

Table 4.1
Cancer of the Female Breast (Invasive)

Trends in SEER Incidence^{ab} and U.S. Mortality^c Using the Joinpoint Regression Program,
1975-2016 With up to Five Joinpoints, 2000-2016 With up to Three 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	2007-16	2012-16
<u>SEER 9 Delay-Adjusted Incidence^a, 1975-2016</u>														
All Races	1975-80	-0.5	1980-87	4.0*	1987-94	-0.2	1994-99	1.8*	1999-04	-2.3*	2004-16	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*	2004-16	0.2	0.2	0.2
Black	1975-79	-1.5	1979-86	4.5*	1986-16	0.4*							0.4*	0.4*
<u>SEER 21 Delay-Adjusted Incidence^b, 2000-2016</u>														
All Races	2000-04	-2.1*	2004-16	0.3*									0.3*	0.3*
White	2000-04	-2.2*	2004-16	0.2*									0.2*	0.2*
White NH ^{ef}	2000-04	-2.2*	2004-16	0.3*									0.3*	0.3*
Black	2000-16	0.8*											0.8*	0.8*
Black NH ^{ef}	2000-16	0.8*											0.8*	0.8*
API ^e	2000-16	1.2*											1.2*	1.2*
AI/AN ^{eg}	2000-16	0.8*											0.8*	0.8*
Hispanic ^f	2000-16	0.5*											0.5*	0.5*
<u>U.S. Cancer Mortality^c, 1975-2016</u>														
All Races	1975-90	0.4*	1990-95	-1.7*	1995-98	-3.4*	1998-16	-1.8*					-1.8*	-1.8*
White	1975-90	0.3*	1990-95	-2.0*	1995-98	-3.5*	1998-11	-1.9*	2011-16	-1.3*			-1.6*	-1.3*
Black	1975-93	1.4*	1993-16	-1.5*									-1.5*	-1.5*
<u>U.S. Cancer Mortality^c, 2000-2016</u>														
All Races	2000-08	-2.1*	2008-16	-1.5*									-1.6*	-1.5*
White	2000-08	-2.1*	2008-16	-1.5*									-1.6*	-1.5*
White NH ^{ef}	2000-08	-2.1*	2008-16	-1.5*									-1.6*	-1.5*
Black	2000-16	-1.5*											-1.5*	-1.5*
Black NH ^{ef}	2000-16	-1.4*											-1.4*	-1.4*
API ^e	2000-16	-0.9*											-0.9*	-0.9*
AI/AN ^{eg}	2000-16	-1.1											-1.1	-1.1
Hispanic ^f	2000-16	-1.1*											-1.1*	-1.1*

Joinpoint Regression Program Version 4.7, February 2019, 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).

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

^b Trends are from the SEER 21 areas (SEER 9 areas, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).

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

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

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

^f 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.

^g Data for American Indian/Alaska Native are based on the Purchased/Referred Care Delivery Area (PRCDA) counties.

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

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

Table 4.2
Cancer of the Female Breast (Invasive)

Trends in SEER Incidence^{ab} and U.S. Mortality^c Using the Joinpoint Regression Program,
1975-2016 With up to Five Joinpoints, 2000-2016 With up to Three 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	2007-16	2012-16
<u>SEER 9 Delay-Adjusted Incidence^a, 1975-2016</u>														
All Races	1975-80	-1.3	1980-87	2.7*	1987-94	-0.8	1994-16	0.3*					0.3*	0.3*
White	1975-80	-1.1	1980-87	2.7*	1987-94	-0.8	1994-16	0.3*					0.3*	0.3*
Black	1975-90	1.3*	1990-16	0.0									0.0	0.0
<u>SEER 21 Delay-Adjusted Incidence^b, 2000-2016</u>														
All Races	2000-16	0.4*											0.4*	0.4*
White	2000-16	0.3*											0.3*	0.3*
White NH ^{ef}	2000-16	0.5*											0.5*	0.5*
Black	2000-16	0.6*											0.6*	0.6*
Black NH ^{ef}	2000-16	0.6*											0.6*	0.6*
API ^e	2000-16	1.3*											1.3*	1.3*
AI/AN ^{eg}	2000-16	-0.6											-0.6	-0.6
Hispanic ^f	2000-16	0.5*											0.5*	0.5*
<u>U.S. Cancer Mortality^c, 1975-2016</u>														
All Races	1975-90	-0.4*	1990-07	-3.2*	2007-16	-1.2*							-1.2*	-1.2*
White	1975-90	-0.6*	1990-05	-3.6*	2005-16	-1.4*							-1.4*	-1.4*
Black	1975-89	1.6*	1989-16	-2.2*									-2.2*	-2.2*
<u>U.S. Cancer Mortality^c, 2000-2016</u>														
All Races	2000-08	-2.9*	2008-16	-1.2*									-1.4*	-1.2*
White	2000-07	-3.1*	2007-16	-1.2*									-1.2*	-1.2*
White NH ^{ef}	2000-07	-3.0*	2007-16	-1.3*									-1.3*	-1.3*
Black	2000-16	-2.3*											-2.3*	-2.3*
Black NH ^{ef}	2000-16	-2.1*											-2.1*	-2.1*
API ^e	2000-08	-5.2*	2008-16	1.1									0.4	1.1
AI/AN ^{eg}	2000-16	-1.7											-1.7	-1.7
Hispanic ^f	2000-16	-1.6*											-1.6*	-1.6*

Joinpoint Regression Program Version 4.7, February 2019, 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).

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

^b Trends are from the SEER 21 areas (SEER 9 areas, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).

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

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

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

^f 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.

^g Data for American Indian/Alaska Native are based on the Purchased/Referred Care Delivery Area (PRCDA) counties.

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

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

Table 4.3
Cancer of the Female Breast (Invasive)

Trends in SEER Incidence^{ab} and U.S. Mortality^c Using the Joinpoint Regression Program,
1975-2016 With up to Five Joinpoints, 2000-2016 With up to Three 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	2007-16	2012-16
<u>SEER 9 Delay-Adjusted Incidence^a, 1975-2016</u>														
All Races	1975-82	0.8	1982-87	5.4*	1987-93	-0.3	1993-99	1.9*	1999-05	-2.5*	2005-16	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*	2004-16	0.2*	0.2*	0.2*
Black	1975-92	2.6*	1992-16	0.4*									0.4*	0.4*
<u>SEER 21 Delay-Adjusted Incidence^b, 2000-2016</u>														
All Races	2000-04	-2.8*	2004-16	0.3*									0.3*	0.3*
White	2000-04	-3.0*	2004-16	0.2									0.2	0.2
White NH ^{ef}	2000-04	-3.1*	2004-16	0.3*									0.3*	0.3*
Black	2000-16	0.9*											0.9*	0.9*
Black NH ^{ef}	2000-16	0.9*											0.9*	0.9*
API ^e	2000-05	-0.5	2005-16	1.6*									1.6*	1.6*
AI/AN ^{eg}	2000-16	1.2*											1.2*	1.2*
Hispanic ^f	2000-16	0.5*											0.5*	0.5*
<u>U.S. Cancer Mortality^c, 1975-2016</u>														
All Races	1975-90	0.5*	1990-95	-1.6*	1995-98	-3.0*	1998-16	-1.7*					-1.7*	-1.7*
White	1975-89	0.5*	1989-95	-1.4*	1995-98	-3.3*	1998-16	-1.8*					-1.8*	-1.8*
Black	1975-93	1.6*	1993-16	-1.3*									-1.3*	-1.3*
<u>U.S. Cancer Mortality^c, 2000-2016</u>														
All Races	2000-09	-1.9*	2009-16	-1.5*									-1.6*	-1.5*
White	2000-09	-2.0*	2009-16	-1.5*									-1.6*	-1.5*
White NH ^{ef}	2000-09	-1.9*	2009-16	-1.5*									-1.6*	-1.5*
Black	2000-16	-1.4*											-1.4*	-1.4*
Black NH ^{ef}	2000-16	-1.3*											-1.3*	-1.3*
API ^e	2000-16	-0.7*											-0.7*	-0.7*
AI/AN ^{eg}	2000-16	-1.0											-1.0	-1.0
Hispanic ^f	2000-16	-1.0*											-1.0*	-1.0*

Joinpoint Regression Program Version 4.7, February 2019, 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).

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

^b Trends are from the SEER 21 areas (SEER 9 areas, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).

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

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

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

^f 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.

^g Data for American Indian/Alaska Native are based on the Purchased/Referred Care Delivery Area (PRCDA) counties.

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

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

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

Trends in SEER Incidence^{ab} Using the Joinpoint Regression Program,
1975-2016 With up to Five Joinpoints, 2000-2016 With up to Three 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	2007-16	2012-16
<u>SEER 9 Observed Incidence^a, 1975-2016</u>														
All Races	1975-81	-3.1	1981-87	25.2*	1987-94	3.8*	1994-98	9.7*	1998-09	1.1*	2009-16	-1.2*	-0.7	-1.2*
White	1975-81	-2.9	1981-87	25.4*	1987-95	4.0*	1995-98	11.1	1998-09	0.9*	2009-16	-1.8*	-1.2*	-1.8*
Black	1975-83	6.2	1983-88	23.2*	1988-93	3.5	1993-98	11.3*	1998-16	1.1*			1.1*	1.1*
<u>SEER 21 Observed Incidence^b, 2000-2016</u>														
All Races	2000-05	0.2	2005-08	4.4	2008-16	-1.2*							-0.6	-1.2*
White	2000-05	0.0	2005-08	4.5	2008-16	-1.8*							-1.2*	-1.8*
White NH ^{ef}	2000-05	-0.1	2005-08	4.9	2008-16	-1.9*							-1.2*	-1.9*
Black	2000-12	3.0*	2012-16	-0.9									1.2*	-0.9
Black NH ^{ef}	2000-12	3.0*	2012-16	-0.8									1.3*	-0.8
API ^e	2000-05	0.4	2005-08	6.5	2008-16	0.5							1.1	0.5
AI/AN ^{eg}	2000-16	0.2											0.2	0.2
Hispanic ^f	2000-13	2.1*	2013-16	-2.2									0.7	-1.1

Joinpoint Regression Program Version 4.7, February 2019, 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 21 areas (SEER 9 areas, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).

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.

Data for American Indian/Alaska Native are based on the Purchased/Referred Care Delivery Area (PRCDA) 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

Year of Diagnosis:	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
1975-2016	69.08	1.11	126.55	70.57	1.10	130.09	68.50	1.75	119.25
1975-1979	56.65	0.96	102.13	58.19	0.94	104.81	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	63.70	1.13	114.46	58.99	-	103.64
1984	64.48	0.93	115.99	66.56	0.94	119.87	58.39	-	102.41
1985	69.13	0.96	124.27	70.97	0.98	127.76	64.21	-	111.89
1986	70.46	0.95	126.84	72.29	0.96	130.39	66.44	-	115.33
1987	74.79	0.96	134.51	77.80	0.98	140.25	63.13	-	109.53
1988	73.13	1.24	131.39	75.60	1.16	136.27	69.19	2.76	119.01
1989	70.79	1.12	127.30	73.41	1.07	132.45	60.75	-	105.23
1990	73.20	1.13	131.91	75.36	1.15	136.27	68.65	-	118.79
1991	74.11	1.12	133.88	76.64	1.17	138.92	67.54	-	117.61
1992	73.07	1.04	132.12	74.74	1.02	135.75	71.76	-	124.31
1993	71.35	1.08	129.23	73.14	1.04	133.10	68.95	-	119.69
1994	72.11	1.13	131.01	74.28	1.08	135.70	70.83	-	122.87
1995	72.90	0.96	132.73	75.13	0.92	137.63	71.77	-	124.01
1996	73.42	1.31	133.83	75.40	1.32	138.26	71.83	-	124.59
1997	75.64	1.10	138.09	77.60	1.06	142.65	73.01	-	126.17
1998	77.37	1.07	141.48	79.61	1.12	146.51	72.40	-	126.27
1999	77.21	0.96	141.55	79.59	0.95	147.10	73.16	-	126.65
2000	74.44	1.16	136.62	77.27	1.14	143.01	69.24	2.86	119.29
2001	75.67	1.23	138.90	78.32	1.23	145.05	67.39	1.66	116.73
2002	73.76	1.13	135.92	75.96	1.12	141.29	71.74	1.95	124.48
2003	69.01	1.33	127.14	70.89	1.34	131.89	71.39	1.85	123.92
2004	69.49	1.21	128.29	70.84	1.23	132.08	71.64	1.61	124.57
2005	68.47	1.05	126.73	70.24	1.15	131.38	68.28	-	119.12
2006	68.29	1.12	126.49	69.71	1.16	130.56	72.23	1.54	125.83
2007	69.20	1.09	128.38	70.56	1.12	132.51	72.08	1.67	125.10
2008	69.18	1.17	128.57	69.96	1.19	131.56	73.94	1.43	128.86
2009	70.47	1.16	130.99	71.45	1.22	134.43	74.39	-	129.74
2010	68.31	1.22	127.14	69.37	1.11	130.85	71.05	2.93	123.14
2011	70.03	1.33	130.49	70.84	1.26	133.81	73.99	2.72	128.63
2012	69.84	1.33	130.16	70.24	1.33	132.73	76.74	2.14	133.48
2013	70.06	1.18	131.01	70.38	1.21	133.46	74.06	1.96	129.16
2014	69.98	1.17	131.22	70.33	1.11	133.82	72.74	1.84	127.64
2015	70.00	1.18	131.42	70.37	1.18	134.13	73.74	1.59	129.14
2016	69.16	1.21	129.81	69.54	1.05	132.71	73.71	3.02	128.21

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

Year of Death:	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
1975-2016	15.36	0.31	27.17	15.20	0.30	27.00	19.37	0.54	32.93
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	28.20
2014	11.40	0.29	20.55	11.03	0.27	20.03	16.45	0.54	28.05
2015	11.25	0.28	20.31	10.88	0.26	19.79	16.14	0.54	27.58
2016	11.07	0.27	20.03	10.74	0.26	19.58	15.94	0.44	27.32

^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	266.57	104.81	39.77	275.12	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	296.64	114.46	40.84	307.22	103.64	41.60	266.09
1984	115.99	42.39	308.72	119.87	43.14	320.79	102.41	44.66	253.62
1985	124.27	44.36	333.52	127.76	44.33	346.22	111.89	45.87	284.76
1986	126.84	44.52	342.40	130.39	45.32	353.15	115.33	45.64	297.82
1987	134.51	45.54	367.48	140.25	46.47	385.80	109.53	43.09	283.48
1988	131.39	44.00	360.24	136.27	44.90	375.52	119.01	43.00	318.06
1989	127.30	43.47	346.82	132.45	44.54	362.65	105.23	42.33	269.96
1990	131.91	45.63	357.84	136.27	45.38	374.29	118.79	48.93	301.72
1991	133.88	47.29	360.63	138.92	47.31	378.80	117.61	51.15	291.67
1992	132.12	43.47	364.24	135.75	43.65	376.91	124.31	46.75	327.42
1993	129.23	42.87	355.36	133.10	43.22	368.44	119.69	45.39	314.25
1994	131.01	42.45	362.90	135.70	42.81	378.92	122.87	47.74	319.62
1995	132.73	43.25	367.03	137.63	43.76	383.42	124.01	45.73	329.00
1996	133.83	43.63	370.01	138.26	44.05	384.96	124.59	44.44	334.48
1997	138.09	43.57	385.61	142.65	44.06	400.84	126.17	44.87	339.08
1998	141.48	45.53	392.72	146.51	45.42	411.23	126.27	47.40	332.78
1999	141.55	43.88	397.33	147.10	45.07	414.26	126.65	44.11	342.78
2000	136.62	43.51	380.44	143.01	43.96	402.38	119.29	45.14	313.47
2001	138.90	44.04	387.30	145.05	44.84	407.44	116.73	40.02	317.63
2002	135.92	42.92	379.44	141.29	43.53	397.29	124.48	41.67	341.31
2003	127.14	43.46	346.27	131.89	44.35	361.12	123.92	43.48	334.54
2004	128.29	45.03	346.33	132.08	44.85	360.51	124.57	48.21	324.54
2005	126.73	44.17	342.91	131.38	44.52	358.84	119.12	45.84	311.00
2006	126.49	44.21	341.94	130.56	45.09	354.36	125.83	45.30	336.69
2007	128.38	45.39	345.68	132.51	45.73	359.74	125.10	45.64	333.17
2008	128.66	45.63	346.08	131.66	45.62	356.97	129.10	45.42	348.24
2009	131.18	45.59	355.29	134.63	46.06	366.56	130.17	45.96	350.70
2010	127.42	44.38	344.87	131.15	45.18	356.27	123.78	44.63	331.04
2011	130.87	45.63	354.07	134.20	45.63	366.13	129.55	48.85	340.87
2012	130.63	44.45	356.32	133.22	45.09	363.99	134.67	42.68	375.53
2013	131.58	45.64	356.64	134.06	46.08	364.44	130.46	42.32	361.26
2014	131.96	46.13	356.72	134.59	45.91	366.78	129.33	46.22	346.98
2015	132.35	46.69	356.66	135.20	46.72	366.91	131.29	46.16	354.23
2016	131.18	45.47	355.61	134.33	45.55	366.80	131.31	48.37	348.50

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:									
1975-2016	126.55	43.75	343.37	130.09	44.10	355.24	119.25	44.55	314.87
1975-1979	102.13	39.34	266.57	104.81	39.77	275.12	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	296.64	114.46	40.84	307.22	103.64	41.60	266.09
1984	115.99	42.39	308.72	119.87	43.14	320.79	102.41	44.66	253.62
1985	124.27	44.36	333.52	127.76	44.33	346.22	111.89	45.87	284.76
1986	126.84	44.52	342.40	130.39	45.32	353.15	115.33	45.64	297.82
1987	134.51	45.54	367.48	140.25	46.47	385.80	109.53	43.09	283.48
1988	131.39	44.00	360.24	136.27	44.90	375.52	119.01	43.00	318.06
1989	127.30	43.47	346.82	132.45	44.54	362.65	105.23	42.33	269.96
1990	131.91	45.63	357.84	136.27	45.38	374.29	118.79	48.93	301.72
1991	133.88	47.29	360.63	138.92	47.31	378.80	117.61	51.15	291.67
1992	132.12	43.47	364.24	135.75	43.65	376.91	124.31	46.75	327.42
1993	129.23	42.87	355.36	133.10	43.22	368.44	119.69	45.39	314.25
1994	131.01	42.45	362.90	135.70	42.81	378.92	122.87	47.74	319.62
1995	132.73	43.25	367.03	137.63	43.76	383.42	124.01	45.73	329.00
1996	133.83	43.63	370.01	138.26	44.05	384.96	124.59	44.44	334.48
1997	138.09	43.57	385.61	142.65	44.06	400.84	126.17	44.87	339.08
1998	141.48	45.53	392.72	146.51	45.42	411.23	126.27	47.40	332.78
1999	141.55	43.88	397.33	147.10	45.07	414.26	126.65	44.11	342.78
2000	136.62	43.51	380.44	143.01	43.96	402.38	119.29	45.14	313.47
2001	138.90	44.04	387.30	145.05	44.84	407.44	116.73	40.02	317.63
2002	135.92	42.92	379.44	141.29	43.53	397.29	124.48	41.67	341.31
2003	127.14	43.46	346.27	131.89	44.35	361.12	123.92	43.48	334.54
2004	128.29	45.03	346.33	132.08	44.85	360.51	124.57	48.21	324.54
2005	126.73	44.17	342.91	131.38	44.52	358.84	119.12	45.84	311.00
2006	126.49	44.21	341.94	130.56	45.09	354.36	125.83	45.30	336.69
2007	128.38	45.39	345.68	132.51	45.73	359.74	125.10	45.64	333.17
2008	128.57	45.60	345.83	131.56	45.58	356.71	128.86	45.34	347.57
2009	130.99	45.52	354.78	134.43	45.99	366.02	129.74	45.81	349.50
2010	127.14	44.29	344.12	130.85	45.07	355.48	123.14	44.43	329.26
2011	130.49	45.50	353.05	133.81	45.50	365.05	128.63	48.52	338.38
2012	130.16	44.29	355.02	132.73	44.93	362.64	133.48	42.35	372.09
2013	131.01	45.44	355.08	133.46	45.87	362.81	129.16	41.89	357.68
2014	131.22	45.88	354.70	133.82	45.66	364.68	127.64	45.63	342.38
2015	131.42	46.38	354.11	134.13	46.35	364.00	129.14	45.41	348.37
2016	129.81	45.02	351.86	132.71	45.02	362.35	128.21	47.24	340.23

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

Year of Death:	All Races, Females			White Females			Black Females		
	All	<50	50+	All	<50	50+	All	<50	50+
1975-2016	27.17	6.46	81.42	27.00	6.11	81.71	32.93	9.98	93.04
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	67.46	21.33	4.07	66.52	30.16	8.02	88.13
2011	21.54	4.47	66.26	20.93	4.03	65.19	30.16	7.83	88.62
2012	21.27	4.59	64.94	20.71	4.15	64.06	29.39	7.89	85.68
2013	20.74	4.41	63.48	20.29	4.07	62.75	28.20	7.32	82.88
2014	20.55	4.37	62.92	20.03	3.96	62.11	28.05	7.54	81.75
2015	20.31	4.27	62.32	19.79	3.93	61.31	27.58	6.93	81.64
2016	20.03	4.38	61.02	19.58	4.01	60.36	27.32	7.42	79.43

^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

Year of Diagnosis:	All Races, Females			White Females			Black Females		
	All	<50	50+	All	<50	50+	All	<50	50+
1975-2016	24.96	10.19	63.63	24.76	10.26	62.71	25.26	8.67	68.69
1975-1979	4.86	2.84	10.16	4.96	2.93	10.27	3.69	1.99	8.13
1980	4.80	2.96	9.63	5.02	3.07	10.12	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	6.21	3.02	14.57	5.41	-	13.20
1984	8.62	4.79	18.66	9.19	5.20	19.64	6.35	2.37	16.77
1985	11.53	5.91	26.24	12.09	6.27	27.33	8.28	3.45	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	18.25	8.27	44.36	12.20	5.64	29.40
1988	17.58	8.15	42.27	18.11	8.50	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	47.30	19.88	8.70	49.16	15.15	5.54	40.32
1991	19.79	8.79	48.62	20.51	8.92	50.87	15.52	7.29	37.08
1992	21.44	9.01	54.00	22.17	9.23	56.04	19.04	6.93	50.76
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	9.62	64.24	25.09	9.99	64.64	22.80	6.50	65.50
1996	25.39	9.85	66.07	25.97	9.86	68.16	22.91	7.68	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	33.72	12.31	89.76	30.89	10.96	83.09
1999	32.75	12.00	87.08	33.23	12.24	88.20	29.94	10.56	80.68
2000	32.86	11.82	87.95	33.91	12.52	89.92	30.12	8.04	87.93
2001	33.69	11.59	91.57	34.20	12.01	92.30	32.03	9.25	91.69
2002	34.05	11.89	92.07	34.58	12.28	92.99	28.89	8.85	81.37
2003	32.49	12.03	86.07	33.50	12.52	88.44	30.22	9.50	84.48
2004	33.24	12.80	86.76	33.99	13.02	88.89	30.76	10.26	84.45
2005	32.65	12.52	85.36	33.54	13.01	87.28	32.48	10.50	90.02
2006	33.27	13.83	84.16	33.61	14.41	83.89	36.23	11.74	100.37
2007	35.41	14.38	90.45	35.86	14.84	90.88	33.75	11.16	92.89
2008	36.88	14.12	96.48	37.19	14.73	96.00	36.88	11.73	102.73
2009	37.01	14.42	96.17	37.77	14.98	97.44	35.68	11.46	99.10
2010	33.92	13.16	88.28	34.27	13.22	89.40	33.19	12.23	88.08
2011	35.61	14.42	91.13	36.00	14.82	91.47	34.07	10.83	94.93
2012	33.44	13.62	85.36	33.10	13.95	83.26	35.29	11.70	97.05
2013	34.88	14.44	88.40	34.37	14.50	86.41	36.90	12.21	101.56
2014	34.56	14.37	87.42	33.78	14.53	84.18	37.47	12.12	103.86
2015	33.49	13.11	86.88	32.68	13.07	84.05	35.61	10.30	101.87
2016	31.89	13.04	81.24	31.35	13.33	78.53	34.29	11.81	93.13

^a Individual rates for diagnosis years 1975-1979 available in web browser version of [Cancer Statistics Review](#).
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, 2012-2016									
All ages	68.4	1.2	127.5	69.2	1.2	130.5	70.9	1.8	124.0
Under 65	43.1	0.5	83.9	42.9	0.5	84.7	45.3	0.8	83.8
65 and over	243.8	6.5	428.7	251.5	6.6	446.7	247.7	8.9	402.1
All ages (WHO world std) ^c	53.5	0.9	100.9	53.9	0.9	103.0	55.6	1.4	98.6
Age-Specific Rates, 2012-2016									
<1	-	-	-	-	-	-	-	-	-
1-4	-	-	-	-	-	-	-	-	-
5-9	-	-	-	-	-	-	-	-	-
10-14	-	-	-	-	-	-	-	-	-
15-19	0.1	-	0.2	0.1	-	0.1	-	-	-
20-24	0.8	-	1.6	0.8	-	1.6	1.0	-	2.1
25-29	4.9	-	9.9	4.7	-	9.7	5.9	-	11.7
30-34	14.5	0.1	29.0	13.9	-	28.4	17.0	-	32.5
35-39	32.0	0.2	63.6	31.1	0.2	63.0	36.6	-	68.6
40-44	65.1	0.4	128.4	64.3	0.4	129.3	67.2	1.0	125.4
45-49	98.9	0.8	194.7	98.5	0.7	197.0	98.1	1.6	183.0
50-54	119.7	1.3	233.6	119.4	1.3	236.1	124.9	2.1	232.3
55-59	138.4	2.1	266.8	138.2	2.0	269.9	150.1	3.4	275.6
60-64	179.5	3.1	340.6	181.0	3.0	348.1	188.0	4.5	336.0
65-69	227.6	5.0	424.5	232.6	4.9	439.5	227.3	8.0	393.6
70-74	255.5	5.8	464.6	263.3	5.7	484.1	254.8	8.7	428.0
75-79	260.4	7.2	457.1	271.7	7.4	481.6	263.0	9.2	426.2
80-84	248.4	8.7	414.1	257.9	8.9	434.0	253.6	11.1	387.6
85+	221.4	7.8	331.9	226.4	8.1	340.1	244.7	8.5	342.9
<u>U.S. Mortality</u>									
<u>Age at Death</u>									
Age-Adjusted Rates, 2012-2016									
All ages	11.4	0.3	20.6	11.1	0.3	20.1	16.4	0.5	28.1
Under 65	5.2	0.1	10.0	4.8	0.1	9.4	8.5	0.2	15.8
65 and over	54.6	1.6	93.5	54.4	1.6	94.0	71.2	2.7	113.3
All ages (WHO world std) ^c	7.1	0.2	13.2	6.8	0.2	12.8	10.7	0.3	18.8
Age-Specific Rates, 2012-2016									
<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	0.7	-	1.4
30-34	1.4	-	2.8	1.2	-	2.5	2.6	-	5.0
35-39	3.3	0.0	6.6	3.0	-	6.0	5.7	-	10.8
40-44	6.2	0.1	12.3	5.6	0.0	11.2	11.1	-	20.9
45-49	9.9	0.2	19.5	9.0	0.1	17.9	17.3	0.4	32.3
50-54	14.7	0.2	28.6	13.5	0.2	26.6	24.7	0.5	46.0
55-59	20.0	0.4	38.5	18.6	0.3	36.3	31.9	0.7	58.7
60-64	25.9	0.6	49.1	24.9	0.6	47.8	38.4	1.0	68.9
65-69	32.8	0.9	61.4	32.1	0.9	60.7	47.4	1.9	82.6
70-74	41.4	1.3	75.6	41.1	1.2	75.9	54.6	2.5	92.2
75-79	53.0	1.5	94.0	52.9	1.4	94.6	69.7	2.8	113.4
80-84	69.5	2.4	116.8	69.6	2.4	118.0	89.8	3.7	137.9
85+	115.3	3.0	173.7	116.3	3.1	175.9	139.2	3.8	195.5

^a SEER 21 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.

^d 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, 2012-2016</u>			
Age at Diagnosis:			
All ages	33.2	33.1	33.3
Under 65	25.2	25.4	22.9
65 and over	88.0	86.3	104.7
All ages (WHO world std) ^b	27.1	27.0	26.9
<u>Age-Specific Rates, 2012-2016</u>			
Age at Diagnosis:			
<1	-	-	-
1-4	-	-	-
5-9	-	-	-
10-14	-	-	-
15-19	-	-	-
20-24	0.3	0.2	-
25-29	0.8	0.8	0.9
30-34	3.3	3.3	3.2
35-39	10.7	10.6	10.6
40-44	45.9	46.5	37.1
45-49	70.1	71.7	54.6
50-54	77.2	78.3	65.4
55-59	77.0	76.6	77.4
60-64	90.1	87.9	103.8
65-69	108.7	105.8	124.8
70-74	107.3	105.1	129.1
75-79	90.4	89.3	111.6
80-84	63.3	62.8	75.5
85+	26.7	26.3	31.8

^a SEER 21 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	79.0	77.8	79.3	80.0	79.5	80.2	65.1	64.0	65.9
1987-1989 ^b	84.0	81.4	85.0	85.1	82.7	85.9	71.1	69.6	71.9
1990-1992 ^b	85.2	83.4	85.9	86.5	85.1	87.0	71.5	70.1	72.4
1993-1995 ^b	86.4	84.3	87.1	87.6	86.2	88.1	72.8	70.5	74.2
1996-1998 ^b	88.2	86.6	88.8	89.4	88.3	89.7	76.2	74.0	77.6
1999-2001 ^b	89.7	88.1	90.3	90.8	89.9	91.1	79.0	77.0	80.2
2002-2004 ^b	90.0	89.3	90.2	91.4	91.1	91.5	77.9	77.6	78.2
2005-2008 ^b	90.8	91.2	90.7	92.1	92.6	92.0	80.3	81.6	79.6
2009-2015 ^b	91.3 ^f	91.1 ^f	91.4 ^f	92.4 ^f	92.4 ^f	92.4 ^f	83.4 ^f	83.3 ^f	83.5 ^f
5-Year Period Survival (Percent) ^{cd}									
2015	90.0	89.6	90.2	91.0	90.7	91.1	81.8	81.0	82.2
Stage Distribution (%) 2009-2015 ^{ce}									
All Stages									
Number of cases	350,242	79,150	271,092	275,036	57,813	217,223	39,698	10,672	29,026
Percent	100%	100%	100%	100%	100%	100%	100%	100%	100%
Localized	62	55	65	64	55	66	54	47	57
Regional	30	39	28	29	39	27	35	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), 2009-2015 ^c									
Age at Diagnosis:									
Ages <45	88.1	-	-	89.3	-	-	79.0	-	-
Ages 45-54	90.8	-	-	91.9	-	-	82.3	-	-
Ages 55-64	90.5	-	-	91.4	-	-	82.8	-	-
Ages 65-74	91.9	-	-	92.5	-	-	84.8	-	-
Ages 75+	86.3	-	-	87.3	-	-	74.8	-	-
Ages <65	90.1	-	-	91.2	-	-	81.7	-	-
Ages 65+	89.6	-	-	90.3	-	-	80.9	-	-
Stage ^e :									
All Stages	89.9	89.6	90.0	90.8	90.8	90.9	81.5	80.8	81.7
Localized	98.8	97.0	99.3	99.2	97.4	99.7	95.5	94.0	96.0
Regional	85.5	86.9	84.9	86.6	88.3	86.0	77.1	77.9	76.7
Distant	27.4	37.1	24.8	28.6	40.6	25.8	19.7	25.9	17.4
Unstaged/Unknown	54.5	75.1	49.7	52.1	76.2	47.6	49.3	65.5	43.1
<i>In Situ</i> ^j	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	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 2016. [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.

Based on follow-up of patients into 2016.

^d Period survival provides a 2015 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 2009-2015 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	2015
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	97.6	97.8	97.8	97.8	97.7	97.7	97.7	97.9	97.6	97.8	98.1	98.0	97.6	98.0
2-year	88.7	89.9	92.3	93.8	93.9	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	95.9	
3-year	83.1	84.6	88.3	90.5	91.3	91.0	92.0	92.9	93.1	93.4	92.8	93.5	93.3	93.3	93.8	93.8	94.0	93.8	94.0	94.0	94.4	94.1	94.4		
4-year	78.4	80.2	85.0	87.8	88.8	88.9	89.9	91.0	91.3	91.6	91.0	91.8	91.5	91.4	91.9	92.3	92.5	92.4	92.5	92.2	92.7	92.4			
5-year	74.6	76.3	82.2	85.6	86.8	86.7	88.4	89.5	89.6	90.2	89.4	90.2	89.8	90.0	90.5	90.8	91.2	90.7	91.4	90.9	91.4				
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	89.9	89.4	90.4	90.0					
7-year	68.7	70.6	77.8	82.1	83.8	83.8	85.9	87.1	87.0	87.7	86.8	87.6	87.4	87.5	88.0	88.7	88.9	88.3	89.2						
8-year	66.4	68.4	76.3	80.9	82.6	82.4	85.0	85.8	85.9	86.4	85.9	86.5	86.3	86.6	87.4	87.7	87.9	87.2							
9-year	64.3	66.4	74.6	79.8	81.3	81.4	83.7	84.7	85.0	85.3	85.3	85.6	85.9	85.6	86.5	86.9	86.9								
10-year	62.5	64.5	73.3	78.7	80.5	80.4	82.6	83.4	84.1	84.5	84.4	85.1	84.7	84.8	85.7	85.9									
11-year	60.8	62.7	72.1	77.6	79.5	79.5	81.8	82.6	83.0	83.6	83.6	84.4	83.9	84.3	84.9										
12-year	59.3	61.5	70.9	76.7	78.5	78.6	81.0	82.1	82.4	82.6	82.5	83.4	83.3	83.8											
13-year	58.1	60.4	69.8	75.8	77.4	77.6	80.0	81.1	81.7	81.8	81.9	82.6	82.8												
14-year	57.1	59.2	69.0	74.9	76.8	76.9	79.4	80.5	80.7	81.2	81.0	82.1													
15-year	56.1	58.3	68.1	74.1	75.9	76.2	78.4	79.5	80.2	80.5	80.3														
16-year	55.2	57.2	67.2	73.3	74.9	75.6	77.4	78.8	79.4	79.9															
17-year	54.2	56.3	66.5	72.4	74.1	74.9	77.0	78.2	78.9																
18-year	53.4	55.6	65.7	71.7	72.9	74.1	76.3	77.5																	
19-year	52.6	55.0	65.1	71.0	72.3	73.1	75.4																		
20-year	51.9	54.2	64.5	70.2	71.6	72.3																			
21-year	51.2	53.5	63.8	69.3	70.8																				
22-year	50.6	52.8	63.2	68.6																					
23-year	50.0	52.2	62.6																						
24-year	49.4	51.5	62.0																						
25-year	48.6	51.1	61.3																						
26-year	48.3	50.7	60.4																						
27-year	48.0	50.1	59.6																						
28-year	47.5	49.5																							
29-year	47.0	48.8																							
30-year	46.7	48.1																							

^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	2015
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	99.1	98.8	98.5	98.8	98.9
2-year	90.7	91.2	92.5	93.8	93.6	93.8	94.6	95.1	95.0	95.6	94.6	95.7	96.1	95.9	96.1	96.8	97.1	96.4	96.4	96.3	97.1	96.6	96.6	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	94.0	95.2	94.4	94.8		
4-year	79.9	80.9	83.3	86.3	86.6	88.2	88.7	89.5	90.1	90.6	89.3	90.6	91.8	91.2	92.2	93.1	93.4	92.5	92.6	92.0	93.0	92.4			
5-year	76.1	77.0	80.1	83.8	84.1	85.6	86.7	87.3	88.1	89.0	87.4	88.7	89.8	89.4	90.7	91.2	91.9	90.9	91.1	90.6	91.4				
6-year	73.2	74.2	77.9	81.8	82.2	83.4	84.7	85.4	86.2	87.4	85.3	86.8	88.1	87.9	89.4	89.7	90.4	89.5	89.8	89.4					
7-year	70.9	71.6	75.8	80.0	80.3	81.8	83.2	83.7	84.9	85.7	83.6	85.4	86.8	86.4	88.3	88.7	89.1	88.3	88.4						
8-year	68.9	69.5	74.1	78.5	78.7	80.1	81.5	82.3	83.6	83.8	82.2	84.3	85.7	85.3	87.4	87.6	88.1	87.4							
9-year	67.0	67.8	72.6	77.4	77.6	79.1	80.5	80.9	82.6	82.6	81.1	83.2	84.9	84.3	86.5	86.9	87.0								
10-year	65.6	66.4	71.5	76.3	76.4	77.7	79.3	79.8	81.6	81.6	80.3	82.4	84.0	83.4	85.6	86.0									
11-year	64.2	65.1	70.4	75.4	75.5	76.8	78.2	78.9	80.4	80.8	79.4	81.8	83.0	82.9	85.1										
12-year	62.8	64.1	69.3	74.4	74.6	76.1	77.3	78.2	80.0	80.1	78.5	80.6	82.6	82.3											
13-year	61.7	63.1	68.3	73.5	73.7	74.8	76.4	77.6	79.3	79.3	77.7	80.1	81.9												
14-year	61.0	62.0	67.6	72.8	73.1	74.1	75.4	77.2	78.1	78.9	77.3	79.5													
15-year	60.2	61.2	66.9	72.1	72.3	73.4	74.8	76.6	77.5	78.3	76.8														
16-year	59.5	60.5	66.2	71.4	71.5	73.0	74.1	76.1	77.0	77.8															
17-year	59.0	59.9	65.6	70.8	70.5	72.4	73.7	75.4	76.1																
18-year	58.4	59.2	65.0	70.2	69.5	72.1	72.7	75.1																	
19-year	57.8	58.8	64.4	69.6	68.5	71.5	72.2																		
20-year	57.1	58.2	63.9	69.1	68.0	70.9																			
21-year	56.4	57.5	63.4	68.7	67.5																				
22-year	55.8	56.8	62.9	68.3																					
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	54.7	60.9																						
27-year	53.2	54.1	60.3																						
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	2015
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	97.6	97.3	97.4	97.9	97.8	97.3	97.8
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	95.8	
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	93.2	93.3	93.8	93.5	93.6	93.7	93.9	94.0	94.2	94.0	94.3		
4-year	77.9	79.9	85.6	88.4	89.6	89.1	90.3	91.6	91.7	92.0	91.6	92.1	91.5	91.5	91.8	92.0	92.1	92.3	92.5	92.3	92.7	92.5			
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	90.7	90.9	90.7	91.5	91.1	91.4				
6-year	70.8	73.1	80.5	84.6	86.6	85.6	87.8	89.4	88.8	89.5	89.3	89.5	88.8	88.9	89.2	89.8	89.7	89.4	90.6	90.2					
7-year	67.9	70.4	78.6	82.9	85.1	84.6	86.9	88.4	87.7	88.4	88.0	88.4	87.7	88.0	87.9	88.7	88.9	88.3	89.5						
8-year	65.6	68.0	77.1	81.9	84.1	83.3	86.3	87.1	86.7	87.3	87.3	87.3	86.6	87.1	87.4	87.7	87.9	87.2							
9-year	63.3	66.0	75.3	80.7	82.7	82.3	84.9	86.1	85.9	86.3	86.8	86.4	86.3	86.2	86.6	86.9	86.9								
10-year	61.3	63.8	73.9	79.6	82.1	81.4	83.9	84.8	85.1	85.6	86.0	86.0	85.0	85.4	85.7	85.9									
11-year	59.5	61.9	72.7	78.5	81.0	80.6	83.1	84.0	83.9	84.6	85.2	85.4	84.3	84.9	84.9										
12-year	58.0	60.6	71.4	77.6	79.9	79.6	82.5	83.6	83.3	83.5	83.9	84.5	83.7	84.4											
13-year	56.7	59.4	70.3	76.7	78.8	78.7	81.4	82.5	82.6	82.7	83.4	83.6	83.2												
14-year	55.7	58.1	69.4	75.7	78.3	78.0	80.9	81.6	81.6	82.0	82.3	83.0													
15-year	54.4	57.2	68.4	74.8	77.3	77.4	79.8	80.5	81.3	81.3	81.6														
16-year	53.4	55.9	67.5	73.9	76.2	76.6	78.7	79.7	80.3	80.7															
17-year	52.2	54.8	66.6	72.9	75.4	75.9	78.2	79.1	80.0																
18-year	51.3	54.1	65.8	72.1	74.2	74.8	77.8	78.2																	
19-year	50.4	53.3	65.1	71.4	73.8	73.6	76.5																		
20-year	49.5	52.4	64.4	70.4	73.0	72.6																			
21-year	48.8	51.7	63.6	69.2	72.0																				
22-year	48.3	51.1	63.0	68.2																					
23-year	47.7	50.4	62.3																						
24-year	47.0	49.6	61.5																						
25-year	46.1	49.2	60.7																						
26-year	45.8	48.9	59.5																						
27-year	45.4	48.2	58.4																						
28-year	45.1	47.6																							
29-year	44.4	46.5																							
30-year	44.0	45.6																							

^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 4.17
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, 2014-2016 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	12.83	2.57	Asian/ Pacific Islander	0	0.00	0.00	0.06	10.68	1.73
	10	0.00	0.07	0.54	12.95	2.59		10	0.00	0.06	0.49	10.75	1.74
	20	0.07	0.54	2.05	12.98	2.60		20	0.05	0.49	1.97	10.76	1.75
	30	0.48	1.99	4.27	12.98	2.61		30	0.43	1.92	3.95	10.74	1.75
	40	1.53	3.84	7.06	12.66	2.58		40	1.50	3.54	6.14	10.38	1.72
	50	2.38	5.70	9.09	11.49	2.48		50	2.09	4.75	7.16	9.08	1.63
	60	3.54	7.14	9.19	9.70	2.26		60	2.77	5.28	6.74	7.27	1.43
	70	4.07	6.39	-	6.97	1.93		70	2.70	4.27	-	4.85	1.18
80	3.03	-	-	3.79	1.51	80	1.83	-	-	2.51	0.91		
White	0	0.00	0.00	0.07	13.14	2.53	American Indian/ Alaska Native ^a	0	0.00	0.00	0.03	8.17	1.79
	10	0.00	0.07	0.54	13.24	2.56		10	0.00	0.03	0.33	8.24	1.81
	20	0.07	0.54	2.05	13.27	2.56		20	0.03	0.33	1.11	8.27	1.82
	30	0.47	2.00	4.30	13.27	2.57		30	0.31	1.10	2.46	8.33	1.84
	40	1.54	3.88	7.19	12.96	2.55		40	0.80	2.20	4.38	8.19	1.85
	50	2.41	5.83	9.36	11.79	2.46		50	1.45	3.71	5.82	7.67	1.82
	60	3.64	7.40	9.50	9.99	2.25		60	2.42	4.66	5.96	6.63	1.75
	70	4.25	6.63	-	7.19	1.93		70	2.54	4.00	-	4.76	1.56
80	3.14	-	-	3.87	1.50	80	1.91	-	-	2.91	1.29		
Black	0	0.00	0.00	0.08	11.59	3.08	Hispanic ^b	0	0.00	0.00	0.06	10.50	2.07
	10	0.00	0.08	0.59	11.79	3.14		10	0.00	0.06	0.45	10.58	2.09
	20	0.08	0.59	2.01	11.81	3.15		20	0.06	0.45	1.63	10.60	2.09
	30	0.51	1.95	4.17	11.82	3.16		30	0.39	1.58	3.43	10.58	2.10
	40	1.46	3.71	6.61	11.50	3.12		40	1.19	3.06	5.70	10.29	2.07
	50	2.35	5.36	8.25	10.45	2.95		50	1.91	4.61	7.23	9.30	1.98
	60	3.28	6.42	8.23	8.81	2.63		60	2.83	5.57	7.21	7.74	1.79
	70	3.68	5.80	-	6.48	2.22		70	3.02	4.82	-	5.41	1.53
80	2.89	-	-	3.82	1.78	80	2.21	-	-	2.93	1.24		

Devcan 6.7.7, April 2019, National Cancer Institute (<https://surveillance.cancer.gov/devcan/>).

Source: Incidence data are from the SEER 21 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, Georgia excluding ATL/RG, Idaho, New York and Massachusetts). 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 PRCD (Purchased/Referred Care Delivery Areas) 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 21 Areas ^b	SEER 21 Areas ^b	SEER 9 Areas ^b
	Rate 2012-2016	Trend 2007-2016 ^c	Trend 2007-2016 ^d
	Rate per 100,000 persons	AAPC (%)	AAPC (%)
Race/Ethnicity	Females	Females	Females
All Races	127.5	0.2*	0.3*
White	130.5	0.1	0.1
White Hispanic ^e	99.6	0.2*	-
White Non-Hispanic ^e	136.6	0.2	-
Black	124.0	0.6*	0.3*
Asian/Pacific Islander	100.1	0.9*	-
Amer Ind/Alaska Nat ^f	79.5	0.1	-
Hispanic ^e	97.2	0.4*	-
<u>U.S. Mortality^g</u>			
	Rate 2012-2016	Trend 2007-2016 ^h	
	Rate per 100,000 persons	AAPC (%)	
Race/Ethnicity	Females	Females	
All Races	20.6	-1.6*	
White	20.1	-1.6*	
White Hispanic ^e	15.0	-1.0*	
White Non-Hispanic ^e	20.6	-1.6*	
Black	28.1	-1.5*	
Asian/Pacific Islander	11.2	-0.9*	
Amer Ind/Alaska Nat			
Total U.S.	11.4	-0.4	
PRCDA Counties	14.3	-1.1	
Non-PRCDA Counties	8.1	0.9	
Hispanic ^e	14.2	-1.1*	

The AAPC is the Average Annual Percent Change over the time interval. The AAPCs are calculated by the Joinpoint Regression Program Version 4.7, February 2019, 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.

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).

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

The SEER 21 areas comprise the SEER 9 areas plus San Jose-Monterey, Los Angeles, the Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts.

The 2007-2016 AAPC estimates are based on a Joinpoint analysis with up to 3 Joinpoints over diagnosis years 2000-2016.

The 2007-2016 AAPC estimates are based on a Joinpoint analysis with up to 5 Joinpoints over diagnosis years 1975-2016.

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.

Incidence data for American Indian/Alaska Native are based on the Purchased/Referred Care Delivery Area (PRCDA) counties.

US Mortality Files, National Center for Health Statistics, CDC.

The 2007-2016 mortality AAPCs are based on a Joinpoint analysis using years of death 2000-2016.

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 21 Areas ^b Rate 2012-2016 Rate per 100,000 persons	SEER 21 Areas ^b Trend 2007-2016 ^c AAPC (%)	SEER 9 Areas ^b Trend 2007-2016 ^d AAPC (%)
	Females	Females	Females
All Races	33.2	-0.6	-0.7
White	33.1	-1.2*	-1.2*
White Hispanic ^e	25.0	0.4	-
White Non-Hispanic ^e	35.0	-1.2*	-
Black	33.3	1.2*	1.1*
Asian/Pacific Islander	32.1	1.1	-
Amer Ind/Alaska Nat ^f	16.8	0.2	-
Hispanic ^e	24.7	0.7	-

The AAPC is the Average Annual Percent Change over the time interval. The AAPCs are calculated by the Joinpoint Regression Program Version 4.7, February 2019, 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.

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).

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

The SEER 21 areas comprise the SEER 9 areas plus San Jose-Monterey, Los Angeles, the Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts.

The 2007-2016 AAPC estimates are based on a Joinpoint analysis with up to 3 Joinpoints over diagnosis years 2000-2016.

The 2007-2016 AAPC estimates are based on a Joinpoint analysis with up to 5 Joinpoints over diagnosis years 1975-2016.

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.

Incidence data for American Indian/Alaska Native are based on the Purchased/Referred Care Delivery Area (PRCDA) 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, 2012-2016</u>									
California	120.97	41.88	328.08	125.23	41.96	343.26	121.21	40.94	331.42
Greater Bay Area	125.54	45.78	334.39	134.21	46.91	362.83	123.95	42.71	336.66
San Francisco-Oakland	127.29	46.14	339.80	135.30	46.43	368.02	126.17	44.65	339.65
San Jose-Monterey	122.21	45.14	324.01	132.38	47.80	353.85	111.17	31.75	319.15
Los Angeles	115.56	41.48	309.54	118.62	40.56	323.04	122.93	43.07	332.04
Greater California	121.82	40.64	334.41	125.33	41.20	345.60	118.31	38.26	327.93
Connecticut	140.12	52.09	370.66	141.70	53.00	373.98	119.15	40.03	326.33
Detroit	133.80	46.97	361.17	135.39	47.66	365.12	134.43	46.91	363.60
Georgia	125.81	43.34	341.74	125.84	42.11	345.11	128.95	46.56	344.69
Atlanta	132.89	44.82	363.51	137.65	45.61	378.64	133.37	45.82	362.62
Rural Georgia	131.75	43.74	362.22	135.86	46.57	369.69	119.75	36.36	338.12
Greater Georgia	122.20	42.36	331.26	121.28	40.50	332.80	126.18	47.55	332.07
Hawaii	137.45	51.14	363.47	147.68	58.88	380.21	108.53	45.14	274.52
Idaho	124.22	39.20	346.82	124.24	39.19	346.94	-	-	-
Iowa	124.22	42.78	337.48	125.01	43.35	338.83	109.98	41.01	290.60
Kentucky	126.25	42.82	344.74	126.45	42.56	346.12	127.67	45.30	343.35
Louisiana	124.21	42.21	338.94	121.51	40.11	334.67	133.90	47.11	361.18
Massachusetts	137.71	49.88	367.71	140.52	50.43	376.44	113.40	44.36	294.18
New Jersey	134.24	49.45	356.27	137.65	50.81	365.03	125.34	44.90	335.97
New Mexico	111.59	34.55	313.32	116.31	36.70	324.78	90.42	26.40	258.08
New York	130.73	48.91	344.98	135.95	49.92	361.21	117.53	44.77	308.03
Seattle-Puget Sound	141.03	46.83	387.72	144.66	46.46	401.80	128.39	41.32	356.37
Utah	114.81	38.06	315.79	116.12	38.18	320.20	68.76	-	193.10
SEER 9 Areas ^b	130.71	45.40	354.10	133.37	45.56	363.31	129.38	44.52	351.58
SEER 13 Areas ^b	126.84	44.44	342.62	130.16	44.45	354.59	127.68	44.01	346.75
SEER 18 Areas ^b	125.99	43.75	341.34	128.50	43.73	350.48	127.05	44.50	343.22
SEER 21 Areas ^b	127.49	44.93	343.68	130.49	45.10	354.07	124.01	44.54	332.10

^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.

The SEER 21 areas comprise the SEER 18 areas plus Idaho, New York and Massachusetts.

- 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, 2012-2016</u>									
California	19.85	4.27	60.64	20.75	4.21	64.05	29.86	8.12	86.79
Greater Bay Area	17.78	3.52	55.12	19.43	3.40	61.41	27.67	7.51	80.45
San Francisco-Oakland	18.24	3.64	56.47	19.53	3.22	62.21	27.34	7.58	79.08
San Jose-Monterey	16.88	3.32	52.40	19.25	3.71	59.94	29.63	-	88.37
Los Angeles	20.09	4.60	60.66	20.44	4.29	62.73	30.86	8.62	89.11
Greater California	20.46	4.38	62.59	21.23	4.41	65.27	29.92	7.89	87.61
Connecticut	17.94	4.09	54.20	17.88	3.96	54.32	19.95	5.80	57.03
Detroit	22.80	4.58	70.52	21.53	4.37	66.44	28.82	5.80	89.08
Georgia	21.94	4.97	66.37	19.60	3.82	60.92	28.41	7.35	83.57
Atlanta	22.53	5.25	67.80	18.57	3.79	57.26	30.30	7.32	90.48
Rural Georgia	25.69	-	83.38	20.82	-	73.01	33.19	-	100.58
Greater Georgia	21.53	4.83	65.28	19.92	3.87	61.95	26.99	7.39	78.29
Hawaii	16.14	3.51	49.21	21.63	3.97	67.86	-	-	-
Idaho	20.50	3.60	64.73	20.84	3.70	65.72	-	-	-
Iowa	19.11	3.71	59.45	19.16	3.67	59.75	19.36	-	52.57
Kentucky	21.54	4.94	65.01	21.21	4.69	64.48	27.50	8.48	77.32
Louisiana	23.16	5.38	69.72	19.66	3.74	61.35	32.19	8.85	93.32
Massachusetts	17.93	3.84	54.83	18.46	4.01	56.31	16.85	3.88	50.82
New Jersey	21.70	4.44	66.89	21.27	3.97	66.59	29.21	7.80	85.29
New Mexico	18.84	3.76	58.34	19.65	3.92	60.82	21.88	-	60.57
New York	19.71	4.28	60.11	19.77	3.90	61.33	23.70	6.56	68.57
Seattle-Puget Sound	19.94	3.54	62.89	20.65	3.44	65.72	23.65	7.33	66.38
Utah	20.13	3.85	62.74	20.21	3.80	63.16	-	-	-
SEER 9 Areas ^b	19.70	4.05	60.68	19.67	3.75	61.36	27.61	6.77	82.16
SEER 13 Areas ^b	19.65	4.13	60.31	19.83	3.86	61.62	28.46	7.16	84.26
SEER 18 Areas ^b	20.49	4.37	62.70	20.43	4.05	63.31	28.96	7.60	84.89
SEER 21 Areas ^b	20.19	4.31	61.77	20.18	4.02	62.48	27.15	7.21	79.39
Total U.S.	20.57	4.41	62.90	20.07	4.03	62.09	28.09	7.42	82.19

^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.

The SEER 21 areas comprise the SEER 18 areas plus Idaho, New York and Massachusetts.

- 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, 2012-2016</u>									
California	28.05	10.40	74.26	27.13	9.96	72.09	29.28	8.08	84.80
Greater Bay Area	32.36	12.89	83.34	30.62	12.10	79.09	28.37	7.56	82.86
San Francisco-Oakland	34.30	13.65	88.38	32.58	13.04	83.73	29.59	7.69	86.92
San Jose-Monterey	28.68	11.53	73.60	27.21	10.49	71.00	19.60	-	53.36
Los Angeles	26.54	9.79	70.41	25.44	9.27	67.79	29.92	8.28	86.60
Greater California	27.22	9.78	72.86	26.84	9.66	71.83	28.75	8.13	82.72
Connecticut	43.95	21.39	103.02	44.22	22.24	101.78	40.08	14.57	106.88
Detroit	35.89	14.52	91.83	36.25	15.99	89.31	37.10	11.06	105.29
Georgia	29.32	11.17	76.85	28.43	11.26	73.40	32.40	10.93	88.62
Atlanta	34.77	13.31	90.96	35.76	14.52	91.38	35.58	12.37	96.35
Rural Georgia	26.53	10.35	68.91	26.78	-	64.54	26.05	-	76.94
Greater Georgia	26.54	9.81	70.35	25.72	9.83	67.32	29.75	9.56	82.63
Hawaii	34.88	13.70	90.34	27.21	10.84	70.07	-	-	-
Idaho	22.61	9.80	56.16	22.76	9.90	56.44	-	-	-
Iowa	27.65	10.84	71.67	27.59	10.93	71.21	34.18	-	96.98
Kentucky	26.29	9.76	69.58	26.03	9.97	68.08	31.38	8.14	92.24
Louisiana	25.76	8.61	70.68	25.21	8.84	68.07	28.09	8.37	79.74
Massachusetts	40.56	19.26	96.33	41.25	19.81	97.38	36.39	15.05	92.29
New Jersey	41.05	19.02	98.74	42.20	19.99	100.34	34.11	12.95	89.53
New Mexico	20.80	7.33	56.05	21.74	7.80	58.23	18.32	-	53.10
New York	41.99	19.67	100.44	43.37	20.71	102.71	36.02	13.55	94.87
Seattle-Puget Sound	36.31	14.14	94.36	35.64	13.71	93.08	39.57	12.11	111.48
Utah	22.99	8.85	60.00	23.37	9.11	60.70	35.96	-	-
SEER 9 Areas ^b	33.64	13.72	85.78	33.04	13.89	83.19	35.91	11.63	99.48
SEER 13 Areas ^b	31.68	12.63	81.58	30.99	12.55	79.28	34.36	10.87	95.85
SEER 18 Areas ^b	30.71	12.12	79.40	30.24	12.12	77.70	32.15	10.29	89.38
SEER 21 Areas ^b	33.17	13.80	83.88	33.06	13.99	83.00	33.25	11.26	90.85

^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.

The SEER 21 areas comprise the SEER 18 areas plus Idaho, New York and Massachusetts.

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

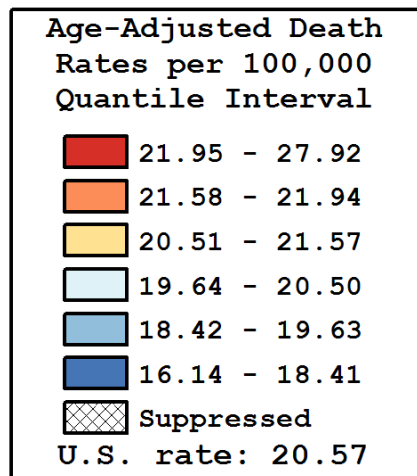
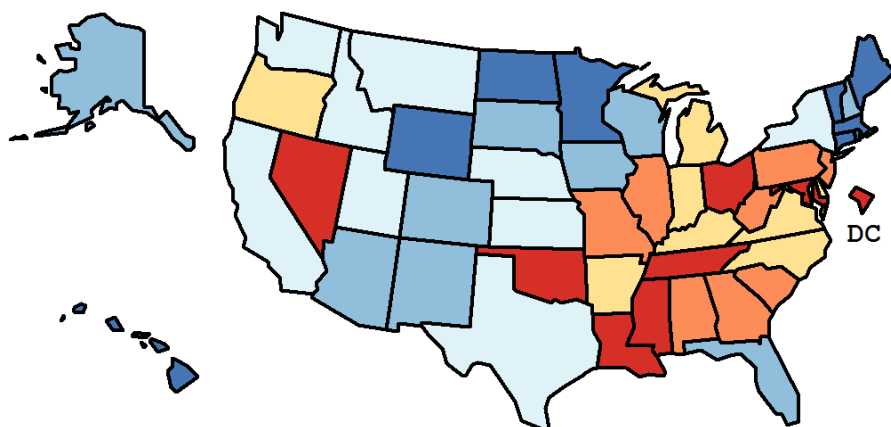
Table 4.23
Cancer of the Female Breast (Invasive)

Age-Adjusted Cancer Death^a Rates By State, All Races, 2012-2016

Females

State	Rate	SE	Rank(CI) ^d	PD
TOTAL U.S.	20.57	0.05		
High Five States				
D.C.	27.92	1.27	01(01,01)	35.73 ^c
Mississippi	23.45	0.51	02(02,11)	14.01 ^c
Louisiana	23.16	0.42	03(02,13)	12.57 ^c
Oklahoma	22.65	0.45	04(02,20)	10.12 ^c
Ohio	22.45	0.25	05(02,16)	9.13
Low Five States				
Wyoming	18.10	1.05	47(18,51)	-12.01 ^c
Connecticut	17.94	0.39	48(39,51)	-12.78 ^c
Massachusetts	17.93	0.29	49(41,50)	-12.82 ^c
North Dakota	17.50	0.92	50(27,51)	-14.92 ^c
Hawaii	16.14	0.61	51(46,51)	-21.53 ^c

State	Rate	SE	Rank(CI) ^d	PD	State	Rate	SE	Rank(CI) ^d	PD
Alabama	21.79	0.38	12(03,25)	5.92	Montana	20.10	0.80	29(05,48)	-2.28
Alaska	19.63	1.16	34(03,51)	-4.55	Nebraska	20.36	0.60	26(08,44)	-1.03
Arizona	19.44	0.31	39(26,45)	-5.47	Nevada	22.03	0.54	08(02,27)	7.11
Arkansas	21.57	0.49	17(03,30)	4.85	New Hampshire	19.46	0.68	38(15,49)	-5.39
California	19.85	0.14	31(26,39)	-3.52	New Jersey	21.70	0.28	15(05,24)	5.50
Colorado	19.06	0.36	41(27,48)	-7.35	New Mexico	18.84	0.55	42(26,50)	-8.40
Connecticut	17.94	0.39	48(39,51)	-12.78 ^c	New York	19.71	0.18	32(26,41)	-4.19
Delaware	21.44	0.84	19(02,41)	4.25	North Carolina	20.88	0.26	23(14,30)	1.49
D.C.	27.92	1.27	01(01,01)	35.73 ^c	North Dakota	17.50	0.92	50(27,51)	-14.92 ^c
Florida	19.47	0.17	37(28,43)	-5.33	Ohio	22.45	0.25	05(02,16)	9.13
Georgia	21.94	0.28	09(03,22)	6.67	Oklahoma	22.65	0.45	04(02,20)	10.12 ^c
Hawaii	16.14	0.61	51(46,51)	-21.53 ^c	Oregon	20.51	0.41	24(12,39)	-0.29
Idaho	20.50	0.68	25(05,44)	-0.36	Pennsylvania	21.59	0.23	16(06,24)	4.94
Illinois	21.76	0.24	13(05,23)	5.78	Rhode Island	18.23	0.73	44(25,51)	-11.39 ^c
Indiana	21.10	0.33	22(08,30)	2.60	South Carolina	21.86	0.38	10(03,25)	6.26
Iowa	19.11	0.45	40(25,49)	-7.09	South Dakota	19.48	0.88	36(07,50)	-5.28
Kansas	20.32	0.49	27(11,42)	-1.20	Tennessee	22.13	0.33	07(03,22)	7.59
Kentucky	21.54	0.40	18(04,28)	4.73	Texas	20.08	0.17	30(24,37)	-2.39
Louisiana	23.16	0.42	03(02,13)	12.57 ^c	Utah	20.13	0.57	28(12,45)	-2.16
Maine	18.41	0.63	43(27,51)	-10.51 ^c	Vermont	18.15	0.95	46(19,51)	-11.74 ^c
Maryland	22.15	0.35	06(02,22)	7.67	Virginia	21.42	0.30	20(06,27)	4.14
Massachusetts	17.93	0.29	49(41,50)	-12.82 ^c	Washington	19.67	0.31	33(25,43)	-4.37
Michigan	21.30	0.26	21(08,27)	3.55	West Virginia	21.84	0.60	11(02,30)	6.18
Minnesota	18.17	0.33	45(38,50)	-11.65 ^c	Wisconsin	19.61	0.33	35(24,44)	-4.64
Mississippi	23.45	0.51	02(02,11)	14.01 ^c	Wyoming	18.10	1.05	47(18,51)	-12.01 ^c
Missouri	21.74	0.34	14(04,25)	5.70					



^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 ($p < .0002$).

^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, 2016
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 <24	0 to <24 ^b	>=24 ^d	Complete ^e
<u>Race</u>	<u>Sex</u>								
All Races	Both Sexes	1,017,961	781,533	614,055	469,555	248,033	3,131,136	366,226	3,497,363
	Males	8,040	4,766	2,801	1,984	814	18,405	1,091	19,496
	Females	1,009,922	776,767	611,253	467,571	247,219	3,112,731	365,135	3,477,866
White	Both Sexes	843,120	663,539	534,432	413,399	219,892	2,674,382	328,144	3,008,268
	Males	6,591	4,062	2,367	1,711	673	15,403	+	+
	Females	836,530	659,478	532,065	411,688	219,219	2,658,979	328,144	3,008,268
Black	Both Sexes	112,746	75,971	51,618	36,535	18,893	295,762	30,695	324,210
	Males	1,148	516	343	179	60	2,246	+	+
	Females	111,597	75,455	51,275	36,356	18,832	293,515	30,695	324,210
Asian/ Pacific Islander	Both Sexes	46,680	31,992	22,348	15,092	6,872	122,984	+	+
	Males	223	112	53	38	24	451	+	+
	Females	46,457	31,879	22,295	15,054	6,847	122,533	+	+
Hispanic	Both Sexes	82,496	54,432	38,030	25,114	12,324	212,396	+	+
	Males	440	177	110	70	22	820	+	+
	Females	82,057	54,255	37,920	25,044	12,301	211,577	+	+

Estimated prevalence percent^a on January 1, 2016, of the SEER population diagnosed in the previous 24 years
By Age at Prevalence, Race/Ethnicity and Sex

Age at Prevalence		Age Specific (Crude)									Age-Adjusted ^c	
		All Ages	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80+	All Ages
<u>Race</u>	<u>Sex</u>											
All Races	Both Sexes	0.9717	0.0000	0.0001	0.0073	0.0938	0.5093	1.3510	2.5533	4.0039	4.7517	0.8206
	Males	0.0116	-	-	-	0.0006	0.0029	0.0102	0.0279	0.0677	0.1002	0.0110
	Females	1.9029	0.0001	0.0001	0.0148	0.1875	1.0073	2.6317	4.8408	7.2831	7.6133	1.5075
White	Both Sexes	1.0606	0.0001	0.0001	0.0068	0.0913	0.5103	1.3667	2.6114	4.1338	4.9105	0.8383
	Males	0.0123	-	-	-	0.0005	0.0024	0.0088	0.0275	0.0679	0.1018	0.0109
	Females	2.0901	0.0001	0.0001	0.0140	0.1851	1.0236	2.6917	5.0073	7.5942	7.9210	1.5552
Black	Both Sexes	0.6558	-	0.0001	0.0089	0.1040	0.4942	1.2574	2.2766	3.4061	3.9065	0.7294
	Males	0.0104	-	-	-	0.0008	0.0064	0.0190	0.0368	0.0798	0.0963	0.0136
	Females	1.2509	-	0.0003	0.0178	0.1987	0.9266	2.3364	4.0656	5.7216	5.7874	1.2600
Asian/ Pacific Islander	Both Sexes	0.6040	-	-	0.0073	0.0908	0.4933	1.2399	2.0447	2.6285	2.7875	0.6253
	Males	0.0046	-	-	-	0.0012	0.0004	0.0064	0.0151	0.0327	0.0490	0.0057
	Females	1.1553	-	-	0.0144	0.1716	0.9302	2.3071	3.6837	4.7140	4.5507	1.1254
Hispanic	Both Sexes	0.3719	-	0.0001	0.0058	0.0715	0.3599	0.9502	1.7962	2.6322	2.8541	0.5559
	Males	0.0028	-	-	-	0.0005	0.0020	0.0042	0.0136	0.0317	0.0534	0.0055
	Females	0.7489	-	0.0001	0.0121	0.1483	0.7280	1.8823	3.3728	4.6253	4.5832	1.0193

^a US 2016 cancer prevalence counts are based on 2016 cancer prevalence proportions from the SEER 13 Areas (excluding the Alaska Native Registry) and 1/1/2016 US population estimates based on the average of 2015 and 2016 population estimates from the US Bureau of the Census.

^b Prevalence was calculated using the first invasive tumor for each cancer site diagnosed during the previous 24 years. Maximum limited-duration prevalence is 24 years for 1992-2016 data.

^c Percentages are age-adjusted to the 2000 US Standard Population (19 age groups - Census P25-1130) by 5-year age groups.

^d Cases diagnosed more than 24 years ago were estimated using the completeness index method (Capocaccia et. al. 1997, Merrill et. al. 2000).

^e Complete prevalence is obtained by summing 0 to <24 and >=24.

- 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, 2012-2016
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	430,905	99.5%	341,837	99.5%	49,429	99.3%	33,319	99.3%	1,551	99.3%	46,768	99.2%
Epidermoid carcinoma ^d (8051-8131)	215	0.0%	175	0.1%	30	0.1%	-	-	-	-	23	0.0%
Adenocarcinoma ^e	423,201	97.7%	336,133	97.8%	48,041	96.5%	32,837	97.9%	1,521	97.4%	45,815	97.2%
Adenocarcinoma, NOS (8140)	2,726	0.6%	2,117	0.6%	374	0.8%	176	0.5%	16	1.0%	291	0.6%
Infiltrating duct carcinoma (8500)	313,957	72.5%	246,455	71.7%	36,926	74.2%	25,918	77.3%	1,187	76.0%	34,906	74.0%
Lobular carcinoma, NOS (8520)	42,159	9.7%	35,813	10.4%	3,735	7.5%	2,064	6.2%	128	8.2%	3,709	7.9%
Inflammatory adenocarcinoma (8530)	947	0.2%	739	0.2%	143	0.3%	53	0.2%	-	-	166	0.4%
Infiltrating duct mixed and infiltrating lobular mixed (8522-8524)	42,471	9.8%	34,812	10.1%	4,223	8.5%	2,855	8.5%	117	7.5%	4,607	9.8%
Mucinous adenocarcinoma (8480,8482)	8,042	1.9%	6,108	1.8%	1,031	2.1%	801	2.4%	23	1.5%	852	1.8%
Mucin-producing adenocarcinoma (8481)	77	0.0%	59	0.0%	-	-	-	-	-	-	-	-
Tubular adenocarcinoma (8211)	2,213	0.5%	1,963	0.6%	140	0.3%	78	0.2%	-	-	151	0.3%
Papillary adenocarcinoma (8050,8260,8503,8504)	3,197	0.7%	2,307	0.7%	501	1.0%	310	0.9%	-	-	365	0.8%
Paget disease (8540-8543)	1,391	0.3%	1,126	0.3%	146	0.3%	92	0.3%	-	-	130	0.3%
Other adenocarcinomas ^f	6,021	1.4%	4,634	1.3%	810	1.6%	485	1.4%	18	1.2%	630	1.3%
Other specific carcinomas ^g	3,304	0.8%	2,432	0.7%	619	1.2%	220	0.7%	-	-	420	0.9%
Medullary adenocarcinoma (8510-8513)	745	0.2%	498	0.1%	191	0.4%	50	0.1%	-	-	150	0.3%
Other ^h	2,559	0.6%	1,934	0.6%	428	0.9%	170	0.5%	-	-	270	0.6%
Unspecified, Carcinoma, NOS (8010-8011,8020-8022)	4,185	1.0%	3,097	0.9%	739	1.5%	253	0.8%	19	1.2%	510	1.1%

Source: SEER 21 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, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).
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 Purchased/Referred Care Delivery Area (PRCDA) 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.

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

^f 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.

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

^h 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, 2012-2016
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)	443	0.1%	342	0.1%	66	0.1%	31	0.1%	-	-	55	0.1%
Hemangiosarcomas (9120-9126,9170)	250	0.1%	213	0.1%	25	0.1%	-	-	-	-	24	0.1%
Other sarcomas ^d	193	0.0%	129	0.0%	41	0.1%	19	0.1%	-	-	31	0.1%
Other specific types (8720-8790,8930-8936, 8950-9030,9060-9110, 9260-9365,9380-9539)	942	0.2%	647	0.2%	128	0.3%	136	0.4%	-	-	194	0.4%
Phyllodes tumor, malignant (9020)	810	0.2%	551	0.2%	102	0.2%	127	0.4%	-	-	177	0.4%
Other ^e	132	0.0%	96	0.0%	26	0.1%	-	-	-	-	17	0.0%
Unspecified (8000-8005)	986	0.2%	713	0.2%	151	0.3%	60	0.2%	-	-	132	0.3%
Total ^f	433,276	100.0%	343,539	100.0%	49,774	100.0%	33,546	100.0%	1,562	100.0%	47,149	100.0%

Source: SEER 21 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, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).
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 Purchased/Referred Care Delivery Area (PRCDA) 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, 2012-2016
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	111,997	99.9%	85,458	99.9%	13,652	99.9%	10,843	99.9%	345	99.7%	12,322	99.9%
Adenocarcinoma <i>in situ</i> , NOS (8140/2)	-	-	-	-	-	-	-	-	-	-	-	-
Ductal carcinoma <i>in situ</i> ^e	91,147	81.3%	68,476	80.1%	11,616	85.0%	9,542	87.9%	306	88.4%	10,110	81.9%
Cribriform carcinoma <i>in situ</i> (8201/2)	9,938	8.9%	7,393	8.6%	1,262	9.2%	1,111	10.2%	25	7.2%	1,076	8.7%
Ductal carcinoma <i>in situ</i> , solid type(8230/2)	8,013	7.1%	6,193	7.2%	870	6.4%	832	7.7%	27	7.8%	766	6.2%
Ductal carcinoma <i>in situ</i> , NOS (8500/2)	25,679	22.9%	19,643	23.0%	3,129	22.9%	2,396	22.1%	108	31.2%	2,820	22.9%
Comedocarcinoma <i>in situ</i> (8501/2)	8,359	7.5%	6,352	7.4%	954	7.0%	931	8.6%	32	9.2%	910	7.4%
Ductal carcinoma <i>in situ</i> papillary(8503/2)	1,563	1.4%	1,034	1.2%	323	2.4%	171	1.6%	-	-	204	1.7%
Noninfiltrating intracystic carcinoma(8504/2)	317	0.3%	210	0.2%	51	0.4%	52	0.5%	-	-	36	0.3%
Ductal carcinoma <i>in situ</i> micropapillary(8507/2)	1,555	1.4%	1,187	1.4%	221	1.6%	125	1.2%	-	-	167	1.4%
Intraductal with other types of carcinoma <i>in situ</i> (8523/2)	35,468	31.6%	26,282	30.7%	4,786	35.0%	3,875	35.7%	106	30.6%	4,105	33.3%
Lobular carcinoma <i>in situ</i> (8520/2-8521/2, 8524/2)	16,547	14.8%	13,567	15.9%	1,538	11.3%	970	8.9%	34	9.8%	1,777	14.4%
Lobular carcinoma <i>in situ</i> , NOS (8520/2)	16,531	14.7%	13,558	15.9%	1,533	11.2%	969	8.9%	33	9.5%	1,775	14.4%
Lobular CIS ^f with other CIS ^f (8524/2)	16	0.0%	-	-	-	-	-	-	-	-	-	-
Intraductal and lobular <i>in situ</i> carcinoma (8522/2)	3,633	3.2%	2,929	3.4%	408	3.0%	250	2.3%	-	-	353	2.9%
Other adenocarcinomas ^g	661	0.6%	480	0.6%	89	0.7%	79	0.7%	-	-	82	0.7%
Other <i>in situ</i> histologies ^h	115	0.1%	80	0.1%	-	-	-	-	-	-	16	0.1%
Total	112,112	100.0%	85,538	100.0%	13,667	100.0%	10,854	100.0%	346	100.0%	12,338	100.0%

Source: SEER 21 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, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).

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 Purchased/Referred Care Delivery Area (PRCDA) 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*.

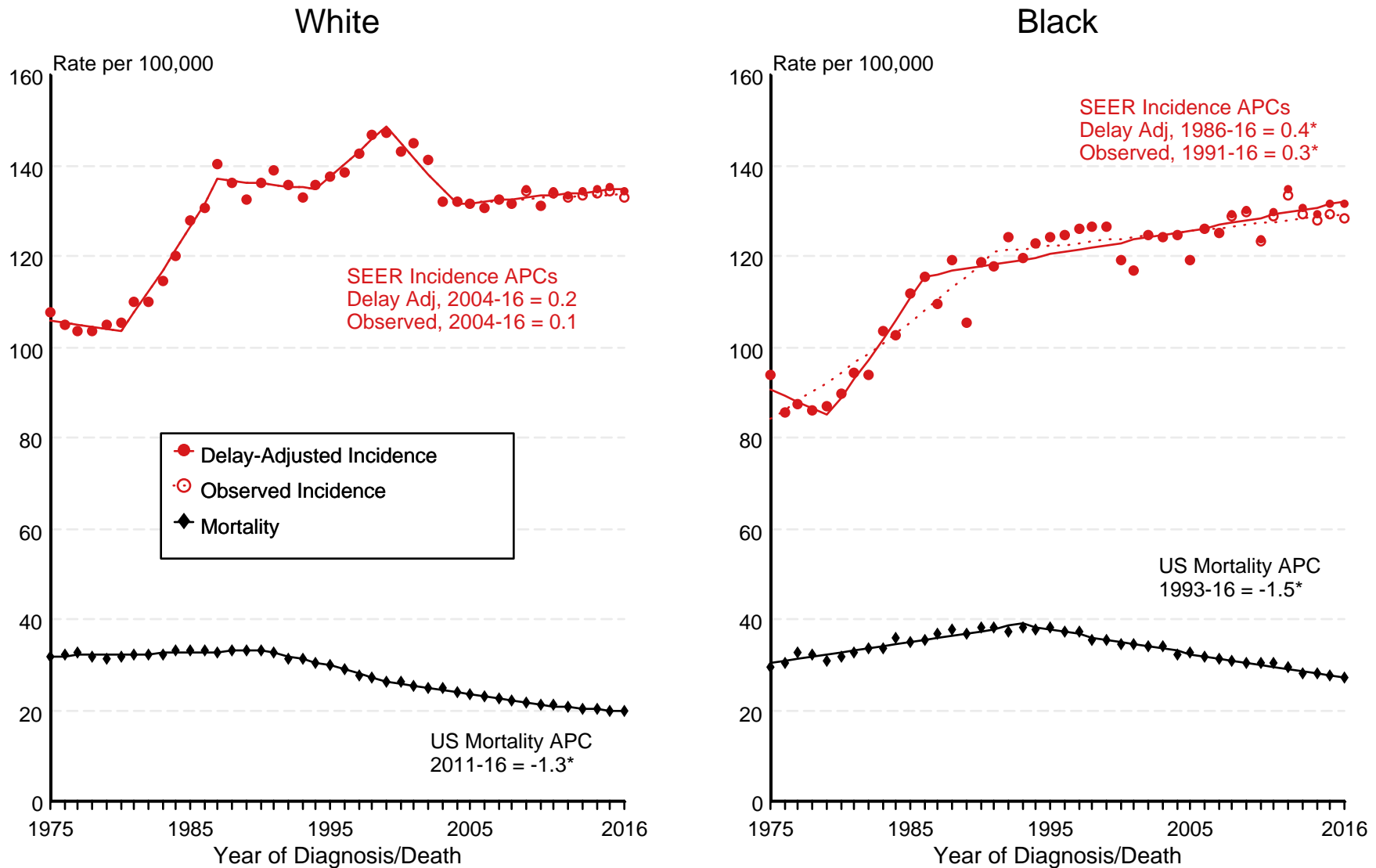
^h Other adenocarcinomas include 8050, 8141-8147, 8160-8162, 8180-8200, 8202-8221, 8250-8400, 8402-8499, 8514, 8525-8551, 8560, 8570-8574, 8576, 8940-8941.

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.

- 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).

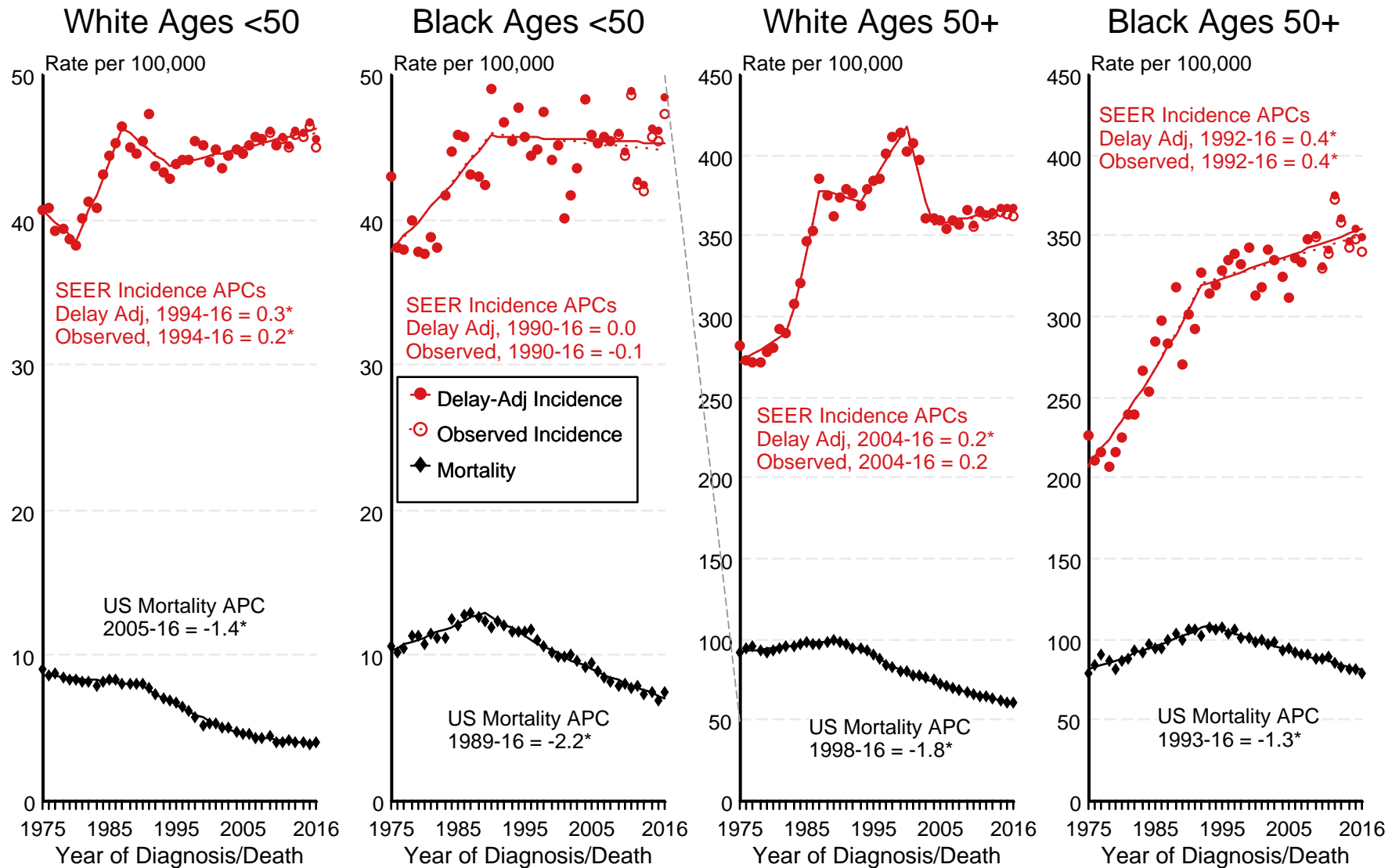
Regression lines and APCs are calculated using the Joinpoint Regression Program Version 4.7, February 2019, National Cancer Institute.

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).

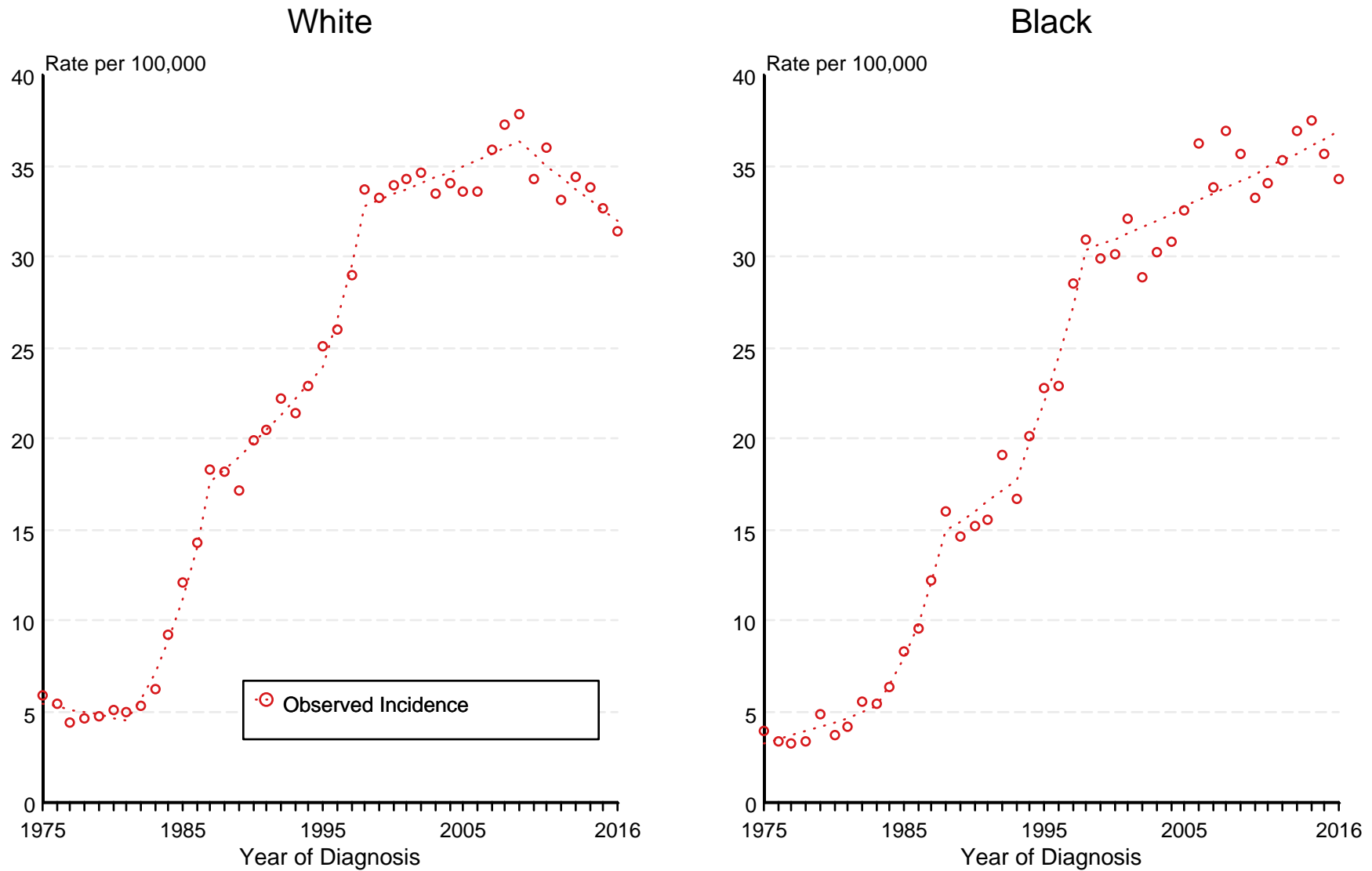
Regression lines and APCs are calculated using the Joinpoint Regression Program Version 4.7, February 2019, National Cancer Institute.

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.

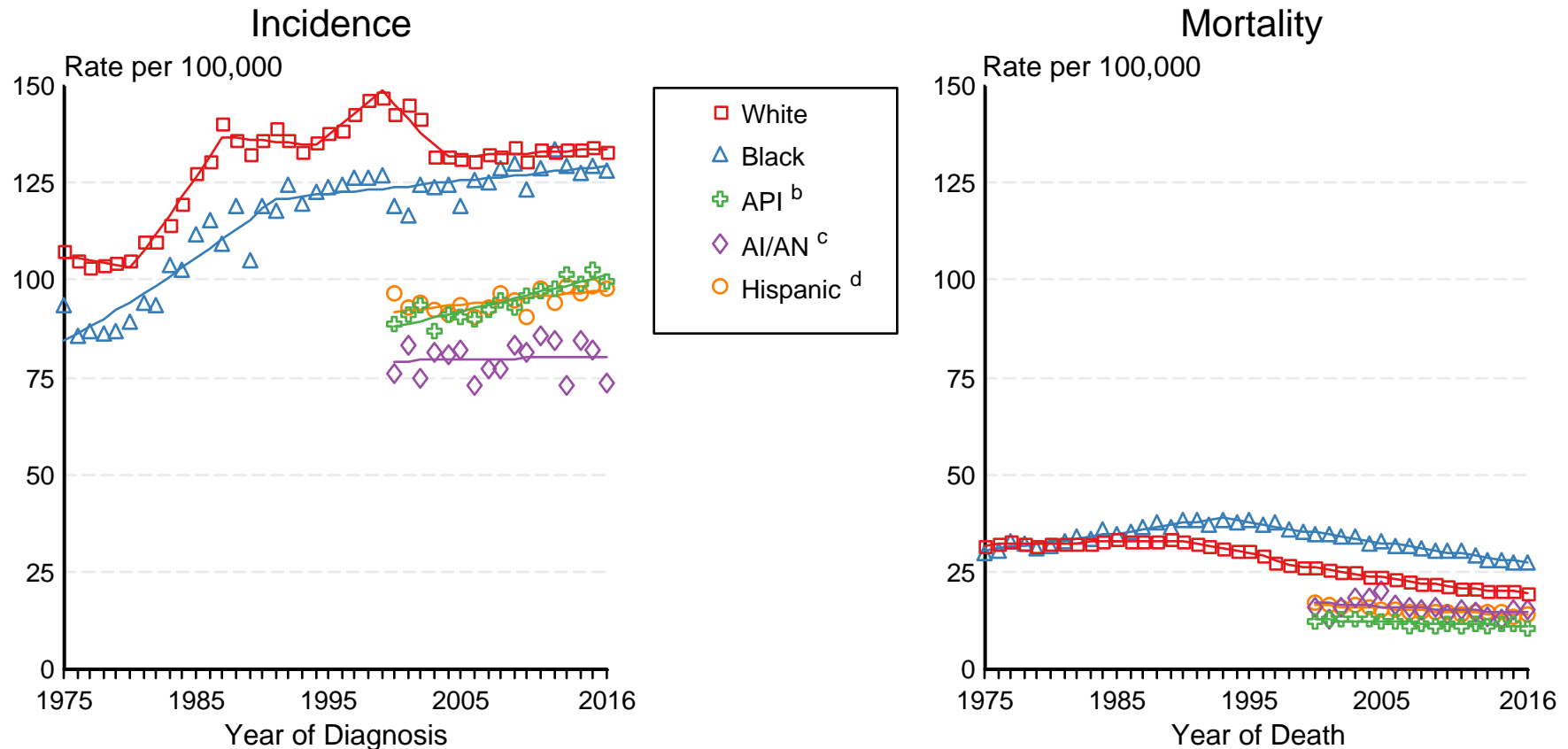
^a Rates are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1103). Regression lines and APCs are calculated using the Joinpoint Regression Program Version 4.7, February 2019, National Cancer Institute. The APC is the Annual Percent Change for the regression line segments. The 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 1975-2016
and for Asian/Pacific Islanders, American Indians/Alaska Natives and Hispanics from 2000-2016



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 21 areas (SEER 9 areas, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).

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 4.7, February 2019, National Cancer Institute. Joinpoint analyses for Whites and Blacks during the 1975-2016 period allow a maximum of 5 joinpoints. Analyses for other ethnic groups during the period 2000-2016 allow a maximum of 3 joinpoints.

^b API = Asian/Pacific Islander.

^c AI/AN = American Indian/Alaska Native. Rates for American Indian/Alaska Native are based on the Purchased/Referred Care Delivery Area (PRCDA) counties.

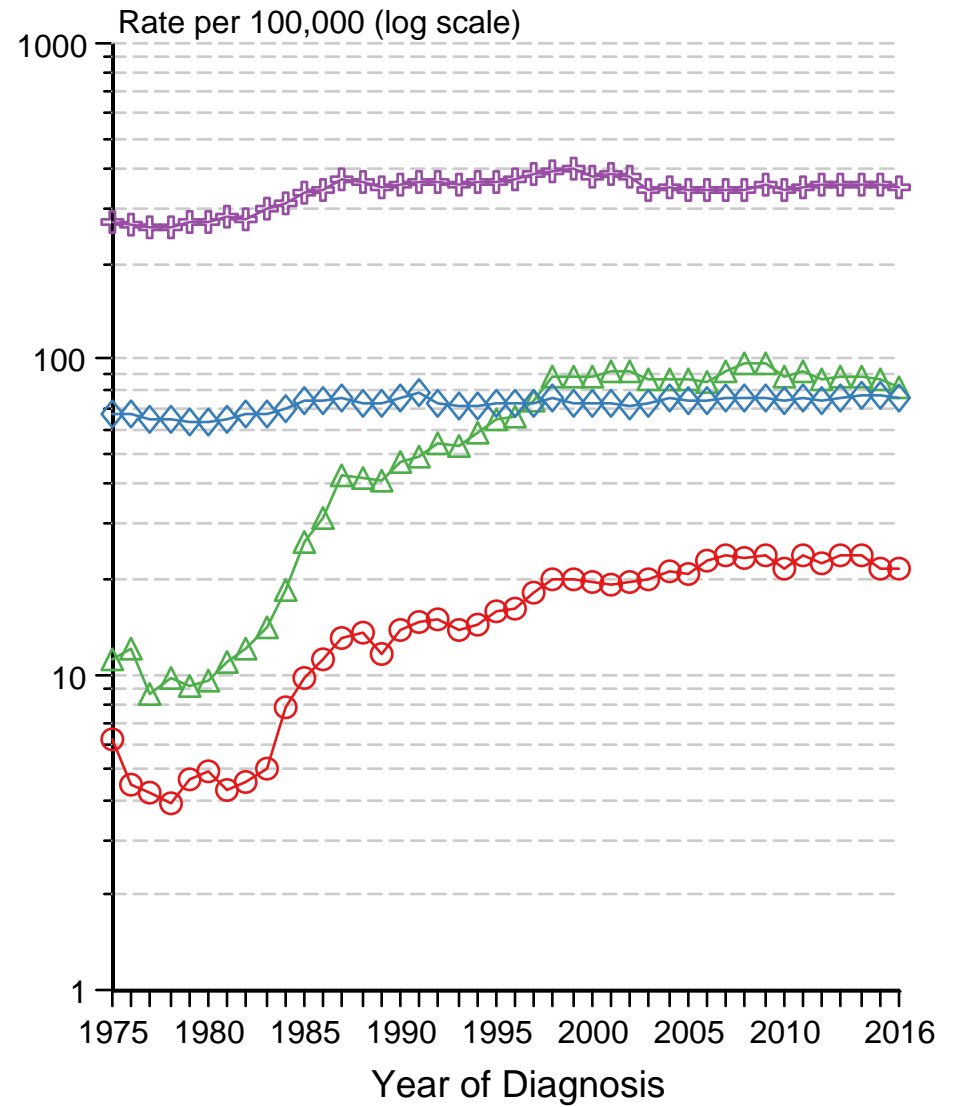
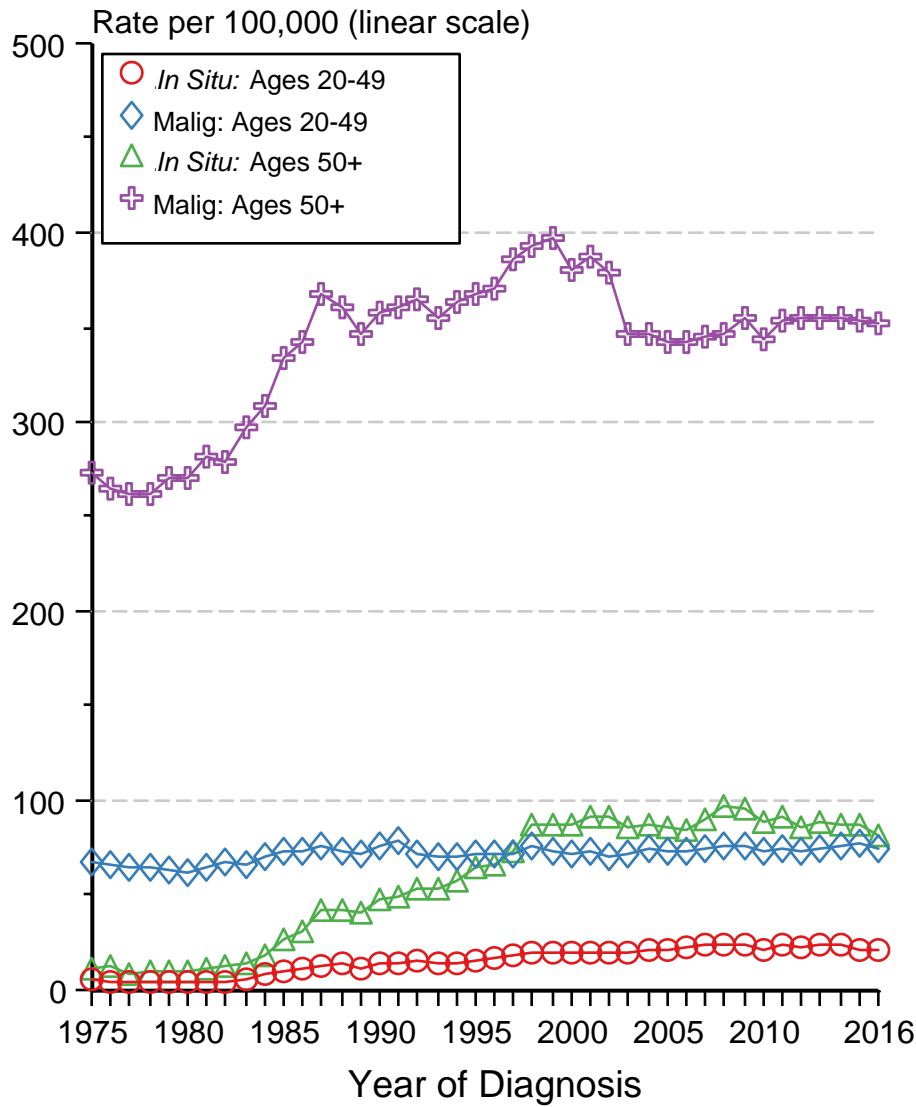
^d Hispanic is not mutually exclusive from whites, blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives. Incidence data for Hispanics are based on NHIA and exclude cases from the Alaska Native Registry.

Figure 4.5

Cancer of Female Breast, Incidence Rates, 1975-2016

In Situ vs Malignant, by Age

All Races, Females



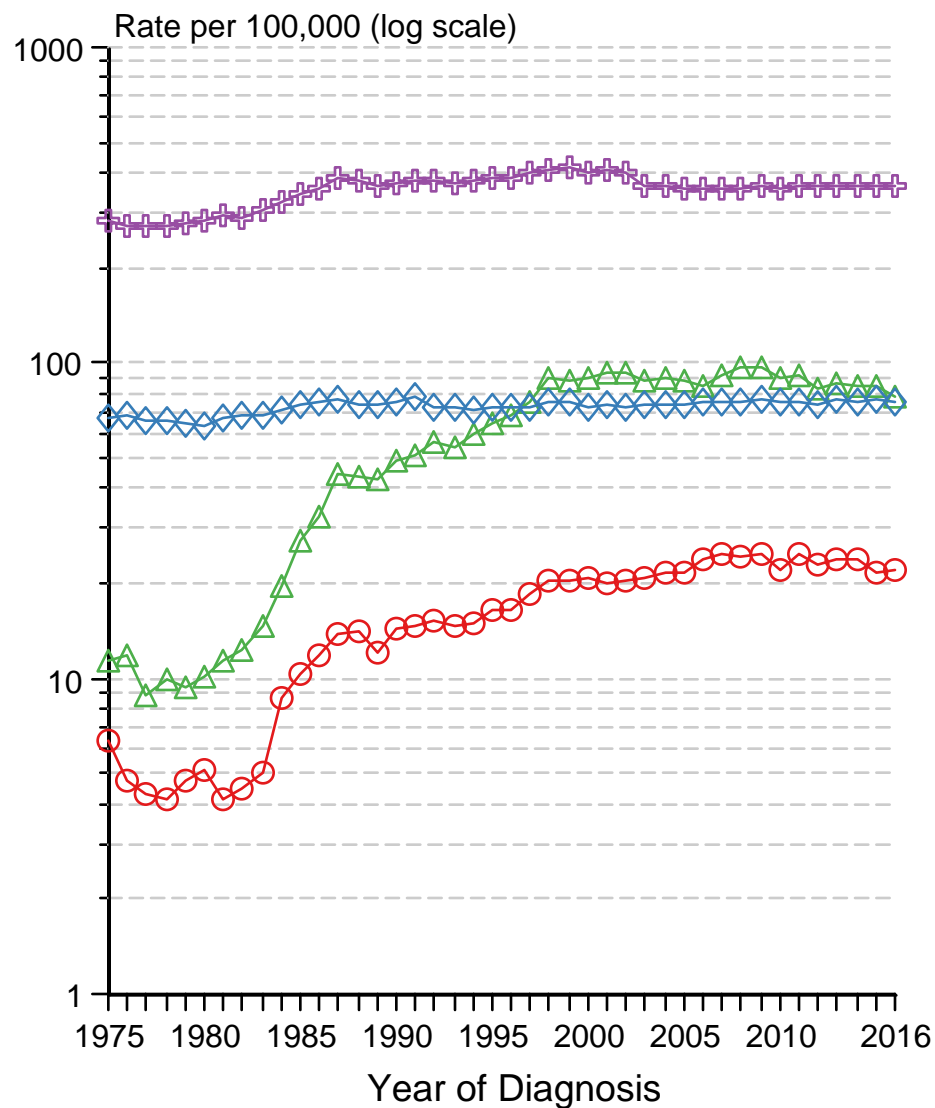
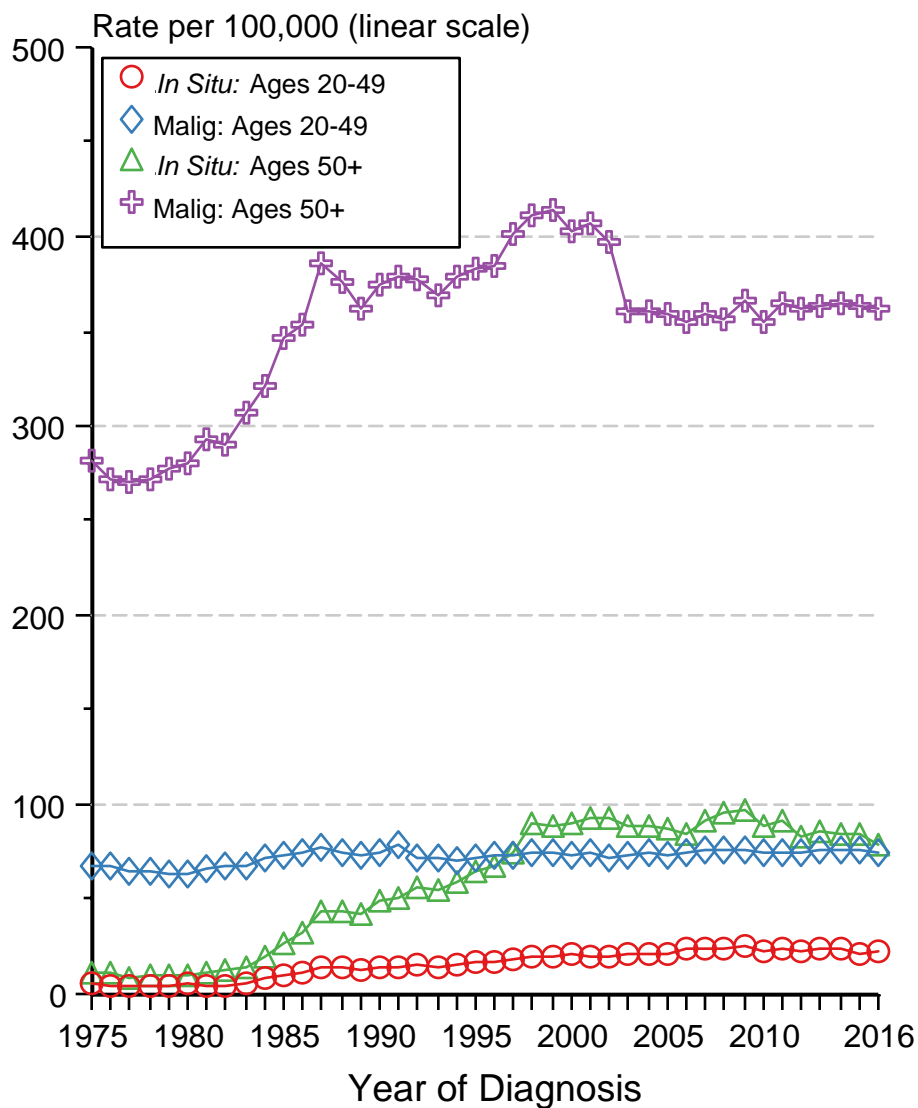
Source: SEER 9 areas. Rates are per 100,000 and age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1103).

Figure 4.6

Cancer of Female Breast, Incidence Rates, 1975-2016

In Situ vs Malignant, by Age

White, Females



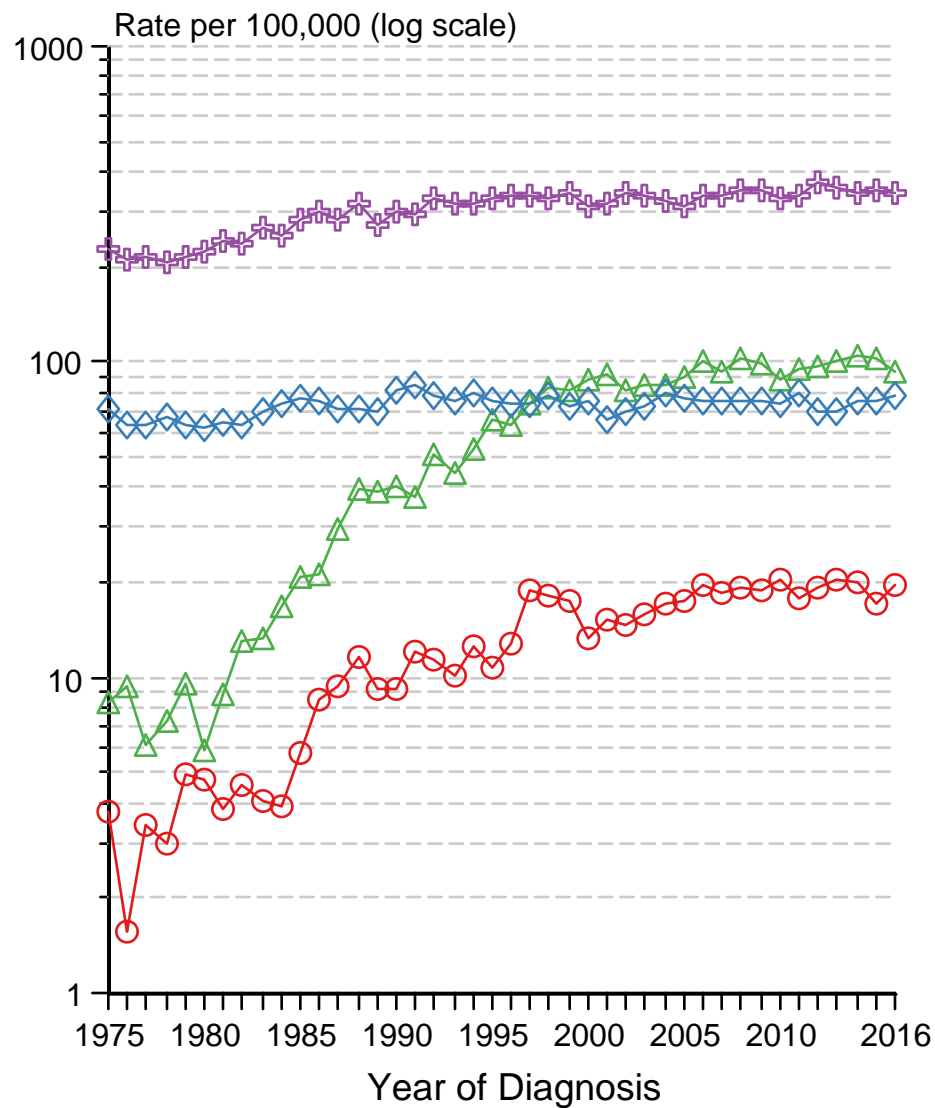
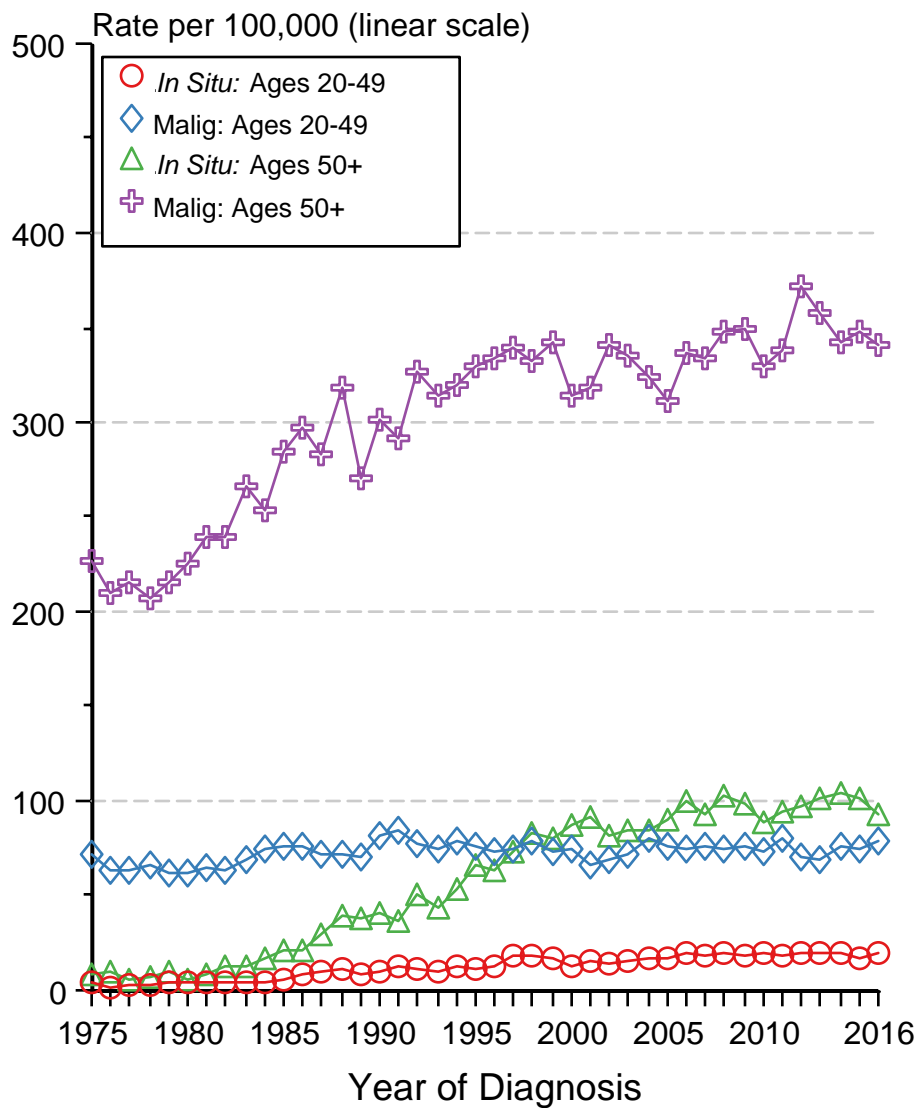
Source: SEER 9 areas. Rates are per 100,000 and age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1103).

Figure 4.7

Cancer of Female Breast, Incidence Rates, 1975-2016

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).

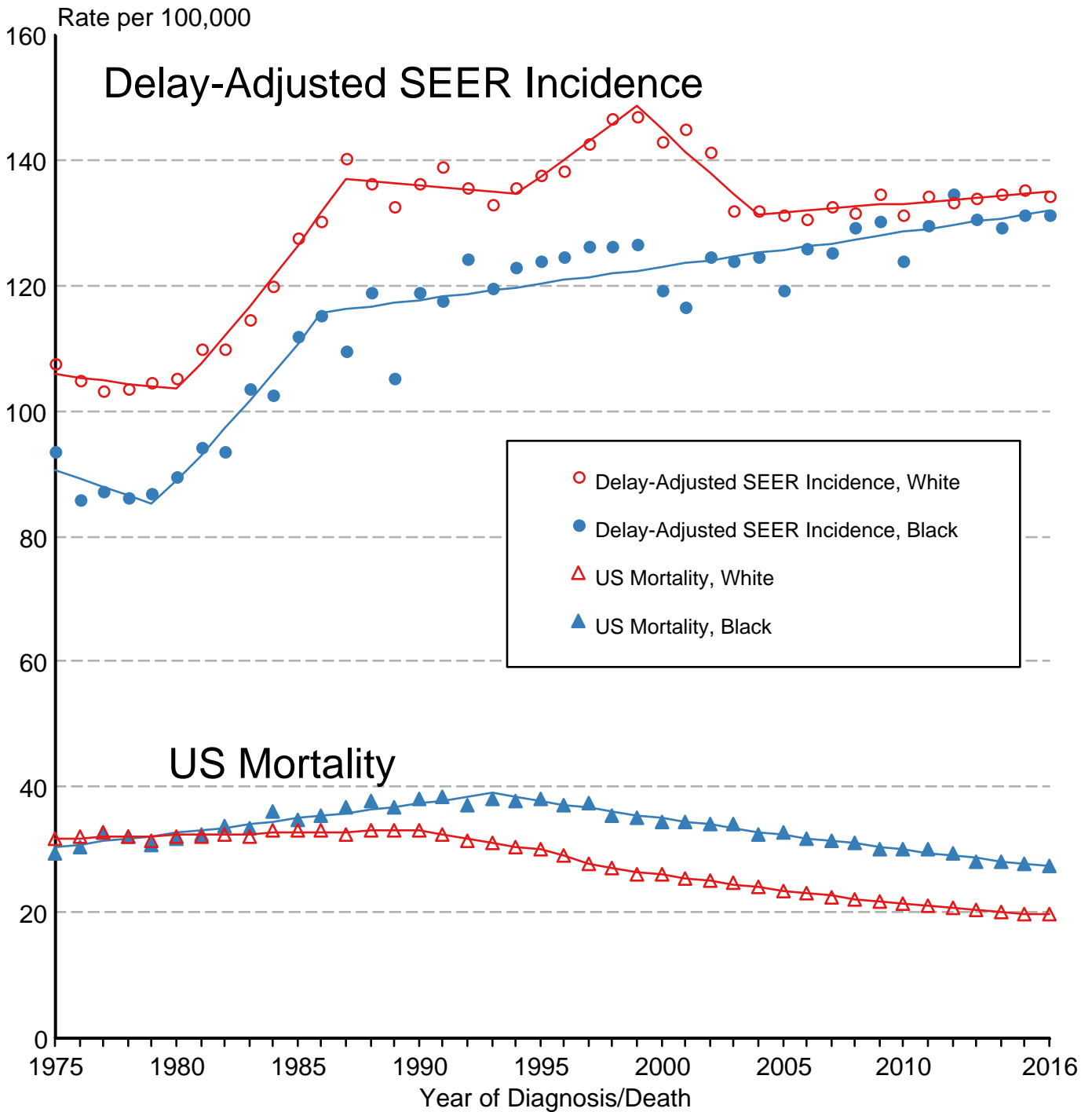
Figure 4.8

Cancer of the Breast

Delay-Adjusted SEER Incidence & US Mortality

White Females vs Black Females

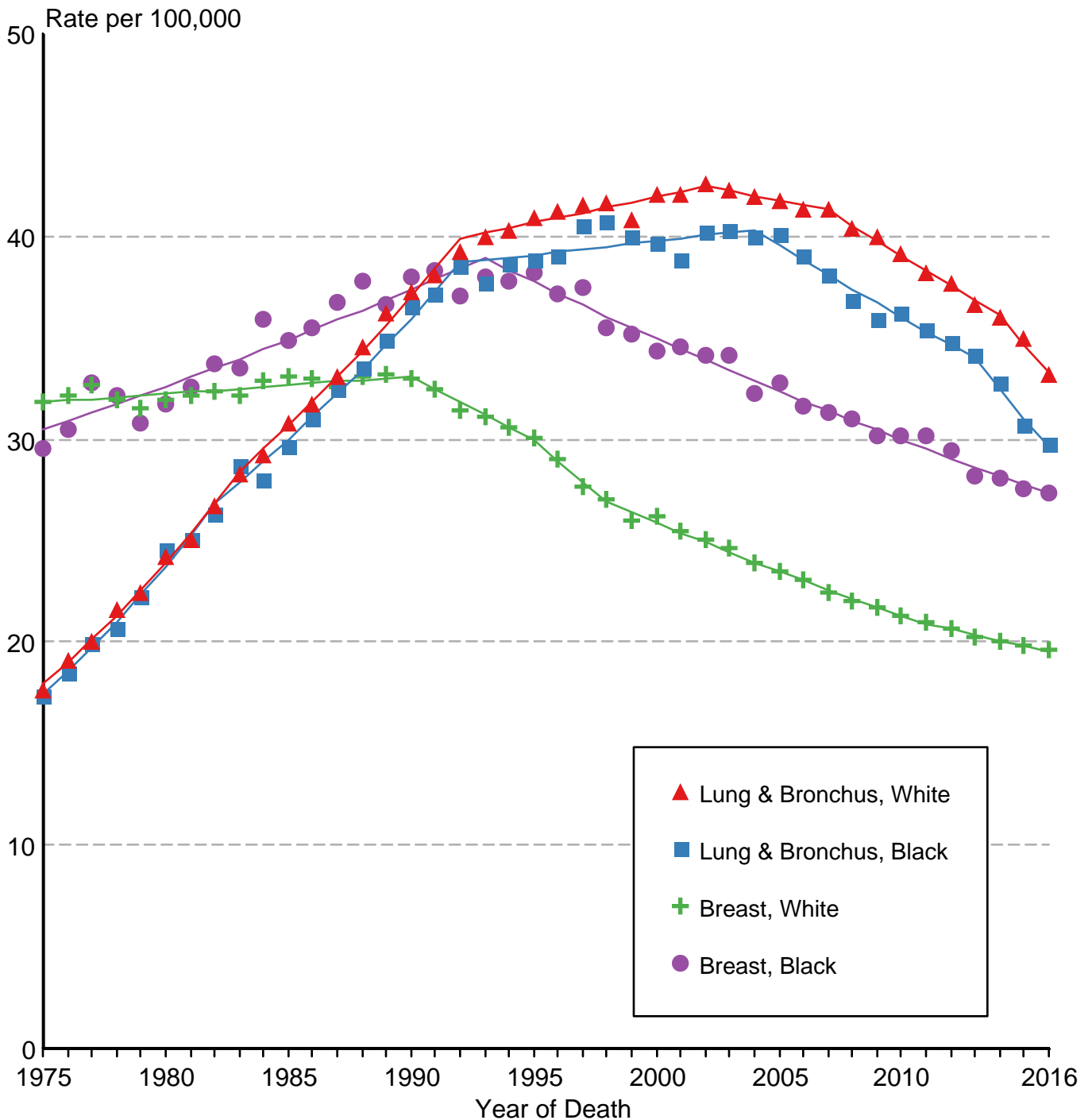
1975-2016



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 4.7, February 2019, 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 1975-2016

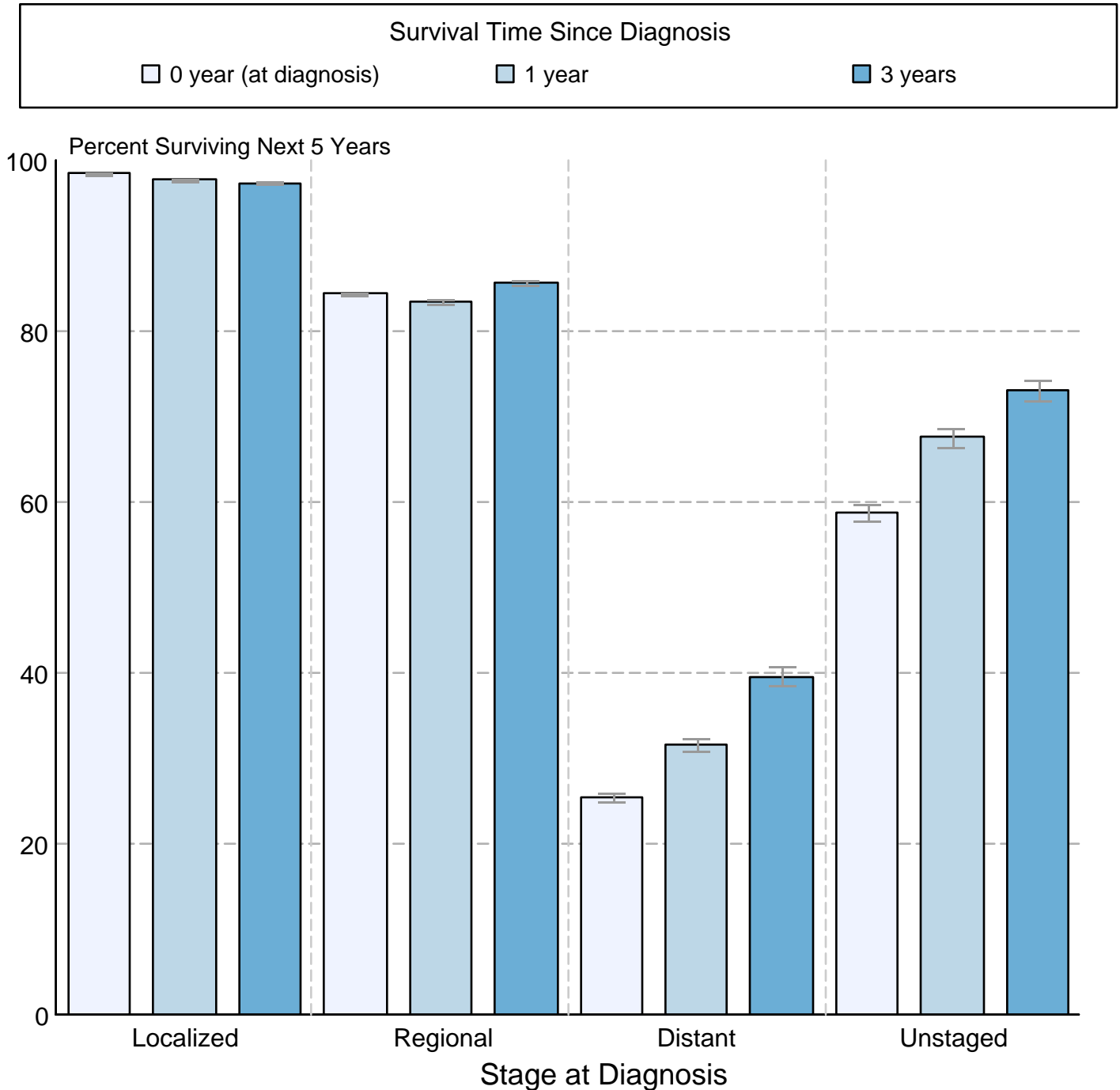


Source: US Mortality Files, National Center for Health Statistics, CDC.
Rates are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1103).
Regression lines are calculated using the Joinpoint Regression Program Version 4.7, February 2019,
National Cancer Institute.

Figure 4.10

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
2000-2015 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).
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.