

Table XXV-1
THYROID CANCER (Invasive)

TRENDS IN SEER INCIDENCE^a AND U.S. MORTALITY^b USING THE JOINPOINT REGRESSION PROGRAM, 1973-1999
WITH UP TO THREE JOINPOINTS BY RACE AND SEX

	<u>All Races</u>		<u>Whites</u>		<u>Blacks</u>	
	<u>Year</u>	<u>APC</u>	<u>Year</u>	<u>APC</u>	<u>Year</u>	<u>APC</u>
<u>SEER Cancer Incidence^a</u>						
Sex - Male and Female	1973-77	5.7★	1973-77	6.6★	1973-99	1.3★
	1977-80	-7.0	1977-80	-6.9		
	1980-99	2.6★	1980-99	2.9★		
Sex - Male	1973-77	7.4	1973-77	8.4★	1973-99	1.1
	1977-80	-9.2	1977-80	-9.1		
	1980-99	2.1★	1980-99	2.5★		
Sex - Female	1973-77	5.2	1973-77	5.5	1973-88	-1.1
	1977-80	-6.2	1977-81	-3.7	1988-99	4.3★
	1980-99	2.8★	1981-99	3.1★		
<u>U.S. Cancer Mortality^b</u>						
Sex - Male and Female	1973-85	-2.3★	1973-87	-2.1★	1973-99	-0.9★
	1985-99	0.1	1987-99	0.3		
Sex - Male	1973-77	3.4	1973-77	4.4	1973-99	-0.9
	1977-83	-3.7	1977-83	-3.7		
	1983-99	0.9★	1983-99	0.9★		
Sex - Female	1973-87	-2.6★	1973-88	-2.7★	1973-99	-1.1★
	1987-99	0.0	1988-99	0.2		

The APC is the Annual Percent Change based on rates age-adjusted to the 2000 U.S. standard population by 5-year age groups using the Joinpoint Regression Program.

Trends are from the SEER 9 areas.

Trends are from the NCHS public use data file.

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

^a
^b
 ★

Table XXV-2
THYROID CANCER (Invasive)

SEER INCIDENCE 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>AGE-ADJUSTED RATES</u>									
<u>YEAR OF DIAGNOSIS:</u>									
1973	4.2	2.3	5.9	4.0	2.2	5.6	3.0	-	-
1974	4.7	3.0	6.3	4.5	2.9	6.0	3.1	-	4.6
1975	4.8	3.1	6.4	4.6	2.8	6.3	2.9	-	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	5.3	3.4	7.2	3.7	-	5.3
1978	5.1	3.1	6.9	4.9	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	2.3	-	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	-	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	7.0	2.8	-	3.6
1986	5.3	3.0	7.5	5.2	3.1	7.4	3.3	-	5.0
1987	5.0	2.8	7.1	5.0	2.9	7.1	2.8	-	4.2
1988	4.9	3.0	6.9	4.9	3.0	6.8	2.5	-	3.2
1989	5.3	3.0	7.6	5.5	3.2	7.7	2.5	-	3.9
1990	5.5	2.9	7.9	5.5	3.0	8.0	3.8	-	5.0
1991	5.5	3.2	7.6	5.7	3.3	7.9	3.1	-	4.1
1992	5.9	3.5	8.1	5.9	3.5	8.2	4.2	3.1	5.0
1993	5.6	3.6	7.6	5.7	3.7	7.7	3.3	-	4.4
1994	6.1	3.4	8.8	6.2	3.4	9.0	3.8	-	5.4
1995	6.2	3.4	9.0	6.4	3.6	9.2	3.0	-	4.3
1996	6.5	3.5	9.4	6.7	3.6	9.8	3.7	-	5.6
1997	6.8	3.6	9.8	7.0	3.7	10.2	4.0	-	5.3
1998	6.9	3.7	10.0	7.1	3.9	10.2	3.9	-	5.7
1999	7.2	3.8	10.4	7.4	4.0	10.6	4.4	-	6.8
<u>AGE-ADJUSTED RATES, 1995-99</u>									
<u>AGE AT DIAGNOSIS:</u>									
All ages	6.7	3.6	9.7	6.9	3.8	10.0	3.8	1.7	5.6
Under 65	6.3	3.1	9.5	6.6	3.2	9.9	3.3	1.3	5.1
65 and over	9.6	7.3	11.3	9.4	7.4	10.9	7.1	-	8.7
All ages (world std.)ë	5.6	2.9	8.2	5.8	3.0	8.5	3.1	1.3	4.6
<u>AGE-SPECIFIC RATES, 1995-99</u>									
<u>AGE AT DIAGNOSIS:</u>									
0-4	-	-	-	-	-	-	-	-	-
5-9	-	-	-	-	-	-	-	-	-
10-14	0.4	-	0.7	0.4	-	-	-	-	-
15-19	1.8	0.5	3.1	1.9	-	3.4	-	-	-
20-24	4.4	1.3	7.7	4.8	1.5	8.2	-	-	-
25-29	7.4	2.9	11.8	7.8	3.1	12.6	3.3	-	5.2
30-34	8.1	2.7	13.5	8.6	2.9	14.4	4.1	-	6.1
35-39	9.4	3.6	15.2	10.3	4.0	16.7	3.7	-	6.1
40-44	9.2	4.2	14.1	9.4	4.4	14.4	4.2	-	6.5
45-49	10.7	5.6	15.8	10.9	5.9	16.0	5.2	-	7.9
50-54	11.7	7.1	16.1	11.7	7.4	15.9	8.5	-	12.8
55-59	11.7	7.7	15.4	11.6	7.8	15.2	7.5	-	9.4
60-64	11.1	8.0	14.0	11.1	8.5	13.6	8.6	-	13.9
65-69	10.7	8.4	12.6	10.6	9.0	11.9	-	-	-
70-74	10.1	7.8	11.9	9.6	7.7	11.2	-	-	-
75-79	9.6	7.0	11.5	9.9	7.0	12.0	-	-	-
80-84	8.6	6.4	9.9	7.9	5.6	9.3	-	-	-
85+	7.6	5.8	8.4	7.2	5.7	7.8	-	-	-

§ SEER 9 areas. Rates are per 100,000 and are age-adjusted to the 2000 U.S. standard population by 5-year age groups, unless noted.

ë SEER 9 areas. Rates are per 100,000 and are age-adjusted to the world standard population.

- Statistic not shown. Rate based on less than 25 cases for the time interval.

Table XXV-3
THYROID CANCER (Invasive)U.S. DEATH RATES, AGE-ADJUSTED AND AGE-SPECIFIC RATES^ä, BY RACE AND SEX

	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
<u>AGE-ADJUSTED RATES</u>									
<u>YEAR OF DEATH:</u>									
1973	0.6	0.4	0.7	0.6	0.4	0.7	0.6	0.5	0.8
1974	0.6	0.4	0.7	0.6	0.4	0.7	0.5	0.4	0.6
1975	0.5	0.4	0.6	0.5	0.4	0.6	0.5	-	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	-	0.6
1979	0.5	0.4	0.6	0.5	0.5	0.6	0.5	-	0.6
1980	0.5	0.4	0.5	0.5	0.4	0.5	0.4	-	0.5
1981	0.5	0.4	0.5	0.5	0.4	0.5	0.5	-	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	-	0.5
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	-	0.6
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	0.5	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	0.5	0.4	0.4	0.4	0.4	0.5
<u>AGE-ADJUSTED RATES, 1995-99</u>									
<u>AGE AT DEATH:</u>									
All ages	0.5	0.4	0.5	0.5	0.4	0.5	0.4	0.3	0.5
Under 65	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
65 and over	2.6	2.3	2.8	2.6	2.4	2.7	2.5	1.7	3.0
All ages (world std.) ^ö	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3
<u>AGE-SPECIFIC RATES, 1995-99</u>									
<u>AGE AT DEATH:</u>									
0-4	-	-	-	-	-	-	-	-	-
5-9	-	-	-	-	-	-	-	-	-
10-14	-	-	-	-	-	-	-	-	-
15-19	-	-	-	-	-	-	-	-	-
20-24	-	-	-	-	-	-	-	-	-
25-29	-	-	-	-	-	-	-	-	-
30-34	0.0	-	-	0.0	-	-	-	-	-
35-39	0.1	0.0	0.1	0.0	-	-	-	-	-
40-44	0.1	0.1	0.1	0.1	0.1	0.1	-	-	-
45-49	0.2	0.2	0.2	0.2	0.2	0.2	-	-	-
50-54	0.3	0.4	0.3	0.3	0.4	0.3	0.4	-	-
55-59	0.6	0.6	0.6	0.6	0.7	0.6	0.6	-	-
60-64	1.0	1.0	0.9	1.0	1.1	0.9	0.9	-	1.1
65-69	1.5	1.6	1.4	1.5	1.7	1.3	1.4	-	1.6
70-74	2.0	2.0	2.0	2.0	2.0	1.9	2.1	1.8	2.4
75-79	2.8	2.5	3.0	2.8	2.6	2.9	2.6	-	3.5
80-84	3.8	3.0	4.2	3.7	3.0	4.2	3.2	-	3.9
85+	4.8	3.6	5.3	4.8	3.5	5.3	4.7	-	5.4

ä NCHS public use data file. Rates are per 100,000 and are age-adjusted to the 2000 U.S. standard population by 5-year age groups, unless noted.

ö NCHS public use data file. Rates are per 100,000 and are age-adjusted to the world standard population.

- Statistic not shown. Rate based on less than 25 cases for the time interval.

Table XXV-4
 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
<u>5-YR RELATIVE SURVIVAL RATES</u>									
YEAR OF DIAGNOSIS:									
1960-63 ^a	-	-	-	83	75	87	-	-	-
1970-73 ^a	-	-	-	86	82	87	-	-	-
1974-76 ^b	92.2	90.6	92.7	92.2	90.8	92.5	87.9	76.8↑	90.8
1977-79 ^b	92.5	89.8	93.4	92.3	90.4	92.9	91.8	67.2↑	96.7
1980-82 ^b	94.3	91.8	95.2	93.9	91.2	94.7	94.4	93.6↑	94.0
1983-85 ^b	93.4	89.9	94.6	93.4	89.1	94.5	91.5	92.5↑	90.6
1986-88 ^b	95.3	93.5	95.9	95.1	93.4	95.7	92.6	89.3↑	92.9
1989-91 ^b	95.2	91.1	96.4	95.4	91.9	96.4	87.9	84.1↑	88.8
1992-98 ^b	95.6Û	92.4	96.7Û	96.0Û	92.9	97.0Û	93.3	87.7	94.5
1992-98 ^b									
ALL STAGES	95.6	92.4	96.7	96.0	92.9	97.0	93.3	87.7	94.5
LOCALIZED	99.3	98.4	99.6	99.5	98.8	99.7	97.5	93.4↑	98.3
REGIONAL	94.5	93.0	95.2	95.0	93.5	95.7	92.8	93.7↑	91.8
DISTANT	43.7	38.0↑	47.5	44.3	36.9↑	50.3↑	40.5↑	-	-
UNSTAGED	83.5	73.6↑	87.1	82.5	70.2↑	86.4	84.8↑	-	-
<u>STAGE DISTRIBUTION (%) 1992-98^b</u>									
ALL STAGES									
Number of cases	9,766	2,442	7,324	8,116	2,102	6,014	539	111	428
Percent	100%	100%	100%	100%	100%	100%	100%	100%	100%
LOCALIZED	64	54	67	64	54	68	68	52	72
REGIONAL	28	35	26	28	36	26	21	27	20
DISTANT	4	7	3	4	7	3	6	11	4
UNSTAGED	4	4	4	4	4	4	5	10	4
<u>5-YR RELATIVE SURVIVAL RATES, 1992-98^b</u>									
AGE AT DIAGNOSIS:									
<45	99.2	97.5	99.6	99.1	97.6	99.6	98.9	93.8	99.6
45-54	97.4	94.2	98.5	98.0	94.8	99.2	92.1	-	92.1
55-64	93.1	90.2	94.5	93.1	90.9	94.3	86.7↑	-	90.9↑
65-74	88.5	84.4	90.5	89.8	85.0	92.3	88.0↑	-	86.5↑
75+	65.4	63.8↑	66.0	66.2	60.9↑	67.9	52.5↑	-	53.6↑
Under 65	97.9	95.1	98.8	98.0	95.5	98.9	95.6	90.2	96.9
65 and over	81.4	79.2	82.4	82.8	79.2	84.2	77.8↑	-	73.7↑

^a

^b

Rates are based on End Results data from a series of hospital registries and one population-based registry. Rates are from the SEER 9 areas. They are based on data from population-based registries in Connecticut, New Mexico, Utah, Iowa, Hawaii, Atlanta, Detroit, Seattle-Puget Sound and San Francisco-Oakland. Rates are based on follow-up of patients into 1999.

The difference in rates between 1974-76 and 1992-98 is statistically significant ($p < .05$).

The standard error of the survival rate is between 5 and 10 percentage points.

The standard error of the survival rate is greater than 10 percentage points.

Statistic could not be calculated.

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Table XXV-5
THYROID CANCER (Invasive)

INCIDENCE, DEATH, AND SURVIVAL RATES*

By Year of Diagnosis/Death

All Races, Males and Females

Year of Diagnosis/Death

	1975	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Incidence																					
SEER ^a	4.8	4.3	4.4	4.6	4.7	4.8	5.1	5.3	5.0	4.9	5.3	5.5	5.5	5.9	5.6	6.1	6.2	6.5	6.8	6.9	7.2
Mortality																					
U.S. ^b	0.5	0.5	0.5	0.5	0.4	0.5	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.4	0.4	0.5	0.5	0.4	0.5
SEER ^a	0.5	0.5	0.5	0.4	0.5	0.5	0.4	0.5	0.4	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.5
Relative Survival Rates (SEER ^a)																					
1-year	95.0	95.6	95.5	95.6	95.1	94.5	96.2	96.0	96.0	96.2	95.8	96.5	96.8	95.5	95.4	97.5	96.7	97.0	96.4	97.8	
2-year	93.5	94.9	95.4	94.7	94.9	94.2	95.1	95.4	95.9	95.8	95.3	96.2	96.2	94.7	95.3	97.0	96.2	96.8	96.4		
3-year	93.3	94.6	95.0	94.1	94.3	93.0	93.9	95.4	95.7	95.8	94.6	95.7	95.9	94.5	95.3	96.6	96.1	96.2			
4-year	93.2	94.2	94.8	94.0	94.3	92.7	93.7	95.0	95.7	95.3	94.1	95.7	95.6	94.2	95.2	96.5	96.1				
5-year	93.2	93.8	94.8	94.0	94.3	92.7	93.1	94.7	95.7	95.3	94.1	95.7	94.9	93.6	95.2	96.2					
6-year	92.7	93.8	94.8	94.0	93.9	92.7	93.0	94.5	95.6	95.3	94.1	95.7	94.8	93.6	95.2						
7-year	92.7	93.8	94.6	94.0	93.4	92.7	93.0	93.4	95.2	95.3	94.1	95.6	94.8	93.6							
8-year	92.6	93.8	94.6	93.9	93.2	92.7	93.0	93.3	95.2	95.3	94.1	95.6	94.7								
9-year	92.6	93.8	94.6	93.3	93.2	92.7	92.4	93.3	95.2	95.2	94.1	95.6									
10-year	92.6	93.8	94.1	92.9	93.2	92.6	92.3	93.1	95.0	94.8	94.1										
11-year	92.6	93.2	93.7	92.9	93.0	92.4	92.3	93.1	95.0	94.8											
12-year	92.6	93.1	93.2	92.9	92.9	92.4	92.3	92.5	94.8												
13-year	92.6	93.1	93.2	92.9	92.8	92.4	92.3	92.5													
14-year	92.6	93.1	93.2	92.9	91.2	92.2	92.3														
15-year	92.6	93.1	93.2	92.8	91.1	91.3															
16-year	92.6	93.1	93.2	92.8	90.9																
17-year	92.6	93.1	93.2	92.3																	
18-year	92.6	93.1	93.2																		
19-year	92.6	93.1																			
20-year	92.5																				
21-year	92.5																				
22-year	92.5																				
23-year	92.5																				
24-year	91.9																				

^a Rates are from the SEER 9 areas.

^b Rates are from the NCHS public use data file.

* Incidence and death rates are per 100,000 and are age-adjusted to the 2000 U.S. standard population by 5-year age groups.

Survival rates are relative rates expressed as percents.

Table XXV-6
THYROID CANCER (Invasive)

INCIDENCE, DEATH, AND SURVIVAL RATES*

By Year of Diagnosis/Death

All Races, Males

Year of Diagnosis/Death

	1975	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Incidence																					
SEER ^a	3.1	2.4	2.5	3.0	2.8	2.6	3.1	3.0	2.8	3.0	3.0	2.9	3.2	3.5	3.6	3.4	3.4	3.5	3.6	3.7	3.8
Mortality																					
U.S. ^b	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.4
SEER ^a	0.3	0.5	0.5	0.3	0.4	0.5	0.4	0.3	0.4	0.4	0.4	0.3	0.5	0.4	0.5	0.5	0.4	0.4	0.5	0.4	0.5
Relative Survival Rates (SEER ^a)																					
1-year	96.2	92.1	90.9	97.7	92.8	88.8	94.7	96.3	97.6	91.9	94.6	93.9	95.3	93.9	94.0	96.7	93.7	94.1	92.0	97.4	
2-year	94.0	90.4	90.9	97.6	92.3	88.5	94.2	94.1	97.6	91.2	93.4	92.7	92.7	92.8	93.1	95.6	92.2	94.1	91.2		
3-year	94.0	88.1	90.6	97.4	91.4	88.1	92.8	94.1	97.4	90.9	93.4	91.9	91.5	92.3	92.9	95.2	92.2	93.0			
4-year	94.0	88.1	89.4	96.8	91.4	87.2	91.8	94.1	97.2	89.3	90.8	91.9	91.5	91.9	91.4	95.2	92.2				
5-year	93.8	87.4	89.4	96.8	91.4	86.7	89.6	93.7	97.2	89.3	90.8	91.9	90.0	91.4	91.4	94.5					
6-year	93.1	87.4	88.5	96.7	91.4	86.7	89.4	93.1	96.3	89.3	90.8	91.9	89.2	91.4	91.4						
7-year	93.0	86.4	88.5	95.9	91.4	86.7	89.4	91.3	92.8	89.3	90.8	91.9	88.8	91.4							
8-year	92.8	86.4	88.5	95.6	91.4	86.7	88.2	91.2	92.8	88.7	90.8	91.9	88.8								
9-year	92.2	86.4	88.5	95.3	91.4	85.9	87.6	89.7	91.8	87.9	90.8	91.9									
10-year	92.2	86.4	88.2	94.4	91.4	85.9	87.6	89.7	89.5	87.9	90.8										
11-year	92.2	85.0	88.0	94.4	91.3	84.8	87.6	89.6	89.5	87.9											
12-year	92.2	85.0	86.0	94.4	90.9	84.8	87.6	89.5	89.5												
13-year	92.2	85.0	86.0	94.4	90.0	84.8	87.6	89.4													
14-year	91.5	85.0	85.7	94.4	86.7	84.8	87.6														
15-year	90.8	85.0	85.5	94.0	86.7	84.8															
16-year	90.8	85.0	85.5	93.7	86.7																
17-year	90.8	85.0	85.5	93.2																	
18-year	90.8	85.0	85.5																		
19-year	90.8	85.0																			
20-year	90.8																				
21-year	90.8																				
22-year	90.8																				
23-year	90.8																				
24-year	90.8																				

^a Rates are from the SEER 9 areas.

^b Rates are from the NCHS public use data file.

* Incidence and death rates are per 100,000 and are age-adjusted to the 2000 U.S. standard population by 5-year age groups.

Survival rates are relative rates expressed as percents.

Table XXV-7
THYROID CANCER (Invasive)

INCIDENCE, DEATH, AND SURVIVAL RATES*

By Year of Diagnosis/Death

All Races, Females

Year of Diagnosis/Death

	1975	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Incidence																					
SEER ^a	6.4	6.1	6.2	6.1	6.5	6.9	7.1	7.5	7.1	6.9	7.6	7.9	7.6	8.1	7.6	8.8	9.0	9.4	9.8	10.0	10.4
Mortality																					
U.S. ^b	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.5
SEER ^a	0.6	0.5	0.5	0.5	0.6	0.4	0.5	0.6	0.4	0.5	0.4	0.4	0.5	0.5	0.6	0.4	0.4	0.5	0.4	0.5	0.5
Relative Survival Rates (SEER ^a)																					
1-year	94.5	96.7	97.0	94.8	95.9	96.2	96.8	95.9	95.5	97.7	96.2	97.3	97.3	96.1	96.0	97.7	97.7	97.9	97.8	97.9	
2-year	93.3	96.4	96.6	93.6	95.8	95.9	95.4	95.8	95.4	97.3	95.9	97.3	97.3	95.5	96.0	97.5	97.4	97.6	97.8		
3-year	93.0	96.4	96.5	92.8	95.3	94.4	94.3	95.5	95.2	97.3	95.0	96.8	97.3	95.3	96.0	97.0	97.3	97.2			
4-year	92.9	96.1	96.5	92.8	95.3	94.4	94.3	95.3	95.2	97.3	95.0	96.8	96.8	95.1	96.0	96.8	97.3				
5-year	92.9	95.8	96.5	92.8	94.7	94.4	94.3	95.0	95.2	97.1	95.0	96.8	96.6	94.4	96.0	96.7					
6-year	92.5	95.7	96.5	92.8	94.2	94.4	94.3	94.9	95.2	97.1	95.0	96.8	96.6	94.2	96.0						
7-year	92.5	95.7	96.3	92.8	93.7	94.4	94.3	94.0	95.2	97.1	95.0	96.3	96.6	94.2							
8-year	92.5	95.7	96.3	92.8	93.3	94.4	94.3	93.9	95.2	97.1	95.0	96.3	96.6								
9-year	92.5	95.7	96.3	92.7	93.3	94.4	94.1	93.9	95.2	97.1	95.0	96.3									
10-year	92.5	95.7	96.0	92.4	93.3	94.4	93.3	93.9	95.2	96.5	95.0										
11-year	92.5	95.6	95.5	92.3	93.3	94.4	93.2	93.9	95.2	96.3											
12-year	92.5	95.4	95.5	92.3	93.3	94.4	93.1	93.4	95.2												
13-year	92.5	95.4	95.5	92.3	93.3	94.4	93.1	93.4													
14-year	92.5	95.1	95.5	92.3	92.7	93.8	93.1														
15-year	92.5	95.1	95.5	92.3	92.5	92.9															
16-year	92.5	94.7	95.5	92.3	91.8																
17-year	92.5	94.7	95.5	92.1																	
18-year	92.5	94.7	95.5																		
19-year	92.5	94.7																			
20-year	92.4																				
21-year	92.3																				
22-year	91.7																				
23-year	91.5																				
24-year	91.3																				

^a Rates are from the SEER 9 areas.

^b Rates are from the NCHS public use data file.

* Incidence and death rates are per 100,000 and are age-adjusted to the 2000 U.S. standard population by 5-year age groups.

Survival rates are relative rates expressed as percents.

Table XXV-8
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 (12 SEER Areas) With Cancer and
 Lifetime Risk (Percent) of Dying (Total U.S.) From Cancer

1997-1999

All Races

Current Age	Males				Females				
	+10 yrs	+20 yrs	+30 yrs	Eventually	+10 yrs	+20 yrs	+30 yrs	Eventually	
0	0.00	0.00	0.02	0.30	0.00	0.02	0.11	0.82	
10	0.00	0.02	0.05	0.30	0.02	0.11	0.25	0.82	
20	0.02	0.05	0.09	0.30	0.09	0.23	0.38	0.81	
30	0.03	0.08	0.15	0.28	0.14	0.29	0.45	0.72	
40	0.05	0.12	0.18	0.26	0.15	0.31	0.44	0.59	
50	0.07	0.14	0.19	0.22	0.16	0.30	0.39	0.45	
60	0.07	0.13	0.15	0.16	0.14	0.24	0.29	0.30	
Lifetime Risk of Being Diagnosed =				0.30%	Lifetime Risk of Being Diagnosed =				0.82%
Lifetime Risk of Dying =				0.04%	Lifetime Risk of Dying =				0.06%

Whites

Current Age	Males				Females				
	+10 yrs	+20 yrs	+30 yrs	Eventually	+10 yrs	+20 yrs	+30 yrs	Eventually	
0	0.00	0.00	0.02	0.31	0.00	0.02	0.12	0.84	
10	0.00	0.02	0.06	0.31	0.02	0.12	0.27	0.84	
20	0.02	0.05	0.10	0.31	0.10	0.25	0.40	0.83	
30	0.03	0.08	0.15	0.29	0.16	0.31	0.46	0.73	
40	0.05	0.12	0.19	0.26	0.15	0.31	0.44	0.58	
50	0.07	0.15	0.20	0.22	0.16	0.29	0.38	0.44	
60	0.08	0.13	0.15	0.16	0.13	0.23	0.28	0.29	
Lifetime Risk of Being Diagnosed =				0.31%	Lifetime Risk of Being Diagnosed =				0.84%
Lifetime Risk of Dying =				0.04%	Lifetime Risk of Dying =				0.06%

Blacks

Current Age	Males				Females				
	+10 yrs	+20 yrs	+30 yrs	Eventually	+10 yrs	+20 yrs	+30 yrs	Eventually	
0	0.00	0.00	0.01	0.13	0.00	0.01	0.04	0.44	
10	0.00	0.01	0.02	0.13	0.01	0.04	0.09	0.45	
20	0.01	0.02	0.04	0.13	0.03	0.09	0.16	0.45	
30	0.01	0.04	0.08	0.13	0.06	0.13	0.23	0.42	
40	0.03	0.07	0.09	0.12	0.08	0.17	0.27	0.37	
50	0.05	0.07	0.09	0.11	0.10	0.20	0.26	0.30	
60	0.03	0.06	0.07	0.07	0.11	0.17	0.21	0.22	
Lifetime Risk of Being Diagnosed =				0.13%	Lifetime Risk of Being Diagnosed =				0.44%
Lifetime Risk of Dying =				0.02%	Lifetime Risk of Dying =				0.05%

Table XXV-9
 THYROID CANCER (Invasive)

AGE-ADJUSTED SEER INCIDENCE AND U.S. DEATH RATES

By Race/Ethnicity and Sex

Incidenceⁱ

RACE/ETHNICITY	Rate 1992-1999			Trend 1992-1999		
	Rate per 100,000 persons			EAPC (%)		
	Total	Males	Females	Total	Males	Females
All Races	6.3	3.5	9.0	3.2★	1.2	3.9★
White	6.4	3.6	9.3	3.5★	1.6	4.2★
White Hispanic	6.1	2.6	9.3	0.3	-2.7	1.1
White Non-Hispanic	6.6	3.7	9.4	3.7★	1.9	4.5★
Black	3.6	1.9	5.0	1.9	-4.1	3.7★
Asian/Pacific Islander	7.9	3.9	11.5	1.0	0.0	1.2
Amer Ind/Alaska Nat	3.9	-	5.6	-	-	-
Hispanic [⊗]	5.7	2.5	8.8	0.4	-3.1	1.3

Mortality[❖]

RACE/ETHNICITY	Rate 1992-1999			Trend 1992-1999		
	Rate per 100,000 persons			EAPC (%)		
	Total	Males	Females	Total	Males	Females
All Races	0.5	0.4	0.5	0.0	1.8	-0.8
White	0.4	0.4	0.5	-0.1	1.7	-0.9
White Hispanic	0.6	0.4	0.7	-1.7	3.2	-3.5
White Non-Hispanic	0.4	0.4	0.4	0.2	2.0	-0.6
Black	0.4	0.3	0.5	1.4	3.9	0.7
Asian/Pacific Islander	0.7	0.5	0.9	-2.6	-	-3.3
Amer Ind/Alaska Nat	0.3	-	-	-	-	-
Hispanic [⊗]	0.6	0.4	0.7	-1.8	3.2	-3.5

- The EAPC is the Estimated Annual Percent Change over the time interval.
 - Statistic not shown. Rate based on less than 25 cases for the time interval. Trend based on less than 10 cases for at least one year within the time interval.
 i Incidence data are from the 12 SEER areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, and Alaska Native Registry).
 ⊗ Hispanic is not mutually exclusive from whites, blacks, Asian Pacific Islanders, and American Indians/Alaska Natives. Incidence data for Hispanics does not include cases from Detroit, Hawaii and Alaska Native Registry. For mortality, information is included for all states except Connecticut, Oklahoma, New York, and New Hampshire.
 ❖ Mortality data are analyzed from a public use file provided by the National Center for Health Statistics (NCHS).
 ★ The EAPC is significantly different from zero (p<.05).

Table XXV-10
THYROID CANCER (Invasive)AGE-ADJUSTED SEER INCIDENCE RATES§ AND SEER DEATH RATESä
By Registry, Race and Sex

	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
<u>SEER INCIDENCE RATES§, 1995-99</u>									
REGISTRY									
11 registries	6.6	3.5	9.5	6.8	3.6	9.8	3.6	1.7	5.2
9 registries	6.7	3.6	9.7	6.9	3.8	10.0	3.8	1.7	5.6
San Francisco-Oakland	6.1	3.2	8.9	6.2	3.3	9.2	2.6	-	3.6
Connecticut	6.5	3.9	8.9	6.6	4.1	9.0	3.1	-	4.6
Metropolitan Detroit	6.8	3.6	9.6	7.4	4.1	10.6	4.3	1.6	6.4
Hawaii	8.6	4.8	12.5	6.7	4.8	8.9	-	-	-
Iowa	6.7	3.6	9.6	6.7	3.6	9.7	-	-	-
New Mexico	7.3	3.8	10.7	7.7	3.9	11.4	-	-	-
Seattle-Puget Sound	7.0	3.4	10.5	6.9	3.5	10.3	3.8	-	-
Utah	8.1	4.0	12.0	8.2	4.1	12.2	-	-	-
Metropolitan Atlanta	5.6	3.0	8.0	6.1	3.4	8.8	4.1	-	6.0
San Jose-Monterey	6.8	3.8	9.9	6.5	3.8	9.4	-	-	-
Los Angeles	6.1	3.1	9.0	6.4	3.3	9.5	3.1	1.8	4.2
<u>SEER DEATH RATESä, 1995-99</u>									
REGISTRY									
11 registries	0.5	0.4	0.5	0.5	0.4	0.5	0.3	-	-
9 registries	0.4	0.4	0.4	0.4	0.4	0.4	0.3	-	-
San Francisco-Oakland	0.5	0.4	0.5	0.4	0.4	0.4	-	-	-
Connecticut	0.4	0.5	0.4	0.4	0.5	0.4	-	-	-
Metropolitan Detroit	0.4	0.4	0.4	0.4	-	0.4	-	-	-
Hawaii	0.6	-	-	-	-	-	-	-	-
Iowa	0.4	0.4	0.4	0.4	0.4	0.4	-	-	-
New Mexico	0.6	-	0.7	0.6	-	0.8	-	-	-
Seattle-Puget Sound	0.4	0.4	0.4	0.4	0.4	0.4	-	-	-
Utah	0.4	-	-	0.4	-	-	-	-	-
Metropolitan Atlanta	0.3	-	-	-	-	-	-	-	-
San Jose-Monterey	0.6	-	0.7	0.7	-	0.7	-	-	-
Los Angeles	0.5	0.4	0.6	0.5	0.4	0.6	-	-	-

Note: San Jose-Monterey and Los Angeles are new SEER areas as of 1992 and their data are only used in tables where indicated.
 § SEER 9 areas. Incidence rates are per 100,000 and are age-adjusted to the 2000 U.S. standard population by 5-year age groups.
 ä NCHS public use data file. Death rates are per 100,000 and are age-adjusted to the 2000 U.S. standard population by 5-year age groups.
 - Statistic could not be calculated or populations are inadequate.

Table XXV-11
THYROID CANCER (Invasive)AVERAGE ANNUAL AGE-ADJUSTED CANCER DEATH^ä RATES BY STATE, 1995-99

All Races, Males and Females

State	Rate	SE	Rank	PD	State	Rate	SE	Rank	PD
TOTAL U.S.	0.5	0.01							
High Five States									
New Mexico	0.6*	0.09	(01)	20.0					
Hawaii	0.6*	0.11	(02)	20.0					
North Dakota	0.6*	0.13	(03)	20.0					
Kentucky	0.6*	0.05	(04)	20.0					
Wyoming	0.5	0.16	(05)	0.0					
Low Five States									
Montana	0.4*	0.09	(47)	-20.0					
Georgia	0.3*	0.03	(48)	-40.0					
Idaho	0.3*	0.08	(49)	-40.0					
Oklahoma	0.3*	0.04	(50)	-40.0					
New Hampshire	0.3*	0.08	(51)	-40.0					
Alabama	0.4*	0.04	(46)	-20.0	Montana	0.4*	0.09	(47)	-20.0
Alaska	0.4*	0.17	(45)	-20.0	Nebraska	0.4*	0.07	(39)	-20.0
Arizona	0.4*	0.04	(29)	-20.0	Nevada	0.4*	0.08	(34)	-20.0
Arkansas	0.4*	0.05	(44)	-20.0	New Hampshire	0.3*	0.08	(51)	-40.0
California	0.5	0.02	(13)	0.0	New Jersey	0.5	0.03	(17)	0.0
Colorado	0.5	0.06	(09)	0.0	New Mexico	0.6*	0.09	(01)	20.0
Connecticut	0.4*	0.05	(28)	-20.0	New York	0.5	0.02	(07)	0.0
Delaware	0.5	0.12	(16)	0.0	North Carolina	0.4*	0.03	(38)	-20.0
District of Columbia	0.5	0.14	(06)	0.0	North Dakota	0.6*	0.13	(03)	20.0
Florida	0.4*	0.02	(35)	-20.0	Ohio	0.5	0.03	(21)	0.0
Georgia	0.3*	0.03	(48)	-40.0	Oklahoma	0.3*	0.04	(50)	-40.0
Hawaii	0.6*	0.11	(02)	20.0	Oregon	0.5	0.06	(08)	0.0
Idaho	0.3*	0.08	(49)	-40.0	Pennsylvania	0.5	0.03	(18)	0.0
Illinois	0.4*	0.03	(30)	-20.0	Rhode Island	0.4*	0.08	(43)	-20.0
Indiana	0.5	0.04	(14)	0.0	South Carolina	0.4*	0.05	(31)	-20.0
Iowa	0.4*	0.05	(24)	-20.0	South Dakota	0.5	0.11	(19)	0.0
Kansas	0.5	0.06	(22)	0.0	Tennessee	0.4*	0.04	(41)	-20.0
Kentucky	0.6*	0.05	(04)	20.0	Texas	0.5	0.02	(20)	0.0
Louisiana	0.4*	0.05	(27)	-20.0	Utah	0.4*	0.08	(37)	-20.0
Maine	0.4*	0.08	(25)	-20.0	Vermont	0.5	0.13	(15)	0.0
Maryland	0.4*	0.04	(36)	-20.0	Virginia	0.5	0.04	(12)	0.0
Massachusetts	0.4*	0.04	(23)	-20.0	Washington	0.4*	0.04	(42)	-20.0
Michigan	0.4*	0.03	(40)	-20.0	West Virginia	0.5	0.07	(10)	0.0
Minnesota	0.5	0.05	(11)	0.0	Wisconsin	0.4*	0.04	(32)	-20.0
Mississippi	0.4*	0.06	(26)	-20.0	Wyoming	0.5	0.16	(05)	0.0
Missouri	0.4*	0.04	(33)	-20.0					

^ä NCHS public use data file. Rates are per 100,000 and are age-adjusted to the 2000 U.S. standard population by 5-year age groups.

SE Standard error of the rate.

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

* Absolute percent difference between state rate and total U.S. rate is 15% or more.

⊕ Difference between state rate and total U.S. rate is statistically significant (p<=.0002).

Table XXV-12
THYROID CANCER (Invasive)AVERAGE ANNUAL AGE-ADJUSTED CANCER DEATH^ä RATES BY STATE, 1995-99

All Races, Males

State	Rate	SE	Rank	PD	State	Rate	SE	Rank	PD
TOTAL U.S.	0.4	0.01							
High Five States									
District of Columbia	0.8*	0.28	(01)	100.0					
Delaware	0.6*	0.22	(02)	50.0					
Kansas	0.6*	0.10	(03)	50.0					
West Virginia	0.6*	0.12	(04)	50.0					
Maine	0.5*	0.14	(05)	25.0					
Low Five States									
Michigan	0.4	0.04	(47)	0.0					
Oklahoma	0.3*	0.07	(48)	-25.0					
Georgia	0.3*	0.05	(49)	-25.0					
Idaho	0.2*	0.08	(50)	-50.0					
New Hampshire	0.1⊕*	0.07	(51)	-75.0					
Alabama	0.4	0.07	(36)	0.0	Montana	0.4	0.15	(31)	0.0
Alaska	0.4	0.26	(27)	0.0	Nebraska	0.4	0.10	(45)	0.0
Arizona	0.4	0.07	(19)	0.0	Nevada	0.5*	0.13	(09)	25.0
Arkansas	0.5*	0.09	(14)	25.0	New Hampshire	0.1⊕*	0.07	(51)	-75.0
California	0.4	0.03	(17)	0.0	New Jersey	0.4	0.05	(42)	0.0
Colorado	0.4	0.08	(22)	0.0	New Mexico	0.5*	0.12	(10)	25.0
Connecticut	0.5*	0.08	(12)	25.0	New York	0.5*	0.04	(13)	25.0
Delaware	0.6*	0.22	(02)	50.0	North Carolina	0.4	0.05	(43)	0.0
District of Columbia	0.8*	0.28	(01)	100.0	North Dakota	0.4	0.15	(41)	0.0
Florida	0.4	0.03	(30)	0.0	Ohio	0.5*	0.05	(15)	25.0
Georgia	0.3*	0.05	(49)	-25.0	Oklahoma	0.3*	0.07	(48)	-25.0
Hawaii	0.5*	0.15	(08)	25.0	Oregon	0.4	0.07	(40)	0.0
Idaho	0.2*	0.08	(50)	-50.0	Pennsylvania	0.4	0.04	(37)	0.0
Illinois	0.4	0.04	(24)	0.0	Rhode Island	0.5*	0.15	(07)	25.0
Indiana	0.4	0.06	(25)	0.0	South Carolina	0.4	0.08	(23)	0.0
Iowa	0.4	0.08	(18)	0.0	South Dakota	0.5*	0.18	(06)	25.0
Kansas	0.6*	0.10	(03)	50.0	Tennessee	0.4	0.06	(39)	0.0
Kentucky	0.5*	0.08	(11)	25.0	Texas	0.4	0.04	(33)	0.0
Louisiana	0.4	0.07	(46)	0.0	Utah	0.4	0.12	(29)	0.0
Maine	0.5*	0.14	(05)	25.0	Vermont	0.4	0.18	(38)	0.0
Maryland	0.4	0.07	(32)	0.0	Virginia	0.4	0.06	(21)	0.0
Massachusetts	0.5*	0.06	(16)	25.0	Washington	0.4	0.06	(35)	0.0
Michigan	0.4	0.04	(47)	0.0	West Virginia	0.6*	0.12	(04)	50.0
Minnesota	0.4	0.07	(34)	0.0	Wisconsin	0.4	0.06	(44)	0.0
Mississippi	0.4	0.10	(20)	0.0	Wyoming	0.4	0.22	(26)	0.0
Missouri	0.4	0.06	(28)	0.0					

ä NCHS public use data file. Rates are per 100,000 and are age-adjusted to the 2000 U.S. standard population by 5-year age groups.

SE Standard error of the rate.

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

* Absolute percent difference between state rate and total U.S. rate is 15% or more.

⊕ Difference between state rate and total U.S. rate is statistically significant (p<=.0002).

Table XXV-13
THYROID CANCER (Invasive)AVERAGE ANNUAL AGE-ADJUSTED CANCER DEATH^ä RATES BY STATE, 1995-99

All Races, Females

State	Rate	SE	Rank	PD	State	Rate	SE	Rank	PD
TOTAL U.S.	0.5	0.01							
High Five States									
North Dakota	0.7*	0.19	(01)	40.0					
New Mexico	0.7*	0.13	(02)	40.0					
Hawaii	0.7*	0.15	(03)	40.0					
Wyoming	0.6*	0.22	(04)	20.0					
Kentucky	0.6*	0.07	(05)	20.0					
Low Five States									
Alabama	0.3*	0.05	(47)	-40.0					
Montana	0.3*	0.11	(48)	-40.0					
Alaska	0.3*	0.22	(49)	-40.0					
Arkansas	0.3*	0.06	(50)	-40.0					
Rhode Island	0.2*	0.08	(51)	-60.0					
Alabama	0.3*	0.05	(47)	-40.0	Montana	0.3*	0.11	(48)	-40.0
Alaska	0.3*	0.22	(49)	-40.0	Nebraska	0.4*	0.10	(23)	-20.0
Arizona	0.4*	0.06	(25)	-20.0	Nevada	0.4*	0.10	(42)	-20.0
Arkansas	0.3*	0.06	(50)	-40.0	New Hampshire	0.4*	0.12	(27)	-20.0
California	0.5	0.03	(14)	0.0	New Jersey	0.5	0.05	(11)	0.0
Colorado	0.6*	0.08	(07)	20.0	New Mexico	0.7*	0.13	(02)	40.0
Connecticut	0.4*	0.06	(35)	-20.0	New York	0.6*	0.03	(09)	20.0
Delaware	0.4*	0.14	(40)	-20.0	North Carolina	0.4*	0.04	(32)	-20.0
District of Columbia	0.3*	0.14	(46)	-40.0	North Dakota	0.7*	0.19	(01)	40.0
Florida	0.4*	0.03	(36)	-20.0	Ohio	0.4*	0.04	(22)	-20.0
Georgia	0.3*	0.04	(44)	-40.0	Oklahoma	0.3*	0.06	(45)	-40.0
Hawaii	0.7*	0.15	(03)	40.0	Oregon	0.6*	0.08	(06)	20.0
Idaho	0.5	0.13	(17)	0.0	Pennsylvania	0.5	0.04	(12)	0.0
Illinois	0.4*	0.04	(26)	-20.0	Rhode Island	0.2*	0.08	(51)	-60.0
Indiana	0.5	0.06	(13)	0.0	South Carolina	0.4*	0.06	(28)	-20.0
Iowa	0.4*	0.07	(24)	-20.0	South Dakota	0.4*	0.13	(37)	-20.0
Kansas	0.3*	0.07	(43)	-40.0	Tennessee	0.4*	0.05	(38)	-20.0
Kentucky	0.6*	0.07	(05)	20.0	Texas	0.5	0.03	(16)	0.0
Louisiana	0.5	0.06	(18)	0.0	Utah	0.4*	0.10	(39)	-20.0
Maine	0.4*	0.10	(33)	-20.0	Vermont	0.6*	0.19	(08)	20.0
Maryland	0.4*	0.06	(34)	-20.0	Virginia	0.5	0.05	(15)	0.0
Massachusetts	0.4*	0.05	(29)	-20.0	Washington	0.4*	0.05	(41)	-20.0
Michigan	0.4*	0.04	(30)	-20.0	West Virginia	0.5	0.09	(19)	0.0
Minnesota	0.6*	0.06	(10)	20.0	Wisconsin	0.5	0.05	(21)	0.0
Mississippi	0.5	0.08	(20)	0.0	Wyoming	0.6*	0.22	(04)	20.0
Missouri	0.4*	0.05	(31)	-20.0					

^ä NCHS public use data file. Rates are per 100,000 and are age-adjusted to the 2000 U.S. standard population by 5-year age groups.

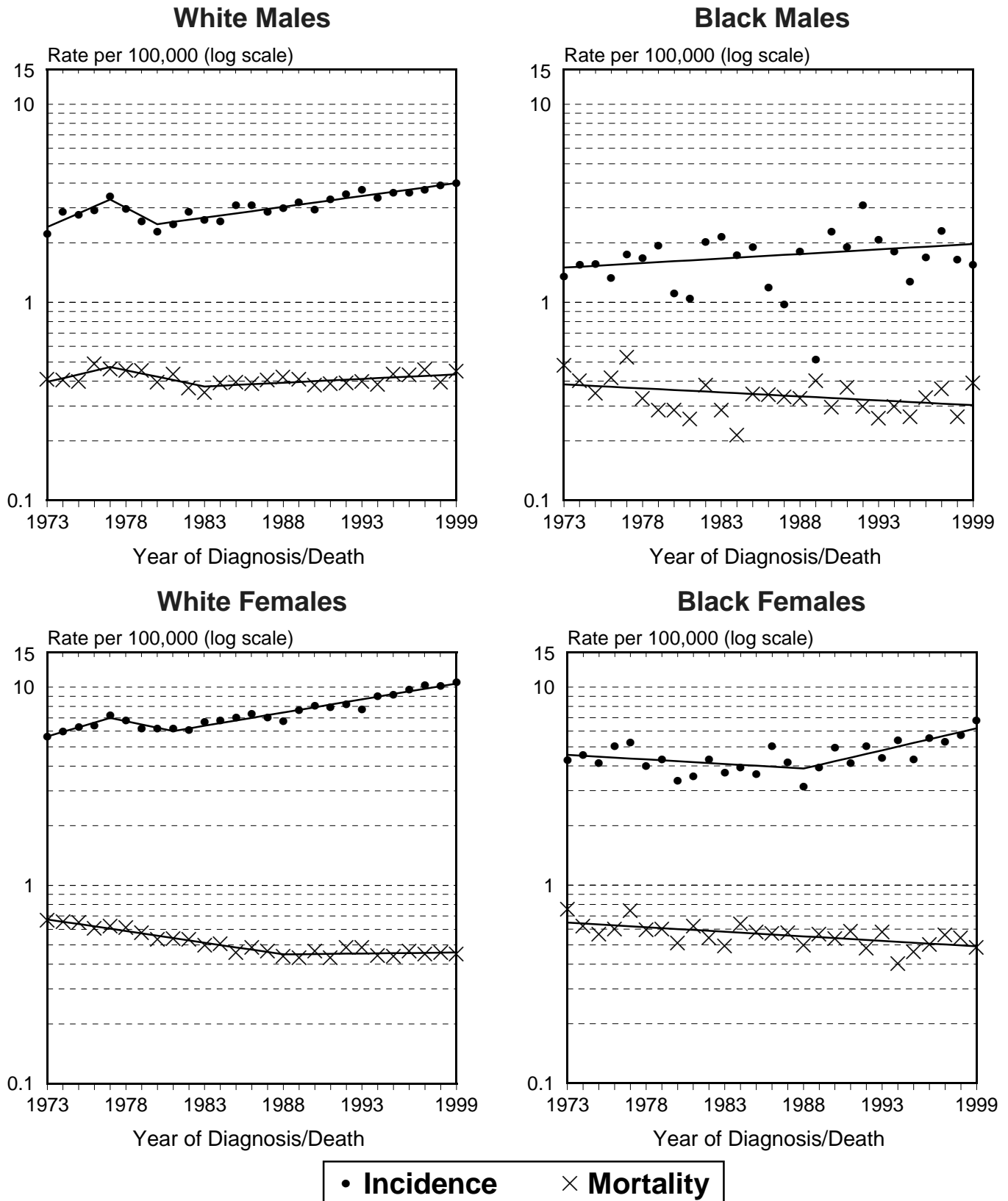
SE Standard error of the rate.

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

* Absolute percent difference between state rate and total U.S. rate is 15% or more.

⊕ Difference between state rate and total U.S. rate is statistically significant (p<=.0002).

SEER Incidence and U.S. Death Rates⁺ Thyroid



⁺ Source: SEER 9 areas and NCHS public use data file. Rates are age-adjusted to the 2000 U.S. standard million population by 5-year age groups. Regression lines are calculated using the Joinpoint Regression Program.