

Table 4.1
Cancer of the Female Breast (Invasive)

Trends in SEER Incidence^{ab} and U.S. Mortality^c Using the Joinpoint Regression Program,
1975-2015 With up to Five Joinpoints, 1992-2015 With up to Four Joinpoints,
All Ages by Race/Ethnicity

	JP Trend 1		JP Trend 2		JP Trend 3		JP Trend 4		JP Trend 5		JP Trend 6		AAPC ^d	
	Years	APC	Years	APC	Years	APC	Years	APC	Years	APC	Years	APC	2006-15	2011-15
<u>SEER 9 Delay-Adjusted Incidence^a, 1975-2015</u>														
All Races	1975-80	-0.5	1980-87	4.0*	1987-94	-0.2	1994-99	1.8*	1999-04	-2.3*	2004-15	0.4*	0.4*	0.4*
White	1975-80	-0.5	1980-87	4.1*	1987-94	-0.2	1994-99	2.0*	1999-04	-2.4*	2004-15	0.3	0.3	0.3
Black	1975-79	-1.5	1979-86	4.4*	1986-15	0.5*							0.5*	0.5*
<u>SEER 13 Delay-Adjusted Incidence^b, 1992-2015</u>														
All Races	1992-99	1.3*	1999-04	-2.2*	2004-15	0.3							0.3	0.3
White	1992-99	1.5*	1999-04	-2.4*	2004-15	0.1							0.1	0.1
Black	1992-15	0.4*											0.4*	0.4*
<u>SEER 9 Observed Incidence^a, 1975-2015</u>														
All Races	1975-80	-0.5	1980-87	4.0*	1987-94	-0.2	1994-99	1.8*	1999-04	-2.3*	2004-15	0.3*	0.3*	0.3*
White	1975-80	-0.5	1980-87	4.1*	1987-94	-0.2	1994-99	2.0*	1999-04	-2.4*	2004-15	0.2	0.2	0.2
Black	1975-91	2.3*	1991-15	0.3*									0.3*	0.3*
<u>SEER 13 Observed Incidence^b, 1992-2015</u>														
All Races	1992-99	1.3*	1999-04	-2.2*	2004-15	0.2							0.2	0.2
White	1992-99	1.5*	1999-04	-2.4*	2004-15	0.1							0.1	0.1
White NH ^{ef}	1992-99	1.7*	1999-04	-2.3*	2004-15	0.2							0.2	0.2
Black	1992-15	0.2*											0.2*	0.2*
Black NH ^{ef}	1992-15	0.3*											0.3*	0.3*
API ^e	1992-94	-4.6	1994-97	6.8	1997-05	-0.6	2005-15	1.2*					1.2*	1.2*
AI/AN ^{eg}	1992-15	0.2											0.2	0.2
Hispanic ^f	1992-15	0.3*											0.3*	0.3*
<u>U.S. Cancer Mortality^c, 1975-2015</u>														
All Races	1975-90	0.4*	1990-95	-1.8*	1995-98	-3.4*	1998-15	-1.8*					-1.8*	-1.8*
White	1975-90	0.3*	1990-95	-2.0*	1995-98	-3.6*	1998-15	-1.8*					-1.8*	-1.8*
Black	1975-93	1.4*	1993-15	-1.5*									-1.5*	-1.5*
<u>U.S. Cancer Mortality^c, 1992-2015</u>														
All Races	1992-95	-1.2*	1995-98	-3.7*	1998-03	-1.6*	2003-07	-2.3*	2007-15	-1.6*			-1.7*	-1.6*
White	1992-95	-1.5*	1995-98	-3.6*	1998-10	-1.9*	2010-15	-1.5*					-1.7*	-1.5*
White NH ^{ef}	1992-95	-1.2*	1995-98	-3.7*	1998-15	-1.8*							-1.8*	-1.8*
Black	1992-95	0.4	1995-15	-1.5*									-1.5*	-1.5*
Black NH ^{ef}	1992-95	0.6	1995-15	-1.5*									-1.5*	-1.5*
API ^e	1992-15	-0.8*											-0.8*	-0.8*
AI/AN ^{eg}	1992-15	-0.8*											-0.8*	-0.8*
Hispanic ^f	1992-96	1.3	1996-00	-3.7	2000-15	-1.1*							-1.1*	-1.1*

Joinpoint Regression Program Version 4.6, February 2018, National Cancer Institute. (<https://surveillance.cancer.gov/joinpoint/>).

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

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

Trends are from the SEER 13 areas (SEER 9 Areas, Los Angeles, San Jose-Monterey, Rural Georgia, and the Alaska Native Registry).

Trends are from US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.

The AAPC is the Average Annual Percent Change and is based on the APCs calculated by Joinpoint.

API - Asian/Pacific Islander, AI/AN - American Indian/Alaska Native, NH - Non-Hispanic

Hispanic and Non-Hispanic are not mutually exclusive from whites, blacks, Asian/Pacific Islanders, and American Indians/Alaska

Natives. Incidence data for Hispanics and Non-Hispanics are based on NHIA and exclude cases from the Alaska Native Registry.

The Hispanic and Non-Hispanic mortality trends exclude deaths from New Hampshire and Oklahoma.

Data for American Indian/Alaska Native are based on the CHSDA (Contract Health Service Delivery Area) counties.

* The APC/AAPC is significantly different from zero ($p < .05$).

- Joinpoint regression line analysis could not be performed on data series.

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Table 4.2
Cancer of the Female Breast (Invasive)

Trends in SEER Incidence^{ab} and U.S. Mortality^c Using the Joinpoint Regression Program,
1975-2015 With up to Five Joinpoints, 1992-2015 With up to Four Joinpoints,
Ages <50 by Race/Ethnicity

	JP Trend 1		JP Trend 2		JP Trend 3		JP Trend 4		JP Trend 5		JP Trend 6		AAPC ^d	
	Years	APC	Years	APC	Years	APC	Years	APC	Years	APC	Years	APC	2006-15	2011-15
<u>SEER 9 Delay-Adjusted Incidence^a, 1975-2015</u>														
All Races	1975-80	-1.3	1980-87	2.7*	1987-94	-0.8	1994-15	0.3*					0.3*	0.3*
White	1975-80	-1.1	1980-87	2.7*	1987-94	-0.9*	1994-15	0.3*					0.3*	0.3*
Black	1975-90	1.3*	1990-15	-0.1									-0.1	-0.1
<u>SEER 13 Delay-Adjusted Incidence^b, 1992-2015</u>														
All Races	1992-15	0.3*											0.3*	0.3*
White	1992-15	0.2*											0.2*	0.2*
Black	1992-15	0.0											0.0	0.0
<u>SEER 9 Observed Incidence^a, 1975-2015</u>														
All Races	1975-80	-1.3	1980-87	2.7*	1987-94	-0.8	1994-15	0.3*					0.3*	0.3*
White	1975-80	-1.1	1980-87	2.7*	1987-94	-0.8	1994-15	0.2*					0.2*	0.2*
Black	1975-91	1.2*	1991-15	-0.2									-0.2	-0.2
<u>SEER 13 Observed Incidence^b, 1992-2015</u>														
All Races	1992-15	0.2*											0.2*	0.2*
White	1992-15	0.2*											0.2*	0.2*
White NH ^{ef}	1992-15	0.4*											0.4*	0.4*
Black	1992-15	-0.1											-0.1	-0.1
Black NH ^{ef}	1992-02	-1.3*	2002-05	4.0	2005-15	-0.5							-0.5	-0.5
API ^e	1992-15	0.9*											0.9*	0.9*
AI/AN ^{eg}	1992-15	-0.3											-0.3	-0.3
Hispanic ^f	1992-15	0.3*											0.3*	0.3*
<u>U.S. Cancer Mortality^c, 1975-2015</u>														
All Races	1975-90	-0.4*	1990-07	-3.2*	2007-15	-1.4*							-1.6*	-1.4*
White	1975-90	-0.6*	1990-04	-3.7*	2004-15	-1.7*							-1.7*	-1.7*
Black	1975-87	1.8*	1987-95	-1.2*	1995-15	-2.4*							-2.4*	-2.4*
<u>U.S. Cancer Mortality^c, 1992-2015</u>														
All Races	1992-07	-3.1*	2007-15	-1.4*									-1.6*	-1.4*
White	1992-04	-3.7*	2004-15	-1.7*									-1.7*	-1.7*
White NH ^{ef}	1992-04	-3.6*	2004-15	-1.7*									-1.7*	-1.7*
Black	1992-15	-2.3*											-2.3*	-2.3*
Black NH ^{ef}	1992-15	-2.2*											-2.2*	-2.2*
API ^e	1992-01	-0.8	2001-08	-5.1*	2008-15	1.3							-0.2	1.3
AI/AN ^{eg}	1992-15	-2.0*											-2.0*	-2.0*
Hispanic ^f	1992-07	-3.1*	2007-15	-0.6									-0.9	-0.6

Joinpoint Regression Program Version 4.6, February 2018, National Cancer Institute. (<https://surveillance.cancer.gov/joinpoint/>).

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

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

Trends are from the SEER 13 areas (SEER 9 Areas, Los Angeles, San Jose-Monterey, Rural Georgia, and the Alaska Native Registry).

Trends are from US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.

The AAPC is the Average Annual Percent Change and is based on the APCs calculated by Joinpoint.

API - Asian/Pacific Islander, AI/AN - American Indian/Alaska Native, NH - Non-Hispanic

Hispanic and Non-Hispanic are not mutually exclusive from whites, blacks, Asian/Pacific Islanders, and American Indians/Alaska

Natives. Incidence data for Hispanics and Non-Hispanics are based on NHIA and exclude cases from the Alaska Native Registry.

The Hispanic and Non-Hispanic mortality trends exclude deaths from New Hampshire and Oklahoma.

Data for American Indian/Alaska Native are based on the CHSDA (Contract Health Service Delivery Area) counties.

* The APC/AAPC is significantly different from zero ($p < .05$).

- Joinpoint regression line analysis could not be performed on data series.

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Table 4.3
Cancer of the Female Breast (Invasive)

Trends in SEER Incidence^{ab} and U.S. Mortality^c Using the Joinpoint Regression Program,
1975-2015 With up to Five Joinpoints, 1992-2015 With up to Four Joinpoints,
Ages 50+ by Race/Ethnicity

	JP Trend 1		JP Trend 2		JP Trend 3		JP Trend 4		JP Trend 5		JP Trend 6		AAPC ^d	
	Years	APC	Years	APC	Years	APC	Years	APC	Years	APC	Years	APC	2006-15	2011-15
<u>SEER 9 Delay-Adjusted Incidence^a, 1975-2015</u>														
All Races	1975-82	0.8	1982-87	5.4*	1987-93	-0.3	1993-99	1.9*	1999-05	-2.5*	2005-15	0.5*	0.5*	0.5*
White	1975-82	0.9*	1982-87	5.5*	1987-93	-0.3	1993-00	1.7*	2000-04	-3.9*	2004-15	0.3	0.3	0.3
Black	1975-88	3.2*	1988-15	0.6*									0.6*	0.6*
<u>SEER 13 Delay-Adjusted Incidence^b, 1992-2015</u>														
All Races	1992-99	1.7*	1999-04	-2.9*	2004-15	0.2							0.2	0.2
White	1992-00	1.4*	2000-04	-3.7*	2004-15	0.1							0.1	0.1
Black	1992-15	0.5*											0.5*	0.5*
<u>SEER 9 Observed Incidence^a, 1975-2015</u>														
All Races	1975-82	0.8	1982-87	5.4*	1987-93	-0.3	1993-99	1.9*	1999-05	-2.5*	2005-15	0.4*	0.4*	0.4*
White	1975-82	0.9*	1982-87	5.5*	1987-93	-0.3	1993-00	1.7*	2000-04	-3.8*	2004-15	0.2	0.2	0.2
Black	1975-92	2.6*	1992-15	0.4*									0.4*	0.4*
<u>SEER 13 Observed Incidence^b, 1992-2015</u>														
All Races	1992-99	1.7*	1999-04	-2.8*	2004-15	0.1							0.1	0.1
White	1992-00	1.4*	2000-04	-3.7*	2004-15	0.0							0.0	0.0
White NH ^{ef}	1992-01	1.3*	2001-04	-5.0*	2004-15	0.2							0.2	0.2
Black	1992-15	0.4*											0.4*	0.4*
Black NH ^{ef}	1992-15	0.4*											0.4*	0.4*
API ^e	1992-99	2.9*	1999-03	-2.5	2003-15	1.1*							1.1*	1.1*
AI/AN ^{eg}	1992-15	0.4											0.4	0.4
Hispanic ^f	1992-15	0.2*											0.2*	0.2*
<u>U.S. Cancer Mortality^c, 1975-2015</u>														
All Races	1975-90	0.5*	1990-95	-1.6*	1995-98	-3.0*	1998-15	-1.7*					-1.7*	-1.7*
White	1975-89	0.5*	1989-95	-1.4*	1995-98	-3.3*	1998-15	-1.8*					-1.8*	-1.8*
Black	1975-93	1.6*	1993-15	-1.3*									-1.3*	-1.3*
<u>U.S. Cancer Mortality^c, 1992-2015</u>														
All Races	1992-95	-1.2*	1995-98	-3.1*	1998-15	-1.7*							-1.7*	-1.7*
White	1992-94	-0.6	1994-97	-3.4*	1997-15	-1.8*							-1.8*	-1.8*
White NH ^{ef}	1992-94	-0.1	1994-97	-3.3*	1997-15	-1.8*							-1.8*	-1.8*
Black	1992-95	0.8	1995-15	-1.3*									-1.3*	-1.3*
Black NH ^{ef}	1992-94	2.4	1994-15	-1.2*									-1.2*	-1.2*
API ^e	1992-15	-0.5*											-0.5*	-0.5*
AI/AN ^{eg}	1992-15	-0.6											-0.6	-0.6
Hispanic ^f	1992-15	-1.2*											-1.2*	-1.2*

Joinpoint Regression Program Version 4.6, February 2018, National Cancer Institute. (<https://surveillance.cancer.gov/joinpoint/>).

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- Joinpoint regression line analysis could not be performed on data series.

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Table 4.4
Cancer of the Female Breast (*In Situ*)

Trends in SEER Incidence^{ab} Using the Joinpoint Regression Program,
1975-2015 With up to Five Joinpoints, 1992-2015 With up to Four Joinpoints,
All Ages by Race/Ethnicity

	JP Trend 1		JP Trend 2		JP Trend 3		JP Trend 4		JP Trend 5		JP Trend 6		AAPC ^d	
	Years	APC	Years	APC	Years	APC	Years	APC	Years	APC	Years	APC	2006-15	2011-15
<u>SEER 9 Observed Incidence^a, 1975-2015</u>														
All Races	1975-81	-3.1	1981-87	25.2*	1987-94	3.8*	1994-98	9.8*	1998-09	1.0*	2009-15	-0.9	-0.3	-0.9
White	1975-81	-2.9	1981-87	25.4*	1987-95	3.9*	1995-98	11.1	1998-09	0.9*	2009-15	-1.6*	-0.8	-1.6*
Black	1975-83	6.2	1983-87	23.6*	1987-98	8.3*	1998-15	1.4*					1.4*	1.4*
<u>SEER 13 Observed Incidence^b, 1992-2015</u>														
All Races	1992-94	1.7	1994-99	8.8*	1999-05	-0.6	2005-08	3.3	2008-15	-0.9			0.0	-0.9
White	1992-94	-0.3	1994-98	10.2*	1998-09	0.7*	2009-15	-1.5*					-0.8	-1.5*
White NH ^{ef}	1992-94	0.8	1994-99	9.2*	1999-05	-0.8	2005-08	3.6	2008-15	-1.8*			-0.6	-1.8*
Black	1992-98	9.4*	1998-15	1.5*									1.5*	1.5*
Black NH ^{ef}	1992-98	9.2*	1998-15	1.6*									1.6*	1.6*
API ^e	1992-99	9.7*	1999-15	1.7*									1.7*	1.7*
AI/AN ^{eg}	1992-15	1.5*											1.5*	1.5*
Hispanic ^f	1992-98	8.0*	1998-15	1.8*									1.8*	1.8*

Joinpoint Regression Program Version 4.6, February 2018, National Cancer Institute. (<https://surveillance.cancer.gov/joinpoint/>).

The APC is the Annual Percent Change based on rates age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130). Trends are from the SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta).

Trends are from the SEER 13 areas (SEER 9 Areas, Los Angeles, San Jose-Monterey, Rural Georgia, and the Alaska Native Registry).

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Data for American Indian/Alaska Native are based on the CHSDA (Contract Health Service Delivery Area) counties.

* The APC/AAPC is significantly different from zero ($p < .05$).

- Joinpoint regression line analysis could not be performed on data series.

Table 4.5
Cancer of the Breast (Invasive)

Age-adjusted SEER Incidence^a Rates by Year, Race and Sex

	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
Year of Diagnosis:									
1975-2015	69.07	1.11	126.42	70.60	1.11	129.99	68.21	1.69	118.75
1975-1979	56.65	0.96	102.13	58.19	0.94	104.80	49.71	1.44	87.94
1980	56.90	0.90	102.23	58.54	0.93	105.13	50.59	-	89.48
1981	59.33	1.00	106.35	61.22	0.93	109.87	54.41	-	94.35
1982	59.24	0.98	106.50	61.05	0.94	109.90	53.93	-	93.58
1983	61.88	1.04	111.11	63.69	1.13	114.44	59.06	-	103.79
1984	64.48	0.93	115.99	66.57	0.94	119.87	58.39	-	102.41
1985	69.12	0.96	124.26	70.97	0.98	127.77	64.14	-	111.76
1986	70.46	0.95	126.84	72.29	0.96	130.39	66.44	-	115.33
1987	74.80	0.96	134.52	77.82	0.98	140.27	63.19	-	109.65
1988	73.13	1.24	131.39	75.60	1.16	136.28	69.19	2.76	119.01
1989	70.79	1.12	127.30	73.41	1.07	132.44	60.81	-	105.34
1990	73.21	1.13	131.92	75.36	1.15	136.27	68.69	-	118.88
1991	74.11	1.12	133.87	76.64	1.17	138.92	67.59	-	117.72
1992	73.06	1.04	132.10	74.74	1.02	135.74	71.69	-	124.19
1993	71.35	1.08	129.23	73.16	1.04	133.13	68.86	-	119.53
1994	72.11	1.13	131.01	74.27	1.08	135.67	70.83	-	122.87
1995	72.89	0.96	132.71	75.14	0.92	137.63	71.72	-	123.92
1996	73.40	1.31	133.80	75.40	1.32	138.25	71.77	-	124.49
1997	75.64	1.10	138.10	77.60	1.07	142.65	73.01	-	126.26
1998	77.38	1.07	141.49	79.65	1.12	146.58	72.37	-	126.21
1999	77.19	0.96	141.52	79.58	0.95	147.07	73.20	-	126.73
2000	74.44	1.16	136.62	77.27	1.14	143.02	69.16	2.86	119.16
2001	75.65	1.23	138.86	78.31	1.23	145.03	67.16	1.66	116.36
2002	73.75	1.15	135.89	75.97	1.13	141.31	71.66	1.95	124.33
2003	69.01	1.33	127.13	70.89	1.34	131.88	71.39	1.85	123.92
2004	69.47	1.21	128.26	70.83	1.23	132.06	71.57	1.61	124.45
2005	68.47	1.05	126.72	70.26	1.15	131.41	68.14	-	118.84
2006	68.27	1.14	126.44	69.71	1.17	130.55	72.11	1.54	125.62
2007	69.18	1.09	128.33	70.54	1.12	132.47	72.00	1.67	124.96
2008	69.16	1.17	128.53	69.97	1.19	131.58	73.75	1.43	128.52
2009	70.46	1.17	130.97	71.44	1.23	134.42	74.36	-	129.67
2010	68.27	1.22	127.07	69.34	1.11	130.79	70.85	2.93	122.82
2011	70.02	1.34	130.46	70.82	1.27	133.76	73.93	2.73	128.46
2012	69.84	1.33	130.15	70.25	1.33	132.72	76.68	2.15	133.34
2013	70.09	1.21	131.03	70.41	1.25	133.47	74.13	1.96	129.20
2014	69.97	1.17	131.19	70.28	1.12	133.69	72.71	1.85	127.54
2015	69.84	1.19	131.10	70.21	1.18	133.81	73.20	1.53	128.21

Individual rates for diagnosis years 1975-1979 available in web browser version of [Cancer Statistics Review](#).

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

Table 4.6
Cancer of the Breast (Invasive)

Age-adjusted U.S. Death^a Rates by Year, Race and Sex

	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
Year of Death:									
1975-2015	15.51	0.31	27.42	15.34	0.30	27.24	19.50	0.54	33.15
1975-1979	18.03	0.35	31.74	18.17	0.34	32.00	17.98	0.53	31.16
1980	18.04	0.30	31.68	18.15	0.30	31.93	18.37	0.42	31.68
1981	18.20	0.32	31.92	18.28	0.31	32.12	18.95	0.46	32.55
1982	18.39	0.33	32.19	18.42	0.32	32.31	19.68	0.56	33.75
1983	18.33	0.31	32.07	18.36	0.29	32.20	19.57	0.50	33.53
1984	18.79	0.29	32.90	18.76	0.28	32.90	20.97	0.47	35.94
1985	18.84	0.34	32.98	18.88	0.34	33.11	20.35	0.43	34.85
1986	18.76	0.28	32.87	18.76	0.27	32.93	20.69	0.42	35.44
1987	18.66	0.34	32.66	18.57	0.34	32.57	21.53	0.47	36.73
1988	18.98	0.33	33.20	18.85	0.28	33.09	22.35	0.88	37.78
1989	19.00	0.33	33.23	18.95	0.33	33.23	21.56	0.45	36.61
1990	18.93	0.28	33.14	18.79	0.26	33.02	22.49	0.52	38.00
1991	18.66	0.28	32.69	18.46	0.27	32.45	22.62	0.44	38.28
1992	18.07	0.31	31.64	17.89	0.30	31.43	21.88	0.45	37.09
1993	17.98	0.36	31.39	17.74	0.34	31.09	22.62	0.66	38.04
1994	17.67	0.35	30.92	17.40	0.34	30.56	22.44	0.60	37.74
1995	17.44	0.35	30.55	17.11	0.32	30.09	22.70	0.77	38.18
1996	16.83	0.34	29.49	16.52	0.31	29.05	22.09	0.72	37.13
1997	16.07	0.32	28.21	15.67	0.30	27.62	22.25	0.63	37.43
1998	15.67	0.32	27.54	15.32	0.31	27.01	21.08	0.56	35.53
1999	15.18	0.34	26.61	14.77	0.32	25.98	20.93	0.69	35.21
2000	15.19	0.37	26.64	14.86	0.35	26.17	20.48	0.63	34.36
2001	14.77	0.35	26.01	14.37	0.33	25.43	20.52	0.65	34.52
2002	14.54	0.31	25.62	14.13	0.29	25.02	20.32	0.61	34.14
2003	14.31	0.31	25.27	13.89	0.30	24.66	20.24	0.47	34.10
2004	13.82	0.29	24.49	13.44	0.28	23.94	19.11	0.56	32.29
2005	13.61	0.29	24.14	13.18	0.28	23.49	19.37	0.49	32.81
2006	13.25	0.29	23.56	12.87	0.29	23.02	18.73	0.47	31.62
2007	12.90	0.28	22.96	12.51	0.27	22.40	18.51	0.45	31.36
2008	12.66	0.31	22.55	12.26	0.29	21.99	18.37	0.60	30.96
2009	12.43	0.28	22.24	12.09	0.28	21.76	17.78	0.41	30.19
2010	12.26	0.30	21.92	11.85	0.28	21.33	17.77	0.59	30.16
2011	12.01	0.30	21.54	11.60	0.28	20.93	17.70	0.50	30.16
2012	11.82	0.26	21.27	11.44	0.25	20.71	17.22	0.42	29.39
2013	11.53	0.30	20.74	11.19	0.28	20.29	16.57	0.55	28.21
2014	11.40	0.29	20.55	11.03	0.27	20.03	16.45	0.54	28.07
2015	11.25	0.28	20.31	10.87	0.26	19.78	16.15	0.54	27.61

^a Individual rates for years of death 1975-1979 available in web browser version of [Cancer Statistics Review](#).
US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.
Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).
- Statistic not shown. Rate based on less than 16 cases for the time interval.

Table 4.7
Cancer of the Female Breast (Invasive)

Delay-adjusted SEER Incidence^a Rates by Year, Race and Age

Year of Diagnosis:	All Races, Females			White Females			Black Females		
	All	<50	50+	All	<50	50+	All	<50	50+
1975-1979	102.13	39.34	266.56	104.80	39.77	275.11	87.94	39.33	215.22
1980	102.23	37.75	271.08	105.13	38.28	280.19	89.48	37.69	225.12
1981	106.35	39.19	282.22	109.87	40.03	292.75	94.35	38.86	239.64
1982	106.50	40.57	279.14	109.90	41.19	289.80	93.58	38.02	239.06
1983	111.11	40.26	296.65	114.44	40.82	307.22	103.79	41.80	266.12
1984	115.99	42.39	308.72	119.87	43.14	320.81	102.41	44.66	253.62
1985	124.26	44.34	333.52	127.77	44.35	346.22	111.76	45.69	284.76
1986	126.84	44.52	342.40	130.39	45.32	353.15	115.33	45.64	297.82
1987	134.52	45.54	367.51	140.27	46.49	385.84	109.65	43.26	283.48
1988	131.39	43.99	360.24	136.28	44.92	375.52	119.01	43.00	318.06
1989	127.30	43.47	346.82	132.44	44.54	362.61	105.34	42.33	270.35
1990	131.92	45.64	357.84	136.27	45.38	374.29	118.88	49.05	301.72
1991	133.87	47.28	360.63	138.92	47.27	378.91	117.72	51.29	291.67
1992	132.10	43.46	364.20	135.74	43.64	376.91	124.19	46.75	326.97
1993	129.23	42.88	355.33	133.13	43.25	368.49	119.53	45.29	313.92
1994	131.01	42.45	362.90	135.67	42.80	378.87	122.87	47.74	319.62
1995	132.71	43.24	367.00	137.63	43.73	383.53	123.92	45.73	328.68
1996	133.80	43.62	369.95	138.25	44.04	384.94	124.49	44.44	334.10
1997	138.10	43.58	385.60	142.65	44.07	400.80	126.26	44.87	339.39
1998	141.49	45.53	392.77	146.58	45.47	411.34	126.21	47.32	332.78
1999	141.52	43.87	397.24	147.07	45.10	414.09	126.73	44.11	343.08
2000	136.62	43.50	380.46	143.02	43.99	402.35	119.16	44.97	313.45
2001	138.86	44.00	387.25	145.03	44.83	407.40	116.36	39.85	316.72
2002	135.89	42.90	379.39	141.31	43.51	397.39	124.33	41.67	340.79
2003	127.13	43.45	346.25	131.88	44.33	361.13	123.92	43.48	334.54
2004	128.26	45.02	346.22	132.06	44.84	360.47	124.45	48.13	324.29
2005	126.72	44.13	342.97	131.41	44.51	358.96	118.84	45.69	310.39
2006	126.44	44.19	341.80	130.55	45.09	354.32	125.62	45.30	335.93
2007	128.43	45.40	345.85	132.57	45.75	359.93	125.23	45.73	333.38
2008	128.73	45.65	346.27	131.79	45.67	357.28	129.10	45.37	348.34
2009	131.28	45.63	355.55	134.75	46.13	366.79	130.49	45.93	351.91
2010	127.47	44.36	345.08	131.22	45.18	356.52	123.83	44.61	331.28
2011	130.96	45.68	354.29	134.30	45.70	366.30	129.85	48.80	342.11
2012	130.76	44.48	356.68	133.36	45.13	364.38	135.02	42.84	376.40
2013	131.85	45.75	357.31	134.33	46.23	365.01	131.18	42.47	363.50
2014	132.24	46.23	357.45	134.90	46.00	367.70	130.00	46.65	348.26
2015	132.63	46.81	357.34	135.66	46.95	367.98	131.52	46.20	354.92

Reference: [Cancer Incidence Rates Adjusted for Reporting Delay](#).

Individual rates for diagnosis years 1975-1979 available in web browser version of [Cancer Statistics Review](#).

^a SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta).

- Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

- Delay-adjusted rate is not shown for observed rates based on less than 16 cases for the time interval.

Table 4.8
Cancer of the Female Breast (Invasive)

Age-adjusted SEER Incidence^a Rates by Year, Race and Age

	All Races, Females			White Females			Black Females		
	All	<50	50+	All	<50	50+	All	<50	50+
Year of Diagnosis:									
1975-2015	126.42	43.70	343.02	129.99	44.08	354.97	118.75	44.41	313.44
1975-1979	102.13	39.34	266.56	104.80	39.77	275.11	87.94	39.33	215.22
1980	102.23	37.75	271.08	105.13	38.28	280.19	89.48	37.69	225.12
1981	106.35	39.19	282.22	109.87	40.03	292.75	94.35	38.86	239.64
1982	106.50	40.57	279.14	109.90	41.19	289.80	93.58	38.02	239.06
1983	111.11	40.26	296.65	114.44	40.82	307.22	103.79	41.80	266.12
1984	115.99	42.39	308.72	119.87	43.14	320.81	102.41	44.66	253.62
1985	124.26	44.34	333.52	127.77	44.35	346.22	111.76	45.69	284.76
1986	126.84	44.52	342.40	130.39	45.32	353.15	115.33	45.64	297.82
1987	134.52	45.54	367.51	140.27	46.49	385.84	109.65	43.26	283.48
1988	131.39	43.99	360.24	136.28	44.92	375.52	119.01	43.00	318.06
1989	127.30	43.47	346.82	132.44	44.54	362.61	105.34	42.33	270.35
1990	131.92	45.64	357.84	136.27	45.38	374.29	118.88	49.05	301.72
1991	133.87	47.28	360.63	138.92	47.27	378.91	117.72	51.29	291.67
1992	132.10	43.46	364.20	135.74	43.64	376.91	124.19	46.75	326.97
1993	129.23	42.88	355.33	133.13	43.25	368.49	119.53	45.29	313.92
1994	131.01	42.45	362.90	135.67	42.80	378.87	122.87	47.74	319.62
1995	132.71	43.24	367.00	137.63	43.73	383.53	123.92	45.73	328.68
1996	133.80	43.62	369.95	138.25	44.04	384.94	124.49	44.44	334.10
1997	138.10	43.58	385.60	142.65	44.07	400.80	126.26	44.87	339.39
1998	141.49	45.53	392.77	146.58	45.47	411.34	126.21	47.32	332.78
1999	141.52	43.87	397.24	147.07	45.10	414.09	126.73	44.11	343.08
2000	136.62	43.50	380.46	143.02	43.99	402.35	119.16	44.97	313.45
2001	138.86	44.00	387.25	145.03	44.83	407.40	116.36	39.85	316.72
2002	135.89	42.90	379.39	141.31	43.51	397.39	124.33	41.67	340.79
2003	127.13	43.45	346.25	131.88	44.33	361.13	123.92	43.48	334.54
2004	128.26	45.02	346.22	132.06	44.84	360.47	124.45	48.13	324.29
2005	126.72	44.13	342.97	131.41	44.51	358.96	118.84	45.69	310.39
2006	126.44	44.19	341.80	130.55	45.09	354.32	125.62	45.30	335.93
2007	128.33	45.36	345.58	132.47	45.72	359.64	124.96	45.64	332.67
2008	128.53	45.58	345.74	131.58	45.59	356.72	128.52	45.19	346.74
2009	130.97	45.52	354.72	134.42	46.02	365.91	129.67	45.66	349.68
2010	127.07	44.22	344.01	130.79	45.03	355.39	122.82	44.28	328.48
2011	130.46	45.50	352.93	133.76	45.52	364.84	128.46	48.29	338.40
2012	130.15	44.28	355.03	132.72	44.92	362.63	133.34	42.33	371.65
2013	131.03	45.46	355.10	133.47	45.94	362.69	129.20	41.83	357.99
2014	131.19	45.87	354.60	133.69	45.59	364.38	127.54	45.80	341.56
2015	131.10	46.29	353.18	133.81	46.32	362.90	128.21	45.00	346.09

Individual rates for diagnosis years 1975-1979 available in web browser version of [Cancer Statistics Review](#).

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

Table 4.9
Cancer of the Female Breast (Invasive)
Age-adjusted U.S. Death^a Rates by Year, Race and Age

	All Races, Females			White Females			Black Females		
	All	<50	50+	All	<50	50+	All	<50	50+
Year of Death:									
1975-2015	27.42	6.52	82.14	27.24	6.17	82.42	33.15	10.06	93.62
1975-1979	31.74	8.80	91.81	32.00	8.64	93.18	31.16	10.84	84.38
1980	31.68	8.57	92.22	31.93	8.39	93.56	31.68	10.82	86.31
1981	31.92	8.46	93.33	32.12	8.20	94.77	32.55	11.48	87.74
1982	32.19	8.42	94.43	32.31	8.19	95.46	33.75	11.19	92.83
1983	32.07	8.16	94.70	32.20	7.89	95.85	33.53	11.17	92.10
1984	32.90	8.58	96.57	32.90	8.22	97.55	35.94	12.55	97.21
1985	32.98	8.56	96.90	33.11	8.30	98.09	34.85	12.04	94.58
1986	32.87	8.64	96.32	32.93	8.26	97.53	35.44	12.86	94.58
1987	32.66	8.44	96.08	32.57	7.99	96.93	36.73	12.94	99.04
1988	33.20	8.39	98.18	33.09	8.01	98.78	37.78	12.71	103.42
1989	33.23	8.42	98.22	33.23	8.06	99.16	36.61	12.41	99.96
1990	33.14	8.32	98.14	33.02	7.99	98.55	38.00	11.99	106.13
1991	32.69	8.16	96.91	32.45	7.73	97.15	38.28	12.31	106.29
1992	31.64	7.77	94.15	31.43	7.37	94.45	37.09	12.03	102.73
1993	31.39	7.41	94.18	31.09	6.99	94.20	38.04	11.65	107.14
1994	30.92	7.37	92.58	30.56	6.92	92.47	37.74	11.70	105.91
1995	30.55	7.29	91.46	30.09	6.80	91.07	38.18	11.71	107.49
1996	29.49	6.95	88.53	29.05	6.40	88.35	37.13	11.74	103.61
1997	28.21	6.71	84.53	27.62	6.22	83.64	37.43	11.03	106.56
1998	27.54	6.34	83.05	27.01	5.82	82.50	35.53	10.65	100.68
1999	26.61	5.75	81.22	25.98	5.20	80.40	35.21	10.27	100.52
2000	26.64	5.89	80.99	26.17	5.37	80.64	34.36	9.94	98.31
2001	26.01	5.86	78.77	25.43	5.36	77.98	34.52	9.85	99.12
2002	25.62	5.63	77.97	25.02	5.07	77.28	34.14	10.02	97.31
2003	25.27	5.58	76.85	24.66	5.08	75.90	34.10	9.62	98.19
2004	24.49	5.21	74.99	23.94	4.67	74.38	32.29	9.26	92.60
2005	24.14	5.20	73.74	23.49	4.65	72.83	32.81	9.46	93.95
2006	23.56	5.05	72.01	23.02	4.58	71.32	31.62	8.88	91.17
2007	22.96	4.77	70.60	22.40	4.28	69.85	31.36	8.55	91.10
2008	22.55	4.74	69.20	21.99	4.32	68.23	30.96	8.23	90.47
2009	22.24	4.81	67.88	21.76	4.48	67.01	30.19	7.96	88.39
2010	21.92	4.53	67.47	21.33	4.07	66.52	30.16	8.02	88.13
2011	21.54	4.47	66.26	20.93	4.03	65.18	30.16	7.83	88.62
2012	21.27	4.59	64.95	20.71	4.15	64.05	29.39	7.89	85.69
2013	20.74	4.41	63.49	20.29	4.07	62.74	28.21	7.32	82.91
2014	20.55	4.37	62.93	20.03	3.96	62.11	28.07	7.55	81.80
2015	20.31	4.27	62.31	19.78	3.94	61.28	27.61	6.94	81.71

^a Individual rates for years of death 1975-1979 available in web browser version of [Cancer Statistics Review](#).
US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.
Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).
- Statistic not shown. Rate based on less than 16 cases for the time interval.

Table 4.10
Cancer of the Female Breast (*In Situ*)

Age-adjusted SEER Incidence^a Rates by Year, Race and Age

	All Races, Females			White Females			Black Females		
	All	<50	50+	All	<50	50+	All	<50	50+
Year of Diagnosis:									
1975-2015	24.72	10.11	62.99	24.55	10.19	62.17	24.86	8.55	67.58
1975-1979	4.86	2.84	10.16	4.96	2.93	10.27	3.69	1.99	8.13
1980	4.82	2.96	9.67	5.03	3.07	10.17	3.71	-	-
1981	4.97	2.64	11.05	4.95	2.52	11.31	4.11	-	8.84
1982	5.30	2.73	12.03	5.34	2.71	12.24	5.55	2.73	12.94
1983	6.09	3.03	14.09	6.22	3.03	14.57	5.41	-	13.20
1984	8.62	4.79	18.66	9.20	5.21	19.64	6.35	2.37	16.77
1985	11.53	5.92	26.24	12.09	6.27	27.33	8.31	3.49	20.92
1986	13.62	6.77	31.56	14.22	7.19	32.63	9.53	5.12	21.09
1987	17.38	7.82	42.39	18.24	8.27	44.33	12.30	5.64	29.73
1988	17.58	8.15	42.27	18.12	8.51	43.28	16.03	7.06	39.52
1989	16.54	7.02	41.48	17.10	7.27	42.84	14.64	5.52	38.53
1990	19.14	8.38	47.31	19.88	8.70	49.17	15.15	5.54	40.32
1991	19.79	8.79	48.62	20.50	8.90	50.87	15.52	7.29	37.08
1992	21.43	9.01	53.98	22.14	9.23	55.97	19.16	6.93	51.16
1993	20.70	8.36	53.04	21.36	8.79	54.30	16.62	6.06	44.27
1994	22.31	8.74	57.84	22.87	9.00	59.18	20.10	7.56	52.96
1995	24.72	9.63	64.24	25.10	10.00	64.64	22.80	6.50	65.50
1996	25.39	9.85	66.07	25.97	9.86	68.16	22.86	7.62	62.80
1997	28.36	11.08	73.63	28.92	11.22	75.25	28.52	11.49	73.11
1998	32.76	12.00	87.13	33.74	12.34	89.79	30.81	10.96	82.79
1999	32.76	12.00	87.11	33.22	12.24	88.17	29.84	10.56	80.34
2000	32.86	11.82	87.95	33.90	12.52	89.89	30.12	8.04	87.93
2001	33.69	11.59	91.57	34.22	12.03	92.34	31.97	9.17	91.69
2002	34.06	11.89	92.10	34.59	12.28	93.02	28.81	8.85	81.07
2003	32.50	12.03	86.09	33.51	12.53	88.44	30.17	9.43	84.48
2004	33.24	12.81	86.72	33.99	13.03	88.89	30.76	10.26	84.45
2005	32.66	12.52	85.40	33.55	13.01	87.35	32.42	10.50	89.82
2006	33.26	13.84	84.14	33.60	14.40	83.86	36.29	11.82	100.37
2007	35.39	14.37	90.43	35.84	14.84	90.81	33.69	11.09	92.89
2008	36.89	14.12	96.51	37.21	14.74	96.06	36.83	11.73	102.56
2009	37.02	14.42	96.18	37.79	14.98	97.51	35.60	11.46	98.80
2010	33.91	13.15	88.28	34.26	13.20	89.40	33.19	12.23	88.06
2011	35.62	14.42	91.13	36.00	14.82	91.44	34.01	10.83	94.69
2012	33.47	13.65	85.35	33.14	14.00	83.26	35.25	11.70	96.93
2013	34.91	14.45	88.49	34.40	14.51	86.49	36.97	12.21	101.82
2014	34.57	14.37	87.45	33.77	14.53	84.14	37.45	12.05	103.97
2015	33.44	13.08	86.75	32.56	13.01	83.74	35.49	10.24	101.60

Individual rates for diagnosis years 1975-1979 available in web browser version of [Cancer Statistics Review](#).

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

Table 4.11
Cancer of the Breast (Invasive)

SEER Incidence^a and U.S. Death^b Rates, Age-Adjusted and Age-Specific Rates, by Race and Sex

	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
<u>SEER Incidence</u>									
<u>Age at Diagnosis</u>									
Age-Adjusted Rates, 2011-2015									
All ages	67.5	1.2	126.0	68.1	1.2	128.6	72.0	1.7	126.9
Under 65	42.2	0.4	82.4	41.8	0.4	82.9	45.5	0.7	84.7
65 and over	242.6	6.3	427.5	249.8	6.4	444.5	255.0	8.7	418.1
All ages (WHO world std) ^c	52.7	0.8	99.6	53.0	0.8	101.4	56.3	1.3	100.7
Age-Specific Rates, 2011-2015									
<1	-	-	-	-	-	-	-	-	-
1-4	-	-	-	-	-	-	-	-	-
5-9	-	-	-	-	-	-	-	-	-
10-14	-	-	-	-	-	-	-	-	-
15-19	0.1	-	0.1	-	-	-	-	-	-
20-24	0.8	-	1.6	0.8	-	1.6	1.1	-	2.3
25-29	4.6	-	9.4	4.3	-	9.0	6.4	-	12.7
30-34	13.9	-	28.0	13.3	-	27.3	17.4	-	33.3
35-39	31.1	0.2	61.9	30.2	0.2	61.3	35.9	-	67.7
40-44	62.7	0.4	124.4	61.8	0.4	124.6	65.3	-	123.0
45-49	96.3	0.8	190.3	95.6	0.7	191.8	98.1	1.5	184.8
50-54	116.6	1.1	228.4	115.9	1.0	230.0	124.6	2.0	234.1
55-59	136.7	1.9	264.1	136.1	1.8	266.4	151.4	3.5	280.1
60-64	179.1	2.8	340.5	180.1	2.9	347.1	193.8	3.7	349.1
65-69	227.8	4.8	426.1	232.6	4.7	440.5	233.0	8.0	407.8
70-74	251.6	5.9	458.7	258.8	6.0	476.6	254.8	7.4	434.4
75-79	257.1	6.9	452.2	267.3	7.2	474.7	274.5	8.3	450.0
80-84	247.8	8.0	413.8	256.5	8.1	432.5	264.7	12.5	406.5
85+	225.9	7.2	339.7	231.5	7.5	348.7	259.2	-	365.1
<u>U.S. Mortality</u>									
<u>Age at Death</u>									
Age-Adjusted Rates, 2011-2015									
All ages	11.6	0.3	20.9	11.2	0.3	20.3	16.8	0.5	28.7
Under 65	5.2	0.1	10.2	4.8	0.1	9.5	8.7	0.2	16.1
65 and over	55.5	1.6	94.8	55.3	1.6	95.2	72.6	2.8	115.1
All ages (WHO world std) ^c	8.2	0.2	15.2	7.9	0.2	14.7	12.3	0.4	21.5
Age-Specific Rates, 2011-2015									
<1	-	-	-	-	-	-	-	-	-
1-4	-	-	-	-	-	-	-	-	-
5-9	-	-	-	-	-	-	-	-	-
10-14	-	-	-	-	-	-	-	-	-
15-19	-	-	-	-	-	-	-	-	-
20-24	0.0	-	0.1	0.0	-	0.1	-	-	-
25-29	0.4	-	0.7	0.3	-	0.6	0.8	-	1.5
30-34	1.3	-	2.7	1.2	-	2.4	2.7	-	5.1
35-39	3.3	0.1	6.6	3.0	-	6.0	5.9	-	11.1
40-44	6.3	0.1	12.4	5.6	0.0	11.3	11.5	-	21.5
45-49	10.0	0.2	19.6	9.1	0.1	18.0	17.1	0.4	32.0
50-54	15.0	0.2	29.2	13.8	0.2	27.2	25.2	0.5	46.9
55-59	20.4	0.4	39.3	19.1	0.3	37.1	33.0	0.7	60.6
60-64	26.5	0.6	50.3	25.4	0.6	48.7	40.2	1.0	72.0
65-69	33.7	0.9	63.0	32.9	0.9	62.3	48.5	1.9	84.6
70-74	42.1	1.3	76.8	41.8	1.2	77.0	55.9	2.6	94.2
75-79	53.6	1.6	94.7	53.3	1.5	95.2	70.6	3.0	114.4
80-84	70.7	2.5	118.2	70.6	2.4	119.2	92.0	4.1	140.5
85+	117.0	3.1	175.3	117.8	3.2	177.2	140.9	3.4	197.4

^a SEER 18 areas. Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130), unless noted.

^b US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.

^c Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130), unless noted.

- Rates are per 100,000 and are age-adjusted to the world (WHO 2000-2025) standard million.

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

Table 4.12
Cancer of the Female Breast(*In Situ*)

SEER Incidence^a Rates, Age-Adjusted and Age-Specific Rates, by Race

	All Races, Females	White Females	Black Females
<u>Age-Adjusted Rates, 2011-2015</u>			
Age at Diagnosis:			
All ages	31.1	30.8	32.1
Under 65	23.1	22.9	21.9
65 and over	86.7	85.3	102.9
All ages (WHO world std) ^b	25.3	25.0	25.9
<u>Age-Specific Rates, 2011-2015</u>			
Age at Diagnosis:			
<1	-	-	-
1-4	-	-	-
5-9	-	-	-
10-14	-	-	-
15-19	-	-	-
20-24	0.2	0.2	-
25-29	0.7	0.6	0.8
30-34	2.7	2.4	3.1
35-39	9.6	9.7	8.6
40-44	40.7	40.5	34.5
45-49	62.5	62.9	49.4
50-54	70.5	70.6	62.9
55-59	73.1	71.4	79.2
60-64	86.6	84.0	101.7
65-69	108.4	105.9	122.0
70-74	103.4	101.1	123.2
75-79	88.0	87.0	112.8
80-84	64.3	64.2	74.9
85+	28.4	28.2	34.4

^a SEER 18 areas. Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130), unless noted.

^b Rates are per 100,000 and are age-adjusted to the world (WHO 2000-2025) standard million.

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

Table 4.13
Cancer of the Female Breast (Invasive)
5-Year Relative and Period Survival (Percent) by Race, Diagnosis Year, Stage and Age

	All Races, Females			White Females			Black Females		
	All	<50	50+	All	<50	50+	All	<50	50+
5-Year Relative Survival (Percent)									
Year of Diagnosis:									
1960-1963 ^a	-	-	-	63	-	-	46	-	-
1970-1973 ^a	-	-	-	68	-	-	51	-	-
1975-1977 ^b	74.8	76.5	74.3	75.6	77.8	74.9	62.2	62.4	62.0
1978-1980 ^b	74.4	75.5	74.1	75.1	76.1	74.9	63.4	67.0	61.5
1981-1983 ^b	76.1	77.4	75.7	77.1	78.5	76.7	63.4	65.1	62.6
1984-1986 ^b	78.9	77.8	79.3	80.0	79.5	80.2	65.1	63.9	65.9
1987-1989 ^b	84.0	81.4	85.0	85.1	82.7	85.9	71.1	69.7	72.0
1990-1992 ^b	85.2	83.4	85.9	86.5	85.1	87.0	71.5	70.1	72.3
1993-1995 ^b	86.4	84.3	87.1	87.7	86.2	88.1	72.8	70.4	74.1
1996-1998 ^b	88.2	86.6	88.8	89.4	88.3	89.7	76.3	74.0	77.6
1999-2001 ^b	89.7	88.1	90.3	90.8	89.9	91.1	78.9	76.9	80.1
2002-2004 ^b	90.0	89.3	90.2	91.4	91.1	91.5	77.9	77.6	78.2
2005-2007 ^b	90.8	91.3	90.7	92.3	92.7	92.1	79.5	81.5	78.5
2008-2014 ^b	91.1 ^f	91.0 ^f	91.1 ^f	92.1 ^f	92.2 ^f	92.1 ^f	83.1 ^f	83.5 ^f	82.9 ^f
5-Year Period Survival (Percent)^{cd}									
2014	89.7	89.4	89.9	90.7	90.6	90.7	81.4	80.9	81.6
Stage Distribution (%) 2008-2014^{ce}									
All Stages									
Number of cases	343,965	79,183	264,782	271,628	58,195	213,433	38,617	10,653	27,964
Percent	100%	100%	100%	100%	100%	100%	100%	100%	100%
Localized	62	54	64	63	55	65	54	47	57
Regional	31	39	28	30	39	27	36	43	33
Distant	6	5	6	6	5	6	9	8	9
Unstaged/Unknown	2	1	2	1	1	2	2	2	2
5-Year Relative Survival (Percent), 2008-2014^c									
Age at Diagnosis:									
Ages <45	88.2	-	-	89.5	-	-	79.1	-	-
Ages 45-54	90.5	-	-	91.6	-	-	82.1	-	-
Ages 55-64	90.3	-	-	91.3	-	-	82.2	-	-
Ages 65-74	91.7	-	-	92.4	-	-	84.6	-	-
Ages 75+	86.0	-	-	87.0	-	-	74.5	-	-
Ages <65	89.9	-	-	91.1	-	-	81.4	-	-
Ages 65+	89.3	-	-	90.0	-	-	80.6	-	-
Stage^e:									
All Stages	89.7	89.6	89.7	90.6	90.7	90.6	81.2	80.9	81.3
Localized	98.7	97.0	99.2	99.1	97.4	99.6	95.4	94.0	95.9
Regional	85.3	86.8	84.6	86.4	88.1	85.8	76.6	77.6	76.0
Distant	27.0	37.3	24.1	28.1	40.3	25.2	19.7	27.0	17.0
Unstaged/Unknown	54.5	75.8	49.6	52.1	75.8	47.6	49.8	67.1	43.5
<i>In Situ</i> ^j	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.9	100.0

^a Based on End Results data from a series of hospital registries and one population-based registry.

^b SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta).
Based on follow-up of patients into 2015. [Expected survival rates](#) are derived from the U.S. Annual Life Tables.

^c SEER 18 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey and Georgia excluding ATL/RG). Expected survival rates are derived from life tables by socio-economic status, geography and race developed by the SEER program.

^d Based on follow-up of patients into 2015.

Period survival provides a 2014 estimate of survival by piecing together the most recent conditional survival estimates from several cohorts. It is computed here using three year calendar blocks (2010-2012: 0-1 year survival),

(2009-2011: 1-2 year survival), (2008-2010: 2-3 year survival), (2007-2009: 3-4 year survival), (2006-2008: 4-5 years survival).

^e Stage at diagnosis is classified using SEER Summary Stage 2000. Stage distribution percentages may not sum to 100 due to rounding.

^f The difference between 1975-1977 and 2008-2014 is statistically significant ($p < .05$).

^g The standard error is between 5 and 10 percentage points.

^h The standard error is greater than 10 percentage points.

^j *In situ* cases are not included in the All Stages group.

- Statistic could not be calculated due to fewer than 25 cases during the time period.

Table 4.14
Cancer of the Female Breast (Invasive)

SEER^a Relative Survival (Percent)
By Year of Diagnosis

All Races, Females

Year of Diagnosis

	1975- 1979	1980- 1984	1985- 1989	1990- 1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Survival Time																								
1-year	94.4	95.1	96.3	97.1	97.1	97.0	97.4	97.5	97.5	97.5	97.3	97.5	97.8	97.8	97.8	97.7	97.7	97.7	97.9	97.6	97.8	98.1	98.0	97.6
2-year	88.7	89.9	92.3	93.8	94.0	93.7	94.4	94.9	95.1	95.3	95.1	95.4	95.5	95.6	95.7	95.7	96.0	95.8	96.0	95.8	96.0	96.0	96.2	
3-year	83.1	84.6	88.3	90.5	91.3	90.9	92.0	92.9	93.1	93.4	92.8	93.5	93.3	93.3	93.8	93.8	94.0	93.8	93.9	93.9	94.4	94.0		
4-year	78.4	80.2	85.0	87.8	88.8	88.9	89.9	91.0	91.2	91.6	91.0	91.8	91.5	91.4	91.9	92.3	92.5	92.3	92.5	92.2	92.7			
5-year	74.6	76.3	82.2	85.6	86.8	86.7	88.4	89.5	89.5	90.2	89.4	90.2	89.8	89.9	90.5	90.8	91.2	90.7	91.3	90.9				
6-year	71.4	73.4	79.9	83.8	85.4	85.0	87.0	88.3	88.1	89.0	88.2	88.8	88.6	88.6	89.2	89.7	89.8	89.4	90.3					
7-year	68.7	70.6	77.8	82.1	83.8	83.8	85.9	87.1	86.9	87.7	86.8	87.6	87.4	87.5	88.0	88.7	88.9	88.2						
8-year	66.4	68.4	76.3	80.9	82.6	82.4	85.0	85.8	85.8	86.4	85.9	86.4	86.3	86.5	87.3	87.6	87.9							
9-year	64.3	66.4	74.6	79.8	81.3	81.4	83.7	84.7	84.9	85.3	85.2	85.6	85.9	85.6	86.5	86.8								
10-year	62.5	64.5	73.3	78.7	80.5	80.4	82.6	83.4	84.1	84.5	84.4	85.0	84.7	84.8	85.7									
11-year	60.8	62.7	72.1	77.6	79.5	79.5	81.8	82.6	82.9	83.5	83.6	84.4	83.9	84.2										
12-year	59.3	61.5	70.9	76.7	78.5	78.6	81.1	82.1	82.4	82.5	82.4	83.4	83.3											
13-year	58.1	60.4	69.8	75.8	77.4	77.6	80.0	81.1	81.7	81.8	81.8	82.6												
14-year	57.1	59.2	69.0	74.9	76.8	76.9	79.4	80.4	80.6	81.1	80.9													
15-year	56.1	58.3	68.1	74.1	75.9	76.2	78.4	79.4	80.1	80.4														
16-year	55.1	57.2	67.2	73.2	74.9	75.6	77.4	78.8	79.3															
17-year	54.2	56.3	66.5	72.4	74.0	74.8	77.0	78.1																
18-year	53.4	55.6	65.7	71.6	72.8	74.1	76.2																	
19-year	52.6	55.0	65.1	71.0	72.3	73.1																		
20-year	51.8	54.2	64.5	70.2	71.6																			
21-year	51.1	53.5	63.7	69.3																				
22-year	50.6	52.8	63.2																					
23-year	50.0	52.2	62.6																					
24-year	49.4	51.5	61.9																					
25-year	48.6	51.1	61.2																					
26-year	48.3	50.7	60.3																					
27-year	48.0	50.1																						
28-year	47.5	49.5																						
29-year	47.0	48.7																						
30-year	46.7	48.0																						

^a Based on the SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta). [Expected survival rates](#) are derived from the U.S. Annual Life Tables.

Table 4.15
Cancer of the Female Breast (Ages <50, Invasive)

SEER^a Relative Survival (Percent)
By Year of Diagnosis

All Races, Females

Year of Diagnosis

	1975- 1979	1980- 1984	1985- 1989	1990- 1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Survival Time																								
1-year	96.6	97.4	97.9	98.0	97.9	97.7	98.0	98.3	98.6	98.4	98.2	98.5	98.7	98.5	98.8	98.8	99.0	98.7	98.8	98.6	99.0	98.8	98.6	98.8
2-year	90.7	91.2	92.5	93.8	93.6	93.8	94.7	95.1	95.0	95.5	94.6	95.7	96.0	95.9	96.1	96.8	97.1	96.4	96.4	96.3	97.1	96.5	96.5	
3-year	84.5	85.5	87.3	89.7	90.0	90.8	91.6	92.2	92.2	93.0	91.6	93.2	93.7	93.3	93.8	94.8	95.1	94.1	94.3	93.9	95.2	94.3		
4-year	79.9	80.9	83.3	86.3	86.6	88.2	88.7	89.5	90.0	90.5	89.3	90.6	91.8	91.2	92.2	93.1	93.4	92.4	92.6	91.9	93.0			
5-year	76.0	77.0	80.1	83.8	84.1	85.6	86.8	87.3	88.1	88.9	87.4	88.7	89.8	89.4	90.7	91.2	91.9	90.9	91.1	90.5				
6-year	73.2	74.2	77.9	81.7	82.2	83.3	84.7	85.4	86.1	87.3	85.3	86.8	88.1	87.9	89.4	89.6	90.4	89.4	89.8					
7-year	70.8	71.6	75.8	80.0	80.3	81.8	83.2	83.7	84.8	85.6	83.6	85.3	86.8	86.3	88.3	88.7	89.0	88.2						
8-year	68.9	69.5	74.1	78.5	78.7	80.1	81.5	82.3	83.6	83.8	82.2	84.2	85.6	85.3	87.4	87.6	88.0							
9-year	67.0	67.8	72.6	77.3	77.6	79.0	80.5	80.9	82.5	82.5	81.1	83.2	84.9	84.3	86.4	86.8								
10-year	65.5	66.4	71.5	76.3	76.4	77.7	79.3	79.8	81.5	81.6	80.3	82.4	84.0	83.4	85.6									
11-year	64.2	65.1	70.4	75.4	75.5	76.7	78.2	78.9	80.4	80.8	79.4	81.7	83.0	82.8										
12-year	62.8	64.1	69.3	74.4	74.6	76.1	77.3	78.2	79.9	80.1	78.5	80.6	82.5											
13-year	61.7	63.1	68.3	73.5	73.7	74.8	76.4	77.6	79.2	79.3	77.7	80.0												
14-year	61.0	62.0	67.6	72.8	73.0	74.1	75.4	77.2	78.0	78.9	77.3													
15-year	60.2	61.2	66.8	72.1	72.3	73.4	74.8	76.6	77.4	78.3														
16-year	59.5	60.5	66.2	71.4	71.5	73.0	74.1	76.1	77.0															
17-year	58.9	59.8	65.6	70.8	70.5	72.3	73.6	75.5																
18-year	58.3	59.2	64.9	70.2	69.4	72.0	72.7																	
19-year	57.7	58.8	64.4	69.6	68.5	71.4																		
20-year	57.1	58.2	63.9	69.1	68.0																			
21-year	56.4	57.5	63.4	68.6																				
22-year	55.8	56.8	62.9																					
23-year	55.3	56.2	62.4																					
24-year	54.7	55.6	62.0																					
25-year	54.1	55.2	61.5																					
26-year	53.8	54.6	60.9																					
27-year	53.2	54.1																						
28-year	52.8	53.5																						
29-year	52.4	53.0																						
30-year	52.1	52.6																						

^a Based on the SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta). [Expected survival rates](#) are derived from the U.S. Annual Life Tables.

Table 4.16
Cancer of the Female Breast (Ages 50+, Invasive)

SEER^a Relative Survival (Percent)
By Year of Diagnosis

All Races, Females

Year of Diagnosis

	1975- 1979	1980- 1984	1985- 1989	1990- 1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Survival Time																								
1-year	93.7	94.4	95.8	96.8	96.8	96.7	97.2	97.2	97.2	97.2	97.0	97.2	97.5	97.5	97.4	97.4	97.3	97.4	97.5	97.3	97.4	97.8	97.8	97.2
2-year	88.0	89.6	92.3	93.8	94.1	93.6	94.3	94.9	95.2	95.3	95.2	95.4	95.3	95.5	95.6	95.3	95.7	95.5	95.9	95.6	95.7	95.8	96.1	
3-year	82.6	84.3	88.6	90.7	91.8	91.0	92.1	93.1	93.4	93.6	93.2	93.6	93.1	93.3	93.8	93.5	93.6	93.7	93.8	93.9	94.1	93.9		
4-year	77.9	79.9	85.6	88.4	89.6	89.1	90.3	91.6	91.7	92.0	91.5	92.2	91.5	91.5	91.8	92.0	92.1	92.3	92.5	92.3	92.6			
5-year	74.1	76.1	83.0	86.3	87.8	87.1	89.0	90.3	90.1	90.6	90.2	90.7	89.8	90.2	90.5	90.6	91.0	90.6	91.4	91.0				
6-year	70.8	73.1	80.5	84.6	86.6	85.6	87.8	89.4	88.7	89.6	89.3	89.5	88.8	88.9	89.2	89.7	89.7	89.4	90.5					
7-year	67.9	70.4	78.6	82.9	85.1	84.7	86.9	88.4	87.7	88.4	88.0	88.4	87.7	88.0	87.9	88.7	88.9	88.3						
8-year	65.6	68.0	77.1	81.9	84.1	83.3	86.3	87.1	86.6	87.3	87.2	87.2	86.6	87.1	87.3	87.7	87.9							
9-year	63.3	66.0	75.3	80.7	82.7	82.3	84.9	86.1	85.8	86.3	86.8	86.4	86.3	86.1	86.6	86.8								
10-year	61.3	63.8	73.9	79.6	82.2	81.4	83.9	84.8	85.0	85.6	86.0	86.0	85.6	86.0	85.0	85.3	85.7							
11-year	59.5	61.9	72.7	78.5	81.0	80.6	83.1	84.1	83.8	84.6	85.1	85.4	84.3	84.8										
12-year	58.0	60.6	71.4	77.6	79.9	79.6	82.5	83.6	83.3	83.5	83.9	84.4	83.6											
13-year	56.7	59.4	70.3	76.7	78.8	78.7	81.4	82.4	82.5	82.7	83.4	83.5												
14-year	55.6	58.1	69.4	75.7	78.3	78.0	80.9	81.6	81.5	82.0	82.3													
15-year	54.4	57.2	68.4	74.8	77.3	77.4	79.8	80.4	81.2	81.1														
16-year	53.4	55.9	67.5	73.9	76.2	76.6	78.7	79.7	80.1															
17-year	52.2	54.8	66.6	72.8	75.4	75.8	78.2	79.0																
18-year	51.3	54.1	65.8	72.1	74.1	74.8	77.6																	
19-year	50.4	53.3	65.1	71.3	73.8	73.5																		
20-year	49.5	52.4	64.4	70.4	73.0																			
21-year	48.8	51.7	63.6	69.1																				
22-year	48.3	51.0	63.0																					
23-year	47.7	50.4	62.2																					
24-year	47.0	49.6	61.4																					
25-year	46.1	49.1	60.6																					
26-year	45.8	48.9	59.4																					
27-year	45.4	48.2																						
28-year	45.0	47.5																						
29-year	44.4	46.4																						
30-year	43.9	45.4																						

^a Based on the SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta). [Expected survival rates](#) are derived from the U.S. Annual Life Tables.

Table 4.17
Cancer of the Female Breast (Invasive)

Risk of Being Diagnosed With Cancer in 10, 20 and 30 Years,
Lifetime Risk of Being Diagnosed with Cancer Given Alive and Cancer-Free at Current Age, and
Lifetime Risk of Dying from Cancer Given Alive at Current Age
Females, 2013-2015 By Race/Ethnicity

Race/ Ethnicity	Current Age	Risk of Being Diagnosed with Cancer				Risk of Dying from Cancer	Race/ Ethnicity	Current Age	Risk of Being Diagnosed with Cancer				Risk of Dying from Cancer
		+10 yrs	+20 yrs	+30 yrs	Ever				+10 yrs	+20 yrs	+30 yrs	Ever	
All Races	0	0.00	0.00	0.07	12.44	2.59	Asian/ Pacific Islander	0	0.00	0.00	0.06	10.70	1.79
	10	0.00	0.07	0.52	12.56	2.62		10	0.00	0.06	0.49	10.77	1.81
	20	0.07	0.52	1.99	12.58	2.62		20	0.06	0.49	1.97	10.78	1.81
	30	0.46	1.93	4.16	12.59	2.63		30	0.43	1.92	3.94	10.75	1.81
	40	1.49	3.74	6.90	12.28	2.61		40	1.49	3.54	6.14	10.40	1.79
	50	2.33	5.59	8.85	11.15	2.50		50	2.09	4.75	7.19	9.11	1.70
	60	3.47	6.96	8.92	9.41	2.28		60	2.77	5.31	6.79	7.31	1.50
	70	3.95	6.17	-	6.73	1.93		70	2.74	4.33	-	4.89	1.26
White	80	2.93	-	-	3.67	1.50	American Indian/ Alaska Native ^a	80	1.88	-	-	2.54	0.96
	0	0.00	0.00	0.06	12.69	2.56		0	0.00	0.01	0.06	7.82	1.75
	10	0.00	0.06	0.52	12.80	2.58		10	0.01	0.06	0.35	7.89	1.77
	20	0.06	0.52	1.98	12.82	2.58		20	0.05	0.34	1.13	7.91	1.77
	30	0.46	1.93	4.17	12.82	2.59		30	0.29	1.08	2.50	7.94	1.79
	40	1.49	3.77	7.00	12.53	2.57		40	0.81	2.25	4.60	7.81	1.79
	50	2.35	5.69	9.08	11.39	2.48		50	1.50	3.95	5.87	7.28	1.76
	60	3.57	7.18	9.18	9.64	2.27		60	2.62	4.67	5.74	6.18	1.69
Black	70	4.10	6.37	-	6.90	1.93	Hispanic ^b	70	2.34	3.55	-	4.05	1.49
	80	3.02	-	-	3.72	1.50		80	1.59	-	-	2.25	1.31
	0	0.00	0.00	0.08	11.48	3.12		0	0.00	0.00	0.05	9.85	2.08
	10	0.00	0.08	0.57	11.69	3.18		10	0.00	0.05	0.42	9.93	2.10
	20	0.08	0.57	1.96	11.71	3.18		20	0.05	0.42	1.56	9.95	2.11
	30	0.50	1.90	4.12	11.72	3.19		30	0.37	1.52	3.29	9.93	2.11
	40	1.42	3.68	6.60	11.42	3.15		40	1.16	2.95	5.45	9.65	2.08
	50	2.35	5.39	8.29	10.42	2.98		50	1.83	4.39	6.79	8.69	1.99
	60	3.32	6.49	8.26	8.82	2.66		60	2.68	5.19	6.72	7.18	1.81
	70	3.75	5.85	-	6.51	2.23		70	2.76	4.44	-	4.95	1.54
	80	2.94	-	-	3.86	1.80		80	2.07	-	-	2.69	1.22

Devcan 6.7.6, April 2018, National Cancer Institute (<https://surveillance.cancer.gov/devcan/>).

Source: Incidence data are from the SEER 18 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, and Georgia excluding ATL/RG). Mortality data are from the NCHS public use data file for the total US.

^a Underlying incidence and mortality data for American Indian/Alaska Native are based on the CHSDA (Contract Health Service Delivery Area) counties.

^b Hispanic is not mutually exclusive from whites, blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives.

- Underlying incidence data for Hispanics are based on NHIA and exclude cases from the Alaska Native Registry.

- Statistic could not be calculated.

A percent of 0.00 represents a value that is below 0.005.

Table 4.18
Cancer of the Female Breast (Invasive)

SEER Incidence and U.S. Mortality
Age-Adjusted Rates and Trends^a
By Race/Ethnicity

SEER Incidence	SEER 18 Areas ^b Rate 2011-2015 Rate per 100,000 persons	SEER 13 Areas ^b Trend 2006-2015 ^c AAPC (%)	SEER 9 Areas ^b Trend 2006-2015 ^d AAPC (%)
	Females	Females	Females
RACE/ETHNICITY			
All Races	126.0	0.2	0.3*
White	128.6	0.1	0.2
White Hispanic ^e	97.2	0.3*	-
White Non-Hispanic ^e	135.2	0.2	-
Black	126.9	0.2*	0.3*
Asian/Pacific Islander	100.6	1.2*	-
Amer Ind/Alaska Nat ^f	82.6	0.2	-
Hispanic ^e	93.7	0.3*	-
U.S. Mortality ^g			
	Rate 2011-2015 Rate per 100,000 persons	Trend 2006-2015 ^h AAPC (%)	
	Females	Females	
RACE/ETHNICITY			
All Races	20.9	-1.7*	
White	20.3	-1.7*	
White Hispanic ^e	15.1	-0.7*	
White Non-Hispanic ^e	20.8	-1.8*	
Black	28.7	-1.5*	
Asian/Pacific Islander	11.4	-0.8*	
Amer Ind/Alaska Nat			
Total U.S.	11.2	-1.0	
CHSDA Counties	14.3	-0.8*	
Non-CHSDA Counties	7.7	-2.5*	
Hispanic ^e	14.3	-1.1*	

The AAPC is the Average Annual Percent Change over the time interval. The AAPCs are calculated by the Joinpoint Regression Program Version 4.6, February 2018, National Cancer Institute.

- Statistic not shown. Rate based on less than 16 cases for the time interval.
- a Trend based on less than 10 cases for at least one year within the time interval.
- a Rates are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130). Trends are based on rates age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).
- b The SEER 9 areas are San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta.
- b The SEER 13 areas comprise the SEER 9 areas plus San Jose-Monterey, Los Angeles, the Alaska Native Registry, and Rural Georgia.
- b The SEER 18 areas comprise the SEER 13 areas plus California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, and Georgia excluding ATL/RG.
- c The 2006-2015 AAPC estimates are based on a Joinpoint analysis with up to 4 Joinpoints over diagnosis years 1992-2015.
- d The 2006-2015 AAPC estimates are based on a Joinpoint analysis with up to 5 Joinpoints over diagnosis years 1975-2015.
- e Hispanic and Non-Hispanic are not mutually exclusive from whites, blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives. Incidence data for Hispanics and Non-Hispanics are based on NHIA and exclude cases from the Alaska Native Registry. The 2006-2015 Hispanic and Non-Hispanic mortality trends exclude deaths from New Hampshire and Oklahoma.
- f Incidence data for American Indian/Alaska Native are based on the CHSDA(Contract Health Service Delivery Area) counties.
- g US Mortality Files, National Center for Health Statistics, CDC.
- h The 2006-2015 mortality AAPCs are based on a Joinpoint analysis using years of death 1992-2015.
- * The APC is significantly different from zero (p<.05).

Table 4.19
Cancer of the Female Breast (*In Situ*)

SEER Incidence
Age-Adjusted Rates and Trends^a
By Race/Ethnicity

SEER Incidence RACE/ETHNICITY	SEER 18 Areas ^b Rate 2011-2015 Rate per 100,000 persons	SEER 13 Areas ^b Trend 2006-2015 ^c AAPC (%)	SEER 9 Areas ^b Trend 2006-2015 ^d AAPC (%)
	Females	Females	Females
All Races	31.1	0.0	-0.3
White	30.8	-0.8	-0.8
White Hispanic ^e	22.5	1.9*	-
White Non-Hispanic ^e	32.9	-0.6	-
Black	32.1	1.5*	1.4*
Asian/Pacific Islander	31.3	1.7*	-
Amer Ind/Alaska Nat ^f	18.1	1.5*	-
Hispanic ^e	21.8	1.8*	-

The AAPC is the Average Annual Percent Change over the time interval. The AAPCs are calculated by the Joinpoint Regression Program Version 4.6, February 2018, National Cancer Institute.

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

Trend based on less than 10 cases for at least one year within the time interval.

^a Rates are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130). Trends are based on rates age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

^b The SEER 9 areas are San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta.

The SEER 13 areas comprise the SEER 9 areas plus San Jose-Monterey, Los Angeles, the Alaska Native Registry, and Rural Georgia.

The SEER 18 areas comprise the SEER 13 areas plus California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, and Georgia excluding ATL/RG.

^c The 2006-2015 AAPC estimates are based on a Joinpoint analysis with up to 4 Joinpoints over diagnosis years 1992-2015.

^d The 2006-2015 AAPC estimates are based on a Joinpoint analysis with up to 5 Joinpoints over diagnosis years 1975-2015.

^e Hispanic and Non-Hispanic are not mutually exclusive from whites, blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives. Incidence data for Hispanics and Non-Hispanics are based on NHIA and exclude cases from the Alaska Native Registry.

^f Incidence data for American Indian/Alaska Native are based on the CHSDA (Contract Health Service Delivery Area) counties.

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

Table 4.20
Cancer of the Female Breast (Invasive)

Age-Adjusted SEER Incidence Rates^a
By Registry, Race and Age

	All Races			Whites			Blacks		
	All Ages	Ages <50	Ages 50+	All Ages	Ages <50	Ages 50+	All Ages	Ages <50	Ages 50+
<u>SEER Incidence Rates^a, 2011-2015</u>									
California	121.55	41.89	330.13	125.82	41.92	345.51	123.67	40.97	340.22
Greater Bay Area	125.94	45.99	335.32	133.75	46.56	362.06	127.99	43.71	348.67
San Francisco-Oakland	128.00	46.43	341.60	134.79	45.99	367.31	128.48	44.90	347.35
San Jose-Monterey	122.03	45.21	323.17	131.99	47.60	352.95	127.09	37.08	362.79
Los Angeles	115.65	41.55	309.69	118.39	40.48	322.38	127.00	42.71	347.71
Greater California	122.68	40.55	337.73	126.53	41.27	349.81	117.90	38.22	326.56
Connecticut	140.15	51.89	371.27	142.16	53.32	374.82	118.69	40.35	323.84
Detroit	133.77	46.78	361.56	135.13	47.08	365.70	134.18	47.36	361.53
Georgia	125.17	43.07	340.14	125.45	41.99	343.98	127.83	46.01	342.07
Atlanta	133.05	45.57	362.11	138.93	47.49	378.36	132.51	45.34	360.77
Rural Georgia	124.74	42.56	339.91	127.77	42.68	350.58	114.65	38.34	314.48
Greater Georgia	121.20	41.47	329.95	120.28	39.58	331.61	124.97	46.82	329.60
Hawaii	136.09	51.70	357.06	146.85	58.38	378.52	115.61	49.56	288.58
Iowa	123.44	42.23	336.09	124.29	42.89	337.44	107.91	40.39	284.72
Kentucky	124.98	41.77	342.86	124.99	41.42	343.84	128.89	46.18	345.49
Louisiana	124.15	42.72	337.38	121.61	40.56	333.84	133.31	47.87	357.04
New Jersey	133.43	49.57	353.02	137.01	51.06	362.07	122.42	44.55	326.33
New Mexico	112.44	35.20	314.70	117.18	37.61	325.54	91.84	24.94	267.01
Seattle-Puget Sound	140.84	47.04	386.49	144.75	46.74	401.42	127.57	42.83	349.47
Utah	115.10	37.06	319.46	116.48	37.52	323.22	86.04	-	246.66
SEER 9 Areas ^b	130.79	45.48	354.20	133.50	45.66	363.53	129.29	44.64	350.93
SEER 13 Areas ^b	126.90	44.51	342.64	130.16	44.49	354.52	128.70	44.13	350.14
SEER 18 Areas ^b	125.99	43.69	341.47	128.58	43.68	350.90	126.87	44.54	342.46

^a Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130)
^b The SEER 9 areas are San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah and Atlanta.
 The SEER 13 areas comprise the SEER 9 areas plus San Jose-Monterey, Los Angeles, the Alaska Native Registry and Rural Georgia.
 The SEER 18 areas comprise the SEER 13 areas plus California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey and Georgia excluding ATL/RG.
 - Statistic not shown. Rate based on less than 16 cases for the time interval.

Table 4.21
Cancer of the Female Breast (Invasive)

Age-Adjusted SEER Death Rates^a
By Registry, Race and Age

	All Races			Whites			Blacks		
	All Ages	Ages <50	Ages 50+	All Ages	Ages <50	Ages 50+	All Ages	Ages <50	Ages 50+
<u>SEER Death Rates^a, 2011-2015</u>									
California	20.26	4.34	61.94	21.16	4.27	65.37	30.12	8.17	87.58
Greater Bay Area	18.55	3.62	57.63	20.20	3.44	64.08	27.22	7.30	79.36
San Francisco-Oakland	19.04	3.74	59.10	20.32	3.34	64.80	26.94	7.19	78.66
San Jose-Monterey	17.59	3.41	54.73	19.98	3.63	62.80	28.45	-	82.21
Los Angeles	20.59	4.62	62.38	20.97	4.31	64.59	31.93	8.92	92.19
Greater California	20.71	4.46	63.24	21.49	4.49	66.01	29.79	7.86	87.21
Connecticut	18.34	4.10	55.64	18.41	4.00	56.14	19.24	5.41	55.45
Detroit	23.45	4.83	72.21	21.99	4.40	68.04	29.73	6.34	90.96
Georgia	22.12	4.93	67.13	19.77	3.79	61.62	28.87	7.35	85.22
Atlanta	22.53	5.06	68.29	18.74	3.64	58.30	30.42	7.15	91.36
Rural Georgia	25.38	-	83.74	20.19	-	73.05	33.59	-	102.76
Greater Georgia	21.84	4.88	66.25	20.13	3.91	62.60	27.77	7.57	80.66
Hawaii	15.86	3.82	47.36	20.68	4.49	63.07	-	-	-
Iowa	19.18	3.77	59.53	19.23	3.75	59.74	21.02	-	57.55
Kentucky	21.71	4.73	66.19	21.31	4.51	65.29	28.33	7.91	81.80
Louisiana	23.66	5.17	72.07	19.89	3.50	62.81	33.43	8.65	98.34
New Jersey	22.45	4.37	69.80	22.05	3.99	69.34	30.14	7.55	89.29
New Mexico	18.86	4.34	56.91	19.66	4.65	58.97	27.44	-	81.06
Seattle-Puget Sound	19.99	3.51	63.17	20.68	3.34	66.10	25.53	7.89	71.71
Utah	20.34	3.56	64.28	20.38	3.39	64.86	-	-	-
SEER 9 Areas ^b	19.98	4.10	61.58	19.94	3.77	62.30	27.94	6.79	83.32
SEER 13 Areas ^b	20.00	4.16	61.47	20.17	3.87	62.84	28.90	7.21	85.70
SEER 18 Areas ^b	20.86	4.38	63.99	20.77	4.06	64.53	29.58	7.58	87.21
Total U.S.	20.87	4.42	63.94	20.34	4.03	63.04	28.66	7.51	84.04

^a US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.

Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

^b The SEER 9 areas are San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah and Atlanta.

The SEER 13 areas comprise the SEER 9 areas plus San Jose-Monterey, Los Angeles, the Alaska Native Registry and Rural Georgia.

The SEER 18 areas comprise the SEER 13 areas plus California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey and Georgia excluding ATL/RG.

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

Table 4.22
Cancer of the Female Breast (*In Situ*)

Age-Adjusted SEER Incidence Rates^a
By Registry, Race and Age

	All Races			Whites			Blacks		
	All Ages	Ages <50	Ages 50+	All Ages	Ages <50	Ages 50+	All Ages	Ages <50	Ages 50+
<u>SEER Incidence Rates^a, 2011-2015</u>									
California	28.44	10.55	75.27	27.60	10.09	73.43	29.52	8.11	85.57
Greater Bay Area	33.21	13.55	84.69	32.08	12.88	82.36	27.48	7.66	79.38
San Francisco-Oakland	35.35	14.54	89.84	34.02	13.99	86.48	28.80	8.09	83.03
San Jose-Monterey	29.15	11.76	74.69	28.73	10.97	75.22	18.20	-	52.90
Los Angeles	26.23	9.57	69.84	25.00	8.96	67.02	29.68	7.96	86.55
Greater California	27.78	9.94	74.50	27.40	9.82	73.45	30.07	8.44	86.71
Connecticut	44.22	20.87	105.37	44.60	21.90	104.05	39.47	12.78	109.36
Detroit	36.83	14.31	95.80	37.61	15.86	94.55	36.57	10.51	104.81
Georgia	29.99	11.37	78.74	29.34	11.42	76.29	32.58	11.10	88.83
Atlanta	36.07	13.94	94.03	37.37	15.23	95.34	36.56	12.65	99.16
Rural Georgia	25.42	10.24	65.17	25.25	-	58.97	26.54	-	79.44
Greater Georgia	26.96	9.76	71.98	26.40	9.75	69.99	29.42	9.64	81.21
Hawaii	35.05	14.60	88.59	29.16	12.86	71.83	-	-	-
Iowa	27.60	10.44	72.55	27.58	10.47	72.40	29.56	-	81.66
Kentucky	26.45	9.63	70.47	26.15	9.81	68.94	32.24	8.31	94.91
Louisiana	25.83	8.68	70.75	25.53	9.03	68.72	27.60	8.07	78.75
New Jersey	41.30	19.16	99.26	42.33	19.97	100.89	33.92	13.05	88.57
New Mexico	21.23	7.80	56.39	22.11	8.32	58.20	20.96	-	62.52
Seattle-Puget Sound	37.59	14.72	97.47	36.97	14.45	95.95	40.40	11.82	115.25
Utah	23.28	8.80	61.21	23.65	9.06	61.85	37.58	-	-
SEER 9 Areas ^b	34.39	14.00	87.78	33.96	14.19	85.72	35.89	11.41	100.01
SEER 13 Areas ^b	32.17	12.78	82.93	31.65	12.72	81.21	34.27	10.60	96.25
SEER 18 Areas ^b	31.15	12.24	80.66	30.78	12.24	79.32	32.11	10.19	89.52

^a Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130)
^b The SEER 9 areas are San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah and Atlanta.
 The SEER 13 areas comprise the SEER 9 areas plus San Jose-Monterey, Los Angeles, the Alaska Native Registry and Rural Georgia.
 The SEER 18 areas comprise the SEER 13 areas plus California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey and Georgia excluding ATL/RG.
 - Statistic not shown. Rate based on less than 16 cases for the time interval.

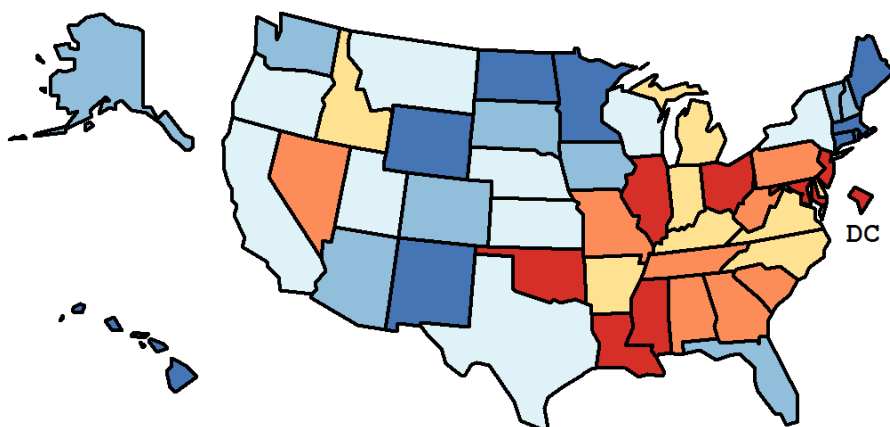
Table 4.23
Cancer of the Female Breast (Invasive)

Age-Adjusted Cancer Death^a Rates By State, All Races, 2011-2015

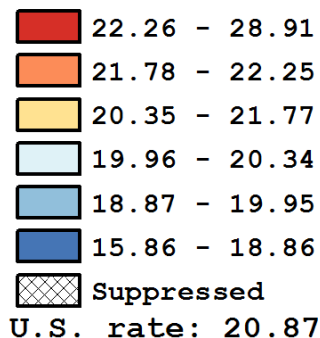
Females

State	Rate	SE	Rank(CI) ^d	PD
TOTAL U.S.	20.87	0.05		
High Five States				
D.C.	28.91	1.31	01(01,01)	38.52 ^c
Louisiana	23.66	0.42	02(02,08)	13.37 ^c
Mississippi	23.34	0.51	03(02,14)	11.81 ^c
Oklahoma	22.97	0.45	04(02,18)	10.05 ^c
Ohio	22.86	0.25	05(03,15)	9.53
Low Five States				
Massachusetts	18.50	0.30	47(37,50)	-11.37 ^c
Connecticut	18.34	0.40	48(31,50)	-12.13 ^c
Maine	18.05	0.62	49(35,50)	-13.54 ^c
North Dakota	17.47	0.92	50(28,51)	-16.32 ^c
Hawaii	15.86	0.61	51(50,51)	-24.03 ^c

State	Rate	SE	Rank(CI) ^d	PD	State	Rate	SE	Rank(CI) ^d	PD
Alabama	21.84	0.38	16(05,27)	4.63	Montana	20.20	0.80	27(10,49)	-3.19
Alaska	19.60	1.18	38(02,50)	-6.08	Nebraska	19.97	0.60	32(17,48)	-4.31
Arizona	19.40	0.32	39(29,48)	-7.05	Nevada	22.22	0.54	10(02,25)	6.47
Arkansas	21.63	0.49	21(03,29)	3.62	New Hampshire	19.65	0.68	37(13,48)	-5.88
California	20.26	0.14	26(24,37)	-2.94	New Jersey	22.45	0.28	06(03,19)	7.58
Colorado	19.02	0.37	42(32,50)	-8.85	New Mexico	18.86	0.56	43(25,50)	-9.62
Connecticut	18.34	0.40	48(31,50)	-12.13 ^c	New York	20.19	0.18	29(23,36)	-3.27
Delaware	21.63	0.86	20(02,40)	3.64	North Carolina	21.29	0.27	23(11,28)	2.00
D.C.	28.91	1.31	01(01,01)	38.52 ^c	North Dakota	17.47	0.92	50(28,51)	-16.32 ^c
Florida	19.77	0.17	36(25,40)	-5.28	Ohio	22.86	0.25	05(03,15)	9.53
Georgia	22.12	0.29	13(04,22)	5.97	Oklahoma	22.97	0.45	04(02,18)	10.05 ^c
Hawaii	15.86	0.61	51(50,51)	-24.03 ^c	Oregon	20.19	0.41	28(16,40)	-3.26
Idaho	20.54	0.68	24(12,49)	-1.59	Pennsylvania	21.88	0.23	15(07,24)	4.83
Illinois	22.36	0.24	08(04,21)	7.11	Rhode Island	18.52	0.74	46(24,50)	-11.24 ^c
Indiana	21.43	0.33	22(07,27)	2.67	South Carolina	22.25	0.39	09(03,23)	6.59
Iowa	19.18	0.45	40(26,49)	-8.10	South Dakota	19.95	0.89	34(07,50)	-4.41
Kansas	19.97	0.48	33(21,47)	-4.33	Tennessee	22.05	0.33	14(05,25)	5.66
Kentucky	21.71	0.40	19(06,28)	4.03	Texas	20.17	0.17	30(24,38)	-3.38
Louisiana	23.66	0.42	02(02,08)	13.37 ^c	Utah	20.34	0.58	25(11,45)	-2.56
Maine	18.05	0.62	49(35,50)	-13.54 ^c	Vermont	19.04	0.97	41(22,50)	-8.79
Maryland	22.37	0.36	07(02,21)	7.16	Virginia	21.77	0.30	17(07,26)	4.33
Massachusetts	18.50	0.30	47(37,50)	-11.37 ^c	Washington	19.87	0.32	35(24,44)	-4.81
Michigan	21.73	0.27	18(05,23)	4.10	West Virginia	22.21	0.60	11(03,32)	6.43
Minnesota	18.65	0.34	44(36,50)	-10.64 ^c	Wisconsin	19.99	0.34	31(21,41)	-4.24
Mississippi	23.34	0.51	03(02,14)	11.81 ^c	Wyoming	18.54	1.07	45(14,50)	-11.16 ^c
Missouri	22.17	0.34	12(03,23)	6.21					



Age-Adjusted Death
Rates per 100,000
Quantile Interval



^a US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention. Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).
^b Difference between state rate and total U.S. rate is statistically significant ($p \leq .0002$).
^c Absolute percent difference between state rate and total U.S. rate is 10% or more.
^d Rank of state level death rate and the 95% confidence intervals (low, high) for the rank.
SE Standard error of the rate.
PD Percent difference between state rate and total U.S. rate.
- Statistic not shown. Rate based on less than 16 cases for the time interval.

Table 4.24
Cancer of the Breast (Invasive)

Estimated United States Cancer Prevalence Counts^a on January 1, 2015
By Race/Ethnicity, Sex and Years Since Diagnosis

Years Since Diagnosis		0 to <5	5 to <10	10 to <15	15 to <20	20 to <25	25 to <30	0 to <23 ^e	0 to <40 ^e	>=40 ^g	Complete ^h
<u>Race</u>	<u>Sex</u>										
All Races ^b	Both Sexes	1,008,645	769,129	604,345	441,717	277,953	167,484	3,101,788	3,402,216	35,003	3,437,219
	Males	8,004	4,675	3,002	1,556	902	444	18,140	19,005	90	19,095
	Females	1,000,641	764,454	601,343	440,161	277,051	167,040	3,083,648	3,383,211	34,913	3,418,124
White ^b	Both Sexes	840,030	657,545	529,475	390,561	248,482	151,563	2,666,096	2,938,139	30,720	2,968,859
	Males	6,473	4,159	2,459	1,374	798	381	15,264	16,028	0 ⁱ	16,028
	Females	833,557	653,386	527,016	389,187	247,684	151,182	2,650,832	2,922,111	30,720	2,952,831
Black ^b	Both Sexes	109,259	72,284	48,639	33,153	19,593	10,579	282,929	302,074	+	+
	Males	1,260	371	459	112	62	59	2,264	2,361	+	+
	Females	107,999	71,913	48,180	33,041	19,531	10,520	280,665	299,713	2,807	302,520
Asian/ Pacific Islander ^c	Both Sexes	44,413	30,439	21,221	+	+	+	114,736	+	+	+
	Males	188	100	48	+	+	+	398	+	+	+
	Females	44,225	30,339	21,173	+	+	+	114,338	+	+	+
Hispanic ^d	Both Sexes	75,753	50,832	34,678	+	+	+	191,116	+	+	+
	Males	396	202	94	+	+	+	768	+	+	+
	Females	75,357	50,630	34,584	+	+	+	190,348	+	+	+

Estimated prevalence percent^a on January 1, 2015, of the SEER^c population diagnosed in the previous 23 years
By Age at Prevalence, Race/Ethnicity and Sex

Age at Prevalence		All Ages	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80+	Age-Adjusted ^f All Ages
<u>Race</u>	<u>Sex</u>											
All Races ^c	Both Sexes	0.8666%	-	-	0.0071%	0.0902%	0.4983%	1.3002%	2.4613%	3.7707%	4.4511%	0.7840%
	Males	0.0100%	-	-	-	0.0008%	0.0025%	0.0094%	0.0277%	0.0614%	0.0929%	0.0104%
	Females	1.7017%	-	-	0.0145%	0.1805%	0.9891%	2.5413%	4.6597%	6.8186%	7.0975%	1.4390%
White ^c	Both Sexes	0.9526%	-	-	0.0067%	0.0882%	0.4990%	1.3303%	2.5677%	4.0326%	4.8028%	0.8215%
	Males	0.0109%	-	-	-	0.0006%	0.0024%	0.0085%	0.0285%	0.0649%	0.1002%	0.0107%
	Females	1.8912%	-	-	0.0137%	0.1805%	1.0132%	2.6458%	4.9472%	7.3835%	7.7011%	1.5277%
Black ^c	Both Sexes	0.6359%	-	-	0.0086%	0.1035%	0.4994%	1.2251%	2.2845%	3.2886%	3.7104%	0.7145%
	Males	0.0103%	-	-	-	0.0018%	0.0051%	0.0196%	0.0400%	0.0731%	0.0976%	0.0137%
	Females	1.2058%	-	-	0.0170%	0.1936%	0.9305%	2.2793%	4.0457%	5.5340%	5.5126%	1.2330%
Asian/ Pacific Islander ^c	Both Sexes	0.6624%	-	-	0.0077%	0.0891%	0.4978%	1.2082%	1.9960%	2.6043%	2.8170%	0.6175%
	Males	0.0049%	-	-	-	0.0013%	-	0.0050%	0.0153%	0.0309%	0.0445%	0.0053%
	Females	1.2665%	-	-	0.0156%	0.1693%	0.9370%	2.2458%	3.6110%	4.6183%	4.5289%	1.1067%
Hispanic ^d	Both Sexes	0.3575%	-	-	0.0048%	0.0683%	0.3445%	0.9082%	1.7172%	2.5014%	2.7060%	0.5298%
	Males	0.0028%	-	-	-	0.0007%	0.0016%	0.0039%	0.0150%	0.0299%	0.0513%	0.0055%
	Females	0.7171%	-	-	0.0100%	0.1404%	0.7001%	1.7891%	3.1994%	4.3574%	4.3131%	0.9655%

- ^a US 2015 cancer prevalence counts are based on 2015 cancer prevalence proportions from the SEER registries and 1/1/2015 US population estimates based on the average of 2014 and 2015 population estimates from the US Bureau of the Census.
- ^{b c d} Prevalence was calculated using the first invasive tumor for each cancer site diagnosed during the previous 40/23 years. Statistics based on (b) SEER 9 Areas (c) SEER 13 Areas excluding the Alaska Native Registry
- ^e (d) NHIA for Hispanic for SEER 13 Areas excluding the Alaska Native Registry.
- ^f Maximum limited-duration prevalence: 40 years for 1975-2015 SEER 9 data; 23 years for 1992-2015 SEER 13 data (excluding the Alaska Native Registry) used to calculate prevalence for Hispanics and Asian Pacific Islanders.
- ^{g h i} Percentages are age-adjusted to the 2000 US Standard Population (19 age groups - Census P25-1130) by 5-year age groups. (g) Cases diagnosed more than 40 years ago were estimated using the completeness index method (Capocaccia et. al. 1997, Merrill et. al. 2000). (h) Complete prevalence is obtained by summing 0 to <40 and >=40. (i) Age-specific completeness index was approximated using empirical data from historical Connecticut tumor registry.
- Statistic not shown. Statistic based on fewer than 5 cases estimated alive in SEER for the time interval.
- + Not available.

Table 4.25

Cancer of the Female Breast (Invasive)

Percent Distribution and Counts by Histology among Histologically Confirmed Cases, 2011-2015
Females by Race

Histology ^a	All Races		White		Black		Asian/Pacific Islander		American Indian/ Alaska Native ^b		Hispanic ^c	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Carcinoma	312,306	99.4%	246,298	99.5%	34,895	99.3%	26,564	99.3%	1,339	99.3%	34,553	99.2%
Epidermoid carcinoma ^d (8051-8131)	168	0.1%	135	0.1%	21	0.1%	-	-	-	-	18	0.1%
Adenocarcinoma ^e	306,400	97.6%	241,894	97.7%	33,862	96.4%	26,188	97.9%	1,313	97.4%	33,827	97.1%
Adenocarcinoma, NOS (8140)	2,153	0.7%	1,672	0.7%	288	0.8%	147	0.5%	-	-	237	0.7%
Infiltrating duct carcinoma (8500)	230,651	73.4%	179,993	72.7%	26,415	75.2%	20,848	77.9%	1,032	76.6%	25,986	74.6%
Lobular carcinoma, NOS (8520)	29,780	9.5%	25,105	10.1%	2,657	7.6%	1,618	6.0%	106	7.9%	2,710	7.8%
Inflammatory adenocarcinoma (8530)	826	0.3%	646	0.3%	117	0.3%	53	0.2%	-	-	143	0.4%
Infiltrating duct mixed and infiltrating lobular mixed (8522-8524)	28,414	9.0%	23,261	9.4%	2,617	7.4%	2,144	8.0%	101	7.5%	3,288	9.4%
Mucinous adenocarcinoma (8480,8482)	6,000	1.9%	4,513	1.8%	755	2.1%	656	2.5%	20	1.5%	611	1.8%
Mucin-producing adenocarcinoma (8481)	59	0.0%	45	0.0%	-	-	-	-	-	-	-	-
Tubular adenocarcinoma (8211)	1,627	0.5%	1,439	0.6%	104	0.3%	65	0.2%	-	-	118	0.3%
Papillary adenocarcinoma (8050,8260,8503,8504)	2,037	0.6%	1,438	0.6%	317	0.9%	237	0.9%	-	-	226	0.6%
Paget disease (8540-8543)	1,085	0.3%	854	0.3%	124	0.4%	94	0.4%	-	-	111	0.3%
Other adenocarcinomas ^f	3,768	1.2%	2,928	1.2%	458	1.3%	324	1.2%	-	-	391	1.1%
Other specific carcinomas ^g	2,502	0.8%	1,838	0.7%	459	1.3%	180	0.7%	-	-	322	0.9%
Medullary adenocarcinoma (8510-8513)	661	0.2%	446	0.2%	164	0.5%	43	0.2%	-	-	135	0.4%
Other ^h	1,841	0.6%	1,392	0.6%	295	0.8%	137	0.5%	-	-	187	0.5%
Unspecified, Carcinoma, NOS (8010-8011,8020-8022)	3,236	1.0%	2,431	1.0%	553	1.6%	185	0.7%	-	-	386	1.1%

Source: SEER 18 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey and Georgia excluding ATL/RG).

Percents may not sum to 100 due to rounding.

^a Excludes Kaposi Sarcoma, mesothelioma, lymphomas, leukemias, myelomas, lymphoreticular, and immunoproliferative diseases.

^b Estimates for American Indian/Alaska Native are based on the CHSDA(Contract Health Service Delivery Area) counties.

^c Hispanic is not mutually exclusive from whites, blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives.

^d Underlying incidence data for Hispanics are based on NHIA and exclude cases from the Alaska Native Registry.

^e Epidermoid carcinoma includes squamous, basal, and transitional cell carcinomas.

^f Adenocarcinoma includes histologies 8050, 8140-8147, 8160-8162, 8180-8221, 8250-8507, 8514, 8520-8551, 8560, 8570-8574, 8576, 8940-8941.

^g Other adenocarcinomas include histologies 8141-8147, 8160-8162, 8180-8210, 8212-8221, 8250-8259, 8261-8479, 8483-8499, 8501-8502, 8505-8507, 8514, 8521, 8525-8529, 8531-8539, 8544-8551, 8560, 8570-8574, 8576, 8940-8941.

^h Other specific carcinomas include histologies 8012-8015, 8030-8046, 8150-8155, 8170-8175, 8230-8249, 8508, 8510-8513, 8561-8562, 8575, 8580-8671.

- Other includes histologies 8012-8015, 8030-8046, 8150-8155, 8170-8175, 8230-8249, 8508, 8561-8562, 8575, 8580-8671.

- Statistic not shown due to fewer than 16 cases during the time period.

Table 4.25 - continued

Cancer of the Female Breast (Invasive)

Percent Distribution and Counts by Histology among Histologically Confirmed Cases, 2011-2015
Females by Race

Histology ^a	All Races		White		Black		Asian/Pacific Islander		American Indian/ Alaska Native ^b		Hispanic ^c	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Sarcoma and other soft tissue tumors (8680-8713, 8800-8921, 9040-9044, 9120-9136, 9150-9252, 9370-9373, 9540-9582)	323	0.1%	245	0.1%	52	0.1%	22	0.1%	-	-	43	0.1%
Hemangiosarcomas (9120-9126, 9170)	166	0.1%	140	0.1%	17	0.0%	-	-	-	-	19	0.1%
Other sarcomas ^d	157	0.1%	105	0.0%	35	0.1%	-	-	-	-	24	0.1%
Other specific types (8720-8790, 8930-8936, 8950-9030, 9060-9110, 9260-9365, 9380-9539)	723	0.2%	499	0.2%	90	0.3%	115	0.4%	-	-	142	0.4%
Phyllodes tumor, malignant (9020)	612	0.2%	420	0.2%	68	0.2%	105	0.4%	-	-	126	0.4%
Other ^e	111	0.0%	79	0.0%	22	0.1%	-	-	-	-	16	0.0%
Unspecified (8000-8005)	699	0.2%	526	0.2%	102	0.3%	46	0.2%	-	-	97	0.3%
Total ^f	314,051	100.0%	247,568	100.0%	35,139	100.0%	26,747	100.0%	1,348	100.0%	34,835	100.0%

Source: SEER 18 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey and Georgia excluding ATL/RG).

Percentages may not sum to 100 due to rounding.

^a Excludes Kaposi Sarcoma, mesothelioma, lymphomas, leukemias, myelomas, lymphoreticular, and immunoproliferative diseases.

^b Estimates for American Indian/Alaska Native are based on the CHSDA (Contract Health Service Delivery Area) counties.

^c Hispanic is not mutually exclusive from whites, blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives.

Underlying incidence data for Hispanics are based on NHIA and exclude cases from the Alaska Native Registry.

^d Other sarcomas include histologies 8680-8713, 8800-8921, 9040-9044, 9127-9136, 9150-9169, 9171-9252, 9370-9373, 9540-9582.

^e Other includes histologies 8720-8790, 8930-8936, 8950-9019, 9021-9030, 9060-9110, 9260-9365, 9380-9539.

^f Total includes carcinoma cases from the previous page.

- Statistic not shown due to fewer than 16 cases during the time period.

Table 4.26

Cancer of the Female Breast(*In Situ*)Percent Distribution and Counts by Histology among Histologically Confirmed Cases, 2011-2015
Females by Race

Histology ^a	All Races		White		Black		Asian/Pacific Islander		American Indian/ Alaska Native ^b		Hispanic ^c	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Adenocarcinoma ^d	77,883	99.9%	58,870	99.9%	9,149	99.9%	8,401	99.9%	306	100.0%	8,297	99.9%
Adenocarcinoma <i>in situ</i> NOS (8140/2)	-	-	-	-	-	-	-	-	-	-	-	-
Ductal carcinoma <i>in situ</i> ^e	66,284	85.0%	49,479	84.0%	8,046	87.9%	7,615	90.6%	270	88.2%	7,115	85.6%
Cribiform carcinoma <i>in situ</i> (8201/2)	7,009	9.0%	5,171	8.8%	863	9.4%	861	10.2%	18	5.9%	742	8.9%
Ductal carcinoma <i>in situ</i> solid type(8230/2)	5,636	7.2%	4,353	7.4%	577	6.3%	615	7.3%	27	8.8%	508	6.1%
Ductal carcinoma <i>in situ</i> NOS (8500/2)	20,775	26.6%	15,828	26.9%	2,441	26.7%	2,074	24.7%	104	34.0%	2,209	26.6%
Comedocarcinoma <i>in situ</i> (8501/2)	6,493	8.3%	4,846	8.2%	745	8.1%	798	9.5%	33	10.8%	678	8.2%
Ductal carcinoma <i>in situ</i> papillary(8503/2)	1,132	1.5%	762	1.3%	208	2.3%	139	1.7%	-	-	122	1.5%
Noninfiltrating intracystic carcinoma(8504/2)	255	0.3%	162	0.3%	42	0.5%	49	0.6%	-	-	28	0.3%
Ductal carcinoma <i>in situ</i> micropapillary(8507/2)	1,210	1.6%	926	1.6%	162	1.8%	102	1.2%	-	-	138	1.7%
Intraductal with other types of carcinoma <i>in situ</i> (8523/2)	23,587	30.3%	17,299	29.4%	2,997	32.7%	2,934	34.9%	82	26.8%	2,673	32.2%
Lobular carcinoma <i>in situ</i> (8520/2-8521/2, 8524/2)	9,076	11.6%	7,418	12.6%	812	8.9%	560	6.7%	32	10.5%	933	11.2%
Lobular carcinoma <i>in situ</i> NOS (8520/2)	9,063	11.6%	7,410	12.6%	808	8.8%	560	6.7%	31	10.1%	932	11.2%
Lobular CIS ^f with other CIS ^f (8524/2)	-	-	-	-	-	-	-	-	-	-	-	-
Intraductal and lobular <i>in situ</i> carcinoma (8522/2)	2,016	2.6%	1,602	2.7%	228	2.5%	162	1.9%	-	-	195	2.3%
Other adenocarcinomas ^g	499	0.6%	367	0.6%	62	0.7%	61	0.7%	-	-	54	0.7%
Other <i>in situ</i> histologies ^h	77	0.1%	59	0.1%	-	-	-	-	-	-	-	-
Total	77,960	100.0%	58,929	100.0%	9,155	100.0%	8,407	100.0%	306	100.0%	8,308	100.0%

Source: SEER 18 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey and Georgia excluding ATL/RG).

Percents may not sum to 100 due to rounding.

^a Excludes Kaposi Sarcoma, mesothelioma, lymphomas, leukemias, myelomas, lymphoreticular, and immunoproliferative diseases.

^b Estimates for American Indian/Alaska Native are based on the CHSDA(Contract Health Service Delivery Area) counties.

^c Hispanic is not mutually exclusive from whites, blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives.

^d Underlying incidence data for Hispanics are based on NHIA and exclude cases from the Alaska Native Registry.

^e Adenocarcinoma includes histologies 8050,8140-8147,8160-8162,8180-8221,8230,8250-8507,8514,8520-8551,8560,8570-8574,8576,8940-8941.

^f Ductal carcinoma includes histologies 8201, 8230, 8401, 8500-8507, 8523.

^g CIS = Carcinoma *in situ*.

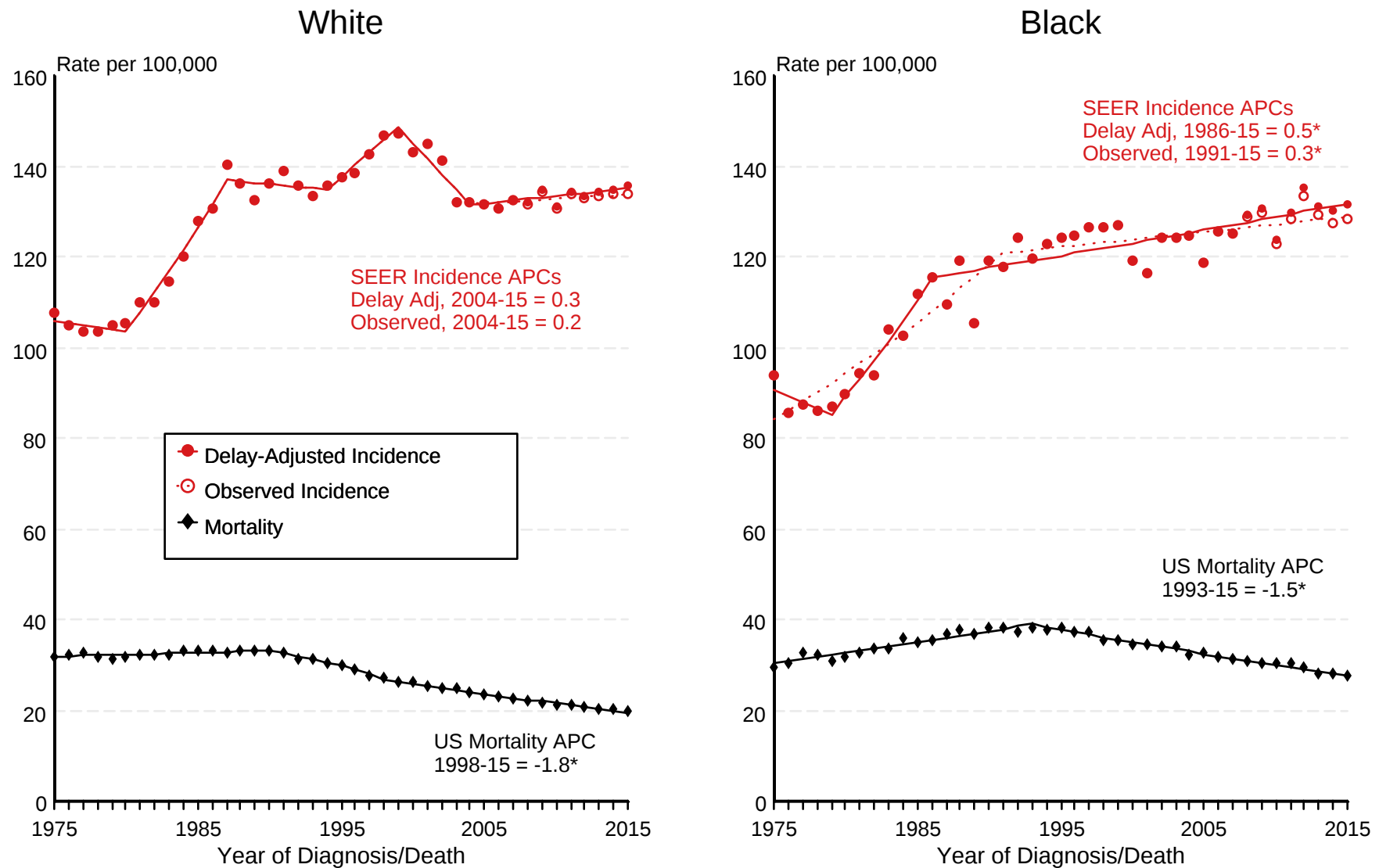
^h Other adenocarcinomas include 8050, 8141-8147, 8160-8162, 8180-8200, 8202-8221, 8250-8400, 8402-8499, 8514, 8525-8551, 8560, 8570-8574, 8576, 8940-8941.

ⁱ Other histologies include 8000-8049, 8051-8139, 8148-8159, 8163-8179, 8222-8229, 8231-8249, 8508-8513, 8515-8519, 8552-8559, 8561-8569, 8575, 8577-8939, 8942-9989.

^j - Statistic not shown due to fewer than 16 cases during the time period.

Figure 4.1

SEER Observed Incidence, SEER Delay Adjusted Incidence and US Death Rates^a Cancer of the Female Breast, by Race



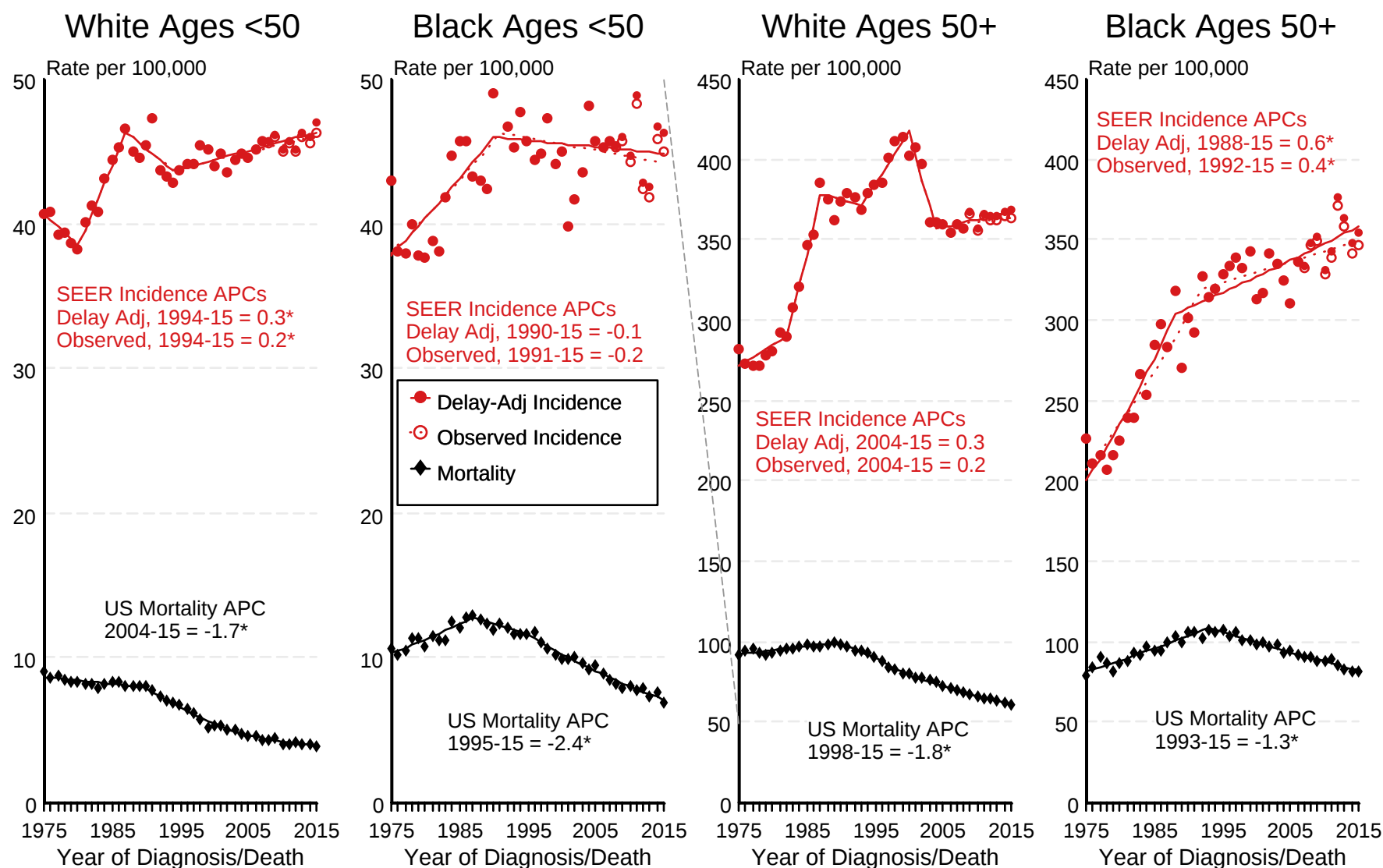
Source: SEER 9 areas and US Mortality Files (National Center for Health Statistics, CDC).

^a Rates are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1103).
Regression lines and APCs are calculated using the Joinpoint Regression Program Version 4.6, February 2018, National Cancer Institute.
The APC is the Annual Percent Change for the regression line segments. The APC shown on the graph is for the most recent trend.

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

Figure 4.2

SEER Observed Incidence, SEER Delay Adjusted Incidence and US Death Rates^a Cancer of the Female Breast, by Age and Race



Source: SEER 9 areas and US Mortality Files (National Center for Health Statistics, CDC).

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

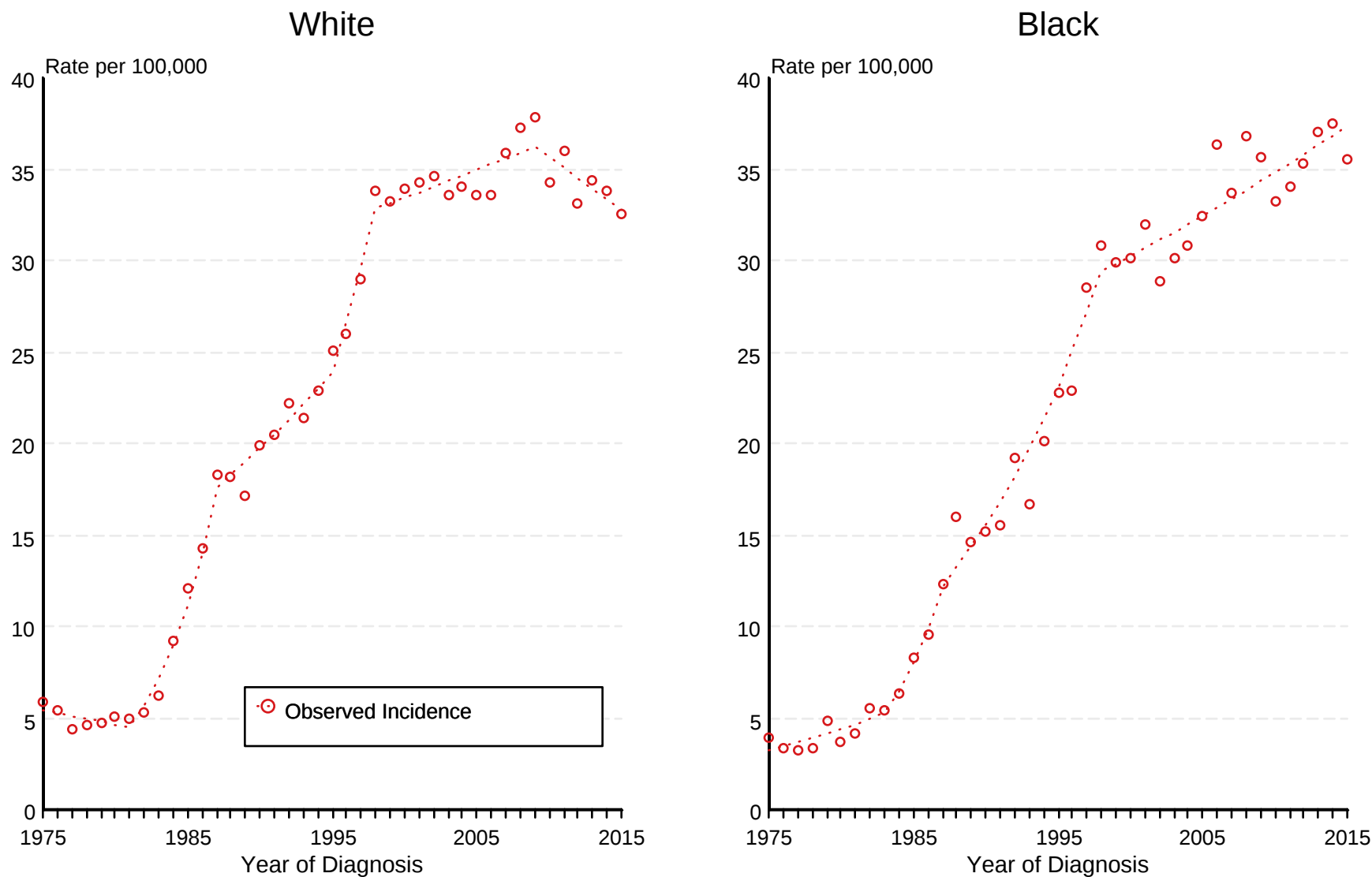
Regression lines and APCs are calculated using the Joinpoint Regression Program Version 4.6, February 2018, National Cancer Institute.

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

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

Figure 4.3

SEER Observed Incidence Rates^a Cancer of the Female Breast (*In Situ*), by Race



Source: SEER 9 areas.

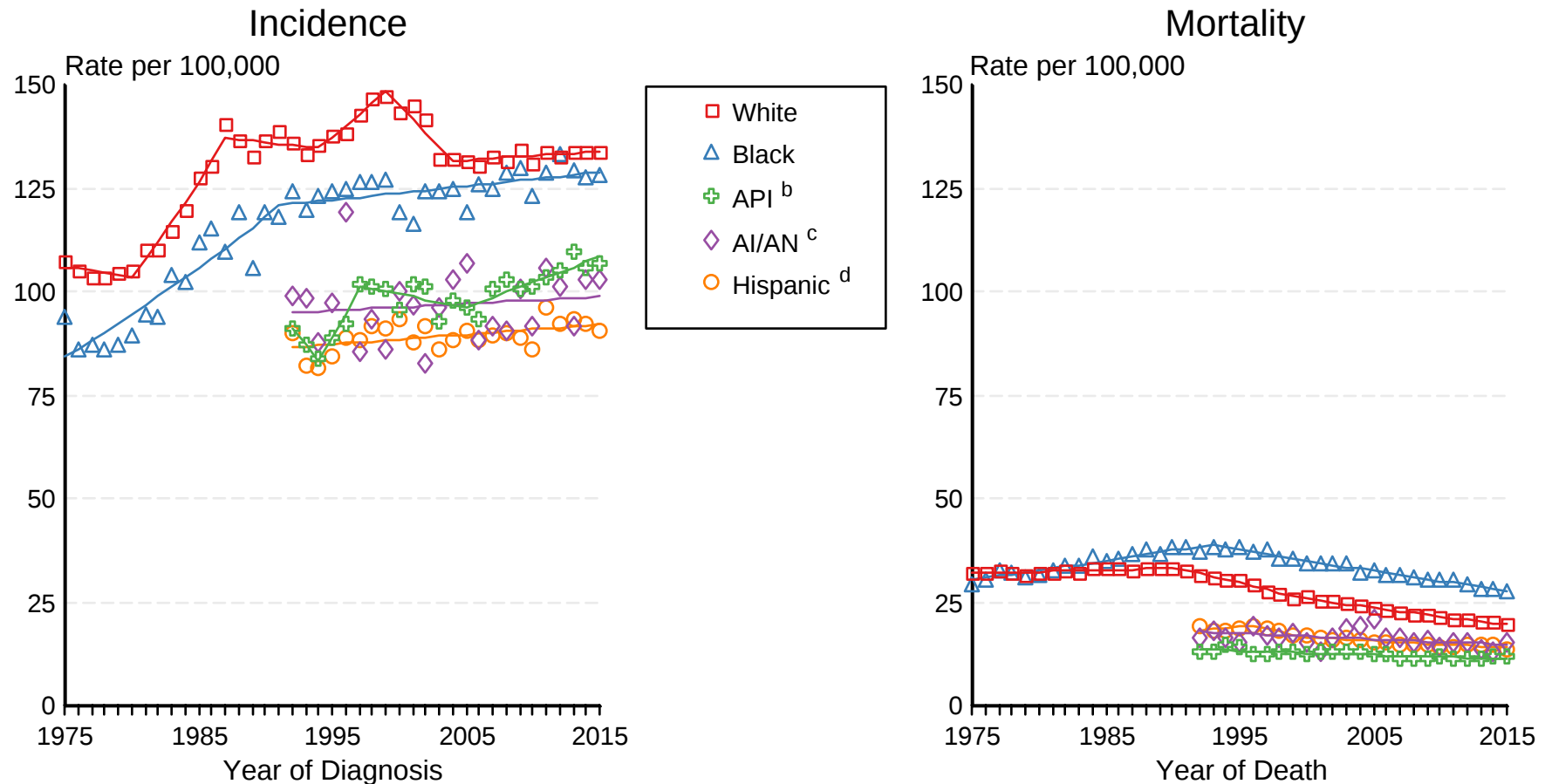
^a Rates are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1103). Regression lines and APCs are calculated using the Joinpoint Regression Program Version 4.6, February 2018, National Cancer Institute. The APC is the Annual Percent Change for the regression line segments. The APC shown on the graph is for the most recent trend.

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

Figure 4.4

SEER Incidence and US Death Rates^a Cancer of the Female Breast

Joinpoint Analyses for Whites and Blacks from 1975-2015
and for Asian/Pacific Islanders, American Indians/Alaska Natives and Hispanics from 1992-2015



Source: Incidence data for whites and blacks are from the SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta). Incidence data for Asian/Pacific Islanders, American Indians/Alaska Natives and Hispanics are from the SEER 13 Areas (SEER 9 Areas, San Jose-Monterey, Los Angeles, Alaska Native Registry and Rural Georgia). Mortality data are from US Mortality Files, National Center for Health Statistics, CDC.

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

Regression lines are calculated using the Joinpoint Regression Program Version 4.6, February 2018, National Cancer Institute. Joinpoint analyses for Whites and Blacks during the 1975-2015 period allow a maximum of 5 joinpoints. Analyses for other ethnic groups during the period 1992-2015 allow a maximum of 4 joinpoints.

^b API = Asian/Pacific Islander.

^c AI/AN = American Indian/Alaska Native. Rates for American Indian/Alaska Native are based on the CHSDA (Contract Health Service Delivery Area) counties.

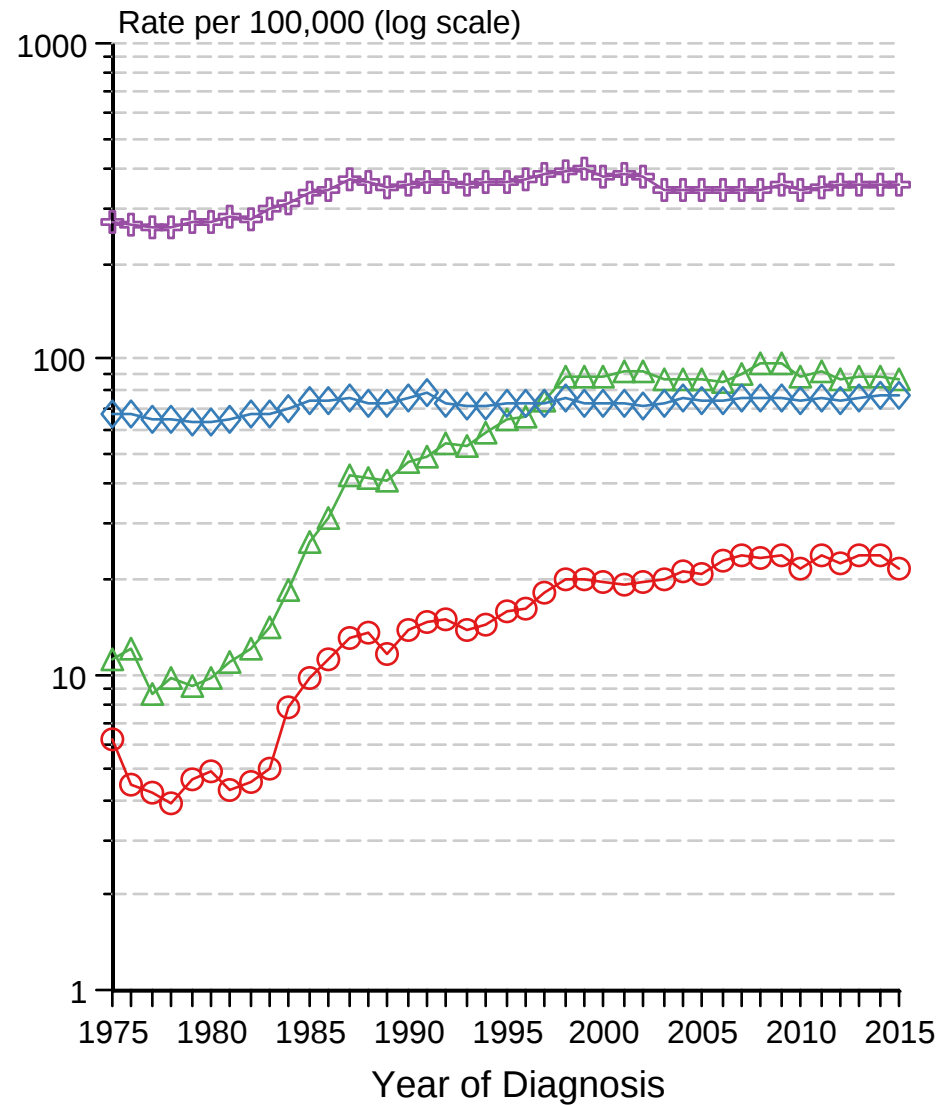
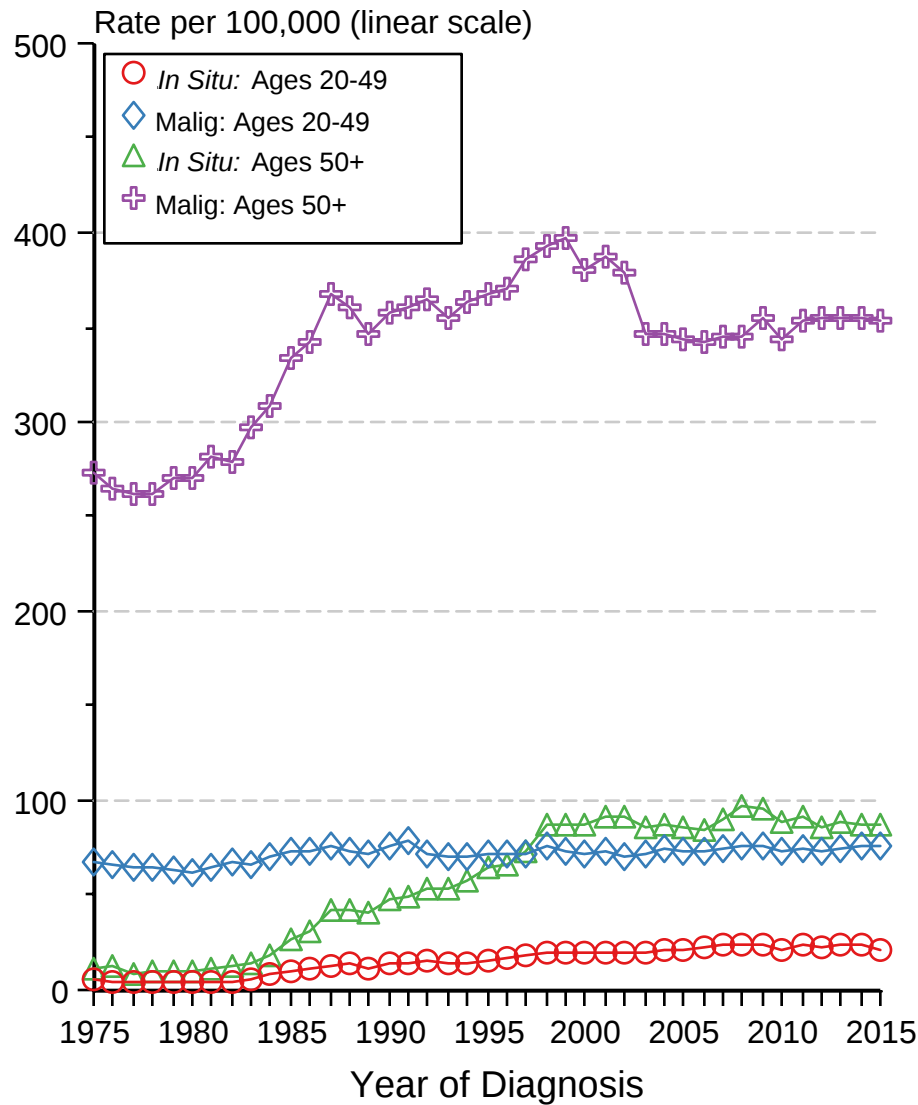
^d Hispanic is not mutually exclusive from whites, blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives. Incidence data for Hispanics are based on NHIA and exclude cases from the Alaska Native Registry. Mortality data for Hispanics exclude cases from New Hampshire and Oklahoma.

Figure 4.5

Cancer of Female Breast, Incidence Rates, 1975-2015

In Situ vs Malignant, by Age

All Races, Females

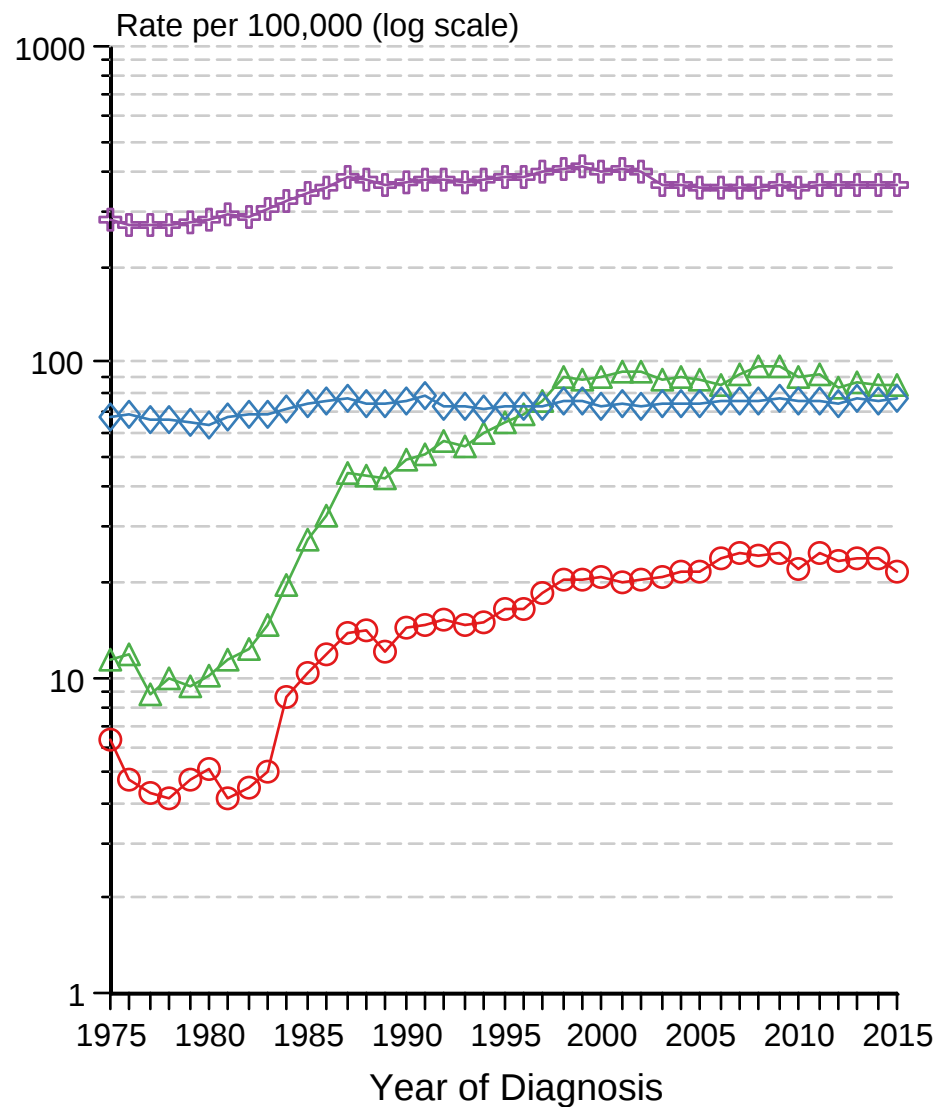
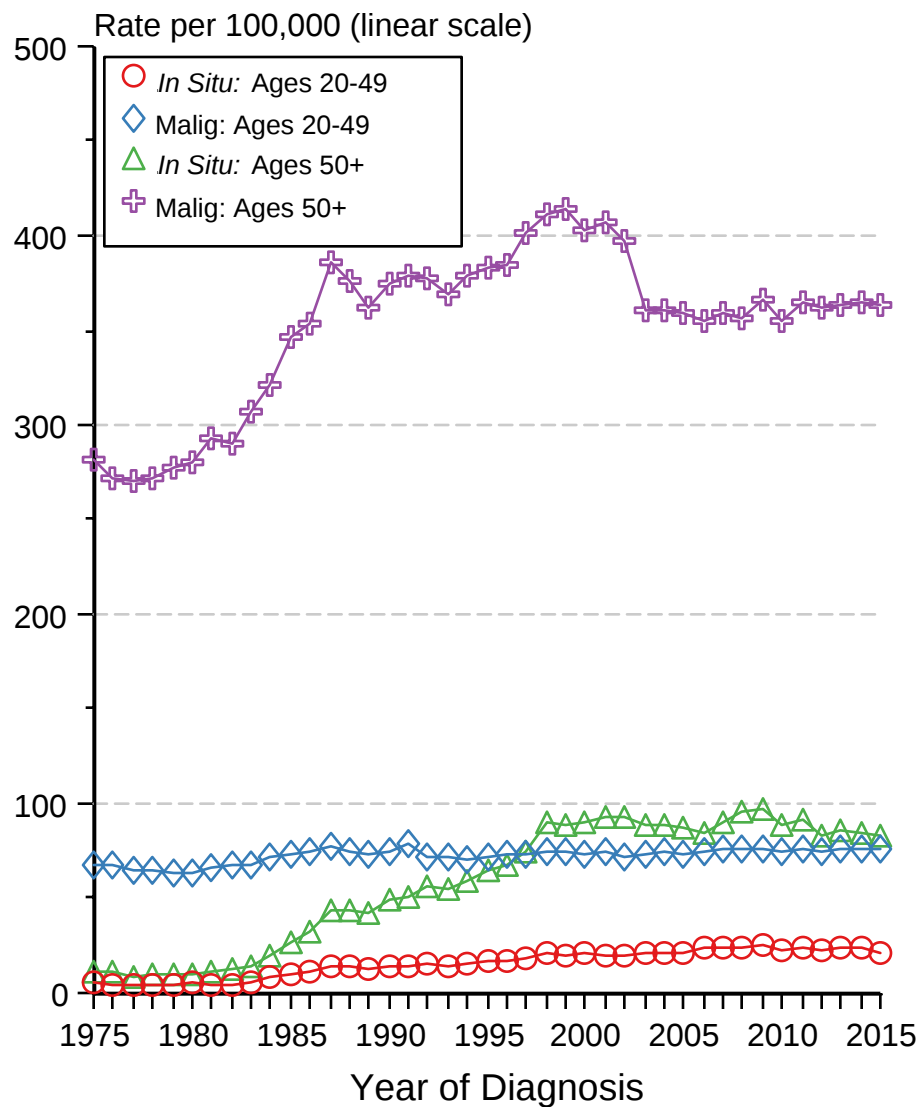


Source: SEER 9 areas. Rates are per 100,000 and age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1103).

Cancer of Female Breast, Incidence Rates, 1975-2015

In Situ vs Malignant, by Age

White, Females



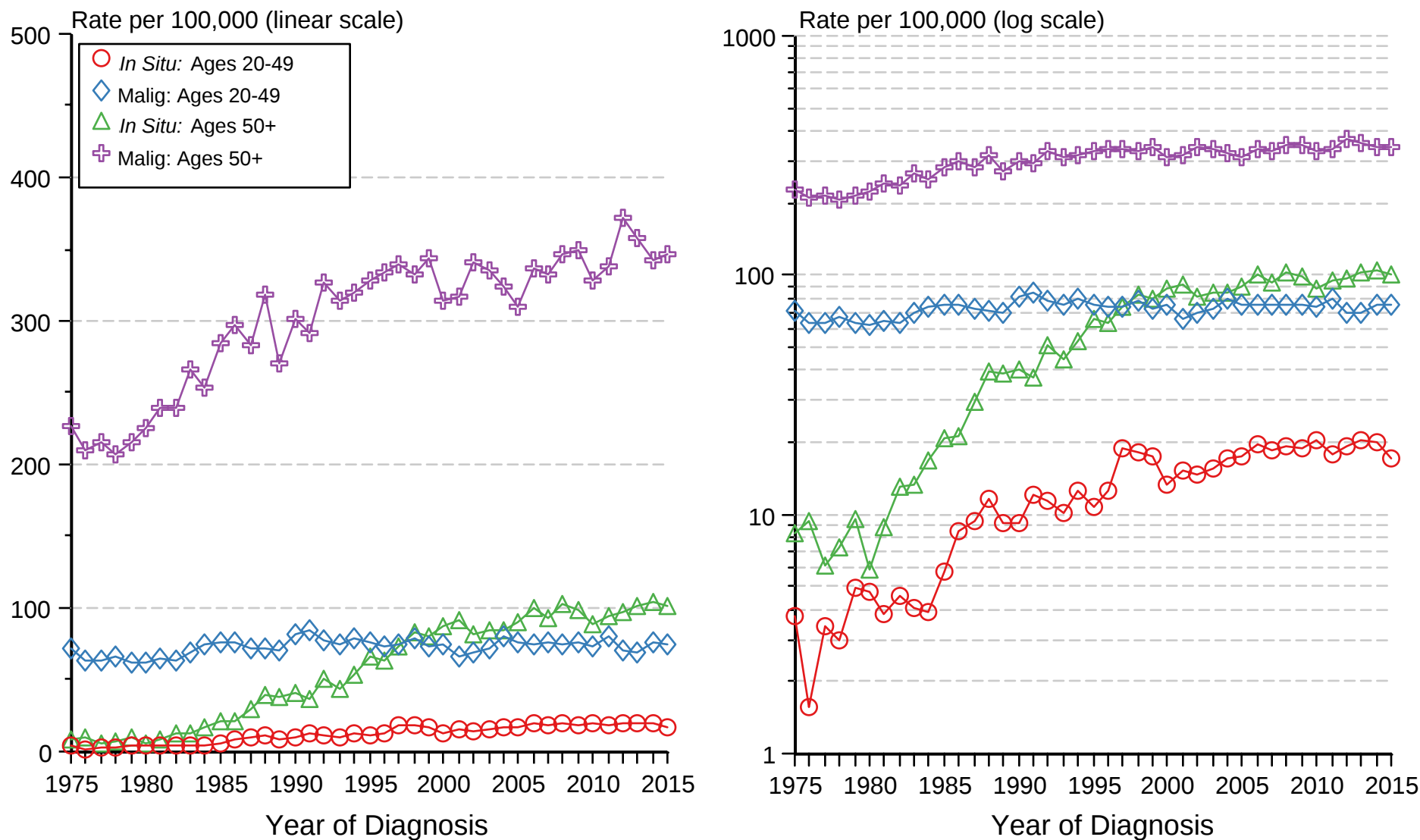
Source: SEER 9 areas. Rates are per 100,000 and age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1103).

Figure 4.7

Cancer of Female Breast, Incidence Rates, 1975-2015

In Situ vs Malignant, by Age

Black, Females



Source: SEER 9 areas. Rates are per 100,000 and age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1103).

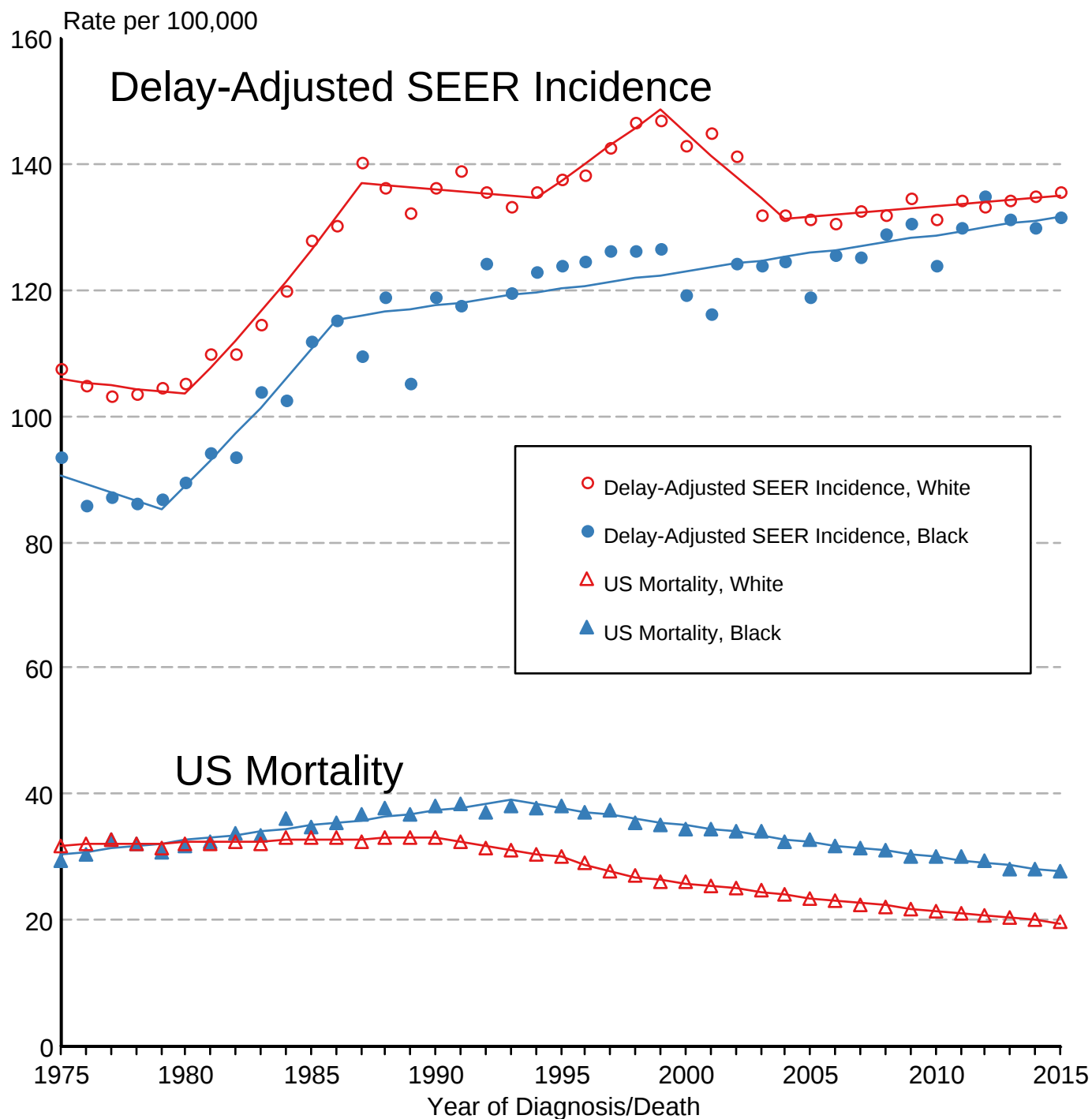
Figure 4.8

Cancer of the Breast

Delay-Adjusted SEER Incidence & US Mortality

White Females vs Black Females

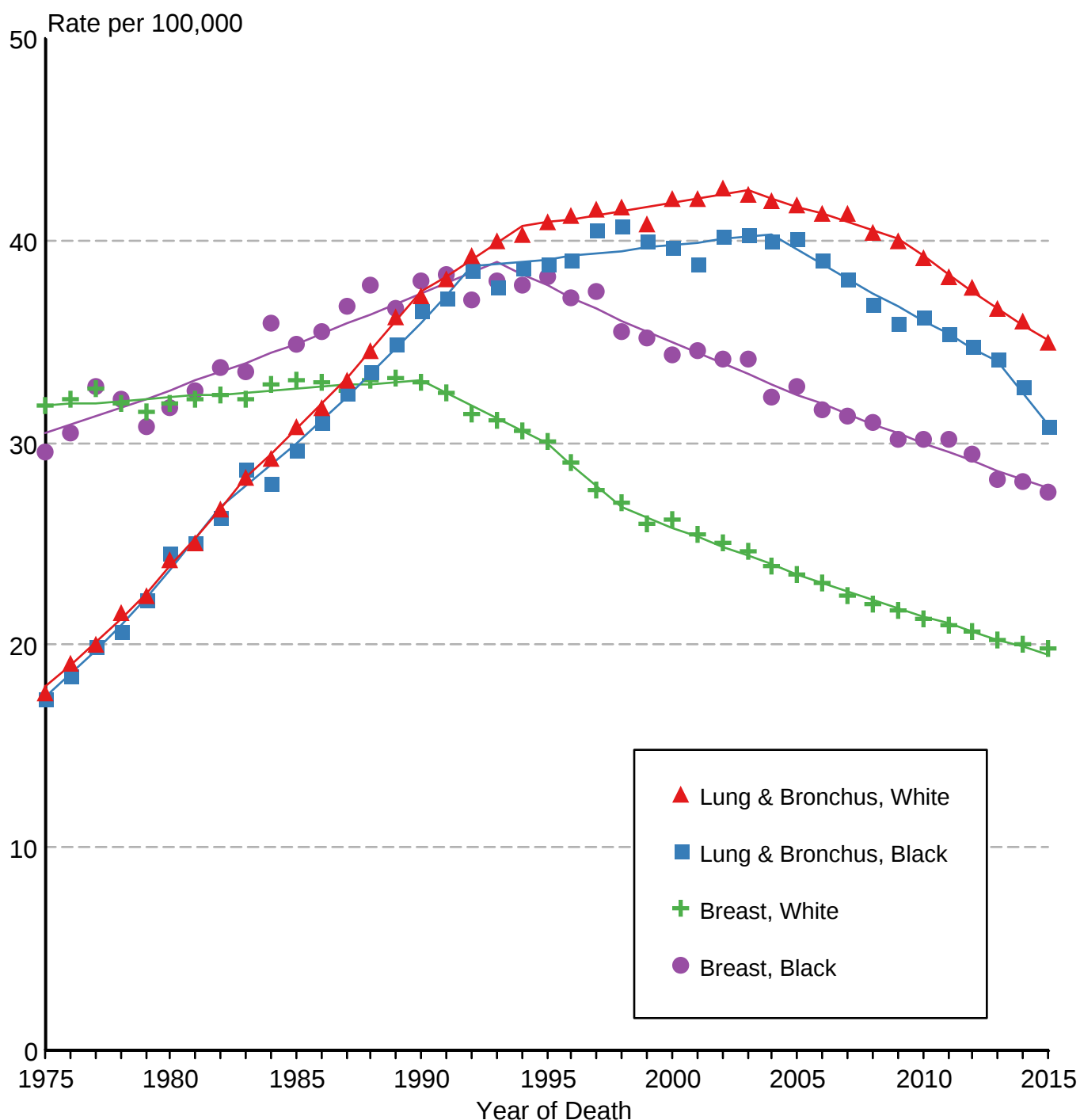
1975-2015



Source: SEER 9 areas and US Mortality Files (National Center for Health Statistics, CDC). Rates are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1103). Regression lines are calculated using the Joinpoint Regression Program Version 4.6, February 2018, National Cancer Institute.

Figure 4.9

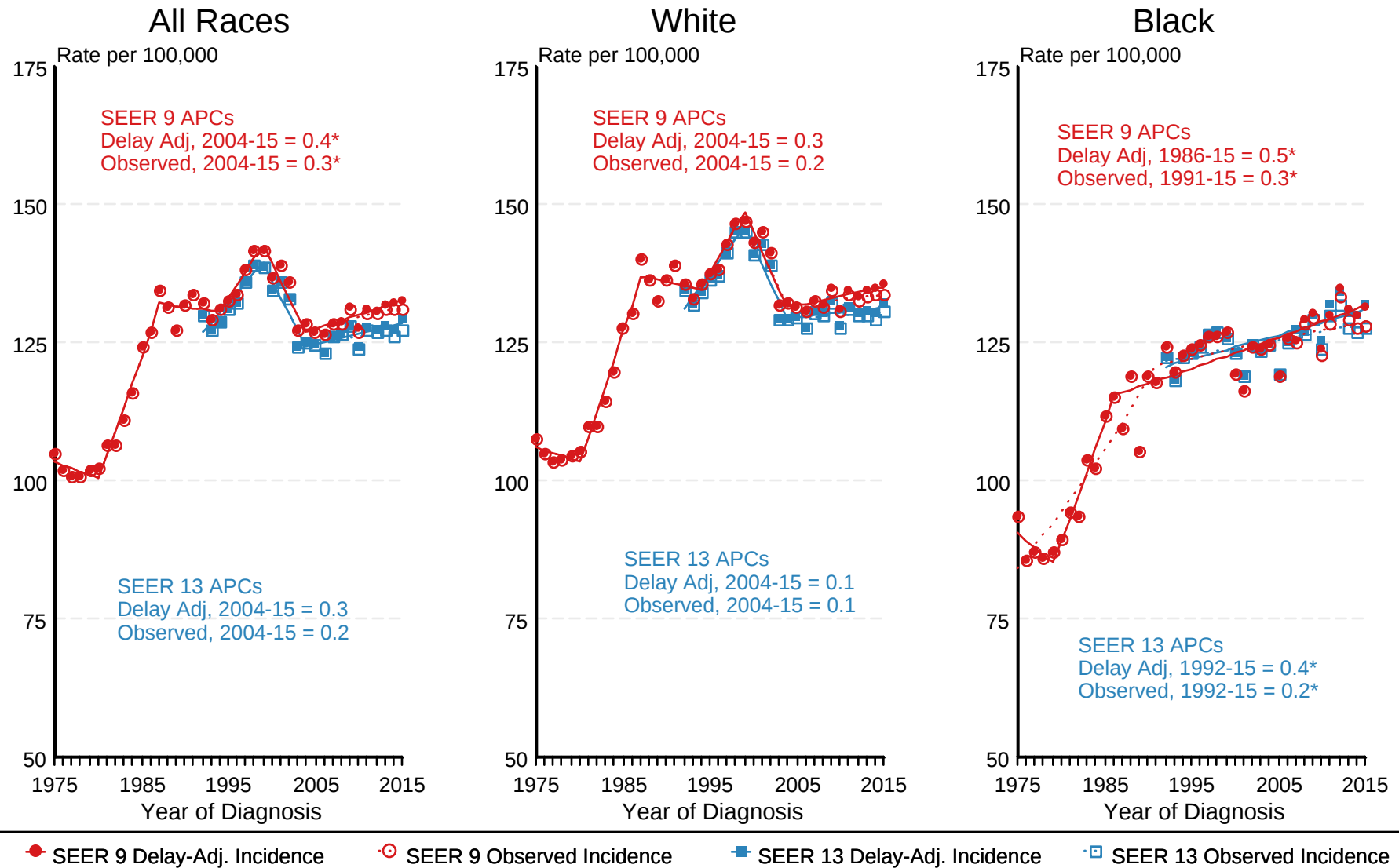
US Death Rates for Cancer of the Breast and Cancer of the Lung and Bronchus White Females vs Black Females 1975-2015



Source: US Mortality Files, National Center for Health Statistics, CDC.
Rates are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1103).
Regression lines are calculated using the Joinpoint Regression Program Version 4.6, February 2018,
National Cancer Institute.

Figure 4.10

SEER Observed Incidence and SEER Delay Adjusted Incidence Rates^a SEER 9 Areas Compared to SEER 13 Areas Cancer of the Female Breast, by Race



Source: SEER 9 areas and SEER 13 areas.

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

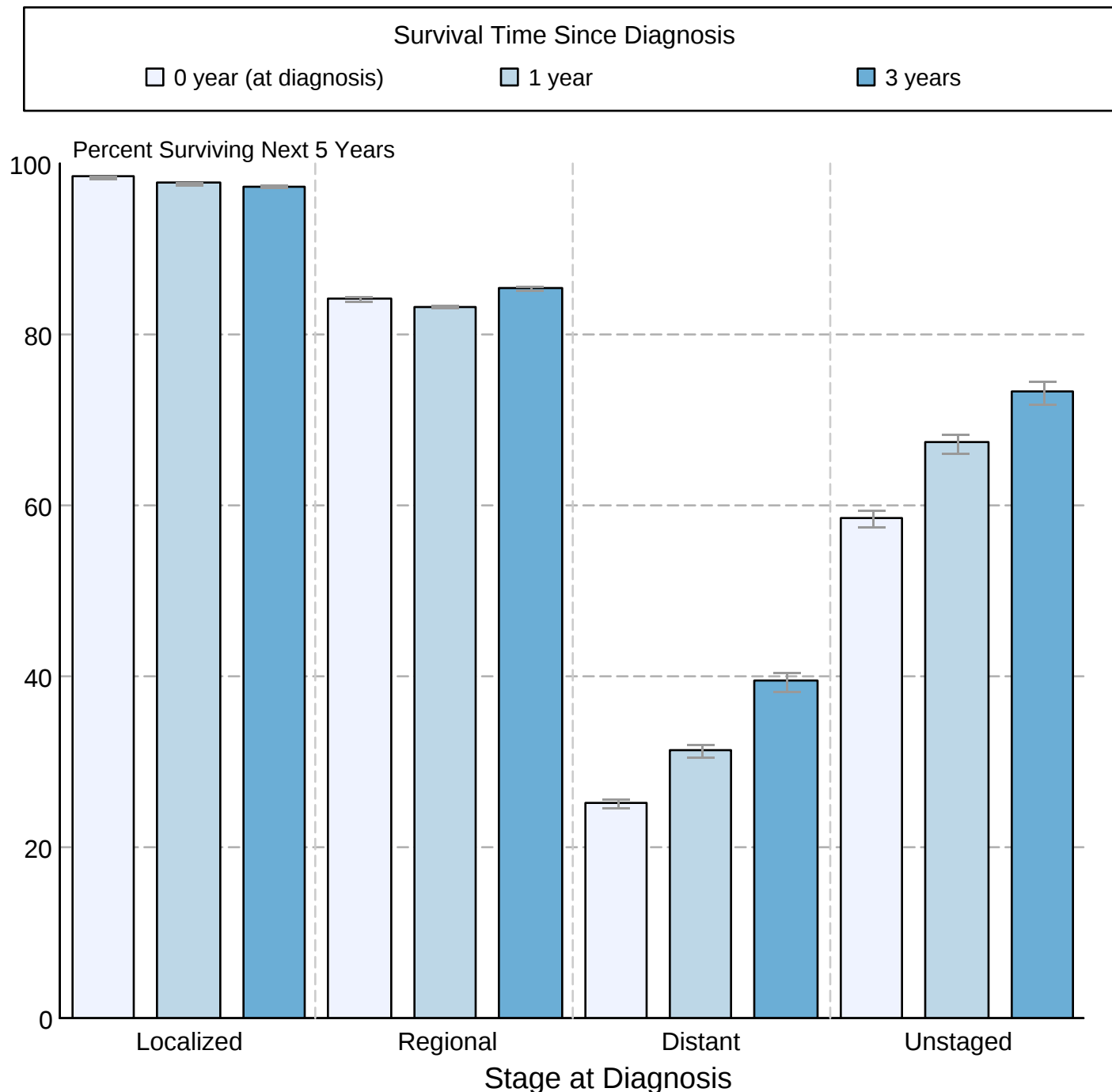
Regression lines and APCs are calculated using the Joinpoint Regression Program Version 4.6, February 2018, National Cancer Institute.

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

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

Figure 4.11

Cancer of the Female Breast
5-Year SEER Conditional Relative Survival and
95% Confidence Intervals
 Probability of surviving the next 5 years given the cohort
 has already survived 0, 1, or 3 years
 1998-2014 by stage at diagnosis



Source: SEER 18 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey and Georgia excluding ATL/RG). California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey and Georgia excluding ATL/RG contribute cases for diagnosis years 2000 and later. The remaining 13 SEER Areas contribute cases for the entire time period. Percent surviving is not shown if based on less than 25 cases. Confidence intervals are not shown if length of the confidence interval is greater than 5 times the standard error.