

Table 21.1
Cancer of the Ovary (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	1975-87	0.1	1987-10	-0.9*	2010-16	-2.7*							-2.1*	-2.7*
White	1975-87	0.2	1987-10	-0.9*	2010-16	-2.8*							-2.2*	-2.8*
Black	1975-16	-0.5*											-0.5*	-0.5*
<u>SEER 21 Delay-Adjusted Incidence^b, 2000-2016</u>														
All Races	2000-16	-1.6*											-1.6*	-1.6*
White	2000-16	-1.7*											-1.7*	-1.7*
White NH ^{ef}	2000-16	-1.8*											-1.8*	-1.8*
Black	2000-16	-0.7*											-0.7*	-0.7*
Black NH ^{ef}	2000-16	-0.6*											-0.6*	-0.6*
API ^e	2000-16	-0.3											-0.3	-0.3
AI/AN ^{eg}	2000-16	-2.8*											-2.8*	-2.8*
Hispanic ^f	2000-16	-0.9*											-0.9*	-0.9*
<u>U.S. Cancer Mortality^c, 1975-2016</u>														
All Races	1975-82	-1.2*	1982-92	0.3*	1992-98	-1.2*	1998-03	0.6	2003-16	-2.3*			-2.3*	-2.3*
White	1975-81	-1.5*	1981-92	0.3	1992-98	-1.0*	1998-03	0.7	2003-16	-2.3*			-2.3*	-2.3*
Black	1975-02	0.0	2002-16	-1.8*									-1.8*	-1.8*
<u>U.S. Cancer Mortality^c, 2000-2016</u>														
All Races	2000-04	-0.3	2004-16	-2.3*									-2.3*	-2.3*
White	2000-05	-0.7	2005-16	-2.4*									-2.4*	-2.4*
White NH ^{ef}	2000-05	-0.6	2005-16	-2.4*									-2.4*	-2.4*
Black	2000-16	-1.6*											-1.6*	-1.6*
Black NH ^{ef}	2000-04	1.3	2004-07	-4.7	2007-11	0.5	2011-16	-2.9*					-1.4	-2.9*
API ^e	2000-16	-0.9*											-0.9*	-0.9*
AI/AN ^{eg}	2000-16	-1.2											-1.2	-1.2
Hispanic ^f	2000-16	-1.5*											-1.5*	-1.5*

Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473.

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 21.2
Cancer of the Ovary (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 <65 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	1975-16	-1.1*											-1.1*	-1.1*
White	1975-16	-1.2*											-1.2*	-1.2*
Black	1975-16	-0.6*											-0.6*	-0.6*
<u>SEER 21 Delay-Adjusted Incidence^b, 2000-2016</u>														
All Races	2000-16	-1.3*											-1.3*	-1.3*
White	2000-16	-1.6*											-1.6*	-1.6*
White NH ^{ef}	2000-16	-1.9*											-1.9*	-1.9*
Black	2000-16	0.2											0.2	0.2
Black NH ^{ef}	2000-16	0.3											0.3	0.3
API ^e	2000-16	0.3											0.3	0.3
AI/AN ^{eg}	2000-16	-2.9											-2.9	-2.9
Hispanic ^f	2000-16	-0.1											-0.1	-0.1
<u>U.S. Cancer Mortality^c, 1975-2016</u>														
All Races	1975-80	-3.2*	1980-99	-1.6*	1999-02	0.4	2002-16	-2.6*					-2.6*	-2.6*
White	1975-80	-3.3*	1980-99	-1.5*	1999-02	0.5	2002-16	-2.7*					-2.7*	-2.7*
Black	1975-96	-1.9*	1996-01	0.8	2001-16	-1.9*							-1.9*	-1.9*
<u>U.S. Cancer Mortality^c, 2000-2016</u>														
All Races	2000-02	1.1	2002-16	-2.6*									-2.6*	-2.6*
White	2000-02	1.2	2002-16	-2.7*									-2.7*	-2.7*
White NH ^{ef}	2000-02	1.4	2002-16	-2.8*									-2.8*	-2.8*
Black	2000-16	-1.8*											-1.8*	-1.8*
Black NH ^{ef}	2000-16	-1.7*											-1.7*	-1.7*
API ^e	2000-14	-0.9*	2014-16	7.4									0.9	3.1
AI/AN ^{eg}	2000-16	-1.9											-1.9	-1.9
Hispanic ^f	2000-16	-1.1*											-1.1*	-1.1*

Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473.

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 21.3
Cancer of the Ovary (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 65+ 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	1975-90	1.4*	1990-10	-1.0*	2010-16	-3.3*							-2.5*	-3.3*
White	1975-90	1.4*	1990-10	-0.9*	2010-16	-3.1*							-2.3*	-3.1*
Black	1975-94	1.3	1994-16	-1.3*									-1.3*	-1.3*
<u>SEER 21 Delay-Adjusted Incidence^b, 2000-2016</u>														
All Races	2000-16	-1.9*											-1.9*	-1.9*
White	2000-16	-1.8*											-1.8*	-1.8*
White NH ^{ef}	2000-16	-1.7*											-1.7*	-1.7*
Black	2000-16	-1.7*											-1.7*	-1.7*
Black NH ^{ef}	2000-16	-1.6*											-1.6*	-1.6*
API ^e	2000-16	-1.4*											-1.4*	-1.4*
AI/AN ^{eg}	2000-16	-3.7											-3.7	-3.7
Hispanic ^f	2000-16	-2.0*											-2.0*	-2.0*
<u>U.S. Cancer Mortality^c, 1975-2016</u>														
All Races	1975-84	0.6*	1984-91	1.6*	1991-05	0.0	2005-16	-2.2*					-2.2*	-2.2*
White	1975-84	0.6*	1984-91	1.6*	1991-06	0.0	2006-16	-2.3*					-2.3*	-2.3*
Black	1975-93	2.2*	1993-16	-1.1*									-1.1*	-1.1*
<u>U.S. Cancer Mortality^c, 2000-2016</u>														
All Races	2000-06	-0.5	2006-16	-2.3*									-2.3*	-2.3*
White	2000-06	-0.4	2006-16	-2.2*									-2.2*	-2.2*
White NH ^{ef}	2000-06	-0.3	2006-16	-2.2*									-2.2*	-2.2*
Black	2000-16	-1.5*											-1.5*	-1.5*
Black NH ^{ef}	2000-16	-1.4*											-1.4*	-1.4*
API ^e	2000-16	-1.3*											-1.3*	-1.3*
AI/AN ^{eg}	2000-16	-1.1											-1.1	-1.1
Hispanic ^f	2000-16	-1.7*											-1.7*	-1.7*

Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473.

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 21.4
Cancer of the Ovary (Invasive)

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

Year of Diagnosis:	All Races, Females			White Females			Black Females		
	All	<65	65+	All	<65	65+	All	<65	65+
1975-1979	15.71	11.11	47.54	16.33	11.56	49.31	11.25	7.72	35.59
1980	15.46	10.65	48.68	16.21	11.18	50.95	11.73	7.41	41.60
1981	15.43	10.50	49.53	16.01	10.88	51.47	11.68	7.58	40.08
1982	15.59	10.11	53.43	16.15	10.51	55.14	12.40	7.50	46.23
1983	15.97	10.45	54.13	16.41	10.73	55.71	13.06	9.18	39.89
1984	16.26	10.98	52.78	17.15	11.72	54.70	10.98	5.87	46.31
1985	16.55	10.77	56.47	17.47	11.43	59.20	11.10	7.02	39.27
1986	15.01	9.87	50.55	15.69	10.45	51.91	10.69	6.24	41.47
1987	16.15	10.15	57.63	17.05	10.85	59.86	11.82	6.26	50.27
1988	15.28	9.58	54.64	16.01	10.10	56.88	11.56	6.63	45.65
1989	15.52	9.53	56.87	16.51	10.27	59.61	11.10	5.55	49.45
1990	15.39	9.44	56.54	16.27	10.05	59.22	10.23	5.68	41.65
1991	15.78	9.72	57.66	16.57	10.32	59.74	11.09	5.54	49.47
1992	14.94	9.35	53.52	15.68	9.75	56.69	11.23	7.77	35.16
1993	15.26	9.14	57.58	16.07	9.63	60.63	11.62	6.59	46.34
1994	14.49	8.90	53.14	15.02	9.18	55.39	12.35	6.49	52.86
1995	14.60	8.78	54.86	15.38	9.34	57.17	10.30	4.89	47.70
1996	14.13	8.42	53.56	15.29	9.23	57.13	9.03	4.53	40.11
1997	14.73	9.22	52.84	15.42	9.68	55.16	10.74	5.79	44.91
1998	14.36	8.84	52.54	15.05	9.20	55.50	11.16	6.17	45.68
1999	14.73	8.76	56.00	15.46	8.99	60.18	10.94	6.54	41.36
2000	14.36	9.09	50.83	15.19	9.62	53.76	11.13	5.67	48.83
2001	14.62	9.22	52.00	15.66	9.83	55.93	9.53	6.35	31.47
2002	13.89	8.09	54.01	14.52	8.47	56.32	10.58	5.65	44.62
2003	13.72	8.50	49.82	14.26	8.98	50.75	12.40	6.22	55.08
2004	13.38	8.17	49.38	14.01	8.36	53.01	10.54	6.66	37.37
2005	13.01	8.19	46.36	13.54	8.28	49.90	11.09	7.48	36.06
2006	13.00	7.72	49.48	13.71	8.10	52.51	9.33	5.69	34.52
2007	13.07	8.20	46.79	13.54	8.52	48.28	11.72	6.02	51.07
2008	12.97	7.58	50.21	13.76	7.92	54.16	9.48	5.13	39.58
2009	13.09	8.11	47.47	13.91	8.44	51.69	9.76	5.39	39.98
2010	12.92	7.83	48.13	13.61	8.20	51.05	10.44	5.80	42.46
2011	12.44	7.67	45.45	13.11	7.94	48.84	10.67	6.23	41.43
2012	12.13	7.61	43.36	12.72	7.93	45.83	10.65	6.20	41.44
2013	11.69	7.18	42.87	12.20	7.34	45.73	9.44	5.21	38.69
2014	11.74	7.49	41.13	12.27	7.58	44.71	9.47	6.56	29.57
2015	11.77	7.44	41.76	12.46	7.65	45.75	9.29	6.01	31.95
2016	10.40	6.46	37.61	10.79	6.54	40.18	9.65	6.09	34.27

Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473.

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 21.5
Cancer of the Ovary (Invasive)

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

	All Races, Females			White Females			Black Females		
	All	<65	65+	All	<65	65+	All	<65	65+
Year of Diagnosis:									
1975-2016	14.04	8.83	50.09	14.81	9.30	52.91	10.66	6.25	41.10
1975-1979	15.71	11.11	47.54	16.33	11.56	49.31	11.25	7.72	35.59
1980	15.46	10.65	48.68	16.21	11.18	50.95	11.73	7.41	41.60
1981	15.43	10.50	49.53	16.01	10.88	51.47	11.68	7.58	40.08
1982	15.59	10.11	53.43	16.15	10.51	55.14	12.40	7.50	46.23
1983	15.97	10.45	54.13	16.41	10.73	55.71	13.06	9.18	39.89
1984	16.26	10.98	52.78	17.15	11.72	54.70	10.98	5.87	46.31
1985	16.55	10.77	56.47	17.47	11.43	59.20	11.10	7.02	39.27
1986	15.01	9.87	50.55	15.69	10.45	51.91	10.69	6.24	41.47
1987	16.15	10.15	57.63	17.05	10.85	59.86	11.82	6.26	50.27
1988	15.28	9.58	54.64	16.01	10.10	56.88	11.56	6.63	45.65
1989	15.52	9.53	56.87	16.51	10.27	59.61	11.10	5.55	49.45
1990	15.39	9.44	56.54	16.27	10.05	59.22	10.23	5.68	41.65
1991	15.78	9.72	57.66	16.57	10.32	59.74	11.09	5.54	49.47
1992	14.94	9.35	53.52	15.68	9.75	56.69	11.23	7.77	35.16
1993	15.26	9.14	57.58	16.07	9.63	60.63	11.62	6.59	46.34
1994	14.49	8.90	53.14	15.02	9.18	55.39	12.35	6.49	52.86
1995	14.60	8.78	54.86	15.38	9.34	57.17	10.30	4.89	47.70
1996	14.13	8.42	53.56	15.29	9.23	57.13	9.03	4.53	40.11
1997	14.73	9.22	52.84	15.42	9.68	55.16	10.74	5.79	44.91
1998	14.36	8.84	52.54	15.05	9.20	55.50	11.16	6.17	45.68
1999	14.73	8.76	56.00	15.46	8.99	60.18	10.94	6.54	41.36
2000	14.36	9.09	50.83	15.19	9.62	53.76	11.13	5.67	48.83
2001	14.62	9.22	52.00	15.66	9.83	55.93	9.53	6.35	31.47
2002	13.89	8.09	54.01	14.52	8.47	56.32	10.58	5.65	44.62
2003	13.72	8.50	49.82	14.26	8.98	50.75	12.40	6.22	55.08
2004	13.38	8.17	49.38	14.01	8.36	53.01	10.54	6.66	37.37
2005	13.01	8.19	46.36	13.54	8.28	49.90	11.09	7.48	36.06
2006	13.00	7.72	49.48	13.71	8.10	52.51	9.33	5.69	34.52
2007	13.07	8.20	46.79	13.54	8.52	48.28	11.72	6.02	51.07
2008	12.95	7.57	50.17	13.75	7.91	54.10	9.46	5.12	39.46
2009	13.05	8.09	47.39	13.88	8.42	51.57	9.71	5.36	39.76
2010	12.88	7.79	48.01	13.57	8.17	50.88	10.36	5.76	42.12
2011	12.38	7.62	45.30	13.05	7.90	48.62	10.56	6.16	41.00
2012	12.06	7.55	43.17	12.64	7.88	45.57	10.51	6.11	40.89
2013	11.61	7.12	42.65	12.11	7.29	45.43	9.31	5.14	38.14
2014	11.61	7.39	40.79	12.14	7.50	44.23	9.27	6.43	28.92
2015	11.59	7.31	41.18	12.27	7.54	44.98	9.06	5.86	31.15
2016	10.12	6.30	36.53	10.50	6.38	38.97	9.31	5.88	33.01

Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473.

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 21.6
Cancer of the Ovary (Invasive)

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

	All Races, Females			White Females			Black Females		
	All	<65	65+	All	<65	65+	All	<65	65+
Year of Death:									
1975-2016	8.62	3.82	41.81	8.94	3.99	43.11	7.15	3.10	35.12
1975-1979	9.66	5.51	38.36	9.94	5.68	39.41	7.49	4.42	28.76
1980	9.29	4.97	39.15	9.52	5.11	39.96	7.85	4.18	33.21
1981	9.23	4.94	38.89	9.48	5.10	39.75	7.36	3.74	32.36
1982	9.22	4.80	39.81	9.49	4.97	40.72	7.41	3.64	33.45
1983	9.20	4.70	40.34	9.43	4.80	41.38	7.67	4.11	32.25
1984	9.11	4.63	40.08	9.36	4.79	40.93	7.55	3.76	33.80
1985	9.08	4.57	40.23	9.34	4.72	41.29	7.30	3.74	31.87
1986	9.24	4.57	41.55	9.52	4.73	42.63	7.42	3.66	33.43
1987	9.18	4.46	41.86	9.46	4.64	42.82	7.55	3.52	35.45
1988	9.31	4.41	43.16	9.55	4.56	44.08	7.87	3.67	36.88
1989	9.21	4.30	43.20	9.52	4.49	44.27	7.41	3.26	36.16
1990	9.33	4.26	44.35	9.61	4.46	45.23	7.86	3.32	39.24
1991	9.51	4.32	45.37	9.74	4.48	46.13	8.36	3.43	42.46
1992	9.46	4.24	45.51	9.70	4.38	46.49	8.19	3.59	39.99
1993	9.08	4.02	44.06	9.34	4.19	44.93	7.74	3.02	40.42
1994	9.38	4.14	45.64	9.67	4.32	46.70	7.82	3.20	39.72
1995	9.12	3.96	44.77	9.47	4.17	46.07	7.37	2.93	38.04
1996	8.86	3.82	43.70	9.13	3.97	44.80	7.32	2.89	37.92
1997	8.94	3.77	44.70	9.21	3.94	45.59	7.93	3.11	41.19
1998	8.73	3.68	43.64	9.02	3.81	45.03	7.37	3.22	36.06
1999	8.77	3.73	43.57	9.07	3.90	44.83	7.38	3.05	37.31
2000	8.89	3.67	45.00	9.25	3.85	46.58	7.15	2.90	36.50
2001	9.00	3.73	45.47	9.32	3.87	46.95	7.52	3.19	37.47
2002	9.04	3.78	45.36	9.39	3.96	46.89	7.43	3.09	37.49
2003	8.87	3.66	44.84	9.19	3.82	46.28	7.46	3.09	37.69
2004	8.78	3.52	45.17	9.09	3.64	46.72	7.65	3.10	39.16
2005	8.66	3.55	44.00	9.00	3.72	45.44	7.28	2.85	37.87
2006	8.56	3.44	43.98	8.95	3.61	45.82	6.85	2.87	34.40
2007	8.25	3.18	43.33	8.64	3.35	45.24	6.56	2.62	33.79
2008	7.98	3.10	41.69	8.28	3.23	43.22	6.63	2.61	34.39
2009	7.85	3.13	40.45	8.15	3.28	41.82	6.75	2.65	35.08
2010	7.80	3.02	40.84	8.11	3.13	42.52	6.64	2.68	34.03
2011	7.54	2.94	39.32	7.82	3.05	40.85	6.58	2.53	34.54
2012	7.40	2.91	38.44	7.68	3.04	39.77	6.64	2.53	35.06
2013	7.20	2.77	37.84	7.52	2.89	39.52	5.97	2.38	30.78
2014	7.02	2.73	36.64	7.29	2.83	38.11	6.37	2.54	32.79
2015	6.74	2.62	35.20	6.98	2.70	36.54	6.01	2.31	31.59
2016	6.76	2.66	35.13	7.04	2.72	36.90	5.62	2.45	27.55

^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 21.7
Cancer of the Ovary (Invasive)

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

	SEER Incidence ^a			U.S. Mortality ^b		
	All Races Females	White Females	Black Females	All Races Females	White Females	Black Females
<u>Age-Adjusted Rates, 2012-2016</u>						
Age at Diagnosis/Death:						
All ages	11.4	11.9	9.2	7.0	7.3	6.1
Under 65	7.3	7.5	5.9	2.7	2.8	2.4
65 and over	40.1	42.6	32.3	36.6	38.1	31.5
All ages (WHO world std) ^c	9.1	9.4	7.4	4.4	4.6	3.9
<u>Age-Specific Rates, 2012-2016</u>						
Age at Diagnosis/Death:						
<1	-	-	-	-	-	-
1-4	-	-	-	-	-	-
5-9	0.3	0.3	-	-	-	-
10-14	0.9	0.9	0.7	-	-	-
15-19	1.5	1.4	1.8	0.1	0.1	-
20-24	1.8	1.8	1.5	0.2	0.2	-
25-29	2.5	2.6	1.6	0.3	0.3	-
30-34	3.5	3.7	2.9	0.5	0.5	0.4
35-39	4.9	5.1	4.3	1.0	1.1	0.9
40-44	8.8	9.1	5.9	2.1	2.2	1.8
45-49	14.0	13.9	10.3	4.4	4.5	3.6
50-54	19.8	20.3	14.9	7.9	8.2	6.9
55-59	24.0	24.7	20.7	11.8	12.2	10.6
60-64	28.7	30.0	26.2	17.6	18.1	17.1
65-69	34.9	37.0	27.8	24.3	25.3	22.3
70-74	38.6	40.8	33.7	32.5	33.8	29.8
75-79	42.9	46.6	31.5	41.3	43.3	33.7
80-84	46.3	49.2	36.7	48.5	50.6	40.2
85+	42.3	44.3	36.0	50.1	52.0	41.0

- ^a Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473. 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. Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130), unless noted.
- ^c 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 21.8
Cancer of the Ovary(Invasive)

5-Year Relative and Period Survival (Percent) by Race, Diagnosis Year, Stage and Age

	All Races, Females			White Females			Black Females		
	All	<65	65+	All	<65	65+	All	<65	65+
5-Year Relative Survival (Percent)									
Year of Diagnosis:									
1960-1963 ^a	-	-	-	32	-	-	32	-	-
1970-1973 ^a	-	-	-	36	-	-	32	-	-
1975-1977 ^b	35.9	44.1	21.4	35.3	43.5	21.1	41.6	48.6	24.9 ^g
1978-1980 ^b	37.7	47.3	22.1	36.9	46.5	22.3	38.8	49.2	12.8
1981-1983 ^b	38.9	50.3	23.1	38.5	50.2	23.1	37.9	46.0	22.6
1984-1986 ^b	38.4	49.4	24.1	37.5	48.5	23.8	39.2	51.9	21.2
1987-1989 ^b	38.2	51.1	23.6	38.2	51.3	23.9	33.9	47.2	17.1
1990-1992 ^b	40.6	55.5	24.1	40.4	56.1	24.1	35.7	49.4	16.8
1993-1995 ^b	41.6	55.9	26.5	40.7	55.5	26.0	41.3	54.8	26.4
1996-1998 ^b	43.9	57.1	28.4	43.3	56.6	28.5	39.2	53.3	20.4
1999-2001 ^b	43.9	56.0	29.0	43.7	56.6	28.9	35.5	43.9	21.9
2002-2004 ^b	43.8	57.0	27.0	43.3	56.8	27.2	36.7	46.5	20.8
2005-2008 ^b	45.3	58.8	27.3	44.9	58.8	27.7	38.2	46.6	24.0
2009-2015 ^b	48.4 ^f	60.7 ^f	31.5 ^f	48.1 ^f	61.1 ^f	31.9 ^f	40.3	50.1	22.6
5-Year Period Survival (Percent) ^{cd}									
2015	47.8	59.5	31.8	47.7	60.3	32.2	38.6	48.4	20.6
Stage Distribution (%) 2009-2015 ^{ce}									
All Stages									
Number of cases	34,359	19,644	14,715	27,885	15,319	12,566	3,060	1,881	1,179
Percent	100%	100%	100%	100%	100%	100%	100%	100%	100%
Localized	15	20	7	14	20	7	15	19	7
Regional	21	25	15	20	25	15	16	19	12
Distant	59	51	69	60	52	69	62	57	71
Unstaged/Unknown	6	3	9	6	3	8	7	5	9
5-Year Relative Survival (Percent), 2009-2015 ^c									
Age at Diagnosis:									
Ages <45	76.0	-	-	76.9	-	-	70.3	-	-
Ages 45-54	59.7	-	-	60.7	-	-	47.3	-	-
Ages 55-64	51.1	-	-	52.2	-	-	38.7	-	-
Ages 65-74	39.7	-	-	40.6	-	-	26.2	-	-
Ages 75+	22.0	-	-	22.5	-	-	13.4	-	-
Ages <65	59.7	-	-	60.3	-	-	49.7	-	-
Ages 65+	30.9	-	-	31.5	-	-	20.5	-	-
Stage ^e :									
All Stages	47.6	59.7	30.9	47.6	60.3	31.5	38.8	49.7	20.5
Localized	92.4	93.9	86.5	93.2	94.8	87.4	86.2	89.1	72.2 ^g
Regional	75.2	81.7	60.4	75.7	82.7	61.0	64.9	72.0	46.3 ^g
Distant	29.2	36.7	21.5	29.6	37.6	22.0	22.0	28.5	12.9
Unstaged/Unknown	24.3	53.3	9.1	22.3	51.5	9.2	29.0	58.8 ^g	5.4

Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473.

^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.

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

Table 21.9
Cancer of the Ovary (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	64.1	69.6	69.6	71.9	73.0	73.8	76.7	75.0	74.0	76.9	76.1	75.4	75.9	75.4	75.3	75.4	75.3	75.8	76.1	77.1	78.3	78.6	78.1	81.1	78.0
2-year	48.9	53.1	54.1	58.7	60.2	61.4	65.2	64.1	61.5	63.7	65.3	63.4	65.9	64.8	64.6	64.1	64.1	64.9	67.4	66.9	69.2	67.2	67.8	69.3	
3-year	42.2	45.8	46.4	49.8	51.2	52.9	56.6	55.1	52.8	54.7	55.9	54.3	58.3	56.6	56.0	55.7	55.8	56.4	58.2	59.2	60.5	59.8	60.6		
4-year	38.6	41.5	41.4	44.4	46.2	46.3	48.7	50.2	47.5	47.6	50.4	47.9	49.9	49.9	50.0	49.8	49.2	50.4	52.7	52.4	53.9	52.9			
5-year	36.5	38.8	38.1	40.8	42.3	42.2	44.1	45.3	42.8	43.1	45.8	42.7	44.4	44.5	44.6	45.6	44.6	46.6	47.0	47.1	49.1				
6-year	35.2	37.0	36.0	38.3	39.0	38.9	40.4	42.4	40.0	40.1	42.9	39.4	41.1	41.5	41.2	42.5	41.9	43.8	44.0	43.8					
7-year	33.8	36.1	34.8	36.8	37.0	37.3	38.1	40.6	38.0	37.5	40.4	37.5	38.4	39.5	39.4	40.5	40.4	41.4	41.7						
8-year	33.0	34.6	33.7	35.6	35.2	36.2	36.7	38.6	36.4	35.9	38.0	35.7	36.9	37.7	38.1	38.6	38.6	39.1							
9-year	32.3	33.7	33.0	34.5	33.7	35.4	35.3	36.9	34.9	34.5	36.3	34.8	35.5	36.1	37.2	37.8	36.9								
10-year	32.0	32.9	32.4	33.7	32.8	34.5	34.2	35.9	34.0	33.3	35.2	34.0	34.3	35.1	36.1	37.2									
11-year	31.6	32.5	32.1	32.9	32.1	33.7	33.0	35.1	32.5	32.5	34.5	33.2	33.6	34.1	35.7										
12-year	30.9	31.8	31.4	32.4	32.0	33.2	32.2	34.6	31.7	31.9	33.3	32.8	32.9	33.3											
13-year	30.6	31.2	30.8	32.0	31.5	32.7	31.6	33.3	31.2	31.4	32.8	32.0	32.3												
14-year	30.1	30.8	30.4	31.7	31.5	31.9	31.3	32.6	30.2	31.0	32.6	31.4													
15-year	29.6	30.6	30.3	31.2	30.9	31.4	31.3	31.9	30.1	30.3	32.0														
16-year	29.2	30.4	30.3	31.1	30.7	30.9	30.5	31.3	29.2	30.3															
17-year	28.9	30.0	30.1	30.7	30.5	30.7	30.5	31.0	29.1																
18-year	28.8	29.8	29.9	30.4	30.1	30.6	29.8	30.7																	
19-year	28.5	29.5	29.9	30.1	29.6	30.5	29.8																		
20-year	28.3	29.2	29.5	29.8	29.0	30.0																			

Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473.

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.

^a

Table 21.10
Cancer of the Ovary (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	0.01	0.04	1.25	0.88	Asian/ Pacific Islander	0	0.00	0.01	0.04	1.08	0.68
	10	0.01	0.03	0.08	1.26	0.89		10	0.01	0.03	0.08	1.08	0.68
	20	0.02	0.07	0.18	1.25	0.89		20	0.02	0.07	0.20	1.07	0.68
	30	0.04	0.16	0.36	1.24	0.89		30	0.04	0.17	0.38	1.05	0.68
	40	0.11	0.32	0.59	1.20	0.89		40	0.13	0.34	0.55	1.01	0.67
	50	0.21	0.49	0.80	1.11	0.88		50	0.21	0.42	0.62	0.89	0.64
	60	0.30	0.62	0.87	0.94	0.82		60	0.21	0.42	0.60	0.70	0.58
	70	0.36	0.63	-	0.71	0.69		70	0.21	0.41	-	0.51	0.47
80	0.35	-	-	0.44	0.48	80	0.23	-	-	0.33	0.34		
White	0	0.00	0.01	0.04	1.31	0.91	American Indian/ Alaska Native ^a	0	0.00	0.00	0.01	0.77	0.73
	10	0.01	0.03	0.08	1.32	0.92		10	0.00	0.01	0.03	0.78	0.74
	20	0.02	0.07	0.18	1.31	0.92		20	0.01	0.03	0.07	0.78	0.74
	30	0.05	0.16	0.36	1.29	0.93		30	0.02	0.06	0.20	0.77	0.75
	40	0.11	0.32	0.62	1.26	0.93		40	0.05	0.19	0.42	0.77	0.76
	50	0.21	0.51	0.85	1.16	0.91		50	0.15	0.39	0.58	0.75	0.76
	60	0.31	0.66	0.93	0.99	0.85		60	0.25	0.46	0.62	0.63	0.71
	70	0.39	0.67	-	0.75	0.72		70	0.22	0.41	-	0.42	0.57
80	0.36	-	-	0.46	0.49	80	0.24	-	-	0.25	0.35		
Black	0	0.00	0.01	0.03	0.95	0.70	Hispanic ^b	0	0.00	0.02	0.04	1.23	0.74
	10	0.01	0.03	0.06	0.96	0.72		10	0.01	0.04	0.08	1.24	0.75
	20	0.02	0.05	0.13	0.96	0.72		20	0.02	0.07	0.17	1.23	0.75
	30	0.04	0.12	0.28	0.95	0.72		30	0.05	0.15	0.33	1.21	0.75
	40	0.08	0.25	0.47	0.92	0.72		40	0.10	0.29	0.55	1.17	0.75
	50	0.17	0.40	0.62	0.86	0.72		50	0.19	0.46	0.75	1.08	0.73
	60	0.25	0.48	0.67	0.74	0.68		60	0.28	0.58	0.82	0.92	0.67
	70	0.27	0.48	-	0.56	0.57		70	0.32	0.59	-	0.69	0.57
80	0.28	-	-	0.38	0.40	80	0.31	-	-	0.44	0.40		

Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473.

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 21.11
Cancer of the Ovary (Invasive)

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

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	11.4	-1.7*	-2.3*
White	11.9	-1.8*	-2.4*
White Hispanic ^e	10.8	-1.1*	-
White Non-Hispanic ^e	12.1	-1.9*	-
Black	9.2	-0.9*	-0.5*
Asian/Pacific Islander	9.4	-0.6*	-
Amer Ind/Alaska Nat ^f	8.1	-3.4*	-
Hispanic ^e	10.3	-1.1*	-
<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	7.0	-2.3*	
White	7.3	-2.4*	
White Hispanic ^e	5.6	-1.4*	
White Non-Hispanic ^e	7.5	-2.4*	
Black	6.1	-1.6*	
Asian/Pacific Islander	4.4	-0.9*	
Amer Ind/Alaska Nat			
Total U.S.	4.6	-1.6	
PRCDA Counties	6.3	-1.2	
Non-PRCDA Counties	2.7	-1.9	
Hispanic ^e	5.2	-1.5*	

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 21.12
Cancer of the Ovary (Invasive)

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

	All Races			Whites			Blacks		
	All Ages	Ages <65	Ages 65+	All Ages	Ages <65	Ages 65+	All Ages	Ages <65	Ages 65+
<u>SEER Incidence Rates^a, 2012-2016</u>									
California	11.51	7.59	38.64	12.18	7.83	42.27	9.04	5.82	31.27
Greater Bay Area	11.31	7.42	38.18	12.43	7.68	45.31	10.13	6.67	34.06
San Francisco-Oakland	11.30	7.24	39.38	12.60	7.60	47.14	9.46	5.85	34.41
San Jose-Monterey	11.29	7.74	35.80	12.12	7.79	42.09	13.70	11.33	-
Los Angeles	12.08	8.38	37.71	12.87	8.74	41.38	9.28	6.02	31.86
Greater California	11.30	7.26	39.25	11.82	7.48	41.79	8.25	5.27	28.87
Connecticut	11.31	6.95	41.45	11.38	6.94	42.09	8.93	5.80	30.56
Detroit	12.28	8.15	40.88	13.11	8.71	43.53	10.09	6.89	32.23
Georgia	10.95	6.31	43.07	11.46	6.59	45.13	9.70	5.58	38.13
Atlanta	11.22	6.42	44.33	12.16	6.97	48.02	9.76	5.47	39.46
Rural Georgia	10.27	6.63	35.40	13.19	9.83	-	-	-	-
Greater Georgia	10.84	6.23	42.73	11.20	6.38	44.52	9.74	5.76	37.25
Hawaii	9.98	7.56	26.71	14.11	9.48	46.11	-	-	-
Idaho	11.45	6.70	44.26	11.56	6.77	44.72	-	-	-
Iowa	10.82	6.60	39.96	10.88	6.66	40.00	-	-	-
Kentucky	10.48	6.36	39.01	10.75	6.64	39.17	7.24	3.18	35.30
Louisiana	9.54	5.72	35.93	9.97	5.95	37.80	8.55	5.33	30.83
Massachusetts	10.84	6.78	38.88	10.98	6.80	39.89	7.67	5.35	23.71
New Jersey	12.00	7.54	42.86	12.34	7.63	44.89	10.01	6.58	33.69
New Mexico	11.80	7.60	40.86	11.95	7.78	40.81	-	-	-
New York	12.11	7.98	40.59	12.78	8.29	43.85	9.43	6.33	30.85
Seattle-Puget Sound	11.91	7.05	45.52	12.14	6.98	47.80	7.44	5.04	-
Utah	11.03	6.75	40.56	11.09	6.74	41.22	-	-	-
SEER 9 Areas ^b	11.38	7.14	40.75	11.93	7.32	43.75	9.46	5.88	34.18
SEER 13 Areas ^b	11.54	7.45	39.76	12.16	7.69	43.13	9.45	5.95	33.63
SEER 18 Areas ^b	11.32	7.18	39.96	11.84	7.40	42.57	9.26	5.76	33.40
SEER 21 Areas ^b	11.43	7.29	40.05	11.93	7.49	42.62	9.23	5.89	32.35

Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473.

^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 21.13
Cancer of the Ovary (Invasive)

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

	All Races			Whites			Blacks		
	All Ages	Ages <65	Ages 65+	All Ages	Ages <65	Ages 65+	All Ages	Ages <65	Ages 65+
<u>SEER Death Rates^a, 2012-2016</u>									
California	7.11	2.93	36.02	7.75	3.07	40.13	6.36	2.78	31.18
Greater Bay Area	6.66	2.85	33.01	7.72	3.00	40.38	6.53	3.56	27.05
San Francisco-Oakland	6.69	2.83	33.37	7.89	3.06	41.29	6.42	3.16	28.92
San Jose-Monterey	6.59	2.87	32.27	7.42	2.89	38.71	-	-	-
Los Angeles	7.08	3.18	34.07	7.72	3.36	37.83	6.79	2.79	34.46
Greater California	7.28	2.83	37.98	7.76	2.96	40.94	5.82	2.40	29.48
Connecticut	6.64	2.51	35.23	6.87	2.62	36.19	5.57	2.11	29.52
Detroit	7.97	3.42	39.38	8.49	3.61	42.24	6.47	3.12	29.67
Georgia	6.95	2.60	37.03	7.27	2.66	39.08	6.35	2.61	32.22
Atlanta	7.16	2.52	39.21	7.58	2.60	42.01	6.98	2.45	38.24
Rural Georgia	6.44	-	34.85	6.84	-	39.44	-	-	-
Greater Georgia	6.91	2.67	36.16	7.20	2.71	38.21	5.98	2.76	28.22
Hawaii	4.67	2.14	22.17	7.40	2.86	38.83	-	-	-
Idaho	8.29	3.07	44.37	8.30	3.06	44.48	-	-	-
Iowa	7.16	2.57	38.88	7.26	2.63	39.23	-	-	-
Kentucky	6.85	2.48	37.08	6.98	2.56	37.47	5.34	-	32.08
Louisiana	6.28	2.43	32.91	6.36	2.33	34.19	6.17	2.63	30.58
Massachusetts	7.10	2.47	39.09	7.48	2.63	41.06	4.20	1.54	22.58
New Jersey	6.83	2.71	35.31	7.16	2.84	37.06	6.53	2.55	34.05
New Mexico	7.74	3.35	38.08	7.72	3.33	38.08	-	-	-
New York	7.13	2.90	36.41	7.65	3.06	39.40	5.95	2.61	29.05
Seattle-Puget Sound	8.03	2.86	43.78	8.49	3.02	46.33	5.99	-	-
Utah	7.74	2.58	43.46	7.92	2.66	44.32	-	-	-
SEER 9 Areas ^b	7.20	2.79	37.70	7.77	2.94	41.15	6.40	2.62	32.51
SEER 13 Areas ^b	7.13	2.88	36.51	7.73	3.02	40.27	6.48	2.70	32.58
SEER 18 Areas ^b	7.05	2.79	36.49	7.52	2.91	39.38	6.28	2.62	31.57
SEER 21 Areas ^b	7.08	2.79	36.73	7.55	2.91	39.56	6.11	2.58	30.55
Total U.S.	7.02	2.74	36.60	7.30	2.84	38.13	6.11	2.44	31.46

^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.

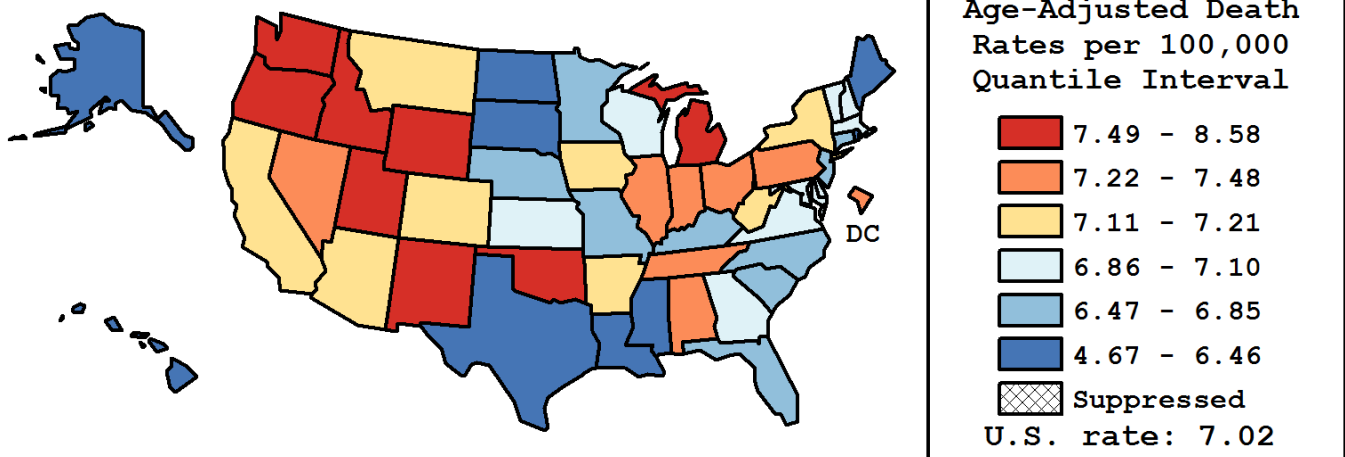
Table 21.14
Cancer of the Ovary (Invasive)

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

Females

State	Rate	SE	Rank(CI) ^d	PD
TOTAL U.S.	7.02	0.03		
High Five States				
Oregon	8.58	0.26	01(01,07)	22.32 ^c
Idaho	8.29	0.42	02(01,26)	18.14 ^c
Washington	7.93	0.20	03(01,16)	13.01
Utah	7.74	0.35	04(01,36)	10.37
New Mexico	7.74	0.35	05(01,37)	10.35
Low Five States				
Texas	6.29	0.10	47(38,50)	-10.31
Mississippi	6.29	0.26	48(24,50)	-10.38
Louisiana	6.28	0.21	49(29,50)	-10.49
North Dakota	5.60	0.52	50(18,51)	-20.12 ^c
Hawaii	4.67	0.33	51(49,51)	-33.47 ^c

State	Rate	SE	Rank(CI) ^d	PD	State	Rate	SE	Rank(CI) ^d	PD
Alabama	7.37	0.22	14(03,37)	5.09	Montana	7.13	0.46	22(01,49)	1.62
Alaska	6.34	0.67	45(02,51)	-9.68	Nebraska	6.79	0.35	36(05,50)	-3.24
Arizona	7.17	0.19	18(05,39)	2.15	Nevada	7.45	0.31	11(02,42)	6.13
Arkansas	7.17	0.28	19(03,46)	2.13	New Hampshire	7.02	0.40	29(02,50)	0.01
California	7.11	0.08	24(13,34)	1.31	New Jersey	6.83	0.15	35(15,45)	-2.69
Colorado	7.21	0.22	17(04,41)	2.77	New Mexico	7.74	0.35	05(01,37)	10.35
Connecticut	6.64	0.23	38(14,49)	-5.29	New York	7.13	0.11	21(10,35)	1.66
Delaware	7.01	0.47	30(02,50)	-0.12	North Carolina	6.66	0.15	37(22,48)	-5.11
D.C.	7.39	0.66	13(01,50)	5.36	North Dakota	5.60	0.52	50(18,51)	-20.12 ^c
Florida	6.53	0.10	42(31,48)	-6.88	Ohio	7.39	0.14	12(04,29)	5.36
Georgia	6.95	0.16	31(12,43)	-0.89	Oklahoma	7.73	0.26	06(01,30)	10.24
Hawaii	4.67	0.33	51(49,51)	-33.47 ^c	Oregon	8.58	0.26	01(01,07)	22.32 ^c
Idaho	8.29	0.42	02(01,26)	18.14 ^c	Pennsylvania	7.48	0.13	10(04,25)	6.67
Illinois	7.23	0.14	16(06,35)	3.11	Rhode Island	6.46	0.42	43(06,50)	-7.93
Indiana	7.26	0.19	15(05,38)	3.48	South Carolina	6.56	0.21	40(20,49)	-6.48
Iowa	7.16	0.27	20(04,45)	2.02	South Dakota	6.44	0.50	44(03,50)	-8.27
Kansas	6.86	0.28	33(06,49)	-2.27	Tennessee	7.48	0.19	09(03,31)	6.68
Kentucky	6.85	0.22	34(09,48)	-2.35	Texas	6.29	0.10	47(38,50)	-10.31
Louisiana	6.28	0.21	49(29,50)	-10.49	Utah	7.74	0.35	04(01,36)	10.37
Maine	6.31	0.36	46(10,50)	-10.10	Vermont	7.02	0.58	28(01,50)	0.02
Maryland	6.92	0.19	32(09,45)	-1.38	Virginia	7.08	0.17	27(08,40)	0.97
Massachusetts	7.10	0.18	26(07,40)	1.15	Washington	7.93	0.20	03(01,16)	13.01
Michigan	7.67	0.16	07(02,22)	9.33	West Virginia	7.13	0.33	23(03,48)	1.61
Minnesota	6.59	0.20	39(18,49)	-6.04	Wisconsin	7.10	0.20	25(06,42)	1.16
Mississippi	6.29	0.26	48(24,50)	-10.38	Wyoming	7.52	0.69	08(01,50)	7.11
Missouri	6.55	0.18	41(21,49)	-6.64					



^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 15% 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 21.15
Cancer of the Ovary (Invasive)

Estimated United States Cancer Prevalence Counts^a on January 1, 2016
By Race/Ethnicity 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>								
All Races	71,655	40,457	29,594	22,902	15,418	180,026	49,849	229,875
White	61,218	35,163	25,759	20,146	13,438	155,723	42,717	199,796
Black	5,771	2,492	1,929	1,452	1,154	12,799	4,395	17,193
Asian/Pacific Islander	3,549	2,137	1,546	1,001	605	8,838	+	+
Hispanic	7,562	4,112	2,702	1,700	1,135	17,210	+	+

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

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>											
All Races	0.1101	0.0005	0.0055	0.0202	0.0387	0.0814	0.1760	0.2810	0.3388	0.2710	0.0906
White	0.1224	0.0006	0.0054	0.0212	0.0405	0.0843	0.1857	0.3014	0.3631	0.2861	0.0958
Black	0.0545	0.0003	0.0053	0.0147	0.0310	0.0582	0.1029	0.1520	0.1822	0.1496	0.0544
Asian/Pacific Islander	0.0833	0.0008	0.0050	0.0193	0.0362	0.0868	0.1850	0.2315	0.2271	0.1867	0.0790
Hispanic	0.0609	0.0006	0.0066	0.0254	0.0401	0.0724	0.1442	0.2241	0.2500	0.2174	0.0761

^a Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473.

^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.

^b 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 21.16

Cancer of the Ovary (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	33,619	91.1%	27,373	91.7%	3,040	87.5%	2,770	91.7%	124	84.4%	4,218	87.5%
Epidermoid carcinoma ^d (8051-8131)	209	0.6%	160	0.5%	23	0.7%	26	0.9%	-	-	32	0.7%
Adenocarcinoma ^e	31,075	84.3%	25,474	85.3%	2,631	75.7%	2,575	85.2%	118	80.3%	3,838	79.6%
Adenocarcinoma, NOS (8140)	3,675	10.0%	2,952	9.9%	467	13.4%	216	7.2%	16	10.9%	456	9.5%
Papillary adenocarcinoma, NOS (8050,8260)	273	0.7%	203	0.7%	50	1.4%	19	0.6%	-	-	29	0.6%
Clear cell adenocarcinoma (8310,9110)	2,126	5.8%	1,604	5.4%	116	3.3%	376	12.4%	-	-	251	5.2%
Endometrioid carcinoma (8380-8383,8570)	3,507	9.5%	2,870	9.6%	199	5.7%	387	12.8%	-	-	501	10.4%
Cystadenocarcinoma, NOS (8440,8450)	64	0.2%	55	0.2%	-	-	-	-	-	-	-	-
Serous cystadenocarcinoma (8441)	12,711	34.5%	10,588	35.5%	1,054	30.3%	908	30.1%	53	36.1%	1,406	29.2%
Papillary serous cystadenocarcinoma (8460-8462)	4,776	12.9%	3,987	13.4%	436	12.5%	297	9.8%	19	12.9%	645	13.4%
Mucinous cystadenocarcinoma (8470-8473)	408	1.1%	318	1.1%	36	1.0%	46	1.5%	-	-	60	1.2%
Mucinous adenocarcinoma (8480,8482)	1,582	4.3%	1,272	4.3%	129	3.7%	154	5.1%	-	-	211	4.4%
Mucin-producing adenocarcinoma(8481)	26	0.1%	20	0.1%	-	-	-	-	-	-	-	-
Other adenocarcinoma ^f	1,927	5.2%	1,605	5.4%	133	3.8%	168	5.6%	-	-	264	5.5%
Other specific carcinomas ^g	941	2.6%	620	2.1%	233	6.7%	63	2.1%	-	-	172	3.6%
Stromal cell tumor (8620-8631,8650)	721	2.0%	460	1.5%	194	5.6%	45	1.5%	-	-	138	2.9%
Other ^h	220	0.6%	160	0.5%	39	1.1%	18	0.6%	-	-	34	0.7%
Unspecified, Carcinoma, NOS (8010,8020-8022)	1,394	3.8%	1,119	3.7%	153	4.4%	106	3.5%	-	-	176	3.6%

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.

^f Adenocarcinoma includes histologies 8050,8140-8147,8160-8162,8180-8221,8250-8507,8514,8520-8551,8560,8570-8574,8576,8940-8941,9110.

^g Other adenocarcinoma includes histologies 8141-8147,8160-8162,8180-8221,8250-8259,8261-8309,8311-8379,8384-8439,8442-8449,8451-8459,8463-8469,8474-8479,8483-8507,8514,8520-8551,8560,8571-8574,8576,8940-8941.

^h Other specific carcinomas includes histologies 8011-8015,8030-8046,8150-8155,8170-8175,8230-8231,8247-8249,8508,8510-8513,8561-8562,8575,8580-8671.

ⁱ Other subgroup of other specific carcinomas includes histologies 8011-8015,8030-8046,8150-8155,8170-8175,8230-8231,8247-8249,8508,8510-8513,8561-8562,8575,8580-8619,8632-8649,8651-8671.

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

Table 21.16 - continued

Cancer of the Ovary (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, 8990-8991,9040-9044, 9120-9136,9141-9340, 9540-9582)	111	0.3%	83	0.3%	24	0.7%	-	-	-	-	19	0.4%
Other specific types (8240-8246,8720-8790, 8930-8936,8950-8983, 9000-9030,9060-9105, 9350-9364,9380-9513, 9530-9539)	2,773	7.5%	2,133	7.1%	350	10.1%	220	7.3%	17	11.6%	530	11.0%
Mullerian mixed tumor (8950-8951,8980)	1,334	3.6%	1,096	3.7%	146	4.2%	67	2.2%	-	-	151	3.1%
Teratoma, malignant (9080-9085,9102)	560	1.5%	361	1.2%	108	3.1%	66	2.2%	-	-	171	3.5%
Other	879	2.4%	676	2.3%	96	2.8%	87	2.9%	-	-	208	4.3%
Unspecified (8000-8005)	381	1.0%	276	0.9%	61	1.8%	29	1.0%	-	-	56	1.2%
Total ^d	36,884	100.0%	29,865	100.0%	3,475	100.0%	3,021	100.0%	147	100.0%	4,823	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.

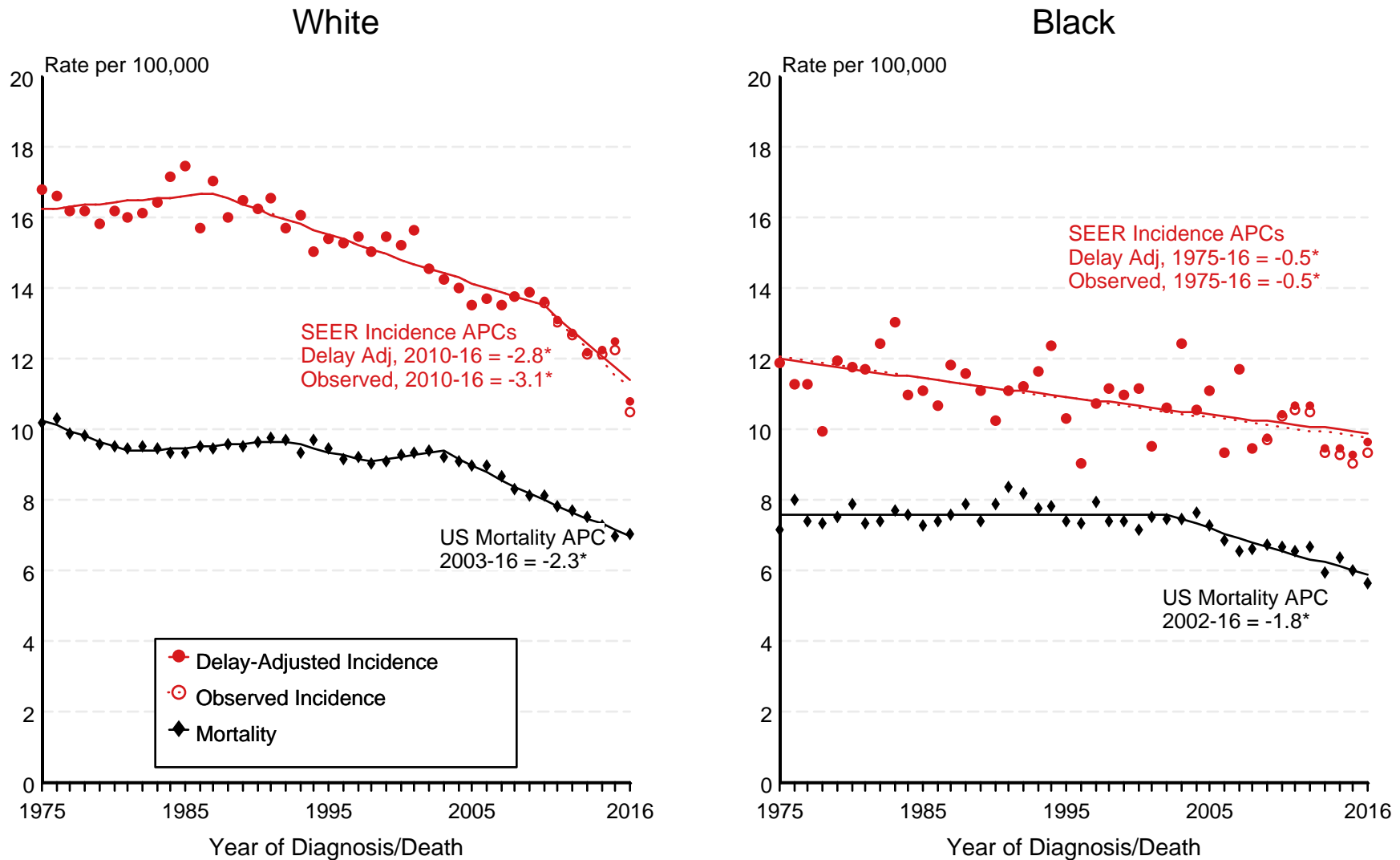
Underlying incidence data for Hispanics are based on NHIA and exclude cases from the Alaska Native Registry.

^d Total includes carcinoma cases from the previous page.

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

Figure 21.1

SEER Observed Incidence, SEER Delay Adjusted Incidence and US Death Rates^a Cancer of the Ovary, 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).

Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473.

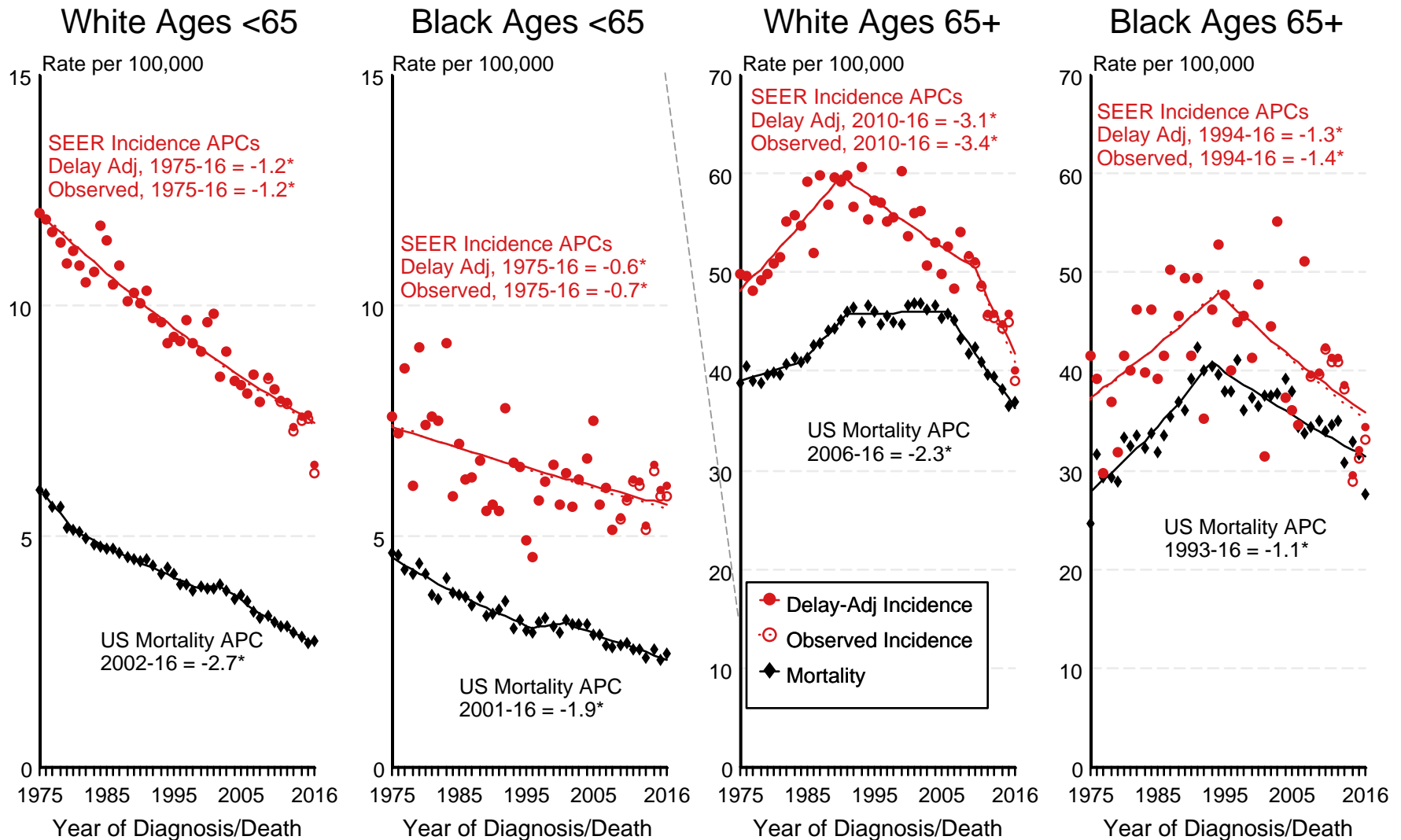
Regression lines and APCs are calculated using the Joinpoint Regression Program Version 4.7, February 2019, National Cancer Institute.

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 21.2

SEER Observed Incidence, SEER Delay Adjusted Incidence and US Death Rates^a Cancer of the Ovary, 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).

Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473.

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

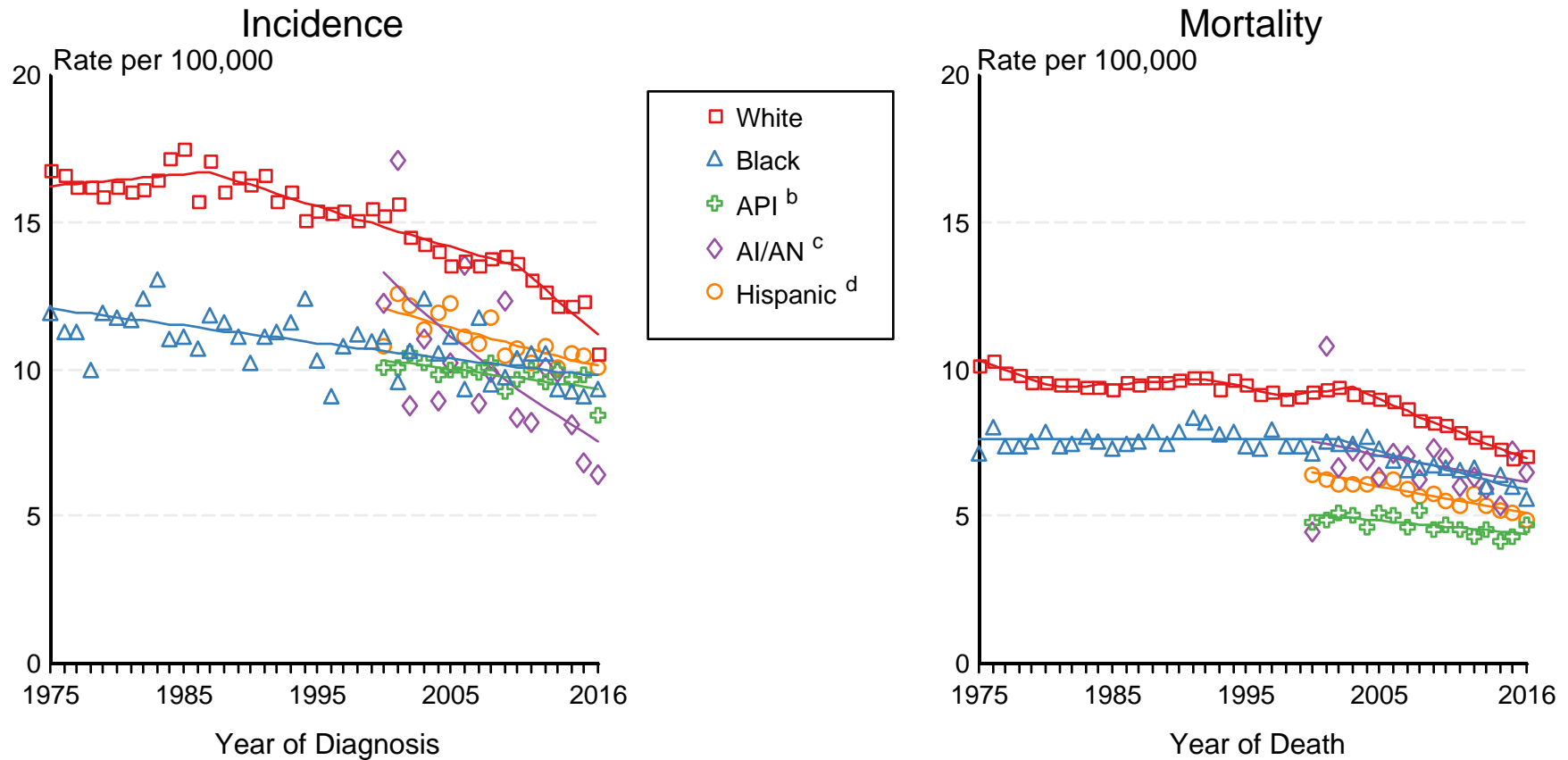
The APC is the Annual Percent Change for the regression line segments. The APC shown on the graph is for the most recent trend.

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

Figure 21.3

SEER Incidence and US Death Rates^a Cancer of the Ovary

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). Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473.

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.

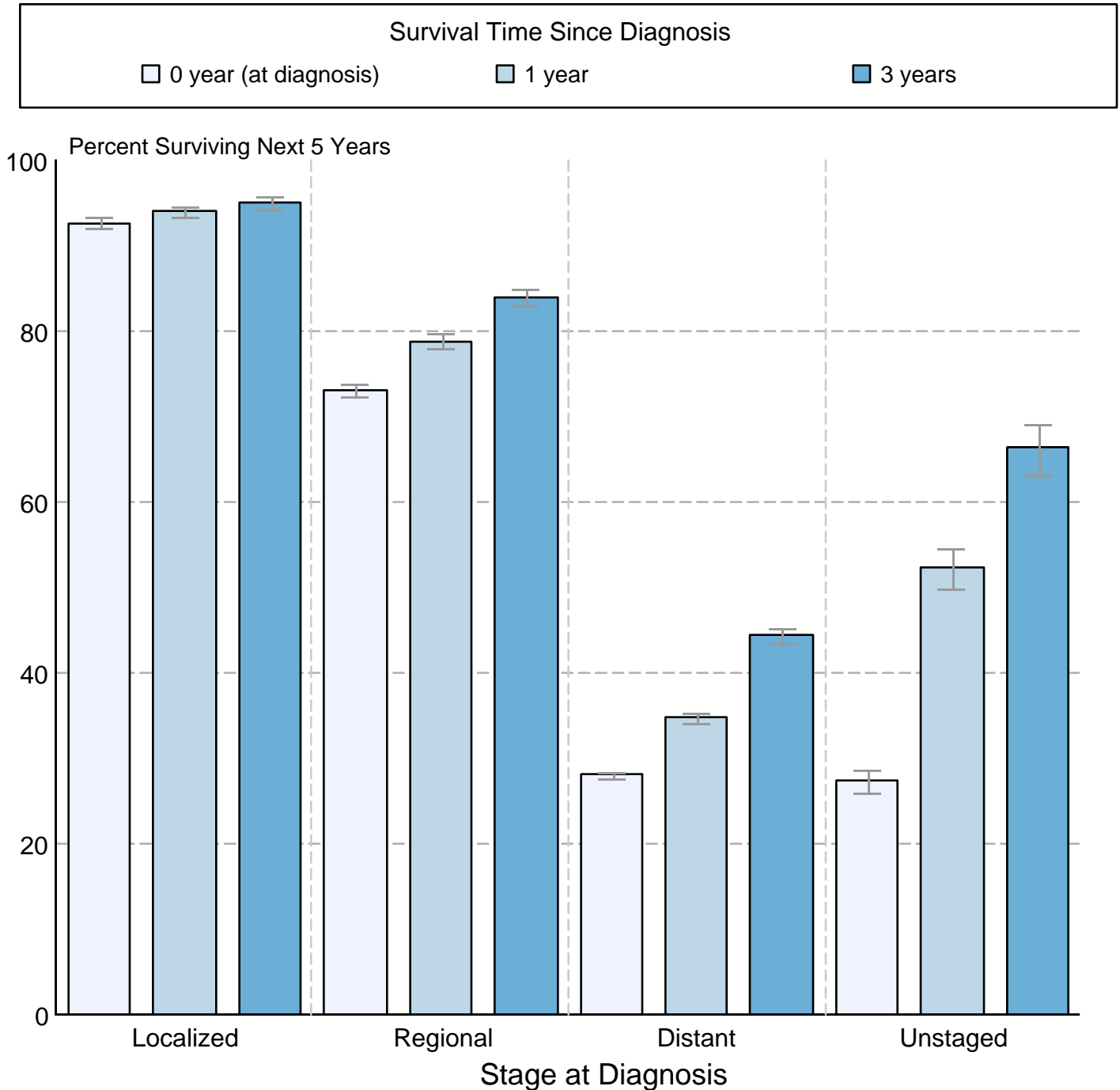
^d Hispanic is not mutually exclusive from whites, blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives. Incidence data for Hispanics are based on NHIA and exclude cases from the Alaska Native Registry.

Figure 21.4

Cancer of the Ovary

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.