

Table XXII-1
PROSTATE 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>1973-94</u>			
All Ages			
Percent Change (PC)	141.8	132.1	141.2
Est. Annual PC (EAPC)	4.7★	4.6★	4.0★
Under 65			
Percent Change (PC)	294.9	295.6	243.9
Est. Annual PC (EAPC)	6.5★	6.6★	5.1★
65 and over			
Percent Change (PC)	110.1	99.9	111.0
Est. Annual PC (EAPC)	4.2★	4.1★	3.6★
<u>1975-79 - ALL AGES</u>			
Percent Change (PC)	6.2	6.3	8.2
Est. Annual PC (EAPC)	2.2★	2.4★	2.6
<u>1990-94 - ALL AGES</u>			
Percent Change (PC)	4.3	-1.1	26.9
Est. Annual PC (EAPC)	1.8	0.1	8.3
<u>MORTALITY TRENDS (expressed in percents)*:</u>			
<u>1973-94</u>			
All Ages			
Percent Change (PC)	20.9	18.6	41.4
Est. Annual PC (EAPC)	1.1★	1.0★	1.8★
Under 65			
Percent Change (PC)	0.8	0.4	2.3
Est. Annual PC (EAPC)	0.5★	0.5★	0.4★
65 and over			
Percent Change (PC)	23.5	20.7	48.6
Est. Annual PC (EAPC)	1.2★	1.1★	2.0★
<u>1975-79 - ALL AGES</u>			
Percent Change (PC)	3.5	3.3	5.0
Est. Annual PC (EAPC)	1.2★	1.1★	1.6★
<u>1990-94 - ALL AGES</u>			
Percent Change (PC)	-1.4	-1.9	1.9
Est. Annual PC (EAPC)	-0.5♦	-0.6♦	0.5♦

§ 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 1990-94 is significantly different from the EAPC for 1975-79 (p<.05).

◇ The EAPC for 1990-94 is significantly different from the EAPC for 1975-79 (p<.10).

- Statistic could not be calculated.

Table XXII-2
PROSTATE CANCER (Invasive)

SEER INCIDENCE RATES, AGE-ADJUSTED AND AGE-SPECIFIC RATES, BY RACE

	All Races, Males	White Males	Black Males
<u>AGE-ADJUSTED RATES</u>			
<u>YEAR OF DIAGNOSIS:</u>			
1973	64.2	62.6	106.3
1974	65.6	64.8	100.7
1975	70.6	68.9	111.5
1976	73.5	72.6	110.1
1977	76.1	74.5	122.2
1978	75.1	73.4	116.6
1979	78.0	77.0	123.1
1980	79.8	78.7	126.6
1981	82.0	80.8	126.9
1982	82.2	81.2	130.6
1983	84.8	83.8	134.1
1984	84.5	82.9	139.6
1985	88.0	86.9	133.1
1986	91.2	90.8	131.6
1987	102.9	102.8	147.3
1988	106.0	105.8	147.8
1989	112.7	112.3	149.1
1990	132.0	131.9	171.9
1991	168.7	167.1	221.3
1992	190.1	185.8	252.5
1993	169.7	160.3	264.7
1994	144.0	135.3	234.4
<u>AGE-ADJUSTED RATES, 1990-94</u>			
<u>AGE AT DIAGNOSIS:</u>			
All ages	160.7	155.8	229.3
Under 65	42.9	41.5	70.9
65 and over	1236.5	1199.2	1675.2
All ages (world std.) ⁸	118.6	115.0	171.8
<u>AGE-SPECIFIC RATES, 1990-94</u>			
<u>AGE AT DIAGNOSIS:</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	0.0	0.1	0.0
20-24	0.0	0.0	0.0
25-29	0.0	0.0	0.3
30-34	0.1	0.1	0.0
35-39	0.2	0.2	0.2
40-44	2.9	2.7	5.1
45-49	16.1	15.5	26.3
50-54	82.0	77.8	142.8
55-59	224.8	215.7	404.1
60-64	517.7	506.2	810.4
65-69	946.7	921.4	1362.6
70-74	1325.8	1297.2	1815.3
75-79	1463.3	1409.7	1920.9
80-84	1452.6	1395.1	1888.5
85+	1353.7	1301.5	1670.3

[§] SEER Program. Rates are per 100,000 and are age-adjusted to the 1970 U.S. standard population, except where noted.

⁸ SEER Program. Rates are per 100,000 and are age-adjusted to the world standard population.

Table XXII-3
PROSTATE 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	21.7	20.3	39.5
1974	21.7	20.2	39.7
1975	21.6	20.1	40.6
1976	22.1	20.6	40.8
1977	22.1	20.6	41.2
1978	22.6	21.0	42.5
1979	22.7	21.1	43.0
1980	22.8	21.1	44.6
1981	22.9	21.0	45.8
1982	23.0	21.3	44.7
1983	23.4	21.6	46.6
1984	23.4	21.5	47.1
1985	23.4	21.5	48.1
1986	24.1	22.2	48.3
1987	24.1	22.2	49.1
1988	24.7	22.8	49.5
1989	25.4	23.5	51.1
1990	26.5	24.3	54.9
1991	26.8	24.7	55.0
1992	26.7	24.5	55.8
1993	26.5	24.3	56.5
1994	26.0	23.8	55.5
<u>AGE-ADJUSTED RATES, 1990-94</u>			
<u>AGE AT DEATH:</u>			
All ages	26.5	24.3	55.5
Under 65	2.9	2.5	7.3
65 and over	242.0	223.8	496.0
All ages (world std.)N	17.3	15.8	37.0
<u>AGE-SPECIFIC RATES, 1990-94</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	0.0	0.0	0.0
20-24	0.0	0.0	0.0
25-29	0.0	0.0	0.0
30-34	0.0	0.0	0.0
35-39	0.0	0.0	0.2
40-44	0.2	0.2	0.5
45-49	0.9	0.8	2.8
50-54	4.3	3.6	10.9
55-59	13.7	11.6	37.3
60-64	37.6	33.0	92.7
65-69	83.5	74.2	199.6
70-74	163.1	147.6	380.4
75-79	282.2	261.3	589.6
80-84	481.2	448.8	966.0
85+	796.0	755.7	1336.3

* 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 XXII-4
PROSTATE 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 ^a	-	50	35
1970-73 ^a	-	63	55
1974-76 ^b	66.8	67.7	58.0
1977-79 ^b	71.1	72.1	62.4
1980-82 ^b	73.4	74.5	64.6
1983-85 ^b	75.9	77.5	63.9
1986-93 ^b	88.5 S	90.2 S	75.3 S
1986-93 ^b			
ALL STAGES	88.5	90.2	75.3
LOCALIZED	100.0	100.0	91.2
REGIONAL	94.1	95.2	84.6
DISTANT	30.9	31.3	26.0
UNSTAGED	82.2	83.5	74.3
<u>STAGE DISTRIBUTION (%) 1986-93^b</u>			
ALL STAGES			
Number of cases	103,523	89,297	10,349
Percent	100%	100%	100%
LOCALIZED	58	59	54
REGIONAL	18	18	14
DISTANT	11	10	18
UNSTAGED	13	13	14
<u>5-YR RELATIVE SURVIVAL RATES, 1986-93^b</u>			
AGE AT DIAGNOSIS:			
<45	67.9	69.4 [↑]	55.9 [↑]
45-54	84.3	86.0	75.2
55-64	88.6	89.9	78.5
65-74	92.0	93.6	80.0
75+	85.3	87.7	65.7
Under 65	87.8	89.2	77.8
65 and over	89.1	90.9	74.7

^a Rates are based on End Results data from a series of hospital registries and one population-based registry.
^b 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 1994.

S The difference in rates between 1974-76 and 1986-93 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 XXII-5
PROSTATE CANCER (Invasive)

INCIDENCE, MORTALITY, AND SURVIVAL RATES

By Year of Diagnosis/Death

All Races, Males

	Year of Diagnosis/Death																					
	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Incidence																						
SEER	64.2	65.6	70.6	73.5	76.1	75.1	78.0	79.8	82.0	82.2	84.8	84.5	88.0	91.2	102.9	106.0	112.7	132.0	168.7	190.1	169.7	144.0
Mortality																						
U.S.	21.7	21.7	21.6	22.1	22.1	22.6	22.7	22.8	22.9	23.0	23.4	23.4	23.4	24.1	24.1	24.7	25.4	26.5	26.8	26.7	26.5	26.0
SEER	21.7	21.2	22.0	23.4	22.3	23.3	23.1	23.3	22.9	23.4	23.8	22.9	23.6	24.2	24.7	24.3	25.4	25.6	26.5	26.4	25.6	25.8
Relative Survival Rates (SEER)																						
1-year	87.2	89.7	90.2	91.2	92.1	92.2	93.2	93.3	94.0	94.2	94.5	94.7	95.1	95.5	96.0	96.9	97.4	98.0	99.3	100.0	99.8	
2-year	78.3	81.7	83.4	84.4	85.4	85.1	86.8	87.6	88.2	88.0	89.0	89.0	89.2	90.3	92.4	93.7	94.7	95.6	98.3	99.3		
3-year	71.9	74.2	76.7	78.3	79.0	79.7	80.8	81.4	82.5	83.0	83.5	83.6	84.7	85.5	88.5	90.3	91.7	93.7	97.3			
4-year	65.5	68.0	71.9	73.3	74.0	74.5	76.3	76.7	77.4	77.9	78.5	79.6	80.7	82.1	85.5	87.9	89.6	92.2				
5-year	61.0	63.8	66.8	69.2	69.9	70.6	72.6	72.2	73.9	74.0	74.7	75.3	77.4	79.7	83.1	85.9	87.4					
6-year	56.0	59.8	63.0	65.4	66.5	68.1	69.9	68.4	71.1	70.2	71.7	73.2	74.9	76.9	81.1	83.9						
7-year	52.7	56.8	59.9	63.2	63.6	64.5	66.4	65.0	67.3	66.7	68.2	71.7	72.9	75.1	78.8							
8-year	49.3	52.9	56.8	60.2	60.8	61.8	64.1	61.8	65.2	64.4	65.2	69.4	70.8	73.9								
9-year	46.8	50.8	53.9	57.6	59.0	59.2	62.0	59.8	63.2	62.3	63.9	67.6	69.0									
10-year	44.7	48.1	51.2	55.2	57.6	56.9	59.9	57.5	61.1	61.4	63.0	66.6										
11-year	42.8	46.1	50.1	52.3	54.8	55.0	57.9	56.2	58.8	59.6	61.6											
12-year	41.5	44.1	48.2	50.8	53.0	53.6	55.8	54.3	57.1	58.3												
13-year	39.7	43.1	46.6	49.0	52.5	52.5	53.4	53.2	56.4													
14-year	38.0	41.8	45.8	48.3	50.3	51.8	51.4	52.5														
15-year	36.9	40.3	45.6	47.9	49.4	50.9	50.0															
16-year	35.9	39.7	43.9	45.9	48.0	49.1																
17-year	35.9	39.0	43.4	44.6	46.2																	
18-year	35.7	39.0	42.6	42.2																		
19-year	35.3	38.6	42.6																			
20-year	33.9	38.4																				
21-year	33.9																					

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 XXII-6
PROSTATE 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, 1992-94

All Races

Current Age	+10 yrs	+20 yrs	+30 yrs	Eventually
0	0.00	0.00	0.00	18.85
10	0.00	0.00	0.00	19.07
20	0.00	0.00	0.11	19.21
30	0.00	0.11	1.69	19.54
40	0.11	1.74	7.99	20.06
50	1.70	8.23	16.52	20.84
60	7.23	16.40	20.52	21.19

Lifetime Risk of Being Diagnosed = 18.85%
 Lifetime Risk of Dying = 3.64%

Whites

Current Age	+10 yrs	+20 yrs	+30 yrs	Eventually
0	0.00	0.00	0.00	18.48
10	0.00	0.00	0.00	18.66
20	0.00	0.00	0.10	18.77
30	0.00	0.10	1.62	19.03
40	0.11	1.65	7.78	19.48
50	1.61	7.97	16.01	20.12
60	6.98	15.80	19.71	20.32

Lifetime Risk of Being Diagnosed = 18.48%
 Lifetime Risk of Dying = 3.59%

Blacks

Current Age	+10 yrs	+20 yrs	+30 yrs	Eventually
0	0.00	0.00	0.00	18.83
10	0.00	0.00	0.00	19.31
20	0.00	0.00	0.17	19.61
30	0.00	0.17	2.71	20.42
40	0.18	2.87	10.52	21.67
50	2.99	11.48	20.04	23.86
60	10.50	21.10	24.91	25.83

Lifetime Risk of Being Diagnosed = 18.83%
 Lifetime Risk of Dying = 4.53%

Table XXII-7
PROSTATE CANCER (Invasive)

AVERAGE ANNUAL AGE-ADJUSTED CANCER MORTALITY* RATES BY STATE, 1990-94

All Races, Males

State	Rate	SE	Rank	PD
TOTAL U.S.	26.5	0.06		
High Five States				
District of Columbia	44.5⊕*	1.79	(01)	67.9
South Carolina	34.4⊕*	0.68	(02)	29.8
Georgia	32.4⊕*	0.51	(03)	22.3
Mississippi	32.4⊕*	0.71	(04)	22.3
North Carolina	31.7⊕*	0.45	(05)	19.6
Low Five States				
Arizona	24.0⊕	0.48	(47)	-9.4
Rhode Island	23.7*	0.91	(48)	-10.6
Alaska	23.6*	2.28	(49)	-10.9
Nebraska	22.6⊕*	0.69	(50)	-14.7
Hawaii	17.4⊕*	0.75	(51)	-34.3

State	Rate	SE	Rank	PD	State	Rate	SE	Rank	PD
Alabama	28.1	0.52	(13)	6.0	Montana	27.8	1.07	(14)	4.9
Alaska	23.6*	2.28	(49)	-10.9	Nebraska	22.6⊕*	0.69	(50)	-14.7
Arizona	24.0⊕	0.48	(47)	-9.4	Nevada	25.9	0.99	(31)	-2.3
Arkansas	27.1	0.61	(19)	2.3	New Hampshire	25.3	0.99	(36)	-4.5
California	24.6⊕	0.19	(40)	-7.2	New Jersey	27.4	0.37	(16)	3.4
Colorado	26.6	0.61	(25)	0.4	New Mexico	24.5	0.82	(43)	-7.5
Connecticut	24.0	0.52	(46)	-9.4	New York	25.4	0.23	(35)	-4.2
Delaware	28.9	1.36	(10)	9.1	North Carolina	31.7⊕*	0.45	(05)	19.6
District of Columbia	44.5⊕*	1.79	(01)	67.9	North Dakota	31.3*	1.23	(06)	18.1
Florida	24.2⊕	0.22	(45)	-8.7	Ohio	26.8	0.31	(22)	1.1
Georgia	32.4⊕*	0.51	(03)	22.3	Oklahoma	24.8	0.53	(39)	-6.4
Hawaii	17.4⊕*	0.75	(51)	-34.3	Oregon	25.2	0.54	(38)	-4.9
Idaho	27.4	0.99	(15)	3.4	Pennsylvania	26.5	0.27	(27)	0.0
Illinois	27.0	0.31	(20)	1.9	Rhode Island	23.7*	0.91	(48)	-10.6
Indiana	25.5	0.43	(33)	-3.8	South Carolina	34.4⊕*	0.68	(02)	29.8
Iowa	25.3	0.53	(37)	-4.5	South Dakota	26.5	1.08	(26)	0.0
Kansas	24.6	0.58	(41)	-7.2	Tennessee	26.7	0.47	(24)	0.8
Kentucky	25.4	0.52	(34)	-4.2	Texas	26.1	0.27	(29)	-1.5
Louisiana	31.1⊕*	0.58	(08)	17.4	Utah	26.9	0.89	(21)	1.5
Maine	26.7	0.89	(23)	0.8	Vermont	28.5	1.43	(11)	7.5
Maryland	31.1⊕*	0.56	(07)	17.4	Virginia	30.3⊕*	0.48	(09)	14.3
Massachusetts	26.0	0.41	(30)	-1.9	Washington	25.6	0.45	(32)	-3.4
Michigan	27.4	0.35	(17)	3.4	West Virginia	24.4	0.68	(44)	-7.9
Minnesota	26.1	0.47	(28)	-1.5	Wisconsin	28.3	0.45	(12)	6.8
Mississippi	32.4⊕*	0.71	(04)	22.3	Wyoming	27.3	1.63	(18)	3.0
Missouri	24.5	0.41	(42)	-7.5					

* 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 10% or more.

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

Table XXII-8
PROSTATE CANCER (Invasive)AGE-ADJUSTED SEER INCIDENCE RATES[§], SEER MORTALITY RATES^{*}, AND 5-YEAR RELATIVE SURVIVAL RATES[⊙]
By Registry and Race

	All Races, Males	White Males	Black Males
<u>SEER INCIDENCE RATES[§], 1990-94</u>			
REGISTRY			
Standard 9 registries	160.7	155.8	229.3
San Francisco-Oakland	144.5	147.4	201.5
Connecticut	138.7	134.6	207.4
Metropolitan Detroit	200.9	179.5	243.4
Hawaii	122.7	163.1	-
Iowa	140.6	138.3	-
New Mexico	151.6	156.4	-
Seattle-Puget Sound	169.5	163.9	232.7
Utah	179.5	178.3	-
Metropolitan Atlanta	195.9	174.0	248.0
San Jose-Monterey	141.2	142.8	208.6
Los Angeles	149.3	144.1	209.0
<u>SEER MORTALITY RATES[*], 1990-94</u>			
REGISTRY			
Standard 9 registries	26.0	25.0	52.7
San Francisco-Oakland	25.6	25.1	53.9
Connecticut	24.0	23.0	54.6
Metropolitan Detroit	29.5	25.2	47.8
Hawaii	17.4	26.7	-
Iowa	25.3	25.1	-
New Mexico	24.5	24.8	-
Seattle-Puget Sound	25.7	25.7	46.7
Utah	26.9	26.9	-
Metropolitan Atlanta	34.5	26.7	68.2
San Jose-Monterey	23.5	24.9	36.0
Los Angeles	23.9	23.0	46.6
<u>SURVIVAL RATES[⊙], 1986-93</u>			
REGISTRY			
Standard 9 registries	88.5	90.2	75.3
San Francisco-Oakland	86.3	88.3	77.9
Connecticut	84.1	84.8	74.0
Metropolitan Detroit	85.6	88.9	75.6
Hawaii	88.4	95.1	-
Iowa	87.0	87.1	-
New Mexico	89.8	90.7	-
Seattle-Puget Sound	95.9	96.4	87.0
Utah	92.8	92.8	-
Metropolitan Atlanta	85.0	90.8	66.9

Note: San Jose-Monterey and Los Angeles are new SEER areas as of 1992 and their data are only used in this table and not other tables in this section.

- § 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.
 ⊙ Survival rates are relative rates expressed as percents and are based on follow-up of patients through 1994.
 † 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 or populations are inadequate.

SEER Incidence and U.S. Mortality Prostate, Ages 65 and Over By Race

White

Black

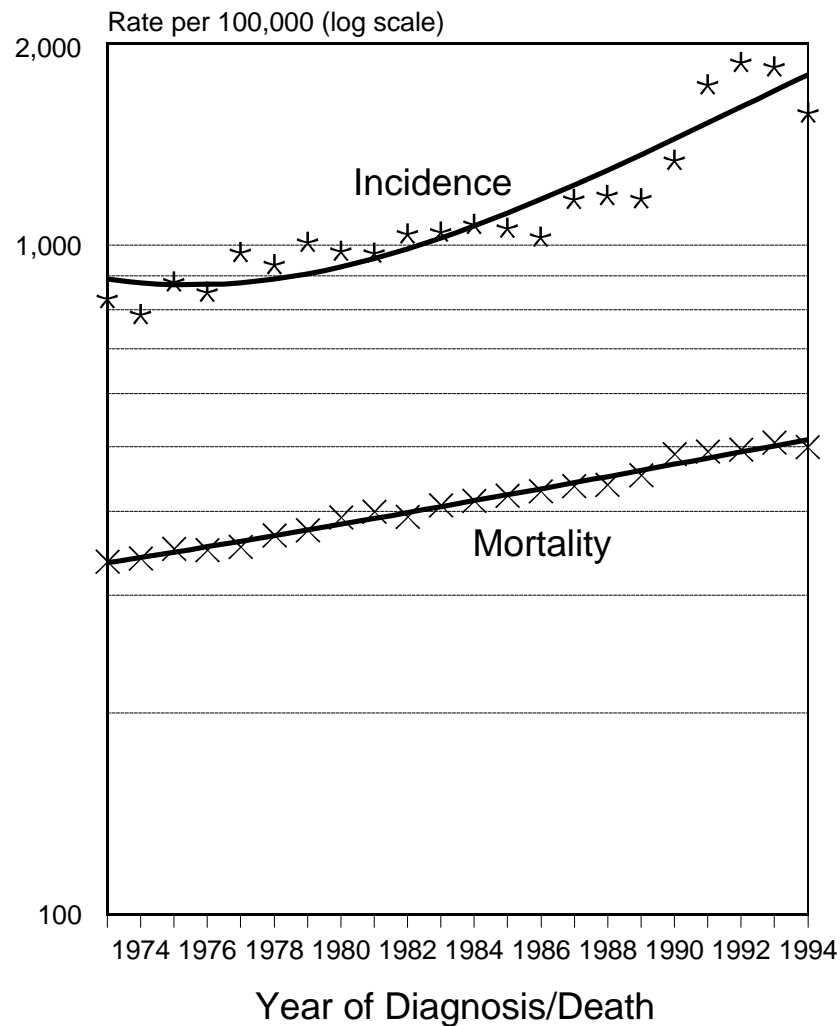
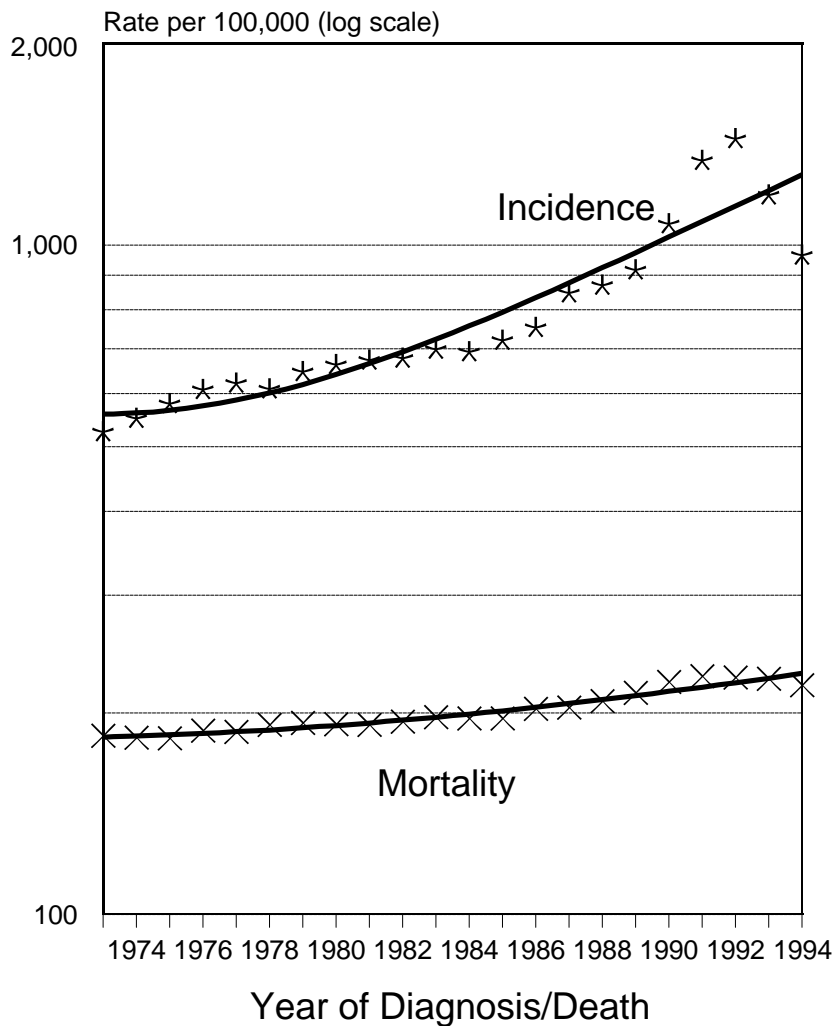
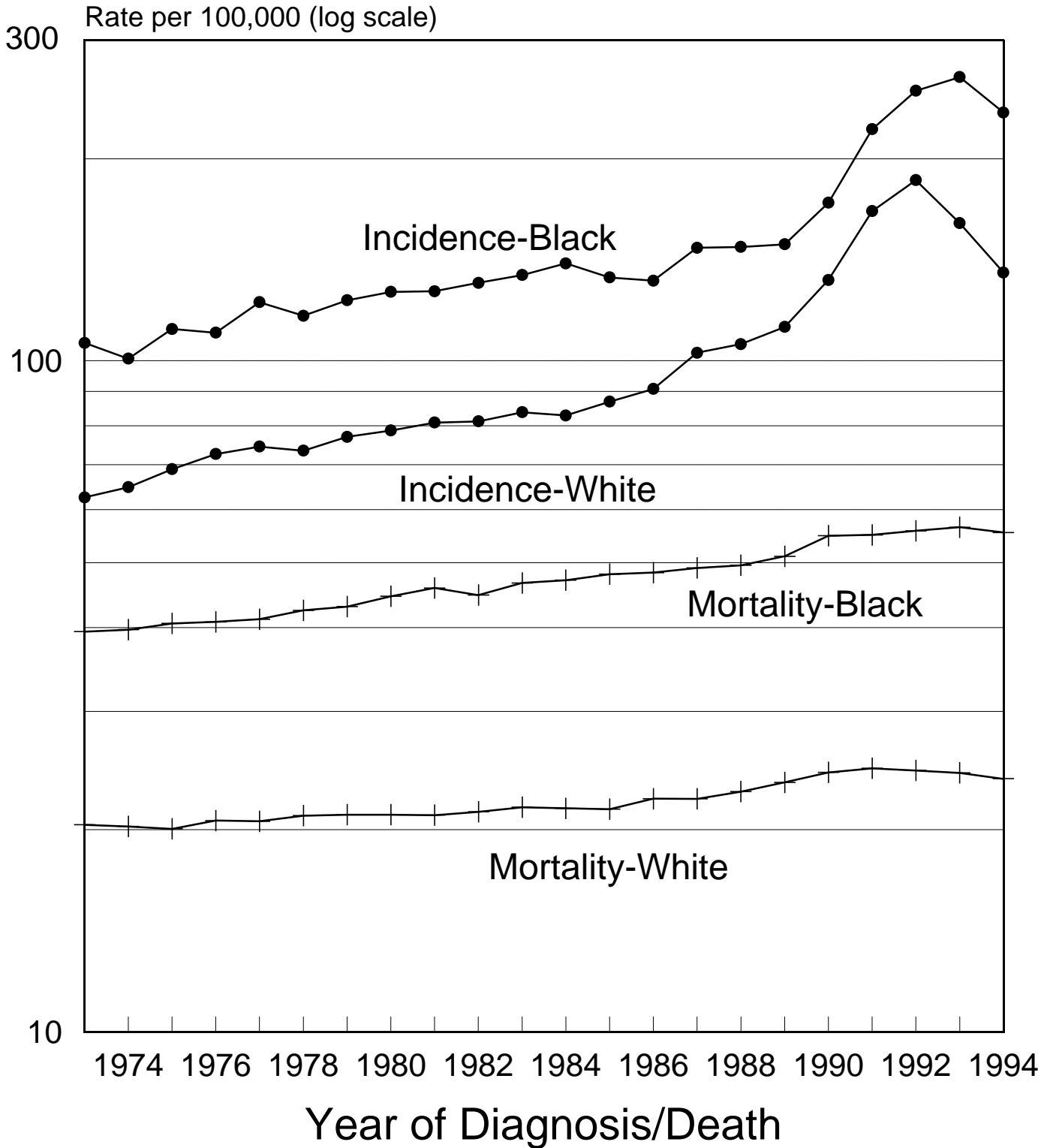


Figure XXII-2

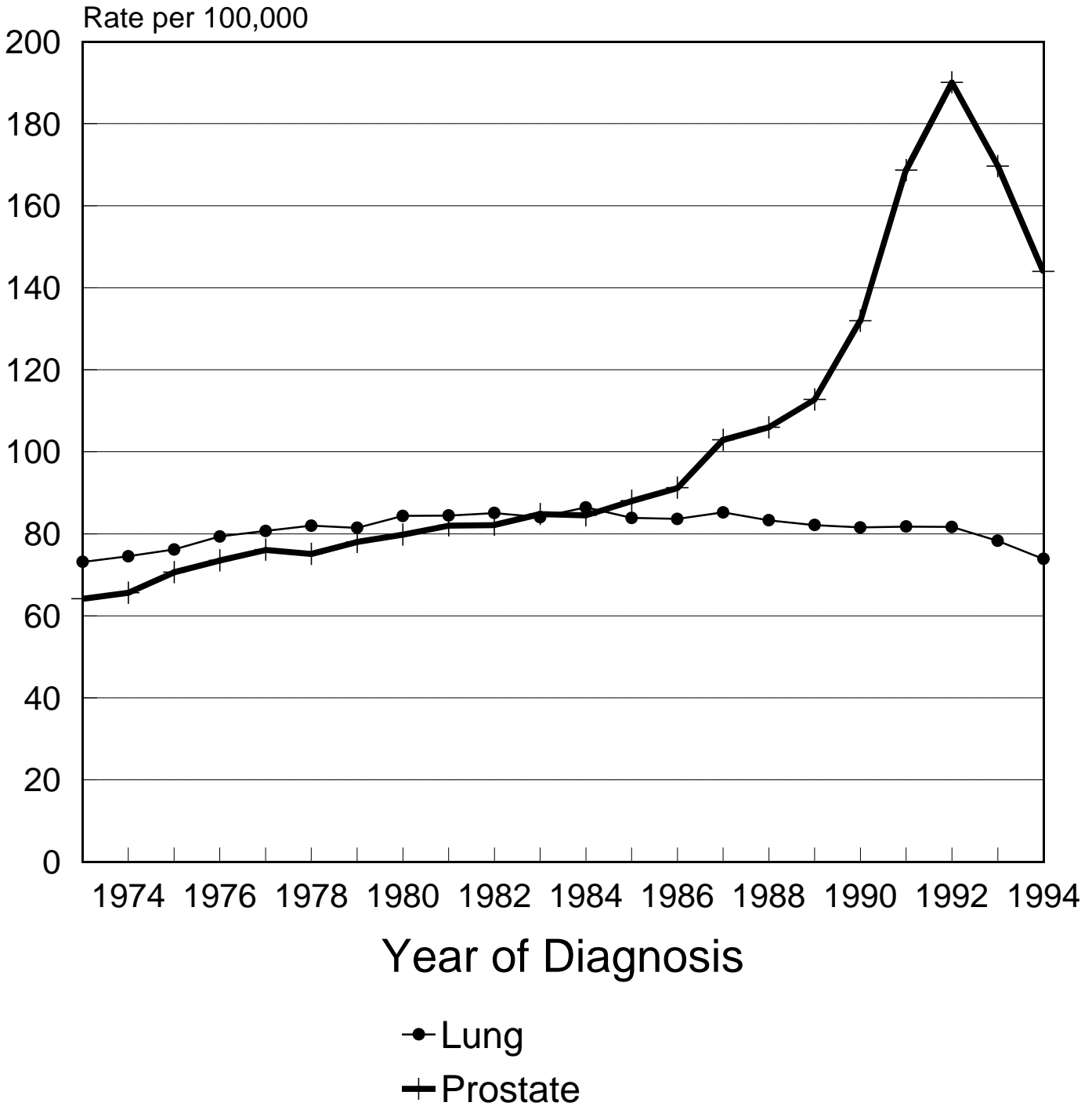
Cancer of the Prostate

U.S. Mortality & SEER Incidence, 1973-94



Age-adjusted to 1970 Standard

Prostate vs. Lung Cancer Incidence All Races, Males 1973-94



Age-adjusted to 1970 Standard