

Table IV-1
FEMALE BREAST CANCER (Invasive)

TRENDS IN SEER INCIDENCE AND U.S. MORTALITY USING THE JOINPOINT REGRESSION PROGRAM, 1973-1998
WITH UP TO THREE JOINPOINTS BY RACE AND AGE

	<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</u>						
Age - All Ages	1973-80	-0.7	1973-80	-0.6	1973-79	-0.8
	1980-87	3.8★	1980-87	3.9★	1979-86	4.0★
	1987-98	0.5	1987-98	0.4	1986-98	0.9★
Age - Under 50	1973-80	-1.6★	1973-80	-1.5★	1973-94	1.3★
	1980-86	2.9★	1980-86	3.0★	1994-98	-3.1
	1986-98	-0.2	1986-98	-0.4		
Age - 50 and Over	1973-80	-0.4	1973-80	-0.3	1973-78	-1.7
	1980-87	4.2★	1980-87	4.4★	1978-86	4.2★
	1987-98	0.7★	1987-98	0.6★	1986-98	1.2★
<u>U.S. Cancer Mortality</u>						
Age - All Ages	1973-79	-0.3	1973-90	0.2★	1973-91	1.3★
	1979-89	0.5★	1990-95	-2.0★	1991-98	-0.6
	1989-95	-1.6★	1995-98	-3.6★		
	1995-98	-3.4★				
Age - Under 50	1973-79	-1.7★	1973-81	-1.5★	1973-76	-5.3★
	1979-90	-0.2	1981-90	-0.2	1976-87	1.9★
	1990-98	-3.1★	1990-98	-3.6★	1987-98	-1.2★
Age - 50 and Over	1973-90	0.5★	1973-90	0.4★	1973-93	1.4★
	1990-98	-2.1★	1990-98	-2.3★	1993-98	-1.0

The APC is the Annual Percent Change based on rates age-adjusted to the 1970 U.S. standard population using the Joinpoint Regression Program.

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

Table IV-2
BREAST 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>									
YEAR OF DIAGNOSIS:									
1973	45.0	1.0	82.6	46.2	0.9	84.6	38.5	-	68.9
1974	51.7	1.0	94.9	53.0	1.0	96.8	43.5	-	79.3
1975	48.2	0.7	88.2	49.4	0.7	90.1	43.4	-	78.5
1976	46.8	0.8	85.5	48.2	0.8	87.9	39.4	-	70.6
1977	46.1	0.8	84.1	47.3	0.7	86.2	40.8	-	72.2
1978	46.1	0.7	84.1	47.5	0.7	86.6	40.0	-	72.0
1979	47.1	0.8	85.6	48.2	0.7	87.7	41.2	-	72.5
1980	47.0	0.7	85.5	48.4	0.8	87.9	42.0	-	74.8
1981	48.9	0.8	88.9	50.6	0.8	91.9	44.3	-	77.7
1982	49.1	0.8	89.3	50.6	0.8	92.4	44.4	-	77.6
1983	51.4	0.9	93.4	52.9	0.9	96.3	48.8	-	86.5
1984	53.4	0.8	97.2	55.1	0.8	100.5	48.3	-	85.2
1985	57.2	0.8	104.1	58.8	0.8	107.4	52.8	-	92.9
1986	58.6	0.8	106.7	60.0	0.8	109.7	54.4	-	95.4
1987	62.2	0.8	113.3	64.7	0.8	118.3	52.0	-	91.1
1988	60.7	1.0	110.4	62.8	0.9	114.8	57.3	-	99.5
1989	58.7	0.9	106.8	60.7	0.9	111.0	51.4	-	89.8
1990	60.5	0.9	110.4	62.6	0.9	114.7	56.1	-	98.0
1991	61.3	0.9	112.1	63.4	0.9	116.6	55.9	-	98.2
1992	60.8	0.8	111.2	62.2	0.8	114.6	58.8	-	102.9
1993	59.4	0.9	108.9	60.9	0.8	112.4	57.7	-	101.3
1994	60.4	0.9	111.0	62.1	0.9	114.9	59.2	-	103.8
1995	61.0	0.8	112.3	62.7	0.7	116.4	60.0	-	104.8
1996	61.3	1.1	113.0	62.7	1.1	116.4	59.6	-	104.6
1997	63.2	1.0	116.7	64.6	1.0	120.2	59.7	-	104.5
1998	63.8	0.9	118.1	65.1	1.0	121.3	56.2	-	99.2
<u>AGE-ADJUSTED RATES, 1994-98</u>									
AGE AT DIAGNOSIS:									
All ages	62.0	1.0	114.3	63.4	1.0	117.9	58.9	1.3	103.3
Under 65	40.0	0.5	77.6	40.5	0.5	79.6	40.0	0.7	72.7
65 and over	262.2	5.4	448.9	272.7	5.5	467.6	230.8	6.8	382.9
All ages (world std.) ^λ	51.8	0.7	96.7	52.8	0.7	99.6	49.8	1.0	88.3
<u>AGE-SPECIFIC RATES, 1994-98</u>									
AGE AT DIAGNOSIS:									
0-4	-	-	-	-	-	-	-	-	-
5-9	-	-	-	-	-	-	-	-	-
10-14	-	-	-	-	-	-	-	-	-
15-19	-	-	-	-	-	-	-	-	-
20-24	0.7	-	1.5	0.6	-	1.2	-	-	-
25-29	4.3	-	8.5	4.0	-	8.0	6.7	-	12.6
30-34	12.9	-	25.6	12.3	-	24.8	17.0	-	31.5
35-39	29.5	-	58.5	28.5	-	57.2	35.3	-	65.7
40-44	60.1	-	118.5	59.8	-	119.5	62.3	-	116.1
45-49	101.4	0.9	199.7	101.3	0.8	202.2	105.4	-	194.7
50-54	138.0	1.4	269.4	140.6	1.3	277.8	138.3	-	253.8
55-59	164.6	2.1	317.1	167.7	2.0	327.2	161.9	-	289.0
60-64	193.1	3.9	364.2	199.9	3.9	382.4	168.5	-	295.0
65-69	223.9	3.6	409.5	232.0	3.9	428.1	198.9	-	351.8
70-74	267.2	5.0	471.2	278.1	5.3	491.7	235.3	-	398.1
75-79	290.3	7.0	489.7	302.8	6.9	510.2	255.6	-	417.5
80-84	306.5	8.0	481.9	318.0	7.5	497.2	271.8	-	412.7
85+	282.6	7.4	396.9	296.2	7.4	411.0	237.2	-	339.6

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

^λ SEER Program. 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 IV-3
BREAST CANCER (Invasive)U.S. MORTALITY RATES, AGE-ADJUSTED AND AGE-SPECIFIC RATES⁰, BY RACE AND SEX

	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
<u>AGE-ADJUSTED RATES</u>									
YEAR OF DEATH:									
1973	15.0	0.3	26.9	15.1	0.3	27.1	14.8	0.5	26.3
1974	14.9	0.3	26.7	14.9	0.3	26.8	15.1	0.5	26.7
1975	14.6	0.3	26.2	14.8	0.3	26.5	14.1	0.3	24.8
1976	14.8	0.3	26.5	15.0	0.3	26.8	14.4	0.5	25.2
1977	15.2	0.3	27.1	15.2	0.3	27.2	15.7	0.4	27.4
1978	14.8	0.3	26.5	14.9	0.3	26.7	15.3	0.5	26.7
1979	14.6	0.2	26.0	14.7	0.2	26.2	14.8	0.4	25.7
1980	14.8	0.2	26.4	14.9	0.2	26.6	15.2	0.3	26.4
1981	14.9	0.2	26.6	15.0	0.2	26.8	15.6	0.4	27.1
1982	15.0	0.3	26.8	15.1	0.2	26.9	16.3	0.4	28.2
1983	15.0	0.2	26.7	15.0	0.2	26.8	16.2	0.4	28.0
1984	15.4	0.2	27.3	15.3	0.2	27.3	17.4	0.4	30.0
1985	15.4	0.3	27.5	15.4	0.3	27.6	16.9	0.3	29.1
1986	15.3	0.2	27.3	15.3	0.2	27.4	17.1	0.3	29.6
1987	15.2	0.3	27.1	15.2	0.3	27.1	17.8	0.4	30.6
1988	15.5	0.2	27.5	15.3	0.2	27.4	18.3	0.6	31.4
1989	15.4	0.3	27.5	15.4	0.2	27.5	17.7	0.4	30.4
1990	15.4	0.2	27.4	15.2	0.2	27.3	18.5	0.4	31.6
1991	15.1	0.2	27.0	15.0	0.2	26.8	18.6	0.3	31.8
1992	14.6	0.2	26.2	14.5	0.2	26.0	18.0	0.4	30.9
1993	14.5	0.3	25.9	14.3	0.3	25.6	18.5	0.5	31.5
1994	14.3	0.3	25.5	14.0	0.3	25.2	18.4	0.5	31.3
1995	14.1	0.3	25.2	13.8	0.3	24.8	18.7	0.6	31.9
1996	13.6	0.3	24.3	13.3	0.2	23.9	18.1	0.5	30.8
1997	13.0	0.3	23.3	12.6	0.2	22.7	18.3	0.5	31.2
1998	12.6	0.2	22.7	12.3	0.2	22.2	17.3	0.4	29.6
<u>AGE-ADJUSTED RATES, 1994-98</u>									
AGE AT DEATH:									
All ages	13.5	0.3	24.2	13.2	0.2	23.8	18.1	0.5	30.9
Under 65	7.3	0.1	13.9	6.9	0.1	13.4	11.1	0.2	19.9
65 and over	70.5	1.7	117.5	70.6	1.6	118.2	82.1	3.4	131.2
All ages (world std.) ^φ	10.8	0.2	19.6	10.5	0.2	19.2	14.9	0.4	25.8
<u>AGE-SPECIFIC RATES, 1994-98</u>									
AGE AT DEATH:									
0-4	-	-	-	-	-	-	-	-	-
5-9	-	-	-	-	-	-	-	-	-
10-14	-	-	-	-	-	-	-	-	-
15-19	-	-	-	-	-	-	-	-	-
20-24	0.1	-	0.1	0.0	-	0.1	-	-	-
25-29	0.5	-	1.0	0.4	-	0.9	1.1	-	2.0
30-34	2.1	-	4.1	1.8	-	3.5	4.1	-	7.8
35-39	5.1	-	10.1	4.6	-	9.2	9.2	-	17.4
40-44	9.6	0.1	18.8	8.8	0.1	17.5	16.5	-	30.8
45-49	16.4	0.1	32.1	15.3	0.1	30.2	27.7	-	50.7
50-54	24.5	0.3	47.5	23.4	0.3	45.7	38.1	-	68.5
55-59	31.5	0.5	60.1	30.5	0.5	58.8	45.1	-	79.7
60-64	39.5	0.8	73.9	38.7	0.7	73.3	53.7	1.5	92.9
65-69	49.0	1.0	89.1	49.0	1.0	89.8	57.6	2.2	98.9
70-74	62.7	1.4	110.0	62.4	1.3	110.2	78.8	2.8	130.9
75-79	75.7	2.1	126.9	76.0	2.0	127.9	86.4	4.1	137.8
80-84	98.3	2.6	153.3	98.5	2.4	153.8	114.5	5.1	170.8
85+	142.7	3.9	198.5	144.3	3.7	200.2	147.8	6.7	206.0

⁰ NCHS public use tape. Rates are per 100,000 and are age-adjusted to the 1970 U.S. standard population, unless noted.
^φ NCHS public use tape. 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 IV-4
FEMALE BREAST CANCER (Invasive)

SEER INCIDENCES AND U.S. MORTALITY RATES, AGE-ADJUSTED RATES, BY RACE AND AGE

	All Races, Females			White Females			Black Females		
	All	<50	50+	All	<50	50+	All	<50	50+
<u>SEER INCIDENCE RATES</u>									
<u>YEAR OF DIAGNOSIS:</u>									
1973	82.6	29.0	248.0	84.6	29.5	254.5	68.9	25.9	201.3
1974	94.9	33.0	285.8	96.8	33.0	293.7	79.3	30.4	230.0
1975	88.2	30.0	267.7	90.1	30.1	275.2	78.5	30.7	226.1
1976	85.5	29.7	257.5	87.9	30.3	265.3	70.6	27.6	203.2
1977	84.1	28.8	254.4	86.2	29.1	262.4	72.2	27.2	211.0
1978	84.1	28.5	255.6	86.6	28.8	264.8	72.0	29.7	202.5
1979	85.6	28.1	263.1	87.7	28.5	270.3	72.5	27.7	210.5
1980	85.5	27.7	263.7	87.9	28.0	272.6	74.8	27.8	219.6
1981	88.9	28.8	274.3	91.9	29.5	284.6	77.7	28.5	229.4
1982	89.3	29.8	272.8	92.4	30.3	283.7	77.6	28.0	230.3
1983	93.4	29.6	290.1	96.3	30.0	300.6	86.5	30.3	260.0
1984	97.2	31.1	301.2	100.5	31.6	313.0	85.2	32.2	248.8
1985	104.1	32.5	325.1	107.4	32.6	337.8	92.9	33.2	276.7
1986	106.7	32.6	335.2	109.7	33.1	345.8	95.4	33.7	288.8
1987	113.3	33.5	359.4	118.3	34.3	377.4	91.1	31.3	275.3
1988	110.4	32.3	351.2	114.8	33.1	366.7	99.5	31.4	309.3
1989	106.8	32.0	337.4	111.0	32.8	352.2	89.8	31.5	269.6
1990	110.4	33.5	347.8	114.7	33.6	364.9	98.0	35.7	289.9
1991	112.1	34.6	351.0	116.6	34.7	369.2	98.2	37.3	285.9
1992	111.2	32.0	355.5	114.6	32.2	368.8	102.9	34.2	314.5
1993	108.9	31.5	347.4	112.4	31.8	360.8	101.3	33.4	310.7
1994	111.0	31.3	356.5	114.9	31.4	372.4	103.8	35.4	314.6
1995	112.3	31.9	360.1	116.4	32.1	376.3	104.8	34.1	322.8
1996	113.0	32.1	362.8	116.4	32.2	376.1	104.6	32.1	328.1
1997	116.7	32.1	377.4	120.2	32.2	391.6	104.5	32.5	326.5
1998	118.1	32.9	380.7	121.3	32.7	394.6	99.2	31.3	308.4
1994-98	114.3	32.1	367.7	117.9	32.1	382.4	103.3	33.0	320.0
<u>U.S. MORTALITY RATES</u>									
<u>YEAR OF DEATH:</u>									
1973	26.9	7.0	88.4	27.1	6.8	89.7	26.3	8.9	79.8
1974	26.7	6.9	87.6	26.8	6.7	88.6	26.7	8.7	82.0
1975	26.2	6.8	86.1	26.5	6.7	87.5	24.8	7.9	77.1
1976	26.5	6.5	88.3	26.8	6.4	89.9	25.2	7.5	79.7
1977	27.1	6.6	90.2	27.2	6.5	91.1	27.4	7.8	88.0
1978	26.5	6.4	88.3	26.7	6.3	89.5	26.7	8.4	83.1
1979	26.0	6.3	86.6	26.2	6.2	88.2	25.7	8.4	79.0
1980	26.4	6.3	88.4	26.6	6.2	89.7	26.4	8.0	83.2
1981	26.6	6.2	89.3	26.8	6.0	90.7	27.1	8.5	84.3
1982	26.8	6.2	90.2	26.9	6.0	91.1	28.2	8.3	89.7
1983	26.7	6.0	90.6	26.8	5.8	91.6	28.0	8.2	89.2
1984	27.3	6.3	92.2	27.3	6.0	93.0	30.0	9.2	94.3
1985	27.5	6.3	92.7	27.6	6.1	93.7	29.1	8.8	91.8
1986	27.3	6.4	91.9	27.4	6.1	93.0	29.6	9.4	91.7
1987	27.1	6.2	91.7	27.1	5.9	92.4	30.6	9.5	95.7
1988	27.5	6.2	93.4	27.4	5.9	93.9	31.4	9.3	99.5
1989	27.5	6.2	93.1	27.5	5.9	93.9	30.4	9.2	96.0
1990	27.4	6.1	92.9	27.3	5.9	93.2	31.6	8.8	101.7
1991	27.0	6.0	91.8	26.8	5.7	92.0	31.8	9.1	102.0
1992	26.2	5.8	89.1	26.0	5.5	89.3	30.9	8.9	99.0
1993	25.9	5.5	88.6	25.6	5.2	88.6	31.5	8.6	102.0
1994	25.5	5.5	87.2	25.2	5.1	87.1	31.3	8.7	101.1
1995	25.2	5.4	86.2	24.8	5.0	85.7	31.9	8.7	103.1
1996	24.3	5.2	83.3	23.9	4.8	83.0	30.8	8.8	98.8
1997	23.3	5.0	79.6	22.7	4.6	78.6	31.2	8.2	102.2
1998	22.7	4.7	78.1	22.2	4.3	77.4	29.6	7.9	96.3
1994-98	24.2	5.1	82.8	23.8	4.8	82.3	30.9	8.4	100.3

§ SEER Program. Rates are per 100,000 and are age-adjusted to the 1970 U.S. standard population.
 § NCHS public use tape. Rates are per 100,000 and are age-adjusted to the 1970 U.S. standard population.
 - Statistic not shown. Rate based on less than 25 cases for the time interval.

Table IV-5
FEMALE BREAST CANCER (Invasive)

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

	All Races, Females			White Females			Black Females		
	All	<50	50+	All	<50	50+	All	<50	50+
<u>5-YR RELATIVE SURVIVAL RATES</u>									
YEAR OF DIAGNOSIS:									
1960-63 ^a	-	-	-	63	-	-	46	-	-
1970-73 ^a	-	-	-	68	-	-	51	-	-
1974-76 ^b	74.7	76.4	74.1	75.3	77.4	74.6	63.0	64.2	62.4
1977-79 ^b	74.7	75.8	74.3	75.4	76.7	75.0	63.1	65.4	61.7
1980-82 ^b	76.3	77.2	76.1	77.1	77.9	76.9	65.9	69.1	64.1
1983-85 ^b	78.1	77.3	78.3	79.2	79.0	79.3	63.4	63.0	63.6
1986-88 ^b	82.8	80.1	83.7	83.9	81.4	84.7	69.3	67.3	70.4
1989-91 ^b	84.8	82.6	85.7	86.1	84.4	86.7	71.2	69.3	72.5
1992-97 ^b	85.5 Ω	83.5 Ω	86.4 Ω	86.8 Ω	85.6 Ω	87.4 Ω	72.0 Ω	69.6 Ω	73.6 Ω
1992-97 ^b									
ALL STAGES	85.5	83.5	86.4	86.8	85.6	87.4	72.0	69.6	73.6
LOCALIZED	96.4	93.7	97.3	97.0	94.7	97.7	88.5	84.7	90.6
REGIONAL	77.7	77.8	77.7	79.4	80.3	79.1	65.6	65.3	65.8
DISTANT	21.1	25.9	19.6	22.4	27.9	20.8	14.7	19.8	12.2
UNSTAGED	54.3	59.8	52.6	54.5	63.5	52.2	50.3	45.5 \uparrow	52.6
<u>STAGE DISTRIBUTION (%) 1992-97^b</u>									
ALL STAGES									
Number of cases	84,564	21,003	63,561	72,224	16,818	55,406	7,098	2,498	4,600
Percent	100%	100%	100%	100%	100%	100%	100%	100%	100%
LOCALIZED	63	56	65	64	57	66	53	47	55
REGIONAL	28	36	25	28	36	25	33	40	30
DISTANT	6	5	6	5	5	6	9	8	9
UNSTAGED	3	3	3	3	3	3	5	5	6
<u>5-YR RELATIVE SURVIVAL RATES, 1992-97^b</u>									
AGE AT DIAGNOSIS:									
<45	82.1	-	-	84.0	-	-	70.1	-	-
45-54	85.9	-	-	87.9	-	-	70.4	-	-
55-64	86.6	-	-	87.6	-	-	75.9	-	-
65-74	88.2	-	-	89.0	-	-	77.4	-	-
75+	84.0	-	-	85.0	-	-	64.4	-	-
Under 65	85.2	-	-	86.8	-	-	71.9	-	-
65 and over	86.5	-	-	87.4	-	-	72.6	-	-

^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 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 1997.

 Ω

The difference in rates between 1974-76 and 1992-97 is statistically significant ($p < .05$).

 \uparrow

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

 \uparrow

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

-

Statistic could not be calculated.

Table IV-6
 FEMALE BREAST CANCER (Invasive)

INCIDENCE, MORTALITY, 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
Incidence																				
SEER	88.2	85.5	88.9	89.3	93.4	97.2	104.1	106.7	113.3	110.4	106.8	110.4	112.1	111.2	108.9	111.0	112.3	113.0	116.7	118.1
Mortality																				
U.S.	26.2	26.4	26.6	26.8	26.7	27.3	27.5	27.3	27.1	27.5	27.5	27.4	27.0	26.2	25.9	25.5	25.2	24.3	23.3	22.7
SEER	27.6	26.8	27.1	27.5	26.8	26.5	27.9	27.0	27.7	27.7	27.5	26.0	26.9	25.5	24.8	24.0	24.9	24.1	22.8	22.5
Relative Survival Rates (SEER)																				
1-year	94.8	95.3	95.4	95.6	95.4	95.8	95.9	96.3	96.8	96.8	97.0	97.0	97.3	97.4	97.2	97.5	97.2	97.1	97.5	
2-year	89.0	89.8	90.0	90.4	90.5	91.4	91.3	91.7	93.2	93.4	93.4	93.4	93.9	94.4	94.0	94.3	94.0	93.7		
3-year	83.2	84.2	84.8	84.9	85.1	86.3	86.3	87.1	89.2	90.0	90.0	89.8	90.2	91.1	90.9	91.0	91.2			
4-year	79.0	79.6	79.7	80.8	81.1	82.3	82.3	83.5	86.0	87.1	87.2	86.9	87.6	88.1	88.1	88.4				
5-year	75.4	75.5	76.2	77.4	76.8	78.6	78.7	80.5	83.2	84.5	84.6	84.6	85.2	85.7	85.6					
6-year	72.2	72.4	73.1	74.1	73.6	75.9	76.2	78.1	80.5	82.2	82.2	82.4	83.2	83.7						
7-year	69.6	69.4	70.3	70.9	70.7	73.4	74.1	75.8	78.3	80.3	80.4	80.4	81.3							
8-year	67.7	67.0	67.6	68.8	68.3	71.3	72.1	74.2	76.7	78.8	78.9	78.9								
9-year	65.7	64.5	65.7	67.2	66.5	68.9	70.1	72.5	74.9	76.8	77.4									
10-year	63.8	62.7	63.5	65.2	64.8	66.8	68.4	70.8	73.5	75.7										
11-year	62.0	60.9	61.9	63.2	62.7	65.0	66.9	69.5	71.7											
12-year	60.5	59.5	60.6	61.8	61.4	64.1	65.7	68.0												
13-year	59.0	58.6	58.9	60.7	60.2	63.0	64.7													
14-year	58.0	57.6	57.6	59.1	58.9	61.7														
15-year	56.8	56.7	56.8	58.4	57.7															
16-year	55.6	55.2	55.4	57.2																
17-year	54.8	54.1	54.7																	
18-year	54.2	53.1																		
19-year	53.4																			
20-year	52.8																			
21-year	51.9																			
22-year	51.4																			
23-year	50.8																			

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 IV-7
 FEMALE BREAST CANCER (Under 50) (Invasive)

INCIDENCE, MORTALITY, 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
Incidence																				
SEER	30.0	27.7	28.8	29.8	29.6	31.1	32.5	32.6	33.5	32.3	32.0	33.5	34.6	32.0	31.5	31.3	31.9	32.1	32.1	32.9
Mortality																				
U.S.	6.8	6.3	6.2	6.2	6.0	6.3	6.3	6.4	6.2	6.2	6.2	6.1	6.0	5.8	5.5	5.5	5.4	5.2	5.0	4.7
SEER	6.8	6.5	5.9	6.1	5.8	5.8	6.0	6.3	6.0	6.0	5.7	6.0	5.9	5.1	5.3	4.7	5.2	4.9	4.7	4.2
Relative Survival Rates (SEER)																				
1-year	96.5	97.8	98.1	97.3	97.7	97.3	97.6	97.9	98.1	98.4	98.2	97.5	98.5	98.4	97.9	98.4	97.9	97.7	98.1	
2-year	90.5	90.7	91.8	92.0	91.6	91.3	91.8	92.2	92.6	93.7	93.1	93.1	93.8	94.6	94.1	93.5	93.7	93.6		
3-year	83.9	84.7	85.9	86.5	86.0	85.2	85.8	86.1	87.1	89.2	88.8	88.3	89.8	90.6	90.0	89.1	89.7			
4-year	80.1	80.0	80.8	82.2	81.2	80.9	81.3	82.0	82.9	85.4	84.9	84.8	86.6	86.2	86.8	85.7				
5-year	76.3	75.6	77.2	78.5	76.8	77.3	77.9	78.4	79.5	82.2	82.0	82.1	83.6	83.4	84.3					
6-year	73.0	72.5	74.5	74.8	73.4	74.8	75.6	75.8	77.0	80.0	79.5	79.7	81.3	81.0						
7-year	70.4	69.6	72.1	72.5	70.7	72.0	73.4	73.0	74.6	78.0	77.7	78.0	78.9							
8-year	68.7	67.5	69.6	70.1	68.6	69.5	71.6	71.2	72.9	76.1	76.2	75.8								
9-year	67.0	65.9	68.0	68.2	67.0	67.4	69.7	70.1	70.9	74.6	74.3									
10-year	65.4	64.3	66.1	66.8	65.2	66.3	68.5	68.8	69.3	73.1										
11-year	64.3	63.0	64.8	65.3	64.0	64.6	67.6	67.7	67.7											
12-year	62.5	62.1	63.6	64.0	63.1	63.9	66.3	66.3												
13-year	61.4	61.2	62.4	63.3	61.6	62.3	65.1													
14-year	60.7	60.5	61.3	61.6	60.3	61.2														
15-year	59.2	59.8	60.3	60.7	59.2															
16-year	58.1	59.0	59.2	60.1																
17-year	57.1	58.4	58.5																	
18-year	56.5	57.7																		
19-year	56.0																			
20-year	55.5																			
21-year	54.8																			
22-year	54.3																			
23-year	53.7																			

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 IV-8
FEMALE BREAST CANCER (50 and Over) (Invasive)

INCIDENCE, MORTALITY, 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
Incidence																				
SEER	267.7	263.7	274.3	272.8	290.1	301.2	325.1	335.2	359.4	351.2	337.4	347.8	351.0	355.5	347.4	356.5	360.1	362.8	377.4	380.7
Mortality																				
U.S.	86.1	88.4	89.3	90.2	90.6	92.2	92.7	91.9	91.7	93.4	93.1	92.9	91.8	89.1	88.6	87.2	86.2	83.3	79.6	78.1
SEER	91.8	89.3	92.3	93.6	91.5	90.4	95.3	91.1	94.6	94.8	94.8	87.8	91.5	88.6	85.1	83.7	85.7	83.4	78.8	79.0
Relative Survival Rates (SEER)																				
1-year	94.3	94.5	94.6	95.1	94.7	95.3	95.4	95.8	96.5	96.3	96.7	96.8	96.9	97.1	96.9	97.2	97.0	96.8	97.3	
2-year	88.6	89.6	89.5	89.9	90.2	91.5	91.1	91.6	93.5	93.2	93.5	93.5	93.9	94.3	94.0	94.5	94.2	93.7		
3-year	83.0	84.0	84.5	84.4	84.9	86.6	86.5	87.4	89.9	90.3	90.4	90.3	90.3	91.2	91.2	91.7	91.8			
4-year	78.6	79.5	79.4	80.3	81.0	82.7	82.6	84.0	87.0	87.7	88.0	87.7	88.0	88.8	88.6	89.4				
5-year	75.1	75.4	75.9	77.0	76.8	79.0	79.0	81.2	84.5	85.4	85.6	85.6	85.9	86.6	86.2					
6-year	72.0	72.3	72.6	73.8	73.7	76.3	76.5	79.0	81.8	83.1	83.3	83.6	84.1	84.8						
7-year	69.3	69.4	69.7	70.4	70.7	74.0	74.3	76.8	79.7	81.2	81.6	81.5	82.4							
8-year	67.4	66.9	67.0	68.3	68.2	72.0	72.4	75.4	78.3	79.9	80.1	80.3								
9-year	65.3	64.1	64.9	66.9	66.4	69.6	70.3	73.6	76.5	77.9	78.9									
10-year	63.2	62.2	62.5	64.6	64.7	67.2	68.5	71.8	75.3	77.0										
11-year	61.0	60.2	60.8	62.5	62.3	65.3	66.8	70.5	73.6											
12-year	59.7	58.6	59.4	61.0	61.0	64.4	65.7	69.1												
13-year	58.0	57.7	57.5	59.8	59.9	63.6	64.8													
14-year	56.8	56.6	56.0	58.1	58.5	62.4														
15-year	55.7	55.6	55.3	57.5	57.4															
16-year	54.4	53.7	53.9	56.2																
17-year	53.8	52.5	53.2																	
18-year	53.1	51.3																		
19-year	52.1																			
20-year	51.4																			
21-year	50.4																			
22-year	49.9																			
23-year	49.3																			

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 IV-9
BREAST 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 (11 SEER Areas) With Cancer and
 Lifetime Risk (Percent) of Dying (Total U.S.) From Cancer

1996-1998

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	0.00	0.11	0.00	0.00	0.05	13.24	
10	0.00	0.00	0.00	0.12	0.00	0.05	0.44	13.34	
20	0.00	0.00	0.01	0.12	0.05	0.44	1.91	13.38	
30	0.00	0.01	0.02	0.12	0.40	1.88	4.59	13.40	
40	0.00	0.02	0.05	0.12	1.50	4.25	7.51	13.16	
50	0.02	0.05	0.09	0.12	2.84	6.21	9.61	12.04	
60	0.04	0.08	0.10	0.11	3.62	7.28	9.42	9.89	
Lifetime Risk of Being Diagnosed =				0.11%	Lifetime Risk of Being Diagnosed =				13.24%
Lifetime Risk of Dying =				0.03%	Lifetime Risk of Dying =				3.20%

Whites

Current Age	Males				Females				
	+10 yrs	+20 yrs	+30 yrs	Eventually	+10 yrs	+20 yrs	+30 yrs	Eventually	
0	0.00	0.00	0.00	0.12	0.00	0.00	0.04	13.83	
10	0.00	0.00	0.00	0.12	0.00	0.04	0.43	13.92	
20	0.00	0.00	0.00	0.12	0.04	0.43	1.92	13.96	
30	0.00	0.00	0.02	0.12	0.39	1.89	4.70	13.98	
40	0.00	0.02	0.06	0.12	1.52	4.36	7.83	13.74	
50	0.02	0.05	0.09	0.12	2.93	6.51	10.10	12.60	
60	0.04	0.08	0.11	0.11	3.84	7.69	9.89	10.37	
Lifetime Risk of Being Diagnosed =				0.12%	Lifetime Risk of Being Diagnosed =				13.83%
Lifetime Risk of Dying =				0.03%	Lifetime Risk of Dying =				3.21%

Blacks

Current Age	Males				Females				
	+10 yrs	+20 yrs	+30 yrs	Eventually	+10 yrs	+20 yrs	+30 yrs	Eventually	
0	0.00	0.00	0.00	0.11	0.00	0.00	0.07	10.14	
10	0.00	0.00	0.00	0.12	0.00	0.07	0.51	10.32	
20	0.00	0.00	0.01	0.12	0.07	0.51	1.82	10.36	
30	0.00	0.01	0.03	0.12	0.44	1.77	4.12	10.38	
40	0.01	0.03	0.06	0.13	1.35	3.76	6.24	10.15	
50	0.03	0.05	0.09	0.13	2.53	5.15	7.57	9.27	
60	0.03	0.08	0.10	0.12	2.92	5.61	7.15	7.51	
Lifetime Risk of Being Diagnosed =				0.11%	Lifetime Risk of Being Diagnosed =				10.14%
Lifetime Risk of Dying =				0.04%	Lifetime Risk of Dying =				3.43%

Table IV-10
 FEMALE BREAST CANCER (Invasive)

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

By Race/Ethnicity and Sex

Incidence^x

RACE/ETHNICITY	Rate 1992-1998	Trend 1992-1998
	Rate per 100,000 persons	EAPC (%)
	Females	Females
All Races	111.2	1.2★
White	115.5	1.1★
White Hispanic	72.9	0.4
White Non-Hispanic	120.5	1.3★
Black	101.5	0.1
Asian/Pacific Islander	78.1	3.9★
Amer Ind/Alask Nat	50.5	-0.1
Hispanic [⊗]	68.5	0.3

Mortality[❖]

RACE/ETHNICITY	Rate 1992-1998	Trend 1992-1998
	Rate per 100,000 persons	EAPC (%)
	Females	Females
All Races	24.7	-2.4★
White	24.3	-2.7★
White Hispanic	15.7	-0.7
White Non-Hispanic	24.7	-2.6★
Black	31.0	-0.6
Asian/Pacific Islander	11.0	-0.4
Amer Ind/Alask Nat	12.4	0.1
Hispanic [⊗]	14.8	-0.7

- 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.
 x Incidence data are from the 11 SEER areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, and Los Angeles) and Alaska. Unless specified, other tables use data from 9 SEER areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta).
 ⊗ Hispanic is not mutually exclusive from whites, blacks, Asian Pacific Islanders, and American Indians/Native Alaskans. For incidence, all 11 SEER areas are included. For mortality, information is included for all states except Connecticut, Oklahoma, Louisiana, 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 IV-11
FEMALE BREAST CANCER (Invasive)AGE-ADJUSTED SEER INCIDENCE RATES§ AND SEER MORTALITY RATES§
By Registry, Race and Age

	All Races, Females			White Females			Black Females		
	All	<50	50+	All	<50	50+	All	<50	50+
<u>SEER INCIDENCE RATES§, 1994-98</u>									
REGISTRY									
11 registries	112.3	31.4	361.8	116.6	31.6	378.7	102.0	31.8	318.7
9 registries	114.3	32.1	367.7	117.9	32.1	382.4	103.3	33.0	320.0
San Francisco-Oakland	118.7	33.9	380.3	134.0	36.0	436.3	92.9	29.8	287.3
Connecticut	121.6	35.3	387.7	123.6	35.8	394.1	94.1	30.1	291.5
Metropolitan Detroit	110.3	31.8	352.5	111.6	31.0	360.2	102.8	32.6	319.4
Hawaii	107.4	32.6	337.9	130.8	32.3	434.8	-	-	-
Iowa	108.7	29.6	352.8	108.8	29.5	353.4	-	-	-
New Mexico	99.7	29.1	317.3	104.5	30.8	331.7	-	-	-
Seattle-Puget Sound	124.4	32.0	409.3	127.4	32.3	420.5	105.3	30.9	334.9
Utah	97.8	24.6	323.7	99.5	25.1	329.0	-	-	-
Metropolitan Atlanta	118.5	34.5	377.7	117.1	32.5	378.2	120.0	37.8	373.7
San Jose-Monterey	118.9	31.6	388.4	124.6	31.7	411.0	92.7	22.8	308.3
Los Angeles	104.5	29.3	336.3	110.0	29.8	357.3	99.4	29.1	316.5
<u>SEER MORTALITY RATES§, 1994-98</u>									
REGISTRY									
11 registries	23.5	4.8	81.2	23.7	4.4	83.2	32.0	8.5	104.4
9 registries	23.7	4.7	82.1	23.7	4.3	83.4	32.7	8.5	107.1
San Francisco-Oakland	22.7	4.7	78.5	24.5	4.2	87.2	29.7	9.3	92.8
Connecticut	25.1	4.7	88.3	24.8	4.5	87.4	31.7	7.1	107.5
Metropolitan Detroit	26.4	5.6	90.4	24.6	4.7	86.1	32.6	8.4	107.1
Hawaii	17.1	3.6	58.7	25.5	3.6	93.2	-	-	-
Iowa	23.1	4.3	81.0	23.1	4.3	81.0	-	-	-
New Mexico	21.7	4.6	74.6	22.5	4.8	77.2	-	-	-
Seattle-Puget Sound	23.2	4.3	81.4	23.5	4.3	82.9	30.3	6.5	103.8
Utah	20.6	3.7	72.7	20.8	3.8	73.3	-	-	-
Metropolitan Atlanta	26.2	5.6	89.7	22.8	3.9	81.1	38.1	9.6	126.0
San Jose-Monterey	21.8	3.9	77.0	23.6	4.1	83.5	34.5	-	134.2
Los Angeles	23.4	5.2	79.4	23.9	4.9	82.6	30.5	9.0	97.1

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 IV-12
 FEMALE BREAST CANCER (Invasive)

AVERAGE ANNUAL AGE-ADJUSTED CANCER MORTALITY^d RATES BY STATE, 1994-98

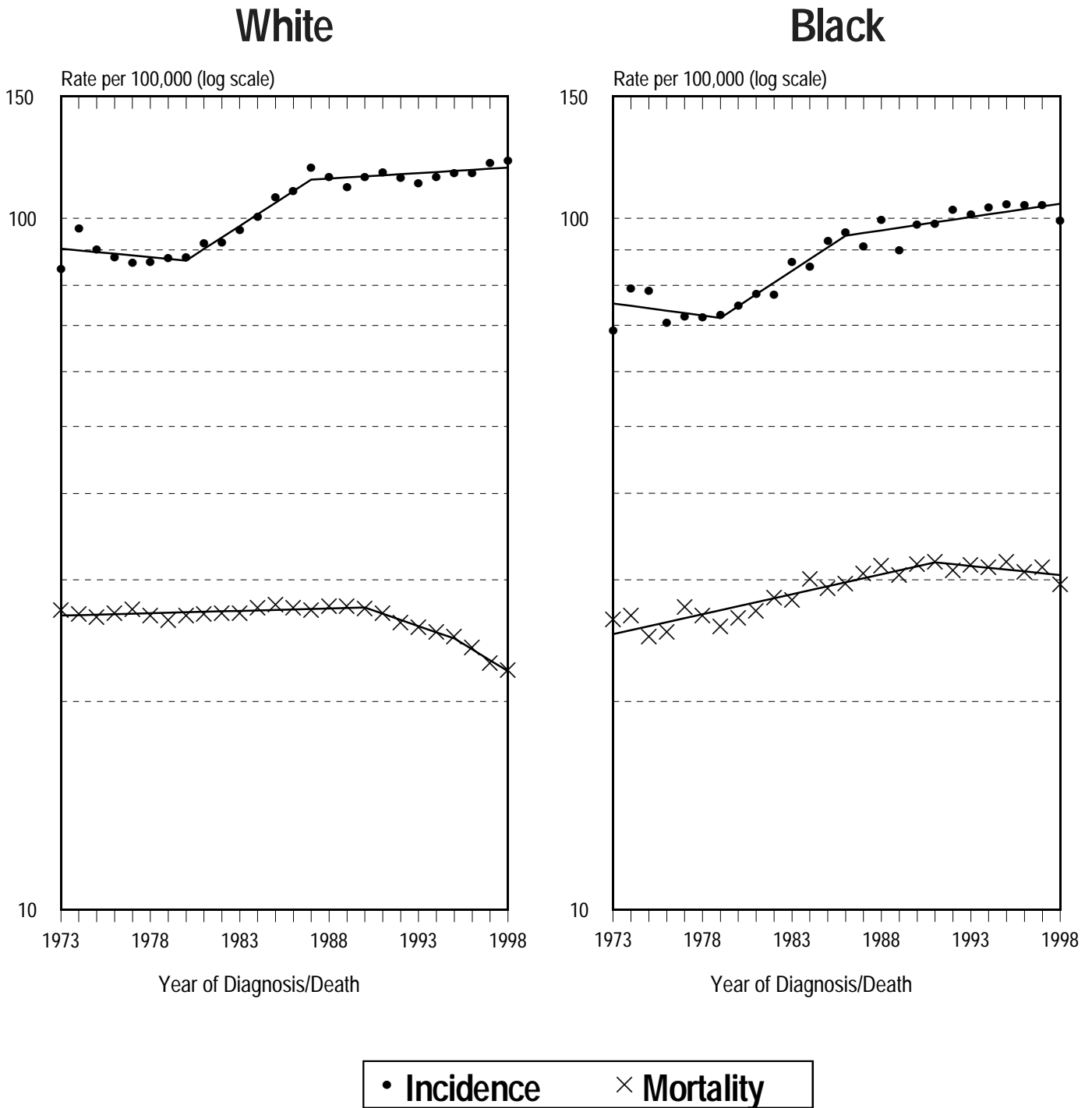
All Races, Females

State	Rate	SE	Rank	PD
TOTAL U.S.	24.2	0.05		
High Five States				
District of Columbia	33.2 ^{3/4}	1.37	(01)	37.2
New Jersey	27.2 ^{3/4}	0.32	(02)	12.4
Delaware	26.7 [']	1.09	(03)	10.3
New York	26.6 ^{3/4}	0.21	(04)	9.9
Maryland	26.4 ^{3/4}	0.42	(05)	9.1
Low Five States				
South Dakota	20.9 [']	0.97	(47)	-13.6
Alaska	20.7 [']	1.45	(48)	-14.5
Utah	20.6 ^{3/4}	0.68	(49)	-14.9
Colorado	20.0 ^{3/4}	0.43	(50)	-17.4
Hawaii	17.1 ^{3/4}	0.71	(51)	-29.3

State	Rate	SE	Rank	PD	State	Rate	SE	Rank	PD
Alabama	22.1 ^{3/4}	0.40	(41)	-8.7	Montana	22.1	0.89	(43)	-8.7
Alaska	20.7 [']	1.45	(48)	-14.5	Nebraska	23.2	0.67	(28)	-4.1
Arizona	21.4 ^{3/4}	0.40	(46)	-11.6	Nevada	22.7	0.71	(38)	-6.2
Arkansas	22.1 ^{3/4}	0.52	(42)	-8.7	New Hampshire	24.6	0.86	(16)	1.7
California	23.3 ^{3/4}	0.17	(27)	-3.7	New Jersey	27.2 ^{3/4}	0.32	(02)	12.4
Colorado	20.0 ^{3/4}	0.43	(50)	-17.4	New Mexico	21.7 ^{3/4}	0.67	(45)	-10.3
Connecticut	25.1	0.49	(12)	3.7	New York	26.6 ^{3/4}	0.21	(04)	9.9
Delaware	26.7 [']	1.09	(03)	10.3	North Carolina	23.8	0.32	(19)	-1.7
District of Columbia	33.2 ^{3/4}	1.37	(01)	37.2	North Dakota	22.5	1.06	(39)	-7.0
Florida	23.2 ^{3/4}	0.21	(29)	-4.1	Ohio	25.6 ^{3/4}	0.27	(10)	5.8
Georgia	23.7	0.34	(22)	-2.1	Oklahoma	23.7	0.48	(24)	-2.1
Hawaii	17.1 ^{3/4}	0.71	(51)	-29.3	Oregon	23.2	0.48	(31)	-4.1
Idaho	22.0	0.82	(44)	-9.1	Pennsylvania	25.8 ^{3/4}	0.25	(08)	6.6
Illinois	26.0 ^{3/4}	0.27	(07)	7.4	Rhode Island	26.2	0.90	(06)	8.3
Indiana	24.7	0.37	(15)	2.1	South Carolina	23.7	0.45	(23)	-2.1
Iowa	23.1	0.50	(33)	-4.5	South Dakota	20.9 [']	0.97	(47)	-13.6
Kansas	22.7	0.54	(37)	-6.2	Tennessee	24.3	0.38	(17)	0.4
Kentucky	23.8	0.44	(20)	-1.7	Texas	22.4 ^{3/4}	0.21	(40)	-7.4
Louisiana	25.6	0.44	(11)	5.8	Utah	20.6 ^{3/4}	0.68	(49)	-14.9
Maine	23.8	0.77	(21)	-1.7	Vermont	23.4	1.14	(25)	-3.3
Maryland	26.4 ^{3/4}	0.42	(05)	9.1	Virginia	24.9	0.36	(13)	2.9
Massachusetts	25.8 ^{3/4}	0.36	(09)	6.6	Washington	22.8	0.38	(36)	-5.8
Michigan	24.8	0.29	(14)	2.5	West Virginia	22.9	0.59	(35)	-5.4
Minnesota	23.1	0.41	(32)	-4.5	Wisconsin	23.0	0.38	(34)	-5.0
Mississippi	23.3	0.53	(26)	-3.7	Wyoming	23.2	1.30	(30)	-4.1
Missouri	23.9	0.37	(18)	-1.2					

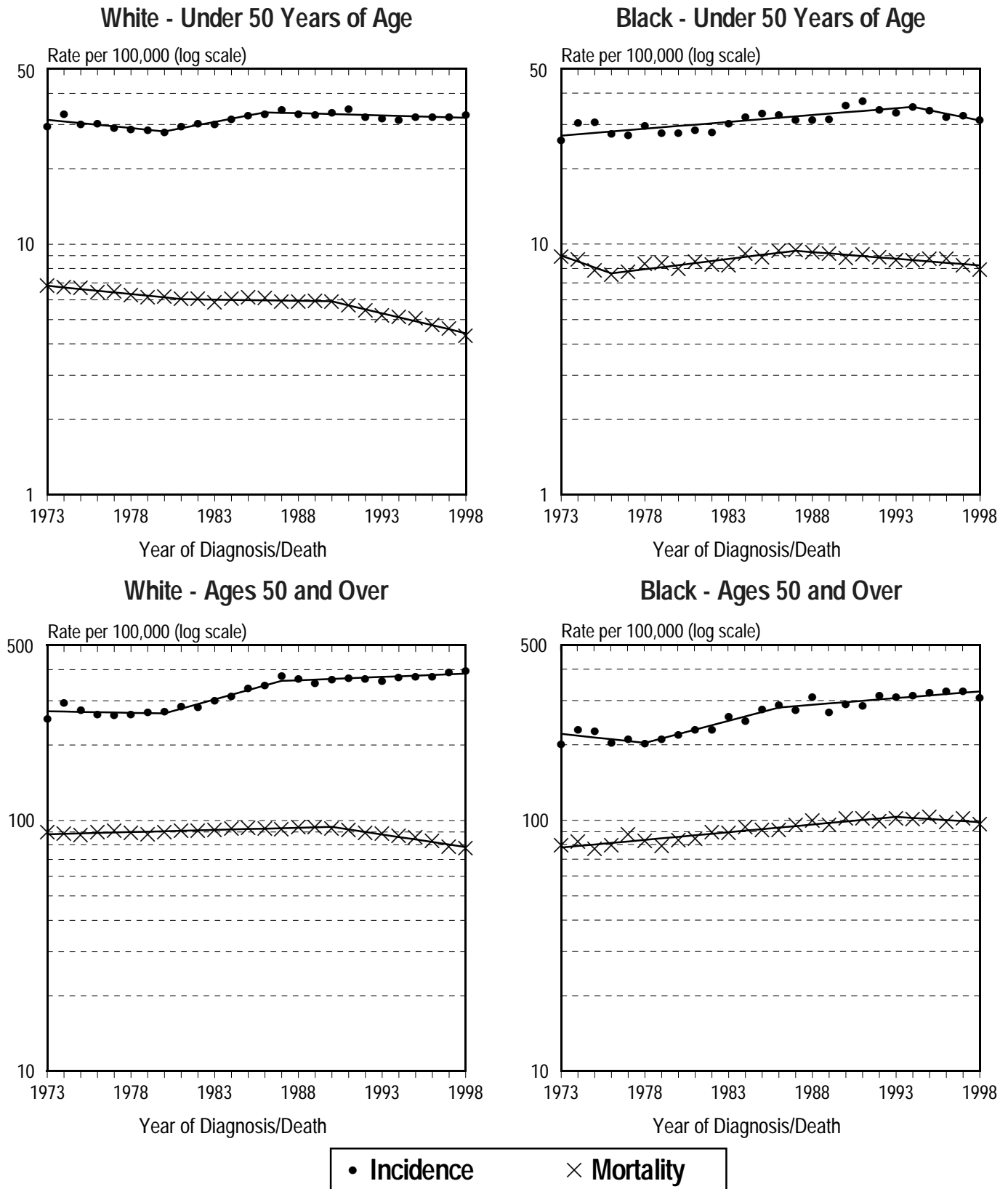
d NCHS public use tape. Rates are per 100,000 and are age-adjusted to the 1970 U.S. standard population.
 SE Standard error of the rate.
 PD Percent difference between state rate and total U.S. rate.
 ' Absolute difference between state rate and total U.S. rate is 10% or more.
 3/4 Difference between state rate and total U.S. rate is statistically significant (p<=.0002).

SEER Incidence and U.S. Mortality Rates⁺ Female Breast Cancer By Race



⁺ Rates are age-adjusted to the 1970 U.S. standard million population. Regression lines are calculated using the Joinpoint Regression Program.

SEER Incidence and U.S. Mortality Rates⁺ Female Breast Cancer, By Age and Race



⁺ Rates are age-adjusted to the 1970 U.S. standard million population. Regression lines are calculated using the Joinpoint Regression Program.

Breast Cancer Stage Distribution 1998

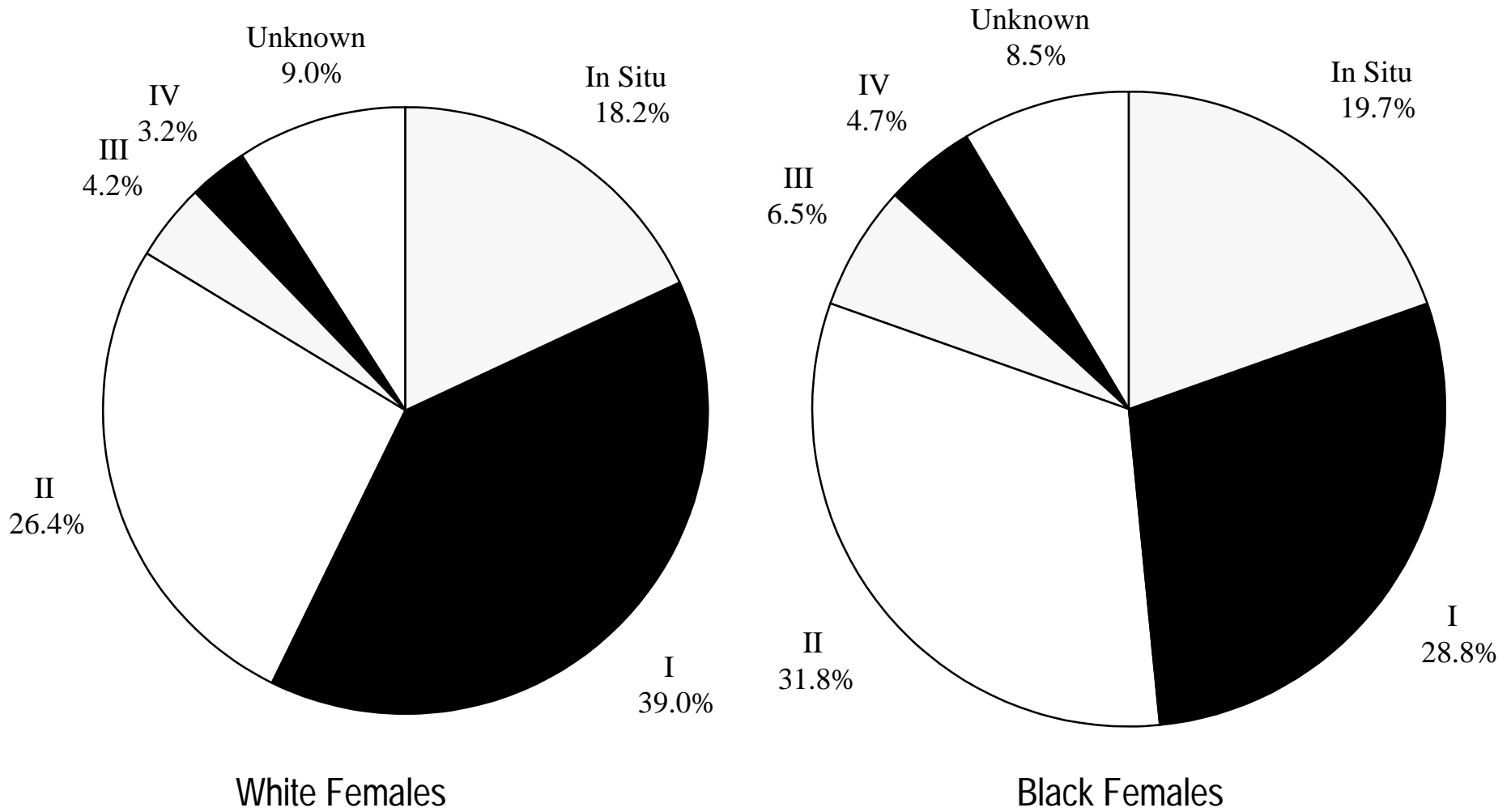


Figure IV-3

Female Breast Cancer by Stage Incidence Rates, 1983-1998

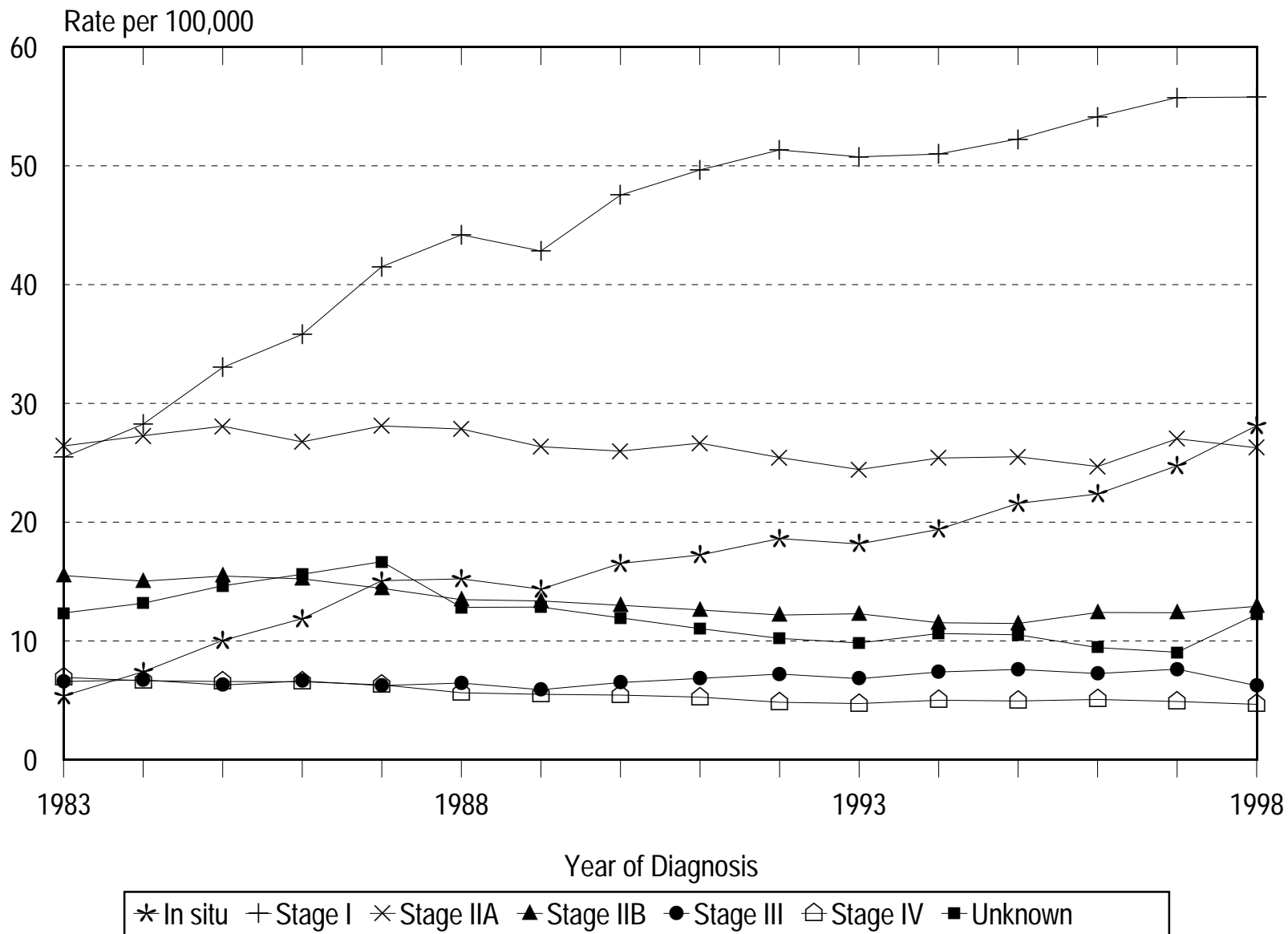
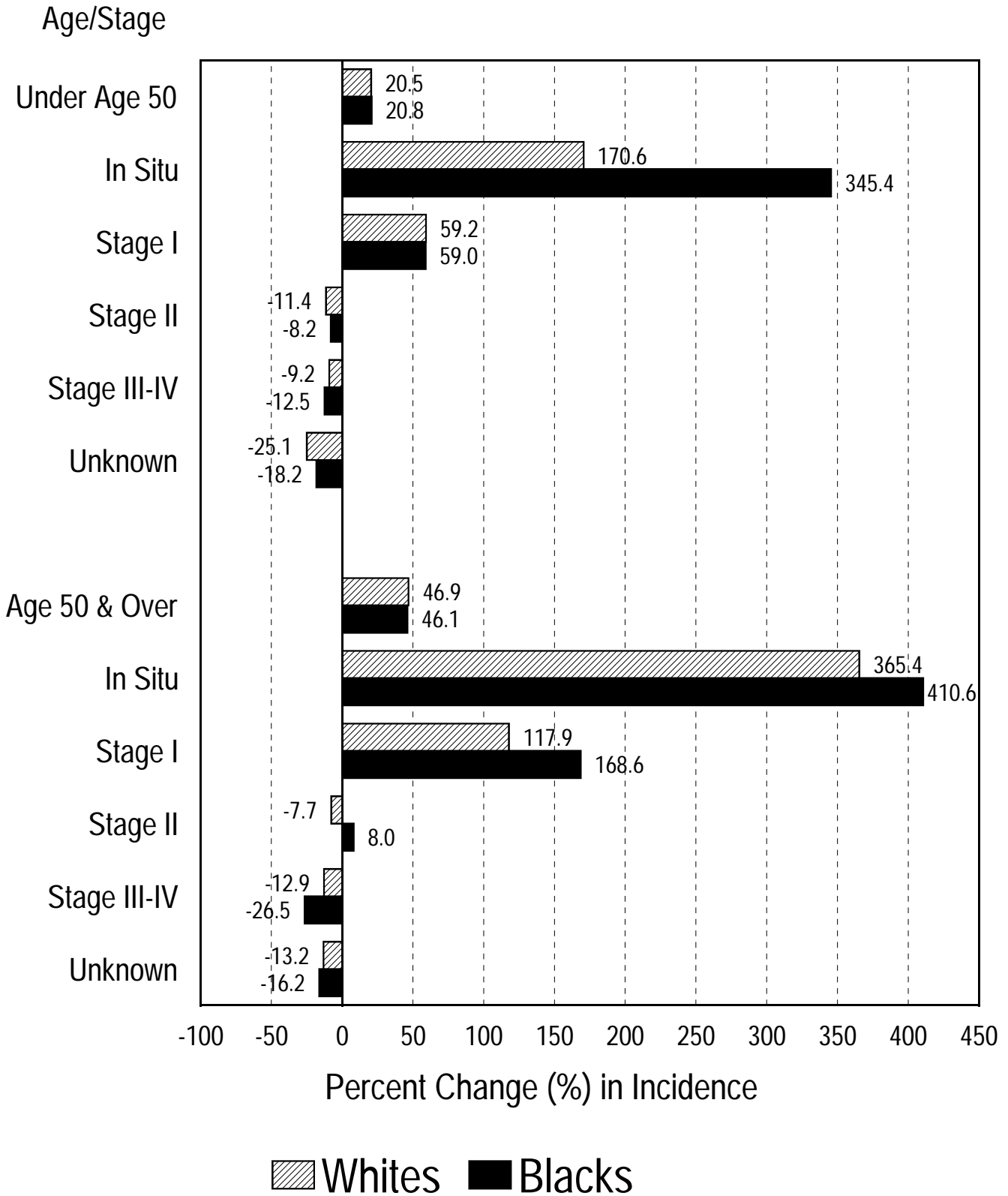


Figure IV-4

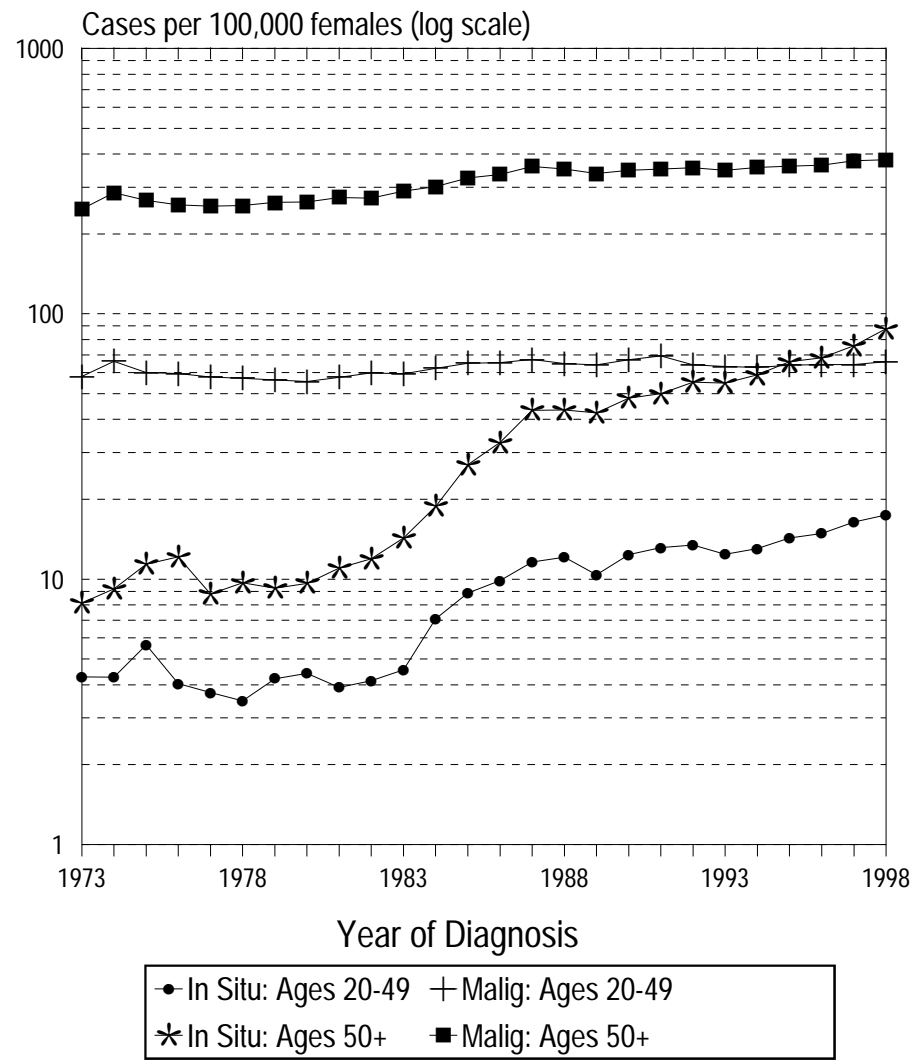
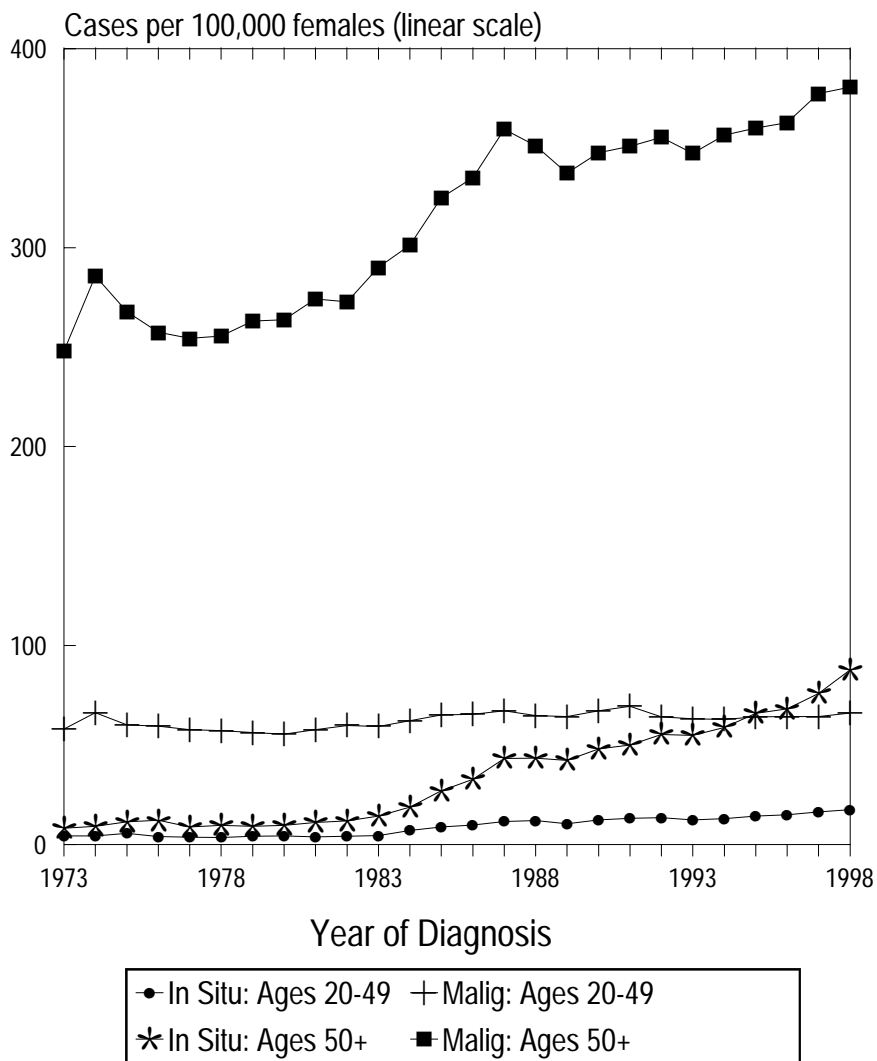
Age-adjusted to 1970 Standard

Figure IV-5

Female Breast Cancer by Stage Percent Change in Incidence, 1983-1998



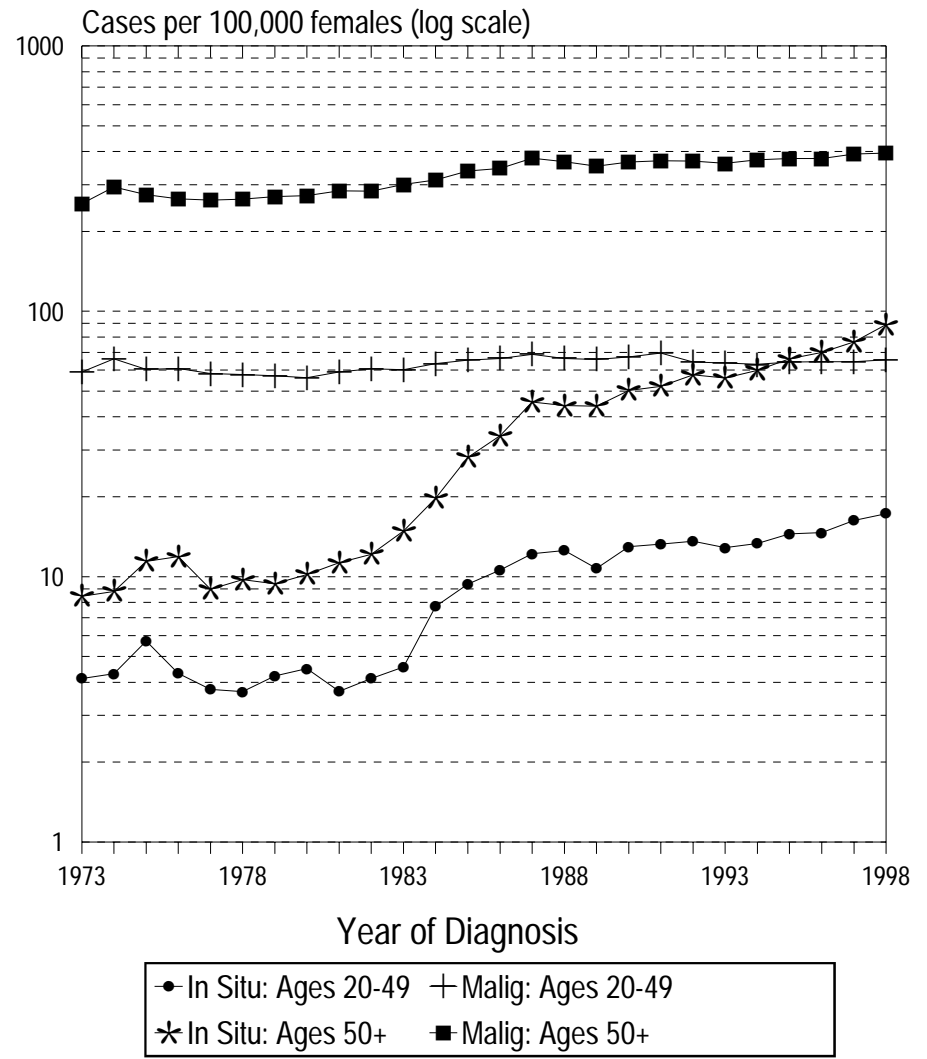
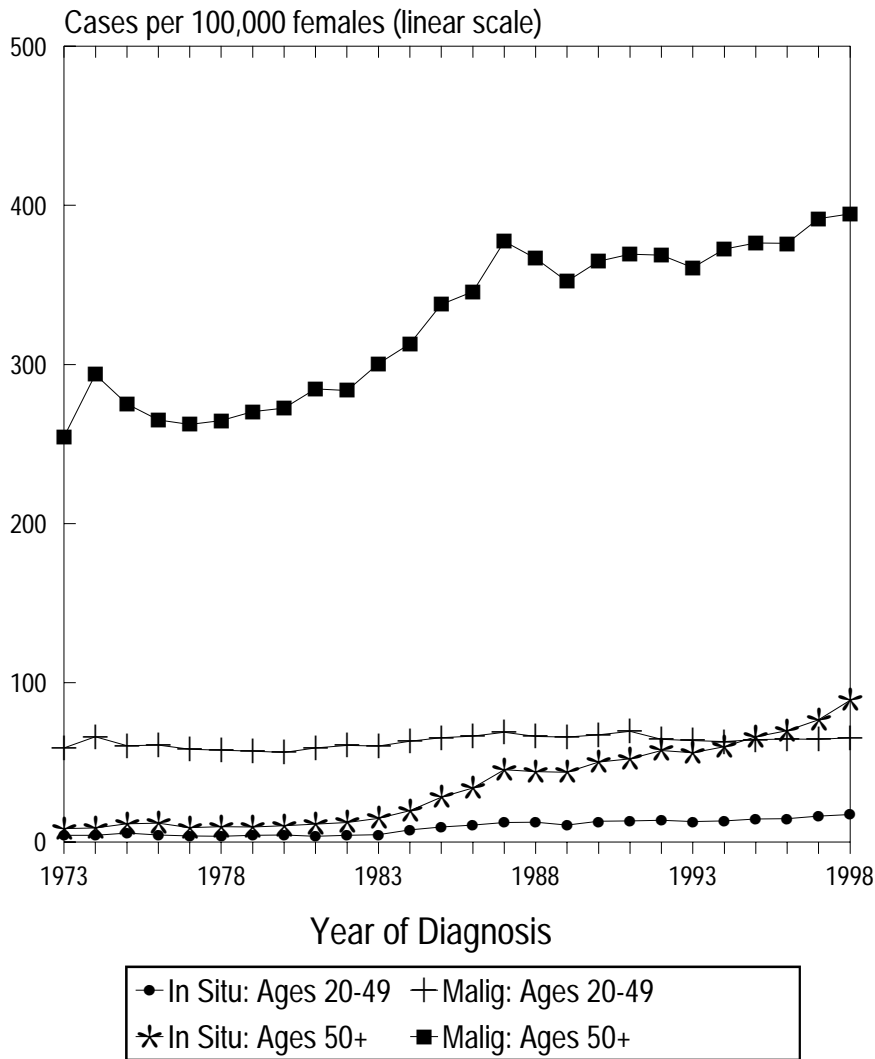
Breast Cancer Incidence Rates, 1973-1998 by Age, In Situ vs. Malignant All Races, Female



Age-adjusted to 1970 Standard

Figure IV-6

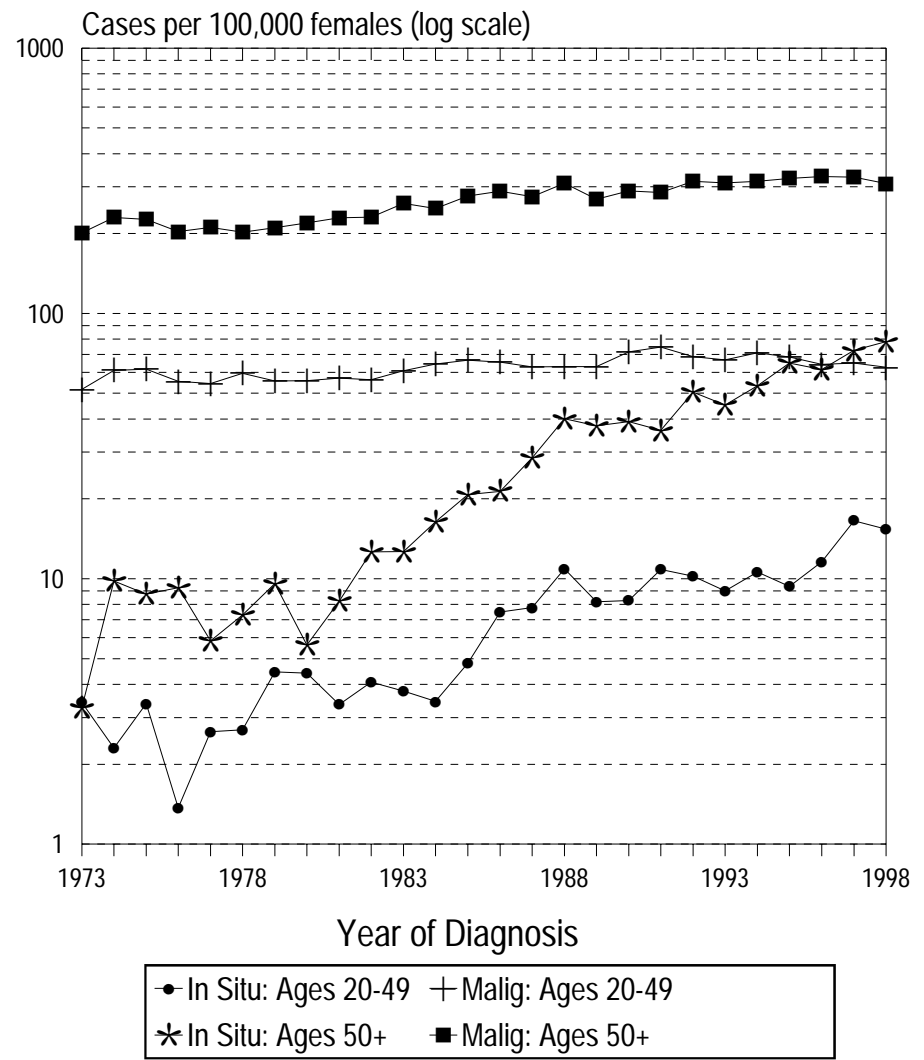
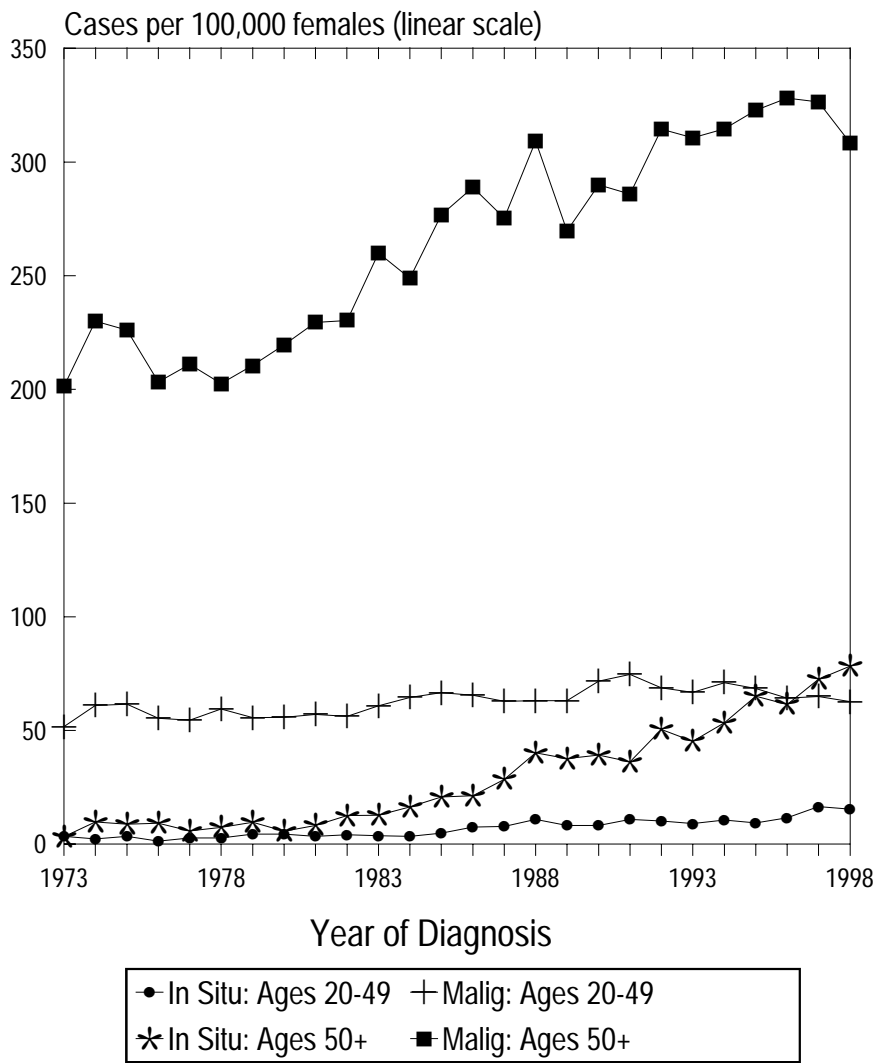
Breast Cancer Incidence Rates, 1973-1998 by Age, In Situ vs. Malignant White Females



Age-adjusted to 1970 Standard

Figure IV-7

Breast Cancer Incidence Rates, 1973-1998 by Age, In Situ vs. Malignant Black Females

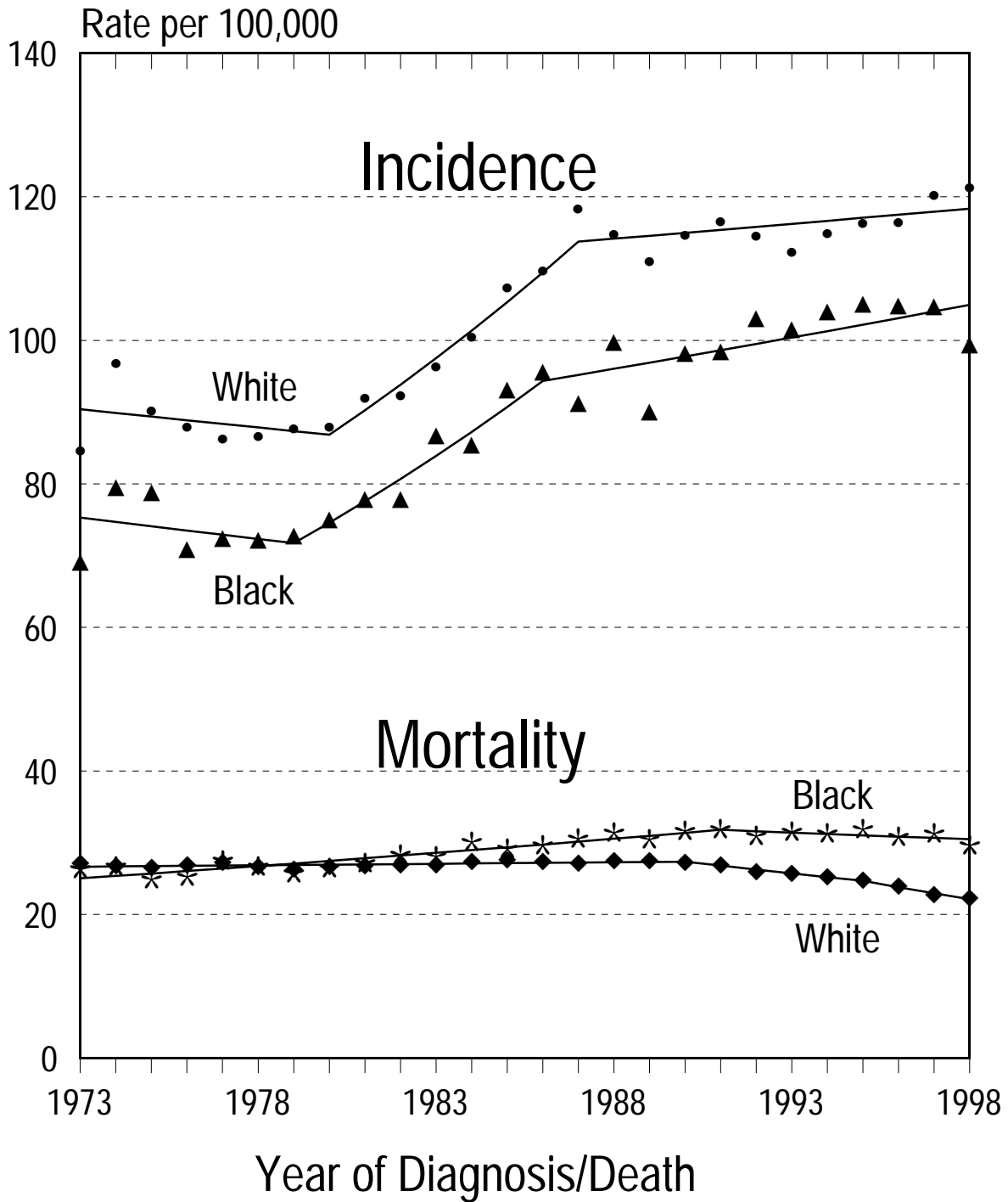


Age-adjusted to 1970 Standard

Figure IV-8

Figure IV-9

Breast Cancer Incidence & Mortality White Females vs. Black Females

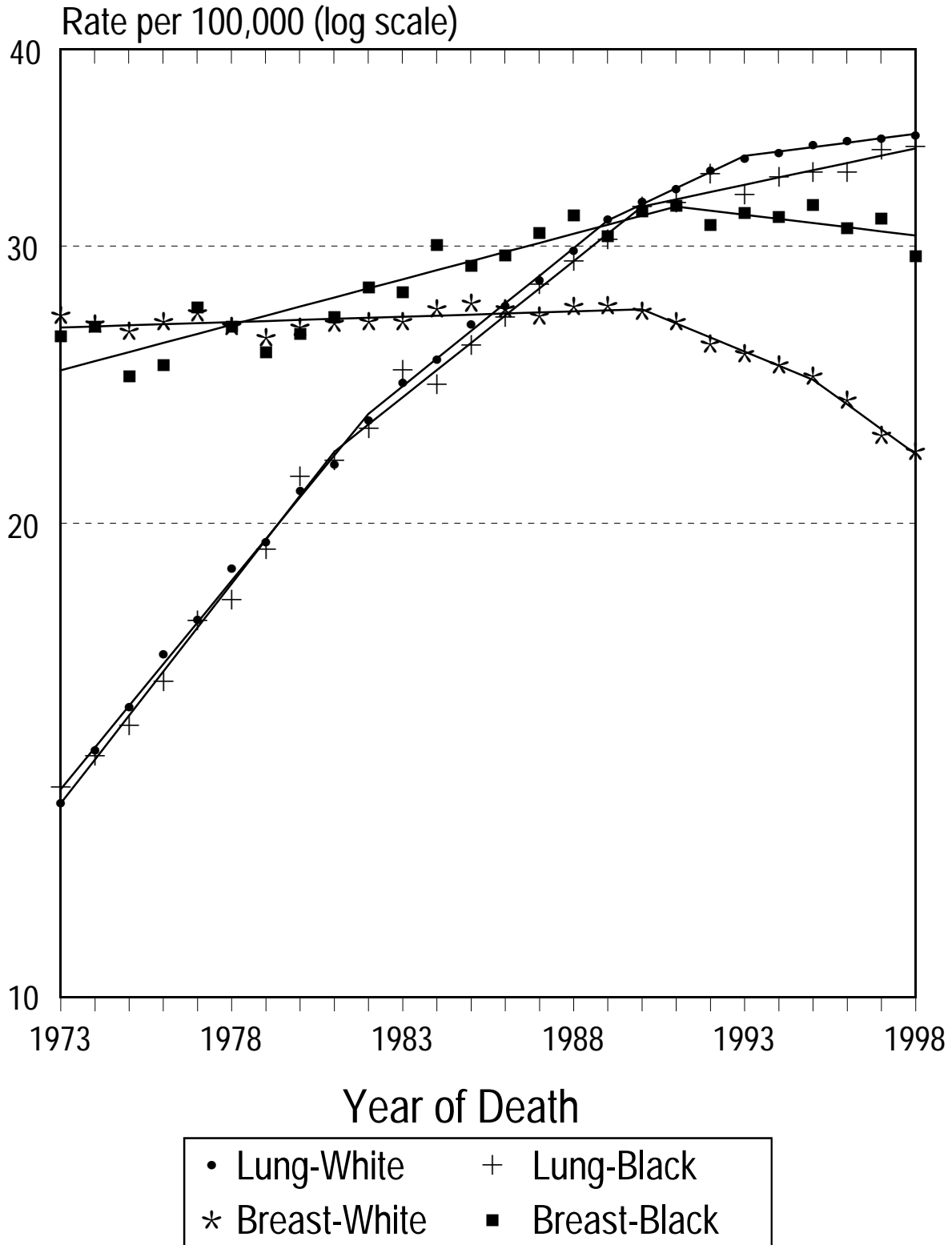


- White Incidence
- ▲ Black Incidence
- ◆ White Mortality
- * Black Mortality

Rates are age-adjusted to the 1970 U.S. standard million population. Regression lines are calculated using the Joinpoint Regression Program.

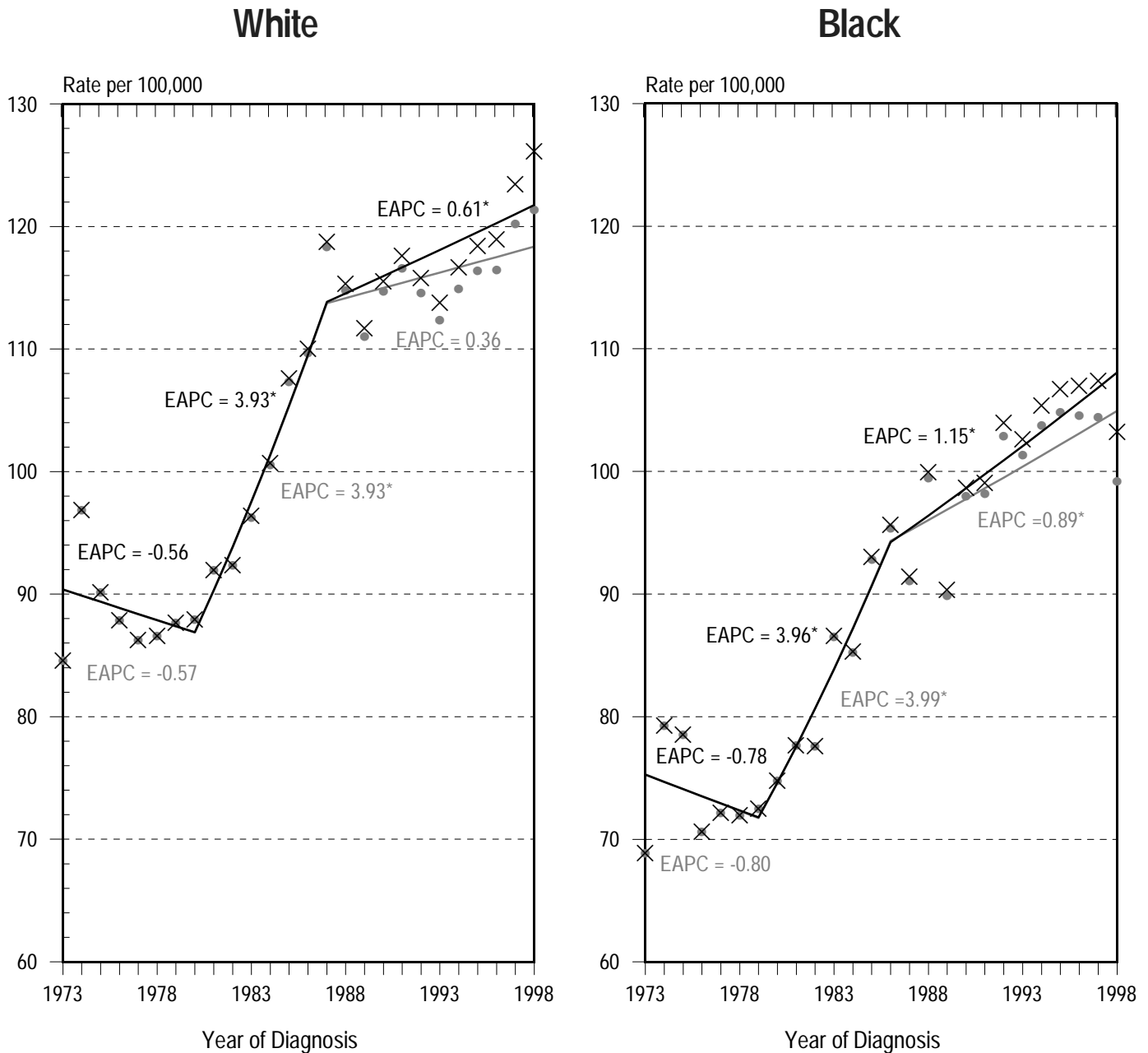
Figure IV-10

Breast vs. Lung Cancer Mortality White Females vs. Black Females United States, 1973-1998



Rates are age-adjusted to the 1970 U.S. standard million population. Regression lines are calculated using the Joinpoint Regression Program.

SEER Incidence and Delay Adjusted Incidence Rates⁺ Female Breast Cancer By Race



• Incidence × Delay Adjusted Incidence

⁺ Rates are age-adjusted to the 1970 U.S. standard million population. Regression lines are calculated using the Joinpoint Regression Program. The EAPC is the Estimated Annual Percent Change for the regression line segments. The EAPC is calculated by the Joinpoint Regression Program.

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