ALACHUA COUNTY REPORT, REVIEW OF CANCER RATES FOR CENSUS TRACT 3 (CONTAINING STEPHEN FOSTER NEIGHBORHOOD)

Division of Environmental Health

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Executive Summary

In response to community concerns, Florida Department of Health (DOH) concluded a review of cancer data for the Stephen Foster neighborhood and surrounding area (census tract 3) in Gainesville, Florida, Alachua County. The community is adjacent to the Cabot Kopper site which includes pine-stump processing and wood treatment facilities that have been operating since the early 1900's. This site has been listed on the National Priority List for decades, remediation has been ongoing and contaminants of concern in the surrounding residential areas have been primarily arsenic, dioxins/furans and polycyclic aromatic hydrocarbons. Numerous DOH reports, fact sheets and advisories have been issued beginning in 1989. The findings for the review of the cancer data were issued in two separate reports; one issued June 2011 covering analysis for 1981-2000 and the second issued January 2012 covering 2001-2008 (attached). Providing accurate public health information using sound scientific investigation principles is the best means in which DOH can help residents of the community make informed and appropriate decisions at this time.

This inquiry was designed to determine whether DOH could find evidence of an increase in specific cancer rates in the census tract, including evidence of a consistent pattern of increases in cancer rates for the area. In other words, whether the number of observed cancer cases in the community is higher than the number of expected cases based on cancer rates found within the state as a whole. The Florida Cancer Data System (FCDS) was the source for cancer data and the 1980, 1990, 2000 and 2010 U.S. Census was used as available published population data. The time period examined was 1981 to 2008. The study included twenty-one types of malignant cancers which were observed to occur in the community. Rates were calculated for all ages and for four age groups (0-19, 20-44, 34-64, 65 and older).

A search of FCDS records identified 656 total cancer cases among all age groups in census tract 3 during 1981-2008. The most commonly found cancers (lung n=97, breast n=97, prostate n=69 and colorectal n=61) are also the most common cancers in the US. Many of the cancers reviewed had few or no cases reported in the community in certain years. Eight of these 656 cases were pediatric cancers (age less than 20); the pediatric cancer rate was not elevated. Mean and median age of cancer was also age 60 or more, an indication that cases were not being seen in younger than expected age groups.

Cancer rates were reviewed in five year periods of time as well as over the entire 28 year period. No elevations were noted when 'all cancers' (all cancer types combined) were analyzed during the 28 year period of review. No elevations were noted among 'all cancers' for any of the four age groupings; a number of 'all cancer' rates were statistically significantly less than expected. No increase in any time period and among any age groups was noted for the following cancer types: kidney, bladder, ovarian, lung and bronchus, brain, leukemias, Non-Hodgkin lymphoma, miscellaneous, skin melanoma, Hodgkin lymphoma, ovarian, and thyroid. Cancer types noted with no increased rates in any time period among any age groups and which experienced periods of significantly less than expected numbers of cancers are as follows: breast, cervical, prostate, and colorectal.

Analyses showed a few cancer types where slightly increased rates were observed for one period of analysis only. Liver cancer (2006-2008 for all ages combined), pancreatic cancer (2006-2008 for all ages combined), and oral cancer (2006-2008 only in those age 65 and older) each experienced slightly elevated rates in this recent time period.

Uterine cancer showed increased rates specifically among women age 40-64 during 2006-2008 and over the entire time period (1981-2008). Esophageal cancer showed increased rates among those 65 years and older (over the entire time period, 1981-2008) and during 1981-1985 for this same age group.

Conclusions

- No increase in pediatric rates in the community. This finding is relevant given that children may have a shorter latency period than adults and have a lower threshold at which mutations and other changes may occur.
- No increase in 'all cancer' rates for the total period of review, or in any five year period, among any age group. This finding is relevant as dioxin/furans are cancer promoters and may work to increase the total cancer burden of a community.
- No evidence of cancers appearing in younger than expected age groups.
- No increase over expected rates in 16 different types of cancer reviewed, in any time period, among any age group. Significantly reduced rates and periods of no cases were also noted.
- One time increases were noted in the most recent years (2006-2008) for three cancer types (liver, pancreatic, oral). Increases were small, representing 3 to 4 more cases of cancer in the community in those years more than expected.
- Only two cancer types, uterine and esophageal, experienced an elevation in a specific time period (for esophageal from 1981-1985; uterine 2006-2008) and again when the entire time period was considered for specific age groups.
- The recent increases in rates were small and were seen based on review of 2006-2008 (three year period) rather than a longer time period (five years or full study period).
- Because there is no consistent pattern of rates of a particular cancer being elevated over time or an increase of numerous cancers in the same age group, no further review of cancer rates is recommended.

Overview

This document serves as an addendum to the review of cancer rates of census tract 3 of Alachua County (which includes the Stephen Foster neighborhood) published in June 2011. The earlier report covered the period 1981-2000, whereas this report reviews the period 2001-2008 with a summary rate for 1981-2008 provided. Specific rates and interpretations of findings for cancer rates in the earlier time periods can be found in the June document and are not duplicated in this addendum. At the time of the original report, 2008 cancer data were the most recent final year available. Unless otherwise noted, report methodologies and limitations of the analysis type and data sets are the same.

Determination of the Geographic Area

For this addendum review, the same boundaries were used as in the June 2011 report. Census designations for the community were also viewed (1980, 1990, 2000 and 2010 census data) and census tract 3 was found to correspond most closely to the community boundaries. Census tract 3 was divided into tract 3.01 and 3.02 in the 2010 census. Census tracts 3.01 and 3.02 together contained 6078 individuals (2010 census) which correspond to a sufficient population number for analyses.

Population Data

Population by age group, race, and gender were pulled from the 1980, 1990, 2000 and 2010 US census data. Linear interpolation was used to calculate intercensal years. The total population of the study area was 6,080 for 1980, 6016 for 1990, 5623 for 2000 and 6078 for 2010 (**Table 1**). The community racial make-up has changed somewhat since 1980 as 87.1% of the population was White and 9.9% was Black in 1980, whereas in 2010, 65.4% of the community was White and 26.8 % was Black. Residents of Hispanic ethnicity have increased from 3.5% of the census tract in 1980 to 8.9 % in 2010. Mobility is also reflected in census information where 33.8% of the census tract in 1990 indicated they were in the same house in 1985 (compared to 44.9% statewide) and 35.1% reported in the 2000 census being in the same house in 1995 (compared to 48.9% statewide) (1990 and 2000 census). Based on the 2010 American Community Survey 5 year estimate, 83.1% of Floridians and 64.2% of census tract 3 residents lived in the same house in 2009.

Recently available 2010 census data (detailed data not previously available for the June 2011 report) that contained breakdowns by age, race, ethnicity and gender for census tract 3 were used in this addendum.

Census tract 3, Alachua County, Analysis

This report serves as a follow-up to the earlier report which examined malignant cancers for the period 1981-2000 representing 20 years of follow-up and decades past theoretical exposure time. The current analysis examined 2001-2005, 2006-2008 (the most current compete cancer data available in fall 2010) and the complete time period of 1981-2008 (representing 28 years of follow-up). All rates were age-adjusted. For purposes of comparison, rates for the state of Florida were used to produce expected counts of cancer.

Results: General

A search of the Florida Cancer Data System (FCDS, statewide registry of cancer cases related to Florida residents) for cancers in the Stephen Foster area (census tract 3, Alachua County) found 656 cases of all cancers in the period 1981-2008 among all age groups. The

majority of cancer cases occurred among adults 19 years of age or older (n=648), the mean and median age of diagnoses for all cancer types among adults was 65.8 and 68.0 years respectively (range 21 to 97 years of age). Among adults, the majority of cases occurred among females (n=353). Eight cases of cancers occurred among children age 0-19 in these years and these included a mix of leukemia, non-Hodgkin lymphoma, brain, kidney and bone cancer.

In this follow-up, comparisons were made to state rates in grouped year periods for each of the cancer types presented (2001-2005, 2006-2008) and for the entire period (1981-2008). Those cancers most commonly appearing in the community are presented, uncommon cancer types where less than 8 cases were noted in the 28-year time period under study were not analyzed (except thyroid). Computation of the observed number of cancer cases over the expected number of cancer cases yielded a Standardized Incidence Ratio (SIR) for each of the time periods. For brevity, computations are shown in **Tables 2-5** for the additional time periods and for 1981-2008 (28 years of follow-up and decades past possible start date of exposure). Analysis results are presented ending in year 2008.

Examining the category 'all cancers ', (all cancer types combined), no elevation of the SIRs were observed over the summary period 1981-2008 when compared to expected rates (**Table 2**). No age group had higher than expected number of cancers, and some age groups had less than the expected number of cancers over that time. In summary, review of the overall cancer burden in the community from 1981-2008 found 656 total cancers in all age groups with 716 cancers calculated as expected. Rates for specific cancers are provided below in Tables 3-5.

Results: Specific Cancers

- Observed versus expected number of cancer comparisons for **kidney** cancer for the time periods did not produce significantly elevated SIRs in the comparisons to state of Florida values (**Table 3)**. Sixteen cases of kidney cancer were observed in the 28-year period.
- Observed versus expected number of cancer comparisons for **liver** cancer did not produce elevated SIRs in the comparison to state of Florida values for the time periods 2001-2005 and 2001-2008 (**Table 3).** An elevated SIR was observed in the period 2006-2008 for all ages combined where 4 cases were observed and one expected (SIR of 4.3, CI of 1.16 – 11.0). Nine cases of liver cancer were observed for the 28-year period. No other five year period from 1981 showed elevation, some periods had no cases (no cases from 1981-1990), nor was the SIR for the entire time period elevated.
- Observed versus expected number of cancer comparisons for **leukemia** for the time periods produced no periods of elevated SIRs in the comparison to state values (**Table 3**). Twenty cases of leukemias were observed in the 28-year period.
- Observed versus expected number of cancer comparisons for **non-Hodgkin lymphoma** for the time periods did not produce elevated SIRs in the state of Florida comparison (**Table 3**). Thirty-one cases of Non-Hodgkin lymphoma were observed in the 28-year period.
- Observed versus expected number of cancer comparisons for **pancreatic** cancer for the time periods did not produce elevated SIRs except for an elevated rate for all ages in the period 2006-2008 where 6 cases were observed and 1.7 expected (SIR of 3.5, CI of 1.3-7.6) **(Table 3**). Nineteen cases of pancreatic cancer were observed in the 28-year time period, and no other five year time period from 1981-2008 showed elevation, some periods had no cases (no cases in 2001-2005), nor was the SIR for the entire time period elevated.

- Observed versus expected number of cancer comparisons for **bladder** cancer for the time periods did not produce elevated SIRs in the years 1981-2008 in the comparison to the state of Florida (**Table 3**). Thirty-six cases of urinary bladder cancer were observed in the 28-year time period.

- **In summary, there appears to be no increase in overall rates for cancers of the liver, kidney, bladder, and pancreas and for non-Hodgkin lymphoma or leukemia during 1981-2008. These are cancer types most frequently associated with exposure and contamination of communities. Examining rates (primarily in 5 year periods) since 1981 revealed only a recent small increase during 2006-2008 in liver and pancreatic cancers (but only in the all ages category).**

- Observed versus expected number of cancer comparisons for **breast** cancer among women for the time periods did not produce elevated SIRs in the comparison to state of Florida values (**Table 4).** The SIR for the entire period for women 20-44 was significantly lower than expected (10 observed cases and 19 expected, SIR of 0.5, CI of 0.25-0.97). Statistically significantly lower than expected breast cancer rates had been observed among all ages in 1991-1995 as well. Ninety-seven cases of breast cancer were observed for the 28-year period.
- Observed versus expected number of cancer comparisons for **cervical** cancer among women for the reviewed time periods did not produce elevated SIRs in the comparisons to state of Florida values (**Table 4**). The SIR for the entire period for women age 20-44 was significantly lower than expected (1 observed case and 6 expected, SIR of 0.165, CI of 0.00-0.92). Ten cases of cervical cancer were observed in the 28-year period and some time periods had no cases.
- Observed versus expected number of cancer comparisons for **prostate** cancer among men for the time periods produced no periods of elevated SIRs in the comparison to state values (**Table 4**). Statistically significantly lower than expected prostate cancer rates had been observed among all ages in 1996-2000. Sixty-nine cases of prostate cancer were observed in the 28-year period.
- Observed versus expected number of cancer comparisons for **ovarian** cancer among women for the time periods did not produce elevated SIRs in the state of Florida comparison (**Table 4**). Fourteen cases of ovarian cancer were observed in the 28 year period.
- Observed versus expected number of cancer comparisons for **uterine** cancer among women did produce elevated SIRs in the years 2006-2008 among women ages 45-64 (4 observed and 0.88 expected, SIR of 4.57, CI of 1.23-11.70) and for the period 1981-2008 among women age 45-64 (13 observed and 5.8 expected, SIR of 2.23, CI of 1.19-3.82) in the comparison to women in the state of Florida (**Table 4**). No other five year time period or age groups experienced an increase in the 28 years of follow-up. Twenty-three cases of uterine cancer were observed in the 28-year time period.

- **In summary, there appears to be no increase in overall rates for cancers of the breast, cervix, ovaries or prostate during 1981-2008 although breast and cervical cancers showed statistically significant reduced rates for the overall period among women ages 20-44. Other time periods had statistically significant lower than expected rates for breast and prostate cancers. Uterine cancer had elevated rates among women ages 40-64 for the periods 2006-2008 and for 1981-2008 but for no other periods.**

- Observed versus expected number of cancer comparisons for **colorectal** cancers for the time periods did not produce elevated SIRs in the comparison to state of Florida values (**Table 5)** although rates among age 65 and older and among all ages for the period 1981-2008 were statistically significantly lower than expected (42 observed versus 59 expected, SIR of 0.71, CI 0.51-0.95 and 61 observed versus 84 expected, SIR of 0.72, CI 0.55-0.93, respectively). Statistically significantly lower rates had been noted for the period 1981-2008 as well among all age groups. Sixty-one cases of colorectal cancer were observed in the 28-year period.
- Observed versus expected number of cancer comparisons for **lung and bronchus** cancers for the time periods did not produce elevated SIRs in the comparisons to state of Florida values (**Table 5**). Ninety-seven cases of lung and bronchus cancer were observed in the 28-year period.
- Observed versus expected number of cancer comparisons for **miscellaneous cancers** for the time periods did not produce elevated SIRs in the state of Florida comparison (**Table 5**). Twenty-one cases of miscellaneous cancers were observed in the 28-year period.
- Observed versus expected number of cancer comparisons for **myeloma** for the time periods produced no periods of elevated SIRs in the comparison to state values (**Table 5**). Nine cases of myeloma were observed in the 28-year period and in at least one time period no cases were seen (no cases in 2006-2008).
- Observed versus expected number of cancer comparisons for **esophageal** cancer was elevated among those age 65 and older during 1981-2008 (10 observed cases and 4 expected, SIR of 2.28, CI of 1.09-4.20); this age group had also experienced a statistically significant increased rate during 1981-1985. Analyses (for each age group and all combined) did not produce elevated SIRs in the years 1981-2008 when compared to the state of Florida rates (**Table 5**) Eleven cases of esophageal cancer were observed in the 28-year time period and in one time period no cases were seen (no cases seen in 1991-1995).
- Observed versus expected number of cancer comparisons for **oral** cancer for the time periods was elevated among ages 65 and older in 2006-2008 (4 cases observed, 0.7 expected, SIR of 5.82, CI of 1.57-14.91)**.** Analyses (for each age group and all combined) did not produce elevated SIRs in the years 1981-2008 when compared to the state of Florida rates (**Table 5)** Twenty cases of oral cancer were observed in the 28-year time period.
- Observed versus expected cancer number comparisons for **skin melanoma** did not produce elevated SIRs during the time periods in the comparison to state values. Eighteen cases of skin melanoma were noted in this time period.
- Observed versus expected cancer number comparisons for **brain** cancer for the time periods did not produce elevated SIRs in the years 1981-2008 in the comparison to brain cancer rates in the state of Florida **(Table 5)**. Eight cases of brain cancer were observed in the 28-year time period and in some time periods no cases were seen (no cases in 1981-1985, 1986-1990).
- Observed versus expected cancer number comparisons for **Hodgkin lymphoma** cancer for the time periods did not produce elevated SIRs in the years 1981-2008 in the comparison to the state of Florida **(Table 5)**. Eight cases of Hodgkin lymphoma were observed in the 28-year time period and in some time periods no cases were seen (no cases in 2006-2008).
- Observed versus expected cancer number comparisons for **thyroid** cancer for the time periods did not produce elevated SIRs in the years 1981-2008 in the comparison to cancer numbers in the state of Florida **(Table 5)**. Six cases of thyroid cancer were observed in the 28-year time period and in some periods no cases were seen (no cases in 1981-1985, 1991-2005, 2006-2008).

- **In summary, there appears to be no increase in overall rates for cancers of the lung and bronchus, colorectal cancers, skin melanomas, Hodgkin lymphoma, miscellaneous cancers, esophageal, brain, thyroid or oral cancers or for myeloma during 1981-2008. Statistically significantly reduced rates for colorectal cancer during 1981-2008 among those ages 65 and older and among all ages were noted. An elevated rate for esophageal cancer among ages 65 and older during 1981-2008 was noted; elevated rates for oral cancers among individuals ages 65 and older during 2006-2008 were also noted.**

Conclusion

Review of the time periods 2001-2005, 2006-2008 and 1981-2008 generally did not reveal elevations in cancers of concern most likely to be associated with chronic exposure to contamination. A small recent (2006-2008) increase was noted in liver and pancreatic cancers but only for all ages combined. Uterine cancer also showed an increase among ages 45-64 (2006-2008, 1981-2008), as did oral cancers among those age 65 and older (2006-2008), and esophageal cancers among those age 65 and older (1981-2008). However, many cancers showed significantly lower overall rates in the community. Risk factors for liver, pancreatic, uterine, oral and esophageal cancers may include some occupational exposures, smoking, excessive alcohol use, dietary and lifestyle choices, as well as a genetic component.

In summary, although a few elevations in specific cancers were observed; no overall pattern of an increase in cancer rates, nor a pattern of increases in specific cancers were noted. It is not possible to attribute any of the recent or small increases in cancer rates to residence and exposure in the Stephen Foster neighborhood given that there was no overall pattern of increase throughout the period of observation, and no consistent findings. Information on residence history, exposure or other risk factors was also not available for the community.

Table 1: Census tract 3*, Alachua County (including Stephen Foster neighborhood) for 1980, 1990, 2000 and 2010

Tract 3	**1980**	**1990**	**2000**	**2010**
White - All Ethnicities	5296 (87.1%)	4774 (79.4%)	4101 (72.9%)	3974 (65.4%)
Black - All Ethnicities	603 (9.9%)	1083 (18.0%)	1140 (20.3%)	1628 (26.8%)
Others - All Ethnicities	181 (2.9%)	159 (2.6%)	382 (6.8%)	476 (7.8%)
Total	**6080**	**6016**	**5623**	**6078**
Hispanic - any race	214 (3.5%)	211 (3.5%)	283 (5.0%)	541 (8.9%)

**Tract 3 was divided into tract 3.01 & 3.02 in 2010*

Table 2: Age adjusted SIR with 95% CL for all cancers in residents of Census Tract 3, Alachua County, compared to state of Florida, 1981-2008*

All Cancers	**Age group**	**Expected**	**Observed**	**SIR**	**Conf. interval**
(1981-2008)	<=19 y	5.20	8	1.539	(0.662 - 3.032)
	20-44 y	92.74	56	0.604	(0.456 - 0.784)
	45- 64 y	194.90	208	1.067	(0.927 - 1.223)
	65 + y	422.95	384	0.908	(0.819 - 1.003)
	All	715.80	656	0.916	(0.848 - 0.989)

**Cancer data obtained from the FCDS website and the abshist file. Population data obtained from 1980, 1990, 2000 & 2010 censuses. Data for intercensal years were estimated by linear interpolation*

Table 3: Age adjusted SIRs with 95% CL for 2001-2005, 2006-2008 and 1981-2008 for Select Cancers (Liver, Kidney, Pancreatic, Bladder, Non-Hodgkin Lymphoma and Leukemias) in residents of Census Tract 3, Alachua County, compared to state of Florida

Cancer type		2001-2005				2006-2008				1981-2008			
Kidney	**Age group**	**Exp**	**Obs**	**SIR**	**Conf. Interval**	**Exp**	**Obs**	**SIR**	**Conf. Interval**	**Exp**	**Obs**	**SIR**	**Conf. Interval**
	<=19 y	0.04	0	NA	NA	0.03	0	NA	NA	0.25	1	3.972	(0.052-22.099)
	20-44 y	0.44	0	NA	NA	0.33	0	NA	NA	1.94	0	NA	NA
	45- 64 y	1.37	0	NA	NA	0.98	1	1.019	(0.013-5.668)	5.45	5	0.918	(0.296-2.142)
	65 + y	1.68	5	2.970	(0.957-6.930)	0.94	2	2.137	(0.240-7.715)	9.96	10	1.004	(0.481-1.847)
	All	3.54	5	1.413	(0.456-3.299)	2.27	3	1.320	(0.265-3.857)	17.59	16	0.910	(0.520-1.477)
Liver	<=19 y	0.01	0	NA	NA	0.01	0	NA	NA	0.07	0	NA	NA
	20-44 y	0.11	0	NA	NA	0.08	1	12.802	(0.167-71.230)	0.59	1	1.701	(0.022-9.466)
	45- 64 y	0.58	0	NA	NA	0.52	2	3.810	(0.428-13.754)	1.91	3	1.572	(0.316-4.592)
	65 + y	0.56	1	1.791	(0.023-9.964)	0.32	1	3.147	(0.041-17.511)	3.06	5	1.635	(0.527-3.816)
	All	1.26	1	0.793	(0.010-4.410)	0.93	4	4.297	(1.156-11.002)	5.62	9	1.601	(0.730-3.039)
Leukemia	<=19 y	0.23	0	NA	NA	0.15	0	NA	NA	1.37	2	1.463	(0.164-5.281)
(except Aleukemic,	20-44 y	0.52	0	NA	NA	0.31	0	NA	NA	2.79	2	0.717	(0.081-2.590)
subleukemic	45- 64 y	0.76	1	1.316	(0.017-7.320)	0.45	2	4.446	(0.499-16.054)	3.62	6	1.658	(0.606-3.610)
& NOS)	65 + y	1.57	1	0.638	(0.008-3.550)	0.70	1	1.423	(0.019-7.920)	9.97	10	1.003	(0.480-1.845)
	All	3.08	2	0.649	(0.073-2.344)	1.61	3	1.863	(0.374-5.444)	17.74	20	1.127	(0.688-1.741)
Non-Hodgkin	<=19 y	0.08	1	12.940	(0.169-71.995)	0.041	0	NA	NA	0.40	2	5.037	(0.566-18.186)
Lymphoma	20-44 y	1.04	1	0.962	(0.013-5.350)	0.590	0	NA	NA	5.74	8	1.394	(0.600-2.747)
	45- 64 y	1.51	4	2.645	(0.711-6.771)	0.994	1	1.006	(0.013-5.600)	6.61	9	1.361	(0.621-2.583)
	65 + y	2.40	3	1.251	(0.251-3.655)	1.223	0	NA	NA	14.55	12	0.825	(0.426-1.441)
	All	5.03	9	1.790	(0.817-3.398)	2.847	1	0.351	(0.005-1.954)	27.30	31	1.135	(0.771-1.612)
Pancreas	<=19 y	0.00	0	NA	NA	0.00	0	NA	NA	0.01	0	NA	NA
	20-44 y	0.16	0	NA	NA	0.10	0	NA	NA	0.79	0	NA	NA
	45- 64 y	0.87	0	NA	NA	0.61	3	4.886	(0.982-14.276)	3.86	5	1.296	(0.418-3.025)
	65 + y	1.79	0	NA	NA	1.00	3	3.004	(0.604-8.778)	11.63	14	1.204	(0.658-2.020)
	All	2.82	0	NA	NA	1.71	6	3.502	(1.279-7.623)	16.28	19	1.167	(0.702-1.823)
Urinary	<=19 y	0.00	0	NA	NA	0.00	0	NA	NA	0.02	0	NA	NA
bladder	20-44 y	0.26	0	NA	NA	0.12	0	NA	NA	1.44	0	NA	NA
	45- 64 y	1.48	3	2.026	(0.407-5.920)	0.82	2	2.436	(0.274-8.795)	7.21	9	1.248	(0.569-2.369)
	65 + y	3.99	5	1.252	(0.403-2.922	1.93	2	1.039	(0.117-3.751)	26.64	27	1.014	(0.668-1.475)
	All	5.74	8	1.395	(0.601-2.749)	2.86	4	1.397	(0.376-3.577)	35.31	36	1.020	(0.714-1.412)

**Cancer data obtained from the FCDS website and the abshist file. Population data obtained from 1980, 1990, 2000 & 2010 censuses. Data for intercensal years were estimated by linear interpolation*

Table 4: Age adjusted SIRs with 95% CL for 2001-2005, 2006-2008 and 1981-2008 for Select Cancers (Breast, Cervix, Prostrate, Ovary, Uterus) in residents of Census Tract 3, Alachua County, compared to state of Florida*

		2001-2005				2006-2008				1981-2008			
Cancer type	**Age group**	**Exp**	**Obs**	**SIR**	**Conf. Interval**	**Exp**	**Obs**	**SIR**	**Conf. Interval**	**Exp**	**Obs**	**SIR**	**Conf. Interval**
Breast	<=19 y	0.00	0	NA	NA	0.00	0	NA	NA	0.01	0	NA	NA
(Females)	20-44 y	3.43	1	0.292	(0.004-1.622)	2.05	1	0.488	(0.006-2.714)	18.96	10	0.527	(0.253-0.970)
	45- 64 y	6.85	10	1.459	(0.698-2.683)	4.36	4	0.918	(0.247-2.349)	33.09	38	1.148	(0.813-1.576)
	65 + y	7.04	5	0.710	(0.229-1.658)	3.64	5	1.374	(0.443-3.206)	52.24	49	0.938	(0.694-1.240)
	All	17.32	16	0.924	(0.528-1.500)	10.05	10	0.995	(0.476-1.830)	104.29	97	0.930	(0.754-1.135)
Cervix	<=19 y	0.00	0	NA	NA	0.00	0	NA	NA	0.01	0	NA	NA
	20-44 y	0.87	0	NA	NA	0.49	0	NA	NA	6.06	1	0.165	(0.002-0.919)
	45- 64 y	0.48	1	2.098	(0.027-11.671)	0.30	0	NA	NA	2.66	6	2.259	(0.825-4.917)
	65 + y	0.24	0	0	NA	0.11	0	NA	NA	2.24	3	1.342	(0.270-3.922)
	All	1.58	1	0.632	(0.008-3.514)	0.90	0	NA	NA	10.96	10	0.913	(0.437-1.678)
Prostrate	<=19 y	0.00	0	NA	NA	0.00	0	NA	NA	0.01	0	NA	NA
	20-44 y	0.17	0	NA	NA	0.14	0	NA	NA	0.58	0	NA	NA
	45- 64 y	6.66	4	0.601	(0.162-1.538)	4.58	5	1.092	(0.352-2.549)	23.80	16	0.672	(0.384-1.092)
	65 + y	8.41	7	0.832	(0.334-1.715)	4.10	4	0.976	(0.263-2.500)	58.22	53	0.910	(0.682-1.191)
	All	15.24	11	0.722	(0.360-1.292)	8.81	9	1.021	(0.466-1.939)	82.60	69	0.835	(0.650-1.057)
Ovary	<=19 y	0.02	0	NA	NA	0.01	0	NA	NA	0.10	0	NA	NA
	20-44 y	0.36	1	2.766	(0.036-15.389)	0.20	0	NA	NA	2.56	2	0.782	(0.088-2.823)
	45- 64 y	0.73	2	2.750	(0.309-9.930)	0.42	1	2.359	(0.031-13.127)	4.00	6	1.499	(0.547-3.263)
	65 + y	0.94	1	1.064	(0.014-5.920)	0.44	0	NA	NA	7.10	6	0.845	(0.309-1.839)
	All	2.04	4	1.956	(0.526-5.009)	1.08	1	0.924	(0.012-5.142)	13.76	14	1.017	(0.556-1.707)
Uterus	<=19 y	0.00	0	NA	NA	0.00	0	NA	NA	0.00	0	NA	NA
	20-44 y	0.36	0	NA	NA	0.24	0	NA	NA	1.82	1	0.548	(0.007-3.051)
	45- 64 y	1.21	0	NA	NA	0.88	4	4.569	(1.229-11.698)	5.82	13	2.234	(1.188-3.820)
	65 + y	1.33	2	1.506	(0.169-5.436)	0.70	1	1.419	(0.019-7.897)	10.19	9	0.883	(0.403-1.677)
	All	2.90	2	0.690	(0.078-2.492)	1.82	5	2.747	(0.885-6.410)	17.84	23	1.289	(0.817-1.935)

**Cancer data obtained from the FCDS website and the abshist file. Population data obtained from 1980, 1990, 2000 & 2010 censuses. Data for intercensal years were estimated by linear interpolation*

Table 5: Age adjusted SIRs with 95% CL for 2001-2005, 2006-2008 and 1981-2008 for select cancers (Colorectal, Lung and Bronchus, Miscellaneous cancers, Myeloma, Oral cancers, Skin melanoma) in residents of Census Tract 3, Alachua County, compared to state of Florida*

		2001-2005				2006-2008				1981-2008			
Cancer type	**Age group**	**Exp**	**Obs**	**SIR**	**Conf. Interval**	**Exp**	**Obs**	**SIR**	**Conf. Interval**	**Exp**	**Obs**	**SIR**	**Conf. Interval**
Colorectal	<=19 y	0.00	0	NA	NA	0.00	0	NA	NA	0.02	0	NA	NA
	20-44 y	1.08	1	0.922	(0.012-5.128)	0.65	0	NA	NA	5.23	1	0.191	(0.002-1.064)
	45- 64 y	4.02	5	1.243	(0.401-2.902)	2.52	2	0.792	(0.089-2.861)	19.51	18	0.923	(0.547-1.458)
	65 + y	7.79	5	0.642	(0.207-1.497)	3.44	4	1.163	(0.313-2.978)	59.49	42	0.706	(0.509-0.954)
	All	12.90	11	0.853	(0.425-1.526)	6.61	6	0.907	(0.331-1.975)	84.25	61	0.724	(0.554-0.930)
Lung	<=19 y	0.00	0	NA	NA	0.00	0	NA	NA	0.02	0	NA	NA
& Bronchus	20-44 y	0.84	0	NA	NA	0.36	0	NA	NA	4.83	1	0.207	(0.003-1.152)
	45- 64 y	6.44	7	1.088	(0.436-2.241)	3.80	6	1.580	(0.577-3.439)	32.59	34	1.043	(0.722-1.458)
	65 + y	11.58	14	1.209	(0.661-2.029)	5.84	9	1.542	(0.704-2.927)	73.69	62	0.841	(0.645-1.079)
	All	18.86	21	1.114	(0.689-1.702)	10.00	15	1.500	(0.839-2.474)	111.13	97	0.873	(0.708-1.065)
Miscellaneous	<=19 y	0.02	0	NA	NA	0.02	0	NA	NA	0.11	0	NA	NA
	20-44 y	0.46	0	NA	NA	0.28	0	NA	NA	2.14	1	0.468	(0.006-2.603)
	45- 64 y	1.40	1	0.713	(0.009-3.969)	0.89	2	2.257	(0.253-8.147)	5.89	4	0.679	(0.183-1.738)
	65 + y	3.25	2	0.615	(0.069-2.221)	1.64	3	1.824	(0.367-5.330)	16.97	16	0.943	(0.539-1.532)
	All	5.14	3	0.584	(0.117-1.705)	2.82	5	1.770	(0.570-4.131)	25.10	21	0.837	(0.518-1.279)
Myeloma	<=19 y	0.00	0	NA	NA	0.00	0	NA	NA	0.00	0	NA	NA
	20-44 y	0.10	0	NA	NA	0.07	0	NA	NA	0.50	1	2.014	(0.026-11.208)
	45- 64 y	0.46	0	NA	NA	0.28	0	NA	NA	2.05	0	NA	NA
	65 + y	0.78	1	1.288	(0.017-7.167)	0.39	0	NA	NA	5.13	8	1.560	(0.672-3.073)
	All	1.34	1	0.747	(0.010-4.156)	0.74	0	NA	NA	7.68	9	1.172	(0.535-2.225)
Esophagus	<=19 y	0	0	NA	NA	0	0	NA	NA	0	0	NA	NA
	20-44 y	0.08	0	NA	NA	0.04	0	NA	NA	0.38	0	NA	NA
	45- 64 y	0.48	0	NA	NA	0.33	1	3.052	(0.040-16.984)	2.32	1	0.431	(0.006-2.399)
	65 + y	0.68	1	1.475	(0.019-8.205)	0.37	1	2.731	(0.036-15.195)	4.38	10	2.283	(1.093-4.198)
	All	1.24	1	0.809	(0.011-4.500)	0.73	2	2.726	(0.306-9.843)	7.08	11	1.554	(0.775-2.781)

Table 5: Continued:

Oral cancers	<=19 y	0.01	0	NA	NA	0.01	0	NA	NA	0.08	0	NA	NA
	20-44 y	0.50	0	NA	NA	0.28	0	NA	NA	2.65	0	NA	NA
	45- 64 y	1.63	5	3.059	(0.986-7.138)	1.13	1	0.885	(0.012-4.923)	7.85	9	1.147	(0.523-2.178)
	65 + y	1.24	1	0.809	(0.011-4.503)	0.69	4	5.822	(1.566-14.907)	9.00	11	1.222	(0.609-2.187)
	All	3.38	6	1.774	(0.648-3.861)	2.10	5	2.376	(0.766-5.544)	19.58	20	1.021	(0.624-1.578)
Skin-Melanoma	<=19 y	0.03	0	NA	NA	0.02	0	NA	NA	0.13	0	NA	NA
	20-44 y	1.42	0	NA	NA	0.78	1	1.289	(0.017-7.170)	7.21	5	0.693	(0.223-1.618)
	45- 64 y	1.59	3	1.892	(0.380-5.527)	1.12	0	NA	NA	6.55	5	0.763	(0.246-1.781)
	65 + y	1.92	1	0.521	(0.007-2.901)	1.10	2	1.824	(0.205-6.584)	10.08	8	0.794	(0.342-1.564)
	All	4.96	4	0.807	(0.217-2.065)	3.01	3	0.997	(0.200-2.914)	23.97	18	0.751	(0.445-1.187)
Brain	<=19 y	0.19	1	5.578	(0.073-31.038)	0.12	0	NA	NA	1	2	1.991	(0.224-7.189)
	20-44 y	0.54	0	NA	NA	0.35	1	2.831	(0.037-15.749)	3.18	2	0.629	(0.071-2.270)
	45- 64 y	0.55	1	1.832	(0.024-10.191)	0.36	0	NA	NA	2.55	3	1.176	(0.236-3.437)
	65 + y	0.59	0	NA	NA	0.29	0	NA	NA	3.83	1	0.261	(0.003-1.452)
	All	1.86	2	1.077	(0.121-3.889)	1.12	1	0.894	(0.012-4.975)	10.57	8	0.757	(0.326-1.492)
Hodgkin Lymphoma	<=19 y	0.06	0	NA	NA	0.05	0	NA	NA	0.39	0	NA	NA
	20-44 y	0.57	1	1.751	(0.023-9.741)	0.34	0	NA	NA	3.24	6	1.854	(0.677-4.037)
	45- 64 y	0.15	0	NA	NA	0.10	0	NA	NA	0.69	1	1.450	(0.019-8.066)
	65 + y	0.10	0	NA	NA	0.05	0	NA	NA	0.69	1	1.443	(0.019-8.028)
	All	0.88	1	1.138	(0.015-6.334)	0.53	0	NA	NA	5.01	8	1.598	(0.688-3.148)
Thyroid	<=19 y	0.03	0	NA	NA	0.03	0	NA	NA	0.17	0	0	NA
	20-44 y	1.40	1	0.712	(0.009-3.960)	0.97	0	NA	NA	5.67	1	0.176	(0.002-0.982)
	45- 64 y	0.86	0	NA	NA	0.71	0	NA	NA	2.84	2	0.704	(0.079-2.540)
	65 + y	0.41	1	2.455	(0.032-13.658)	0.29	0	NA	NA	2.08	3	1.441	(0.290-4.210)
	All	2.70	2	0.740	(0.083-2.672)	1.99	0	NA	NA	10.76	6	0.557	(0.204-1.213)

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