

Table XXVI-1  
THYROID CANCER (Invasive)

TRENDS IN SEER INCIDENCE<sup>a</sup> AND U.S. MORTALITY<sup>b</sup> USING THE JOINPOINT REGRESSION PROGRAM, 1975-2003  
WITH UP TO THREE JOINPOINTS BY RACE AND SEX

		<u>Joinpoint Segment 1</u>		<u>Joinpoint Segment 2</u>		<u>Joinpoint Segment 3</u>		<u>Joinpoint Segment 4</u>	
		Year	APC	Year	APC	Year	APC	Year	APC
<u>SEER Cancer Incidence<sup>a</sup></u>									
All Races	Male and Female	1975-1977	6.2	1977-1980	-6.6	1980-1997	2.4*	1997-2003	6.3*
All Races	Male	1975-1980	-4.8*	1980-1998	1.9*	1998-2003	5.6*		
All Races	Female	1975-1977	6.6	1977-1980	-5.3	1980-1995	2.3*	1995-2003	5.9*
White	Male and Female	1975-1977	7.4	1977-1980	-6.9	1980-1998	2.8*	1998-2003	7.6*
White	Male	1975-1977	9.6	1977-1980	-9.1	1980-1998	2.6*	1998-2003	5.6*
White	Female	1975-1981	-1.1	1981-1993	2.3*	1993-2000	4.9*	2000-2003	9.2*
Black	Male and Female	1975-1988	-0.8	1988-2003	4.0*				
Black	Male	1975-2003	2.0*						
Black	Female	1975-1988	-1.1	1988-2003	4.3*				
<u>SEER Delay-Adjusted Incidence<sup>a</sup></u>									
All Races	Male and Female	1975-1977	6.3	1977-1980	-6.9	1980-1998	2.5*	1998-2003	7.5*
All Races	Male	1975-1980	-4.8*	1980-1998	1.9*	1998-2003	6.1*		
All Races	Female	1975-1981	-1.3	1981-1993	2.2*	1993-2000	4.6*	2000-2003	9.1*
White	Male and Female	1975-1977	7.4	1977-1980	-7.0	1980-1998	2.9*	1998-2003	8.2*
White	Male	1975-1977	9.6	1977-1980	-9.2	1980-1998	2.7*	1998-2003	6.2*
White	Female	1975-1981	-1.1	1981-1993	2.4*	1993-2000	5.1*	2000-2003	10.0*
Black	Male and Female	1975-1988	-0.8	1988-2003	4.2*				
Black	Male	1975-2003	2.2*						
Black	Female	1975-1988	-1.1	1988-2003	4.6*				
<u>U.S. Cancer Mortality<sup>b</sup></u>									
All Races	Male and Female	1975-1985	-2.6*	1985-2003	0.3				
All Races	Male	1975-1983	-2.8*	1983-2003	1.0*				
All Races	Female	1975-1988	-2.5*	1988-2003	0.1				
White	Male and Female	1975-1987	-2.4*	1987-2003	0.5*				
White	Male	1975-1983	-2.8*	1983-2003	1.0*				
White	Female	1975-1988	-2.7*	1988-2003	0.2				
Black	Male and Female	1975-2003	-0.5						
Black	Male	1975-2003	-0.2						
Black	Female	1975-2003	-0.7*						

Joinpoint Regression Program Version 3.1, April 2006, National Cancer Institute. (<http://srab.cancer.gov/joinpoint/>).

The APC is the Annual Percent Change based on rates age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

<sup>a</sup> Trends are from the SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta).

<sup>b</sup> Trends are from the NCHS public use data file for the total US.

\* The APC is significantly different from zero (p<.05).

Table XXVI-2  
THYROID CANCER (Invasive)

AGE ADJUSTED SEER INCIDENCE<sup>a</sup> RATES BY YEAR, RACE AND SEX

	<u>All Races</u>			<u>Whites</u>			<u>Blacks</u>		
	<u>Total</u>	<u>Males</u>	<u>Females</u>	<u>Total</u>	<u>Males</u>	<u>Females</u>	<u>Total</u>	<u>Males</u>	<u>Females</u>
<u>AGE-ADJUSTED RATES</u>									
<u>YEAR OF DIAGNOSIS:</u>									
1975	4.8	3.1	6.4	4.7	2.8	6.4	3.0	-	4.2
1976	4.8	2.9	6.6	4.7	2.9	6.4	3.4	-	5.0
1977	5.4	3.5	7.3	5.4	3.4	7.2	3.7	-	5.3
1978	5.1	3.1	6.9	5.0	3.0	6.8	2.9	-	4.0
1979	4.5	2.7	6.2	4.4	2.6	6.2	3.2	-	4.3
1980	4.3	2.4	6.1	4.3	2.3	6.2	2.4	-	3.4
1981	4.4	2.5	6.2	4.4	2.5	6.2	2.5	-	3.6
1982	4.6	3.0	6.1	4.5	2.9	6.1	3.3	-	4.3
1983	4.7	2.8	6.5	4.7	2.6	6.7	3.0	2.1	3.7
1984	4.8	2.6	6.9	4.7	2.6	6.8	3.0	-	4.0
1985	5.1	3.1	7.1	5.1	3.1	7.1	2.8	-	3.6
1986	5.3	3.1	7.5	5.2	3.1	7.3	3.3	-	5.1
1987	5.1	2.8	7.1	5.0	2.9	7.1	2.8	-	4.3
1988	4.9	2.9	6.9	4.9	3.0	6.8	2.5	-	3.2
1989	5.4	3.0	7.6	5.5	3.2	7.7	2.5	-	4.0
1990	5.5	2.9	7.9	5.5	2.9	8.1	3.8	2.3	4.9
1991	5.4	3.2	7.6	5.6	3.3	7.9	3.1	-	4.2
1992	5.8	3.5	8.1	5.9	3.5	8.1	4.2	3.1	5.1
1993	5.6	3.6	7.6	5.7	3.7	7.8	3.3	2.1	4.5
1994	6.1	3.4	8.7	6.2	3.4	9.0	3.8	1.8	5.3
1995	6.2	3.4	8.9	6.4	3.6	9.2	2.9	-	4.3
1996	6.5	3.5	9.4	6.7	3.6	9.8	3.8	-	5.7
1997	6.7	3.7	9.7	7.0	3.7	10.3	3.9	2.4	5.1
1998	6.9	3.7	10.0	7.1	3.9	10.3	3.9	1.6	5.8
1999	7.3	3.9	10.6	7.5	4.1	10.9	4.6	1.6	6.9
2000	7.6	4.0	11.0	8.0	4.3	11.6	4.6	2.3	6.4
2001	8.2	4.3	12.0	8.6	4.5	12.6	4.7	2.7	6.4
2002	9.1	4.9	13.2	9.6	5.2	14.0	5.3	2.7	7.5
2003	9.4	4.6	14.0	9.9	4.9	15.0	5.1	2.7	7.3
1975-2003	6.0	3.4	8.5	6.1	3.4	8.7	3.6	1.9	5.1

<sup>a</sup> SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta). Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).  
 - Statistic not shown. Rate based on less than 16 cases for the time interval.

Table XXVI-3  
THYROID CANCER (Invasive)

AGE-ADJUSTED U.S. DEATH<sup>a</sup> RATES BY YEAR, RACE AND SEX

	<u>All Races</u>			<u>Whites</u>			<u>Blacks</u>		
	<u>Total</u>	<u>Males</u>	<u>Females</u>	<u>Total</u>	<u>Males</u>	<u>Females</u>	<u>Total</u>	<u>Males</u>	<u>Females</u>
<u>AGE-ADJUSTED RATES</u>									
<u>YEAR OF DEATH:</u>									
1975	0.5	0.4	0.6	0.5	0.4	0.6	0.5	0.3	0.6
1976	0.6	0.5	0.6	0.6	0.5	0.6	0.5	0.4	0.6
1977	0.6	0.5	0.6	0.6	0.5	0.6	0.7	0.5	0.7
1978	0.5	0.4	0.6	0.6	0.5	0.6	0.5	0.3	0.6
1979	0.5	0.4	0.6	0.5	0.5	0.6	0.5	0.3	0.6
1980	0.5	0.4	0.5	0.5	0.4	0.5	0.4	0.3	0.5
1981	0.5	0.4	0.5	0.5	0.4	0.5	0.5	0.3	0.6
1982	0.5	0.4	0.5	0.5	0.4	0.5	0.5	0.4	0.5
1983	0.4	0.3	0.5	0.4	0.3	0.5	0.4	0.3	0.5
1984	0.5	0.4	0.5	0.5	0.4	0.5	0.5	-	0.6
1985	0.4	0.4	0.5	0.4	0.4	0.5	0.5	0.3	0.6
1986	0.5	0.4	0.5	0.5	0.4	0.5	0.5	0.3	0.6
1987	0.5	0.4	0.5	0.4	0.4	0.5	0.5	0.3	0.6
1988	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.3	0.5
1989	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.6
1990	0.4	0.4	0.5	0.4	0.4	0.5	0.4	0.3	0.5
1991	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.4	0.6
1992	0.5	0.4	0.5	0.5	0.4	0.5	0.4	0.3	0.5
1993	0.5	0.4	0.5	0.5	0.4	0.5	0.5	0.3	0.6
1994	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4
1995	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.5
1996	0.5	0.4	0.5	0.5	0.4	0.5	0.4	0.3	0.5
1997	0.5	0.4	0.5	0.5	0.5	0.4	0.5	0.4	0.6
1998	0.4	0.4	0.5	0.4	0.4	0.5	0.4	0.3	0.5
1999	0.5	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.5
2000	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.3	0.6
2001	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.6
2002	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.5
2003	0.4	0.4	0.5	0.5	0.4	0.5	0.4	0.3	0.4
1975-2003	0.5	0.4	0.5	0.5	0.4	0.5	0.5	0.3	0.5

<sup>a</sup> NCHS public use data file for the total US. Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

- Statistic not shown. Rate based on less than 16 cases for the time interval.

Table XXVI-4  
 THYROID CANCER (Invasive)

SEER INCIDENCE<sup>a</sup> AND U.S. DEATH<sup>b</sup> RATES, AGE-ADJUSTED AND AGE-SPECIFIC RATES, BY RACE AND SEX

	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
<u>SEER INCIDENCE</u>									
<u>AGE AT DIAGNOSIS</u>									
AGE-ADJUSTED RATES, 2000-2003									
All ages	8.2	4.2	12.1	8.6	4.5	12.7	5.0	2.4	7.1
Under 65	7.5	3.4	11.6	7.9	3.6	12.3	4.2	1.9	6.3
65 and over	13.0	10.0	15.3	13.0	10.3	15.1	10.3	6.0	13.1
All ages(IARC world std) <sup>c</sup>	6.7	3.3	10.0	7.0	3.5	10.6	3.9	1.8	5.7
AGE-SPECIFIC RATES, 2000-2003									
<1	-	-	-	-	-	-	-	-	-
1-4	-	-	-	-	-	-	-	-	-
5-9	-	-	-	-	-	-	-	-	-
10-14	0.5	0.2	0.8	0.5	0.2	0.9	-	-	-
15-19	1.8	0.7	3.0	2.1	0.8	3.4	-	-	-
20-24	4.1	1.0	7.3	4.5	1.1	8.2	1.5	-	2.6
25-29	7.1	2.3	12.2	7.7	2.4	13.4	3.0	-	4.9
30-34	9.2	3.1	15.5	9.9	3.3	16.8	4.5	1.3	7.5
35-39	11.2	4.4	18.1	12.1	4.9	19.6	5.8	1.8	9.4
40-44	12.4	4.9	19.7	13.3	5.4	21.3	5.7	2.1	8.8
45-49	13.2	5.9	20.3	13.9	6.4	21.4	7.5	2.7	11.7
50-54	13.9	7.3	20.3	14.3	7.6	20.9	9.6	5.7	13.0
55-59	14.2	8.8	19.3	14.3	9.2	19.3	10.7	6.1	14.6
60-64	14.2	9.9	18.2	14.6	10.3	18.6	10.4	5.9	13.9
65-69	15.4	11.6	18.6	15.6	12.2	18.7	10.3	6.3	13.4
70-74	14.4	10.9	17.1	14.2	11.1	16.7	12.8	8.4	15.8
75-79	13.2	10.2	15.3	13.1	10.7	14.9	10.3	-	13.4
80-84	10.7	8.6	11.9	10.7	8.9	11.7	9.0	-	11.4
85+	7.5	5.4	8.4	7.2	5.2	8.1	6.8	-	8.0
<u>U.S. MORTALITY</u>									
<u>AGE AT DEATH</u>									
AGE-ADJUSTED RATES, 2000-2003									
All ages	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5
Under 65	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.1	0.2
65 and over	2.6	2.5	2.7	2.6	2.5	2.7	2.6	1.8	3.1
All ages(IARC world std) <sup>c</sup>	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3
AGE-SPECIFIC RATES, 2000-2003									
<1	-	-	-	-	-	-	-	-	-
1-4	-	-	-	-	-	-	-	-	-
5-9	-	-	-	-	-	-	-	-	-
10-14	-	-	-	-	-	-	-	-	-
15-19	-	-	-	-	-	-	-	-	-
20-24	-	-	-	-	-	-	-	-	-
25-29	0.0	-	-	-	-	-	-	-	-
30-34	0.0	-	-	0.0	-	-	-	-	-
35-39	0.1	0.1	0.1	0.1	0.1	0.1	-	-	-
40-44	0.1	0.1	0.1	0.1	0.1	0.1	-	-	-
45-49	0.2	0.2	0.2	0.2	0.3	0.2	0.2	-	-
50-54	0.4	0.4	0.3	0.4	0.4	0.3	0.5	-	0.5
55-59	0.7	0.7	0.7	0.7	0.7	0.7	0.6	-	0.7
60-64	1.1	1.2	1.0	1.1	1.2	1.0	1.1	1.1	1.1
65-69	1.4	1.5	1.4	1.4	1.5	1.4	1.4	1.2	1.5
70-74	2.1	2.1	2.1	2.1	2.2	2.0	1.8	-	2.2
75-79	3.0	2.9	3.1	3.0	2.9	3.1	3.0	2.1	3.6
80-84	3.6	3.4	3.8	3.6	3.6	3.6	4.7	-	5.8
85+	4.7	3.6	5.1	4.7	3.6	5.2	4.0	-	4.3

<sup>a</sup> SEER 17 areas. Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130), unless noted.

<sup>b</sup> NCHS public use data file for the total US. Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130), unless noted.

<sup>c</sup> Rates are per 100,000 and are age-adjusted to the IARC world standard population.

- Statistic not shown. Rate based on less than 16 cases for the time interval.

Table XXVI-5  
THYROID CANCER (Invasive)

SURVIVAL RATES, BY RACE, SEX, DIAGNOSIS YEAR, STAGE AND AGE

	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
<b>5-YR RELATIVE SURVIVAL RATES</b>									
YEAR OF DIAGNOSIS:									
1960-1963 <sup>a</sup>	-	-	-	83	75	87	-	-	-
1970-1973 <sup>a</sup>	-	-	-	86	82	87	-	-	-
1975-1977 <sup>b</sup>	93.0	92.5	93.2	92.9	92.3	93.1	90.5	83.9 <sup>g</sup>	91.6
1978-1980 <sup>b</sup>	93.1	88.4	94.5	92.6	88.9	93.8	90.5	68.8 <sup>g</sup>	95.7
1981-1983 <sup>b</sup>	94.4	92.9	94.8	93.9	91.9	94.5	96.2	100.0	93.8
1984-1986 <sup>b</sup>	93.7	90.5	94.7	93.7	90.1	94.7	89.9	86.1 <sup>f</sup>	90.7
1987-1989 <sup>b</sup>	95.1	92.4	95.8	94.9	92.4	95.5	92.6	90.7 <sup>f</sup>	92.7
1990-1992 <sup>b</sup>	94.9	91.2	96.0	95.5	92.5	96.5	86.9	84.9 <sup>f</sup>	87.5
1993-1995 <sup>b</sup>	96.1	93.1	97.0	96.2	92.9	97.2	93.4	88.3 <sup>f</sup>	94.4
1996-2002 <sup>b</sup>	96.8 <sup>e</sup>	94.3	97.6 <sup>e</sup>	97.2 <sup>e</sup>	94.9	97.9 <sup>e</sup>	94.4	87.9	95.2
<b>5-YR PERIOD SURVIVAL RATES<sup>cd</sup></b>									
YEAR OF DIAGNOSIS:									
1996-2002	96.8	94.5	97.4	97.1	94.8	97.7	93.8	87.7	94.7
<b>STAGE DISTRIBUTION (%) 1996-2002<sup>c</sup></b>									
All Stages									
Number of cases	24,422	5,705	18,717	20,233	4,882	15,351	1,378	260	1,118
Percent	100%	100%	100%	100%	100%	100%	100%	100%	100%
Localized	58	48	61	58	49	62	62	52	64
Regional	34	41	32	34	41	32	28	34	27
Distant	5	9	4	5	8	4	7	10	6
Unstaged	3	3	2	3	3	3	3	3	2
<b>5-YR RELATIVE SURVIVAL RATES, 1996-2002<sup>c</sup></b>									
AGE AT DIAGNOSIS:									
<45	99.2	97.5	99.6	99.3	97.9	99.6	97.7	89.9	99.0
45-54	97.8	95.3	98.5	98.1	96.0	98.6	93.7	81.5 <sup>f</sup>	96.1
55-64	94.7	91.4	95.7	95.0	91.8	96.1	93.2	86.7 <sup>f</sup>	94.7
65-74	91.4	90.2	91.8	91.5	89.1	92.3	90.3 <sup>f</sup>	87.8 <sup>g</sup>	89.2 <sup>f</sup>
75+	76.3	79.0 <sup>f</sup>	75.5	78.3	79.2 <sup>f</sup>	78.1	57.5 <sup>g</sup>	-	51.0 <sup>g</sup>
Under 65	98.2	95.8	98.9	98.4	96.3	99.0	95.8	87.0	97.8
65 and over	86.2	86.8	85.9	86.8	86.4	87.1	81.7 <sup>f</sup>	89.9 <sup>g</sup>	76.6 <sup>f</sup>
STAGE:									
All Stages	96.7	94.5	97.3	97.0	94.8	97.6	94.2	89.1	95.3
Localized	99.7	99.2	99.8	99.8	99.4	99.9	98.0	94.7	98.5
Regional	96.9	96.2	97.1	97.0	96.4	97.2	96.3	94.0	96.8
Distant	56.4	56.0	56.4	56.8	56.5	56.8	47.1 <sup>f</sup>	37.5 <sup>g</sup>	51.5 <sup>f</sup>
Unstaged	87.0	85.0	87.0	87.7	83.9	88.2	82.0 <sup>f</sup>	-	79.2 <sup>f</sup>

<sup>a</sup> Rates are based on End Results data from a series of hospital registries and one population-based registry.

<sup>b</sup> Rates are from the SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta).

Rates are based on follow-up of patients into 2003.

<sup>c</sup> Rates are from the SEER 17 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana and New Jersey). California excluding SF/SJM/LA, Kentucky, Louisiana, and New Jersey contribute cases for diagnosis years 2000-2002. The remaining 13 SEER Areas contribute cases for the entire period 1996-2002. Rates are based on follow-up of patients into 2003.

<sup>d</sup> Period survival provides a more up-to-date estimate of survival by piecing together the most recent conditional survival estimates from several cohorts. It is computed here using three calendar year blocks (2000-2002: 0-1 year survival), (1999-2001: 1-2 year survival), (1998-2000: 2-3 year survival), (1997-1999: 3-4 year survival), (1996-1998: 4-5 years survival).

<sup>e</sup> The difference in rates between 1975-1977 and 1996-2002 is statistically significant (p<.05).

<sup>f</sup> The standard error of the survival rate is between 5 and 10 percentage points.

<sup>g</sup> The standard error of the survival rate is greater than 10 percentage points.

- Statistic could not be calculated due to fewer than 16 cases during the time period.

Table XXVI-6  
 THYROID CANCER (Invasive)

SURVIVAL RATES<sup>a</sup>

By Year of Diagnosis

All Races, Males and Females

Year of Diagnosis

	1975- 1979	1980- 1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Relative Survival Rates (SEER <sup>b</sup> )																				
1-year	94.9	95.2	96.2	96.2	96.0	96.3	95.6	96.6	96.7	95.6	95.3	97.5	96.8	97.0	96.5	97.8	97.3	97.7	97.7	97.4
2-year	93.8	94.8	95.0	95.5	95.9	95.8	95.1	96.3	96.1	94.9	95.0	97.1	96.4	96.8	96.1	97.4	97.1	97.3	97.5	
3-year	93.2	94.2	94.0	95.4	95.7	95.6	94.5	95.8	95.8	94.5	95.0	96.6	96.4	96.4	96.4	96.1	97.3	97.1	97.3	
4-year	93.1	94.1	93.8	95.0	95.7	95.3	94.1	95.8	95.4	94.4	95.0	96.4	96.4	96.0	96.1	96.9	97.1			
5-year	92.9	94.1	93.1	94.9	95.7	95.3	94.1	95.8	94.9	93.6	95.0	96.3	96.4	95.7	96.0	96.9				
6-year	92.9	94.1	93.1	94.8	95.6	95.3	94.1	95.8	94.8	93.6	95.0	96.0	96.4	95.7	95.8					
7-year	92.9	93.8	93.1	93.8	95.2	95.3	94.1	95.7	94.5	93.6	95.0	96.0	96.4	95.5						
8-year	92.9	93.8	93.1	93.7	95.2	95.3	94.1	95.7	94.5	93.6	95.0	95.6	96.4							
9-year	92.8	93.8	92.8	93.7	95.2	95.3	94.1	95.7	94.5	93.6	95.0	95.5								
10-year	92.8	93.6	92.7	93.7	95.1	95.3	94.1	95.5	94.5	93.6	95.0									
11-year	92.8	93.5	92.7	93.5	95.1	95.3	94.1	95.2	94.5	93.6										
12-year	92.8	93.4	92.6	93.5	95.1	95.3	94.1	95.2	94.5											
13-year	92.8	93.2	92.6	93.5	95.1	95.3	94.1	95.2												
14-year	92.8	93.2	92.6	93.5	95.1	95.3	94.1													
15-year	92.8	93.2	92.6	93.3	95.1	95.3														
16-year	92.8	93.2	92.6	93.3	95.1															
17-year	92.8	93.2	92.6	93.3																
18-year	92.8	93.2	92.6																	
19-year	92.8	93.2																		
20-year	92.8																			

<sup>a</sup> Survival rates are relative rates expressed as percents.

<sup>b</sup> Rates are from the SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta).

Table XXVI-7  
 THYROID CANCER (Invasive)

SURVIVAL RATES<sup>a</sup>

By Year of Diagnosis

All Races, Males

Year of Diagnosis

	1975- 1979	1980- 1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Relative Survival Rates (SEER <sup>b</sup> )																				
1-year	94.6	92.6	94.6	96.7	97.5	91.9	94.5	93.9	95.3	93.9	93.4	96.8	93.8	94.1	92.2	97.2	97.2	96.7	96.4	95.6
2-year	92.9	92.3	93.7	94.4	97.3	91.1	92.9	92.7	92.6	93.2	92.9	95.8	92.2	94.1	90.9	95.9	96.6	95.6	95.6	
3-year	92.1	91.2	93.0	94.4	97.0	90.2	92.9	91.9	91.6	92.3	92.7	95.4	92.2	93.2	90.9	95.5	96.6	95.6		
4-year	91.4	91.1	92.0	94.1	96.9	89.3	91.0	91.9	91.3	92.0	91.3	95.3	92.2	93.0	90.3	94.9	96.6			
5-year	91.1	91.1	89.7	94.1	96.9	89.2	90.6	91.9	90.0	91.4	91.3	94.9	92.2	91.4	89.8	94.9				
6-year	91.1	91.0	89.7	93.7	96.1	89.2	90.6	91.5	89.3	91.4	91.3	94.9	92.2	91.4	89.5					
7-year	91.1	90.7	89.7	92.2	92.9	89.2	90.6	91.5	88.6	91.4	91.3	94.8	91.2	91.4						
8-year	91.1	90.7	88.7	91.6	92.7	89.2	90.6	91.5	88.5	91.4	91.3	94.1	91.2							
9-year	91.1	90.5	88.0	90.8	91.7	88.9	90.6	91.5	88.5	91.4	91.3	94.1								
10-year	91.1	90.0	88.0	90.8	89.6	88.9	90.6	91.5	88.5	91.4	90.9									
11-year	90.6	89.7	88.0	90.5	89.1	88.9	90.6	91.5	88.5	91.4										
12-year	90.6	89.2	88.0	90.5	89.1	88.9	90.6	91.5	88.5											
13-year	90.6	89.0	88.0	90.3	89.1	88.9	90.6	91.3												
14-year	90.6	89.0	88.0	90.3	89.1	88.9	90.6													
15-year	90.6	88.9	88.0	90.3	89.1	88.9														
16-year	90.6	88.9	88.0	90.3	89.1															
17-year	90.6	88.9	88.0	90.3																
18-year	90.6	88.9	88.0																	
19-year	90.6	88.9																		
20-year	90.6																			

<sup>a</sup> Survival rates are relative rates expressed as percents.

<sup>b</sup> Rates are from the SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta).

Table XXVI-8  
 THYROID CANCER (Invasive)

SURVIVAL RATES<sup>a</sup>

By Year of Diagnosis

All Races, Females

Year of Diagnosis

	1975- 1979	1980- 1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Relative Survival Rates (SEER <sup>b</sup> )																				
1-year	95.0	96.1	96.8	96.0	95.5	97.7	96.0	97.3	97.2	96.2	95.8	97.7	97.8	97.9	97.7	97.9	97.4	98.0	98.1	97.9
2-year	94.0	95.6	95.4	95.8	95.3	97.3	95.7	97.3	97.1	95.4	95.8	97.3	97.5	97.6	97.6	97.8	97.3	97.7	98.1	
3-year	93.5	95.1	94.3	95.4	95.1	97.3	94.8	97.0	97.1	95.2	95.8	96.9	97.5	97.3	97.6	97.8	97.3	97.6		
4-year	93.5	95.1	94.2	95.2	95.1	97.2	94.8	97.0	96.6	95.1	95.8	96.7	97.5	96.9	97.6	97.6	97.3			
5-year	93.5	95.0	94.2	95.1	95.1	97.1	94.8	97.0	96.4	94.2	95.8	96.7	97.5	96.8	97.6	97.4				
6-year	93.5	95.0	94.2	95.1	95.1	97.1	94.8	97.0	96.4	94.2	95.8	96.2	97.5	96.8	97.6					
7-year	93.4	94.8	94.2	94.3	95.1	97.1	94.8	96.5	96.3	94.2	95.8	96.2	97.5	96.5						
8-year	93.3	94.8	94.2	94.3	95.1	97.1	94.8	96.5	96.3	94.2	95.8	96.0	97.5							
9-year	93.2	94.8	94.2	94.3	95.1	97.1	94.8	96.5	96.3	94.2	95.8	95.8								
10-year	93.2	94.8	93.7	94.3	95.1	97.1	94.8	96.1	96.3	94.2	95.8									
11-year	93.2	94.6	93.7	94.3	95.1	97.1	94.8	95.6	96.2	94.2										
12-year	93.2	94.6	93.5	94.1	95.1	97.1	94.8	95.6	95.7											
13-year	93.2	94.6	93.5	94.1	95.1	97.1	94.8	95.6												
14-year	93.2	94.6	93.5	94.1	95.1	97.1	94.8													
15-year	93.2	94.6	93.5	93.9	95.1	97.0														
16-year	93.2	94.5	93.5	93.9	95.1															
17-year	93.2	94.5	93.0	93.9																
18-year	93.2	94.5	92.5																	
19-year	93.2	94.5																		
20-year	93.2																			

<sup>a</sup> Survival rates are relative rates expressed as percents.

<sup>b</sup> Rates are from the SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta).



Table XXVI-9  
THYROID CANCER (Invasive)

Percent Diagnosed With Cancer In 10, 20 and 30 Years and In Remaining Lifetime,  
 Given Cancer Free At Current Age By Race and Sex

Lifetime Risk (Percent) of Being Diagnosed (17 SEER Areas) With Cancer and  
 Lifetime Risk (Percent) of Dying (Total U.S.) From Cancer

2001-2003

Race/ Ethnicity	Current Age	Males				Females			
		+10 yrs	+20 yrs	+30 yrs	Eventually	+10 yrs	+20 yrs	+30 yrs	Eventually
All Races	0	0.00	0.00	0.02	0.36	0.00	0.02	0.12	1.02
	10	0.00	0.02	0.06	0.36	0.02	0.12	0.29	1.03
	20	0.02	0.05	0.11	0.36	0.10	0.27	0.47	1.01
	30	0.04	0.09	0.17	0.35	0.17	0.37	0.57	0.91
	40	0.05	0.13	0.22	0.32	0.20	0.40	0.57	0.75
	50	0.08	0.17	0.25	0.27	0.20	0.37	0.50	0.56
White	0	0.00	0.01	0.02	0.38	0.00	0.03	0.13	1.06
	10	0.01	0.02	0.06	0.39	0.02	0.13	0.32	1.07
	20	0.02	0.06	0.12	0.38	0.11	0.29	0.51	1.05
	30	0.04	0.10	0.18	0.37	0.19	0.40	0.60	0.95
	40	0.06	0.14	0.24	0.34	0.22	0.42	0.59	0.77
	50	0.08	0.18	0.26	0.29	0.20	0.38	0.50	0.57
Black	0	0.00	0.00	0.01	0.17	0.00	0.01	0.05	0.59
	10	0.00	0.01	0.02	0.17	0.01	0.05	0.13	0.60
	20	0.01	0.02	0.04	0.17	0.04	0.12	0.22	0.59
	30	0.02	0.04	0.08	0.17	0.08	0.18	0.31	0.56
	40	0.02	0.07	0.12	0.16	0.10	0.23	0.34	0.48
	50	0.05	0.10	0.13	0.14	0.13	0.25	0.35	0.40
Asian/ Pacific Islander	0	0.00	0.00	0.02	0.40	0.00	0.02	0.11	1.12
	10	0.00	0.02	0.06	0.40	0.02	0.11	0.28	1.12
	20	0.02	0.06	0.10	0.40	0.09	0.26	0.46	1.11
	30	0.03	0.08	0.14	0.38	0.16	0.37	0.59	1.02
	40	0.05	0.10	0.19	0.35	0.20	0.43	0.62	0.86
	50	0.06	0.15	0.24	0.31	0.23	0.42	0.58	0.66
Hispanic <sup>a</sup>	0	0.00	0.00	0.01	0.30	0.00	0.02	0.09	1.02
	10	0.00	0.01	0.04	0.30	0.02	0.09	0.23	1.03
	20	0.01	0.03	0.07	0.30	0.08	0.21	0.38	1.02
	30	0.02	0.06	0.11	0.29	0.14	0.31	0.50	0.94
	40	0.04	0.09	0.17	0.27	0.17	0.37	0.56	0.81
	50	0.05	0.14	0.21	0.24	0.20	0.39	0.54	0.65
60	0.09	0.17	0.20	0.20	0.20	0.36	0.44	0.47	

Race/Ethnicity	Lifetime Risk of Developing		Lifetime Risk of Dying	
	Males	Females	Males	Females
All Races	0.36%	1.02%	0.04%	0.06%
White	0.38%	1.06%	0.04%	0.06%
Black	0.17%	0.59%	0.03%	0.05%
Asian/Pacific Islander	0.40%	1.12%	0.05%	0.12%
Hispanic <sup>a</sup>	0.30%	1.02%	0.06%	0.09%

Devcan Version 6.1.0, April 2006, National Cancer Institute (<http://srab.cancer.gov/devcan/>).

Source: Incidence data are from the SEER 17 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana and New Jersey). Mortality data are from the NCHS public use data file for the total US.

<sup>a</sup> Hispanic is not mutually exclusive from Whites, Blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives. Underlying incidence data for Hispanics are based on NHIA and exclude cases from Hawaii, Seattle, Alaska Native Registry and Kentucky. Underlying mortality data for Hispanics exclude deaths from Minnesota, New Hampshire and North Dakota.

Table XXVI-10  
THYROID CANCER (Invasive)

SEER INCIDENCE AND U.S. MORTALITY  
AGE-ADJUSTED RATES AND TRENDS<sup>a</sup>  
 By Race/Ethnicity and Sex

SEER Incidence

RACE/ETHNICITY	Rate 2000-2003 <sup>b</sup>			Trend 1994-2003 <sup>c</sup>		
	Rate per 100,000 persons			APC (%)		
	Total	Males	Females	Total	Males	Females
All Races	8.2	4.2	12.1	5.0*	4.2*	5.3*
White	8.6	4.5	12.7	5.4*	4.7*	5.7*
White Hispanic <sup>d</sup>	7.4	3.3	11.4	3.8*	5.3*	3.6*
White Non-Hispanic <sup>d</sup>	9.2	4.9	13.4	5.9*	5.0*	6.3*
Black	5.0	2.4	7.1	5.3*	4.4*	5.4*
Asian/Pacific Islander	8.4	3.8	12.5	2.3*	1.6	2.5*
Amer Ind/Alaska Nat <sup>e</sup>	6.4	2.5	10.0	1.3	-	4.8
Hispanic <sup>d</sup>	7.2	3.2	11.2	4.1*	5.4*	4.0*

U.S. Mortality<sup>f</sup>

RACE/ETHNICITY	Rate 2000-2003			Trend 1994-2003		
	Rate per 100,000 persons			APC (%)		
	Total	Males	Females	Total	Males	Females
All Races	0.5	0.5	0.5	0.8	1.4	0.6
White	0.5	0.5	0.5	0.9*	1.5	0.6*
White Hispanic <sup>d</sup>	0.6	0.5	0.6	-0.4	2.9	-1.8
White Non-Hispanic <sup>d</sup>	0.5	0.5	0.4	1.0*	1.5*	0.7
Black	0.5	0.4	0.5	1.5	2.3	1.5
Asian/Pacific Islander	0.6	0.4	0.7	-3.7	-	-2.5
Amer Ind/Alaska Nat	0.3	-	-	-	-	-
Hispanic <sup>d</sup>	0.6	0.5	0.6	-0.5	2.7	-1.9

- The APC is the Annual Percent Change over the time interval.
- Statistic not shown. Rate based on less than 16 cases for the time interval. Trend based on less than 10 cases for at least one year within the time interval.
- <sup>a</sup> Rates are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130). Trends are based on rates age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).
- <sup>b</sup> Incidence data used in calculating the rates are from the 17 SEER areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana and New Jersey).
- <sup>c</sup> Incidence data used in calculating the trends are from the 13 SEER areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry and Rural Georgia).
- <sup>d</sup> Hispanic and Non-Hispanic are not mutually exclusive from Whites, Blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives. Incidence data for Hispanics and Non-Hispanics are based on NHIA and exclude cases from Hawaii, Seattle, Alaska Native Registry and Kentucky. The 2000-2003 Hispanic and Non-Hispanic death rates exclude deaths from Minnesota, New Hampshire and North Dakota. The 1994-2003 Hispanic and Non-Hispanic mortality trends exclude deaths from Maine, Minnesota, New Hampshire, North Dakota, and Oklahoma.
- <sup>e</sup> Incidence data for American Indians/Alaska Natives include cases from Connecticut, Detroit, Iowa, New Mexico, Seattle, Utah, Atlanta, and the Alaska Native Registry. Incidence rates are for diagnosis years 1999-2002. Incidence trends are for diagnosis years 1994-2002.
- <sup>f</sup> Mortality data are analyzed from a public use file provided by the National Center for Health Statistics (NCHS).
- \* The APC is significantly different from zero (p<.05).

Table XXVI-11  
THYROID CANCER (Invasive)

AGE-ADJUSTED SEER INCIDENCE RATES<sup>a</sup>  
 By Registry, Race/Ethnicity and Sex

	All Races			Whites		Blacks		Asian/Pacific Islanders		Hispanics <sup>b</sup>	
	Total	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
<u>SEER INCIDENCE RATES<sup>a</sup>, 2000-2003</u>											
REGISTRY											
17 SEER Areas <sup>c</sup>	8.2	4.2	12.1	4.5	12.7	2.4	7.1	3.8	12.5	3.2	11.2
13 SEER Areas <sup>c</sup>	8.3	4.3	12.2	4.6	12.9	2.6	6.7	3.9	12.7	3.4	11.2
11 SEER Areas <sup>c</sup>	8.3	4.3	12.2	4.6	12.9	2.6	6.7	3.9	12.7	3.4	11.2
9 SEER Areas <sup>c</sup>	8.6	4.5	12.6	4.7	13.3	2.6	6.9	3.8	13.1	4.1	11.9
San Francisco-Oakland	6.3	3.3	9.2	3.5	9.0	-	5.5	3.3	10.5	3.2	8.5
Connecticut	10.0	5.2	14.6	5.5	15.2	-	6.4	-	13.9	5.2	16.2
Metropolitan Detroit	8.2	4.6	11.5	4.8	13.3	4.2	7.0	-	9.1	-	11.0
Hawaii	9.6	4.1	15.1	4.0	10.1	-	-	4.1	16.7	-	-
Iowa	8.8	4.5	13.0	4.5	12.7	-	-	-	21.3	-	-
New Mexico	10.6	5.4	15.7	5.8	16.6	-	-	-	-	4.5	12.9
Seattle-Puget Sound	8.6	4.3	12.8	4.4	13.1	-	9.4	3.4	13.8	-	-
Utah	10.2	5.4	15.0	5.5	15.3	-	-	-	-	-	11.9
Metropolitan Atlanta	7.7	4.3	11.1	5.4	13.7	1.3	6.9	-	8.4	-	16.3
San Jose-Monterey	6.9	3.5	10.5	3.4	10.9	-	-	3.4	9.8	3.0	10.2
Los Angeles	8.0	4.2	11.7	4.4	12.4	2.4	6.0	4.3	13.2	3.0	10.9
Rural Georgia	5.0	-	8.5	-	-	-	-	-	-	-	-
California exclud. SF/SJM/LA	7.2	3.7	10.7	3.9	10.9	1.9	6.7	3.6	11.9	2.9	10.7
Kentucky	7.2	3.6	10.7	3.7	10.8	-	7.6	-	-	-	-
Louisiana	7.1	3.6	10.3	4.3	12.2	1.8	6.8	-	-	-	-
New Jersey	10.7	5.4	15.7	5.7	16.7	3.1	9.2	3.8	13.0	3.6	13.5

<sup>a</sup> Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130)

<sup>b</sup> Hispanic is not mutually exclusive from Whites, Blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives.

Incidence data for Hispanics are based on NHIA and exclude cases from Hawaii, Seattle, Alaska Native Registry and Kentucky.

<sup>c</sup> The SEER 9 areas are San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah and Atlanta.

The SEER 11 areas comprise the SEER 9 areas plus San Jose-Monterey and Los Angeles.

The SEER 13 areas comprise the SEER 11 areas plus the Alaska Native Registry and Rural Georgia.

The SEER 17 areas comprise the SEER 13 areas plus California excluding SF/SJM/LA, Kentucky, Louisiana and New Jersey

- Statistic not shown. Rate based on less than 16 cases for the time interval.

Table XXVI-12  
THYROID CANCER (Invasive)

AGE-ADJUSTED SEER DEATH RATES<sup>a</sup>  
 By Registry, Race/Ethnicity and Sex

	All Races			Whites		Blacks		Asian/Pacific Islanders		Hispanics <sup>b</sup>	
	Total	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
<u>SEER DEATH RATES<sup>a</sup>, 2000-2003</u>											
REGISTRY											
17 SEER Areas <sup>c</sup>	0.5	0.5	0.5	0.5	0.5	0.4	0.6	0.4	0.8	0.6	0.7
13 SEER Areas <sup>c</sup>	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.4	0.7	0.6	0.7
11 SEER Areas <sup>c</sup>	0.5	0.5	0.5	0.5	0.5	0.3	0.5	0.4	0.7	0.6	0.7
9 SEER Areas <sup>c</sup>	0.5	0.5	0.5	0.5	0.5	-	0.3	0.4	0.6	0.7	0.7
San Francisco-Oakland	0.4	0.4	0.4	0.5	0.4	-	-	-	-	-	-
Connecticut	0.5	0.5	0.5	0.6	0.5	-	-	-	-	-	-
Metropolitan Detroit	0.5	0.6	0.4	0.6	0.5	-	-	-	-	-	-
Hawaii	0.4	-	-	-	-	-	-	-	-	-	-
Iowa	0.4	0.4	0.4	0.4	0.4	-	-	-	-	-	-
New Mexico	0.6	0.6	0.6	0.5	0.6	-	-	-	-	-	-
Seattle-Puget Sound	0.4	0.4	0.5	0.4	0.5	-	-	-	-	-	-
Utah	0.5	-	0.4	-	-	-	-	-	-	-	-
Metropolitan Atlanta	0.5	-	0.5	-	0.5	-	-	-	-	-	-
San Jose-Monterey	0.4	0.5	0.4	-	-	-	-	-	-	-	-
Los Angeles	0.6	0.6	0.7	0.6	0.6	-	0.9	-	0.7	0.7	0.7
Rural Georgia	-	-	-	-	-	-	-	-	-	-	-
California exclud. SF/SJM/LA	0.5	0.4	0.5	0.4	0.5	-	-	-	1.1	0.6	0.8
Kentucky	0.5	0.5	0.5	0.5	0.5	-	-	-	-	-	-
Louisiana	0.7	0.5	0.7	0.5	0.6	-	1.1	-	-	-	-
New Jersey	0.5	0.5	0.5	0.6	0.5	-	-	-	-	-	-
Total U.S.	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.4	0.7	0.5	0.6

<sup>a</sup> NCHS public use data file for the total US. Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

<sup>b</sup> Hispanic is not mutually exclusive from Whites, Blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives. The 2000-2003 Hispanic death rates do not include deaths from Minnesota, New Hampshire and North Dakota.

<sup>c</sup> The SEER 9 areas are San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah and Atlanta.

The SEER 11 areas comprise the SEER 9 areas plus San Jose-Monterey and Los Angeles.

The SEER 13 areas comprise the SEER 11 areas plus the Alaska Native Registry and Rural Georgia.

The SEER 17 areas comprise the SEER 13 areas plus California excluding SF/SJM/LA, Kentucky, Louisiana and New Jersey

- Statistic not shown. Rate based on less than 16 cases for the time interval.

Table XXVI-13  
THYROID CANCER (Invasive)AVERAGE ANNUAL AGE-ADJUSTED CANCER DEATH<sup>a</sup> RATES BY STATE, ALL RACES, 2000-2003

## Males and Females

State	Rate	SE	Rank	PD	State	Rate	SE	Rank	PD
TOTAL U.S.	0.5	0.01							
High Five States									
Louisiana	0.7 <sup>b</sup>	0.06	(01)	40.0					
South Dakota	0.6 <sup>b</sup>	0.14	(02)	20.0					
New Mexico	0.6 <sup>b</sup>	0.09	(03)	20.0					
Michigan	0.6 <sup>b</sup>	0.04	(04)	20.0					
Kansas	0.6 <sup>b</sup>	0.07	(05)	20.0					
Low Five States									
Virginia	0.4 <sup>b</sup>	0.04	(47)	-20.0					
Delaware	0.4 <sup>b</sup>	0.11	(48)	-20.0					
Vermont	0.3 <sup>b</sup>	0.12	(49)	-40.0					
Maryland	0.3 <sup>b</sup>	0.04	(50)	-40.0					
Nevada	0.3 <sup>b</sup>	0.07	(51)	-40.0					
Alabama	0.4 <sup>b</sup>	0.05	(45)	-20.0	Montana	0.5	0.11	(09)	0.0
Alaska	0.4 <sup>b</sup>	0.19	(43)	-20.0	Nebraska	0.5	0.08	(19)	0.0
Arizona	0.5	0.05	(26)	0.0	Nevada	0.3 <sup>b</sup>	0.07	(51)	-40.0
Arkansas	0.5	0.06	(18)	0.0	New Hampshire	0.5	0.10	(10)	0.0
California	0.5	0.02	(14)	0.0	New Jersey	0.5	0.04	(11)	0.0
Colorado	0.4 <sup>b</sup>	0.05	(44)	-20.0	New Mexico	0.6 <sup>b</sup>	0.09	(03)	20.0
Connecticut	0.5	0.06	(08)	0.0	New York	0.5	0.02	(20)	0.0
Delaware	0.4 <sup>b</sup>	0.11	(48)	-20.0	North Carolina	0.4 <sup>b</sup>	0.04	(40)	-20.0
District of Columbia	0.5	0.15	(17)	0.0	North Dakota	0.5	0.12	(28)	0.0
Florida	0.4 <sup>b</sup>	0.02	(37)	-20.0	Ohio	0.4 <sup>b</sup>	0.03	(29)	-20.0
Georgia	0.4 <sup>b</sup>	0.04	(30)	-20.0	Oklahoma	0.4 <sup>b</sup>	0.05	(39)	-20.0
Hawaii	0.4 <sup>b</sup>	0.09	(34)	-20.0	Oregon	0.5	0.06	(21)	0.0
Idaho	0.5	0.10	(06)	0.0	Pennsylvania	0.5	0.03	(24)	0.0
Illinois	0.5	0.03	(23)	0.0	Rhode Island	0.4 <sup>b</sup>	0.09	(46)	-20.0
Indiana	0.5	0.05	(12)	0.0	South Carolina	0.4 <sup>b</sup>	0.05	(42)	-20.0
Iowa	0.4 <sup>b</sup>	0.05	(41)	-20.0	South Dakota	0.6 <sup>b</sup>	0.14	(02)	20.0
Kansas	0.6 <sup>b</sup>	0.07	(05)	20.0	Tennessee	0.4 <sup>b</sup>	0.04	(35)	-20.0
Kentucky	0.5	0.06	(07)	0.0	Texas	0.5	0.03	(13)	0.0
Louisiana	0.7 <sup>b</sup>	0.06	(01)	40.0	Utah	0.5	0.09	(22)	0.0
Maine	0.5	0.09	(27)	0.0	Vermont	0.3 <sup>b</sup>	0.12	(49)	-40.0
Maryland	0.3 <sup>b</sup>	0.04	(50)	-40.0	Virginia	0.4 <sup>b</sup>	0.04	(47)	-20.0
Massachusetts	0.5	0.04	(25)	0.0	Washington	0.4 <sup>b</sup>	0.04	(38)	-20.0
Michigan	0.6 <sup>b</sup>	0.04	(04)	20.0	West Virginia	0.4 <sup>b</sup>	0.07	(33)	-20.0
Minnesota	0.4 <sup>b</sup>	0.05	(32)	-20.0	Wisconsin	0.5	0.05	(15)	0.0
Mississippi	0.4 <sup>b</sup>	0.06	(36)	-20.0	Wyoming	0.4 <sup>b</sup>	0.15	(31)	-20.0
Missouri	0.5	0.05	(16)	0.0					

<sup>a</sup> NCHS public use data file. Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

<sup>b</sup> Absolute percent difference between state rate and total U.S. rate is 15% or more.

<sup>c</sup> Difference between state rate and total U.S. rate is statistically significant ( $p \leq .0002$ ).

SE Standard error of the rate.

PD Percent difference between state rate and total U.S. rate.

Table XXVI-14  
 THYROID CANCER (Invasive)

AVERAGE ANNUAL AGE-ADJUSTED CANCER DEATH<sup>a</sup> RATES BY STATE, ALL RACES, 2000-2003

Males

State	Rate	SE	Rank	PD
TOTAL U.S.	0.5	0.01		
High Five States				
South Dakota	0.7 <sup>b</sup>	0.21	(01)	40.0
Arkansas	0.6 <sup>b</sup>	0.11	(02)	20.0
Idaho	0.6 <sup>b</sup>	0.16	(03)	20.0
Vermont	0.6 <sup>b</sup>	0.23	(04)	20.0
Michigan	0.6 <sup>b</sup>	0.06	(05)	20.0
Low Five States				
Delaware	0.3 <sup>b</sup>	0.15	(47)	-40.0
Mississippi	0.3 <sup>b</sup>	0.09	(48)	-40.0
District of Columbia	0.3 <sup>b</sup>	0.19	(49)	-40.0
Virginia	0.3 <sup>b</sup>	0.05	(50)	-40.0
Maryland	0.3 <sup>b</sup>	0.06	(51)	-40.0

State	Rate	SE	Rank	PD	State	Rate	SE	Rank	PD
Alabama	0.5	0.08	(23)	0.0	Montana	0.4 <sup>b</sup>	0.16	(29)	-20.0
Alaska	0.5	0.27	(28)	0.0	Nebraska	0.5	0.13	(17)	0.0
Arizona	0.5	0.07	(22)	0.0	Nevada	0.4 <sup>b</sup>	0.10	(41)	-20.0
Arkansas	0.6 <sup>b</sup>	0.11	(02)	20.0	New Hampshire	0.6 <sup>b</sup>	0.16	(06)	20.0
California	0.5	0.03	(26)	0.0	New Jersey	0.5	0.06	(15)	0.0
Colorado	0.4 <sup>b</sup>	0.08	(42)	-20.0	New Mexico	0.6 <sup>b</sup>	0.13	(08)	20.0
Connecticut	0.5	0.09	(10)	0.0	New York	0.4 <sup>b</sup>	0.03	(43)	-20.0
Delaware	0.3 <sup>b</sup>	0.15	(47)	-40.0	North Carolina	0.5	0.07	(14)	0.0
District of Columbia	0.3 <sup>b</sup>	0.19	(49)	-40.0	North Dakota	0.5	0.19	(25)	0.0
Florida	0.4 <sup>b</sup>	0.03	(37)	-20.0	Ohio	0.5	0.05	(19)	0.0
Georgia	0.4 <sup>b</sup>	0.06	(32)	-20.0	Oklahoma	0.5	0.09	(18)	0.0
Hawaii	0.4 <sup>b</sup>	0.14	(31)	-20.0	Oregon	0.4 <sup>b</sup>	0.08	(39)	-20.0
Idaho	0.6 <sup>b</sup>	0.16	(03)	20.0	Pennsylvania	0.4 <sup>b</sup>	0.04	(30)	-20.0
Illinois	0.4 <sup>b</sup>	0.05	(36)	-20.0	Rhode Island	0.4 <sup>b</sup>	0.14	(40)	-20.0
Indiana	0.6 <sup>b</sup>	0.08	(07)	20.0	South Carolina	0.4 <sup>b</sup>	0.08	(35)	-20.0
Iowa	0.4 <sup>b</sup>	0.09	(33)	-20.0	South Dakota	0.7 <sup>b</sup>	0.21	(01)	40.0
Kansas	0.5	0.10	(20)	0.0	Tennessee	0.4 <sup>b</sup>	0.06	(45)	-20.0
Kentucky	0.5	0.09	(12)	0.0	Texas	0.5	0.04	(16)	0.0
Louisiana	0.5	0.09	(09)	0.0	Utah	0.5	0.13	(24)	0.0
Maine	0.5	0.14	(13)	0.0	Vermont	0.6 <sup>b</sup>	0.23	(04)	20.0
Maryland	0.3 <sup>b</sup>	0.06	(51)	-40.0	Virginia	0.3 <sup>b</sup>	0.05	(50)	-40.0
Massachusetts	0.4 <sup>b</sup>	0.06	(34)	-20.0	Washington	0.3 <sup>b</sup>	0.06	(46)	-40.0
Michigan	0.6 <sup>b</sup>	0.06	(05)	20.0	West Virginia	0.5	0.11	(21)	0.0
Minnesota	0.4 <sup>b</sup>	0.07	(38)	-20.0	Wisconsin	0.5	0.07	(27)	0.0
Mississippi	0.3 <sup>b</sup>	0.09	(48)	-40.0	Wyoming	0.4 <sup>b</sup>	0.22	(44)	-20.0
Missouri	0.5	0.07	(11)	0.0					

<sup>a</sup> NCHS public use data file. Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

<sup>b</sup> Absolute percent difference between state rate and total U.S. rate is 15% or more.

<sup>c</sup> Difference between state rate and total U.S. rate is statistically significant (p<=.0002).

SE Standard error of the rate.

PD Percent difference between state rate and total U.S. rate.

Table XXVI-15  
 THYROID CANCER (Invasive)

AVERAGE ANNUAL AGE-ADJUSTED CANCER DEATH<sup>a</sup> RATES BY STATE, ALL RACES, 2000-2003

Females

State	Rate	SE	Rank	PD	State	Rate	SE	Rank	PD
TOTAL U.S.	0.5	0.01							
High Five States									
Louisiana	0.7 <sup>b</sup>	0.09	(01)	40.0					
District of Columbia	0.6 <sup>b</sup>	0.23	(02)	20.0					
Kansas	0.6 <sup>b</sup>	0.10	(03)	20.0					
New Mexico	0.6 <sup>b</sup>	0.12	(04)	20.0					
Wyoming	0.5	0.22	(05)	0.0					
Low Five States									
Alaska	0.3 <sup>b</sup>	0.24	(47)	-40.0					
North Carolina	0.3 <sup>b</sup>	0.04	(48)	-40.0					
Alabama	0.3 <sup>b</sup>	0.05	(49)	-40.0					
Nevada	0.3 <sup>b</sup>	0.08	(50)	-40.0					
Vermont	0.1 <sup>b</sup>	0.10	(51)	-80.0					
Alabama	0.3 <sup>b</sup>	0.05	(49)	-40.0	Montana	0.5	0.15	(09)	0.0
Alaska	0.3 <sup>b</sup>	0.24	(47)	-40.0	Nebraska	0.5	0.11	(25)	0.0
Arizona	0.4 <sup>b</sup>	0.06	(35)	-20.0	Nevada	0.3 <sup>b</sup>	0.08	(50)	-40.0
Arkansas	0.4 <sup>b</sup>	0.08	(37)	-20.0	New Hampshire	0.5	0.13	(19)	0.0
California	0.5	0.03	(11)	0.0	New Jersey	0.5	0.05	(16)	0.0
Colorado	0.4 <sup>b</sup>	0.07	(36)	-20.0	New Mexico	0.6 <sup>b</sup>	0.12	(04)	20.0
Connecticut	0.5	0.08	(10)	0.0	New York	0.5	0.03	(08)	0.0
Delaware	0.4 <sup>b</sup>	0.13	(46)	-20.0	North Carolina	0.3 <sup>b</sup>	0.04	(48)	-40.0
District of Columbia	0.6 <sup>b</sup>	0.23	(02)	20.0	North Dakota	0.4 <sup>b</sup>	0.16	(34)	-20.0
Florida	0.4 <sup>b</sup>	0.03	(29)	-20.0	Ohio	0.4 <sup>b</sup>	0.04	(40)	-20.0
Georgia	0.4 <sup>b</sup>	0.05	(32)	-20.0	Oklahoma	0.4 <sup>b</sup>	0.07	(45)	-20.0
Hawaii	0.5	0.13	(26)	0.0	Oregon	0.5	0.08	(06)	0.0
Idaho	0.5	0.13	(20)	0.0	Pennsylvania	0.5	0.04	(27)	0.0
Illinois	0.5	0.04	(15)	0.0	Rhode Island	0.4 <sup>b</sup>	0.11	(44)	-20.0
Indiana	0.5	0.06	(23)	0.0	South Carolina	0.4 <sup>b</sup>	0.06	(41)	-20.0
Iowa	0.4 <sup>b</sup>	0.07	(39)	-20.0	South Dakota	0.5	0.16	(13)	0.0
Kansas	0.6 <sup>b</sup>	0.10	(03)	20.0	Tennessee	0.5	0.06	(24)	0.0
Kentucky	0.5	0.07	(12)	0.0	Texas	0.5	0.04	(18)	0.0
Louisiana	0.7 <sup>b</sup>	0.09	(01)	40.0	Utah	0.4 <sup>b</sup>	0.11	(30)	-20.0
Maine	0.4 <sup>b</sup>	0.10	(43)	-20.0	Vermont	0.1 <sup>b</sup>	0.10	(51)	-80.0
Maryland	0.4 <sup>b</sup>	0.06	(38)	-20.0	Virginia	0.4 <sup>b</sup>	0.05	(33)	-20.0
Massachusetts	0.5	0.05	(22)	0.0	Washington	0.5	0.06	(21)	0.0
Michigan	0.5	0.05	(07)	0.0	West Virginia	0.4 <sup>b</sup>	0.09	(42)	-20.0
Minnesota	0.5	0.06	(28)	0.0	Wisconsin	0.5	0.06	(14)	0.0
Mississippi	0.5	0.09	(17)	0.0	Wyoming	0.5	0.22	(05)	0.0
Missouri	0.4 <sup>b</sup>	0.06	(31)	-20.0					

<sup>a</sup> NCHS public use data file. Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

<sup>b</sup> Absolute percent difference between state rate and total U.S. rate is 15% or more.

<sup>c</sup> Difference between state rate and total U.S. rate is statistically significant ( $p \leq .0002$ ).

SE Standard error of the rate.

PD Percent difference between state rate and total U.S. rate.

Table XXVI-16  
 THYROID CANCER (Invasive)

Estimated United States Cancer Prevalence Counts<sup>a</sup> on January 1, 2003  
 By Race/Ethnicity, Sex and Years Since Diagnosis

Years Since Diagnosis	0 to <5	5 to <10	10 to <15	15 to <20	20 to <25	0 to <13 <sup>e</sup>	0 to <28 <sup>e</sup>	>=28 <sup>g</sup>	Complete <sup>h</sup>
<b>Race/Sex</b>									
All Races <sup>b</sup>	96,001	67,200	49,620	39,165	30,810	195,091	300,771	46,653	347,424
Males	22,362	15,147	11,247	8,504	6,715	44,975	68,236	11,039	79,275
Females	73,639	52,053	38,373	30,661	24,095	150,116	232,535	35,614	268,149
White <sup>b</sup>	83,827	59,397	44,417	35,115	27,840	171,682	266,801	42,152	308,953
Males	20,222	13,714	10,277	7,693	6,146	40,719	62,010	9,360	71,370
Females	63,605	45,683	34,140	27,422	21,694	130,963	204,791	32,792	237,583
Black <sup>b</sup>	5,754	3,734	2,454	1,844	1,482	11,207	16,174	1,933	18,107
Males	985	678	550	362	226	2,065	2,906	210	3,116
Females	4,769	3,056	1,904	1,482	1,256	9,142	13,268	1,723	14,991
Asian/Pacific Islander <sup>c</sup>	4,246	2,776	+	+	+	8,268	+	+	+
Males	842	474	+	+	+	1,525	+	+	+
Females	3,404	2,302	+	+	+	6,743	+	+	+
Hispanic <sup>d</sup>	8,033	5,313	+	+	+	15,683	+	+	+
Males	1,521	957	+	+	+	2,913	+	+	+
Females	6,512	4,356	+	+	+	12,770	+	+	+

Estimated prevalence percent<sup>a</sup> on January 1, 2003, of the SEER 11 population diagnosed in the previous 10 years  
 By Age at Prevalence, Race/Ethnicity and Sex

Age at Prevalence	Age Specific (Crude)										Age-Adjusted <sup>f</sup>
	All Ages	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80+	All Ages
<b>Race/Sex</b>											
All Races <sup>c</sup>	0.0542%	-	0.0036%	0.0288%	0.0682%	0.0936%	0.1008%	0.0995%	0.0836%	0.0581%	0.0544%
Males	0.0246%	-	0.0013%	0.0079%	0.0247%	0.0367%	0.0526%	0.0633%	0.0579%	0.0429%	0.0259%
Females	0.0830%	-	0.0060%	0.0508%	0.1129%	0.1499%	0.1466%	0.1317%	0.1030%	0.0664%	0.0820%
White <sup>c</sup>	0.0579%	-	0.0040%	0.0320%	0.0743%	0.1010%	0.1044%	0.1009%	0.0828%	0.0568%	0.0574%
Males	0.0271%	-	0.0015%	0.0088%	0.0270%	0.0404%	0.0567%	0.0660%	0.0595%	0.0440%	0.0278%
Females	0.0886%	-	0.0067%	0.0570%	0.1249%	0.1629%	0.1510%	0.1329%	0.1007%	0.0636%	0.0872%
Black <sup>c</sup>	0.0244%	-	0.0014%	0.0087%	0.0306%	0.0408%	0.0562%	0.0666%	0.0594%	0.0391%	0.0283%
Males	0.0094%	-	-	-	0.0110%	0.0127%	0.0240%	0.0328%	0.0461%	0.0187%	0.0124%
Females	0.0380%	-	0.0018%	0.0157%	0.0479%	0.0654%	0.0830%	0.0932%	0.0682%	0.0489%	0.0414%
Asian/Pacific Islander <sup>c</sup>	0.0568%	-	0.0034%	0.0286%	0.0635%	0.0907%	0.1088%	0.1101%	0.1005%	0.0825%	0.0565%
Males	0.0223%	-	-	0.0087%	0.0207%	0.0330%	0.0444%	0.0652%	0.0527%	0.0464%	0.0238%
Females	0.0891%	-	0.0067%	0.0483%	0.1040%	0.1427%	0.1651%	0.1475%	0.1351%	0.1068%	0.0855%
Hispanic <sup>d</sup>	0.0348%	-	0.0028%	0.0211%	0.0464%	0.0760%	0.0935%	0.0973%	0.0819%	0.0784%	0.0470%
Males	0.0124%	-	0.0007%	0.0056%	0.0127%	0.0251%	0.0385%	0.0586%	0.0459%	0.0517%	0.0197%
Females	0.0584%	-	0.0050%	0.0395%	0.0847%	0.1283%	0.1442%	0.1292%	0.1076%	0.0934%	0.0736%

<sup>a</sup> US 2003 cancer prevalence counts are based on 2003 cancer prevalence proportions from the SEER registries and 1/1/2003 US population estimates based on the average of 2002 and 2003 population estimates from the US Bureau of the Census. Prevalence was calculated using the First Malignant Primary Only for a person.

<sup>b c d</sup> Statistics based on (b) SEER 9 Areas (c) SEER 11 Areas and Rural Georgia (d) NHIA for Hispanic for SEER 11 Areas and Rural Georgia excluding Hawaii and Seattle.

<sup>e</sup> Maximum limited-duration prevalence: 28 years for 1975-2003 SEER 9 data; 13 years for 1990-2003 SEER 11 data (used to calculate prevalence for Hispanics and Asian Pacific Islanders).

<sup>f</sup> Percentages are age-adjusted to the 2000 US standard population by 5-year age groups.

<sup>g h</sup> (g) Cases diagnosed more than 28 years ago were estimated using the completeness index method (Capocaccia et. al. 1997, Merrill et. al. 2000). (h) Complete prevalence is obtained by summing 0 to <28 and >=28.

- Statistic not shown. Statistic based on fewer than 5 cases estimated alive in SEER for the time interval.

+ Not available.



# SEER Incidence, Delay Adjusted Incidence and US Death Rates+ Thyroid Cancer, by Race and Sex

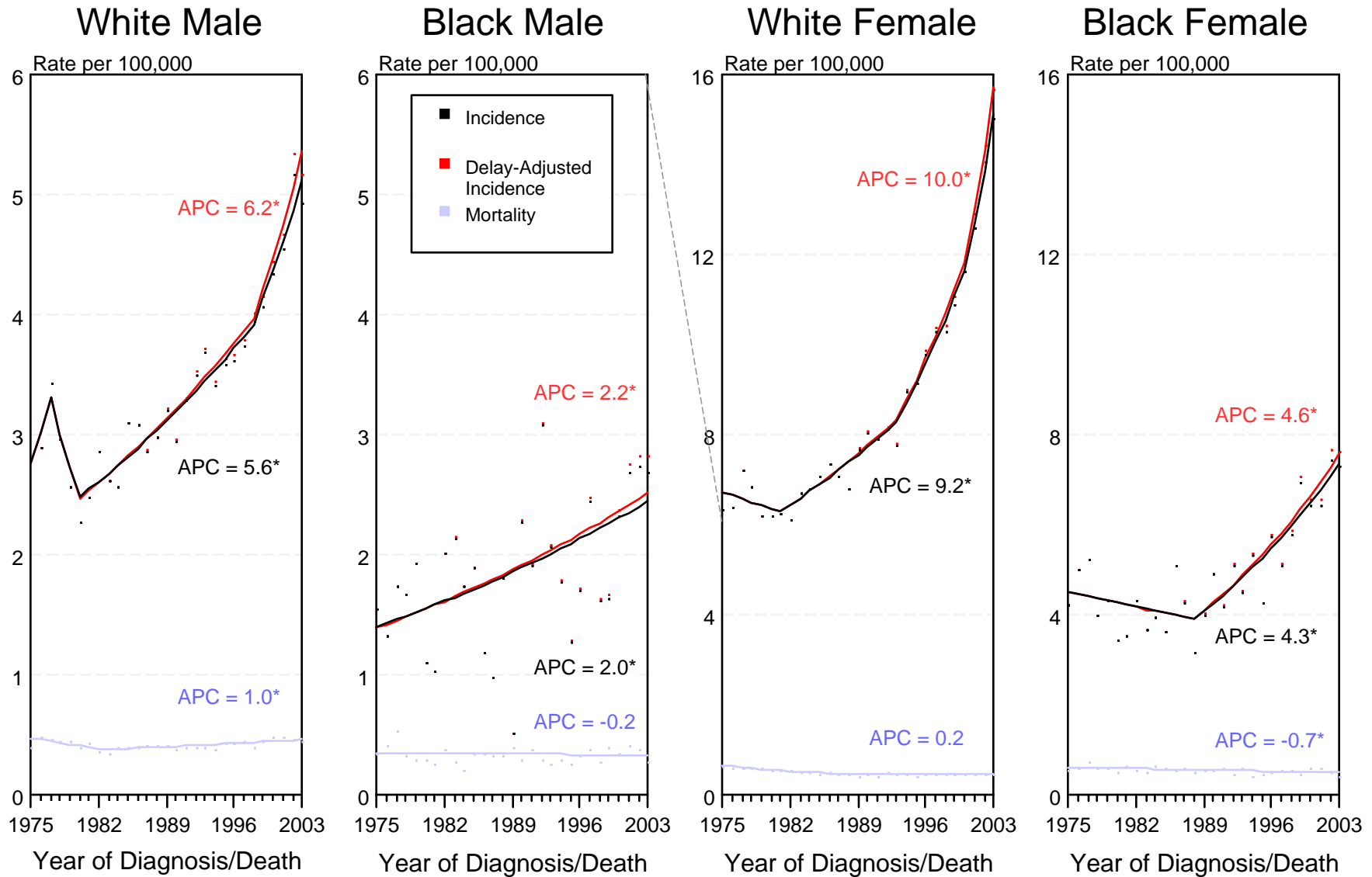


Figure XXVI-1

+ Source: SEER 9 areas and NCHS public use data file for the total US. Rates are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1103). Regression lines and APCs are calculated using the Joinpoint Regression Program Version 3.1, April 2006, National Cancer Institute.

The APC is the Annual Percent Change for the regression line segments. The APC shown on the graph is for the most recent trend.

\* The APC is significantly different from zero ( $p < 0.05$ ).

# SEER Incidence and US Death Rates\* Thyroid Cancer, Both Sexes

Joinpoint Analyses for Whites and Blacks from 1975-2003

and for Asian/Pacific Islanders, American Indians/Alaska Natives and Hispanics from 1992-2003

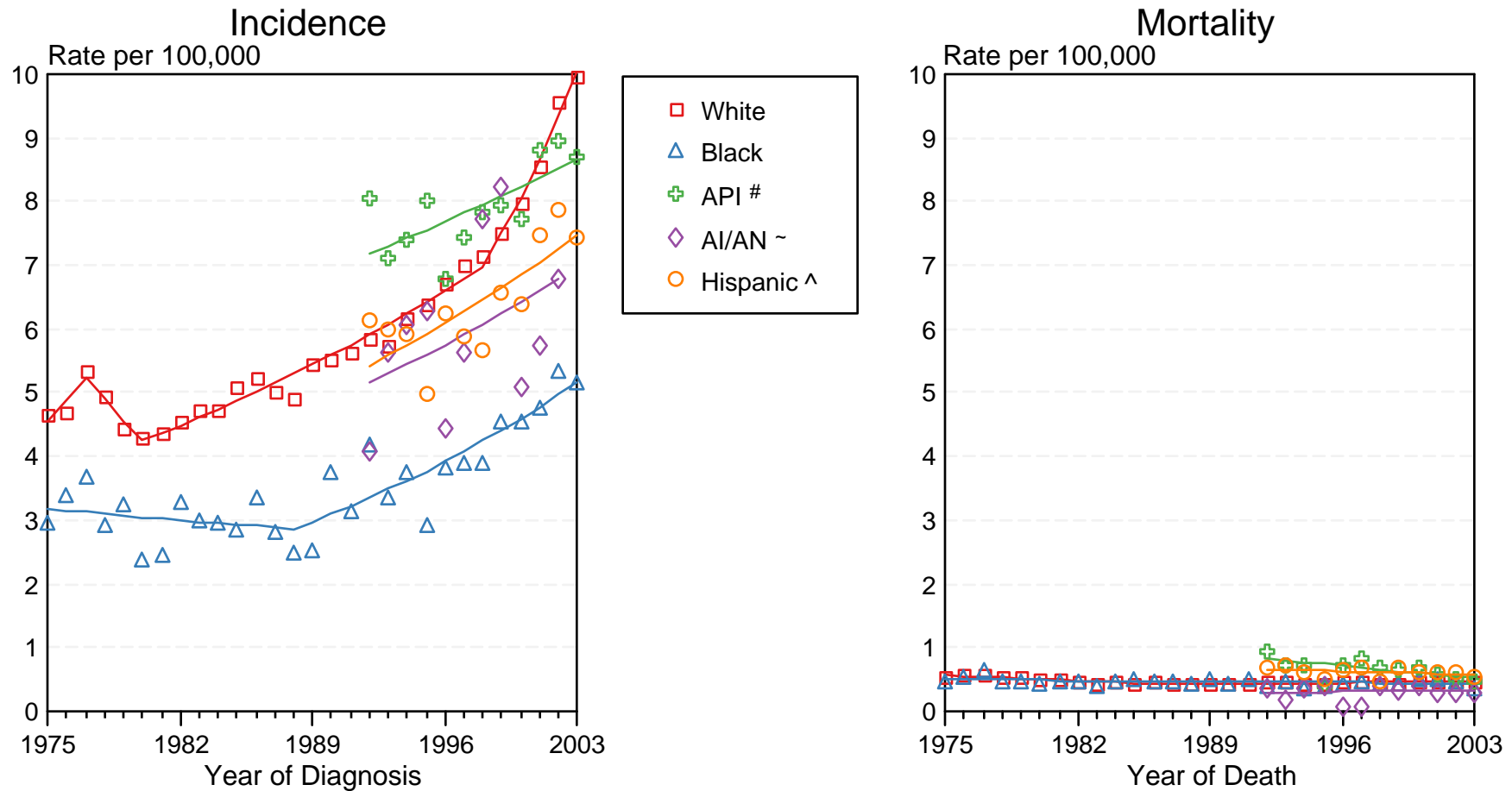


Figure XXVI-2

Source: Incidence data for Whites and Blacks are from the SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta). Incidence data for Asian/Pacific Islanders and Hispanics are from the SEER 13 Areas (SEER 9 Areas, San Jose-Monterey, Los Angeles, Alaska Native Registry and Rural Georgia). Mortality data are from NCHS public use data file for the total US.

\* Rates are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1103).

Regression lines are calculated using the Joinpoint Regression Program Version 3.1, April 2006, National Cancer Institute.

# API = Asian/Pacific Islander.

~ AI/AN = American Indian/Alaska Native. Incidence data for AI/AN include cases from Connecticut, Detroit, Iowa, New Mexico, Seattle, Utah, Atlanta and the Alaska Native Registry for the time period 1992-2002. Mortality data are from the entire US for the time period 1992-2003.

^ Hispanic is not mutually exclusive from Whites, Blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives. Incidence data for Hispanics are based on NHIA and exclude cases from Hawaii, Seattle, and the Alaska Native Registry. Mortality data for Hispanics exclude cases from Connecticut, Maine, Maryland, Minnesota, New Hampshire, New York, North Dakota, Oklahoma, and Vermont.