

Summary of Investigation into the Occurrence of Cancer
Zip Codes 78201, 78204, 78205, 78207, 78211, 78214, 78221, 78224, 78225, 78226, 78227,
78228, 78237, and 78242
Bexar County, Texas
1995–2004
January 31, 2008

Background:

Concern about a possible excess of cancer prompted the Texas Cancer Registry (TCR) of the Texas Department of State Health Services (DSHS) to examine the occurrence of cancer in 14 zip codes in San Antonio, Texas. Local citizens were concerned that trichloroethylene (TCE) from the nearby closed Kelly Air Force Base (AFB) may be causing cancer. The TCR evaluated 1995–2004 incidence data for cancers of the kidney and renal pelvis, Hodgkin’s lymphoma, non-Hodgkin’s lymphoma, and selected leukemia subtypes. TCE shows an association with cancers of the liver, kidney, and lymphoma, according to the scientific literature. Past investigations have shown liver cancer to be elevated in some areas around the former Kelly AFB. Incidence data are the best indicator of the occurrence of cancer in an area because they more accurately show the number and types of cancer diagnosed each year than mortality data. Compared with previous investigations that included mortality data as a supplemental measure, the TCR now solely uses incidence data for assessment of possible cancer clusters. This is due to the improved timeliness, quality, and availability of incidence data which meet national standards for high data quality. The rest of this report examines the investigative methods the TCR used, the results of the investigation, recommendations, and general information on cancer risk factors.

Methodology:

According to the National Cancer Institute, a cancer cluster is a greater than expected number of cancers among people who live or work in the same area and who develop or die from the same cancer within a short time of each other. The cancer cluster investigation is the primary tool used by the TCR to investigate the possibility of excess cancer in a community. The cancer cluster investigation cannot determine that cancer was associated with or caused by environmental or other risk factors. Instead, the cancer cluster investigation is specifically intended to address the question “Is there an excess of cancer in the area or population of concern?”

The TCR follows guidelines recommended by the Centers for Disease Control and Prevention for investigating cancer clusters¹ and often works with the DSHS Environmental and Injury Epidemiology and Toxicology Branch, as well as other state and federal agencies. In order to determine if an excess of cancer is occurring and if further study is recommended, epidemiologic evidence are considered. Such evidence may include documented exposures; the toxicity of the exposures; plausible routes by which exposures can reach people (ingesting, touching, breathing); the actual amount of exposure to the people which can lead to absorption in the body; the time from exposure to development of cancer; the statistical significance of the findings; the magnitude of the effect observed; risk factors; and the consistency of the findings over time. The occurrence of rare cancers or unlikely cancers in

certain age groups may also indicate a cluster needing further study. Because excesses of cancer may occur by chance alone, the role of chance is considered in the statistical analysis.

If further study is indicated, the TCR will determine the feasibility of conducting an epidemiologic study. If the epidemiologic study is feasible, the final step is to recommend an etiologic investigation to see if the cancer(s) can be related to the exposure of concern. Very few cancer cluster investigations in the United States proceed to this stage.

To determine whether a statistically significant excess of cancer existed in the geographic areas of concern, the number of observed cases and deaths was compared to what would be "expected" based on the state cancer rates. Calculating the expected number(s) of cancer cases takes into consideration the race, sex, and ages of people who are diagnosed or die from cancer. This is important because a person's race, sex, and age all impact cancer rates. If we are trying to determine if there is more or less cancer in a community compared to the rest of the state, we must make sure that the difference in cancer rates is not simply due to one of these factors.

The attached Tables 1–14 present the number of observed cases for males and females, the number of "expected" cases, the standardized incidence ratio (SIR), and the corresponding 99% confidence interval. The standardized incidence ratio (SIR) is simply the number of observed cases compared to the number of "expected" cases. When the SIR of a selected cancer is equal to 1.0, then the number of observed cases is equal to the expected number of cases, based on the incidence in the rest of the state. When the SIR is less than 1.0, fewer people developed cancer than we would have expected. Conversely, an SIR greater than 1.0 indicates that more people developed cancer than we would have expected. To determine if an SIR greater than 1.0 or less than 1.0 is statistically significant or outside the variation likely to be due to chance, confidence intervals are also calculated.

A 99% confidence interval is used for statistical significance and takes into account the likelihood that the result occurred by chance. It also indicates the range in which we would expect the SIR to fall 99% of the time. If the confidence interval contains a range that includes 1.0, no statistically significant excess of cancer is indicated. The confidence intervals are particularly important when trying to interpret small numbers of cases. If only one or two cases are expected for a particular cancer, then the report of three or four observed cases will result in a very large SIR. As long as the 99% confidence interval contains 1.0, this indicates that the SIR is still within the range one might expect and, therefore, not statistically significant.

Results:

The analysis of incidence data for zip codes 78201, 78204, 78205, 78207, 78211, 78214, 78221, 78224, 78225, 78226, 78227, 78228, 78237, and 78242, San Antonio, Texas, from January 1, 1995–December 31, 2004, found cancers of the kidney and renal pelvis, Hodgkin's lymphoma, non-Hodgkin's lymphoma, and selected leukemia subtypes to be within expected ranges in both males and females. Analysis summaries are presented in Tables 1–14.

Discussion:

Like other studies, this cancer cluster investigation had limitations. The incidence data did

not include data for the most recent years. Also, cancer incidence data are based on residence at the time of diagnosis. It is possible that some residents who developed cancer no longer lived in the area at the time of diagnosis, so were not included in the analyses. However, it is also possible that people may have moved into the area and then developed cancer because of an exposure from a prior residential location or other factors. These cases are included in the investigation.

Recommendations:

Based on the findings and the information discussed above, it is not recommended at this time to further examine the cancers in 14 zip codes in San Antonio, Texas. As new data or additional information become available, consideration will be given to updating or re-evaluating this investigation.

Information on Cancer and Cancer Risk Factors:

Overall, the occurrence of cancer is common, with approximately two out of every five persons alive today predicted to develop some type of cancer in their lifetime.² In Texas, as in the United States, cancer is the leading cause of death for people under the age of 85.³ Also, cancer is not one disease, but many different diseases. Different types of cancer are generally thought to have different causes. If a person develops cancer, it is probably not due to one factor but to a combination of factors such as heredity; diet, tobacco use, and other lifestyle factors; infectious agents; chemical exposures; and radiation exposures. Although cancer may impact individuals of all ages, it primarily is a disease of older persons with over one-half of cancer cases and two-thirds of cancer deaths occurring in persons 65 and older. Finally, it takes time for cancer to develop, between 10–40 years can go by between the exposure to a carcinogen and a diagnosis of cancer.⁴

The chances of a person developing cancer as a result of exposure to an environmental contaminant are slight. Most experts agree that exposure to pollution, occupational, and industrial hazards account for fewer than 10% of cancer cases.⁵ The Harvard Center for Cancer Prevention estimates 5% of cancer deaths are due to occupational factors, 2% to environmental pollution and 2% to ionizing/ultraviolet radiation.⁶ In contrast, the National Cancer Institute estimates that lifestyle factors such as tobacco use and diet cause 50 to 75 percent of cancer deaths.⁷ Eating a healthy diet and refraining from tobacco are the best ways to prevent many kinds of cancer. It is estimated that one-third of all cancer deaths in this country could be prevented by eliminating the use of tobacco products. Additionally, about 25 to 30 percent of the cases of several major cancers are thought to be associated with obesity and physical inactivity.⁸

Known Risk Factors for Cancers Examined in This Investigation:

The following is a brief discussion summarized from the American Cancer Society and the National Cancer Institute about cancer risk factors for the specific cancers studied in this investigation.^{9,10}

The occurrence of cancer may vary by race/ethnicity, gender, type of cancer, geographic location, population group, and a variety of other factors. Scientific studies have identified a number of factors for various cancers that may increase an individual's risk of developing a

specific type of cancer. These factors are known as risk factors. Some risk factors we can do nothing about, but many are a matter of choice.

Kidney and Renal Pelvis Cancer:

Kidney cancer risk factors include smoking, obesity, a sedentary lifestyle, occupational exposure to heavy metals or organic solvents, advanced kidney disease, family history, high blood pressure, certain medications, and aging. Men have higher rates of kidney cancer.

Hodgkin's Lymphoma:

Some people who have reduced immune systems, for example, those with AIDS, and organ transplant patients, are at a higher risk of Hodgkin's lymphoma. Possible risk factors include being in young or late adulthood, being male, being infected with the Epstein-Barr virus, or having a first-degree relative with Hodgkin's lymphoma.

Non-Hodgkin's Lymphoma:

Risk factors for non-Hodgkin's lymphoma include infection with *Helicobacter pylori*, human immunodeficiency virus (HIV), human T-cell leukemia/lymphoma virus (HTLV-1), or the Epstein-Barr virus and malaria. Other possible risk factors include aging, certain genetic diseases, radiation exposure, immuno-suppressant drugs after organ transplantation, benzene exposure, the drug Dilantin, exposure to certain pesticides, a diet high in meats or fat, or certain chemotherapy drugs.

Acute Lymphocytic Leukemia (ALL):

Possible risk factors for ALL include the following: being male, being white, being older than 70 years of age, past treatment with chemotherapy or radiation therapy, exposure to atomic bomb radiation, or having a certain genetic disorder such as Down syndrome.

Chronic Lymphocytic Leukemia (CLL):

Possible risk factors for CLL include the following: being middle-aged or older, male, or white; a family history of CLL or cancer of the lymph system; having relatives who are Russian Jews or Eastern European Jews; or having exposure to herbicides or insecticides including Agent Orange, an herbicide used during the Vietnam War.

Acute Myeloid Leukemia (AML):

Possible risk factors for AML include the following: being male; smoking, especially after age 60; treatment with chemotherapy or radiation therapy in the past; treatment for childhood ALL in the past; being exposed to atomic bomb radiation or the chemical benzene; or having a history of a blood disorder such as myelodysplastic syndrome.

Chronic Myeloid Leukemia (CML):

Most people with CML have a gene mutation (change) called the Philadelphia chromosome. The Philadelphia chromosome is not passed from parent to child.

For additional information about cancer, visit the "Resources" link on our web site at <http://www.dshs.state.tx.us/tcr/>.

Questions or comments regarding this investigation may be directed to Ms. Brenda Mokry,

Texas Cancer Registry, at 1-800-252-8059 or brenda.mokry@dshs.state.tx.us.

References:

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Table 1**Number of Observed and Expected Cancer Cases and Race Adjusted Standardized Incidence Ratios, Selected Cancers, Zip Code 78201, San Antonio, TX, 1995–2004**

Males				
Site	Observed	Expected	SIR	99% CI
Kidney and Renal Pelvis	33	36.5	0.9	0.6 – 1.4
Hodgkin’s Lymphoma	6	5.9	1.0	0.3 – 2.6
Non-Hodgkin’s Lymphoma	36	36.8	1.0	0.6 – 1.5
Acute Lymphocytic Leukemia	7	5.3	1.3	0.4 – 3.2
Chronic Lymphocytic Leukemia	10	6.6	1.5	0.6 – 3.3
Acute Myeloid Leukemia	8	7.4	1.1	0.4 – 2.5
Chronic Myeloid Leukemia	6	3.9	1.5	0.4 – 4.0
Aleukemic, Subleukemic, & NOS	2	1.5	1.3	0.1 – 6.1
Females				
Site	Observed	Expected	SIR	99% CI
Kidney and Renal Pelvis	33	30.5	1.1	0.7 – 1.7
Hodgkin’s Lymphoma	4	4.9	0.8	0.1 – 2.6
Non-Hodgkin’s Lymphoma	39	42.5	0.9	0.6 – 1.4
Acute Lymphocytic Leukemia	4	4.7	0.9	0.1 – 2.7
Chronic Lymphocytic Leukemia	4	6.5	0.6	0.1 – 1.9
Acute Myeloid Leukemia	9	7.2	1.3	0.4 – 2.8
Chronic Myeloid Leukemia	4	3.7	1.1	0.2 – 3.4
Aleukemic, Subleukemic, & NOS	3	2.1	1.4	0.2 – 5.2

Note: The SIR (standardized incidence ratio) is defined as the number of observed cases divided by the number of expected cases. The latter is based on race-, sex-, and age-specific cancer incidence rates for Texas during the period 1995–2004. The SIR has been rounded to the first decimal place.

*Significantly higher than expected at the $p < 0.01$ level.

**Significantly lower than expected at the $p < 0.01$ level.

Prepared by:

Brenda J. Mokry, Epidemiologist
Texas Cancer Registry Branch
Department of State Health Services
01/31/2008

Table 2

Number of Observed and Expected Cancer Cases and Race Adjusted Standardized Incidence Ratios, Selected Cancers, Zip Code 78204, San Antonio, TX, 1995–2004

Males				
Site	Observed	Expected	SIR	99% CI
Kidney and Renal Pelvis	7	10.2	0.7	0.2 – 1.7
Hodgkin’s Lymphoma	1	1.6	0.6	0.0 – 4.6
Non-Hodgkin’s Lymphoma	11	9.5	1.2	0.5 – 2.4
Acute Lymphocytic Leukemia	1	1.4	0.7	0.0 – 5.3
Chronic Lymphocytic Leukemia	1	1.4	0.7	0.0 – 5.3
Acute Myeloid Leukemia	3	1.9	1.6	0.2 – 6.0
Chronic Myeloid Leukemia	0	1.0	0.0	0.0 – 5.4
Aleukemic, Subleukemic, & NOS	0	0.3	0.0	0.0 – 17.8
Females				
Site	Observed	Expected	SIR	99% CI
Kidney and Renal Pelvis	9	8.0	1.1	0.4 – 2.5
Hodgkin’s Lymphoma	0	1.3	0.0	0.0 – 4.2
Non-Hodgkin’s Lymphoma	12	10.0	1.2	0.5 – 2.4
Acute Lymphocytic Leukemia	1	1.2	0.8	0.0 – 6.2
Chronic Lymphocytic Leukemia	0	1.0	0.0	0.0 – 5.2
Acute Myeloid Leukemia	0	1.6	0.0	0.0 – 3.4
Chronic Myeloid Leukemia	0	0.8	0.0	0.0 – 6.3
Aleukemic, Subleukemic, & NOS	0	0.3	0.0	0.0 – 16.7

Note: The SIR (standardized incidence ratio) is defined as the number of observed cases divided by the number of expected cases. The latter is based on race-, sex-, and age-specific cancer incidence rates for Texas during the period 1995–2004. The SIR has been rounded to the first decimal place.

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 Brenda J. Mokry, Epidemiologist
 Texas Cancer Registry Branch
 Department of State Health Services
 01/31/2008

Table 3

Number of Observed and Expected Cancer Cases and Race Adjusted Standardized Incidence Ratios, Selected Cancers, Zip Code 78205, San Antonio, TX, 1995–2004

Males				
Site	Observed	Expected	SIR	99% CI
Kidney and Renal Pelvis	2	3.0	0.7	0.0 – 3.1
Hodgkin’s Lymphoma	0	0.3	0.0	0.0 – 15.3
Non-Hodgkin’s Lymphoma	3	3.0	1.0	0.1 – 3.7
Acute Lymphocytic Leukemia	0	0.1	0.0	0.0 – 37.9
Chronic Lymphocytic Leukemia	0	0.7	0.0	0.0 – 7.9
Acute Myeloid Leukemia	0	0.6	0.0	0.0 – 9.0
Chronic Myeloid Leukemia	1	0.3	3.4	0.0 – 25.5
Aleukemic, Subleukemic, & NOS	0	0.1	0.0	0.0 – 45.3
Females				
Site	Observed	Expected	SIR	99% CI
Kidney and Renal Pelvis	3	1.4	2.1	0.2 – 7.6
Hodgkin’s Lymphoma	0	0.2	0.0	0.0 – 29.1
Non-Hodgkin’s Lymphoma	0	2.0	0.0	0.0 – 2.6
Acute Lymphocytic Leukemia	1	0.1	11.5	0.1 – 85.6
Chronic Lymphocytic Leukemia	0	0.3	0.0	0.0 – 16.8
Acute Myeloid Leukemia	1	0.3	3.3	0.0 – 24.2
Chronic Myeloid Leukemia	1	0.2	6.3	0.0 – 46.5
Aleukemic, Subleukemic, & NOS	0	0.1	0.0	0.0 – 63.2

Note: The SIR (standardized incidence ratio) is defined as the number of observed cases divided by the number of expected cases. The latter is based on race-, sex-, and age-specific cancer incidence rates for Texas during the period 1995–2004. The SIR has been rounded to the first decimal place.

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 Brenda J. Mokry, Epidemiologist
 Texas Cancer Registry Branch
 Department of State Health Services
 01/31/2008

Table 4**Number of Observed and Expected Cancer Cases and Race Adjusted Standardized Incidence Ratios, Selected Cancers, Zip Code 78207, San Antonio, TX, 1995–2004**

Males				
Site	Observed	Expected	SIR	99% CI
Kidney and Renal Pelvis	56	41.4	1.4	0.9 – 1.9
Hodgkin's Lymphoma	7	7.4	0.9	0.3 – 2.3
Non-Hodgkin's Lymphoma	38	38.3	1.0	0.6 – 1.5
Acute Lymphocytic Leukemia	13	7.0	1.9	0.8 – 3.6
Chronic Lymphocytic Leukemia	5	5.1	1.0	0.2 – 2.8
Acute Myeloid Leukemia	4	7.6	0.5	0.1 – 1.7
Chronic Myeloid Leukemia	4	4.1	1.0	0.2 – 3.0
Aleukemic, Subleukemic, & NOS	0	1.2	0.0	0.0 – 4.6
Females				
Site	Observed	Expected	SIR	99% CI
Kidney and Renal Pelvis	22	31.0	0.7	0.4 – 1.2
Hodgkin's Lymphoma	5	5.3	1.0	0.2 – 2.7
Non-Hodgkin's Lymphoma	35	37.8	0.9	0.6 – 1.4
Acute Lymphocytic Leukemia	7	5.9	1.2	0.4 – 2.9
Chronic Lymphocytic Leukemia	6	3.7	1.6	0.4 – 4.3
Acute Myeloid Leukemia	4	6.3	0.6	0.1 – 2.0
Chronic Myeloid Leukemia	5	3.3	1.5	0.3 – 4.2
Aleukemic, Subleukemic, & NOS	1	1.2	0.8	0.0 – 6.0

Note: The SIR (standardized incidence ratio) is defined as the number of observed cases divided by the number of expected cases. The latter is based on race-, sex-, and age-specific cancer incidence rates for Texas during the period 1995–2004. The SIR has been rounded to the first decimal place.

*Significantly higher than expected at the $p < 0.01$ level.

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Prepared by:

Brenda J. Mokry, Epidemiologist
Texas Cancer Registry Branch
Department of State Health Services
01/31/2008

Table 5

Number of Observed and Expected Cancer Cases and Race Adjusted Standardized Incidence Ratios, Selected Cancers, Zip Code 78211, San Antonio, TX, 1995–2004

Males				
Site	Observed	Expected	SIR	99% CI
Kidney and Renal Pelvis	28	23.7	1.2	0.7 – 1.9
Hodgkin’s Lymphoma	5	4.2	1.2	0.3 – 3.4
Non-Hodgkin’s Lymphoma	16	21.6	0.7	0.4 – 1.4
Acute Lymphocytic Leukemia	8	4.1	2.0	0.6 – 4.6
Chronic Lymphocytic Leukemia	0	3.0	0.0	0.0 – 1.8
Acute Myeloid Leukemia	6	4.3	1.4	0.4 – 3.6
Chronic Myeloid Leukemia	2	2.3	0.9	0.0 – 4.0
Aleukemic, Subleukemic, & NOS	0	0.7	0.0	0.0 – 8.0
Females				
Site	Observed	Expected	SIR	99% CI
Kidney and Renal Pelvis	26	17.5	1.5	0.8 – 2.4
Hodgkin’s Lymphoma	1	3.0	0.3	0.0 – 2.5
Non-Hodgkin’s Lymphoma	13	20.8	0.6	0.3 – 1.2
Acute Lymphocytic Leukemia	4	3.3	1.2	0.2 – 3.8
Chronic Lymphocytic Leukemia	1	2.0	0.5	0.0 – 3.7
Acute Myeloid Leukemia	5	3.6	1.4	0.3 – 3.9
Chronic Myeloid Leukemia	1	1.9	0.5	0.0 – 4.0
Aleukemic, Subleukemic, & NOS	0	0.7	0.0	0.0 – 8.1

Note: The SIR (standardized incidence ratio) is defined as the number of observed cases divided by the number of expected cases. The latter is based on race-, sex-, and age-specific cancer incidence rates for Texas during the period 1995–2004. The SIR has been rounded to the first decimal place.

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 Brenda J. Mokry, Epidemiologist
 Texas Cancer Registry Branch
 Department of State Health Services
 01/31/2008

Table 6

Number of Observed and Expected Cancer Cases and Race Adjusted Standardized Incidence Ratios, Selected Cancers, Zip Code 78214, San Antonio, TX, 1995–2004

Males				
Site	Observed	Expected	SIR	99% CI
Kidney and Renal Pelvis	26	18.7	1.4	0.8 – 2.3
Hodgkin’s Lymphoma	8	3.0	2.7	0.9 – 6.2
Non-Hodgkin’s Lymphoma	20	17.6	1.1	0.6 – 2.0
Acute Lymphocytic Leukemia	4	2.9	1.4	0.2 – 4.4
Chronic Lymphocytic Leukemia	3	2.8	1.1	0.1 – 3.9
Acute Myeloid Leukemia	4	3.6	1.1	0.2 – 3.6
Chronic Myeloid Leukemia	1	1.8	0.5	0.0 – 4.1
Aleukemic, Subleukemic, & NOS	0	0.6	0.0	0.0 – 9.3
Females				
Site	Observed	Expected	SIR	99% CI
Kidney and Renal Pelvis	14	14.2	1.0	0.4 – 1.9
Hodgkin’s Lymphoma	3	2.3	1.3	0.2 – 4.8
Non-Hodgkin’s Lymphoma	15	18.1	0.8	0.4 – 1.6
Acute Lymphocytic Leukemia	2	2.5	0.8	0.0 – 3.8
Chronic Lymphocytic Leukemia	1	2.1	0.5	0.0 – 3.5
Acute Myeloid Leukemia	4	3.1	1.3	0.2 – 4.1
Chronic Myeloid Leukemia	0	1.5	0.0	0.0 – 3.5
Aleukemic, Subleukemic, & NOS	0	0.6	0.0	0.0 – 8.5

Note: The SIR (standardized incidence ratio) is defined as the number of observed cases divided by the number of expected cases. The latter is based on race-, sex-, and age-specific cancer incidence rates for Texas during the period 1995–2004. The SIR has been rounded to the first decimal place.

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 Brenda J. Mokry, Epidemiologist
 Texas Cancer Registry Branch
 Department of State Health Services
 01/31/2008

Table 7

Number of Observed and Expected Cancer Cases and Race Adjusted Standardized Incidence Ratios, Selected Cancers, Zip Code 78221, San Antonio, TX, 1995–2004

Males				
Site	Observed	Expected	SIR	99% CI
Kidney and Renal Pelvis	24	28.1	0.9	0.5 – 1.4
Hodgkin’s Lymphoma	4	4.6	0.9	0.2 – 2.8
Non-Hodgkin’s Lymphoma	29	27.1	1.1	0.6 – 1.7
Acute Lymphocytic Leukemia	3	4.4	0.7	0.1 – 2.5
Chronic Lymphocytic Leukemia	4	4.7	0.9	0.1 – 2.7
Acute Myeloid Leukemia	11	5.5	2.0	0.8 – 4.2
Chronic Myeloid Leukemia	2	2.8	0.7	0.0 – 3.3
Aleukemic, Subleukemic, & NOS	0	0.9	0.0	0.0 – 5.7
Females				
Site	Observed	Expected	SIR	99% CI
Kidney and Renal Pelvis	21	19.1	1.1	0.6 – 1.9
Hodgkin’s Lymphoma	4	3.4	1.2	0.2 – 3.7
Non-Hodgkin’s Lymphoma	23	25.1	0.9	0.5 – 1.5
Acute Lymphocytic Leukemia	6	3.8	1.6	0.4 – 4.2
Chronic Lymphocytic Leukemia	3	3.1	1.0	0.1 – 3.5
Acute Myeloid Leukemia	3	4.5	0.7	0.1 – 2.4
Chronic Myeloid Leukemia	2	2.2	0.9	0.1 – 4.3
Aleukemic, Subleukemic, & NOS	1	0.9	1.2	0.0 – 8.7

Note: The SIR (standardized incidence ratio) is defined as the number of observed cases divided by the number of expected cases. The latter is based on race-, sex-, and age-specific cancer incidence rates for Texas during the period 1995–2004. The SIR has been rounded to the first decimal place.

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Table 8

Number of Observed and Expected Cancer Cases and Race Adjusted Standardized Incidence Ratios, Selected Cancers, Zip Code 78224, San Antonio, TX, 1995–2004

Males				
Site	Observed	Expected	SIR	99% CI
Kidney and Renal Pelvis	8	9.3	0.9	0.3 – 2.0
Hodgkin’s Lymphoma	1	1.7	0.6	0.0 – 4.4
Non-Hodgkin’s Lymphoma	8	8.5	0.9	0.3 – 2.2
Acute Lymphocytic Leukemia	5	1.8	2.8	0.6 – 8.0
Chronic Lymphocytic Leukemia	0	1.2	0.0	0.0 – 4.4
Acute Myeloid Leukemia	0	1.7	0.0	0.0 – 3.1
Chronic Myeloid Leukemia	0	0.9	0.0	0.0 – 5.8
Aleukemic, Subleukemic, & NOS	0	0.3	0.0	0.0 – 20.2
Females				
Site	Observed	Expected	SIR	99% CI
Kidney and Renal Pelvis	15	6.7	2.2	1.0 – 4.2
Hodgkin’s Lymphoma	0	1.3	0.0	0.0 – 4.2
Non-Hodgkin’s Lymphoma	10	8.3	1.2	0.5 – 2.6
Acute Lymphocytic Leukemia	0	1.5	0.0	0.0 – 3.6
Chronic Lymphocytic Leukemia	0	0.8	0.0	0.0 – 6.3
Acute Myeloid Leukemia	3	1.5	2.0	0.2 – 7.2
Chronic Myeloid Leukemia	0	0.8	0.0	0.0 – 7.0
Aleukemic, Subleukemic, & NOS	0	0.3	0.0	0.0 – 19.7

Note: The SIR (standardized incidence ratio) is defined as the number of observed cases divided by the number of expected cases. The latter is based on race-, sex-, and age-specific cancer incidence rates for Texas during the period 1995–2004. The SIR has been rounded to the first decimal place.

*Significantly higher than expected at the $p < 0.01$ level.

**Significantly lower than expected at the $p < 0.01$ level.

Prepared by:
 Brenda J. Mokry, Epidemiologist
 Texas Cancer Registry Branch
 Department of State Health Services
 01/31/2008

Table 9

Number of Observed and Expected Cancer Cases and Race Adjusted Standardized Incidence Ratios, Selected Cancers, Zip Code 78225, San Antonio, TX, 1995–2004

Males				
Site	Observed	Expected	SIR	99% CI
Kidney and Renal Pelvis	17	11.7	1.5	0.7 – 2.6
Hodgkin’s Lymphoma	0	1.8	0.0	0.0 – 2.9
Non-Hodgkin’s Lymphoma	12	10.7	1.1	0.5 – 2.3
Acute Lymphocytic Leukemia	3	1.6	1.9	0.2 – 6.9
Chronic Lymphocytic Leukemia	1	1.6	0.6	0.0 – 4.7
Acute Myeloid Leukemia	2	2.1	1.0	0.1 – 4.4
Chronic Myeloid Leukemia	3	1.1	2.7	0.3 – 9.8
Aleukemic, Subleukemic, & NOS	0	0.3	0.0	0.0 – 15.6
Females				
Site	Observed	Expected	SIR	99% CI
Kidney and Renal Pelvis	12	9.3	1.3	0.5 – 2.6
Hodgkin’s Lymphoma	2	1.4	1.4	0.1 – 6.5
Non-Hodgkin’s Lymphoma	9	11.5	0.8	0.3 – 1.7
Acute Lymphocytic Leukemia	1	1.4	0.7	0.0 – 5.3
Chronic Lymphocytic Leukemia	1	1.2	0.8	0.0 – 6.1
Acute Myeloid Leukemia	4	1.9	2.2	0.4 – 6.8
Chronic Myeloid Leukemia	0	1.0	0.0	0.0 – 5.5
Aleukemic, Subleukemic, & NOS	0	0.4	0.0	0.0 – 14.2

Note: The SIR (standardized incidence ratio) is defined as the number of observed cases divided by the number of expected cases. The latter is based on race-, sex-, and age-specific cancer incidence rates for Texas during the period 1995–2004. The SIR has been rounded to the first decimal place.

*Significantly higher than expected at the $p < 0.01$ level.

**Significantly lower than expected at the $p < 0.01$ level.

Prepared by:
 Brenda J. Mokry, Epidemiologist
 Texas Cancer Registry Branch
 Department of State Health Services
 01/31/2008

Table 10

Number of Observed and Expected Cancer Cases and Race Adjusted Standardized Incidence Ratios, Selected Cancers, Zip Code 78226, San Antonio, TX, 1995–2004

Males				
Site	Observed	Expected	SIR	99% CI
Kidney and Renal Pelvis	8	5.5	1.4	0.5 – 3.4
Hodgkin’s Lymphoma	0	1.2	0.0	0.0 – 4.6
Non-Hodgkin’s Lymphoma	7	5.3	1.3	0.4 – 3.2
Acute Lymphocytic Leukemia	0	1.1	0.0	0.0 – 4.7
Chronic Lymphocytic Leukemia	1	0.7	1.4	0.0 – 10.1
Acute Myeloid Leukemia	3	1.1	2.7	0.3 – 9.9
Chronic Myeloid Leukemia	2	0.6	3.5	0.2 – 16.4
Aleukemic, Subleukemic, & NOS	0	0.2	0.0	0.0 – 32.4
Females				
Site	Observed	Expected	SIR	99% CI
Kidney and Renal Pelvis	2	4.0	0.5	0.0 – 2.3
Hodgkin’s Lymphoma	1	0.9	1.1	0.0 – 8.4
Non-Hodgkin’s Lymphoma	6	4.9	1.2	0.3 – 3.2
Acute Lymphocytic Leukemia	1	0.9	1.1	0.0 – 8.0
Chronic Lymphocytic Leukemia	0	0.5	0.0	0.0 – 11.8
Acute Myeloid Leukemia	0	0.9	0.0	0.0 – 5.9
Chronic Myeloid Leukemia	2	0.4	4.6	0.2 – 21.1
Aleukemic, Subleukemic, & NOS	0	0.1	0.0	0.0 – 38.7

Note: The SIR (standardized incidence ratio) is defined as the number of observed cases divided by the number of expected cases. The latter is based on race-, sex-, and age-specific cancer incidence rates for Texas during the period 1995–2004. The SIR has been rounded to the first decimal place.

*Significantly higher than expected at the $p < 0.01$ level.

**Significantly lower than expected at the $p < 0.01$ level.

Prepared by:
 Brenda J. Mokry, Epidemiologist
 Texas Cancer Registry Branch
 Department of State Health Services
 01/31/2008

Table 11

Number of Observed and Expected Cancer Cases and Race Adjusted Standardized Incidence Ratios, Selected Cancers, Zip Code 78227, San Antonio, TX, 1995–2004

Males				
Site	Observed	Expected	SIR	99% CI
Kidney and Renal Pelvis	35	28.5	1.2	0.8 – 1.9
Hodgkin’s Lymphoma	7	6.4	1.1	0.3 – 2.7
Non-Hodgkin’s Lymphoma	46	29.6	1.6	1.0 – 2.3
Acute Lymphocytic Leukemia	7	5.3	1.3	0.4 – 3.2
Chronic Lymphocytic Leukemia	9	5.9	1.5	0.5 – 3.4
Acute Myeloid Leukemia	9	6.4	1.4	0.5 – 3.2
Chronic Myeloid Leukemia	3	3.2	0.9	0.1 – 3.4
Aleukemic, Subleukemic, & NOS	1	1.1	0.9	0.0 – 6.5
Females				
Site	Observed	Expected	SIR	99% CI
Kidney and Renal Pelvis	29	19.2	1.5	0.9 – 2.4
Hodgkin’s Lymphoma	6	4.2	1.4	0.4 – 3.7
Non-Hodgkin’s Lymphoma	39	26.6	1.5	0.9 – 2.2
Acute Lymphocytic Leukemia	2	4.0	0.5	0.0 – 2.3
Chronic Lymphocytic Leukemia	3	3.9	0.8	0.1 – 2.8
Acute Myeloid Leukemia	6	5.1	1.2	0.3 – 3.1
Chronic Myeloid Leukemia	0	2.3	0.0	0.0 – 2.3
Aleukemic, Subleukemic, & NOS	0	1.0	0.0	0.0 – 5.3

Note: The SIR (standardized incidence ratio) is defined as the number of observed cases divided by the number of expected cases. The latter is based on race-, sex-, and age-specific cancer incidence rates for Texas during the period 1995–2004. The SIR has been rounded to the first decimal place.

*Significantly higher than expected at the $p < 0.01$ level.
 **Significantly lower than expected at the $p < 0.01$ level.

Prepared by:
 Brenda J. Mokry, Epidemiologist
 Texas Cancer Registry Branch
 Department of State Health Services
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Table 12

Number of Observed and Expected Cancer Cases and Race Adjusted Standardized Incidence Ratios, Selected Cancers, Zip Code 78228, San Antonio, TX, 1995–2004

Males				
Site	Observed	Expected	SIR	99% CI
Kidney and Renal Pelvis	53	45.6	1.2	0.8 – 1.6
Hodgkin’s Lymphoma	8	7.3	1.1	0.4 – 2.6
Non-Hodgkin’s Lymphoma	44	43.9	1.0	0.7 – 1.5
Acute Lymphocytic Leukemia	3	6.8	0.4	0.1 – 1.6
Chronic Lymphocytic Leukemia	9	7.5	1.2	0.4 – 2.7
Acute Myeloid Leukemia	7	8.9	0.8	0.2 – 1.9
Chronic Myeloid Leukemia	2	4.6	0.4	0.0 – 2.0
Aleukemic, Subleukemic, & NOS	1	1.6	0.6	0.0 – 4.7
Females				
Site	Observed	Expected	SIR	99% CI
Kidney and Renal Pelvis	32	33.9	0.9	0.6 – 1.5
Hodgkin’s Lymphoma	6	5.8	1.0	0.3 – 2.7
Non-Hodgkin’s Lymphoma	48	44.0	1.1	0.7 – 1.6
Acute Lymphocytic Leukemia	4	5.8	0.7	0.1 – 2.2
Chronic Lymphocytic Leukemia	4	5.4	0.7	0.1 – 2.3
Acute Myeloid Leukemia	7	7.7	0.9	0.3 – 2.2
Chronic Myeloid Leukemia	5	3.8	1.3	0.3 – 3.8
Aleukemic, Subleukemic, & NOS	4	1.6	2.6	0.4 – 8.0

Note: The SIR (standardized incidence ratio) is defined as the number of observed cases divided by the number of expected cases. The latter is based on race-, sex-, and age-specific cancer incidence rates for Texas during the period 1995–2004. The SIR has been rounded to the first decimal place.

*Significantly higher than expected at the $p < 0.01$ level.

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Prepared by:
 Brenda J. Mokry, Epidemiologist
 Texas Cancer Registry Branch
 Department of State Health Services
 01/31/2008

Table 13

Number of Observed and Expected Cancer Cases and Race Adjusted Standardized Incidence Ratios, Selected Cancers, Zip Code 78237, San Antonio, TX, 1995–2004

Males				
Site	Observed	Expected	SIR	99% CI
Kidney and Renal Pelvis	32	28.5	1.1	0.7 – 1.7
Hodgkin’s Lymphoma	4	4.6	0.9	0.2 – 2.7
Non-Hodgkin’s Lymphoma	26	25.3	1.0	0.6 – 1.7
Acute Lymphocytic Leukemia	6	4.4	1.4	0.4 – 3.5
Chronic Lymphocytic Leukemia	5	3.5	1.4	0.3 – 4.1
Acute Myeloid Leukemia	3	5.0	0.6	0.1 – 2.2
Chronic Myeloid Leukemia	1	2.7	0.4	0.0 – 2.8
Aleukemic, Subleukemic, & NOS	0	0.8	0.0	0.0 – 7.1
Females				
Site	Observed	Expected	SIR	99% CI
Kidney and Renal Pelvis	30	22.0	1.4	0.8 – 2.2
Hodgkin’s Lymphoma	6	3.6	1.7	0.4 – 4.4
Non-Hodgkin’s Lymphoma	24	26.1	0.9	0.5 – 1.5
Acute Lymphocytic Leukemia	6	3.8	1.6	0.4 – 4.1
Chronic Lymphocytic Leukemia	2	2.5	0.8	0.0 – 3.7
Acute Myeloid Leukemia	1	4.4	0.2	0.0 – 1.7
Chronic Myeloid Leukemia	3	2.2	1.3	0.2 – 4.9
Aleukemic, Subleukemic, & NOS	0	0.8	0.0	0.0 – 6.7

Note: The SIR (standardized incidence ratio) is defined as the number of observed cases divided by the number of expected cases. The latter is based on race-, sex-, and age-specific cancer incidence rates for Texas during the period 1995–2004. The SIR has been rounded to the first decimal place.

*Significantly higher than expected at the $p < 0.01$ level.
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Prepared by:
 Brenda J. Mokry, Epidemiologist
 Texas Cancer Registry Branch
 Department of State Health Services
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Table 14

Number of Observed and Expected Cancer Cases and Race Adjusted Standardized Incidence Ratios, Selected Cancers, Zip Code 78242, San Antonio, TX, 1995–2004

Males				
Site	Observed	Expected	SIR	99% CI
Kidney and Renal Pelvis	16	15.0	1.1	0.5 – 2.0
Hodgkin’s Lymphoma	1	3.1	0.3	0.0 – 2.4
Non-Hodgkin’s Lymphoma	16	14.7	1.1	0.5 – 2.0
Acute Lymphocytic Leukemia	7	3.7	1.9	0.6 – 4.7
Chronic Lymphocytic Leukemia	1	2.5	0.4	0.0 – 3.0
Acute Myeloid Leukemia	4	3.2	1.3	0.2 – 4.0
Chronic Myeloid Leukemia	4	1.6	2.4	0.4 – 7.7
Aleukemic, Subleukemic, & NOS	0	0.5	0.0	0.0 – 10.9
Females				
Site	Observed	Expected	SIR	99% CI
Kidney and Renal Pelvis	8	9.6	0.8	0.3 – 1.9
Hodgkin’s Lymphoma	4	2.3	1.7	0.3 – 5.4
Non-Hodgkin’s Lymphoma	14	12.4	1.1	0.5 – 2.2
Acute Lymphocytic Leukemia	2	3.0	0.7	0.0 – 3.1
Chronic Lymphocytic Leukemia	2	1.4	1.4	0.1 – 6.5
Acute Myeloid Leukemia	3	2.6	1.2	0.1 – 4.2
Chronic Myeloid Leukemia	1	1.2	0.8	0.0 – 6.3
Aleukemic, Subleukemic, & NOS	0	0.4	0.0	0.0 – 13.7

Note: The SIR (standardized incidence ratio) is defined as the number of observed cases divided by the number of expected cases. The latter is based on race-, sex-, and age-specific cancer incidence rates for Texas during the period 1995–2004. The SIR has been rounded to the first decimal place.

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Prepared by:
 Brenda J. Mokry, Epidemiologist
 Texas Cancer Registry Branch
 Department of State Health Services
 01/31/2008