

Obesity Associated Cancers – Data Brief

Vermont Cancer Registry

Background

Overweight and obesity may contribute to as much as 25% of newly diagnosed cancers in the U.S. each year. While prevalence of adult current smokers (age 18+) in Vermont has declined from 20% in 2004 to 18% in 2013, the prevalence of obesity (BMI 30+) has increased from 19% in 2004 to 25% in 2013. An additional 37% of Vermonters were considered overweight (BMI between 25 and 29). In total, 63% of Vermont adults were either overweight or obese placing them at increased risk of conditions such as type 2 diabetes, hypertension, heart disease, stroke, osteoarthritis, and cancer.

Incidence of Obesity Associated Cancers

Excess weight has been identified as a risk factor for cancers of the breast (postmenopausal), colon and rectum, uterus, esophagus, kidney, pancreas, thyroid, and gallbladder; and may also increase the risk for cancers of the ovary, cervix, liver, non-Hodgkin lymphoma, myeloma, and prostate (advanced stage).

Obesity Associated Cancer Sites, Vermont and U.S., 2007-2011

	Male			Female		
	U.S. Rate	VT Rate	VT Cases (per year)	U.S. Rate	VT Rate	VT Cases (per year)
All Obesity Associated Sites	162.4	161.1	560	243.8	247.5	1,009
Breast (postmenopausal)	--	--	--	332.1	348.7	▲ 411
Colon and Rectum	50.1	43.6	▼ 149	37.9	36.1	148
Uterus	--	--	--	25.0	30.9	▲ 127
Thyroid	6.6	6.2	21	19.4	19.9	65
Pancreas	13.8	14.6	50	10.7	11.2	46
Kidney	21.4	20.8	73	11.2	9.7	39
Esophagus	8.4	9.2	32	1.9	2.2	9
Gallbladder	0.8	0.6	2	1.4	1.4	6
Ovarian	--	--	--	12.0	11.7	47
Cervical	--	--	--	7.8	4.3	▼ 15
Liver	11.0	10.3	37	3.7	2.5	▼ 10
Myeloma	7.5	7.4	25	4.9	4.0	17
Non-Hodgkin Lymphoma	23.2	24.7	83	16.1	17.2	68
Prostate (advanced stage)	19.6	23.8	▲ 88	--	--	--

▲ Significantly Higher ▼ Significantly Lower

Vermont men have significantly higher rates of advanced stage prostate cancer and lower rates of colorectal cancer compared to the U.S. rates. Vermont women have significantly higher rates of postmenopausal breast and uterine cancers and lower rates of cervical and liver cancers compared to the U.S. rates. The incidence of all obesity associated cancers for males and females is not different compared to the U.S.

Mortality from Obesity Associated Cancers

In addition to being associated with higher rates of cancer, excess weight has also been associated with poor prognosis including later stage of diagnosis, complications from treatments, and increased recurrence of cancers, and increased mortality. Cancer is the leading cause of death in Vermont. Excess body weight, poor nutrition, and physical inactivity may contribute to as much as one-third of cancer deaths in the U.S.

Deaths, Vermont and U.S., 2007-2011

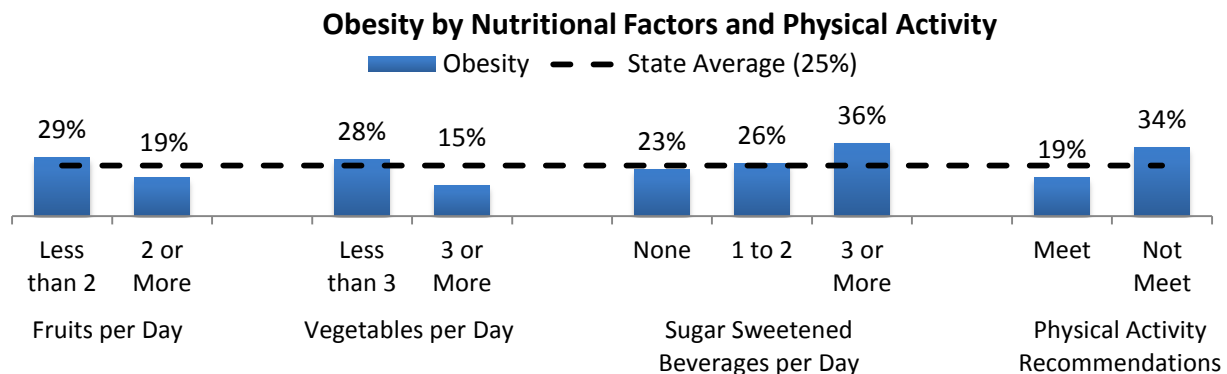
	Male			Female		
	U.S. Rate	VT Rate	VT Deaths (per year)	U.S. Rate	VT Rate	VT Deaths (per year)
All Cancer Sites	211.6	213.4	686	147.4	152.2	636
All Obesity Associated Sites	89.2	86.3	275	72.8	71.0	298

Excess Weight and Cancer Risk

Excess weight may increase cancer risk through a number of mechanisms including influencing immune system function and inflammation, increased levels of hormones (insulin, insulin-like growth factor-1 (IGF-1), and estrogen) that encourage the development of certain tumors, and proteins that influence how hormones are used by the body. Several studies have demonstrated that weight loss reduces the risk of developing chronic diseases including diabetes and cardiovascular disease as well as some cancers.

Obesity, Nutrition, and Physical Activity

Nearly two-thirds of cancer deaths in the U.S. can be linked to [tobacco](#) use, [poor diet, obesity, and lack of exercise](#). Nutritional factors such as fruit and vegetable consumption and drinking sugar sweetened beverages can contribute to weight and body mass index. Participation in physical activity also can influence body weight and obesity. In 2013 adults who did not meet aerobic physical activity or strength training recommendations were significantly more likely to report being [obese](#) than those who met recommendations.



Technical Notes

All rates are age adjusted to the 2000 U.S. standard population and exclude basal cell and squamous cell skin cancers. Incidence rates exclude in situ carcinomas. Incidence and mortality data were coded using the International Classification of Disease (ICD) for Oncology (ICD-O) and ICD Tenth Revision (ICD-10) coding systems, respectively. Vermont cases and deaths include Vermont residents only. A reporting delay by Department of Veterans Affairs (VA) has resulted in incomplete reporting of Vermont VA incident cases in 2011.

[Body mass index \(BMI\)](#) is a measure of body fat based on height and weight that applies to adult males and females.

Vermont obesity and overweight data are limited to adults 20 and older and age adjusted to the U.S. 2000 population. Due to weighting methodology changes to the BRFSS beginning in 2011, comparisons between data collected in 2011 and later and that from 2010 and earlier should be made with caution. Differences between data from 2011 forward and earlier years may be due to methodological changes, rather than changes in opinion or behavior.

Sources Cancer Incidence and Mortality: Vermont Cancer Registry, Vermont Department of Health (1994-2011). National Program of Cancer Registries (NPCR) and Surveillance, Epidemiology, and End Results (SEER) Program - Incidence State Restricted Access Data File (1999-2011). Vermont Vital Statistics System, Vermont Department of Health (1994-2011). SEER Program Mortality - Aggregated Total U.S. (1969-2011).

Sources Tobacco, Obesity, Nutrition, and Physical Activity: Vermont [Behavioral Risk Factor Surveillance Survey \(BRFSS\)](#), 2004 and 2013.

For more information please visit <http://healthvermont.gov/cancer> or contact Jennifer Kachajian at: Jennifer.Kachajian@state.vt.us.