

Table 13.1  
LeukemiaTrends in SEER Incidence<sup>ab</sup> and U.S. Mortality<sup>c</sup> Using the Joinpoint Regression Program,  
1975-2015 With up to Five Joinpoints, 1992-2015 With up to Four Joinpoints,  
Both Sexes by Race/Ethnicity

	JP Trend 1		JP Trend 2		JP Trend 3		JP Trend 4		JP Trend 5		JP Trend 6		AAPC <sup>d</sup>	
	Years	APC	Years	APC	Years	APC	Years	APC	Years	APC	Years	APC	2006-15	2011-15
<u>SEER 9 Delay-Adjusted Incidence<sup>a</sup>, 1975-2015</u>														
All Races	1975-99	0.2*	1999-15	0.9*									0.9*	0.9*
White	1975-99	0.3*	1999-15	1.1*									1.1*	1.1*
Black	1975-15	0.2											0.2	0.2
<u>SEER 13 Delay-Adjusted Incidence<sup>b</sup>, 1992-2015</u>														
All Races	1992-15	0.6*											0.6*	0.6*
White	1992-15	0.8*											0.8*	0.8*
Black	1992-15	0.6*											0.6*	0.6*
<u>SEER 9 Observed Incidence<sup>a</sup>, 1975-2015</u>														
All Races	1975-15	0.3*											0.3*	0.3*
White	1975-15	0.4*											0.4*	0.4*
Black	1975-15	0.0											0.0	0.0
<u>SEER 13 Observed Incidence<sup>b</sup>, 1992-2015</u>														
All Races	1992-12	0.4*	2012-15	-2.1									-0.4	-1.5
White	1992-11	0.6*	2011-15	-1.3									-0.3	-1.3
White NH <sup>ef</sup>	1992-15	0.5*											0.5*	0.5*
Black	1992-15	0.2											0.2	0.2
Black NH <sup>ef</sup>	1992-15	0.2											0.2	0.2
API <sup>e</sup>	1992-15	-0.1											-0.1	-0.1
AI/AN <sup>eg</sup>	1992-15	1.7*											1.7*	1.7*
Hispanic <sup>f</sup>	1992-13	0.7*	2013-15	-6.5									-0.9	-3.0
<u>U.S. Cancer Mortality<sup>c</sup>, 1975-2015</u>														
All Races	1975-80	0.6	1980-88	-0.6*	1988-91	0.7	1991-01	-0.6*	2001-13	-0.9*	2013-15	-3.4*	-1.5*	-2.2*
White	1975-80	0.5	1980-88	-0.7*	1988-91	0.7	1991-01	-0.5*	2001-13	-0.8*	2013-15	-3.1*	-1.3*	-2.0*
Black	1975-93	0.5*	1993-15	-1.4*									-1.4*	-1.4*
<u>U.S. Cancer Mortality<sup>c</sup>, 1992-2015</u>														
All Races	1992-01	-0.6*	2001-13	-0.9*	2013-15	-3.4*							-1.5*	-2.2*
White	1992-01	-0.4*	2001-13	-0.8*	2013-15	-3.1*							-1.3*	-2.0*
White NH <sup>ef</sup>	1992-01	-0.3*	2001-13	-0.8*	2013-15	-3.1*							-1.3*	-2.0*
Black	1992-15	-1.3*											-1.3*	-1.3*
Black NH <sup>ef</sup>	1992-15	-1.2*											-1.2*	-1.2*
API <sup>e</sup>	1992-07	-1.4*	2007-11	3.0	2011-15	-4.9*							-1.1	-4.9*
AI/AN <sup>eg</sup>	1992-15	-0.4											-0.4	-0.4
Hispanic <sup>f</sup>	1992-96	2.4	1996-10	-0.9*	2010-13	2.2	2013-15	-7.0*					-1.3	-2.5

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

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

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

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

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

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

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

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

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

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

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

\* The APC/AAPC is significantly different from zero (p&lt;.05).

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

Table 13.2  
LeukemiaTrends in SEER Incidence<sup>ab</sup> and U.S. Mortality<sup>c</sup> Using the Joinpoint Regression Program,  
1975-2015 With up to Five Joinpoints, 1992-2015 With up to Four Joinpoints,  
Males by Race/Ethnicity

	JP Trend 1		JP Trend 2		JP Trend 3		JP Trend 4		JP Trend 5		JP Trend 6		AAPC <sup>d</sup>	
	Years	APC	Years	APC	Years	APC	Years	APC	Years	APC	Years	APC	2006-15	2011-15
<u>SEER 9 Delay-Adjusted Incidence<sup>a</sup>, 1975-2015</u>														
All Races	1975-98	0.0	1998-15	0.8*									0.8*	0.8*
White	1975-98	0.1	1998-15	0.9*									0.9*	0.9*
Black	1975-15	0.2											0.2	0.2
<u>SEER 13 Delay-Adjusted Incidence<sup>b</sup>, 1992-2015</u>														
All Races	1992-15	0.5*											0.5*	0.5*
White	1992-15	0.6*											0.6*	0.6*
Black	1992-15	0.5*											0.5*	0.5*
<u>SEER 9 Observed Incidence<sup>a</sup>, 1975-2015</u>														
All Races	1975-15	0.2*											0.2*	0.2*
White	1975-15	0.3*											0.3*	0.3*
Black	1975-15	0.0											0.0	0.0
<u>SEER 13 Observed Incidence<sup>b</sup>, 1992-2015</u>														
All Races	1992-12	0.3*	2012-15	-2.3									-0.6	-1.7
White	1992-11	0.4*	2011-15	-1.6									-0.5	-1.6
White NH <sup>ef</sup>	1992-15	0.3*											0.3*	0.3*
Black	1992-15	0.1											0.1	0.1
Black NH <sup>ef</sup>	1992-15	0.2											0.2	0.2
API <sup>e</sup>	1992-15	-0.1											-0.1	-0.1
AI/AN <sup>eg</sup>	1992-15	2.6*											2.6*	2.6*
Hispanic <sup>f</sup>	1992-15	0.2											0.2	0.2
<u>U.S. Cancer Mortality<sup>c</sup>, 1975-2015</u>														
All Races	1975-96	-0.2*	1996-13	-0.8*	2013-15	-3.7*							-1.5*	-2.3*
White	1975-00	-0.3*	2000-13	-0.8*	2013-15	-3.2							-1.4*	-2.0*
Black	1975-93	0.8*	1993-15	-1.5*									-1.5*	-1.5*
<u>U.S. Cancer Mortality<sup>c</sup>, 1992-2015</u>														
All Races	1992-02	-0.6*	2002-13	-0.9*	2013-15	-3.4*							-1.5*	-2.2*
White	1992-13	-0.7*	2013-15	-3.6*									-1.4*	-2.1*
White NH <sup>ef</sup>	1992-12	-0.6*	2012-15	-2.6*									-1.3*	-2.1*
Black	1992-15	-1.4*											-1.4*	-1.4*
Black NH <sup>ef</sup>	1992-15	-1.3*											-1.3*	-1.3*
API <sup>e</sup>	1992-15	-0.6*											-0.6*	-0.6*
AI/AN <sup>eg</sup>	1992-15	-0.1											-0.1	-0.1
Hispanic <sup>f</sup>	1992-15	-0.6*											-0.6*	-0.6*

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

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

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

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

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

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

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

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

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

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

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

\* The APC/AAPC is significantly different from zero (p&lt;.05).

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

Table 13.3  
LeukemiaTrends in SEER Incidence<sup>ab</sup> and U.S. Mortality<sup>c</sup> Using the Joinpoint Regression Program,  
1975-2015 With up to Five Joinpoints, 1992-2015 With up to Four Joinpoints,  
Females by Race/Ethnicity

	JP Trend 1		JP Trend 2		JP Trend 3		JP Trend 4		JP Trend 5		JP Trend 6		AAPC <sup>d</sup>	
	Years	APC	Years	APC	Years	APC	Years	APC	Years	APC	Years	APC	2006-15	2011-15
<u>SEER 9 Delay-Adjusted Incidence<sup>a</sup>, 1975-2015</u>														
All Races	1975-99	0.2	1999-15	1.0*									1.0*	1.0*
White	1975-99	0.3*	1999-15	1.1*									1.1*	1.1*
Black	1975-15	0.3											0.3	0.3
<u>SEER 13 Delay-Adjusted Incidence<sup>b</sup>, 1992-2015</u>														
All Races	1992-15	0.7*											0.7*	0.7*
White	1992-15	0.9*											0.9*	0.9*
Black	1992-15	0.7*											0.7*	0.7*
<u>SEER 9 Observed Incidence<sup>a</sup>, 1975-2015</u>														
All Races	1975-15	0.3*											0.3*	0.3*
White	1975-15	0.5*											0.5*	0.5*
Black	1975-15	0.1											0.1	0.1
<u>SEER 13 Observed Incidence<sup>b</sup>, 1992-2015</u>														
All Races	1992-15	0.3*											0.3*	0.3*
White	1992-15	0.5*											0.5*	0.5*
White NH <sup>ef</sup>	1992-15	0.5*											0.5*	0.5*
Black	1992-15	0.3											0.3	0.3
Black NH <sup>ef</sup>	1992-15	0.3											0.3	0.3
API <sup>e</sup>	1992-15	-0.1											-0.1	-0.1
AI/AN <sup>eg</sup>	1992-15	0.9											0.9	0.9
Hispanic <sup>f</sup>	1992-15	0.7*											0.7*	0.7*
<u>U.S. Cancer Mortality<sup>c</sup>, 1975-2015</u>														
All Races	1975-80	0.8	1980-00	-0.4*	2000-15	-1.3*							-1.3*	-1.3*
White	1975-00	-0.3*	2000-15	-1.2*									-1.2*	-1.2*
Black	1975-96	0.2	1996-15	-1.5*									-1.5*	-1.5*
<u>U.S. Cancer Mortality<sup>c</sup>, 1992-2015</u>														
All Races	1992-00	-0.5*	2000-13	-1.1*	2013-15	-3.5*							-1.7*	-2.4*
White	1992-01	-0.4*	2001-15	-1.2*									-1.2*	-1.2*
White NH <sup>ef</sup>	1992-01	-0.3	2001-15	-1.2*									-1.2*	-1.2*
Black	1992-15	-1.3*											-1.3*	-1.3*
Black NH <sup>ef</sup>	1992-15	-1.2*											-1.2*	-1.2*
API <sup>e</sup>	1992-15	-1.0*											-1.0*	-1.0*
AI/AN <sup>eg</sup>	1992-15	-1.1											-1.1	-1.1
Hispanic <sup>f</sup>	1992-15	-0.6*											-0.6*	-0.6*

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

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\* The APC/AAPC is significantly different from zero (p&lt;.05).

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

Table 13.4  
LeukemiaDelay-adjusted SEER Incidence<sup>a</sup> Rates by Year, Race and Sex

Year of Diagnosis:	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
1975-1979	12.89	17.14	9.97	13.34	17.89	10.24	10.52	13.76	8.30
1980	12.93	17.36	9.85	13.28	17.91	10.12	12.18	16.11	9.47
1981	12.38	16.47	9.65	12.66	17.03	9.83	12.27	14.47	10.37
1982	13.15	18.23	9.71	13.50	18.77	9.95	10.75	15.16	7.91
1983	13.15	17.81	9.91	13.48	18.43	10.07	12.48	15.95	10.06
1984	13.01	17.11	10.12	13.47	17.98	10.35	10.68	11.87	9.61
1985	13.39	17.78	10.39	13.76	18.32	10.66	12.32	17.03	9.30
1986	12.84	17.54	9.51	13.39	18.38	9.92	10.23	13.20	8.09
1987	13.37	17.77	10.33	13.82	18.48	10.64	12.57	17.60	9.26
1988	12.99	17.52	9.73	13.44	18.30	10.03	11.55	14.03	9.42
1989	13.48	17.70	10.49	14.02	18.36	11.02	11.26	15.80	8.11
1990	12.93	17.35	9.81	13.55	18.28	10.28	11.40	14.91	8.89
1991	13.08	16.82	10.25	13.71	17.78	10.60	10.81	12.09	9.98
1992	13.06	17.56	9.81	13.65	18.72	10.03	10.68	13.91	8.42
1993	13.09	17.11	10.08	13.67	18.04	10.37	11.68	15.29	9.14
1994	13.12	17.05	10.22	13.81	17.98	10.76	9.86	12.71	7.78
1995	13.64	17.80	10.54	14.53	18.93	11.27	9.97	13.69	7.42
1996	13.20	17.04	10.45	13.80	17.85	10.90	10.77	14.00	8.73
1997	13.26	17.69	10.04	14.09	18.79	10.68	10.67	14.23	8.29
1998	13.26	17.23	10.33	14.07	18.16	11.04	10.02	14.44	7.27
1999	12.87	17.20	9.67	13.51	18.00	10.16	10.62	14.23	8.27
2000	13.81	17.95	10.71	14.53	18.91	11.23	11.84	13.86	10.34
2001	14.48	18.84	11.19	15.44	19.96	12.01	11.97	14.60	10.15
2002	13.67	18.07	10.35	14.77	19.46	11.19	9.00	11.89	7.00
2003	13.76	18.03	10.51	14.56	19.21	11.01	11.58	15.09	9.06
2004	14.03	18.25	10.82	14.76	19.13	11.35	13.06	17.84	10.04
2005	13.97	18.27	10.64	14.90	19.77	11.10	11.42	12.80	10.41
2006	14.02	17.55	11.38	15.05	18.64	12.37	11.31	15.40	8.48
2007	13.71	17.97	10.48	14.81	19.35	11.30	10.08	13.89	7.75
2008	14.38	18.75	10.94	15.36	20.01	11.65	11.22	15.29	8.25
2009	14.13	18.24	10.93	15.08	19.52	11.53	11.58	15.75	8.82
2010	15.02	19.68	11.48	16.19	21.14	12.33	11.33	15.14	9.02
2011	15.35	19.71	11.84	16.39	21.00	12.62	13.21	15.52	11.34
2012	15.22	19.20	12.08	16.36	20.47	13.06	12.59	16.11	10.23
2013	15.31	19.71	11.83	16.63	21.20	12.93	12.42	16.48	9.45
2014	15.50	20.24	11.74	16.76	21.69	12.75	12.09	15.24	9.90
2015	15.16	19.26	11.78	16.48	20.99	12.64	11.82	13.95	10.52

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

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

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Table 13.5  
LeukemiaAge-adjusted SEER Incidence<sup>a</sup> Rates by Year, Race and Sex

Year of Diagnosis:	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
1975-2015	13.50	17.70	10.39	14.20	18.67	10.88	11.12	14.36	8.89
1975-1979	12.89	17.14	9.97	13.34	17.89	10.24	10.52	13.76	8.30
1980	12.93	17.36	9.85	13.28	17.91	10.12	12.18	16.11	9.47
1981	12.38	16.47	9.65	12.66	17.03	9.83	12.27	14.47	10.37
1982	13.15	18.23	9.71	13.50	18.77	9.95	10.75	15.16	7.91
1983	13.15	17.81	9.91	13.48	18.43	10.07	12.48	15.95	10.06
1984	13.01	17.11	10.12	13.47	17.98	10.35	10.68	11.87	9.61
1985	13.39	17.78	10.39	13.76	18.32	10.66	12.32	17.03	9.30
1986	12.84	17.54	9.51	13.39	18.38	9.92	10.23	13.20	8.09
1987	13.37	17.77	10.33	13.82	18.48	10.64	12.57	17.60	9.26
1988	12.99	17.52	9.73	13.44	18.30	10.03	11.55	14.03	9.42
1989	13.48	17.70	10.49	14.02	18.36	11.02	11.26	15.80	8.11
1990	12.93	17.35	9.81	13.55	18.28	10.28	11.40	14.91	8.89
1991	13.08	16.82	10.25	13.71	17.78	10.60	10.81	12.09	9.98
1992	13.06	17.56	9.81	13.65	18.72	10.03	10.68	13.91	8.42
1993	13.09	17.11	10.08	13.67	18.04	10.37	11.68	15.29	9.14
1994	13.12	17.05	10.22	13.81	17.98	10.76	9.86	12.71	7.78
1995	13.64	17.80	10.54	14.53	18.93	11.27	9.97	13.69	7.42
1996	13.20	17.04	10.45	13.80	17.85	10.90	10.77	14.00	8.73
1997	13.26	17.69	10.04	14.09	18.79	10.68	10.67	14.23	8.29
1998	13.26	17.23	10.33	14.07	18.16	11.04	10.02	14.44	7.27
1999	12.87	17.20	9.67	13.51	18.00	10.16	10.62	14.23	8.27
2000	13.81	17.95	10.71	14.53	18.91	11.23	11.84	13.86	10.34
2001	14.48	18.84	11.19	15.44	19.96	12.01	11.97	14.60	10.15
2002	13.67	18.07	10.35	14.77	19.46	11.19	9.00	11.89	7.00
2003	13.76	18.03	10.51	14.56	19.21	11.01	11.58	15.09	9.06
2004	14.03	18.25	10.82	14.76	19.13	11.35	13.06	17.84	10.04
2005	13.97	18.27	10.64	14.90	19.77	11.10	11.42	12.80	10.41
2006	14.02	17.55	11.38	15.05	18.64	12.37	11.31	15.40	8.48
2007	13.60	17.82	10.39	14.67	19.16	11.19	10.00	13.77	7.69
2008	14.14	18.44	10.76	15.06	19.62	11.42	11.06	15.08	8.13
2009	13.77	17.77	10.66	14.63	18.93	11.19	11.30	15.38	8.60
2010	14.51	19.00	11.10	15.56	20.29	11.86	10.96	14.66	8.73
2011	14.71	18.88	11.36	15.59	19.97	12.01	12.67	14.93	10.85
2012	14.46	18.22	11.49	15.40	19.26	12.30	11.99	15.30	9.77
2013	14.31	18.40	11.06	15.39	19.61	11.98	11.57	15.35	8.78
2014	14.24	18.57	10.80	15.22	19.67	11.59	11.04	13.90	9.03
2015	13.59	17.23	10.58	14.55	18.51	11.17	10.46	12.32	9.32

<sup>a</sup> 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 13.6  
Acute Lymphocytic Leukemia

Age-adjusted SEER Incidence<sup>a</sup> Rates by Year, Race and Sex

Year of Diagnosis:	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
1975-2015	1.38	1.59	1.19	1.46	1.68	1.26	0.86	0.98	0.75
1975-1979	1.03	1.22	0.86	1.08	1.29	0.90	0.54	0.59	0.49
1980	1.12	1.40	0.88	1.16	1.47	0.90	0.73	-	-
1981	1.24	1.31	1.18	1.30	1.39	1.23	0.95	-	-
1982	1.23	1.50	0.99	1.30	1.56	1.05	-	-	-
1983	1.29	1.52	1.08	1.39	1.64	1.18	0.80	-	-
1984	1.32	1.49	1.20	1.35	1.50	1.24	0.92	-	-
1985	1.30	1.55	1.09	1.35	1.62	1.12	-	-	-
1986	1.30	1.67	0.96	1.38	1.82	0.96	0.77	-	-
1987	1.32	1.48	1.19	1.36	1.54	1.21	0.89	-	1.15
1988	1.40	1.79	1.07	1.44	1.84	1.12	0.98	-	-
1989	1.62	1.82	1.43	1.69	1.90	1.49	1.03	-	-
1990	1.42	1.76	1.16	1.52	1.85	1.29	0.57	-	-
1991	1.38	1.72	1.05	1.51	1.94	1.09	0.86	-	-
1992	1.35	1.59	1.14	1.40	1.73	1.09	0.91	-	-
1993	1.26	1.41	1.09	1.38	1.57	1.15	0.82	-	-
1994	1.19	1.48	0.93	1.28	1.59	1.01	0.68	-	-
1995	1.50	1.80	1.21	1.61	1.87	1.36	0.98	1.32	-
1996	1.39	1.56	1.21	1.46	1.65	1.26	0.85	-	-
1997	1.33	1.51	1.16	1.44	1.60	1.28	0.79	0.98	-
1998	1.46	1.61	1.31	1.57	1.69	1.44	0.93	1.16	-
1999	1.31	1.49	1.14	1.40	1.56	1.24	0.68	-	-
2000	1.40	1.51	1.29	1.52	1.61	1.45	0.87	-	-
2001	1.46	1.66	1.26	1.58	1.82	1.35	0.68	-	-
2002	1.50	1.79	1.20	1.65	2.00	1.29	0.62	-	-
2003	1.43	1.67	1.22	1.48	1.70	1.27	0.78	0.97	-
2004	1.55	1.71	1.39	1.67	1.96	1.38	1.12	-	1.43
2005	1.58	1.88	1.29	1.66	1.94	1.38	0.97	1.18	-
2006	1.45	1.63	1.28	1.51	1.64	1.39	0.97	1.42	-
2007	1.52	1.67	1.38	1.60	1.71	1.50	0.95	1.06	-
2008	1.50	1.86	1.15	1.68	2.03	1.32	0.91	1.32	-
2009	1.47	1.61	1.35	1.57	1.74	1.42	0.96	1.08	0.85
2010	1.46	1.56	1.36	1.59	1.66	1.51	0.97	1.10	0.85
2011	1.78	1.90	1.67	1.94	2.00	1.88	1.33	1.64	1.01
2012	1.48	1.54	1.43	1.60	1.63	1.58	1.15	1.49	0.89
2013	1.61	1.77	1.45	1.73	1.90	1.57	0.97	1.32	-
2014	1.58	1.74	1.41	1.67	1.91	1.45	0.79	-	0.95
2015	1.48	1.69	1.26	1.56	1.77	1.34	0.79	0.96	-

<sup>a</sup> 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 13.7  
Chronic Lymphocytic Leukemia

Age-adjusted SEER Incidence<sup>a</sup> Rates by Year, Race and Sex

Year of Diagnosis:	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
1975-2015	4.86	6.75	3.47	5.29	7.34	3.77	3.79	5.37	2.71
1975-1979	4.32	6.00	3.17	4.54	6.35	3.32	3.81	5.35	2.78
1980	4.52	6.30	3.33	4.69	6.54	3.46	4.51	7.06	2.89
1981	4.27	6.30	2.90	4.47	6.63	3.06	3.82	5.41	2.47
1982	4.30	6.14	3.01	4.50	6.39	3.18	3.77	6.65	-
1983	4.45	6.41	3.13	4.68	6.79	3.25	4.21	6.11	3.03
1984	4.43	6.30	3.12	4.72	6.82	3.29	3.45	4.46	2.65
1985	4.49	6.21	3.31	4.80	6.63	3.54	4.11	6.15	2.87
1986	4.50	6.33	3.24	4.87	6.84	3.54	2.79	4.18	-
1987	4.66	6.81	3.07	4.95	7.26	3.28	4.03	6.14	2.45
1988	4.55	6.46	3.15	4.77	6.88	3.27	4.43	5.32	3.53
1989	4.70	6.44	3.47	5.01	6.91	3.68	3.91	5.15	3.04
1990	4.61	6.30	3.42	4.92	6.77	3.63	4.51	6.13	3.43
1991	4.60	6.20	3.43	5.00	6.81	3.64	3.40	3.75	3.15
1992	4.62	6.74	3.16	5.05	7.43	3.42	3.21	4.96	2.08
1993	4.46	6.15	3.17	4.74	6.56	3.36	4.52	6.79	2.89
1994	4.61	6.14	3.46	5.06	6.72	3.84	3.19	4.13	2.32
1995	4.56	6.44	3.20	4.99	7.02	3.52	3.39	5.34	2.06
1996	4.73	6.36	3.56	5.17	6.89	3.94	3.52	5.36	2.26
1997	4.51	6.09	3.31	4.93	6.64	3.63	3.57	5.18	2.52
1998	4.25	5.97	3.01	4.70	6.55	3.35	2.85	3.73	2.29
1999	4.17	6.05	2.76	4.51	6.52	3.00	3.87	6.00	2.60
2000	4.69	6.59	3.25	5.21	7.36	3.53	3.35	4.31	2.72
2001	5.33	7.39	3.79	5.89	8.14	4.19	3.95	4.89	3.28
2002	5.11	7.19	3.55	5.73	8.02	4.00	3.05	4.35	2.10
2003	5.37	7.43	3.81	5.92	8.26	4.14	4.39	6.21	3.12
2004	5.57	7.64	4.00	6.07	8.14	4.47	5.01	8.16	2.89
2005	5.43	7.74	3.65	6.05	8.73	3.93	3.93	4.62	3.46
2006	5.81	7.67	4.43	6.44	8.40	4.97	4.60	6.76	3.17
2007	5.38	7.49	3.77	6.07	8.35	4.29	3.11	4.80	2.19
2008	5.53	7.42	4.08	6.16	8.15	4.63	3.86	5.83	2.41
2009	5.42	7.50	3.78	6.01	8.29	4.16	4.06	5.93	2.90
2010	5.57	7.76	3.90	6.20	8.50	4.41	3.55	5.28	2.47
2011	5.51	7.41	3.98	6.04	8.15	4.33	4.47	5.33	3.83
2012	5.25	7.00	3.86	5.84	7.67	4.35	3.70	4.90	2.94
2013	5.15	7.09	3.60	5.76	7.87	4.06	4.17	6.25	2.65
2014	5.21	7.37	3.46	5.83	8.14	3.94	3.62	5.84	2.07
2015	4.90	6.62	3.48	5.49	7.34	3.91	3.34	4.50	2.53

<sup>a</sup> 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 13.8  
Acute Myeloid Leukemia

Age-adjusted SEER Incidence<sup>a</sup> Rates by Year, Race and Sex

Year of Diagnosis:	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
1975-2015	3.64	4.51	3.03	3.70	4.61	3.08	3.21	3.82	2.81
1975-1979	3.43	4.25	2.88	3.51	4.38	2.93	2.61	2.97	2.34
1980	3.14	4.10	2.43	3.17	4.11	2.49	2.88	3.28	2.53
1981	3.17	3.99	2.65	3.22	4.11	2.69	3.15	3.22	3.02
1982	3.42	4.79	2.60	3.47	4.90	2.63	2.50	3.22	2.09
1983	3.21	4.22	2.53	3.17	4.28	2.41	2.93	3.02	2.92
1984	3.30	4.06	2.73	3.35	4.17	2.77	2.35	2.10	2.44
1985	3.33	4.15	2.87	3.25	4.02	2.84	3.78	5.06	2.99
1986	3.00	3.91	2.40	2.95	3.85	2.38	3.21	4.04	2.68
1987	3.02	3.97	2.47	3.03	4.00	2.47	3.05	4.73	2.12
1988	3.03	3.79	2.52	3.08	3.87	2.57	2.79	3.14	2.49
1989	3.20	4.01	2.62	3.30	4.04	2.79	2.22	3.79	-
1990	3.04	3.91	2.43	3.12	4.06	2.46	2.55	3.02	2.19
1991	3.33	3.93	2.88	3.38	3.90	2.98	3.34	4.53	2.59
1992	3.22	3.85	2.76	3.28	4.03	2.75	3.05	2.99	3.05
1993	3.45	4.31	2.86	3.52	4.45	2.86	2.48	2.62	2.55
1994	3.46	4.14	3.02	3.48	4.24	2.97	2.94	3.24	2.77
1995	3.66	4.17	3.31	3.81	4.32	3.45	2.62	2.62	2.73
1996	3.47	4.33	2.91	3.46	4.29	2.94	3.21	4.05	2.73
1997	3.53	4.61	2.77	3.66	4.82	2.85	3.02	3.83	2.55
1998	3.93	4.94	3.21	4.06	5.06	3.32	3.05	4.64	2.11
1999	3.73	4.51	3.18	3.85	4.63	3.30	3.03	3.45	2.76
2000	4.05	4.95	3.41	4.04	4.95	3.39	4.41	4.88	4.01
2001	4.06	4.95	3.39	4.20	5.00	3.61	3.45	4.08	3.00
2002	3.63	4.58	2.98	3.78	4.78	3.11	2.91	3.31	2.67
2003	3.60	4.49	2.96	3.67	4.60	3.02	3.33	3.52	2.96
2004	3.42	4.15	2.93	3.51	4.23	3.00	3.39	4.31	3.01
2005	3.59	4.25	3.17	3.65	4.38	3.19	3.49	3.47	3.58
2006	3.54	4.11	3.15	3.66	4.22	3.26	2.84	3.34	2.57
2007	3.55	4.38	2.98	3.66	4.48	3.09	3.38	4.45	2.72
2008	3.82	4.70	3.18	3.86	4.86	3.08	3.07	3.78	2.74
2009	3.63	4.42	3.08	3.76	4.64	3.10	3.13	3.98	2.55
2010	4.23	5.37	3.41	4.44	5.67	3.50	3.33	4.47	2.61
2011	4.21	5.14	3.47	4.24	5.17	3.49	4.22	4.52	3.99
2012	4.58	5.61	3.78	4.68	5.72	3.87	3.86	4.50	3.43
2013	4.49	5.43	3.80	4.66	5.55	4.02	4.20	5.16	3.47
2014	4.38	5.28	3.71	4.59	5.46	3.95	3.81	4.54	3.23
2015	4.26	5.17	3.58	4.42	5.39	3.67	3.69	4.13	3.47

<sup>a</sup> 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 13.9  
Chronic Myeloid Leukemia

Age-adjusted SEER Incidence<sup>a</sup> Rates by Year, Race and Sex

Year of Diagnosis:	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
1975-2015	1.80	2.37	1.37	1.83	2.40	1.39	1.81	2.33	1.44
1975-1979	1.83	2.44	1.41	1.84	2.47	1.41	1.80	2.39	1.36
1980	1.70	2.06	1.46	1.73	2.10	1.51	1.48	-	-
1981	1.64	1.97	1.41	1.59	1.90	1.39	2.38	3.00	1.81
1982	1.68	2.16	1.35	1.65	2.19	1.31	1.75	-	1.79
1983	1.69	2.23	1.33	1.64	2.15	1.32	2.51	3.44	1.85
1984	1.68	2.40	1.18	1.63	2.41	1.10	2.58	2.61	2.59
1985	1.97	2.76	1.43	2.00	2.80	1.47	2.06	2.89	-
1986	1.68	2.19	1.29	1.71	2.25	1.31	1.54	-	-
1987	1.88	2.33	1.58	1.91	2.39	1.58	2.14	2.88	-
1988	1.91	2.54	1.50	1.92	2.59	1.49	2.08	2.88	-
1989	1.70	2.22	1.35	1.68	2.18	1.35	2.21	3.12	-
1990	1.76	2.47	1.24	1.75	2.50	1.20	2.63	3.66	1.95
1991	1.88	2.44	1.47	1.91	2.55	1.46	1.56	-	1.75
1992	1.76	2.16	1.47	1.80	2.22	1.49	1.49	1.73	-
1993	1.92	2.53	1.48	1.95	2.52	1.55	2.28	3.56	-
1994	1.87	2.49	1.42	1.91	2.50	1.50	1.70	2.57	-
1995	1.90	2.56	1.38	1.96	2.69	1.39	1.59	2.09	-
1996	1.81	2.45	1.35	1.80	2.51	1.28	2.06	2.54	1.83
1997	1.87	2.68	1.30	1.94	2.74	1.37	1.67	2.53	-
1998	1.66	1.95	1.43	1.73	1.98	1.54	1.61	2.31	1.20
1999	1.80	2.49	1.28	1.77	2.44	1.28	1.72	2.30	1.26
2000	1.79	2.34	1.35	1.80	2.33	1.40	1.59	1.80	1.33
2001	1.80	2.36	1.38	1.85	2.37	1.46	1.97	2.83	1.36
2002	1.63	2.09	1.30	1.66	2.12	1.33	1.13	-	-
2003	1.65	2.24	1.19	1.75	2.36	1.25	1.47	2.18	-
2004	1.80	2.55	1.22	1.86	2.65	1.25	1.51	2.06	1.11
2005	1.70	2.27	1.25	1.78	2.37	1.31	1.78	2.44	1.34
2006	1.84	2.40	1.41	1.94	2.51	1.51	1.58	2.17	1.11
2007	1.71	2.32	1.22	1.80	2.49	1.22	1.43	1.83	1.19
2008	1.85	2.38	1.43	1.85	2.30	1.51	1.89	2.67	1.21
2009	1.79	2.37	1.34	1.79	2.30	1.39	1.90	2.89	1.28
2010	1.87	2.50	1.37	1.86	2.52	1.34	1.88	2.12	1.78
2011	1.94	2.55	1.44	2.04	2.71	1.48	1.66	1.95	1.39
2012	1.92	2.32	1.60	1.96	2.37	1.64	2.07	2.77	1.57
2013	1.91	2.58	1.37	1.97	2.68	1.39	1.68	2.13	1.43
2014	1.93	2.53	1.44	1.92	2.48	1.44	1.94	1.74	2.09
2015	1.81	2.23	1.43	1.89	2.31	1.49	1.62	1.80	1.49

<sup>a</sup> 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 13.10  
LeukemiaAge-adjusted U.S. Death<sup>a</sup> Rates by Year, Race and Sex

Year of Death:	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
1975-2015	7.56	10.14	5.78	7.77	10.44	5.92	6.60	8.72	5.22
1975-1979	8.12	10.92	6.24	8.29	11.20	6.34	6.78	8.80	5.36
1980	8.36	11.21	6.46	8.54	11.51	6.56	7.05	9.09	5.67
1981	8.10	10.89	6.24	8.24	11.16	6.31	7.11	8.92	5.86
1982	8.19	11.04	6.31	8.33	11.29	6.39	7.14	9.36	5.67
1983	8.11	10.93	6.26	8.24	11.19	6.32	7.22	9.21	5.90
1984	8.08	10.68	6.37	8.23	10.91	6.47	7.08	9.16	5.69
1985	8.07	10.77	6.31	8.23	10.97	6.44	7.08	9.62	5.42
1986	7.96	10.71	6.16	8.10	10.97	6.23	7.25	9.26	5.91
1987	7.80	10.31	6.14	7.91	10.50	6.20	7.24	9.41	5.85
1988	7.83	10.60	6.00	7.95	10.79	6.08	7.24	9.83	5.58
1989	7.95	10.62	6.15	8.07	10.75	6.26	7.36	10.34	5.45
1990	7.98	10.71	6.18	8.10	10.90	6.26	7.44	9.96	5.83
1991	7.99	10.50	6.32	8.12	10.64	6.44	7.45	10.05	5.80
1992	7.96	10.71	6.13	8.11	10.94	6.24	7.16	9.41	5.68
1993	7.93	10.66	6.09	8.04	10.84	6.16	7.36	9.76	5.77
1994	7.85	10.57	6.03	8.00	10.78	6.13	7.12	9.59	5.54
1995	7.90	10.80	5.98	8.04	11.03	6.05	7.17	9.75	5.53
1996	7.84	10.53	6.05	7.97	10.71	6.13	7.46	10.09	5.90
1997	7.71	10.42	5.89	7.89	10.68	6.01	6.83	9.23	5.29
1998	7.58	10.11	5.82	7.72	10.31	5.91	7.04	9.37	5.55
1999	7.68	10.22	5.96	7.87	10.47	6.09	6.74	8.78	5.43
2000	7.69	10.28	5.91	7.89	10.54	6.05	6.71	9.07	5.27
2001	7.64	10.19	5.88	7.83	10.46	6.02	6.74	8.80	5.41
2002	7.54	10.18	5.73	7.75	10.46	5.85	6.73	8.91	5.38
2003	7.45	10.02	5.63	7.68	10.37	5.76	6.54	8.47	5.30
2004	7.29	9.81	5.52	7.47	10.04	5.64	6.77	8.94	5.39
2005	7.26	9.82	5.46	7.50	10.14	5.63	6.07	8.11	4.78
2006	7.23	9.70	5.46	7.48	9.97	5.66	6.27	8.84	4.70
2007	7.08	9.54	5.33	7.30	9.86	5.46	6.19	8.07	5.05
2008	7.09	9.54	5.33	7.32	9.83	5.49	6.27	8.65	4.78
2009	7.06	9.53	5.25	7.31	9.86	5.41	6.05	8.14	4.71
2010	6.91	9.25	5.20	7.16	9.58	5.37	5.75	7.46	4.59
2011	6.95	9.28	5.24	7.18	9.60	5.39	5.99	7.74	4.85
2012	6.83	9.21	5.07	7.08	9.56	5.22	5.77	7.56	4.62
2013	6.75	9.09	5.03	7.03	9.43	5.23	5.68	7.70	4.37
2014	6.62	8.82	4.96	6.91	9.21	5.15	5.48	7.17	4.37
2015	6.28	8.46	4.63	6.55	8.81	4.81	5.20	6.84	4.15

<sup>a</sup> 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 13.11  
LeukemiaSEER Incidence<sup>a</sup> and U.S. Death<sup>b</sup> Rates, Age-Adjusted and Age-Specific Rates, by Race and Sex

	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
<u>SEER Incidence</u>									
<u>Age at Diagnosis</u>									
Age-Adjusted Rates, 2011-2015									
All ages	13.8	17.6	10.8	14.6	18.6	11.4	11.0	14.0	9.0
Under 65	6.9	8.1	5.8	7.3	8.5	6.1	5.7	6.5	5.0
65 and over	61.4	83.3	45.2	65.2	88.3	47.9	47.8	65.5	36.8
All ages (WHO world std) <sup>c</sup>	10.7	13.4	8.5	11.4	14.1	9.0	8.6	10.5	7.1
Age-Specific Rates, 2011-2015									
<1	4.7	4.5	4.9	4.5	4.2	4.9	3.8	-	4.1
1-4	9.2	9.1	9.2	10.1	10.0	10.3	4.5	4.4	4.6
5-9	4.3	4.9	3.7	4.9	5.6	4.1	2.2	2.2	2.2
10-14	3.3	3.6	3.0	3.4	3.6	3.3	2.6	3.2	2.0
15-19	3.2	3.8	2.6	3.5	4.2	2.8	1.8	2.2	1.5
20-24	2.7	3.2	2.3	3.0	3.5	2.4	1.9	1.5	2.3
25-29	3.1	3.5	2.6	3.2	3.6	2.7	2.4	2.3	2.5
30-34	3.6	4.0	3.1	3.7	4.2	3.1	3.0	3.2	2.9
35-39	4.5	5.1	3.9	4.6	5.3	3.9	4.5	4.7	4.3
40-44	5.7	6.6	4.9	6.0	6.8	5.1	5.8	6.7	4.9
45-49	8.2	9.5	6.9	8.5	9.8	7.2	8.0	9.1	7.0
50-54	12.1	14.7	9.6	12.7	15.4	10.1	10.2	12.0	8.7
55-59	17.4	21.7	13.4	18.3	22.5	14.2	15.7	20.6	11.5
60-64	26.3	33.4	19.9	27.6	35.2	20.5	22.8	26.9	19.4
65-69	39.5	52.0	28.3	41.8	55.0	29.8	34.4	45.0	26.1
70-74	53.7	71.1	39.1	56.9	75.1	41.2	42.2	53.7	33.9
75-79	69.3	92.7	51.0	73.9	98.3	54.4	55.7	79.6	40.0
80-84	83.9	117.0	61.1	89.0	123.5	64.6	63.8	89.3	49.4
85+	85.7	121.9	66.8	91.6	130.8	71.1	57.0	83.1	46.0
<u>U.S. Mortality</u>									
<u>Age at Death</u>									
Age-Adjusted Rates, 2011-2015									
All ages	6.7	9.0	5.0	6.9	9.3	5.2	5.6	7.4	4.5
Under 65	1.9	2.2	1.5	1.9	2.2	1.5	2.0	2.4	1.7
65 and over	40.0	55.6	28.9	41.9	58.1	30.2	30.5	41.9	23.7
All ages (WHO world std) <sup>c</sup>	4.4	5.8	3.3	4.6	6.0	3.4	3.9	5.1	3.1
Age-Specific Rates, 2011-2015									
<1	0.5	0.4	0.5	0.5	0.5	0.5	0.5	-	-
1-4	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6
5-9	0.5	0.5	0.4	0.5	0.6	0.4	0.3	0.4	0.3
10-14	0.6	0.6	0.5	0.6	0.6	0.6	0.5	0.7	0.4
15-19	0.8	0.9	0.6	0.8	0.9	0.6	0.6	0.8	0.4
20-24	0.9	1.0	0.7	0.9	1.1	0.7	0.8	0.9	0.7
25-29	0.9	1.1	0.7	0.9	1.1	0.8	0.8	1.1	0.6
30-34	1.0	1.3	0.8	1.0	1.3	0.8	1.2	1.4	1.0
35-39	1.2	1.4	1.0	1.2	1.4	1.0	1.4	1.7	1.3
40-44	1.6	1.7	1.5	1.6	1.7	1.5	1.8	1.8	1.9
45-49	2.3	2.6	2.1	2.4	2.6	2.1	2.8	3.3	2.3
50-54	3.5	4.2	2.9	3.5	4.2	2.8	4.1	4.7	3.5
55-59	5.6	7.0	4.4	5.7	7.0	4.4	6.3	7.8	5.0
60-64	9.6	12.3	7.1	9.8	12.6	7.2	10.0	12.9	7.7
65-69	16.6	22.1	11.6	17.2	23.0	11.9	15.6	21.4	11.1
70-74	28.0	37.6	19.7	29.2	39.3	20.5	23.6	31.1	18.3
75-79	44.1	60.5	31.2	46.3	63.4	32.5	34.4	46.5	26.6
80-84	61.9	87.1	44.4	64.9	90.9	46.4	45.2	63.3	35.3
85+	83.6	121.2	64.4	88.1	127.6	67.7	53.8	76.9	44.3

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

<sup>b</sup> US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.

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

<sup>c</sup> 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 13.12  
Lymphocytic Leukemia

SEER Incidence<sup>a</sup> 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>Acute Lymphocytic Leukemia</u>									
<u>Age at Diagnosis</u>									
Age-Adjusted Rates, 2011-2015									
All ages	1.7	1.9	1.6	1.9	2.1	1.7	1.0	1.0	0.9
Under 65	1.8	1.9	1.6	2.0	2.2	1.8	0.9	1.0	0.9
65 and over	1.6	1.9	1.4	1.7	2.1	1.5	1.0	1.2	1.0
All ages (WHO world std) <sup>b</sup>	1.9	2.1	1.7	2.1	2.3	1.9	1.0	1.1	0.9
Age-Specific Rates, 2011-2015									
<1	2.1	1.6	2.6	2.0	1.4	2.7	-	-	-
1-4	7.8	7.7	7.9	8.7	8.6	8.8	3.2	3.1	3.3
5-9	3.7	4.1	3.2	4.2	4.8	3.5	1.7	1.5	1.8
10-14	2.3	2.5	2.1	2.5	2.5	2.4	1.5	2.1	1.0
15-19	1.8	2.2	1.3	2.1	2.6	1.5	0.7	1.0	-
20-24	1.0	1.3	0.6	1.2	1.6	0.7	0.3	-	-
25-29	0.8	1.0	0.7	0.9	1.2	0.7	-	-	-
30-34	0.7	0.8	0.5	0.7	0.9	0.5	0.4	-	-
35-39	0.9	1.0	0.7	0.9	1.1	0.7	0.6	-	-
40-44	0.7	0.9	0.6	0.8	1.0	0.6	0.5	-	-
45-49	0.9	0.9	0.9	1.0	1.1	1.0	-	-	-
50-54	0.9	0.9	0.8	0.9	1.0	0.8	0.6	-	-
55-59	1.1	1.2	1.1	1.2	1.3	1.1	1.2	1.4	1.1
60-64	1.3	1.3	1.3	1.3	1.4	1.3	1.2	-	-
65-69	1.4	1.6	1.3	1.6	1.8	1.4	-	-	-
70-74	1.7	2.0	1.4	1.7	2.0	1.4	-	-	-
75-79	1.8	2.0	1.7	1.9	2.2	1.8	-	-	-
80-84	1.9	2.5	1.4	1.9	2.6	1.4	-	-	-
85+	1.4	1.7	1.3	1.5	1.9	1.3	-	-	-
<u>Chronic Lymphocytic Leukemia</u>									
<u>Age at Diagnosis</u>									
Age-Adjusted Rates, 2011-2015									
All ages	4.7	6.4	3.3	5.1	6.9	3.6	3.6	5.2	2.5
Under 65	1.6	2.1	1.1	1.7	2.2	1.2	1.2	1.7	0.8
65 and over	26.4	36.6	18.8	28.5	39.1	20.3	19.9	29.5	13.6
All ages (WHO world std) <sup>b</sup>	3.3	4.5	2.3	3.5	4.8	2.5	2.5	3.6	1.7
Age-Specific Rates, 2011-2015									
<1	-	-	-	-	-	-	-	-	-
1-4	-	-	-	-	-	-	-	-	-
5-9	-	-	-	-	-	-	-	-	-
10-14	-	-	-	-	-	-	-	-	-
15-19	-	-	-	-	-	-	-	-	-
20-24	-	-	-	-	-	-	-	-	-
25-29	-	-	-	-	-	-	-	-	-
30-34	0.1	0.2	-	0.1	0.2	-	-	-	-
35-39	0.4	0.5	0.3	0.4	0.5	0.3	-	-	-
40-44	0.9	1.0	0.7	0.9	1.0	0.8	0.8	1.2	-
45-49	2.1	2.7	1.5	2.3	2.9	1.6	1.9	2.4	1.4
50-54	4.5	6.0	3.0	4.8	6.3	3.3	3.3	4.6	2.1
55-59	7.4	9.8	5.2	8.1	10.4	5.8	5.7	8.1	3.6
60-64	11.9	16.1	8.0	12.6	17.1	8.4	9.3	12.2	6.9
65-69	18.0	24.5	12.2	19.2	25.9	13.0	14.8	20.8	10.2
70-74	23.7	32.6	16.1	25.3	34.7	17.3	18.1	26.4	12.1
75-79	29.3	40.3	20.8	31.9	43.1	23.0	21.9	35.4	13.1
80-84	34.9	48.7	25.4	37.6	52.2	27.3	26.4	40.1	18.7
85+	35.8	51.1	27.9	38.8	55.6	30.1	23.4	33.0	19.4

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

<sup>b</sup> 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 13.13  
Myeloid Leukemia

SEER Incidence<sup>a</sup> 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>Acute Myeloid Leukemia</u>									
<u>Age at Diagnosis</u>									
Age-Adjusted Rates, 2011-2015									
All ages	4.3	5.2	3.6	4.4	5.4	3.7	3.8	4.5	3.3
Under 65	2.0	2.1	1.9	2.0	2.1	1.9	1.9	2.0	1.9
65 and over	20.1	26.4	15.5	21.1	27.8	16.1	16.4	21.4	13.3
All ages (WHO world std) <sup>b</sup>	3.2	3.8	2.8	3.3	3.9	2.9	2.9	3.3	2.6
Age-Specific Rates, 2011-2015									
<1	1.6	1.7	1.5	1.5	1.6	1.4	-	-	-
1-4	1.0	1.0	1.0	1.0	0.9	1.0	1.0	1.0	1.1
5-9	0.5	0.5	0.4	0.4	0.5	0.4	-	-	-
10-14	0.7	0.8	0.7	0.7	0.7	0.6	0.8	-	0.9
15-19	1.0	1.0	1.0	1.0	1.0	1.0	0.7	0.7	-
20-24	1.1	1.1	1.1	1.1	1.1	1.2	1.0	1.0	1.1
25-29	1.2	1.1	1.2	1.2	1.2	1.2	1.1	0.8	1.5
30-34	1.5	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.7
35-39	1.6	1.5	1.6	1.6	1.6	1.6	1.8	1.7	1.9
40-44	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.2
45-49	2.5	2.5	2.5	2.5	2.5	2.6	2.4	2.5	2.4
50-54	3.5	3.8	3.3	3.7	4.0	3.5	3.3	3.4	3.3
55-59	4.8	5.6	4.1	4.9	5.6	4.2	5.0	6.5	3.8
60-64	7.9	9.2	6.7	8.2	9.7	6.9	7.3	8.1	6.6
65-69	12.1	15.1	9.4	12.9	16.1	9.9	10.3	13.2	7.9
70-74	18.2	22.9	14.3	19.1	24.0	14.9	16.0	18.4	14.2
75-79	23.4	30.2	18.1	24.5	31.9	18.6	20.4	25.6	17.1
80-84	28.6	39.6	21.0	29.9	41.2	21.8	22.1	32.3	16.3
85+	26.2	36.9	20.6	27.6	39.1	21.6	17.1	25.7	13.4
<u>Chronic Myeloid Leukemia</u>									
<u>Age at Diagnosis</u>									
Age-Adjusted Rates, 2011-2015									
All ages	1.8	2.4	1.4	1.9	2.4	1.4	1.7	2.0	1.4
Under 65	1.0	1.2	0.8	1.0	1.2	0.8	1.1	1.2	0.9
65 and over	7.5	10.3	5.4	7.8	10.9	5.6	5.9	7.5	4.9
All ages (WHO world std) <sup>b</sup>	1.4	1.8	1.1	1.4	1.8	1.1	1.3	1.6	1.2
Age-Specific Rates, 2011-2015									
<1	0.4	0.6	-	-	-	-	-	-	-
1-4	0.1	-	-	0.1	-	-	-	-	-
5-9	0.1	-	-	-	-	-	-	-	-
10-14	0.1	0.2	0.1	0.1	-	-	-	-	-
15-19	0.2	0.3	0.2	0.2	0.3	-	-	-	-
20-24	0.4	0.5	0.3	0.5	0.6	0.3	-	-	-
25-29	0.7	1.0	0.5	0.7	1.0	0.5	0.6	0.8	-
30-34	0.9	1.1	0.7	0.9	1.1	0.7	0.7	-	-
35-39	1.1	1.4	0.9	1.2	1.4	0.9	1.1	1.3	1.0
40-44	1.4	1.7	1.0	1.4	1.7	1.0	1.8	2.2	1.4
45-49	1.7	2.0	1.4	1.6	1.9	1.3	2.5	2.8	2.3
50-54	2.0	2.4	1.7	2.0	2.4	1.6	2.0	2.2	1.9
55-59	2.4	2.8	2.1	2.5	2.8	2.2	2.4	2.7	2.2
60-64	3.3	3.9	2.7	3.4	4.0	2.7	3.0	3.3	2.8
65-69	4.9	6.6	3.5	5.0	6.7	3.4	5.7	6.9	4.7
70-74	6.3	8.3	4.5	6.6	8.8	4.7	4.4	4.7	4.1
75-79	8.7	12.0	6.1	9.4	12.8	6.6	6.4	9.8	4.2
80-84	10.3	14.4	7.4	10.9	15.1	7.9	7.3	-	7.3
85+	10.1	15.1	7.5	10.7	16.0	7.9	6.9	11.0	5.2

<sup>a</sup> SEER 18 areas. Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130), unless noted.  
<sup>b</sup> 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 13.14  
Leukemia

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

	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
5-Year Relative Survival (Percent)									
Year of Diagnosis:									
1960-1963 <sup>a</sup>	-	-	-	14	-	-	-	-	-
1970-1973 <sup>a</sup>	-	-	-	22	-	-	-	-	-
1975-1977 <sup>b</sup>	34.1	33.0	35.6	34.5	33.6	35.8	33.4	30.4	36.7
1978-1980 <sup>b</sup>	36.0	35.0	37.3	36.7	35.8	38.0	28.2	27.3	29.3
1981-1983 <sup>b</sup>	37.3	36.9	37.8	38.1	37.8	38.5	33.9	33.4	34.3
1984-1986 <sup>b</sup>	40.5	40.1	41.1	41.6	41.3	42.0	32.7	31.5	34.1
1987-1989 <sup>b</sup>	42.9	44.0	41.3	43.9	45.5	41.8	35.0	32.7	37.8
1990-1992 <sup>b</sup>	45.2	44.6	46.1	46.5	46.2	46.8	35.7	30.5	41.3
1993-1995 <sup>b</sup>	47.6	48.4	46.4	48.7	49.5	47.5	41.3	41.6	40.9
1996-1998 <sup>b</sup>	48.3	48.5	48.1	49.7	49.7	49.8	38.6	39.0	38.0
1999-2001 <sup>b</sup>	50.9	52.0	49.5	52.0	53.0	50.7	43.4	44.7	42.0
2002-2004 <sup>b</sup>	58.2	58.3	58.0	59.0	59.2	58.7	53.7	54.0	53.2
2005-2007 <sup>b</sup>	62.3	63.5	60.7	63.3	64.3	61.9	54.6	57.3	51.2
2008-2014 <sup>b</sup>	64.5 <sup>e</sup>	66.1 <sup>e</sup>	62.4 <sup>e</sup>	65.6 <sup>e</sup>	67.1 <sup>e</sup>	63.6 <sup>e</sup>	58.2 <sup>e</sup>	59.4 <sup>e</sup>	56.7 <sup>e</sup>
5-Year Period Survival (Percent) <sup>cd</sup>									
2014	61.9	63.3	60.0	62.2	63.3	60.7	55.4	58.1	52.0
5-Year Relative Survival (Percent), 2008-2014 <sup>c</sup>									
Age at Diagnosis:									
Ages <45	75.4	74.9	76.1	76.5	75.5	77.7	67.5	67.3	67.7
Ages 45-54	70.4	71.8	68.4	71.7	72.8	70.1	60.9	63.5	57.5
Ages 55-64	68.6	69.4	67.4	69.7	70.4	68.5	56.7	56.4	56.9
Ages 65-74	59.1	59.1	59.1	59.7	59.3	60.1	52.2	52.1	52.2
Ages 75+	41.0	41.8	40.2	41.8	42.5	41.1	32.7	34.5	30.7
Ages <65	71.9	72.2	71.6	73.0	73.0	73.0	62.6	62.9	62.1
Ages 65+	49.1	50.3	47.6	49.7	50.6	48.4	42.8	44.7	40.7

<sup>a</sup>

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

<sup>b</sup>

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

Based on follow-up of patients into 2015. [Expected survival rates](#) are derived from the U.S. Annual Life Tables.<sup>c</sup>

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.

<sup>d</sup>

Based on follow-up of patients into 2015.

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

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

<sup>e</sup>

The difference between 1975-1977 and 2008-2014 is statistically significant (p&lt;.05).

<sup>f</sup>

The standard error is between 5 and 10 percentage points.

<sup>g</sup>

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 13.15  
Lymphocytic Leukemia

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

	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
<u>Acute Lymphocytic Leukemia</u>									
5-Year Relative Survival (Percent)									
Year of Diagnosis:									
1975-1977 <sup>a</sup>	40.6	36.9	45.6	40.8	37.4	45.7	33.5 <sup>e</sup>	-	-
...									
1987-1989 <sup>a</sup>	54.4	53.7	55.2	55.0	54.7	55.3	44.7 <sup>e</sup>	42.0 <sup>e</sup>	47.1 <sup>e</sup>
1990-1992 <sup>a</sup>	58.0	54.5	63.1	57.7	54.9	62.0	57.1 <sup>e</sup>	50.4 <sup>e</sup>	63.3 <sup>e</sup>
1993-1995 <sup>a</sup>	60.2	57.8	63.6	59.8	57.8	62.7	53.2 <sup>e</sup>	45.9 <sup>e</sup>	63.8 <sup>e</sup>
1996-1998 <sup>a</sup>	65.5	64.3	66.9	66.4	64.2	69.0	55.6 <sup>e</sup>	59.1 <sup>e</sup>	50.2 <sup>e</sup>
1999-2001 <sup>a</sup>	63.5	63.4	63.5	64.8	65.2	64.2	56.0 <sup>e</sup>	50.3 <sup>e</sup>	61.9 <sup>e</sup>
2002-2004 <sup>a</sup>	67.2	66.1	68.8	67.5	66.5	69.1	64.5 <sup>e</sup>	59.4 <sup>e</sup>	69.7 <sup>e</sup>
2005-2007 <sup>a</sup>	69.5	68.2	71.3	69.1	66.9	71.8	67.0	72.0 <sup>e</sup>	57.5 <sup>e</sup>
2008-2014 <sup>a</sup>	71.6 <sup>d</sup>	71.9 <sup>d</sup>	71.4 <sup>d</sup>	72.9 <sup>d</sup>	73.3 <sup>d</sup>	72.4 <sup>d</sup>	61.4 <sup>d</sup>	62.4	59.1 <sup>e</sup>
5-Year Period Survival (Percent) <sup>bc</sup>									
2014	68.7	68.9	68.5	68.7	68.5	68.9	62.4	64.3	60.0
5-Year Relative Survival (Percent), 2008-2014 <sup>b</sup>									
Age at Diagnosis:									
Ages <45	80.3	79.1	81.9	80.4	78.8	82.4	77.1	77.5	76.5
Ages 45-54	35.8	34.5	37.4	36.8	36.3	37.5	18.2 <sup>e</sup>	-	-
Ages 55-64	26.4	24.5	28.4	28.1	26.5	29.6	12.6 <sup>e</sup>	15.0 <sup>e</sup>	0.0
Ages 65-74	22.0	19.9	24.1	21.2	20.1	22.1	-	-	-
Ages 75+	10.0	11.4	8.0	10.4	11.0	9.8	0.0	-	-
Ages <65	72.7	71.9	73.9	73.0	71.9	74.4	67.6	68.3	66.4
Ages 65+	16.5	16.0	16.6	16.7	16.0	17.0	12.3 <sup>e</sup>	-	14.9 <sup>e</sup>
<u>Chronic Lymphocytic Leukemia</u>									
5-Year Relative Survival (Percent)									
Year of Diagnosis:									
1975-1977 <sup>a</sup>	67.1	64.7	70.3	67.9	65.4	71.1	56.9 <sup>e</sup>	55.1 <sup>e</sup>	59.0 <sup>e</sup>
...									
1987-1989 <sup>a</sup>	72.7	72.7	72.9	73.9	74.0	73.7	58.1	55.5 <sup>e</sup>	61.5 <sup>e</sup>
1990-1992 <sup>a</sup>	74.1	71.7	77.3	75.3	73.1	78.3	52.2	43.4 <sup>e</sup>	60.9 <sup>e</sup>
1993-1995 <sup>a</sup>	77.1	77.1	77.2	78.3	78.1	78.5	63.3	64.0 <sup>e</sup>	62.1 <sup>e</sup>
1996-1998 <sup>a</sup>	75.5	73.8	77.8	76.6	75.1	78.7	58.1	51.5 <sup>e</sup>	66.0 <sup>e</sup>
1999-2001 <sup>a</sup>	78.5	78.1	79.2	79.3	78.8	80.2	66.0	64.5 <sup>e</sup>	66.6 <sup>e</sup>
2002-2004 <sup>a</sup>	83.9	83.1	85.1	84.5	83.6	85.6	76.5	73.6 <sup>e</sup>	80.3 <sup>e</sup>
2005-2007 <sup>a</sup>	86.4	86.1	87.0	86.4	86.2	86.7	86.0	84.3 <sup>e</sup>	87.4 <sup>e</sup>
2008-2014 <sup>a</sup>	86.8 <sup>d</sup>	87.4 <sup>d</sup>	85.9 <sup>d</sup>	87.4 <sup>d</sup>	87.9 <sup>d</sup>	86.7 <sup>d</sup>	76.1 <sup>d</sup>	77.2 <sup>d</sup>	75.0
5-Year Period Survival (Percent) <sup>bc</sup>									
2014	83.9	84.1	83.6	83.9	83.8	83.9	72.3	75.6	67.4
5-Year Relative Survival (Percent), 2008-2014 <sup>b</sup>									
Age at Diagnosis:									
Ages <45	92.8	91.9	94.0	93.2	92.4	94.0	86.8 <sup>e</sup>	87.4 <sup>e</sup>	-
Ages 45-54	93.6	93.2	94.3	94.4	93.4	96.0	80.6	85.2	72.5 <sup>e</sup>
Ages 55-64	91.7	91.3	92.4	91.9	91.4	92.8	81.0	79.6	82.8
Ages 65-74	86.5	84.8	89.3	86.8	85.1	89.7	74.5	72.6	76.2
Ages 75+	72.0	72.4	71.7	72.1	72.5	71.7	57.4	57.2 <sup>e</sup>	55.6 <sup>e</sup>
Ages <65	92.4	91.9	93.1	92.7	92.1	93.9	81.4	82.4	79.5
Ages 65+	78.9	78.9	78.9	78.9	79.0	78.9	66.5	66.6	65.2

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

<sup>b</sup> SEER 18 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, 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.

<sup>c</sup> Based on follow-up of patients into 2015.  
Period survival provides a 2014 estimate of survival by piecing together the most recent conditional survival estimates from several cohorts. It is computed here using three year calendar blocks (2010-2012: 0-1 year survival), (2009-2011: 1-2 year survival), (2008-2010: 2-3 year survival), (2007-2009: 3-4 year survival), (2006-2008: 4-5 years survival).

<sup>d</sup> The difference between 1975-1977 and 2008-2014 is statistically significant (p<.05).

<sup>e</sup> The standard error is between 5 and 10 percentage points.

<sup>f</sup> 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 13.16  
Myeloid Leukemia

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

	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
<u>Acute Myeloid Leukemia</u>									
5-Year Relative Survival (Percent)									
Year of Diagnosis:									
1975-1977 <sup>a</sup>	6.2	5.5	7.0	5.8	5.4	6.2	10.1	8.2	11.7
...									
1987-1989 <sup>a</sup>	11.5	9.2	14.1	11.3	9.7	13.2	9.2	4.4	15.7 <sup>e</sup>
1990-1992 <sup>a</sup>	13.8	12.6	15.2	13.5	12.2	15.0	13.5	12.9	13.9
1993-1995 <sup>a</sup>	16.2	14.9	17.5	15.4	14.1	16.8	21.5	20.6 <sup>e</sup>	22.0
1996-1998 <sup>a</sup>	17.0	15.9	18.3	15.6	14.5	17.1	22.1	25.2	18.2
1999-2001 <sup>a</sup>	19.2	18.8	19.7	18.7	17.6	19.9	19.3	24.8	14.2
2002-2004 <sup>a</sup>	23.4	20.9	26.4	23.2	20.8	26.0	25.3	26.5	24.0
2005-2007 <sup>a</sup>	25.1	22.8	27.6	25.0	22.5	27.8	20.3	15.8	24.1
2008-2014 <sup>a</sup>	28.1 <sup>d</sup>	28.4 <sup>d</sup>	27.7 <sup>d</sup>	27.5 <sup>d</sup>	27.6 <sup>d</sup>	27.2 <sup>d</sup>	29.1 <sup>d</sup>	27.8 <sup>d</sup>	30.3 <sup>d</sup>
5-Year Period Survival (Percent) <sup>bc</sup>									
2014	28.0	27.3	28.8	27.6	26.8	28.6	27.6	25.8	29.3
5-Year Relative Survival (Percent), 2008-2014 <sup>b</sup>									
Age at Diagnosis:									
Ages <45	59.5	57.4	61.6	60.8	58.7	63.1	51.9	47.0	56.2
Ages 45-54	42.1	40.9	43.4	43.2	42.2	44.4	36.2	33.5 <sup>e</sup>	38.9 <sup>e</sup>
Ages 55-64	29.6	28.0	31.8	30.6	28.7	33.3	21.3	21.6	21.0
Ages 65-74	12.7	12.1	13.7	13.1	12.5	14.0	13.2	9.5	16.8
Ages 75+	3.0	3.2	2.7	3.1	3.4	2.7	2.8	-	2.3
Ages <65	45.6	43.3	48.3	46.3	43.9	49.2	39.8	35.8	43.7
Ages 65+	7.1	7.3	6.9	7.3	7.6	6.9	7.8	6.7	8.7
<u>Chronic Myeloid Leukemia</u>									
5-Year Relative Survival (Percent)									
Year of Diagnosis:									
1975-1977 <sup>a</sup>	21.8	19.3	25.1	20.5	18.4	23.4	27.7 <sup>e</sup>	21.6 <sup>e</sup>	35.5 <sup>e</sup>
...									
1987-1989 <sup>a</sup>	30.3	30.6	29.8	30.1	31.0	29.0	33.3 <sup>e</sup>	28.1 <sup>e</sup>	41.3 <sup>e</sup>
1990-1992 <sup>a</sup>	30.7	29.6	32.2	30.3	30.0	30.6	34.9 <sup>e</sup>	25.5 <sup>e</sup>	44.9 <sup>e</sup>
1993-1995 <sup>a</sup>	35.5	35.3	35.8	35.2	35.2	35.2	35.6 <sup>e</sup>	32.8 <sup>e</sup>	40.2 <sup>e</sup>
1996-1998 <sup>a</sup>	37.1	37.7	36.3	38.0	37.6	38.5	31.0	30.4 <sup>e</sup>	31.4 <sup>e</sup>
1999-2001 <sup>a</sup>	47.3	45.9	49.2	45.9	44.1	48.3	49.0 <sup>e</sup>	49.6 <sup>e</sup>	48.1 <sup>e</sup>
2002-2004 <sup>a</sup>	54.2	52.8	56.0	52.4	51.2	53.8	63.0 <sup>e</sup>	62.1 <sup>e</sup>	64.0 <sup>e</sup>
2005-2007 <sup>a</sup>	62.2	63.3	60.5	61.3	62.2	59.9	59.7 <sup>e</sup>	63.1 <sup>e</sup>	54.9 <sup>e</sup>
2008-2014 <sup>a</sup>	68.7 <sup>d</sup>	67.1 <sup>d</sup>	70.8 <sup>d</sup>	67.7 <sup>d</sup>	66.1 <sup>d</sup>	69.5 <sup>d</sup>	73.1 <sup>d</sup>	70.1 <sup>d</sup>	76.2 <sup>d</sup>
5-Year Period Survival (Percent) <sup>bc</sup>									
2014	69.2	68.3	70.4	68.1	67.4	69.3	70.2	67.2	73.6
5-Year Relative Survival (Percent), 2008-2014 <sup>b</sup>									
Age at Diagnosis:									
Ages <45	88.9	87.3	91.2	90.7	88.6	93.8	77.6	75.7	80.1
Ages 45-54	85.3	83.1	88.5	85.8	83.9	88.5	85.0	82.6	87.7
Ages 55-64	77.6	75.0	81.3	77.2	74.9	80.8	71.1	65.2 <sup>e</sup>	76.6 <sup>e</sup>
Ages 65-74	58.1	55.1	62.4	57.6	54.4	62.4	61.0 <sup>e</sup>	53.1 <sup>e</sup>	67.8 <sup>e</sup>
Ages 75+	30.8	28.7	32.8	30.4	29.0	31.9	28.9 <sup>e</sup>	28.7 <sup>f</sup>	29.9 <sup>e</sup>
Ages <65	84.2	82.1	87.2	84.7	82.5	88.0	77.9	74.8	81.3
Ages 65+	43.6	42.1	45.6	43.0	41.7	44.8	47.8	46.2 <sup>e</sup>	49.6 <sup>e</sup>

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

<sup>b</sup> SEER 18 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, 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.

<sup>c</sup> Based on follow-up of patients into 2015.  
Period survival provides a 2014 estimate of survival by piecing together the most recent conditional survival estimates from several cohorts. It is computed here using three year calendar blocks (2010-2012: 0-1 year survival), (2009-2011: 1-2 year survival), (2008-2010: 2-3 year survival), (2007-2009: 3-4 year survival), (2006-2008: 4-5 years survival).

<sup>d</sup> The difference between 1975-1977 and 2008-2014 is statistically significant (p<.05).

<sup>e</sup> The standard error is between 5 and 10 percentage points.

<sup>f</sup> 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 13.17  
LeukemiaSEER<sup>a</sup> Relative Survival (Percent)  
By Year of Diagnosis

All Races, Males and Females

Year of Diagnosis

	1975- 1979	1980- 1984	1985- 1989	1990- 1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Survival Time																								
1-year	60.8	62.6	64.8	66.9	68.1	68.2	67.9	66.7	65.9	66.9	70.6	72.1	73.1	75.0	74.2	76.4	76.8	76.5	77.3	78.2	79.3	78.9	78.7	78.6
2-year	50.1	52.5	55.3	57.5	58.9	59.9	59.8	58.0	58.3	59.0	63.0	64.8	66.1	67.7	68.4	70.4	70.5	70.1	70.7	72.4	73.0	72.3	72.7	
3-year	43.7	46.5	49.6	52.8	54.3	55.4	54.8	54.0	54.6	55.1	58.9	61.8	62.3	64.2	64.7	67.1	67.4	66.4	68.2	69.0	70.0	68.9		
4-year	38.8	41.7	45.5	49.0	50.7	51.8	50.9	50.2	51.6	51.9	56.7	59.5	59.4	61.8	62.6	64.5	65.1	63.8	65.6	67.4	68.0			
5-year	34.6	37.6	42.3	46.1	48.1	48.6	48.3	48.1	48.3	49.9	54.3	57.6	57.3	59.6	60.9	62.4	63.6	61.7	63.3	65.6				
6-year	31.4	35.1	39.9	43.5	45.7	46.5	45.7	46.0	46.2	48.5	52.3	55.8	55.5	57.1	59.2	60.4	62.0	60.1	60.9					
7-year	29.1	32.5	37.1	40.9	44.2	45.1	43.8	44.5	44.3	47.3	51.0	54.2	53.5	55.9	57.8	58.8	61.1	58.3						
8-year	27.0	30.4	35.0	38.8	41.7	43.8	43.2	43.0	42.9	45.7	49.5	53.3	51.7	54.5	56.0	56.9	60.0							
9-year	25.0	28.5	33.0	37.3	40.6	42.0	41.8	42.0	42.0	44.9	48.2	51.6	50.5	52.8	54.4	55.7								
10-year	23.7	26.9	31.6	36.0	39.0	40.6	40.6	40.9	40.5	43.8	47.0	50.2	48.7	51.4	53.0									
11-year	22.4	25.7	29.9	34.7	37.8	39.8	38.7	39.6	39.1	42.6	45.8	48.9	47.1	49.7										
12-year	21.2	24.6	28.8	33.6	37.1	38.6	37.7	38.9	38.2	41.9	44.8	47.9	45.7											
13-year	20.4	23.6	28.0	32.7	36.7	38.1	37.0	37.8	37.1	40.4	44.1	46.2												
14-year	19.8	22.9	27.2	31.8	35.6	37.0	36.8	36.9	36.5	39.1	43.2													
15-year	19.2	22.3	26.7	31.3	35.3	36.0	36.2	35.7	35.8	38.3														
16-year	18.5	21.4	26.1	30.6	35.0	35.7	36.1	34.9	35.2															
17-year	18.1	20.7	25.6	30.0	34.0	35.3	35.2	34.4																
18-year	17.7	20.1	25.3	29.4	33.0	34.9	34.5																	
19-year	17.1	19.5	24.8	29.1	32.6	34.1																		
20-year	16.6	19.1	24.4	28.6	31.9																			

<sup>a</sup> 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 13.18  
LeukemiaSEER<sup>a</sup> Relative Survival (Percent)  
By Year of Diagnosis

All Races, Males

Year of Diagnosis

	1975- 1979	1980- 1984	1985- 1989	1990- 1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Survival Time																								
1-year	60.4	62.8	65.5	67.9	69.2	69.6	68.8	66.6	66.8	68.8	72.8	73.0	74.1	76.6	76.1	76.9	77.9	77.3	79.0	79.2	80.5	79.5	79.9	80.7
2-year	49.4	52.4	56.1	58.3	60.4	61.5	61.0	58.4	59.0	60.8	64.8	65.1	66.8	68.6	70.1	70.5	71.8	71.3	72.6	73.9	74.4	73.0	74.3	
3-year	42.7	46.0	49.9	53.2	55.6	57.2	55.1	54.5	55.2	57.2	60.7	62.3	62.6	65.2	66.4	67.2	68.8	67.6	69.8	71.0	71.7	69.4		
4-year	37.7	41.1	45.9	49.4	51.6	53.4	50.5	50.4	51.9	53.8	58.1	59.6	60.0	62.6	64.9	64.6	66.6	64.8	67.5	68.8	69.5			
5-year	33.4	37.1	42.9	46.2	48.2	49.5	47.8	48.3	47.9	52.3	55.2	57.1	57.7	60.0	62.9	62.4	65.1	62.9	65.4	67.0				
6-year	30.3	34.4	40.4	43.5	45.2	47.1	45.9	46.0	46.0	50.8	52.9	55.1	55.6	57.3	60.7	60.0	63.3	61.1	62.8					
7-year	27.7	31.8	37.3	40.9	43.9	45.7	43.8	44.2	43.8	49.8	51.3	52.8	53.4	56.2	59.3	58.5	62.3	58.9						
8-year	25.4	29.4	35.4	38.5	41.7	44.5	43.0	42.9	42.2	47.8	49.9	51.7	51.2	54.7	57.0	56.0	61.3							
9-year	23.2	27.5	33.2	37.1	40.4	42.3	42.0	41.7	41.4	46.3	48.5	50.4	50.0	52.4	55.2	54.5								
10-year	21.9	26.1	31.7	35.8	38.2	40.7	41.2	40.8	39.9	45.4	47.2	48.6	47.8	50.8	53.7									
11-year	20.5	24.9	30.2	34.6	37.7	39.7	39.0	39.1	38.2	44.4	46.0	47.0	46.1	49.3										
12-year	19.3	24.2	29.0	33.4	37.1	38.9	38.0	38.2	37.4	43.7	45.0	46.2	45.2											
13-year	18.6	23.4	28.3	32.5	36.7	38.8	37.3	36.7	36.1	42.0	44.0	45.0												
14-year	17.9	22.7	27.7	31.5	35.7	37.7	36.9	35.6	35.5	40.9	43.1													
15-year	17.5	22.1	26.9	30.9	35.2	36.9	36.4	34.7	35.0	39.8														
16-year	16.8	21.2	26.3	30.3	34.7	36.6	36.0	33.9	34.4															
17-year	16.4	20.4	25.9	29.6	33.9	36.3	34.8	33.3																
18-year	15.9	19.9	25.7	29.0	32.4	36.1	34.4																	
19-year	15.4	19.2	25.3	28.7	32.2	35.2																		
20-year	14.6	18.7	24.9	28.3	31.6																			

<sup>a</sup> 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 13.19  
LeukemiaSEER<sup>a</sup> Relative Survival (Percent)  
By Year of Diagnosis

All Races, Females

Year of Diagnosis

	1975- 1979	1980- 1984	1985- 1989	1990- 1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Survival Time																								
1-year	61.3	62.3	63.8	65.5	66.5	66.4	66.6	66.7	64.6	64.3	67.4	70.9	71.8	72.9	71.5	75.7	75.4	75.4	74.9	76.8	77.6	78.1	76.9	75.5
2-year	50.9	52.7	54.2	56.4	56.9	57.8	58.0	57.4	57.3	56.4	60.5	64.5	65.2	66.4	66.0	70.3	68.8	68.4	68.2	70.3	71.1	71.4	70.4	
3-year	45.0	47.1	49.2	52.3	52.5	52.9	54.4	53.4	53.8	52.2	56.4	61.1	61.7	62.8	62.3	67.0	65.6	64.7	66.1	66.4	67.7	68.2		
4-year	40.2	42.4	44.9	48.5	49.5	49.8	51.4	50.0	51.1	49.4	54.8	59.4	58.5	60.8	59.5	64.4	63.1	62.4	63.0	65.5	65.9			
5-year	36.1	38.4	41.4	45.9	48.0	47.5	48.9	47.9	48.8	46.6	53.0	58.3	56.9	58.8	58.2	62.4	61.4	60.0	60.4	63.7				
6-year	32.8	36.0	39.2	43.5	46.4	45.7	45.6	46.1	46.3	45.5	51.5	56.6	55.4	56.8	57.1	61.0	60.0	58.8	58.3					
7-year	30.9	33.4	36.7	41.0	44.7	44.3	43.8	44.8	45.0	43.8	50.4	56.0	53.7	55.6	55.7	59.0	59.6	57.4						
8-year	29.0	31.6	34.4	39.1	41.6	42.8	43.3	43.3	43.7	42.8	49.0	55.5	52.4	54.1	54.5	58.1	58.0							
9-year	27.3	29.9	32.6	37.5	40.9	41.6	41.3	42.4	42.8	42.8	47.8	53.3	51.3	53.3	53.4	57.1								
10-year	25.9	28.1	31.5	36.3	39.9	40.5	39.6	40.9	41.3	41.6	46.8	52.1	49.9	52.1	51.9									
11-year	24.7	26.9	29.5	34.7	37.8	39.8	38.3	40.3	40.2	40.1	45.6	51.4	48.3	50.1										
12-year	23.5	25.0	28.5	33.8	37.2	38.2	37.3	39.7	39.3	39.5	44.5	50.3	46.4											
13-year	22.8	23.9	27.6	32.9	36.5	37.3	36.6	39.2	38.4	38.2	44.2	47.9												
14-year	22.0	23.2	26.7	32.2	35.5	36.1	36.3	38.5	37.9	36.7	43.4													
15-year	21.4	22.5	26.4	31.8	35.3	34.8	35.9	36.9	36.7	36.3														
16-year	20.6	21.7	25.8	31.0	35.3	34.4	35.9	36.1	36.2															
17-year	20.1	21.0	25.2	30.4	34.2	34.0	35.7	35.8																
18-year	19.8	20.5	24.8	30.0	33.6	33.4	34.6																	
19-year	19.3	19.8	24.1	29.5	33.0	32.6																		
20-year	19.0	19.5	23.8	29.0	32.1																			

<sup>a</sup> 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 13.20  
Leukemia

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  
Both Sexes, 2013-2015 By Race/Ethnicity

Race/ Ethnicity	Current Age	Risk of Being Diagnosed with Cancer				Risk of Dying from Cancer	Race/ Ethnicity	Current Age	Risk of Being Diagnosed with Cancer				Risk of Dying from Cancer
		+10 yrs	+20 yrs	+30 yrs	Ever				+10 yrs	+20 yrs	+30 yrs	Ever	
All Races	0	0.06	0.09	0.12	1.51	0.83	Asian/ Pacific Islander	0	0.05	0.09	0.11	0.98	0.60
	10	0.03	0.06	0.10	1.46	0.84		10	0.03	0.06	0.09	0.94	0.60
	20	0.03	0.07	0.14	1.44	0.83		20	0.02	0.05	0.10	0.91	0.60
	30	0.04	0.11	0.25	1.42	0.83		30	0.03	0.07	0.14	0.88	0.59
	40	0.07	0.21	0.49	1.40	0.83		40	0.04	0.12	0.25	0.86	0.58
	50	0.14	0.43	0.87	1.36	0.83		50	0.07	0.21	0.47	0.83	0.58
	60	0.31	0.77	1.17	1.29	0.84		60	0.14	0.40	0.66	0.78	0.56
	70	0.53	0.98	-	1.12	0.82		70	0.28	0.55	-	0.67	0.52
80	0.60	-	-	0.79	0.68	80	0.32	-	-	0.47	0.42		
White	0	0.06	0.10	0.13	1.59	0.87	American Indian/ Alaska Native <sup>a</sup>	0	0.05	0.07	0.09	0.78	0.47
	10	0.04	0.07	0.11	1.54	0.87		10	0.02	0.04	0.07	0.74	0.47
	20	0.03	0.07	0.14	1.51	0.87		20	0.02	0.05	0.09	0.72	0.46
	30	0.04	0.11	0.26	1.49	0.87		30	0.03	0.07	0.17	0.71	0.46
	40	0.07	0.22	0.52	1.47	0.87		40	0.04	0.14	0.28	0.69	0.46
	50	0.15	0.46	0.92	1.43	0.87		50	0.10	0.25	0.48	0.68	0.47
	60	0.32	0.82	1.24	1.36	0.88		60	0.16	0.40	0.60	0.62	0.47
	70	0.56	1.03	-	1.17	0.85		70	0.28	0.50	-	0.53	0.46
80	0.64	-	-	0.82	0.71	80	0.30	-	-	0.34	0.37		
Black	0	0.03	0.05	0.07	1.03	0.59	Hispanic <sup>b</sup>	0	0.07	0.11	0.15	1.19	0.67
	10	0.02	0.04	0.08	1.01	0.59		10	0.04	0.08	0.12	1.13	0.67
	20	0.02	0.05	0.12	1.00	0.59		20	0.04	0.08	0.14	1.09	0.67
	30	0.03	0.10	0.22	0.99	0.59		30	0.04	0.10	0.21	1.07	0.66
	40	0.07	0.19	0.41	0.97	0.59		40	0.06	0.17	0.36	1.03	0.65
	50	0.13	0.36	0.66	0.94	0.59		50	0.11	0.30	0.60	0.99	0.64
	60	0.25	0.58	0.82	0.89	0.59		60	0.20	0.51	0.80	0.92	0.63
	70	0.40	0.69	-	0.77	0.57		70	0.34	0.66	-	0.79	0.59
80	0.42	-	-	0.54	0.47	80	0.40	-	-	0.56	0.48		

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

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

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

<sup>b</sup> 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 13.21  
Leukemia

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  
Males, 2013-2015 By Race/Ethnicity

Race/ Ethnicity	Current Age	Risk of Being Diagnosed with Cancer				Risk of Dying from Cancer	Race/ Ethnicity	Current Age	Risk of Being Diagnosed with Cancer				Risk of Dying from Cancer
		+10 yrs	+20 yrs	+30 yrs	Ever				+10 yrs	+20 yrs	+30 yrs	Ever	
All Races	0	0.06	0.10	0.13	1.78	0.99	Asian/ Pacific Islander	0	0.05	0.09	0.12	1.16	0.78
	10	0.04	0.07	0.12	1.74	1.00		10	0.04	0.07	0.10	1.12	0.78
	20	0.03	0.08	0.16	1.71	0.99		20	0.03	0.06	0.11	1.09	0.77
	30	0.05	0.12	0.29	1.69	1.00		30	0.03	0.08	0.17	1.06	0.77
	40	0.08	0.25	0.60	1.68	1.00		40	0.05	0.14	0.31	1.04	0.76
	50	0.18	0.53	1.08	1.65	1.01		50	0.09	0.26	0.56	1.00	0.76
	60	0.39	0.97	1.46	1.58	1.03		60	0.18	0.49	0.79	0.95	0.74
	70	0.68	1.25	-	1.40	1.03		70	0.34	0.67	-	0.84	0.72
80	0.80	-	-	1.01	0.89	80	0.41	-	-	0.62	0.60		
White	0	0.07	0.11	0.14	1.87	1.04	American Indian/ Alaska Native <sup>a</sup>	0	0.07	0.09	0.12	0.91	0.51
	10	0.04	0.08	0.12	1.83	1.04		10	0.02	0.05	0.10	0.86	0.51
	20	0.04	0.08	0.16	1.79	1.04		20	0.03	0.07	0.12	0.84	0.51
	30	0.05	0.13	0.30	1.78	1.04		30	0.05	0.09	0.21	0.83	0.51
	40	0.08	0.26	0.63	1.76	1.05		40	0.05	0.17	0.36	0.81	0.51
	50	0.18	0.56	1.14	1.73	1.06		50	0.12	0.32	0.61	0.80	0.53
	60	0.41	1.03	1.54	1.66	1.08		60	0.22	0.53	0.73	0.74	0.54
	70	0.73	1.31	-	1.46	1.07		70	0.37	0.61	-	0.61	0.54
80	0.84	-	-	1.05	0.92	80	0.33	-	-	0.34	0.38		
Black	0	0.03	0.05	0.07	1.16	0.67	Hispanic <sup>b</sup>	0	0.07	0.12	0.17	1.38	0.81
	10	0.03	0.05	0.08	1.16	0.68		10	0.05	0.10	0.15	1.33	0.82
	20	0.02	0.05	0.13	1.14	0.67		20	0.05	0.09	0.16	1.28	0.81
	30	0.04	0.11	0.26	1.14	0.68		30	0.05	0.12	0.24	1.25	0.80
	40	0.08	0.23	0.49	1.13	0.68		40	0.07	0.19	0.40	1.21	0.79
	50	0.16	0.43	0.79	1.11	0.69		50	0.12	0.34	0.71	1.17	0.79
	60	0.31	0.70	0.99	1.06	0.70		60	0.23	0.62	0.96	1.11	0.79
	70	0.50	0.87	-	0.96	0.69		70	0.44	0.82	-	0.99	0.77
80	0.59	-	-	0.72	0.61	80	0.50	-	-	0.72	0.69		

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

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

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

<sup>b</sup> 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 13.22  
Leukemia

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

Race/ Ethnicity	Current Age	Risk of Being Diagnosed with Cancer				Risk of Dying from Cancer	Race/ Ethnicity	Current Age	Risk of Being Diagnosed with Cancer				Risk of Dying from Cancer
		+10 yrs	+20 yrs	+30 yrs	Ever				+10 yrs	+20 yrs	+30 yrs	Ever	
All Races	0	0.06	0.08	0.11	1.26	0.69	Asian/ Pacific Islander	0	0.06	0.08	0.10	0.84	0.46
	10	0.03	0.05	0.08	1.21	0.69		10	0.03	0.05	0.07	0.79	0.46
	20	0.02	0.06	0.11	1.19	0.69		20	0.02	0.05	0.08	0.76	0.46
	30	0.03	0.09	0.20	1.17	0.69		30	0.03	0.06	0.12	0.74	0.45
	40	0.06	0.17	0.39	1.15	0.68		40	0.03	0.09	0.21	0.72	0.44
	50	0.11	0.33	0.68	1.11	0.68		50	0.06	0.17	0.39	0.69	0.44
	60	0.23	0.59	0.92	1.04	0.68		60	0.12	0.33	0.55	0.64	0.42
	70	0.39	0.76	-	0.89	0.65		70	0.23	0.45	-	0.55	0.38
80	0.47	-	-	0.64	0.55	80	0.26	-	-	0.37	0.29		
White	0	0.06	0.09	0.11	1.32	0.72	American Indian/ Alaska Native <sup>a</sup>	0	0.03	0.05	0.06	0.64	0.43
	10	0.03	0.05	0.09	1.27	0.72		10	0.01	0.03	0.05	0.62	0.43
	20	0.03	0.06	0.12	1.24	0.72		20	0.01	0.04	0.06	0.60	0.43
	30	0.03	0.09	0.21	1.23	0.71		30	0.02	0.05	0.13	0.60	0.42
	40	0.06	0.18	0.41	1.20	0.71		40	0.03	0.10	0.21	0.58	0.42
	50	0.12	0.35	0.71	1.16	0.71		50	0.08	0.19	0.35	0.57	0.43
	60	0.24	0.62	0.97	1.09	0.70		60	0.12	0.29	0.48	0.52	0.42
	70	0.41	0.80	-	0.93	0.68		70	0.19	0.41	-	0.45	0.41
80	0.49	-	-	0.67	0.57	80	0.27	-	-	0.33	0.38		
Black	0	0.03	0.05	0.07	0.92	0.52	Hispanic <sup>b</sup>	0	0.06	0.10	0.12	1.03	0.57
	10	0.02	0.04	0.07	0.90	0.53		10	0.03	0.06	0.09	0.97	0.57
	20	0.02	0.05	0.11	0.88	0.52		20	0.03	0.06	0.11	0.94	0.56
	30	0.03	0.09	0.19	0.86	0.52		30	0.03	0.08	0.18	0.92	0.56
	40	0.06	0.16	0.34	0.84	0.52		40	0.05	0.15	0.32	0.89	0.55
	50	0.10	0.29	0.55	0.81	0.51		50	0.10	0.27	0.51	0.85	0.54
	60	0.20	0.48	0.69	0.76	0.50		60	0.18	0.42	0.68	0.77	0.52
	70	0.32	0.56	-	0.64	0.48		70	0.26	0.54	-	0.64	0.47
80	0.33	-	-	0.44	0.40	80	0.33	-	-	0.45	0.36		

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

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

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

<sup>b</sup> 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 13.23  
Leukemia

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

SEER Incidence	SEER 18 Areas <sup>b</sup>			SEER 13 Areas <sup>b</sup>			SEER 9 Areas <sup>b</sup>		
	Rate 2011-2015			Trend 2006-2015 <sup>c</sup>			Trend 2006-2015 <sup>d</sup>		
	Rate per 100,000 persons			AAPC (%)			AAPC (%)		
RACE/ETHNICITY	Total	Males	Females	Total	Males	Females	Total	Males	Females
All Races	13.8	17.6	10.8	-0.4	-0.6	0.3*	0.3*	0.2*	0.3*
White	14.6	18.6	11.4	-0.3	-0.5	0.5*	0.4*	0.3*	0.5*
White Hispanic <sup>e</sup>	11.0	13.2	9.1	-1.0	0.2	0.7*	-	-	-
White Non-Hispanic <sup>e</sup>	15.0	19.2	11.6	0.5*	0.3*	0.5*	-	-	-
Black	11.0	14.0	9.0	0.2	0.1	0.3	0.0	0.0	0.1
Asian/Pacific Islander	7.8	9.7	6.4	-0.1	-0.1	-0.1	-	-	-
Amer Ind/Alaska Nat <sup>f</sup>	8.3	10.6	6.5	1.7*	2.6*	0.9	-	-	-
Hispanic <sup>e</sup>	10.6	12.8	8.8	-0.9	0.2	0.7*	-	-	-
<u>U.S. Mortality<sup>g</sup></u>									
	Rate 2011-2015			Trend 2006-2015 <sup>h</sup>					
	Rate per 100,000 persons			AAPC (%)					
RACE/ETHNICITY	Total	Males	Females	Total	Males	Females			
All Races	6.7	9.0	5.0	-1.5*	-1.5*	-1.7*			
White	6.9	9.3	5.2	-1.3*	-1.4*	-1.2*			
White Hispanic <sup>e</sup>	5.1	6.4	4.1	-1.2	-0.4*	-0.5*			
White Non-Hispanic <sup>e</sup>	7.0	9.5	5.2	-1.3*	-1.3*	-1.2*			
Black	5.6	7.4	4.5	-1.3*	-1.4*	-1.3*			
Asian/Pacific Islander	3.8	4.9	2.9	-1.1	-0.6*	-1.0*			
Amer Ind/Alaska Nat									
Total U.S.	3.3	4.3	2.5	-1.3*	-1.1	-1.9*			
CHSDA Counties	4.3	5.5	3.3	-0.4	-0.1	-1.1			
Non-CHSDA Counties	2.2	3.0	1.5	-2.4*	-2.1	-2.9*			
Hispanic <sup>e</sup>	4.8	6.0	3.9	-1.3	-0.6*	-0.6*			

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

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

Table 13.24  
LeukemiaAge-Adjusted SEER Incidence Rates<sup>a</sup>  
By Registry, Race and Sex

	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
<u>SEER Incidence Rates<sup>a</sup>, 2011-2015</u>									
California	12.46	15.93	9.61	13.43	17.15	10.34	10.46	13.81	7.88
Greater Bay Area	12.30	16.08	9.22	14.07	18.38	10.49	10.79	14.09	8.18
San Francisco-Oakland	12.01	15.66	9.09	13.73	17.78	10.41	10.57	13.46	8.29
San Jose-Monterey	12.75	16.79	9.38	14.55	19.29	10.53	12.18	17.86	-
Los Angeles	11.81	14.94	9.28	12.94	16.34	10.13	10.36	13.42	8.23
Greater California	12.81	16.31	9.89	13.43	17.08	10.37	10.48	14.06	7.44
Connecticut	14.70	18.69	11.53	14.97	18.83	11.90	9.65	11.60	8.10
Detroit	15.85	20.52	12.34	16.98	22.02	13.07	12.11	15.19	10.08
Georgia	14.07	17.95	11.18	15.07	19.16	11.81	11.53	14.72	9.70
Atlanta	13.76	17.77	10.93	15.32	19.64	12.08	11.92	15.12	9.95
Rural Georgia	13.87	15.47	12.01	14.47	16.35	11.99	13.31	-	12.40
Greater Georgia	14.22	18.12	11.27	15.00	19.09	11.70	11.20	14.40	9.47
Hawaii	11.36	14.12	9.04	14.85	17.57	11.96	-	-	-
Iowa	16.03	20.87	12.08	16.08	21.00	12.05	13.31	15.83	10.74
Kentucky	15.91	20.27	12.46	15.93	20.27	12.49	12.62	16.24	9.93
Louisiana	13.89	17.70	10.92	15.25	19.29	11.98	10.25	12.90	8.33
New Jersey	15.21	19.43	12.00	15.24	19.49	11.96	11.03	13.78	9.36
New Mexico	12.86	15.64	10.47	12.86	15.63	10.50	8.18	-	-
Seattle-Puget Sound	15.70	20.33	11.81	16.44	21.08	12.49	12.93	15.89	9.88
Utah	13.62	17.02	10.70	13.87	17.25	10.96	-	-	-
SEER 9 Areas <sup>b</sup>	14.25	18.24	11.06	15.23	19.39	11.82	11.50	14.31	9.51
SEER 13 Areas <sup>b</sup>	13.64	17.45	10.57	14.77	18.82	11.43	11.22	14.13	9.18
SEER 18 Areas <sup>b</sup>	13.80	17.60	10.75	14.62	18.61	11.36	11.02	13.97	8.99

<sup>a</sup> Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130)<sup>b</sup> The SEER 9 areas are San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah and Atlanta.

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

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

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



Table 13.25  
LeukemiaAge-Adjusted SEER Death Rates<sup>a</sup>  
By Registry, Race and Sex

	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
<u>SEER Death Rates<sup>a</sup>, 2011-2015</u>									
California	6.30	8.27	4.82	6.83	8.99	5.18	5.87	7.24	4.86
Greater Bay Area	5.75	7.70	4.35	6.51	8.72	4.93	5.61	7.63	4.21
San Francisco-Oakland	5.53	7.47	4.15	6.35	8.57	4.76	5.35	7.47	3.89
San Jose-Monterey	6.13	8.10	4.70	6.76	8.94	5.19	7.18	-	-
Los Angeles	6.27	8.15	4.88	6.94	9.15	5.29	5.72	6.73	5.05
Greater California	6.51	8.51	4.96	6.86	8.99	5.21	6.17	7.49	5.07
Connecticut	6.53	8.84	4.80	6.73	9.14	4.92	4.62	5.48	3.99
Detroit	6.77	9.34	5.01	7.09	9.85	5.14	5.70	7.26	4.73
Georgia	6.26	8.43	4.68	6.52	8.75	4.83	5.50	7.36	4.32
Atlanta	5.88	8.04	4.37	6.36	8.46	4.85	5.09	7.23	3.68
Rural Georgia	7.08	9.72	5.30	7.14	10.39	-	6.25	-	-
Greater Georgia	6.42	8.57	4.84	6.56	8.80	4.84	5.78	7.43	4.75
Hawaii	4.92	6.28	3.85	5.48	6.15	4.79	-	-	-
Iowa	6.89	9.50	4.98	6.95	9.53	5.07	-	-	-
Kentucky	7.37	9.59	5.81	7.45	9.67	5.86	6.33	8.37	5.06
Louisiana	6.78	9.21	5.05	7.09	9.62	5.21	5.81	7.90	4.55
New Jersey	6.39	8.47	4.91	6.82	9.14	5.15	4.87	5.77	4.36
New Mexico	5.59	7.53	4.02	5.88	7.88	4.23	-	-	-
Seattle-Puget Sound	6.38	8.30	4.90	6.61	8.49	5.15	6.26	9.30	3.84
Utah	6.71	8.60	5.17	6.84	8.68	5.36	-	-	-
SEER 9 Areas <sup>b</sup>	6.23	8.36	4.65	6.64	8.85	4.97	5.34	7.27	4.07
SEER 13 Areas <sup>b</sup>	6.24	8.30	4.71	6.73	8.94	5.06	5.43	7.09	4.32
SEER 18 Areas <sup>b</sup>	6.42	8.51	4.88	6.83	9.05	5.15	5.56	7.16	4.52
Total U.S.	6.68	8.96	4.98	6.94	9.31	5.16	5.61	7.39	4.46

<sup>a</sup> 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).

<sup>b</sup> The SEER 9 areas are San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah and Atlanta. The SEER 13 areas comprise the SEER 9 areas plus San Jose-Monterey, Los Angeles, the Alaska Native Registry and Rural Georgia. The SEER 18 areas comprise the SEER 13 areas plus California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey and Georgia excluding ATL/RG.

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

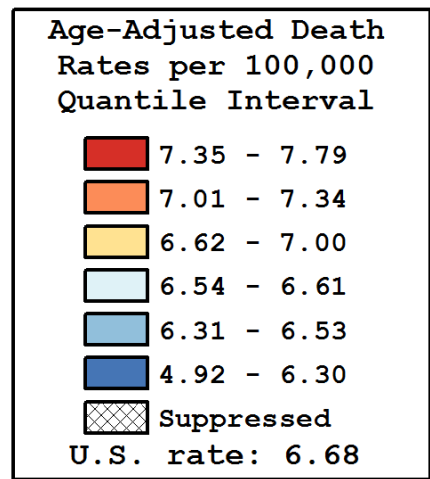
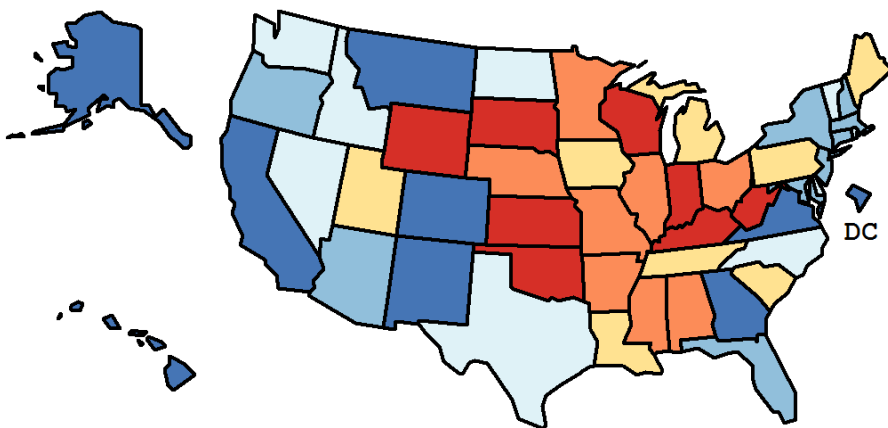
Table 13.26  
Leukemia

Age-Adjusted Cancer Death<sup>a</sup> Rates By State, All Races, 2011-2015

Males and Females

State	Rate	SE	Rank(CI) <sup>d</sup>	PD
TOTAL U.S.	6.68	0.02		
High Five States				
South Dakota	7.79	0.40	01(01,17)	16.62 <sup>c</sup>
West Virginia	7.75	0.26	02(01,23)	16.06 <sup>c</sup>
Oklahoma	7.74	0.19	03(01,14)	15.91 <sup>c</sup>
Wyoming	7.63	0.51	04(01,29)	14.35
Kansas	7.60	0.22	05(01,19)	13.82
Low Five States				
Colorado	6.11	0.16	47(27,50)	-8.49
Alaska	6.04	0.52	48(01,51)	-9.50
New Mexico	5.59	0.22	49(28,51)	-16.23 <sup>c</sup>
D.C.	5.32	0.43	50(27,51)	-20.29 <sup>c</sup>
Hawaii	4.92	0.25	51(48,51)	-26.37 <sup>c</sup>

State	Rate	SE	Rank(CI) <sup>d</sup>	PD	State	Rate	SE	Rank(CI) <sup>d</sup>	PD
Alabama	7.09	0.16	12(05,29)	6.21	Montana	6.12	0.32	46(16,51)	-8.38
Alaska	6.04	0.52	48(01,51)	-9.50	Nebraska	7.05	0.26	15(04,46)	5.54
Arizona	6.36	0.13	42(22,47)	-4.72	Nevada	6.60	0.22	27(10,48)	-1.18
Arkansas	7.34	0.21	09(02,28)	9.91	New Hampshire	6.40	0.29	37(08,50)	-4.06
California	6.30	0.06	43(30,47)	-5.61	New Jersey	6.39	0.11	41(25,48)	-4.35
Colorado	6.11	0.16	47(27,50)	-8.49	New Mexico	5.59	0.22	49(28,51)	-16.23 <sup>c</sup>
Connecticut	6.53	0.18	34(15,48)	-2.24	New York	6.40	0.08	39(30,48)	-4.18
Delaware	6.54	0.35	32(03,49)	-1.97	North Carolina	6.55	0.11	30(22,46)	-1.83
D.C.	5.32	0.43	50(27,51)	-20.29 <sup>c</sup>	North Dakota	6.60	0.41	26(03,50)	-1.18
Florida	6.39	0.07	40(29,47)	-4.32	Ohio	7.07	0.10	13(09,27)	5.97
Georgia	6.26	0.12	44(31,50)	-6.29	Oklahoma	7.74	0.19	03(01,14)	15.91 <sup>c</sup>
Hawaii	4.92	0.25	51(48,51)	-26.37 <sup>c</sup>	Oregon	6.40	0.17	38(16,48)	-4.11
Idaho	6.57	0.28	28(06,49)	-1.55	Pennsylvania	7.00	0.09	17(09,27)	4.88
Illinois	7.03	0.10	16(08,25)	5.25	Rhode Island	6.55	0.33	31(08,50)	-1.89
Indiana	7.47	0.15	06(03,22)	11.96	South Carolina	6.71	0.16	24(16,47)	0.46
Iowa	6.89	0.19	20(05,34)	3.22	South Dakota	7.79	0.40	01(01,17)	16.62 <sup>c</sup>
Kansas	7.60	0.22	05(01,19)	13.82	Tennessee	6.98	0.14	18(04,24)	4.51
Kentucky	7.37	0.18	08(01,17)	10.42	Texas	6.61	0.08	25(20,37)	-0.96
Louisiana	6.78	0.17	22(08,39)	1.52	Utah	6.71	0.25	23(17,50)	0.47
Maine	6.83	0.28	21(02,45)	2.27	Vermont	6.56	0.42	29(02,50)	-1.81
Maryland	6.45	0.15	36(21,48)	-3.36	Virginia	6.20	0.12	45(30,50)	-7.10
Massachusetts	6.46	0.13	35(18,46)	-3.18	Washington	6.54	0.14	33(17,45)	-2.09
Michigan	6.96	0.11	19(09,30)	4.33	West Virginia	7.75	0.26	02(01,23)	16.06 <sup>c</sup>
Minnesota	7.19	0.16	11(02,22)	7.71	Wisconsin	7.40	0.15	07(01,12)	10.79
Mississippi	7.07	0.21	14(04,39)	5.84	Wyoming	7.63	0.51	04(01,29)	14.35
Missouri	7.22	0.14	10(04,25)	8.14					



<sup>a</sup> 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).

<sup>b</sup> Difference between state rate and total U.S. rate is statistically significant ( $p < .0002$ ).

<sup>c</sup> Absolute percent difference between state rate and total U.S. rate is 15% or more.

<sup>d</sup> 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.

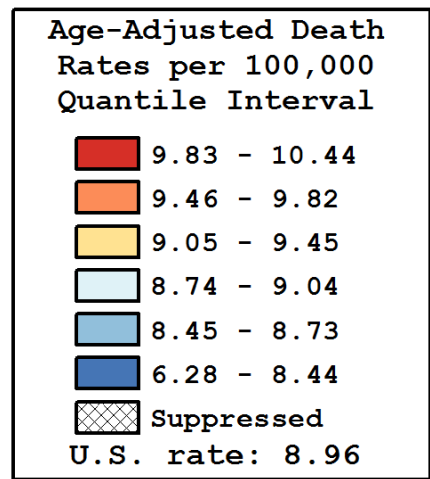
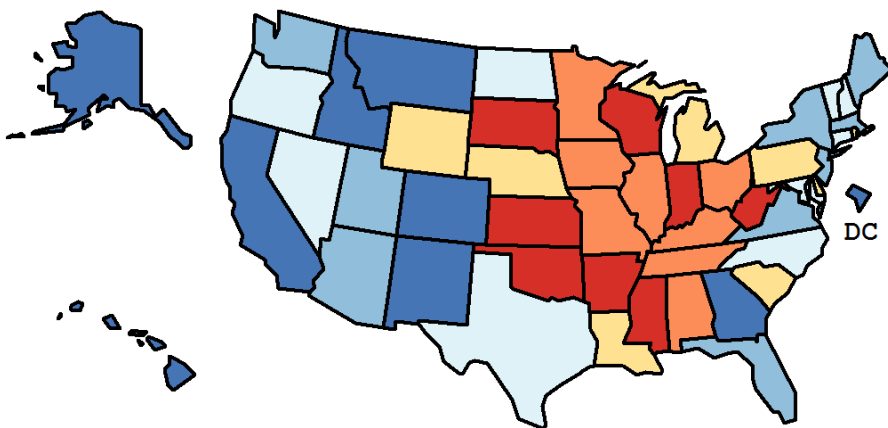
Table 13.27  
Leukemia

Age-Adjusted Cancer Death<sup>a</sup> Rates By State, All Races, 2011-2015

Males

State	Rate	SE	Rank(CI) <sup>d</sup>	PD
TOTAL U.S.	8.96	0.04		
High Five States				
South Dakota	10.44	0.70	01(01,29)	16.49 <sup>c</sup>
Arkansas	10.25	0.38	02(01,25)	14.35
Oklahoma	10.21	0.34	03(01,20)	13.95
Kansas	10.21	0.39	04(01,26)	13.93
Indiana	10.05	0.26	05(02,27)	12.19
Low Five States				
Montana	8.02	0.54	47(22,51)	-10.52
New Mexico	7.53	0.39	48(26,51)	-16.02 <sup>c</sup>
D.C.	7.51	0.83	49(15,51)	-16.24 <sup>c</sup>
Alaska	7.27	0.83	50(01,51)	-18.86 <sup>c</sup>
Hawaii	6.28	0.42	51(45,51)	-29.93 <sup>c</sup>

State	Rate	SE	Rank(CI) <sup>d</sup>	PD	State	Rate	SE	Rank(CI) <sup>d</sup>	PD
Alabama	9.82	0.30	09(01,27)	9.53	Montana	8.02	0.54	47(22,51)	-10.52
Alaska	7.27	0.83	50(01,51)	-18.86 <sup>c</sup>	Nebraska	9.43	0.46	19(04,49)	5.24
Arizona	8.48	0.22	41(22,48)	-5.32	Nevada	8.75	0.38	33(07,48)	-2.35
Arkansas	10.25	0.38	02(01,25)	14.35	New Hampshire	8.83	0.52	31(03,50)	-1.46
California	8.27	0.10	46(36,49)	-7.73	New Jersey	8.47	0.20	42(25,49)	-5.51
Colorado	8.34	0.28	45(24,50)	-6.94	New Mexico	7.53	0.39	48(26,51)	-16.02 <sup>c</sup>
Connecticut	8.84	0.32	30(10,47)	-1.33	New York	8.73	0.14	34(25,46)	-2.63
Delaware	9.07	0.63	24(01,49)	1.25	North Carolina	8.98	0.21	27(18,46)	0.25
D.C.	7.51	0.83	49(15,51)	-16.24 <sup>c</sup>	North Dakota	9.01	0.71	26(01,51)	0.52
Florida	8.50	0.12	40(31,48)	-5.18	Ohio	9.46	0.18	16(08,32)	5.59
Georgia	8.43	0.22	44(27,49)	-5.88	Oklahoma	10.21	0.34	03(01,20)	13.95
Hawaii	6.28	0.42	51(45,51)	-29.93 <sup>c</sup>	Oregon	8.86	0.30	29(14,48)	-1.16
Idaho	8.44	0.48	43(04,49)	-5.84	Pennsylvania	9.34	0.17	20(11,33)	4.25
Illinois	9.52	0.18	14(06,28)	6.24	Rhode Island	9.16	0.60	22(02,50)	2.25
Indiana	10.05	0.26	05(02,27)	12.19	South Carolina	9.16	0.29	23(09,45)	2.19
Iowa	9.50	0.35	15(02,38)	6.03	South Dakota	10.44	0.70	01(01,29)	16.49 <sup>c</sup>
Kansas	10.21	0.39	04(01,26)	13.93	Tennessee	9.58	0.26	13(01,26)	6.86
Kentucky	9.59	0.31	12(01,23)	6.97	Texas	8.92	0.14	28(22,42)	-0.46
Louisiana	9.21	0.31	21(05,41)	2.79	Utah	8.60	0.42	37(24,51)	-4.01
Maine	8.72	0.48	35(02,48)	-2.75	Vermont	9.04	0.76	25(01,50)	0.87
Maryland	8.82	0.27	32(17,48)	-1.62	Virginia	8.50	0.22	39(24,49)	-5.11
Massachusetts	8.70	0.24	36(14,45)	-2.86	Washington	8.52	0.23	38(19,48)	-4.92
Michigan	9.45	0.20	17(07,31)	5.45	West Virginia	10.02	0.45	06(01,37)	11.85
Minnesota	9.80	0.28	10(02,28)	9.31	Wisconsin	9.88	0.26	07(01,16)	10.29
Mississippi	9.88	0.39	08(02,44)	10.24	Wyoming	9.45	0.84	18(01,49)	5.42
Missouri	9.68	0.26	11(02,28)	8.04					



<sup>a</sup> 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).

<sup>b</sup> Difference between state rate and total U.S. rate is statistically significant ( $p < .0002$ ).

<sup>c</sup> Absolute percent difference between state rate and total U.S. rate is 15% or more.

<sup>d</sup> 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.

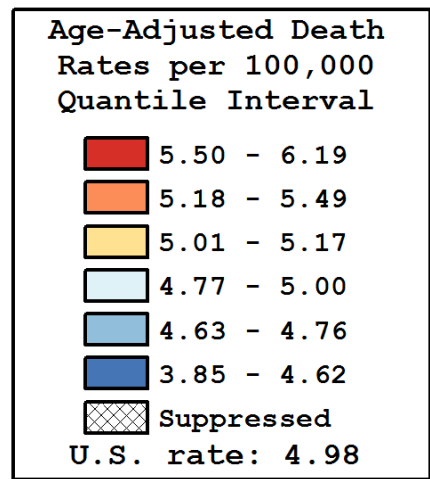
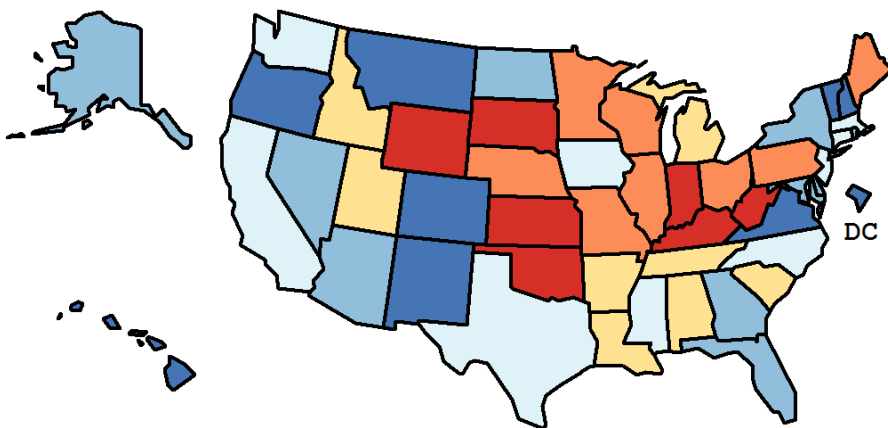
Table 13.28  
Leukemia

Age-Adjusted Cancer Death<sup>a</sup> Rates By State, All Races, 2011-2015

Females

State	Rate	SE	Rank(CI) <sup>d</sup>	PD
TOTAL U.S.	4.98	0.02		
High Five States				
Wyoming	6.19	0.63	01(01,40)	24.24 <sup>c</sup>
West Virginia	6.03	0.31	02(01,31)	20.92 <sup>c</sup>
Oklahoma	5.85	0.23	03(01,22)	17.40 <sup>c</sup>
Kentucky	5.81	0.21	04(01,21)	16.50 <sup>c</sup>
South Dakota	5.71	0.47	05(01,45)	14.56
Low Five States				
Colorado	4.44	0.18	47(20,50)	-10.83
Montana	4.44	0.37	48(03,51)	-10.95
New Mexico	4.02	0.26	49(16,51)	-19.25 <sup>c</sup>
D.C.	3.93	0.47	50(05,51)	-21.09 <sup>c</sup>
Hawaii	3.85	0.31	51(24,51)	-22.76 <sup>c</sup>

State	Rate	SE	Rank(CI) <sup>d</sup>	PD	State	Rate	SE	Rank(CI) <sup>d</sup>	PD
Alabama	5.15	0.19	18(04,42)	3.28	Montana	4.44	0.37	48(03,51)	-10.95
Alaska	4.76	0.63	34(02,51)	-4.53	Nebraska	5.23	0.30	14(01,47)	4.92
Arizona	4.64	0.15	42(15,48)	-6.82	Nevada	4.75	0.26	36(14,51)	-4.64
Arkansas	5.17	0.24	16(04,48)	3.79	New Hampshire	4.51	0.33	45(04,51)	-9.50
California	4.82	0.07	31(20,41)	-3.19	New Jersey	4.91	0.13	27(14,46)	-1.43
Colorado	4.44	0.18	47(20,50)	-10.83	New Mexico	4.02	0.26	49(16,51)	-19.25 <sup>c</sup>
Connecticut	4.80	0.20	32(12,49)	-3.70	New York	4.76	0.09	33(25,47)	-4.53
Delaware	4.66	0.39	41(04,51)	-6.41	North Carolina	4.85	0.13	30(13,45)	-2.60
D.C.	3.93	0.47	50(05,51)	-21.09 <sup>c</sup>	North Dakota	4.67	0.46	39(02,51)	-6.20
Florida	4.71	0.08	37(28,48)	-5.54	Ohio	5.37	0.12	10(05,29)	7.75
Georgia	4.68	0.13	38(22,49)	-6.00	Oklahoma	5.85	0.23	03(01,22)	17.40 <sup>c</sup>
Hawaii	3.85	0.31	51(24,51)	-22.76 <sup>c</sup>	Oregon	4.50	0.19	46(11,49)	-9.66
Idaho	5.04	0.34	22(04,51)	1.07	Pennsylvania	5.36	0.11	11(03,24)	7.48
Illinois	5.28	0.12	12(04,26)	6.05	Rhode Island	4.67	0.36	40(04,51)	-6.34
Indiana	5.60	0.17	07(01,23)	12.29	South Carolina	5.03	0.19	23(10,48)	0.89
Iowa	4.98	0.22	26(03,45)	-0.05	South Dakota	5.71	0.47	05(01,45)	14.56
Kansas	5.68	0.26	06(01,26)	13.98	Tennessee	5.11	0.16	20(03,35)	2.62
Kentucky	5.81	0.21	04(01,21)	16.50 <sup>c</sup>	Texas	4.89	0.09	29(13,36)	-1.88
Louisiana	5.05	0.19	21(04,44)	1.25	Utah	5.17	0.29	17(02,49)	3.78
Maine	5.28	0.33	13(01,49)	5.90	Vermont	4.62	0.46	43(02,51)	-7.22
Maryland	4.75	0.17	35(12,48)	-4.60	Virginia	4.52	0.14	44(26,50)	-9.22
Massachusetts	4.90	0.15	28(12,46)	-1.68	Washington	5.00	0.16	24(07,43)	0.38
Michigan	5.14	0.13	19(08,38)	3.18	West Virginia	6.03	0.31	02(01,31)	20.92 <sup>c</sup>
Minnesota	5.20	0.18	15(02,32)	4.40	Wisconsin	5.49	0.17	08(01,24)	10.18
Mississippi	5.00	0.24	25(02,46)	0.28	Wyoming	6.19	0.63	01(01,40)	24.24 <sup>c</sup>
Missouri	5.40	0.17	09(03,32)	8.39					



<sup>a</sup> 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).

<sup>b</sup> Difference between state rate and total U.S. rate is statistically significant ( $p < .0002$ ).

<sup>c</sup> Absolute percent difference between state rate and total U.S. rate is 15% or more.

<sup>d</sup> 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 13.29  
LeukemiaEstimated United States Cancer Prevalence Counts<sup>a</sup> on January 1, 2015  
By Race/Ethnicity, Sex and Years Since Diagnosis

Years Since Diagnosis		0 to <5	5 to <10	10 to <15	15 to <20	20 to <25	25 to <30	0 to <23 <sup>e</sup>	0 to <40 <sup>e</sup>	>=40 <sup>g</sup>	Complete <sup>h</sup>
<u>Race</u>	<u>Sex</u>										
All Races <sup>b</sup>	Both Sexes	156,843	96,775	60,112	35,882	22,220	14,202	371,834	399,967	5,848	405,815
	Males	91,684	55,817	33,801	19,902	12,115	7,835	213,322	228,132	2,491	230,623
	Females	65,159	40,958	26,311	15,980	10,105	6,367	158,512	171,835	3,357	175,192
White <sup>b</sup>	Both Sexes	136,049	85,322	53,344	31,876	19,958	12,722	326,548	352,070	4,900	356,970
	Males	80,027	49,289	30,131	17,605	11,087	7,100	188,137	201,737	1,725	203,462
	Females	56,022	36,033	23,213	14,271	8,871	5,622	138,411	150,333	3,175	153,508
Black <sup>b</sup>	Both Sexes	12,320	6,555	4,027	2,185	1,237	698	26,325	27,676	949	28,625
	Males	6,689	3,816	2,119	1,174	530	325	14,329	14,917	433	15,350
	Females	5,631	2,739	1,908	1,011	707	373	11,996	12,759	516	13,275
Asian/ Pacific Islander <sup>c</sup>	Both Sexes	3,753	2,464	1,582	+	+	+	9,452	+	+	+
	Males	2,159	1,409	834	+	+	+	5,287	+	+	+
	Females	1,594	1,055	748	+	+	+	4,165	+	+	+
Hispanic <sup>d</sup>	Both Sexes	13,644	9,039	6,068	+	+	+	34,693	+	+	+
	Males	7,627	5,215	3,392	+	+	+	19,681	+	+	+
	Females	6,017	3,824	2,676	+	+	+	15,012	+	+	+

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

Age at Prevalence		Age Specific (Crude)									Age-Adjusted <sup>f</sup>	
		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 <sup>c</sup>	Both Sexes	0.1022%	0.0322%	0.0624%	0.0575%	0.0348%	0.0520%	0.0969%	0.2051%	0.3642%	0.4629%	0.0972%
	Males	0.1192%	0.0332%	0.0687%	0.0627%	0.0388%	0.0610%	0.1181%	0.2637%	0.4806%	0.6364%	0.1204%
	Females	0.0856%	0.0312%	0.0559%	0.0521%	0.0308%	0.0430%	0.0765%	0.1521%	0.2686%	0.3575%	0.0780%
White <sup>c</sup>	Both Sexes	0.1184%	0.0365%	0.0707%	0.0663%	0.0390%	0.0560%	0.1056%	0.2293%	0.4100%	0.5274%	0.1090%
	Males	0.1374%	0.0369%	0.0784%	0.0709%	0.0437%	0.0649%	0.1279%	0.2929%	0.5366%	0.7210%	0.1341%
	Females	0.0994%	0.0360%	0.0627%	0.0613%	0.0341%	0.0467%	0.0833%	0.1696%	0.3031%	0.4081%	0.0876%
Black <sup>c</sup>	Both Sexes	0.0574%	0.0145%	0.0292%	0.0325%	0.0246%	0.0426%	0.0719%	0.1387%	0.2462%	0.2917%	0.0635%
	Males	0.0652%	0.0159%	0.0317%	0.0348%	0.0264%	0.0503%	0.0901%	0.1701%	0.3345%	0.4079%	0.0793%
	Females	0.0503%	0.0131%	0.0267%	0.0303%	0.0230%	0.0359%	0.0559%	0.1141%	0.1845%	0.2337%	0.0521%
Asian/ Pacific Islander <sup>c</sup>	Both Sexes	0.0503%	0.0265%	0.0514%	0.0384%	0.0231%	0.0371%	0.0554%	0.0826%	0.1315%	0.1356%	0.0502%
	Males	0.0590%	0.0287%	0.0536%	0.0466%	0.0240%	0.0452%	0.0670%	0.1025%	0.1711%	0.2024%	0.0607%
	Females	0.0424%	0.0242%	0.0492%	0.0299%	0.0223%	0.0300%	0.0454%	0.0664%	0.1005%	0.0943%	0.0416%
Hispanic <sup>d</sup>	Both Sexes	0.0628%	0.0368%	0.0700%	0.0656%	0.0374%	0.0475%	0.0668%	0.1130%	0.1864%	0.2064%	0.0707%
	Males	0.0705%	0.0392%	0.0800%	0.0743%	0.0450%	0.0558%	0.0768%	0.1291%	0.2146%	0.2608%	0.0821%
	Females	0.0551%	0.0342%	0.0597%	0.0562%	0.0293%	0.0389%	0.0571%	0.0990%	0.1653%	0.1734%	0.0604%

<sup>a</sup> US 2015 cancer prevalence counts are based on 2015 cancer prevalence proportions from the SEER registries and 1/1/2015 US population estimates based on the average of 2014 and 2015 population estimates from the US Bureau of the Census. Prevalence was calculated using the first invasive tumor for each cancer site diagnosed during the previous 40/23 years.

<sup>b c d</sup> Statistics based on (b) SEER 9 Areas (c) SEER 13 Areas excluding the Alaska Native Registry

(d) NHIA for Hispanic for SEER 13 Areas excluding the Alaska Native Registry.

<sup>e</sup> Maximum limited-duration prevalence: 40 years for 1975-2015 SEER 9 data; 23 years for 1992-2015 SEER 13 data (excluding the Alaska Native Registry) used to calculate prevalence for Hispanics and Asian Pacific Islanders.

<sup>f</sup> Percentages are age-adjusted to the 2000 US Standard Population (19 age groups - Census P25-1130) by 5-year age groups.

<sup>g h i</sup> (g) Cases diagnosed more than 40 years ago were estimated using the completeness index method (Capocaccia et. al. 1997, Merrill et. al. 2000). (h) Complete prevalence is obtained by summing 0 to <40 and >=40. (i) Age-specific completeness index was approximated using empirical data from historical Connecticut tumor registry.

- Statistic not shown. Statistic based on fewer than 5 cases estimated alive in SEER for the time interval.

+ Not available.

Table 13.30  
Acute Lymphocytic Leukemia

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

Years Since Diagnosis		0 to <5	5 to <10	10 to <15	15 to <20	20 to <25	25 to <30	0 to <23 <sup>e</sup>	0 to <40 <sup>e</sup>	>=40 <sup>g</sup>	Complete <sup>h</sup>
<u>Race</u>	<u>Sex</u>										
All Races <sup>b</sup>	Both Sexes	18,281	14,301	12,468	11,153	8,512	7,212	64,714	81,139	3,631	84,770
	Males	9,769	8,042	7,008	6,114	4,583	4,021	35,518	44,099	1,808	45,907
	Females	8,512	6,259	5,460	5,039	3,929	3,191	29,196	37,040	1,823	38,863
White <sup>b</sup>	Both Sexes	15,170	12,056	10,831	9,684	7,490	6,337	55,229	70,050	+	+
	Males	8,111	6,648	6,157	5,227	4,118	3,566	30,262	38,063	+	+
	Females	7,059	5,408	4,674	4,457	3,372	2,771	24,967	31,987	+	+
Black <sup>b</sup>	Both Sexes	1,549	1,108	799	742	523	404	4,721	5,503	+	+
	Males	861	773	384	430	227	199	2,675	3,044	+	+
	Females	688	335	415	312	296	205	2,046	2,459	+	+
Asian/ Pacific Islander <sup>c</sup>	Both Sexes	938	720	561	+	+	+	2,996	+	+	+
	Males	495	406	299	+	+	+	1,652	+	+	+
	Females	443	314	262	+	+	+	1,344	+	+	+
Hispanic <sup>d</sup>	Both Sexes	5,662	4,279	3,074	+	+	+	16,711	+	+	+
	Males	3,181	2,592	1,703	+	+	+	9,696	+	+	+
	Females	2,481	1,687	1,371	+	+	+	7,015	+	+	+

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

Age at Prevalence		Age Specific (Crude)									Age-Adjusted <sup>f</sup>	
		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 <sup>c</sup>	Both Sexes	0.0207%	0.0271%	0.0527%	0.0422%	0.0120%	0.0072%	0.0056%	0.0060%	0.0052%	0.0025%	0.0214%
	Males	0.0234%	0.0276%	0.0577%	0.0473%	0.0145%	0.0081%	0.0065%	0.0060%	0.0057%	0.0034%	0.0236%
	Females	0.0181%	0.0265%	0.0475%	0.0368%	0.0096%	0.0063%	0.0048%	0.0059%	0.0048%	0.0020%	0.0193%
White <sup>c</sup>	Both Sexes	0.0235%	0.0311%	0.0605%	0.0498%	0.0147%	0.0079%	0.0061%	0.0064%	0.0053%	0.0023%	0.0248%
	Males	0.0263%	0.0314%	0.0664%	0.0548%	0.0176%	0.0091%	0.0069%	0.0065%	0.0062%	0.0023%	0.0271%
	Females	0.0208%	0.0308%	0.0544%	0.0445%	0.0117%	0.0067%	0.0054%	0.0064%	0.0044%	0.0023%	0.0223%
Black <sup>c</sup>	Both Sexes	0.0105%	0.0108%	0.0234%	0.0204%	0.0054%	0.0038%	0.0033%	0.0036%	-	-	0.0098%
	Males	0.0122%	0.0120%	0.0261%	0.0234%	0.0064%	0.0032%	0.0047%	0.0032%	-	-	0.0110%
	Females	0.0089%	0.0095%	0.0205%	0.0174%	0.0046%	0.0044%	0.0020%	0.0038%	-	-	0.0087%
Asian/ Pacific Islander <sup>c</sup>	Both Sexes	0.0145%	0.0210%	0.0410%	0.0259%	0.0061%	0.0061%	0.0044%	0.0042%	0.0062%	0.0034%	0.0156%
	Males	0.0168%	0.0213%	0.0431%	0.0318%	0.0070%	0.0067%	0.0055%	0.0049%	0.0036%	0.0089%	0.0172%
	Females	0.0123%	0.0207%	0.0388%	0.0197%	0.0052%	0.0056%	0.0035%	0.0037%	0.0082%	-	0.0141%
Hispanic <sup>d</sup>	Both Sexes	0.0297%	0.0322%	0.0608%	0.0506%	0.0156%	0.0098%	0.0091%	0.0087%	0.0075%	-	0.0260%
	Males	0.0341%	0.0342%	0.0689%	0.0588%	0.0200%	0.0109%	0.0115%	0.0050%	0.0067%	-	0.0293%
	Females	0.0252%	0.0302%	0.0524%	0.0419%	0.0108%	0.0086%	0.0069%	0.0119%	0.0081%	-	0.0224%

<sup>a</sup> US 2015 cancer prevalence counts are based on 2015 cancer prevalence proportions from the SEER registries and 1/1/2015 US population estimates based on the average of 2014 and 2015 population estimates from the US Bureau of the Census. Prevalence was calculated using the first invasive tumor for each cancer site diagnosed during the previous 40/23 years.

<sup>b c d</sup> Statistics based on (b) SEER 9 Areas (c) SEER 13 Areas excluding the Alaska Native Registry

(d) NHIA for Hispanic for SEER 13 Areas excluding the Alaska Native Registry.

<sup>e</sup> Maximum limited-duration prevalence: 40 years for 1975-2015 SEER 9 data; 23 years for 1992-2015 SEER 13 data (excluding the Alaska Native Registry) used to calculate prevalence for Hispanics and Asian Pacific Islanders.

<sup>f</sup> Percentages are age-adjusted to the 2000 US Standard Population (19 age groups - Census P25-1130) by 5-year age groups.

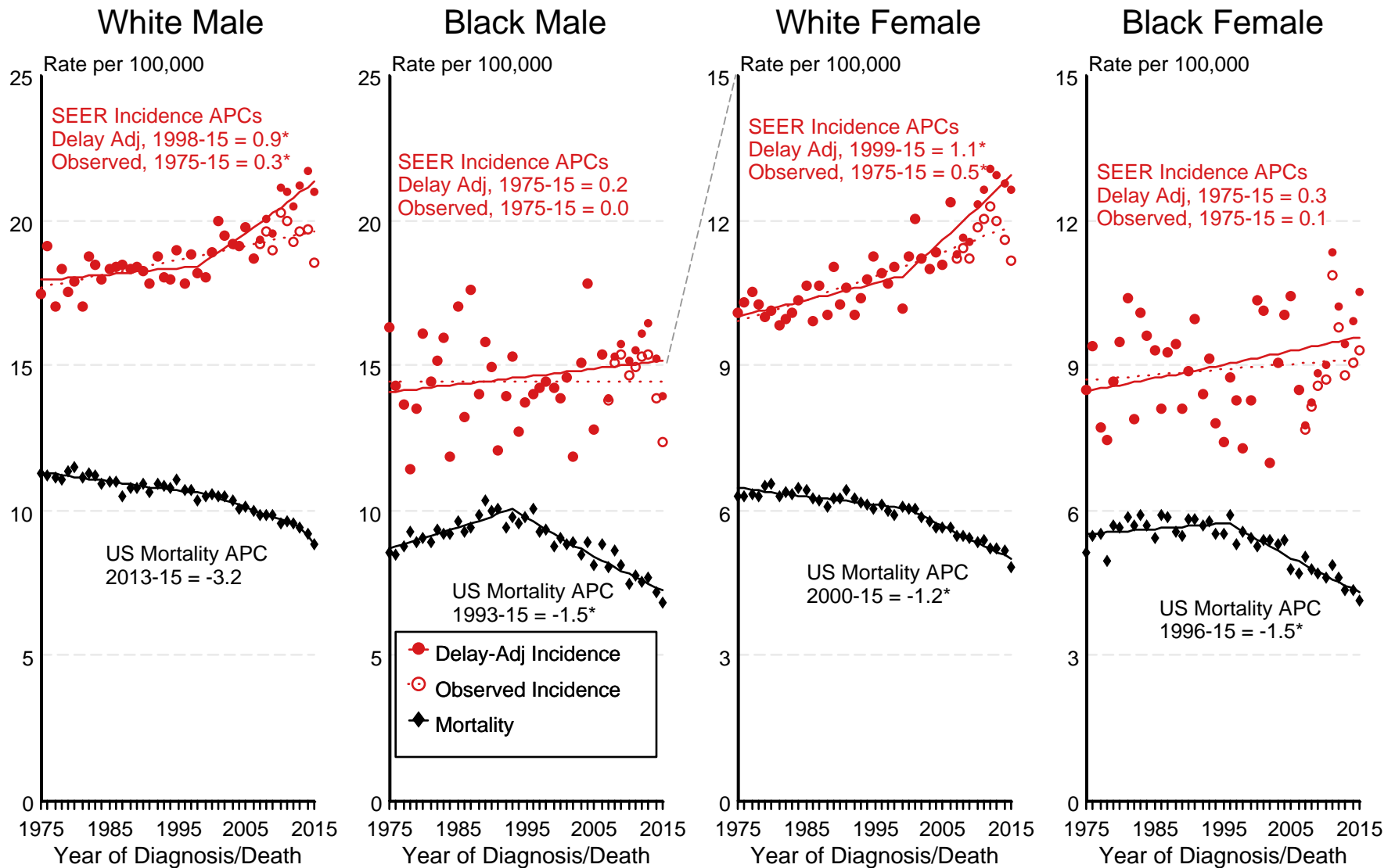
<sup>g h i</sup> (g) Cases diagnosed more than 40 years ago were estimated using the completeness index method (Capocaccia et. al. 1997, Merrill et. al. 2000). (h) Complete prevalence is obtained by summing 0 to <40 and >=40. (i) Age-specific completeness index was approximated using empirical data from historical Connecticut tumor registry.

- Statistic not shown. Statistic based on fewer than 5 cases estimated alive in SEER for the time interval.

+ Not available.

Figure 13.1

# SEER Observed Incidence, SEER Delay Adjusted Incidence and US Death Rates<sup>a</sup> Leukemia, by Race and Sex



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

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

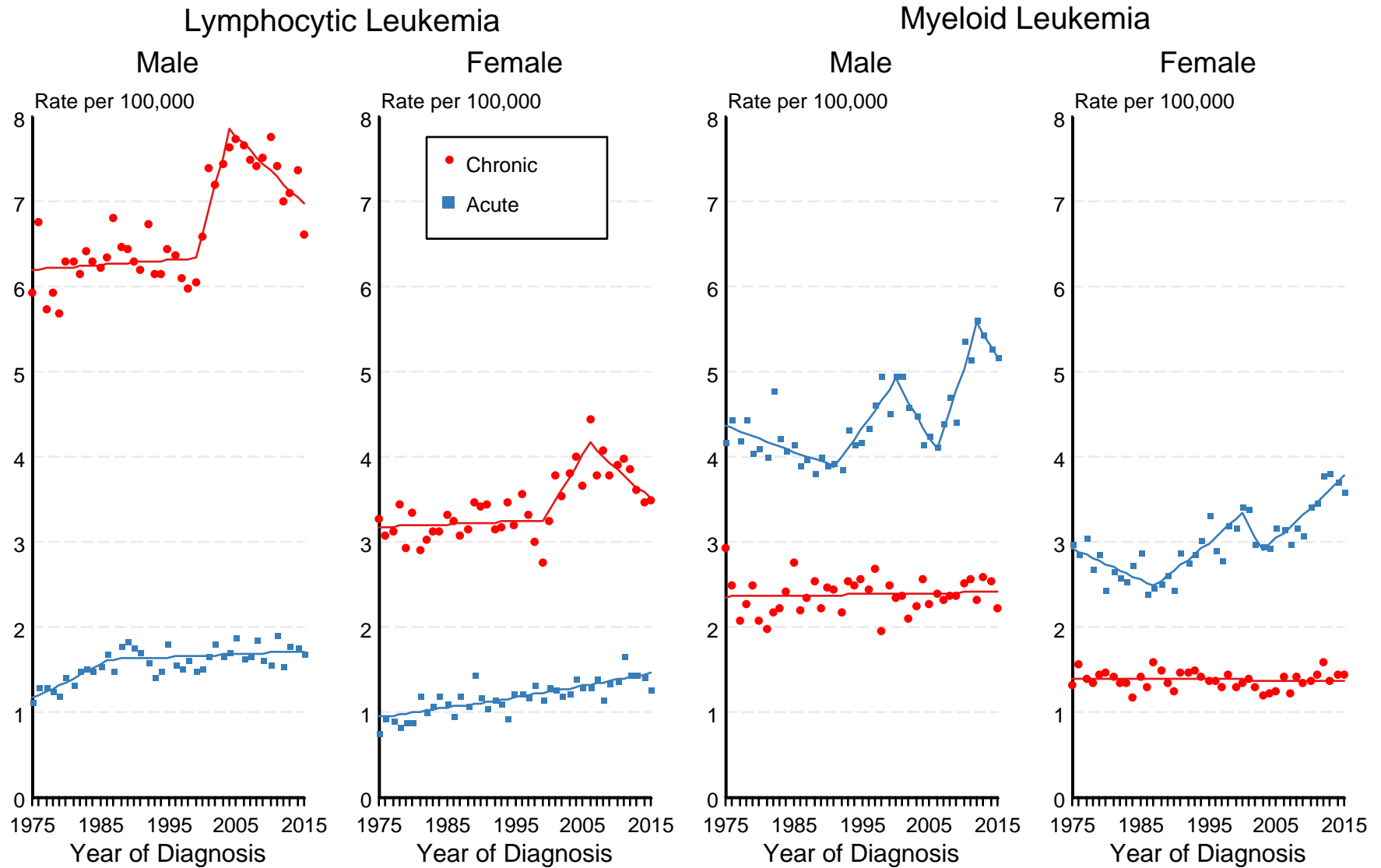
Regression lines and APCs are calculated using the Joinpoint Regression Program Version 4.6, February 2018, National Cancer Institute.

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

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

Figure 13.2

# SEER Observed Incidence Rates<sup>a</sup> Lymphocytic and Myeloid Leukemia (Acute and Chronic), by Sex



Source: SEER 9 areas.

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

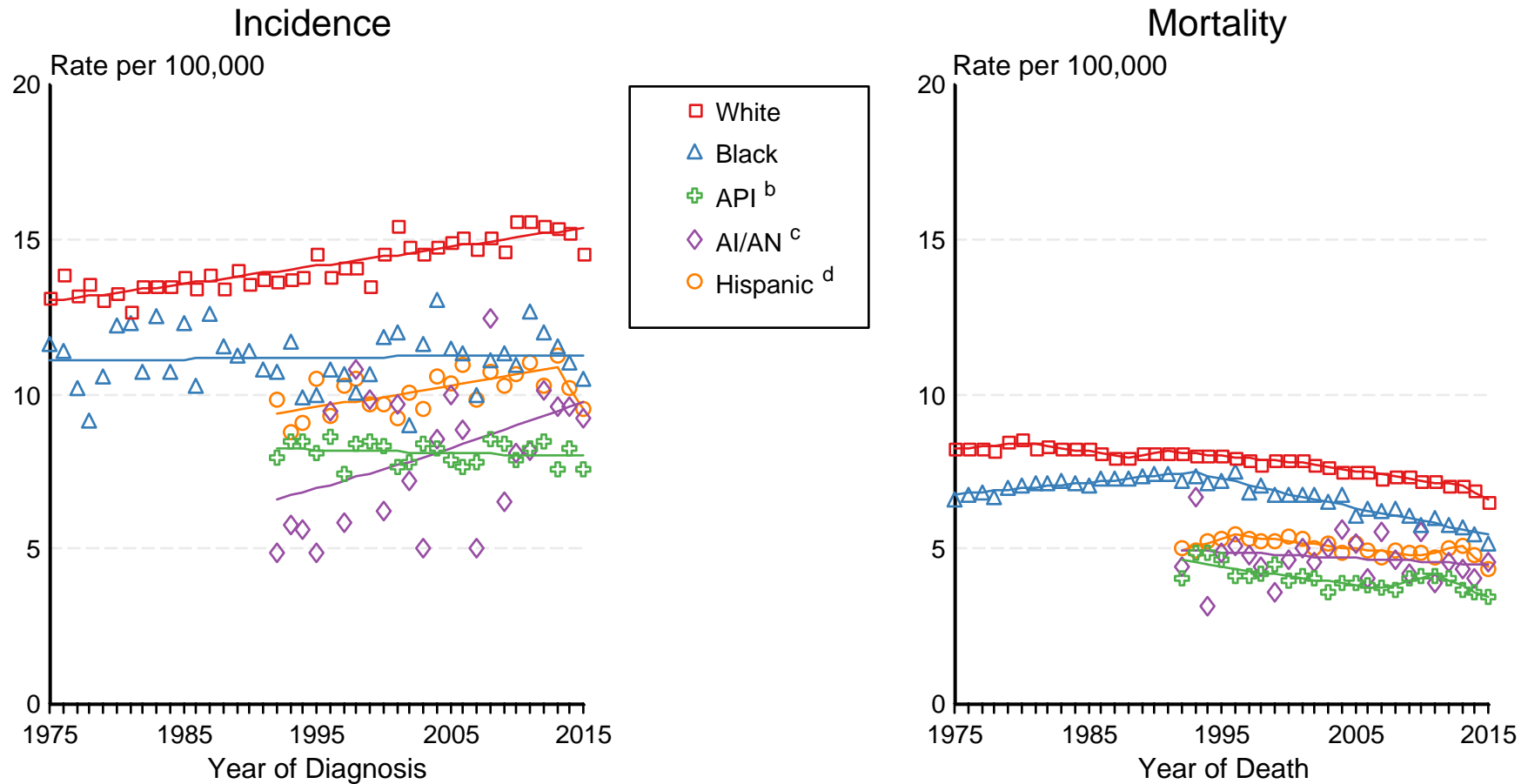
Regression lines and APCs are calculated using the Joinpoint Regression Program Version 4.6, February 2018, National Cancer Institute.



Figure 13.3

# SEER Incidence and US Death Rates<sup>a</sup> Leukemia, Both Sexes

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

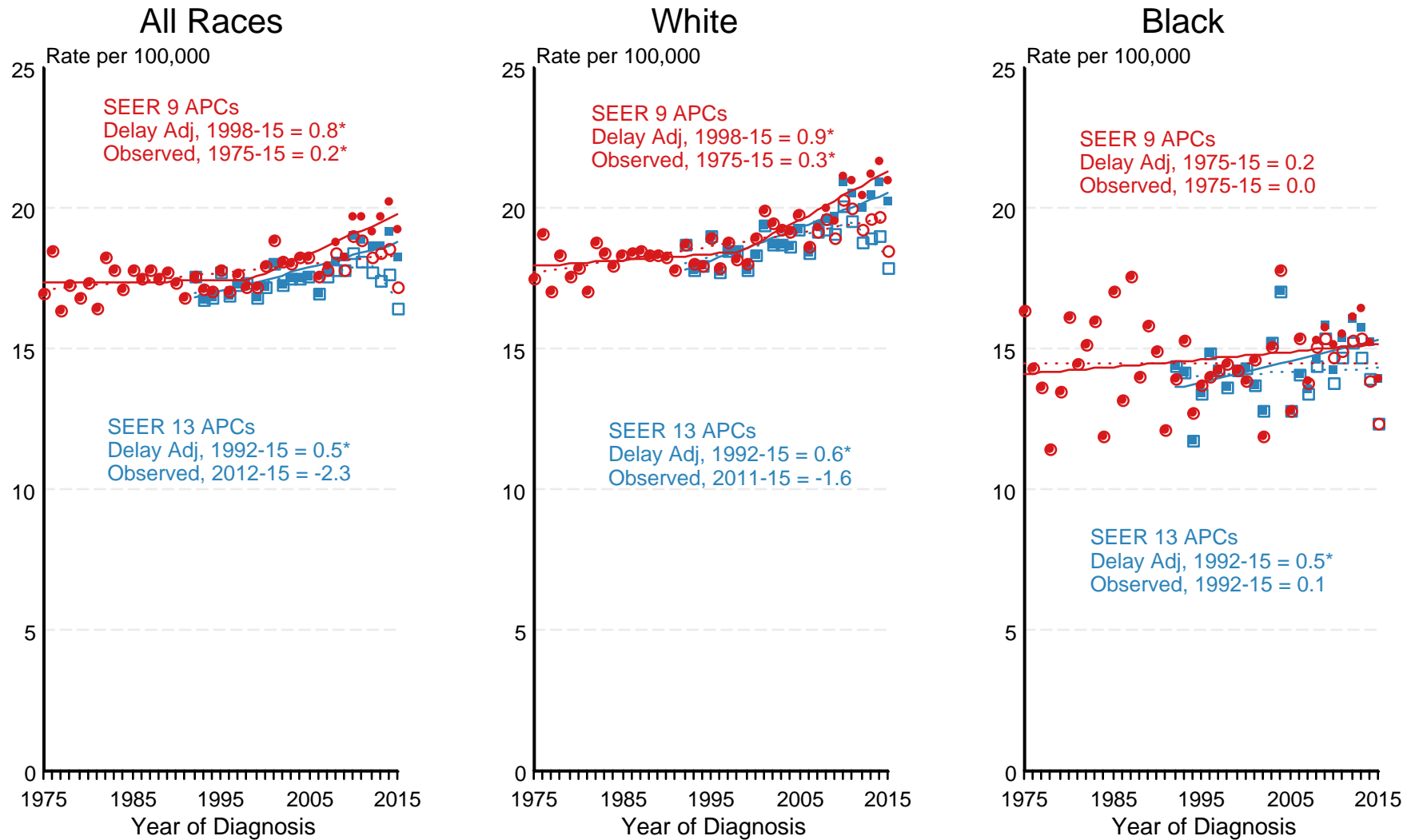


Source: Incidence data for whites and blacks are from the SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta). Incidence data for Asian/Pacific Islanders, American Indians/Alaska Natives and Hispanics are from the SEER 13 Areas (SEER 9 Areas, San Jose-Monterey,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

- <sup>a</sup> Rates are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1103). Regression lines are calculated using the Joinpoint Regression Program Version 4.6, February 2018, National Cancer Institute. Joinpoint analyses for Whites and Blacks during the 1975-2015 period allow a maximum of 5 joinpoints. Analyses for other ethnic groups during the period 1992-2015 allow a maximum of 4 joinpoints.
- <sup>b</sup> API = Asian/Pacific Islander.
- <sup>c</sup> AI/AN = American Indian/Alaska Native. Rates for American Indian/Alaska Native are based on the CHSDA(Contract Health Service Delivery Area) counties.
- <sup>d</sup> Hispanic is not mutually exclusive from whites, blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives. Incidence data for Hispanics are based on NHIA and exclude cases from the Alaska Native Registry. Mortality data for Hispanics exclude cases from New Hampshire and Oklahoma.

Figure 13.4

# SEER Observed Incidence and SEER Delay Adjusted Incidence Rates<sup>a</sup> SEER 9 Areas Compared to SEER 13 Areas Leukemia, Male, by Race



● SEER 9 Delay-Adj. Incidence    ○ SEER 9 Observed Incidence    ■ SEER 13 Delay-Adj. Incidence    □ SEER 13 Observed Incidence

Source: SEER 9 areas and SEER 13 areas.

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

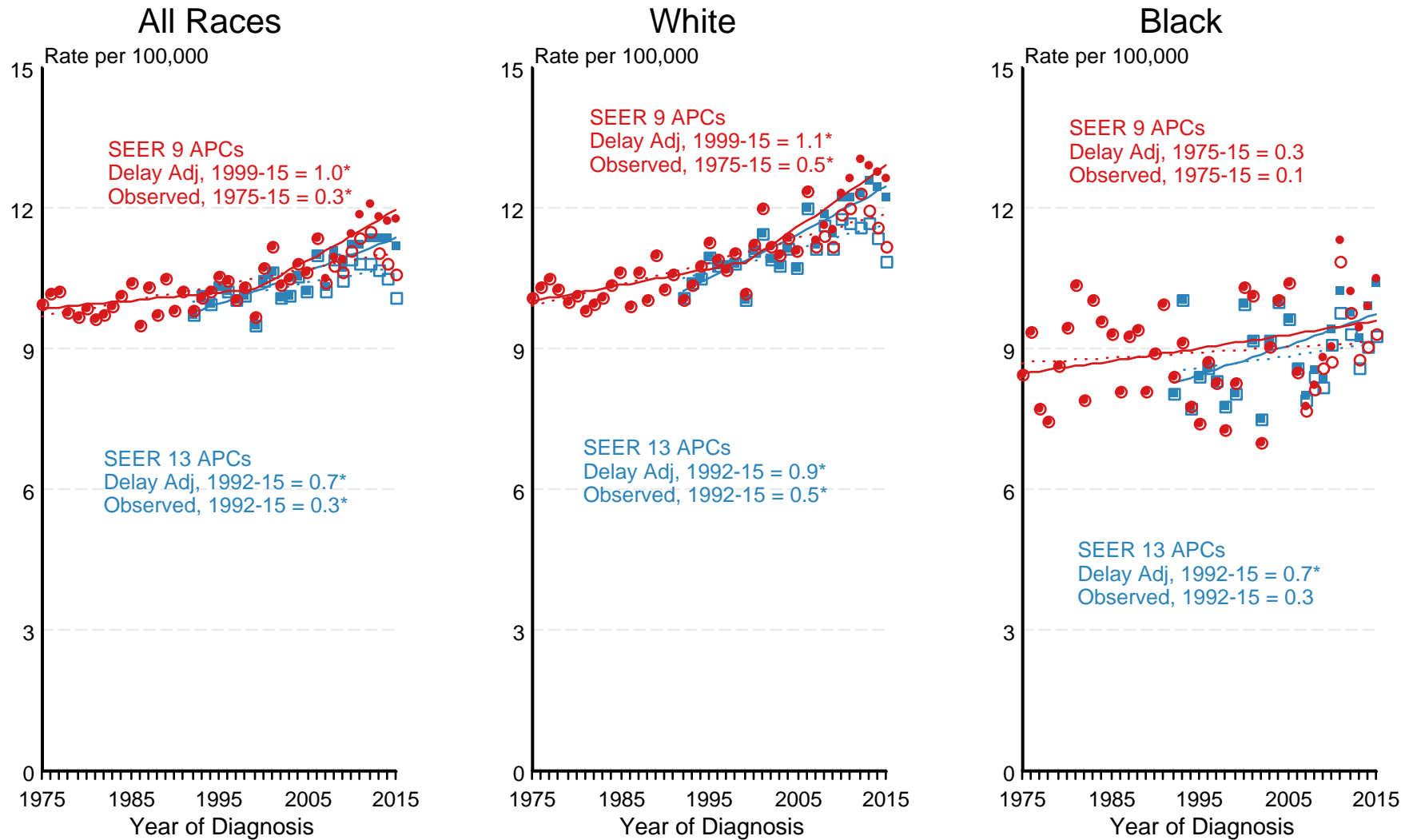
Regression lines and APCs are calculated using the Joinpoint Regression Program Version 4.6, February 2018, National Cancer Institute.

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

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

Figure 13.5

# SEER Observed Incidence and SEER Delay Adjusted Incidence Rates<sup>a</sup> SEER 9 Areas Compared to SEER 13 Areas Leukemia, Female, by Race



● SEER 9 Delay-Adj. Incidence    ○ SEER 9 Observed Incidence    ■ SEER 13 Delay-Adj. Incidence    □ SEER 13 Observed Incidence

Source: SEER 9 areas and SEER 13 areas.

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

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

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

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