2020 NPCR MAINE CANCER REGISTRY SUCCESS STORY

STORY TOPIC: Obesity-related cancers

STORY CATEGORY: Public Health Impact

STORY TITLE: Highlighting the Connection Between Obesity and Cancer: Including Risk-based Cancer in Routine Surveillance and Needs Assessments

STORY AUTHORS: Carolyn Bancroft, Kim Haggan, Kathy Boris, Denise Yob

SUMMARY

Cancer is the leading cause of death in Maine and cancer prevention and control is a priority public health issue. Obesity is associated with increased risk of 13 different cancers, and rates of overweight and obesity among Maine adults have increased over the past 20 years from 52% to 66% in 2019. Maine Cancer Registry, program partners, and epidemiologists at Maine CDC recognize the importance of including risk-based cancers in routine surveillance and program planning. As a result, we used Maine Cancer Registry (MCR) data to highlight obesity-related cancer in Maine in workshops, conferences and needs assessment activities in 2019 and 2020.

CHALLENGE

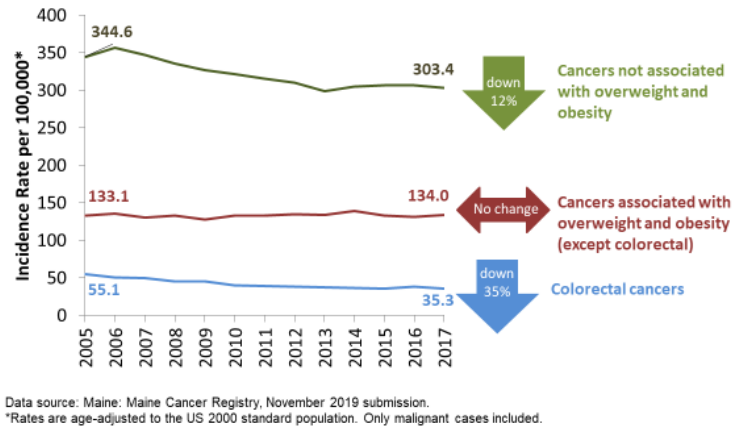
Cancer is the leading cause of death in Maine and nearly two-thirds of Maine adults are overweight or obese.[1] The prevalence of obesity among adults in Maine over the past two decades more than doubled from 14% in 1995 to 32% in 2019.[2] An estimated 37% of Maine's new cancer cases are overweight or obesity-associated cancers.[3] Endometrial, ovarian, and postmenopausal female breast cancers account for nearly half (47%) of the obesity-associated cancers in Maine, and this contributes to a higher incidence of obesity-associated cancers among females than males in Maine, even though Maine females have slightly lower overall cancer incidence rates than males.[3]

SOLUTION

Beginning in 2012, MCR has included incidence rates and counts of obesity-associated cancers in the state's annual report of cancer. MCR epidemiologists used registry data to assess trends in obesity-associated cancers and used data from Maine's Behavioral Risk Factor Surveillance System (BRFSS) to assess trends in obesity and overweight among Maine adults. Furthermore, we explored differences in obesity-associated cancer trends when including and excluding colorectal cancers and analyzed how obesity-associated cancer differs by sex, age, and county of residence.

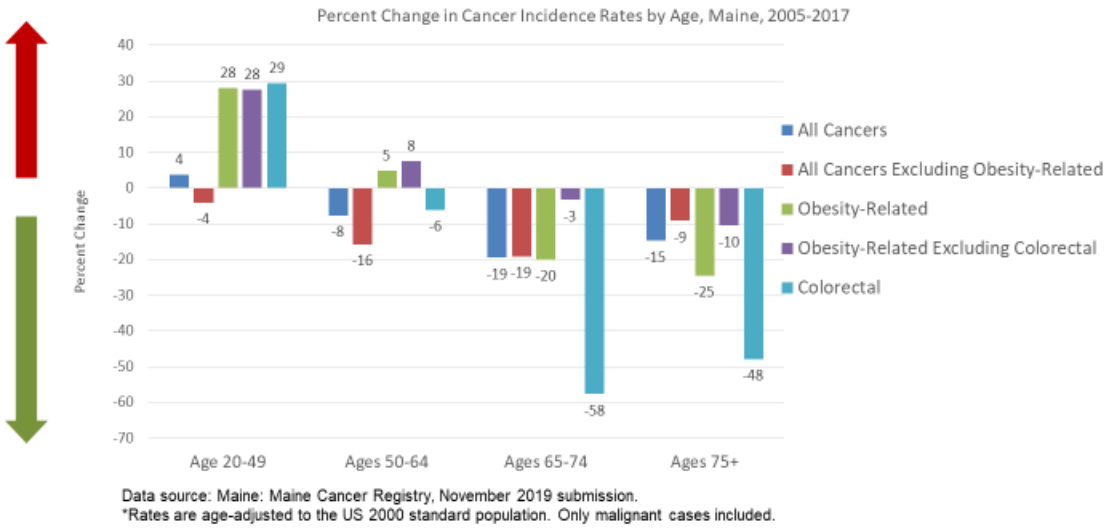
While overall cancer incidence has decreased in Maine in recent years (from 2005-2017), obesity-associated cancers other than colorectal cancer have not decreased over that same time period (Figure 1).[3] Furthermore, among adults ages 20-64 years in Maine, obesity-associated cancer incidence has increased from 1995-2017 (Figure 2).[3]

Figure 1. Trends in Obesity-associated cancers, Maine, 2005-2017



Data source: Maine: Maine Cancer Registry, November 2019 submission.
*Rates are age-adjusted to the US 2000 standard population. Only malignant cases included.

Figure 2. Trends in Obesity-associated Cancers by Age, Maine, 2005-2017



Data source: Maine: Maine Cancer Registry, November 2019 submission.
*Rates are age-adjusted to the US 2000 standard population. Only malignant cases included.

Currently, one in three Maine adults are obese and over half of Maine adults are overweight.[2] This trend aligns with the rest of the United States. High rates of overweight and obesity among Maine adults in the late 1990s likely contributes to current cancer trends, and obesity and overweight in the current Maine adult population will impact obesity-associated cancer incidence in the future.

Information on trends in overweight and obesity and obesity-associated cancers was used by Maine Cancer Registry and Maine CDC's Comprehensive Cancer Control Program to inform workshops and collaborations with prevention partners across Maine in 2019 and 2020.

RESULTS

Throughout 2019 and 2020, the Maine Cancer Registry shared data on obesity-associated cancer in several forums and for complementary purposes, including research, program planning, and needs assessments. These included:

- Maine CDC workshop: Obesity and Cancer: What's the Connection? (April 2019)
- Council on State and Territorial Epidemiology Northeast conference (November 2019)
- Maine CDC Division of Disease Prevention Epi Team Annual Data Fest (January 2020)

- Data Sub-committee of the Maine Shared Community Health Needs Assessment (June 2020)
- Data Sub-committee of the Maine Cancer Plan, 2021-2025 (June 2020)
- Maine Public Health Association, conference presentation on obesity and cancer (September 2020)
- Obesity: Making the Connection to Cancer, 9th annual Let's Go National Obesity conference hosted by MaineHealth (September 2020)
- Cancer Registrars of Maine, remote educational conference presentation on obesity and cancer (October 2020)

By increasing awareness about the link between obesity and cancer, this work may help a broad group of stakeholders to engage and see their work within the framework of cancer prevention activities. MCR includes indicators on risk-based cancers including obesity-associated, HPV-associated, and tobacco-associated cancers in its Annual Cancer Report. These data can serve as meaningful metrics to inform a variety of chronic disease prevention activities. As discussed at the Let's Go! Conference, prevention partners can leverage information about obesity as a risk factor for multiple types of cancer and further strengthen messaging for chronic disease interventions by underscoring the multiple health benefits of policy-level improvements and individual changes that promote healthy eating and activity living. Furthermore, needs assessment activities across the state of Maine are incorporating obesity-associated cancer into their metrics, including the Maine Shared Community Health Needs Assessment.

While there do not appear to be significant differences in obesity-associated cancer by geography (county) in Maine, differences in obesity-associated cancer across age groups and sex may inform targeted outreach with different populations and partners across the state.

SUSTAINING SUCCESS

This effort highlights the importance of assessing risk-based cancer incidence for program planning and needs assessment purposes. It also underscored the importance of looking at these indicators by sex and exploring the impact of including or excluding certain cancers in risk-based cancer measures (i.e., colorectal cancer). Obesity-associated cancers represent over half of newly diagnosed cancers among Maine females and only 22% of newly-diagnosed cancers among Maine males.[3] While it appears that the incidence of obesity-associated cancers is decreasing among those aged 20-74, this trend may be driven primarily by the decrease of colorectal cancer incidence, possibly due to the increase and success in screening for colorectal cancer. Colorectal screening prevalence is high in Maine; reductions in colorectal-cancer may be offset by other obesity-associated cancers, which have not decreased at the same rate. Like national findings, our analyses demonstrate significant increases in the incidence of obesity-associated cancers and colorectal cancer in younger ages. By engaging prevention partners in exploring and using these data, we hope to inform programmatic interventions that promote healthy weight and support cancer prevention and control among Maine adults.

REGISTRY CONTACT INFORMATION

Maine Cancer Registry: 207-287-5272
http://www.maine.gov/dhhs/mecdc/public-health-systems/data-research/vital-records/mcr/

Sources

[1] Mortality Data Source: Maine Vital Records, Data, Research, and Vital Statistics, Maine CDC, Department of Health and Human Services; Obesity data - Behavioral Risk Factor Surveillance System, BRFSS Prevalence & Trends Data [https://www.cdc.gov/brfss/brfssprevalence/index.html, accessed September 18, 2020.

[2] Behavioral Risk Factor Surveillance System, BRFSS Prevalence & Trends Data [https://www.cdc.gov/brfss/brfssprevalence/index.html, accessed September 29, 2020.

[3] Maine Cancer Registry, Maine CDC, Department of Health and Human Services, November 2019 submission.