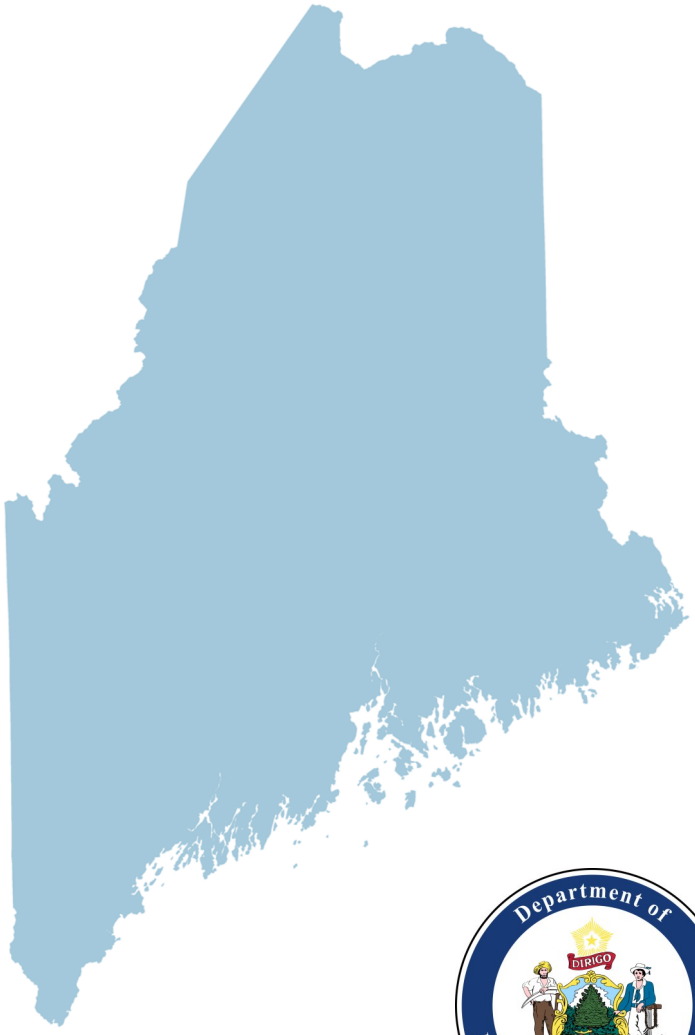
2023 Maine Cancer Snapshot

A REPORT OF THE MAINE CANCER REGISTRY

Table of Contents



Maine Cancer Registry
Maine Department of Health and Human Services
Maine Center for Disease Control and Prevention

Tel (207)287-5272
TTY users call Maine relay 711

Key Findings

2023 MAINE CANCER SNAPSHOT

Among Maine residents in 2020*, there were 9,153 new malignant cancer cases and 3,433 cancer deaths.

Cancer Incidence

- The overall cancer age-adjusted incidence rate for Maine is 449.1 per 100,000 compared with 404.3 for the U.S.
- Over the past 20 years, the overall cancer incidence rate in Maine has been decreasing yet remains higher than the U.S. Over that same time period , the gap between the male and female rates has also narrowed, though the male rate remains higher.
- The four most common newly diagnosed cancers in Maine are lung and bronchus, female breast, prostate, and colon and rectum.
- Penobscot, Washington, and Hancock counties have higher cancer incidence rates compared to the state rate.

Cancer Mortality

- The 2020 age-adjusted cancer mortality rate in Maine is 161.3 which is significantly higher than the U.S. cancer mortality rate (144.1).
- The overall cancer mortality rate has been decreasing in Maine over the past 20 years yet remains higher than the U.S. rate.
- The leading causes of cancer mortality are lung and bronchus, colon and rectum, pancreas, female breast, and prostate cancer.
- Piscataquis, Somerset, and Washington counties have significantly higher cancer mortality rates compared to the state rate.

*The 2023 Maine Cancer Snapshot is based on new cancer cases diagnosed in 2020 (cancer incidence) and cancer deaths occurring in 2020 (cancer mortality). This time-lag is consistent with reporting standards used throughout the U.S. to ensure high quality data. The process requires time for a state cancer registry to receive cancer cases from multiple reporting sources (including vital records, hospital reporters, physician offices, and pathology labs), time for follow up and data corrections, as well as time to consolidate state data and perform quality control and analysis. See cautionary note about 2020 incidence on page 3.

Acknowledgements

Prepared by: Denise Yob[1], Kim Haggan[2], Carolyn Bancroft[2], Sara L. Huston[1], Alison Green-Parsons[1], Jessica Cross[1] .

[1]University of Southern Maine [2] Maine Department of Health and Human Services, Maine Cancer Registry

Suggested Citation: 2023 Maine Cancer Snapshot. 2023. Maine Department of Health and Human Services, Maine Cancer Registry.

The Maine Cancer Registry wishes to thank the cancer registrars and reporters at hospitals and physician offices throughout Maine as well as our staff Kathy Boris and Jacqueline Neas.

Support for this report was provided in part by National Program of Cancer Registries, Centers for Disease Control and Prevention, Cooperative Agreement number 5 NU58DP007113-02-00 and by the Maine Department of Health and Human Services.

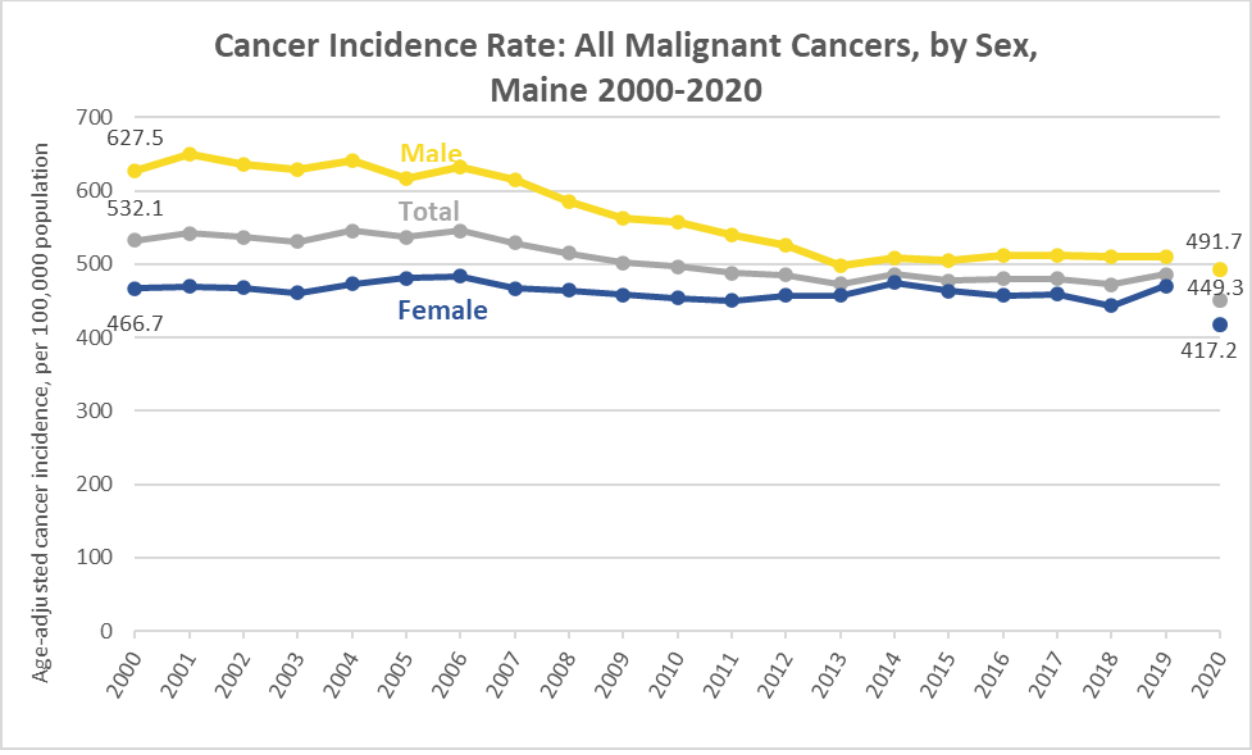
Cancer Incidence

2023 MAINE CANCER SNAPSHOT

Cancer Incidence Key Findings

- Over the past 20 years, the overall cancer incidence rate in Maine has decreased, yet Maine's rate has remained higher than the U.S. Over that same time period the gap between the male and female rates has also narrowed, with the male rate remaining higher.
- In Maine, rates of lung and bronchus, pancreas, melanoma of the skin, and urinary bladder cancer are significantly higher than the U.S.
- Penobscot, Washington, and Hancock counties have higher cancer incidence compared to the state overall. Cumberland county has a lower rate compared to the state overall.

Note: In 2020, the COVID-19 pandemic disrupted access to medical care and contributed to delays in hospital reporting of cancer cases. This resulted in a drop in cancer diagnoses for the year 2020, particularly for cancers diagnosed before symptoms develop, such as in situ female breast cancer. This drop reflects changes in medical screening and care for 2020 and should not be interpreted as a reduction in the underlying cancer burden.



Rates

Rates are per 100,000 population, age-adjusted to the Year 2000 U.S. standard population.
Data source: Maine Cancer Registry, based on November 2022 NPCR-CSS data submission.

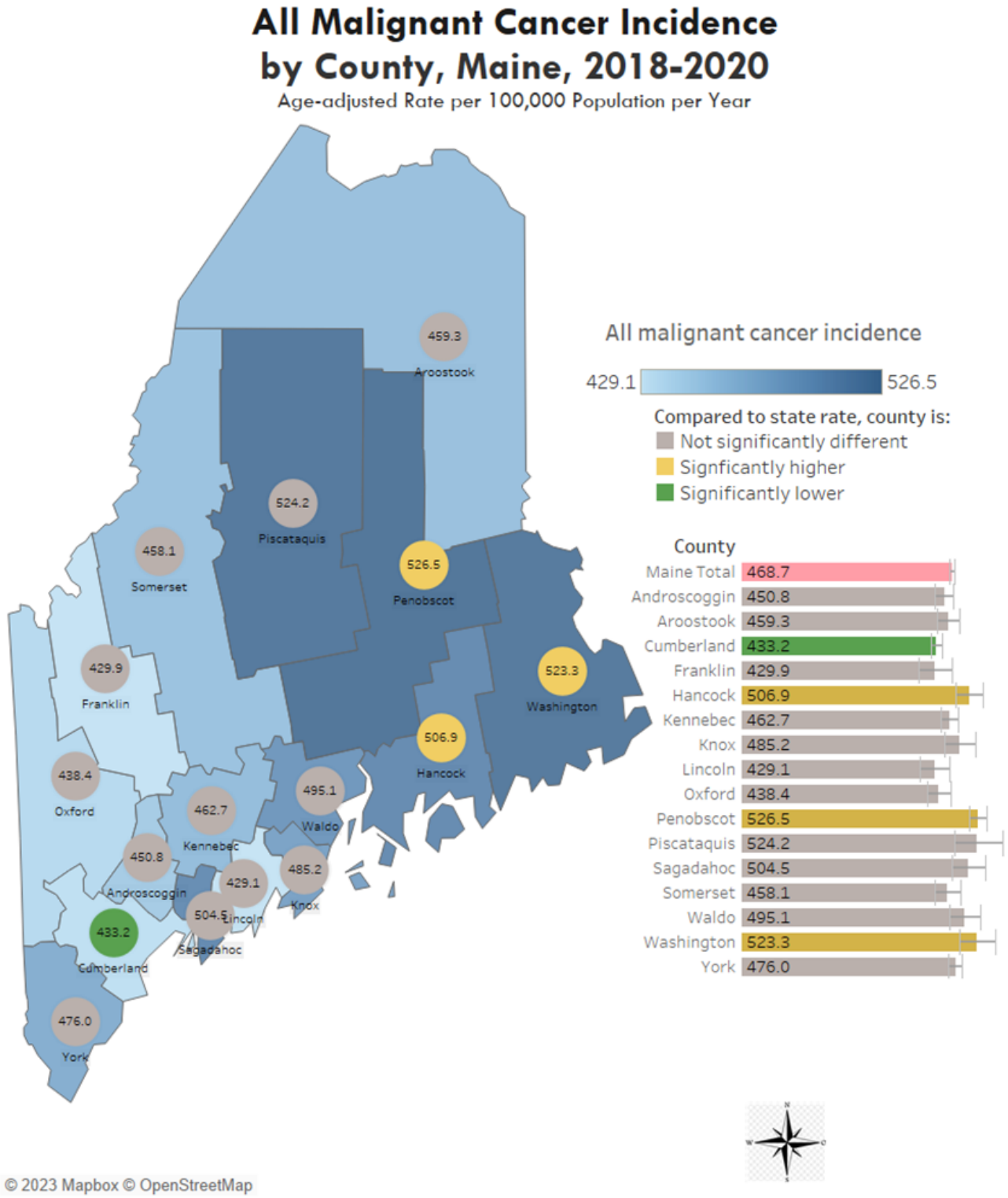
Incidence: Top 10 Cancers, Maine 2020

Red Rate= ME is significantly higher than U.S.

Cancer Type	2020 Maine (all sexes)				2020 U.S.		
	Count	AA Rate	AA Lower 95% CL	AA Upper 95% CL	AA Rate	AA Lower 95% CL	AA Upper 95% CL
All Sites	9,153	**449.3**	439.6	459.2	**403.3**	402.7	403.9
Lung and Bronchus	1,404	**63.4**	60.1	67.0	**47.1**	46.9	47.3
Female Breast	1,245	**122.7**	115.4	130.4	**119.2**	118.7	119.7
Prostate	1,019	**94.5**	88.6	100.7	**100.0**	99.6	100.5
Colon and Rectum	629	**32.9**	30.2	35.8	**32.5**	32.3	32.7
Urinary Bladder	566	**26.1**	23.9	28.4	**17.1**	17.0	17.3
Melanoma of the skin	528	**27.5**	25.0	30.1	**20.0**	19.8	20.1
Non-Hodgkin Lymphoma	383	**18.9**	17.0	21.1	**17.0**	16.8	17.1
Kidney and Renal Pelvis	325	**16.5**	14.6	18.5	**15.8**	15.7	15.9
Pancreas	322	**15.0**	13.3	16.8	**12.9**	12.7	13.0
Uterus (Corpus Uteri and Uterus, NOS)	285	**25.9**	22.7	29.4	**24.7**	24.5	24.9
	Maine Females				**U.S. Females**		
All Sites	4,360	**417.2**	404.0	430.8	**382.2**	381.3	383.1
Female Breast	1,245	**122.7**	115.4	130.4	**119.2**	118.7	119.7
Lung and Bronchus	702	**59.1**	54.7	63.8	**42.7**	42.4	43.0
Colon and Rectum	292	**28.2**	24.8	31.9	**28.6**	28.3	28.8
Uterus (Corpus Uteri and Uterus, NOS)	285	**25.9**	22.7	29.4	**24.7**	24.5	24.9
Melanoma of the skin	231	**24.5**	21.1	28.2	**16.3**	16.1	16.5
Non-Hodgkin Lymphoma	174	**15.8**	13.4	18.5	**13.9**	13.8	14.1
Pancreas	145	**12.5**	10.5	14.9	**14.7**	14.5	14.8
Thyroid	144	**19.2**	16.0	22.9	**16.5**	16.3	16.7
Urinary Bladder	136	**11.6**	9.7	13.8	**7.2**	7.1	7.4
Kidney and Renal Pelvis	114	**11.1**	9.0	13.5	**10.6**	10.5	10.8
	Maine Males				**U.S. Males**		
All Sites	4,791	**491.7**	477.2	506.6	**435.3**	434.3	436.3
Prostate	1,019	**94.5**	88.6	100.7	**100.0**	99.6	100.5
Lung and Bronchus	702	**68.8**	63.6	74.3	**52.9**	52.6	53.3
Urinary Bladder	430	**43.7**	39.5	48.2	**29.6**	29.4	29.9
Colon and Rectum	337	**37.9**	33.7	42.5	**37.1**	36.8	37.4
Melanoma of the skin	297	**31.8**	28.1	35.9	**25.0**	24.8	25.2
Kidney and Renal Pelvis	211	**22.6**	19.5	26.2	**21.8**	21.5	22.0
Non-Hodgkin Lymphoma	209	**22.4**	19.3	25.9	**20.6**	20.4	20.8
Oral Cavity and Pharynx	205	**20.9**	18.0	24.2	**17.1**	16.9	17.3
Pancreas	177	**17.8**	15.2	20.7	**14.7**	14.5	14.8
Leukemia	173	**19.7**	16.7	23.1	**16.0**	15.8	16.2

Leading causes of cancer are ordered by descending Maine incidence counts.
AA: Age-adjusted to the Year 2000 U.S. standard population. Rates are per 100,000. 95% CL: 95% Confidence Limit.
Data sources: Maine data: Maine Cancer Registry; U.S data: NPCR and SEER Incidence analytic file - U.S. Cancer Statistics Public Use Database. See technical notes for a full definition.

Incidence by County



Data Source: Maine Cancer Registry, based on November 2022 NPCR-CSS data submission. Rates are calculated per 100,000 population and age-adjusted to the year 2000 U.S. standard population. Map was created using Tableau and rates were mapped using quantiles method with 4 categories. Error bars on bar chart depict 95% confidence intervals.

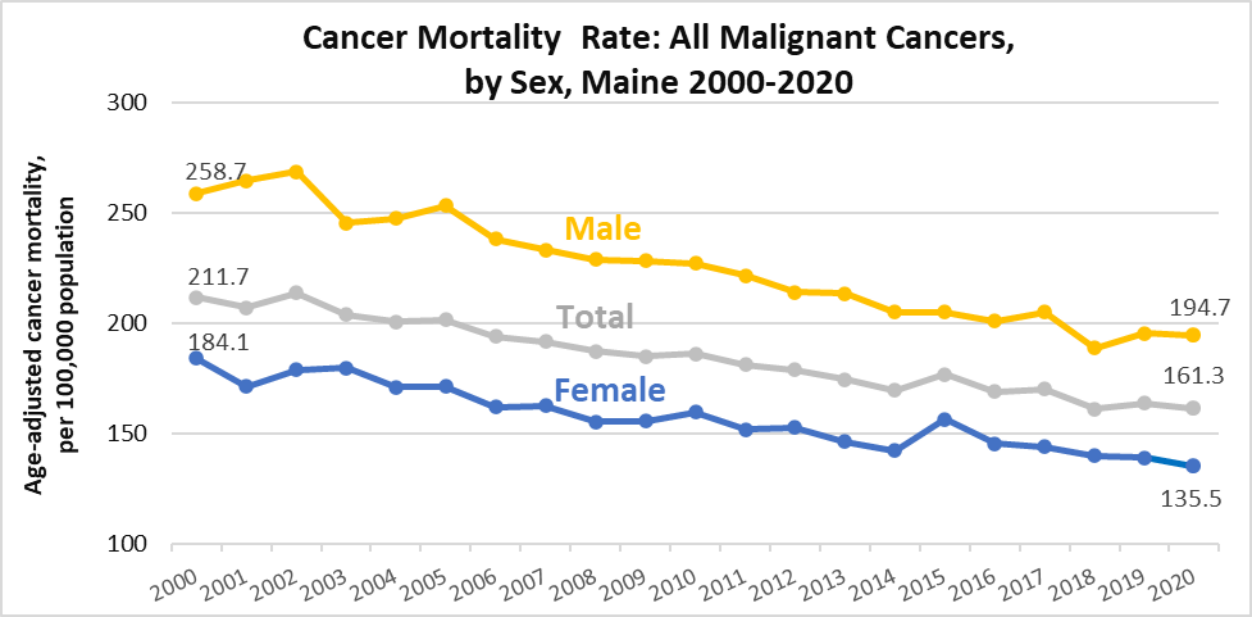
Cancer Mortality

2023 MAINE CANCER SNAPSHOT

Cancer Mortality Key Findings

- In 2020 there were 3,433 cancer deaths to Maine residents. The 2020 age-adjusted cancer mortality rate in Maine is 161.3 per 100,000, which is significantly higher than the U.S. cancer mortality rate (144.1).
- The overall cancer mortality rate has decreased from 211.7 per 100,000 to 161.3 in Maine over the past 20 years, yet the Maine rate remains significantly higher than the U.S. rate.
- Males have a significantly higher mortality rate than females.
- The rate of lung and bronchus cancer mortality in Maine is significantly higher than the U.S. for both males and females.
- Piscataquis, Somerset, and Washington counties have a significantly higher cancer mortality rate compared to the state overall. Cumberland county has a lower rate compared to the state overall.

Trends by Sex



Data source: Maine Center for Disease Prevention. Data, Research, and Vital Statistics. 2022. Cancer deaths were identified using underlying cause-of-death codes C00-C97 (malignant neoplasms).

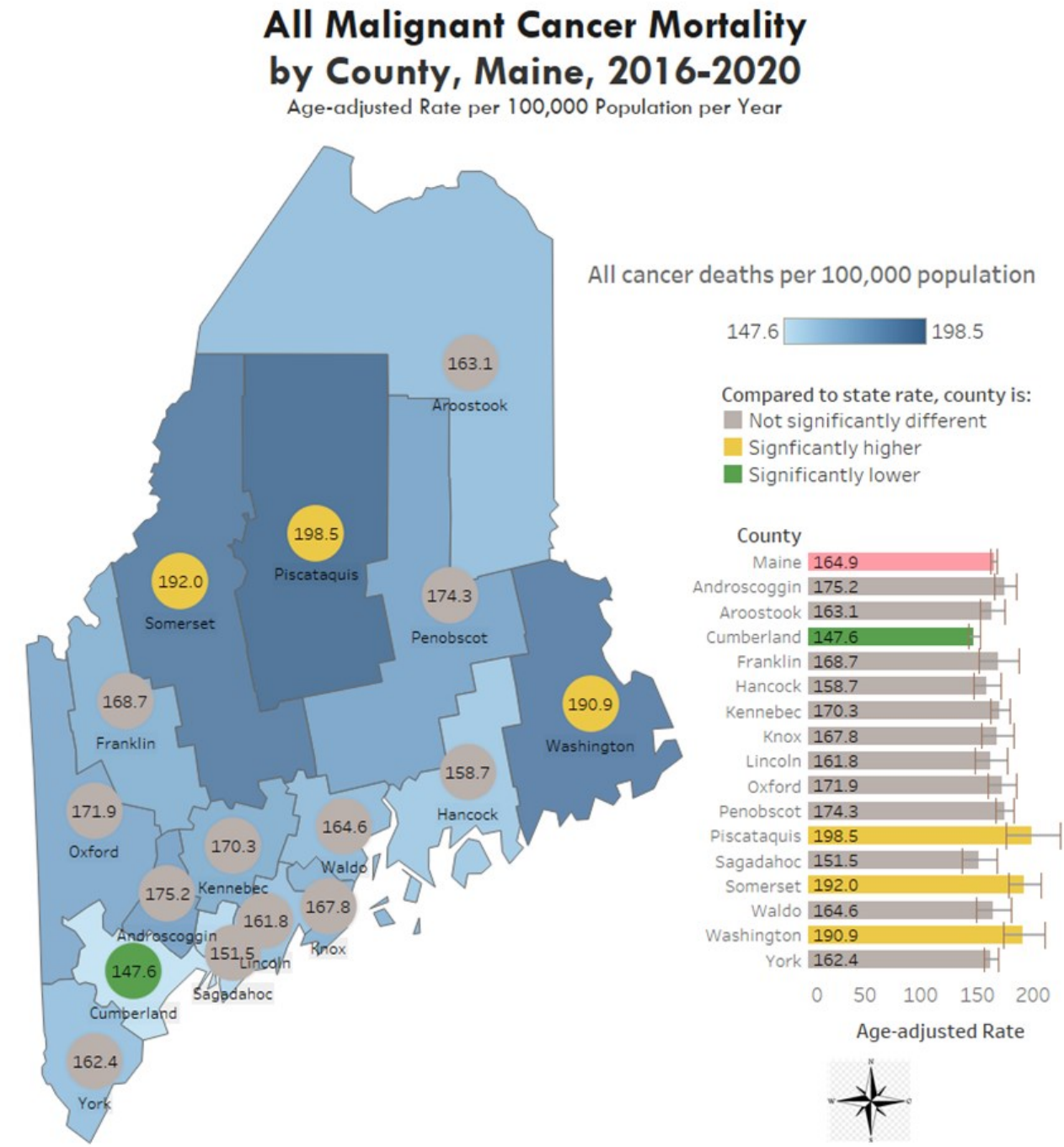
Mortality: Top 10 Cancers, Maine 2020

Red Rate= ME is significantly higher than U.S.

Cancer Type	Maine (all sexes)				U.S.		
	Count	AA Rate	AA Lower 95% CL	AA Upper 95% CL	AA Rate	AA Lower 95% CL	AA Upper 95% CL
All Sites	3,433	**161.3**	155.8	167.1	**144.1**	143.8	144.5
Lung and Bronchus	896	**41.1**	38.4	44.0	**31.8**	31.7	32.0
Colon and Rectum	280	**13.6**	12.0	15.4	**13.1**	12.9	13.2
Pancreas	247	**11.4**	10.0	13.1	**11.1**	11.0	11.2
Female Breast	196	**17.5**	15.0	20.4	**19.1**	18.9	19.3
Prostate	171	**19.1**	16.3	22.4	**18.5**	18.3	18.7
Urinary Bladder	123	**5.7**	4.7	6.9	**4.0**	3.9	4.0
Leukemia	119	**5.9**	4.9	7.2	**5.8**	5.7	5.9
Esophagus	110	**5.0**	4.1	6.2	**3.7**	3.6	3.7
Brain and Other Nervous System	109	**5.4**	4.4	6.6	**4.5**	4.4	4.5
Non-Hodgkin Lymphoma	106	**5.1**	4.2	6.3	**4.9**	4.8	4.9
	Maine Females				**U.S. Females**		
All Sites	1,568	**135.5**	128.6	142.8	**124.5**	124.1	125.0
Lung and Bronchus	436	**37.3**	33.8	41.2	**26.9**	26.7	27.1
Female Breast	196	**17.5**	15.0	20.4	**19.1**	18.9	19.3
Colon and Rectum	145	**12.6**	10.5	15.1	**10.8**	10.7	11.0
Pancreas	113	**9.5**	7.8	11.7	**9.6**	9.5	9.8
Ovary	78	**6.7**	5.2	8.6	**5.9**	5.8	6.0
Uterus (Corpus Uteri and Uterus, NOS)	65	**5.5**	4.2	7.2	**5.2**	5.1	5.3
Leukemia	52	**4.7**	3.5	6.4	**4.3**	4.3	4.4
Non-Hodgkin Lymphoma	47	**4.0**	2.9	5.5	**3.7**	3.6	3.8
Brain and Other Nervous System	38	**3.3**	2.3	4.8	**3.6**	3.5	3.7
Urinary Bladder	28	**2.3**	1.5	3.6	**1.9**	1.9	2.0
	Maine Males				**U.S. Males**		
All Sites	1,865	**194.7**	185.7	204.2	**170.3**	169.7	170.9
Lung and Bronchus	460	**46.0**	41.8	50.7	**38.1**	37.8	38.3
Prostate	171	**19.1**	16.3	22.4	**18.5**	18.3	18.7
Colon and Rectum	135	**14.4**	12.0	17.4	**15.7**	15.5	15.9
Pancreas	134	**13.7**	11.4	16.4	**12.7**	12.5	12.9
Urinary Bladder	95	**10.2**	8.2	12.7	**6.8**	6.7	6.9
Esophagus	88	**8.6**	6.8	10.8	**6.4**	6.3	6.6
Brain and Other Nervous System	71	**7.8**	6.0	10.1	**5.5**	5.4	5.6
Liver and Intrahepatic Bile Duct	68	**6.7**	5.2	8.8	**9.4**	9.3	9.5
Leukemia	67	**7.5**	5.8	9.8	**7.7**	7.6	7.8
Kidney and Renal Pelvis	61	**6.2**	4.7	8.2	**5.1**	5.0	5.2

Leading causes of cancer mortality are ordered by descending Maine counts.
AA: Age-adjusted to the Year 2000 U.S. standard population. Rates are per 100,000. 95% CL: 95% Confidence Limit. Data source: Maine Center for Disease Prevention. Data, Research, and Vital Statistics. 2022. U.S. Data from National Center for Health Statistics using the CDC WONDER Online Database. Cancer deaths were identified using underlying cause-of-death codes C00-C97 (malignant neoplasms).

Mortality by County



Data Source: Maine Mortality: Maine CDC's Data, Research, and Vital Statistics. Rates are calculated per 100,000 population and age-adjusted to the year 2000 U.S. standard population. Map was created using Tableau and rates were mapped using quantiles method with 4 categories. Error bars on bar chart depict 95% confidence intervals.

Additional Incidence and Mortality Data for Maine

The following Maine CDC and U.S. dashboards provide additional options for detailed queries by cancer site. Click on headings below for more information.

Maine Cancer Registry (MCR) Website

This website provides additional information about the MCR, available reports, procedures for requesting data, and resources related to cancer reporting in Maine.

Maine Cancer Plan 2021-2025

A five-year agenda for cancer prevention, screening, diagnosis, treatment, palliative, and end-of-life care in Maine. From the Maine's Impact Cancer Network (the state's cancer coalition).

Maine Shared Community Health Needs Assessment Dashboard

This interactive dashboard shows Maine data for a variety of health behaviors, chronic diseases, and social determinants of health. Data are available for many demographic groups (sex, age, race) and subpopulations (rural residents, veterans), by county and public health district, and major cities.

Maine Environmental Health Tracking Network Data Portal

This portal allows users to view health and environmental data by geographic region in Maine.

Users can compare data across age groups, genders, regions, and time periods and make and download their own customized tables, charts, and maps.

North American Association of Central Cancer Registries (NAACCR) On-Line Cancer Data

NAACCR Cancer Maps (historically called CiNA+ on-line) is an interactive mapping tool for U.S. and Canadian cancer incidence statistics for the most current 5 years of data available.

NAACCR CiNA Explorer Stats is an interactive, data visualization tool for quick access to key U.S. and Canadian cancer statistics for major cancer sites by age, sex, stage, race/ethnicity, registry and data type for the most current 5 years of available data.

U.S. Cancer Statistics Data Visualizations Tool

This tool provides incidence and death counts, rates, and trend data; survival and prevalence estimates; and state, county, and congressional district data in a user-driven format. Cancer incidence and mortality trend data are presented from 1999 through 2020.

Special Topic:
Cancer among Adolescents and Young Adults

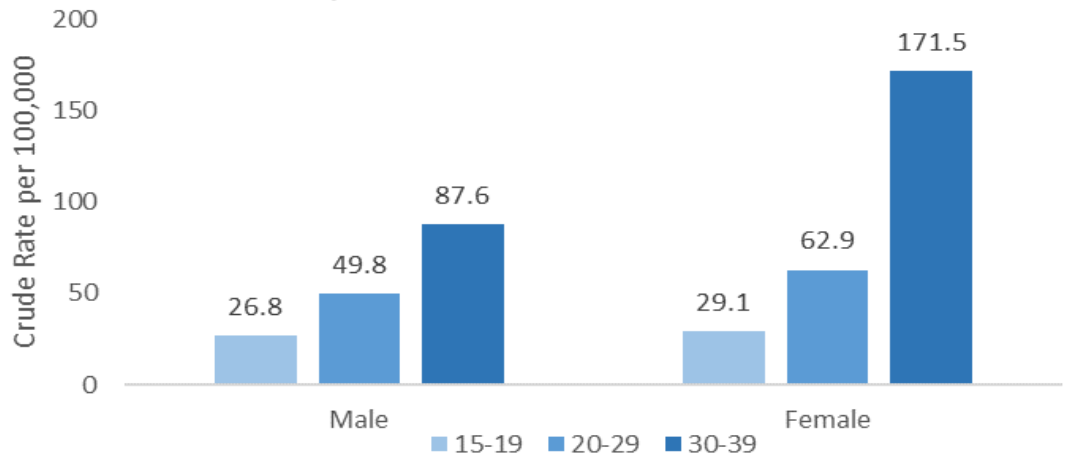
2023 MAINE CANCER SNAPSHOT

Cancer among Adolescents and Young Adults (AYA) in Maine

Cancers among the AYA population, which includes ages 15 to 39, are generally understudied, creating prevention, treatment, and outcome challenges. Understanding cancer incidence, including risk-factor associated cancers, among AYAs can help cancer prevention and control programs identify intervention opportunities.

- Cancer among Maine's AYA population make up 3% of all new cancer cases diagnosed between 2011 and 2020 (40+ years of age make up 96%, 0-14 years of age make up 1%).
- Females age 30 to 39 have the highest crude rates per 100,000 compared to males and other age groups within the AYA population (Figure 1).
- Overall cancer rates among females across all three age categories within AYA appear to be higher than male rates between 2011-2020.

Figure 1. Overall Cancer Incidence by AYA Age Group and Sex, Maine, 2011-2020



Notes
Data source: Incidence: Maine Cancer Registry, based on November 2022 NPCR-CSS data submission.

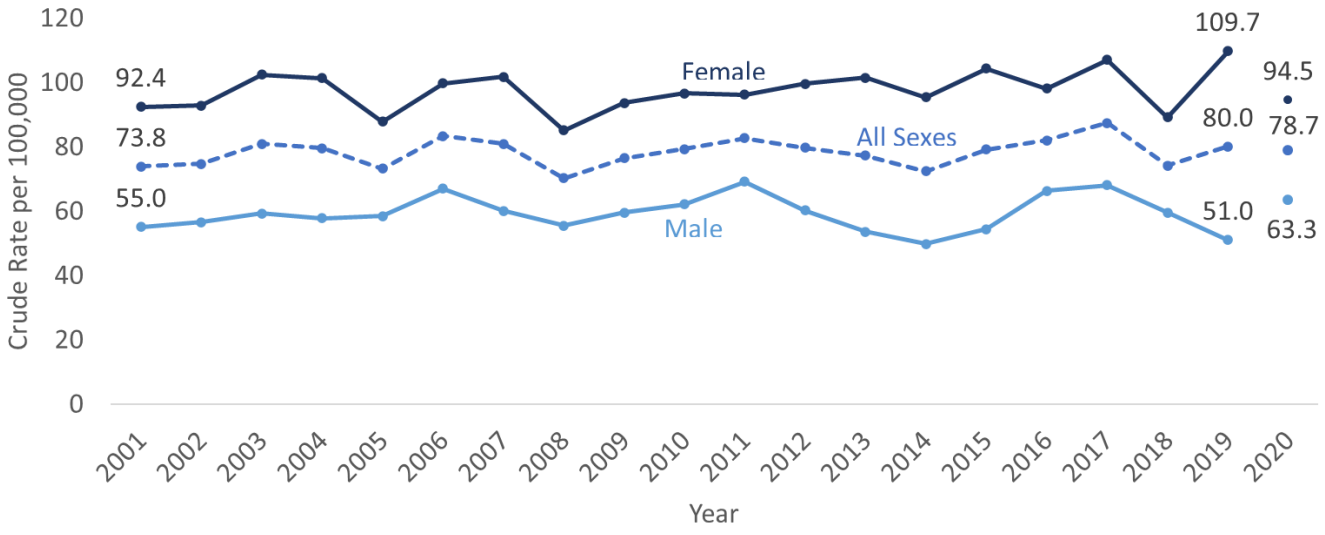
Special Topic: Cancer among AYA in Maine

Cancer among Adolescents and Young Adults (AYA) in Maine

Overall cancer incidence rates among AYA have not significantly increased in Maine over the last two decades, however, sex-specific analyses show a different pattern (Figure 2).

- Maine male incidence rates among the 15-39 age group increased significantly from 2001-2011 but have remained relatively unchanged from 2011 to 2019.
- Maine AYA female incidence rates have increased significantly from 92.4 per 100,000 in 1999 to 109.7 per 100,000 in 2019.
- Trends in female AYA cancer incidence rates in Maine appear to be driven by breast and thyroid cancer.

Figure 2. Trends Among AYA (15-39) in All Site Cancer Incidence Rates by Sex, Maine, 2001-2019



Notes

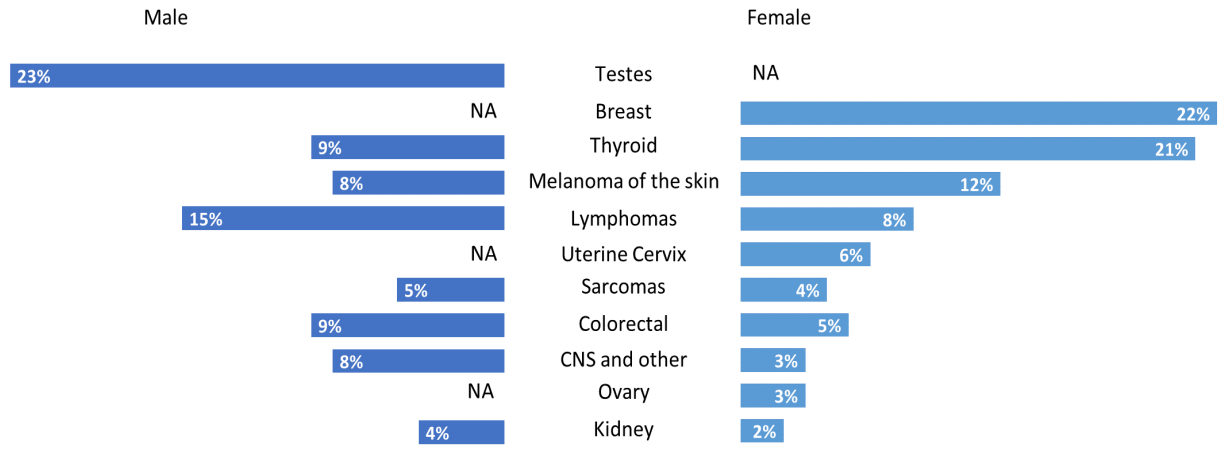
Data source: Incidence: Maine Cancer Registry, based on November 2022 NPCR-CSS data submission.

2020 data is displayed but was not included in the overall trend analysis due to the Covid-19 pandemic impact on cancer incidence (see cautionary note on page 3).

Special Topic: Cancer among AYA in Maine

- Overall, the most common cancers among Maine AYA are thyroid, female breast cancer, and lymphoma (Tables 4a and 4b*).
- The most common cancers among male AYA appear to be testicular cancer (23%), lymphomas (15%), colorectal cancer (9%), and thyroid cancer (9%) (Figure 3).
- The most common cancers among female AYA appear to be female breast cancer (22%), thyroid cancer (21%), melanoma of the skin (12%), and lymphomas (8%) (Figure 3).

Figure 3. Proportion of New Cancer Cases by Cancer Type and Sex Among AYA, Maine, 2011-2020



Risk-factors such as tobacco use, alcohol consumption, obesity, and lack of physical activity among AYA may contribute to increased cancer risk in young adulthood and later in life.

- Among adolescents and young adults, Maine has a higher rate of obesity and tobacco-associated cancers than the U.S. Tobacco, physical inactivity, and HPV associated cancers are higher in Maine compared to New England region rates (Table 1).

Table 1. Risk Factor-Associated Cancers among Maine AYA, Maine and U.S., 2011-2020

Red Rate= ME is significantly higher than U.S.

Risk Factor-Associated Cancer	Maine		U.S.		New England	
	Crude Rate	95% CI	Crude Rate	95% CI	Crude Rate	95% CI
Obesity	**25.1**	23.5-26.7	**22.5**	22.4-22.5	**25.0**	24.5-25.4
Alcohol	**18.0**	16.7-19.4	**16.6**	16.6-16.7	**17.3**	16.9-17.7
Tobacco	**17.2**	16.0-18.6	**15.7**	15.7-15.8	**14.9**	14.6-15.2
Physical Inactivity	**5.4**	4.7-6.2	**4.8**	4.8-4.8	**4.4**	4.2-4.5
HPV	**3.6**	3.1-4.3	**3.4**	3.4-3.5	**2.7**	2.6-2.9

Notes

Data sources: Maine Cancer Registry, based on November 2022 NPCR-CSS data submission. NPCR and SEER Incidence - U.S. Cancer Statistics Public Use Research Database, 2022 Submission (2001-2020). Rates are per 100,000.
95% CL: 95% Confidence Limit.
* Based on Tables 4a and 4b, among AYA males and females, total case counts were thyroid , 506, female breast, 416, and lymphomas, 326.

Table 2. Overall Cancer Incidence Rates (per 100,000) by AYA Age Group and Sex, Maine, 2011-2020

	Male			Female		
Age group	n	Crude Rate per 100,000	95% CI	n	Crude Rate per 100,000	95% CI
15-19	112	26.8	22.1 - 32.3	114	29.1	24.0 - 35.0
20-29	394	49.8	45.0 - 54.9	483	62.9	57.5 - 68.8
30-39	664	87.6	81.1 - 94.5	1,325	171.5	162.4 - 180.9
Total AYA	1,170	59.5	56.1 - 63.0	1,922	99.5	95.1 - 104.0

Table 3. Cancer Incidence Rates (per 100,000) among AYA by Year and Sex, Maine, 2001-2020

	All sexes			Male			Female		
Year	n	Rate	95% CI	n	Rate	95% CI	n	Rate	95% CI
2001	308	73.8	65.8 - 82.6	114	55.0	45.4 - 66.1	194	92.4	79.8 - 106.4
2002	311	74.7	66.6 - 83.5	117	56.5	46.7 - 67.7	194	92.8	80.2 - 106.8
2003	336	80.8	72.4 - 89.9	123	59.2	49.2 - 70.7	213	102.4	89.1 - 117.1
2004	328	79.5	71.1 - 88.6	119	57.7	47.8 - 69.0	209	101.3	88.0 - 116.0
2005	300	73.1	65.0 - 81.8	120	58.4	48.4 - 69.8	180	87.8	75.4 - 101.6
2006	340	83.3	74.7 - 92.7	137	67.0	56.3 - 79.2	203	99.7	86.5 - 114.4
2007	327	80.8	72.3 - 90.1	122	60.1	49.9 - 71.7	205	101.7	88.2 - 116.6
2008	282	70.2	62.2 - 78.8	112	55.4	45.6 - 66.7	170	85.0	72.7 - 98.8
2009	304	76.4	68.1 - 85.5	119	59.5	49.3 - 71.2	185	93.6	80.6 - 108.1
2010	310	79.2	70.7 - 88.6	122	62.1	51.6 - 74.2	188	96.5	83.2 - 111.3
2011	321	82.6	73.8 - 92.1	135	69.1	57.9 - 81.8	186	96.2	82.9 - 111.1
2012	308	79.7	71.1 - 89.2	117	60.2	49.8 - 72.1	191	99.5	85.9 - 114.7
2013	298	77.2	68.7 - 86.5	104	53.5	43.7 - 64.8	194	101.4	87.6 - 116.7
2014	280	72.3	64.1 - 81.3	97	49.7	40.3 - 60.6	183	95.3	82.0 - 110.1
2015	306	79.1	70.5 - 88.5	106	54.3	44.5 - 65.7	200	104.2	90.3 - 119.7
2016	319	81.9	73.2 - 91.4	130	66.2	55.3 - 78.6	189	98.0	84.5 - 113.0
2017	341	87.3	78.3 - 97.1	134	68.0	57.0 - 80.5	207	107.0	92.9 - 122.6
2018	291	74.1	65.9 - 83.2	118	59.5	49.3 - 71.3	173	89.1	76.3 - 103.4
2019	316	80.0	71.4 - 89.3	102	51.0	41.6 - 62.0	214	109.7	95.5 - 125.4
2020	312	78.7	70.2 - 88.0	127	63.3	52.8 - 75.3	185	94.5	81.4 - 109.2

Notes

Data source: Incidence: Maine Cancer Registry, based on November 2022 NPCR-CSS data submission. Rates are per 100,000. 95% CL: 95% Confidence Limit.

Special Topic: AYA

Table 4a: Top Site Specific Cancer Incidence Rates (per 100,000) among Male AYA, Maine, 2011-2020				
Site	**n**	**% of Total**	**Crude rate per 100,000**	**95% CI**
Total	1,170	100%	59.5	56.1 - 63.0
Testis (7.1)	266	23%	13.5	11.9 - 15.3
Lymphomas (2)	176	15%	8.9	7.7 - 10.4
Colorectal (9.3.4, 9.3.5)	106	9%	5.4	4.4 - 6.5
Thyroid carcinoma (9.1)	102	9%	5.2	4.2 - 6.3
Melanoma - malignant (8)	92	8%	4.7	3.8 - 5.7
CNS and ONS (3)	89	8%	4.5	3.6 - 5.6
Leukemias and related disorders (1)	81	7%	4.1	3.3 - 5.1
Sarcomas (4)	56	5%	2.8	2.2 - 3.7
Carcinoma of kidney (9.8.1)	49	4%	2.5	1.8 - 3.3
Other carcinoma of head and neck (9.2)	34	3%	1.7	1.2 - 2.4
Carcinoma of lung, bronchus, and trachea (9.4)	23	2%	1.2	0.7 - 1.8

Table 4b: Top Site Specific Cancer Incidence Rates (per 100,000) among Female AYA, Maine, 2011-2020				
Site	**n**	**% of Total**	**Crude rate per 100,000**	**95% CI**
Total	1,922	100%	99.5	95.1 - 104.0
Carcinoma of breast (9.6)	416	22%	21.5	19.5 - 23.7
Thyroid carcinoma (9.1)	404	21%	20.9	18.9 - 23.1
Melanoma - malignant (8)	224	12%	11.6	10.1 - 13.2
Lymphomas (2)	150	8%	7.8	6.6 - 9.1
Carcinoma of uterine cervix (9.7.1)	114	6%	5.9	4.9 - 7.1
Colorectal (9.3.4, 9.3.5)	98	5%	5.1	4.1 - 6.2
Leukemias and related disorders (1)	73	4%	3.8	3.0 - 4.8
Sarcomas (4)	69	4%	3.6	2.8 - 4.5
Uterus (9.7.2)	63	3%	3.3	2.5 - 4.2
CNS and ONS (3)	60	3%	3.1	2.4 - 4.0
Ovary (7.2)	56	2%	2.9	2.2 - 3.8

Notes

Data source: Incidence: Maine Cancer Registry, based on November 2022 NPCR-CSS data submission.
AYA cancer site recodes are provided in parenthesis and based on definitions provided in SEER documentation: https://seer.cancer.gov/ayarecode/aya-2020.html

Rates are per 100,000. 95% CL: 95% Confidence Limit. n= Total count, 2011-2020.

Technical Notes

Maine Incidence and Mortality

Case Definitions: Incidence data presented in this report are based on the Surveillance, Epidemiology, and End Results (SEER) Program site recode ICD-O-3/WHO 2008 definitions, version 2008 and are determined by primary site and histology. The primary site reported is the site of origin and not the metastatic site. Incidence rates do not include recurrences. The number of cancers may include multiple primary cancers occurring in one patient.

Mortality case definitions for single cancers and "all sites" are based on the primary cancer site listed in in the underlying cause of death and coded using the International Classification of Diseases, Tenth Edition (ICD-10).

Malignant Behavior Coding: To align with SEER methodology, the MCR now uses "Behavior code ICD-O-3" rather than the "Behavior recode for analysis" field in SEER*Stat and any published statistics.

Rates: Incidence and mortality rates were calculated per 100,000 population. The year 2000 U.S. standard population was used for age adjustment. Incidence counts and rates presented in this report were produced using the Surveillance, Epidemiology, and End Results (SEER) Program, Surveillance Research Program, National Cancer Institute, SEER*Stat 8.4.1 software. Maine incidence counts and rates were produced from the Maine Cancer Registry dataset based on November 2022 data submission file; U.S. incidence counts and rates produced from the National Program of Cancer Registries and Surveillance, Epidemiology and End Results Program SEER*Stat Database: NPCR and SEER Incidence - U.S. Cancer Statistics Public Use Research Database, 2022 Submission (2001-2020). United States Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute. Released June 2023. Accessed at www.cdc.gov/cancer/uscs/public-use.

Maine mortality counts and rates were produced using SAS 9.4. U.S. mortality data were retrieved from the Centers for Disease Control and Prevention, National Center for Health Statistics using the CDC WONDER Online Database, Underlying Cause of Death 1999-2020, released in 2021.

Confidence Intervals and Statistical Significance: Ninety-five percent confidence intervals are provided for all rates (except for tables in the Special Topic Section). If the 95 percent confidence intervals for two rates overlapped, the incidence rates were considered similar. If the confidence intervals did not overlap, the rates were considered to be significantly different. Maine rates that are significantly higher than the national rate and county rates that are significantly higher than the Maine rate are highlighted.

Rates by County: The number of new cancer cases reported in a county varies from year to year, and some of this variation is due to chance. County level cancer rates are more likely to vary on an annual basis than state level rates. In addition, counties with smaller populations tend to have greater variation between time periods. In general, when there are less than 30 cancer cases per year in a geographic entity, it can be difficult to distinguish between normal variation and meaningful changes in cancer rates. In this report, multiple years of data are combined when producing the county rates. Although combining years can make the rates more reliable, caution must still be used when interpreting county rates because of small populations.

Beginning in 2022, the MCR uses the SEER field "County at DX Analysis", the county of the patient's residence at the time of diagnosis, derived from geocoded county data when available, instead of "County at DX".

COVID-19: In 2020, the COVID-19 pandemic disrupted access to medical care and contributed to delays in hospital reporting of cancer cases. This resulted in a drop in cancer diagnoses for the year 2020. This drop reflects changes in medical screening and care and should not be interpreted as a reduction in the underlying cancer burden.

Technical Notes—AYA

AYA Cancer Incidence

Case Definitions: Incidence data presented in this report are based on Surveillance, Epidemiology, and End Results (SEER) Adolescent and Young Adult (AYA) site recode 2020 revision, version 2020 and are determined by primary site and histology. Incidence rates do not include recurrences. The number of cancers may include multiple primary cancers occurring in one patient. https://seer.cancer.gov/ayarecode/aya-2020.html

Rates: AYA incidence rates are calculated per 100,000 population. Incidence counts and rates presented in this report were produced using the SEER Program, Surveillance Research Program, National Cancer Institute, SEER*Stat 8.4.1 software.

Risk Factor-associated Cancer Rates: Risk factor-associated cancers were defined using United States Cancer Statistics (USCS) definitions that are based on International Classification of Disease for Oncology (ICD-O)-3 site codes, histology codes, and additional restrictions. These cancer groupings are then coded into the predefined SEER*Stat variables. Detailed definitions can be found on the USCS website. https://www.cdc.gov/cancer/uscs/public-use/predefined-seer-stat-variables.htm#print

The Department of Health and Human Services ("DHHS") does not discriminate on the basis of disability, race, color, sex, gender, sexual orientation, age, national origin, religious or political belief, ancestry, familial or marital status, genetic information, association, previous assertion of a claim or right, or whistleblower activity, in admission or access to, or the operation of its policies, programs, services, or activities, or in hiring or employment practices. This notice is provided as required by and in accordance with Title II of the Americans with Disabilities Act of 1990 ("ADA"); Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973, as amended; Age Discrimination Act of 1975; Title IX of the Education Amendments of 1972; Section 1557 of the Affordable Care Act; the Maine Human Rights Act; Executive Order Regarding State of Maine Contracts for Services; and all other laws and regulations prohibiting such discrimination. Questions, concerns, complaints or requests for additional information regarding the ADA and ***hiring or employment practices*** may be forwarded to the DHHS ADA/EEO Coordinators at 11 State House Station, Augusta, Maine 04333-0011; 207-287-4289 (V); 207-287-1871(V); or Maine Relay 711 (TTY). Questions, concerns, complaints or requests for additional information regarding the ADA and ***programs, services, or activities*** may be forwarded to the DHHS ADA/Civil Rights Coordinator, at 11 State House Station, Augusta, Maine 04333-0011; 207-287-5014 (V); Maine Relay 711 (TTY); or ADA-CivilRights.DHHS@maine.gov. Civil rights complaints may also be filed with the U.S. Department of Health and Human Services, Office of Civil Rights, by phone at 800-368-1019 or 800-537-7697 (TDD); by mail to 200 Independence Avenue, SW, Room 509, HHS Building, Washington, D.C. 20201; or electronically at https://ocrportal.hhs.gov/ocr/portal/lobby.jsf. Individuals who need auxiliary aids for effective communication in program and services of DHHS are invited to make their needs and preferences known to the ADA/Civil Rights Coordinator. This notice is available in alternate formats, upon request.