

Table XXIV-1  
TESTIS CANCER (Invasive)

## TRENDS IN SEER INCIDENCE AND U.S. MORTALITY, BY RACE

	All Races, Males	White Males	Black Males
<u>INCIDENCE TRENDS (expressed in percents)§:</u>			
<u>1973-96</u>			
All Ages			
Percent Change (PC)	41.5	51.2	17.3
Est. Annual PC (EAPC)	1.8★	2.1★	0.6
Under 65			
Percent Change (PC)	44.1	53.4	32.5
Est. Annual PC (EAPC)	1.9★	2.2★	0.7
65 and over			
Percent Change (PC)	-14.5	-2.9	-64.5
Est. Annual PC (EAPC)	-1.3	-1.1	-
<u>1975-79 - ALL AGES</u>			
Percent Change (PC)	3.2	4.1	19.5
Est. Annual PC (EAPC)	1.1	1.3	7.0
<u>1992-96 - ALL AGES</u>			
Percent Change (PC)	-2.8	-5.1	87.2
Est. Annual PC (EAPC)	-0.5	-1.1	22.6
<u>MORTALITY TRENDS (expressed in percents)*:</u>			
<u>1973-96</u>			
All Ages			
Percent Change (PC)	-70.0	-69.6	-64.5
Est. Annual PC (EAPC)	-5.3★	-5.2★	-4.0★
Under 65			
Percent Change (PC)	-69.7	-69.2	-57.2
Est. Annual PC (EAPC)	-5.3★	-5.2★	-3.3★
65 and over			
Percent Change (PC)	-71.9	-72.3	-78.0
Est. Annual PC (EAPC)	-5.1★	-5.0★	-5.8★
<u>1975-79 - ALL AGES</u>			
Percent Change (PC)	-27.3	-29.3	18.2
Est. Annual PC (EAPC)	-9.8★	-10.7★	9.7
<u>1992-96 - ALL AGES</u>			
Percent Change (PC)	-12.3	-12.3	-33.2
Est. Annual PC (EAPC)	-3.3◆	-3.3◆	-8.7

The Est. Annual PC is the Estimated Annual Percent Change (EAPC) over the time interval.  
SEER Program.  
NCHS public use tape.  
★ The EAPC is significantly different from zero (p<.05).  
◆ The EAPC for 1992-96 is significantly different from the EAPC for 1975-79 (p<.05).  
◇ The EAPC for 1992-96 is significantly different from the EAPC for 1975-79 (p<.10).  
- Statistic could not be calculated.

Table XXIV-2  
TESTIS CANCER (Invasive)SEER INCIDENCE RATES, AGE-ADJUSTED AND AGE-SPECIFIC RATES<sup>§</sup>, BY RACE

	All Races, Males	White Males	Black Males
<u>AGE-ADJUSTED RATES</u>			
<u>YEAR OF DIAGNOSIS:</u>			
1973	3.0	3.2	0.4
1974	3.3	3.5	1.5
1975	3.3	3.7	0.6
1976	3.2	3.5	1.1
1977	3.8	4.3	0.4
1978	3.2	3.6	1.3
1979	3.5	3.9	0.8
1980	4.0	4.5	0.8
1981	3.8	4.3	0.6
1982	4.0	4.6	0.7
1983	4.2	4.8	1.0
1984	4.0	4.5	0.6
1985	4.1	4.7	1.1
1986	4.3	5.0	0.5
1987	4.4	5.0	0.8
1988	4.1	4.8	0.6
1989	4.9	5.6	1.0
1990	4.5	5.3	0.6
1991	4.6	5.1	0.7
1992	4.6	5.4	0.4
1993	4.5	5.3	0.7
1994	4.9	5.6	1.2
1995	4.2	4.7	1.3
1996	4.6	5.4	0.9
<u>AGE-ADJUSTED RATES, 1992-96</u>			
<u>AGE AT DIAGNOSIS:</u>			
All ages	4.5	5.3	0.9
Under 65	4.9	5.7	1.0
65 and over	1.2	1.2	0.2
All ages (world std.) <sup>§</sup>	4.8	5.5	1.0
<u>AGE-SPECIFIC RATES, 1992-96</u>			
<u>AGE AT DIAGNOSIS:</u>			
0-4	0.5	0.4	0.2
5-9	0.1	0.0	0.3
10-14	0.1	0.1	0.2
15-19	3.2	3.9	0.4
20-24	7.7	9.0	2.0
25-29	13.6	16.0	2.5
30-34	13.9	16.2	1.9
35-39	11.5	13.0	2.8
40-44	8.2	9.2	1.4
45-49	5.4	6.1	0.8
50-54	3.3	3.7	0.4
55-59	2.0	2.3	0.5
60-64	1.7	1.8	1.2
65-69	1.7	2.0	0.6
70-74	1.0	1.0	0.0
75-79	0.9	1.0	0.0
80-84	1.3	1.0	0.0
85+	0.0	0.0	0.0

<sup>§</sup> SEER Program. Rates are per 100,000 and are age-adjusted to the 1970 U.S. standard population, except where noted.  
<sup>§</sup> SEER Program. Rates are per 100,000 and are age-adjusted to the world standard population.

Table XXIV-3  
TESTIS CANCER (Invasive)

## U.S. MORTALITY RATES, AGE-ADJUSTED AND AGE-SPECIFIC RATES\*, BY RACE

	All Races, Males	White Males	Black Males
<u>AGE-ADJUSTED RATES</u>			
<u>YEAR OF DEATH:</u>			
1973	0.8	0.8	0.3
1974	0.7	0.8	0.2
1975	0.7	0.7	0.2
1976	0.6	0.7	0.3
1977	0.6	0.7	0.2
1978	0.5	0.5	0.2
1979	0.5	0.5	0.3
1980	0.4	0.4	0.2
1981	0.3	0.4	0.2
1982	0.4	0.4	0.2
1983	0.3	0.4	0.2
1984	0.3	0.3	0.2
1985	0.3	0.3	0.2
1986	0.3	0.3	0.1
1987	0.3	0.3	0.2
1988	0.3	0.3	0.1
1989	0.3	0.3	0.2
1990	0.2	0.3	0.1
1991	0.2	0.3	0.1
1992	0.2	0.3	0.1
1993	0.3	0.3	0.1
1994	0.2	0.3	0.1
1995	0.2	0.2	0.1
1996	0.2	0.3	0.1
<u>AGE-ADJUSTED RATES, 1992-96</u>			
<u>AGE AT DEATH:</u>			
All ages	0.2	0.3	0.1
Under 65	0.2	0.3	0.1
65 and over	0.3	0.3	0.2
All ages (world std.)N	0.2	0.3	0.1
<u>AGE-SPECIFIC RATES, 1992-96</u>			
<u>AGE AT DEATH:</u>			
0-4	0.0	0.0	0.0
5-9	0.0	0.0	0.0
10-14	0.0	0.0	0.0
15-19	0.1	0.1	0.0
20-24	0.4	0.4	0.1
25-29	0.5	0.6	0.1
30-34	0.5	0.6	0.2
35-39	0.5	0.5	0.4
40-44	0.4	0.4	0.2
45-49	0.3	0.3	0.2
50-54	0.2	0.2	0.1
55-59	0.2	0.2	0.1
60-64	0.2	0.2	0.1
65-69	0.2	0.2	0.2
70-74	0.3	0.3	0.1
75-79	0.2	0.2	0.2
80-84	0.5	0.5	0.2
85+	0.6	0.6	0.3

\* NCHS public use tape. Rates are per 100,000 and are age-adjusted to the 1970 U.S. standard population, except where noted.

N NCHS public use tape. Rates are per 100,000 and are age-adjusted to the world standard population.

Table XXIV-4  
TESTIS CANCER (Invasive)SURVIVAL RATES, BY RACE, DIAGNOSIS YEAR, STAGE AND AGE

	All Races, Males	White Males	Black Males
<u>5-YR RELATIVE SURVIVAL RATES</u>			
YEAR OF DIAGNOSIS:			
1960-63 <sup>a</sup>	-	63	-
1970-73 <sup>a</sup>	-	72	-
1974-76 <sup>b</sup>	78.5	78.6	75.9↑
1977-79 <sup>b</sup>	87.4	87.8	66.2↑
1980-82 <sup>b</sup>	91.7	92.0	89.7↑
1983-85 <sup>b</sup>	91.1	91.4	87.9↑
1986-88 <sup>b</sup>	95.1	95.6	-
1989-95 <sup>b</sup>	95.4S	95.7S	88.1
1989-95 <sup>b</sup>			
ALL STAGES	95.4	95.7	88.1
LOCALIZED	98.7	98.7	95.5
REGIONAL	96.9	97.2	-
DISTANT	74.4	75.6	-
UNSTAGED	90.4	91.0	-
<u>STAGE DISTRIBUTION (%) 1989-95<sup>b</sup></u>			
ALL STAGES			
Number of cases	4,441	4,156	87
Percent	100%	100%	100%
LOCALIZED	68	68	59
REGIONAL	19	19	24
DISTANT	11	11	16
UNSTAGED	2	2	1
<u>5-YR RELATIVE SURVIVAL RATES, 1989-95<sup>b</sup></u>			
AGE AT DIAGNOSIS:			
<45	95.6	95.8	89.8
45-54	97.1	96.9	-
55-64	87.1	88.3	-
65-74	80.9↑	83.3↑	-
75+	95.9↑	-	-
Under 65	95.5	95.7	88.1
65 and over	85.9↑	88.2↑	-

<sup>a</sup><sup>b</sup>

Rates are based on End Results data from a series of hospital registries and one population-based registry. Rates are from the SEER Program. 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 through 1996.

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The difference in rates between 1974-76 and 1989-95 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.

Table XXIV-5  
TESTIS CANCER (Invasive)

INCIDENCE, MORTALITY, AND SURVIVAL RATES

By Year of Diagnosis/Death

All Races, Males

Year of Diagnosis/Death

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Incidence																						
SEER	3.3	3.2	3.8	3.2	3.5	4.0	3.8	4.0	4.2	4.0	4.1	4.3	4.4	4.1	4.9	4.5	4.6	4.6	4.5	4.9	4.2	4.6
Mortality																						
U.S.	0.7	0.6	0.6	0.5	0.5	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2
SEER	0.8	0.7	0.6	0.5	0.4	0.5	0.3	0.4	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2
Relative Survival Rates (SEER)																						
1-year	90.1	91.3	94.6	95.3	95.0	95.8	97.1	96.2	95.7	95.6	97.1	98.1	98.3	98.8	98.2	98.3	98.4	97.9	96.8	97.6	98.2	
2-year	84.0	85.3	89.5	91.1	91.7	90.5	94.2	93.9	92.8	92.5	94.0	96.6	97.4	96.5	95.8	96.6	96.8	96.6	95.8	96.2		
3-year	80.9	82.8	87.7	89.1	90.6	89.7	94.0	93.7	91.7	91.9	93.4	96.5	96.4	95.7	95.1	96.1	95.6	95.7	95.1			
4-year	80.2	82.0	86.1	88.2	89.8	89.0	94.0	93.0	91.1	90.6	92.7	95.8	95.7	94.9	94.8	96.1	95.1	95.7				
5-year	79.8	81.5	85.0	87.3	89.8	89.0	93.9	92.3	90.9	89.9	92.5	95.5	95.3	94.5	94.7	96.1	95.1					
6-year	79.1	81.4	84.4	87.3	89.5	89.0	92.9	92.3	90.9	89.0	92.2	95.3	94.6	94.2	94.6	96.0						
7-year	79.0	80.9	84.1	87.3	89.2	89.0	92.9	92.3	90.3	89.0	92.2	95.3	94.4	94.0	94.1							
8-year	78.4	80.5	84.1	87.3	89.2	89.0	92.9	92.1	89.3	88.5	91.4	95.3	94.4	93.0								
9-year	78.0	80.5	84.1	87.3	89.2	89.0	92.4	91.6	88.9	87.6	91.4	94.9	94.4									
10-year	77.3	79.6	83.8	86.3	89.2	88.8	92.4	91.4	88.8	87.1	91.0	94.3										
11-year	76.7	78.8	83.5	86.3	88.3	88.8	91.9	91.4	88.2	86.6	90.0											
12-year	76.3	78.7	83.2	86.3	88.3	88.7	91.6	91.4	88.1	86.6												
13-year	75.9	77.2	82.4	86.3	88.3	88.0	90.7	91.4	86.9													
14-year	74.5	76.1	82.4	86.0	88.3	87.3	89.1	90.8														
15-year	74.1	75.7	82.2	86.0	88.3	86.8	89.1															
16-year	73.8	74.5	81.4	85.4	88.3	86.5																
17-year	73.8	74.1	79.9	85.1	88.3																	
18-year	73.0	72.9	79.0	85.1																		
19-year	72.3	72.9	78.8																			
20-year	71.9	72.9																				
21-year	71.9																					

Note: Incidence and mortality rates are per 100,000 and are age-adjusted to the 1970 U.S. standard population.  
 Survival rates are relative rates expressed as percents.

Table XXIV-6  
TESTIS CANCER (Invasive)

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

Lifetime Risk (Percent) of Being Diagnosed With Cancer and  
 Lifetime Risk (Percent) of Dying From Cancer

SEER Areas, 1994-96

All Races

Current Age	+10 yrs	+20 yrs	+30 yrs	Eventually
0	0.00	0.02	0.12	0.35
10	0.02	0.12	0.24	0.35
20	0.11	0.23	0.29	0.33
30	0.12	0.18	0.21	0.23
40	0.06	0.09	0.10	0.11
50	0.03	0.04	0.05	0.05
60	0.02	0.02	0.03	0.03

Lifetime Risk of Being Diagnosed = 0.35%  
 Lifetime Risk of Dying = 0.02%

Whites

Current Age	+10 yrs	+20 yrs	+30 yrs	Eventually
0	0.00	0.02	0.15	0.40
10	0.02	0.14	0.28	0.40
20	0.13	0.26	0.33	0.38
30	0.14	0.21	0.24	0.26
40	0.07	0.10	0.12	0.12
50	0.03	0.05	0.05	0.05
60	0.02	0.03	0.03	0.03

Lifetime Risk of Being Diagnosed = 0.40%  
 Lifetime Risk of Dying = 0.02%

Blacks

Current Age	+10 yrs	+20 yrs	+30 yrs	Eventually
0	0.00	0.01	0.03	0.08
10	0.00	0.03	0.05	0.08
20	0.02	0.05	0.06	0.08
30	0.03	0.04	0.05	0.06
40	0.02	0.02	0.03	0.03
50	0.01	0.02	0.02	0.02
60	0.01	0.01	0.01	0.01

Lifetime Risk of Being Diagnosed = 0.08%  
 Lifetime Risk of Dying = 0.01%

Table XXIV-7  
TESTIS CANCER (Invasive)

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

By Race/Ethnicity and Sex

Incidence<sup>i</sup>

RACE/ETHNICITY	Rate 1990-1996	Trend 1990-1996
	Rate per 100,000 persons	EAPC (%)
	Males	Males
All Races	4.3	-0.1
White	5.0	-0.1
White Hispanic	3.1	-0.6
White Non-Hispanic	5.5	0.3
Black	0.9	11.1
Asian/Pacific Islander <sup>‡</sup>	1.7	0.4
American Indian	1.8	-
Hispanic <sup>⊙</sup>	2.9	-0.3

Mortality<sup>❖</sup>

RACE/ETHNICITY	Rate 1990-1996	Trend 1990-1996
	Rate per 100,000 persons	EAPC (%)
	Males	Males
All Races	0.2	-1.6
White	0.3	-1.5
White Hispanic	0.2	0.6
White Non-Hispanic	0.3	-1.4
Black	0.1	-3.6
Asian/Pacific Islander <sup>‡</sup>	-	-
American Indian	-	-
Hispanic <sup>⊙</sup>	0.2	0.2

- 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.
- <sup>i</sup> Incidence data are from the 11 SEER areas (San Francisco, Connecticut, Detroit, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, and Los Angeles). Unless specified, other tables use data from 9 SEER areas (San Francisco, Connecticut, Detroit, Iowa, New Mexico, Seattle, Utah, and Atlanta).
- <sup>⊙</sup> Hispanic is not mutually exclusive from whites, blacks, Asian Pacific Islanders, and American Indians. For incidence, all 11 SEER areas are included. For mortality, information is included for all states except Connecticut, Oklahoma, Louisiana, and New Hampshire.
- <sup>❖</sup> Mortality data are analyzed from a public-use file provided by the National Center for Health Statistics (NCHS).
- <sup>‡</sup> Population estimates for the Asian Pacific Islanders rates are adjusted Census Bureau estimates. The population estimates used in Wingo PA, Ries LAG, Rosenberg HM, Miller DS, Edwards BK. Cancer Incidence and mortality, 1973-1996. Cancer 82:1197-207, 1998 were unadjusted.
- <sup>\*</sup> The EAPC is significantly different from zero (p<.05).

Table XXIV-8  
TESTIS CANCER (Invasive)AGE-ADJUSTED SEER INCIDENCE RATES§ AND SEER MORTALITY RATES\*  
By Registry and Race

	All Races, Males	White Males	Black Males
<u>SEER INCIDENCE RATES§, 1992-96</u>			
REGISTRY			
11 registries	4.3	5.0	1.0
9 registries	4.5	5.3	0.9
San Francisco-Oakland	4.5	5.7	0.9
Connecticut	4.8	5.2	0.8
Metropolitan Detroit	4.4	5.3	1.2
Hawaii	3.9	6.7	-
Iowa	4.8	4.9	-
New Mexico	4.5	4.9	-
Seattle-Puget Sound	5.3	5.9	0.7
Utah	5.4	5.4	-
Metropolitan Atlanta	3.0	3.8	1.0
San Jose-Monterey	4.4	5.2	0.3
Los Angeles	3.7	4.4	1.1
<u>SEER MORTALITY RATES*, 1992-96</u>			
REGISTRY			
11 registries	0.3	0.3	0.1
9 registries	0.2	0.3	0.1
San Francisco-Oakland	0.2	0.3	0.0
Connecticut	0.2	0.2	0.0
Metropolitan Detroit	0.3	0.3	0.2
Hawaii	0.2	0.4	-
Iowa	0.3	0.3	-
New Mexico	0.2	0.2	-
Seattle-Puget Sound	0.2	0.2	0.2
Utah	0.3	0.3	-
Metropolitan Atlanta	0.1	0.1	0.0
San Jose-Monterey	0.3	0.4	0.0
Los Angeles	0.3	0.4	0.1

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 Program. Incidence rates are per 100,000 and are age-adjusted to the 1970 U.S. standard population.  
 \* NCHS public use tape. Mortality rates are per 100,000 and are age-adjusted to the 1970 U.S. standard population.  
 - Statistic could not be calculated or populations are inadequate.



Table XXIV-9  
TESTIS CANCER (Invasive)

## AVERAGE ANNUAL AGE-ADJUSTED CANCER MORTALITY\* RATES BY STATE, 1992-96

All Races, Males

State	Rate	SE	Rank	PD
TOTAL U.S.	0.2	0.01		
High Five States				
Rhode Island	0.5*	0.13	(01)	150.0
North Dakota	0.4*	0.15	(02)	100.0
South Dakota	0.3*	0.13	(03)	50.0
Montana	0.3*	0.11	(04)	50.0
Nevada	0.3*	0.09	(05)	50.0
Low Five States				
Minnesota	0.2	0.04	(47)	0.0
Wyoming	0.2	0.11	(48)	0.0
West Virginia	0.2	0.05	(49)	0.0
Georgia	0.1*	0.03	(50)	-50.0
Delaware	0.1*	0.07	(51)	-50.0

State	Rate	SE	Rank	PD	State	Rate	SE	Rank	PD
Alabama	0.2	0.04	(38)	0.0	Montana	0.3*	0.11	(04)	50.0
Alaska	0.2	0.10	(29)	0.0	Nebraska	0.2	0.07	(42)	0.0
Arizona	0.2	0.04	(39)	0.0	Nevada	0.3*	0.09	(05)	50.0
Arkansas	0.3*	0.06	(15)	50.0	New Hampshire	0.3*	0.09	(09)	50.0
California	0.3*	0.02	(12)	50.0	New Jersey	0.2	0.03	(27)	0.0
Colorado	0.3*	0.05	(18)	50.0	New Mexico	0.2	0.07	(33)	0.0
Connecticut	0.2	0.05	(41)	0.0	New York	0.3*	0.02	(14)	50.0
Delaware	0.1*	0.07	(51)	-50.0	North Carolina	0.2	0.03	(43)	0.0
District of Columbia	0.2	0.14	(21)	0.0	North Dakota	0.4*	0.15	(02)	100.0
Florida	0.3*	0.03	(17)	50.0	Ohio	0.2	0.03	(23)	0.0
Georgia	0.1*	0.03	(50)	-50.0	Oklahoma	0.2	0.05	(32)	0.0
Hawaii	0.2	0.08	(22)	0.0	Oregon	0.3*	0.05	(13)	50.0
Idaho	0.3*	0.10	(19)	50.0	Pennsylvania	0.2	0.03	(25)	0.0
Illinois	0.2	0.02	(44)	0.0	Rhode Island	0.5*	0.13	(01)	150.0
Indiana	0.2	0.03	(45)	0.0	South Carolina	0.2	0.05	(36)	0.0
Iowa	0.3*	0.06	(10)	50.0	South Dakota	0.3*	0.13	(03)	50.0
Kansas	0.3*	0.07	(06)	50.0	Tennessee	0.2	0.04	(28)	0.0
Kentucky	0.2	0.05	(31)	0.0	Texas	0.2	0.02	(20)	0.0
Louisiana	0.2	0.04	(37)	0.0	Utah	0.3*	0.08	(07)	50.0
Maine	0.3*	0.08	(16)	50.0	Vermont	0.2	0.12	(26)	0.0
Maryland	0.2	0.04	(40)	0.0	Virginia	0.2	0.03	(46)	0.0
Massachusetts	0.3*	0.04	(08)	50.0	Washington	0.2	0.04	(35)	0.0
Michigan	0.3*	0.03	(11)	50.0	West Virginia	0.2	0.05	(49)	0.0
Minnesota	0.2	0.04	(47)	0.0	Wisconsin	0.2	0.04	(30)	0.0
Mississippi	0.2	0.06	(34)	0.0	Wyoming	0.2	0.11	(48)	0.0
Missouri	0.2	0.04	(24)	0.0					

\* NCHS public use tape. Rates are per 100,000 and are age-adjusted to the 1970 U.S. standard population.  
SE Standard error of the rate.  
PD Percent difference between state rate and total U.S. rate.  
\* Absolute 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. Mortality Testis, Under 65 Years of Age By Race

## White

## Black

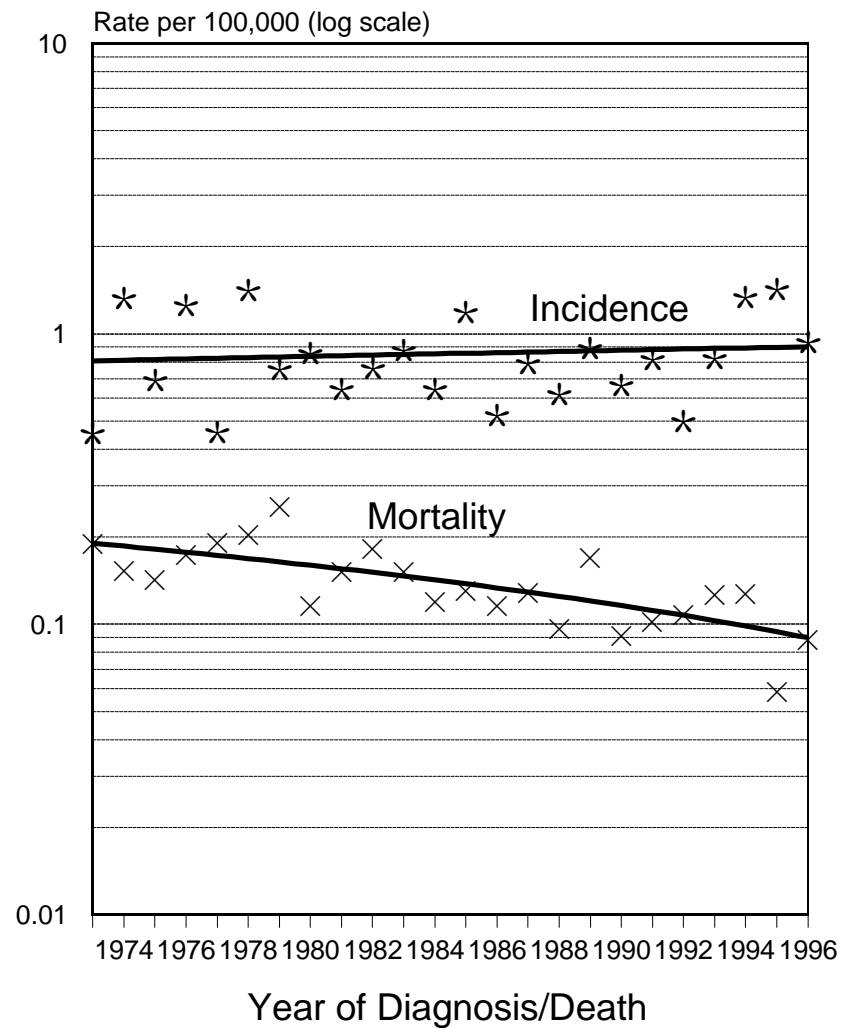
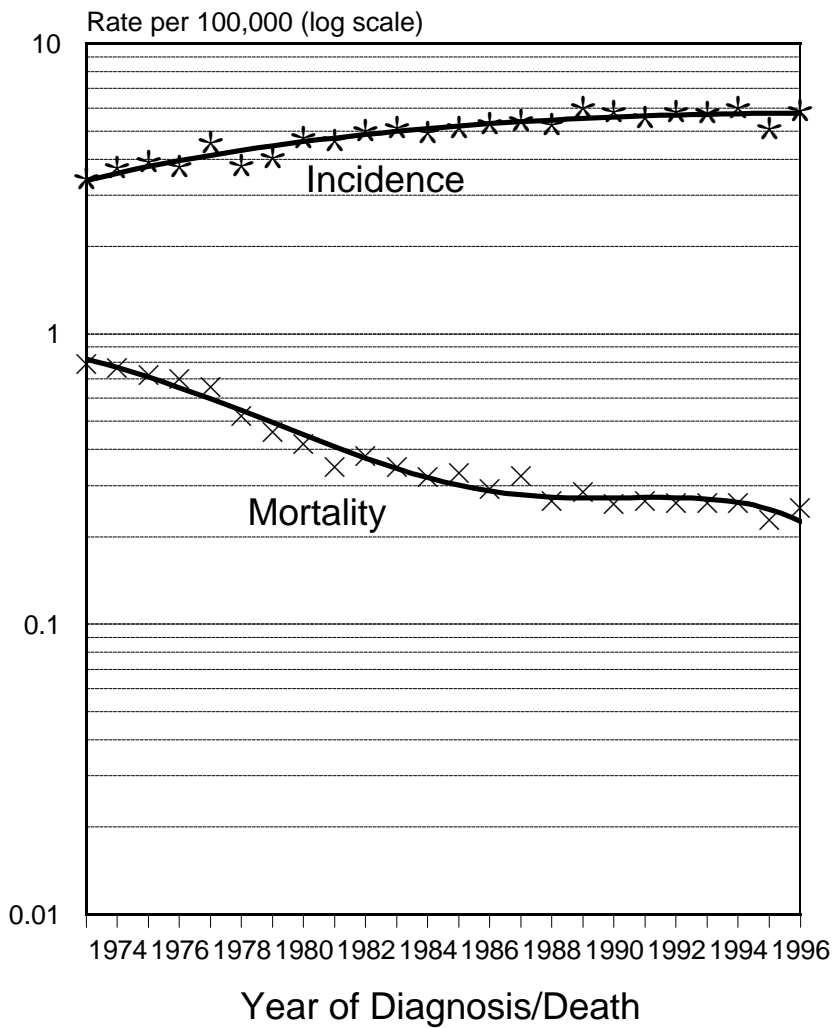
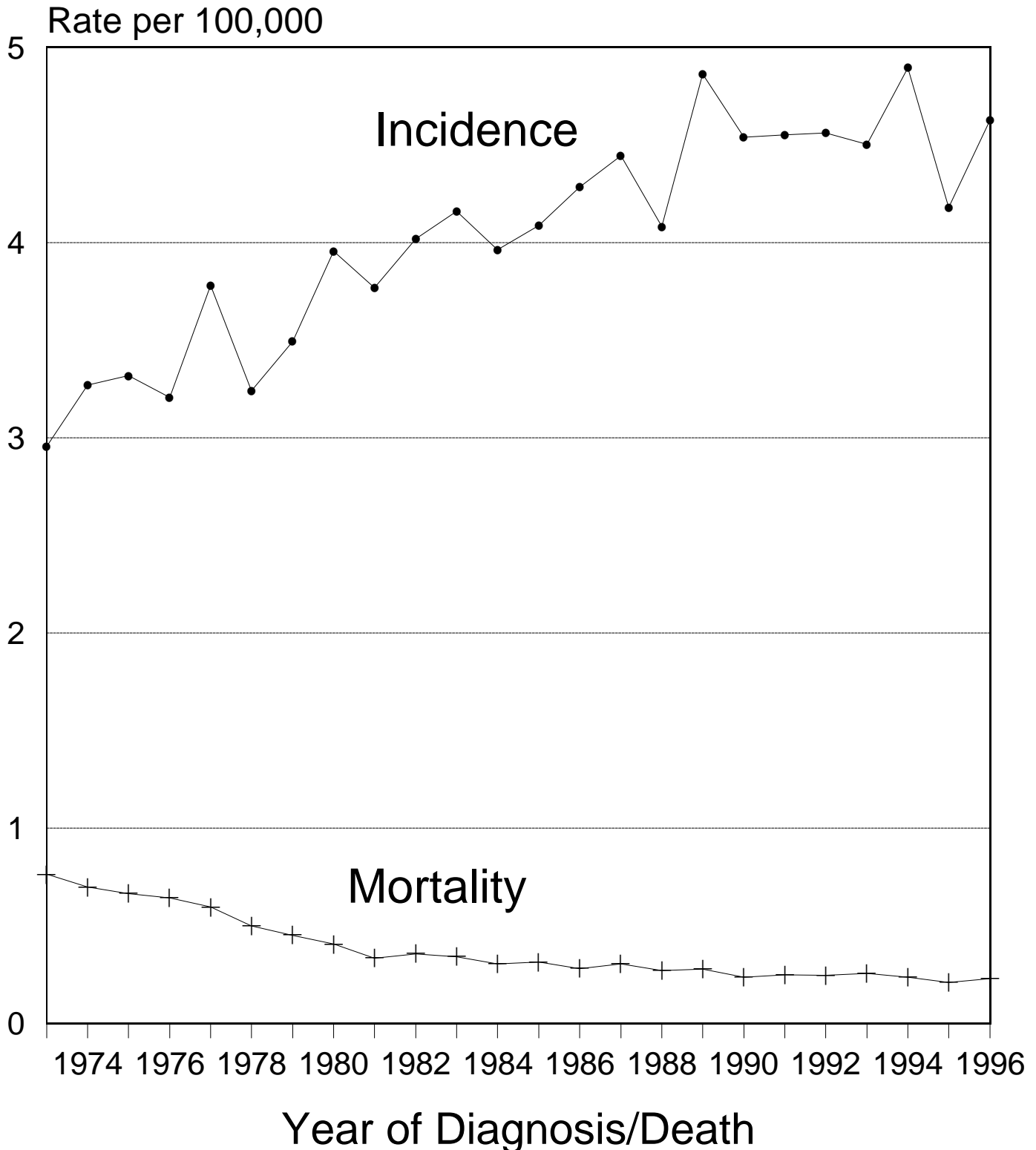


Figure XXIV-1

# Testicular Cancer SEER Incidence and U.S. Mortality, 1973-1996



Age-adjusted to 1970 Standard