statistically Elevated Cancer Rates: Delaware, 2003-07.

Table Notes:

- Age-adjusted incidence rates in bold indicate that the census tract rate is significantly elevated compared to the state rate.
- Median ages at diagnosis in bold indicate that the census tract's median age at diagnosis is significantly lower than that of the state.
- Cancer types in bold represent one of the seven cancer types considered by the Delaware Cancer Consortium to have environmentally-substantiated risk factors.

Census Tract	Average number of cases per year	All-Site Cancer Age-Adjusted Incidence Rates (per 100,000), 2003-07		Significantly Elevated Cancer Type	Median Age at Diagnosis (Yrs), 2003-07		Areas of Concern
		Census Tract	Delaware		Census Tract	Delaware	
6.02	21.4	**Total: 653.5** **Males: 996.00** Females: 419.99	Total: 510.6 Males: 607.6 Females:439.4	Prostate Laryngeal	68.0	66.0	Sex Distribution Prevention Screening
135.04	36.6	**Total: 724.5** **Males: 912.7** **Females:576.6**	Total: 510.6 Males: 607.6 Females:439.4	**Bladder** Breast Kidney Myeloma Ovarian	**59.0**	66.0	Age Distribution Cancer Type Screening Prevention
139.02	37.8	**Total: 822.5** **Males: 1116.8** **Females:617.9**	Total: 510.6 Males: 607.6 Females:439.4	Breast **Leukemia** Lung Prostate	**59.0**	66.0	Age Distribution Cancer Type Screening Prevention
140.00	26.6	**Total: 765.0** Males: 759.3 **Females:757.7**	Total: 510.6 Males: 607.6 Females:439.4	Breast Lung Oral	63.0	66.0	Sex Distribution Screening Prevention

Census Tract	Average number of cases per year	All-Site Cancer Age-Adjusted Incidence Rates (per 100,000), 2003-07		Significantly Elevated Cancer Type	Median Age at Diagnosis (Yrs), 2003-07		Areas of Concern
		Census Tract	Delaware		Census Tract	Delaware	
148.05	26.0	**Total: 677.2** **Males: 862.4** Females:567.2	Total: 510.6 Males: 607.6 Females:439.4	Laryngeal Prostate	**58.0**	66.0	Sex, Age Distribution Screening Prevention
148.06	59.2	**Total: 835.6** **Males: 1049.9** **Females:667.5**	Total: 510.6 Males: 607.6 Females:439.4	Lung Myeloma Pancreas Prostate	**61.0**	66.0	Age Distribution Screening Prevention
148.07	25.2	**Total: 743.0** **Males: 1106.9** Females: 551.3	Total: 510.6 Males: 607.6 Females:439.4	Melanoma	**58.0**	66.0	Sex, Age Distribution Prevention
149.02	31.0	**Total: 694.3** Males: 692.0 **Females: 706.4**	Total: 510.6 Males: 607.6 Females:439.4	Colorectal	**57.0**	66.0	Sex, Age Distribution Screening

Census Tract	Average number of cases per year	All-Site Cancer Age-Adjusted Incidence Rates (per 100,000), 2003-07		Significantly Elevated Cancer Type	Median Age at Diagnosis (Yrs), 2003-07		Areas of Concern
		Census Tract	Delaware		Census Tract	Delaware	
149.03	19.2	**Total: 797.2** **Males: 897.3** **Females: 715.2**	Total: 510.6 Males: 607.6 Females:439.4	Lung Oral	**60.0**	66.0	Age Distribution Screening Prevention
159.00	23.4	**Total: 727.7** **Males: 845.8** **Females: 632.3**	Total: 510.6 Males: 607.6 Females:439.4	Kidney Esophagus	67.0	66.0	Prevention
160.00	19.2	**Total: 849.2** **Males: 888.4** **Females: 845.7**	Total: 510.6 Males: 607.6 Females:439.4	**Bladder** Pancreas Uterine	65.0	66.0	Cancer Type Prevention
163.01	25.4	**Total: 745.9** **Males: 990.9** **Females: 608.3**	Total: 510.6 Males: 607.6 Females:439.4	Prostate	**63.0**	66.0	Age Distribution Screening

Census Tract	Average number of cases per year	All-Site Cancer Age-Adjusted Incidence Rates (per 100,000), 2003-07		Significantly Elevated Cancer Type	Median Age at Diagnosis (Yrs), 2003-07		Areas of Concern
		Census Tract	Delaware		Census Tract	Delaware	
163.02	22.2	**Total: 639.2** Males: 727.0 Females: 572.2	Total: 510.6 Males: 607.6 Females:439.4	Prostate	**60.0**	66.0	Age Distribution Screening
164.02	19.2	**Total: 680.5** Males: 779.2 **Females:616.8**	Total: 510.6 Males: 607.6 Females:439.4	Pancreas	65.0	66.0	Sex Distribution Prevention
166.01	38.4	**Total: 674.3** Males: 745.9 **Females:578.7**	Total: 510.6 Males: 607.6 Females:439.4	Melanoma	65.0	66.0	Sex Distribution Prevention
166.04	31.2	**Total: 733.9** **Males: 843.8** **Females:665.4**	Total: 510.6 Males: 607.6 Females:439.4	Lung Prostate	63.0	66.0	Prevention Screening

Census Tract	Average number of cases per year	All-Site Cancer Age-Adjusted Incidence Rates (per 100,000), 2003-07		Significantly Elevated Cancer Type	Median Age at Diagnosis (Yrs), 2003-07		Areas of Concern
		Census Tract	Delaware		Census Tract	Delaware	
169.02	15.6	**Total: 772.2** **Males: 1039.6** Females: 543.7	Total: 510.6 Males: 607.6 Females:439.4	Colorectal Laryngeal	62.0	66.0	Sex Distribution Screening Prevention
405.00	39.0	**Total: 651.9** **Males: 932.8** **Females: 433.4**	Total: 510.6 Males: 607.6 Females:439.4	Lung Prostate	67.0	66.0	Screening Prevention
417.01	33.0	**Total: 778.4** **Males: 1137.7** Females: 552.2	Total: 510.6 Males: 607.6 Females:439.4	Prostate	67.0	66.0	Sex Distribution Screening
417.02	23.2	**Total: 830.7** **Males: 1132.4** **Females: 622.2**	Total: 510.6 Males: 607.6 Females:439.4	**Bladder** Breast Oral Prostate Uterine	**63.0**	66.0	Age Distribution Cancer Type Screening Prevention

Census Tract	Average number of cases per year	All-Site Cancer Age-Adjusted Incidence Rates (per 100,000), 2003-07		Significantly Elevated Cancer Type	Median Age at Diagnosis (Yrs), 2003-07		Areas of Concern
		Census Tract	Delaware		Census Tract	Delaware	
418.02	19.8	**Total: 754.0** **Males: 994.7** **Females:582.9**	Total: 510.6 Males: 607.6 Females:439.4	Prostate	**62.0**	66.0	Age Distribution Screening
510.01	64.6	**Total: 672.2** **Males: 818.9** **Females:566.9**	Total: 510.6 Males: 607.6 Females:439.4	Colorectal Esophageal Kidney **Non-Hodgkin's Lymphoma**	**69.0**	66.0	Age Distribution Cancer Type Screening Prevention
510.03	33.6	**Total: 770.9** **Males: 949.2** **Females:657.6**	Total: 510.6 Males: 607.6 Females:439.4	Breast Lung **Non-Hodgkin's Lymphoma**	67.0	66.0	Cancer Type Screening Prevention

Table 2. A comparison of significantly elevated cancer types for 23 consistently elevated census tracts across three time periods: 2001-05, 2002-06 and 2003-07.

Table Notes:

- Age-adjusted incidence rates in bold indicate that the census tract rate is significantly elevated compared to the state rate. The number of cases is shown in parenthesis.
- Cancer types in bold represent one of the seven cancer types considered by the Delaware Cancer Consortium to have environmentally-substantiated risk factors.
- The dash line (--------) indicates no single cancer type is elevated.

Census Tract	2001-05			2002-06			2003-07	
	All-site Age-Adjusted Cancer Incidence Rate per 100,000	**Significantly Elevated Cancer Type**		**All-site Age-Adjusted Cancer Incidence Rate per 100,000**	**Significantly Elevated Cancer Type**		**All-site Age-Adjusted Cancer Incidence Rate per 100,000**	**Significantly Elevated Cancer Type**
6.02	**698.1 (117)**	Colorectal Laryngeal Lung Prostate		**725.4 (120)**	Laryngeal Lung Prostate		**653.5 (107)**	Prostate Laryngeal
135.04	**647.1 (169)**	**Bladder** Prostate		**740.4 (184)**	**Bladder** Breast Myeloma Ovarian Prostate		**724.6 (183)**	**Bladder** Breast Kidney Myeloma Ovarian
139.02	**748.1 (176)**	**Bladder** Breast Laryngeal Lung Prostate		**846.0 (185)**	Breast Laryngeal **Leukemia** Lung Prostate		**822.5 (189)**	Breast **Leukemia** Lung Prostate

Census Tract	2001-05			2002-06			2003-07	
	All-site Age-Adjusted Cancer Incidence Rate per 100,000	**Significantly Elevated Cancer Type**		**All-site Age-Adjusted Cancer Incidence Rate per 100,000**	**Significantly Elevated Cancer Type**		**All-site Age-Adjusted Cancer Incidence Rate per 100,000**	**Significantly Elevated Cancer Type**
140.00	**678.7 (111)**	Breast **Liver**		**738.3 (124)**	Breast **Liver** Oral		**765.0 (133)**	Breast Lung Oral
148.05	**727.6 (124)**	--------		**652.7 (126)**	--------		**677.2 (130)**	Laryngeal Prostate
148.06	**675.5 (240)**	Lung		**776.7 (26.4)**	Esophageal Lung Myeloma Prostate		**835.6 (296)**	Lung Myeloma Pancreas Prostate
148.07	**643.7 (111)**	Melanoma		**701.7 (118)**	Breast Melanoma		**743.0 (126)**	Melanoma
149.02	**739.9 (164)**	Colorectal Myeloma Uterine		**749.6 (159)**	Colorectal		**694.3 (155)**	Colorectal
149.03	**863.0 (98)**	Lung Oral		**857.6 (92)**	Lung Oral		**797.2 (96)**	Lung Oral

Census Tract	2001-05			2002-06			2003-07	
	All-site Age-Adjusted Cancer Incidence Rate per 100,000	**Significantly Elevated Cancer Type**		**All-site Age-Adjusted Cancer Incidence Rate per 100,000**	**Significantly Elevated Cancer Type**		**All-site Age-Adjusted Cancer Incidence Rate per 100,000**	**Significantly Elevated Cancer Type**
159.00	**676.5 (112)**	Esophageal		**687.6 (111)**	Esophageal		**727.7 (117)**	Kidney Esophageal
160.00	**810.4 (96)**	Colorectal		**864.4 (97)**	Prostate		**849.2 (96)**	**Bladder** Pancreas Uterine
163.01	**653.2 (110)**	--------		**661.6 (115)**	Prostate		**745.9 (127)**	Prostate
163.02	**651.0 (117)**	Prostate		**642.6 (108)**	Prostate		**639.2 (111)**	Prostate
164.02	**645.7 (84)**	**Leukemia**		**642.9 (108)**	--------		**680.5 (96)**	Pancreas
166.01	**627.5 (162)**	--------		**638.8 (182)**	Prostate		**674.3 (192)**	Melanoma
166.04	**844.4 (138)**	--------		**793.6 (147)**	Breast Prostate		**733.9 (156)**	Lung Prostate

Census Tract	2001-05			2002-06			2003-07	
	All-site Age-Adjusted Cancer Incidence Rate per 100,000	**Significantly Elevated Cancer Type**		**All-site Age-Adjusted Cancer Incidence Rate per 100,000**	**Significantly Elevated Cancer Type**		**All-site Age-Adjusted Cancer Incidence Rate per 100,000**	**Significantly Elevated Cancer Type**
169.02	**698.0 (61)**	Colorectal Kidney		**759.2 (75)**	Colorectal Laryngeal		**772.2 (78)**	Colorectal Laryngeal
405.00	**617.2 (178)**	Lung Pancreas Prostate		**655.0 (188)**	Lung Pancreas Prostate		**651.9 (195)**	Lung Prostate
417.01	**646.9 (131)**	Prostate		**749.7 (148)**	**Non-Hodgkin's Lymphoma** Prostate		**778.4 (165)**	Prostate
417.02	**754.4 (104)**	Prostate		**801.6 (108)**	Breast Oral Prostate		**830.7 (116)**	**Bladder** Breast Oral Prostate Uterine
418.02	**664.0 (79)**	--------		**817.5 (96)**	Leukemia Prostate Stomach		**754.0 (99)**	Prostate

Census Tract	2001-05			2002-06			2003-07	
	All-site Age-Adjusted Cancer Incidence Rate per 100,000	**Significantly Elevated Cancer Type**		**All-site Age-Adjusted Cancer Incidence Rate per 100,000**	**Significantly Elevated Cancer Type**		**All-site Age-Adjusted Cancer Incidence Rate per 100,000**	**Significantly Elevated Cancer Type**
510.01	**676.1 (300)**	Colorectal Esophageal Melanoma		**717.4 (315)**	Colorectal Esophageal Kidney Melanoma		**672.2 (323)**	Colorectal Esophageal Kidney **Non-Hodgkin's Lymphoma**
510.03	**659.0 (133)**	**Hodgkin's Lymphoma** Lung		**725.5 (144)**	**Non-Hodgkin's Lymphoma** Prostate		**770.9 (168)**	Breast Lung **Non-Hodgkin's Lymphoma**

Table 2. Risk factors for Cancer Types

Cancer Type	Major Known Risk Factors
Bladder	Smoking, work exposure
Bone	Genetic, radiation, bone marrow transplant,
Brain	Radiation therapy, certain genetic conditions
Breast	Genetic, family history, early menarche, recent use of birth control pills, hormone therapy
Colorectal	History of bowel disease, family history, diet ,smoking, alcohol, diabetes
Cervix	Human Papilloma virus (HPV), smoking, Chlamydia, immunosuppression, diet, multiple full term pregnancies, young age at first full term pregnancy, oral contraceptives, Diethylstilbestrol use, family history
Esophagus	Tobacco, alcohol, overweight, diet, dry cleaning chemicals
Hodgkin's Lymphoma	Age, gender, family history, Epstein Barr Virus (EBV) infection, HIV infection
Kidney	Smoking, overweight, workplace exposures, family history, hypertension, medications
Larynx	Tobacco, alcohol, diet , HPV, genetics, workplace exposure
Leukemia	Genetics, diet, alcohol, tobacco, sun , radiation, chemical exposure
Liver	Hepatitis, alcohol, genetics, workplace exposures, steroids, arsenic in drinking water
Lung	Tobacco, radon, asbestos, workplace exposures
Melanoma	UV light, moles, fair skin, family history
Myeloma	Family history, overweight, radiation, workplace exposures
NHL*	Radiation, weakened immune system, certain infections
Oral	Tobacco, alcohol, UV light, HPV, nutrition
Ovarian	Obesity, tubal ligation(protective factor), fertility drugs, hormone therapy
Pancreas	Tobacco, obesity, diabetes, hepatitis, alcohol, workplace exposures, family history
Prostate	Family history, African American race, diet, obesity
Stomach	Certain infections, diet, tobacco, obesity, family history
Testicular	Undecended testicle, family history, HIV infection, age, race, personal history of testicular cancer
Thyroid	Lack of iodine, radiation, genetic conditions
Uterine	Radiation, diabetes, diet, obesity, estrogen therapy

Source: Delaware Division of Public Health

*Non-Hodgkin's Lymphoma