Cancer: Understanding the Risk

VERMONT
DEPARTMENT OF HEALTH

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May 5, 2016

Overview

- How cancer statistics are created and what they mean.
- Chittenden County and Burlington compared to State and U.S.
- What increases risk for developing cancer.
- How that risk can be mitigated.
- Accessing cancer data.

About Cancer Data

Keep in mind…

- The numbers we present are meant to describe and enhance understanding of a subject.
- Context is necessary in order to understand the numbers
  - What is the nature of the disease?
  - What is the nature of the population at risk?
  - Is there a common thread?
- Numbers are not the be-all end-all
  - They're just one tool, really

What are data?

- Rates
  - Incidence and Mortality
- Statistical Significance
- Where do data come from?
  - Where to find data
  - Who collects data?
  - How do they collect it?

Where do numbers come from?

- Different agencies collect data
  - Primary and Secondary Reporting
    - Komen's *Vermont-New Hampshire Community Profile** used National Cancer Institute Data.
- When were the data collected?
- How representative are the data?
  - Sample.
  - Census.
- What is a 'statistic'?
  - Using a subset of the population (a sample) to understand and/or describe it.

**Community Profile Report*, Susan G. Komen for the Cure and Vermont-New Hampshire Affiliate, 2009. http://www.komenvtnh.org/assets/grants-documents/community-profile.pdf

Sources of Cancer Data

- Cancer Registry
- Death Certificates
- Surveys
- Research Studies

Rates

- Frequency of a disease over a time period divided by the unit size of the population during that same time period.

- Incidence rates measure occurrence.

$$= \frac{\text{\# of NEW cases diagnosed during a period of time}}{\text{\# of the population at risk}} \text{ X } 100{,}000$$

- Usually expressed in the form of per some number of the population i.e. per 100,000

$$= \frac{\text{450 new cases of pertussis}}{\text{2,134,000 people at risk during time period}} \text{ X } 100{,}000$$

  - = 0.000211 X 100,000 people
  - = 21.1 cases of pertussis per 100,000 people – Gives more context.

Incidence and Prevalence

- **Incidence**: Number of NEW cases during a given period in a specified population.
  - Useful measure to help assess the risk of disease.
- **Prevalence**: Number of EXISTING cases during a given period in a specified population
  - Useful measure to help understand the burden of disease.

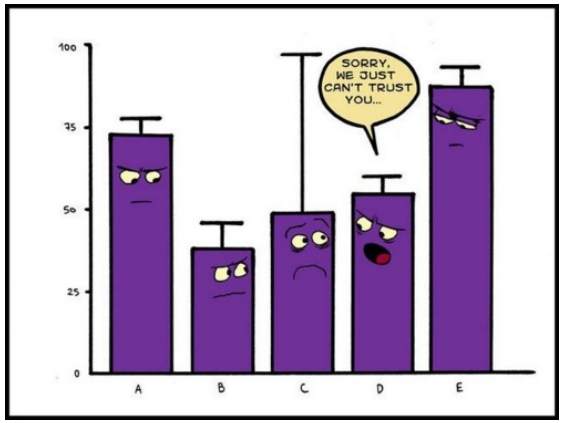
What is significance?

- A *statistically significant difference* indicates that there is a difference that is unlikely to have occurred by chance alone.

  - Lower ▼
  - Higher ▲
  - Not Different (or Similar)

Small Numbers

- Small numbers (samples) = unreliable
  - If you chose 20 people at random and asked whether they have breast cancer…
    - Would it be accurate?
    - Would it represent the entire at risk population?
  - What about 50? 100? 200,000? One million people?
- Small geographic areas
  - Towns
  - Neighborhoods
  - Vermont is small in some areas
    - Numbers are calculated over several years



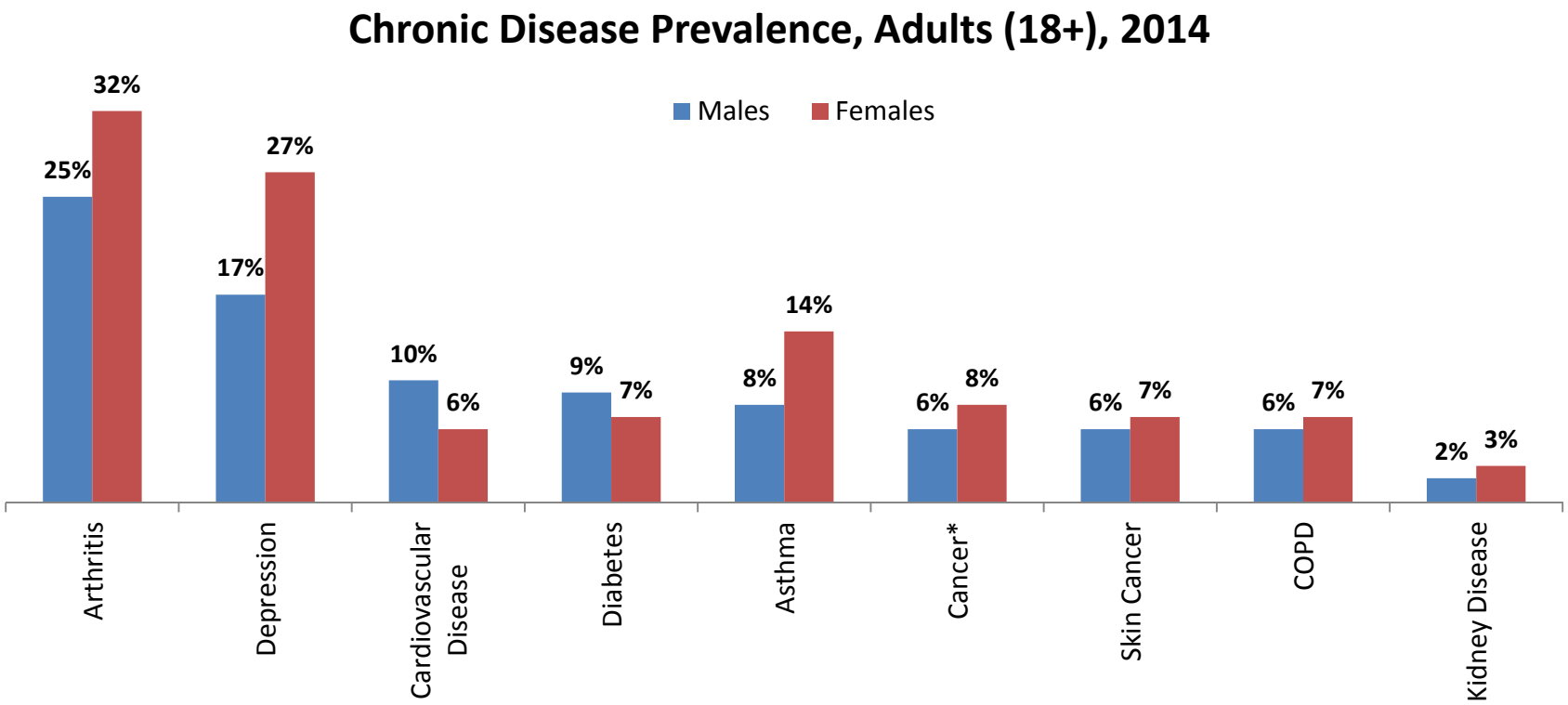
Cancer Incidence and Mortality

Vermont's Cancer Landscape

- Small, Mainly Rural **(~626,000 pop.)**
- Aging Population
  - 2nd oldest state
- 94.3% White Non-Hispanic
- Cancer Incidence
  - 471.9 per 100,000
  - ~3,600 cases per year
  - Statistically higher than U.S.
- Cancer Mortality
  - 173.4 per 100,000
  - ~1,300 deaths per year
  - Leading cause of death in Vermont
- Vermont Adults Living with Cancer
  - 7% or about 36,000

Data Sources:
2010 Census
Vermont Cancer Registry 2008-2012
Vermont Vital Statistics 2008-2012
NPCR and SEER 2008-2012
Vermont BRFSS 2014

Chronic Disease Prevalence



* Excluding skin cancers.

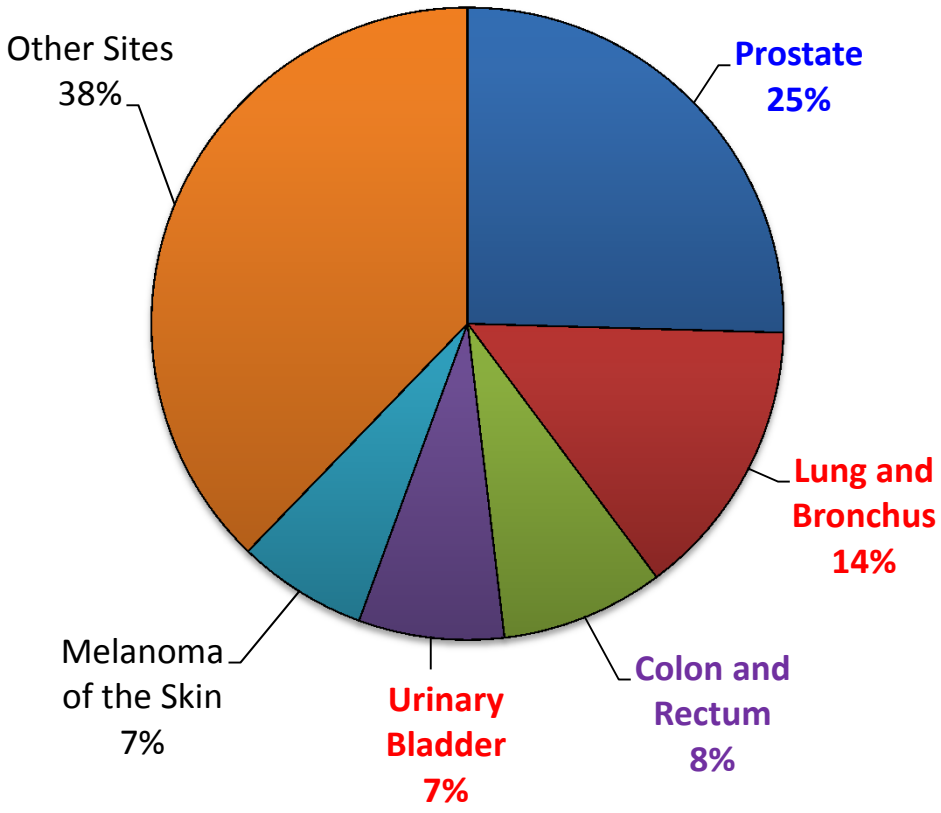
Data Source: Behavioral Risk Factor Surveillance System, 2014

3 › 4 › 50

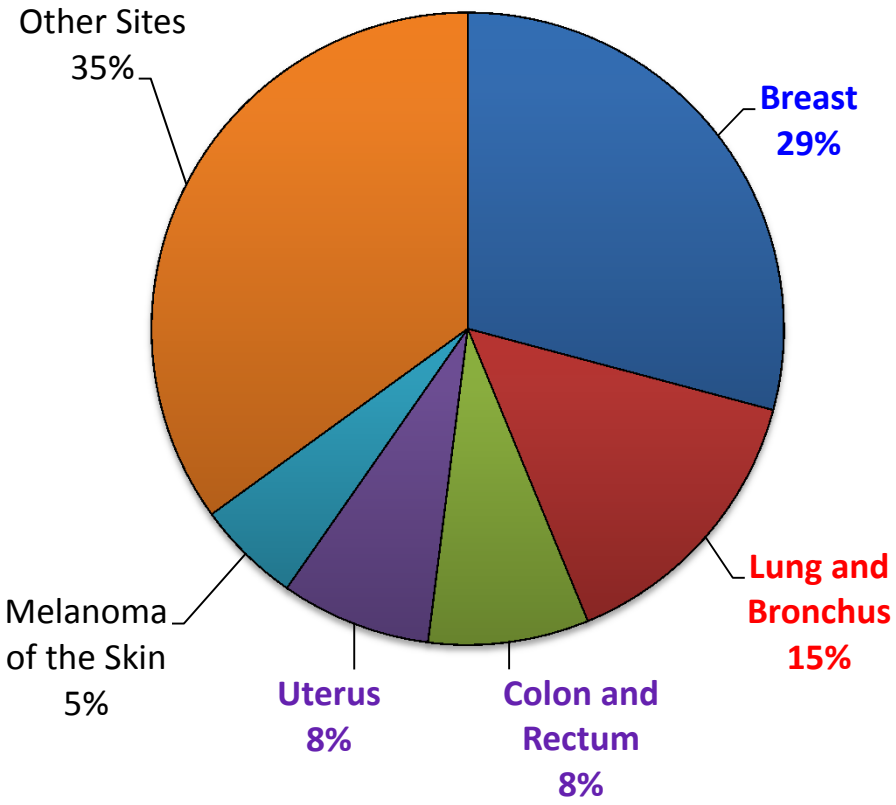

3
BEHAVIORS
• No Physical Activity
• Poor Diet
• Tobacco Use
LEAD TO
4
DISEASES
• Cancer
• Heart Disease & Stroke
• Type 2 Diabetes
• Lung Disease
RESULT IN
MORE THAN
50
PERCENT
OF DEATHS
IN VERMONT

Leading Cancer Sites

Leading Cancer Sites, Vermont Males, All Ages, 2008-2012



Leading Cancer Sites, Vermont Females, All Ages, 2008-2012



Data Sources: Vermont Cancer Registry, 2008-2012

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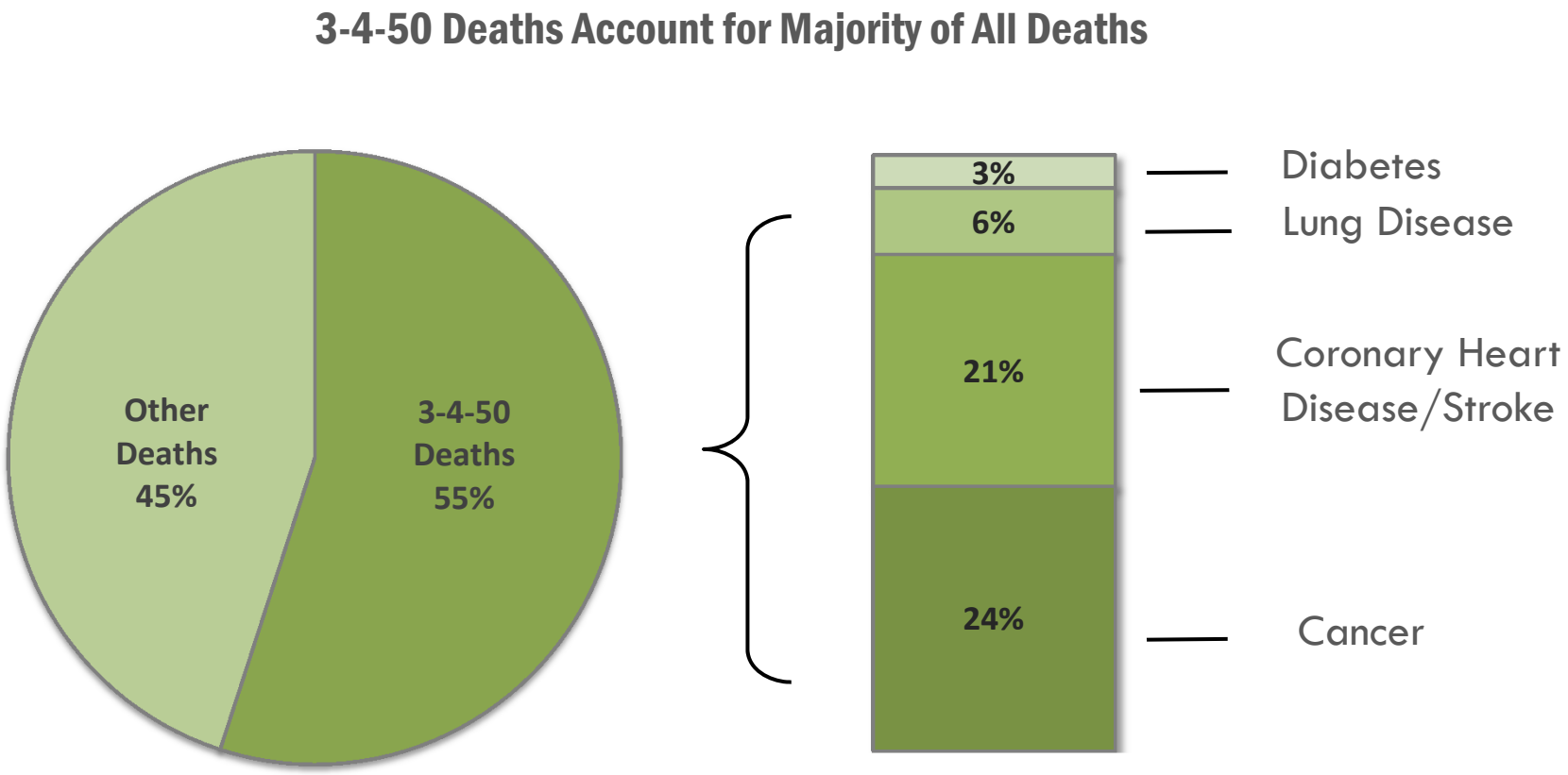
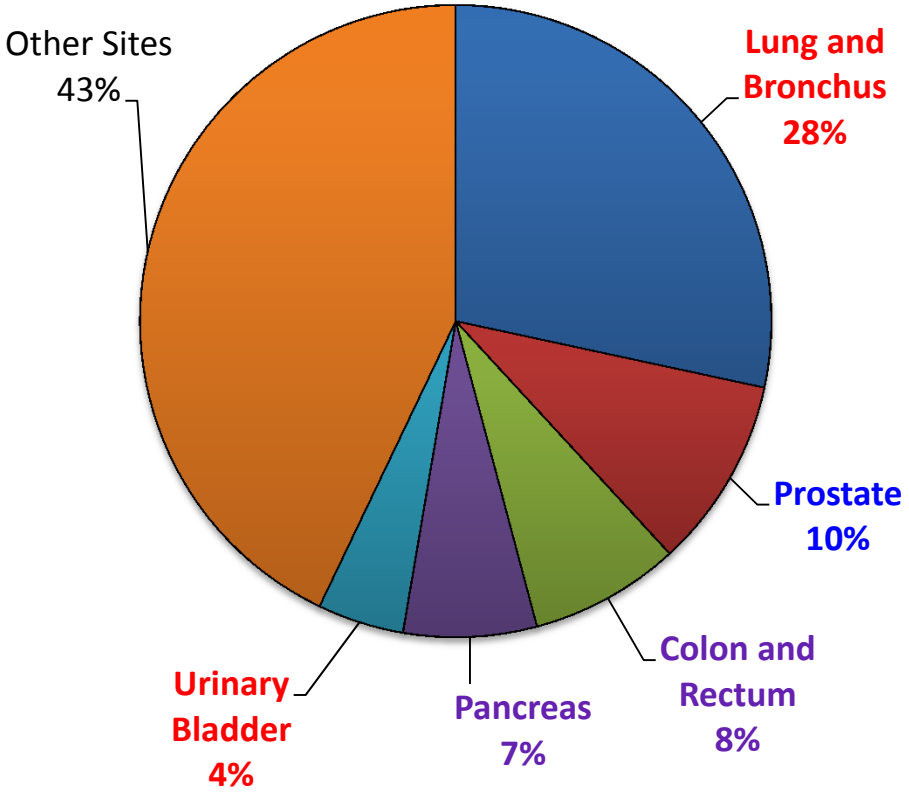


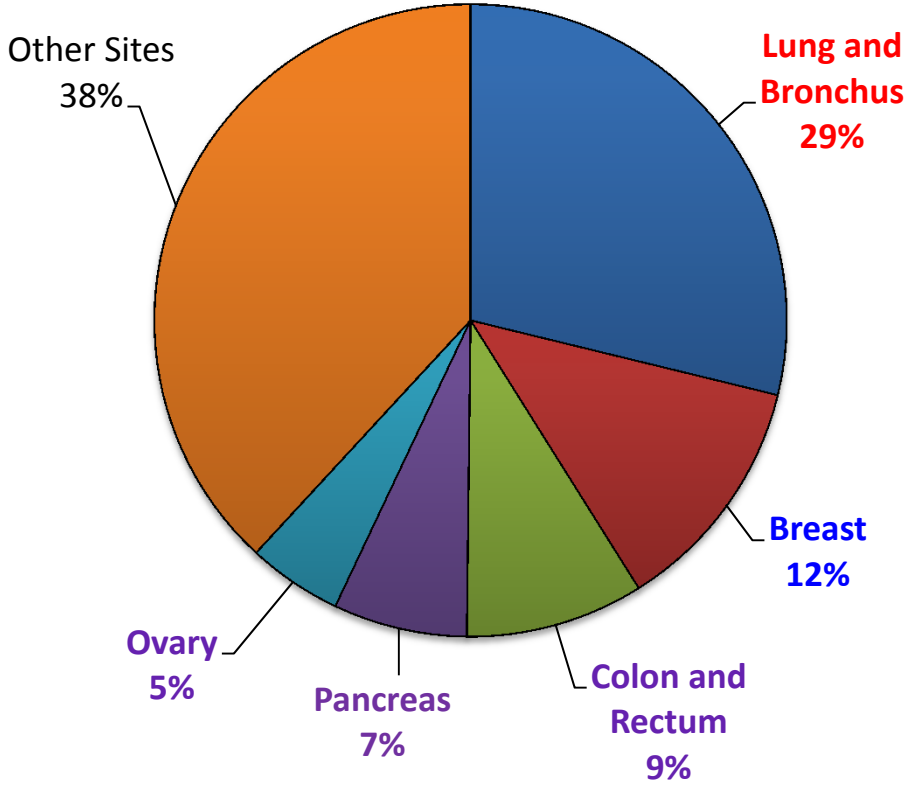
Data Sources: 2012 Vermont Vital Statistics (Provisional), Vermont BRFSS, 2013

Leading Cancer Cause of Death

Leading Cancer Deaths, Vermont Males, All Ages, 2008-2012

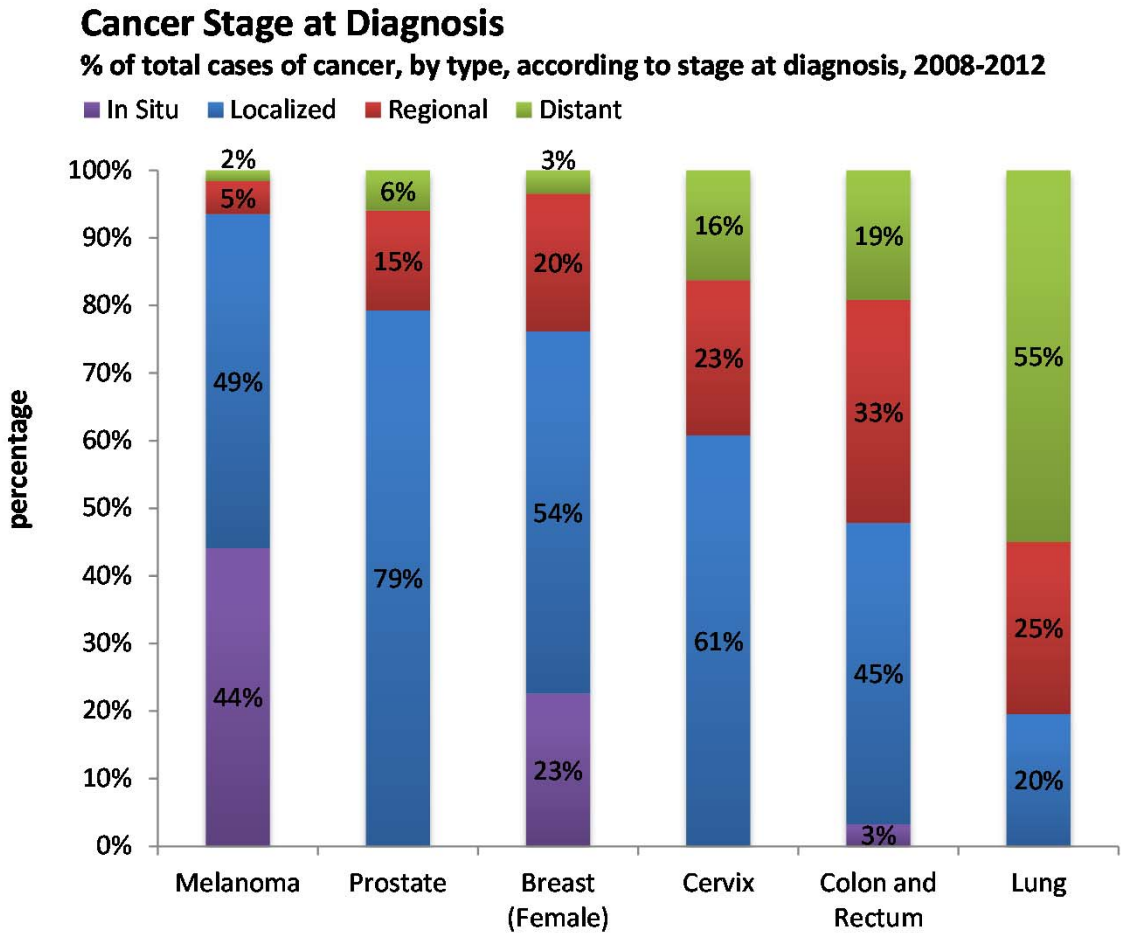


Leading Cancer Deaths, Vermont Females, All Ages, 2008-2012



Data Sources: Vermont Vital Statistics, 2008-2012 (2012, Provisional)

Cancer Stage at Diagnosis



Note: Cervical cancers diagnosed as in situ are not reported to the Cancer Registry and are therefore not included in this chart.

Data Source: Vermont Cancer Registry, 2008-2012.

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Cancer Risk

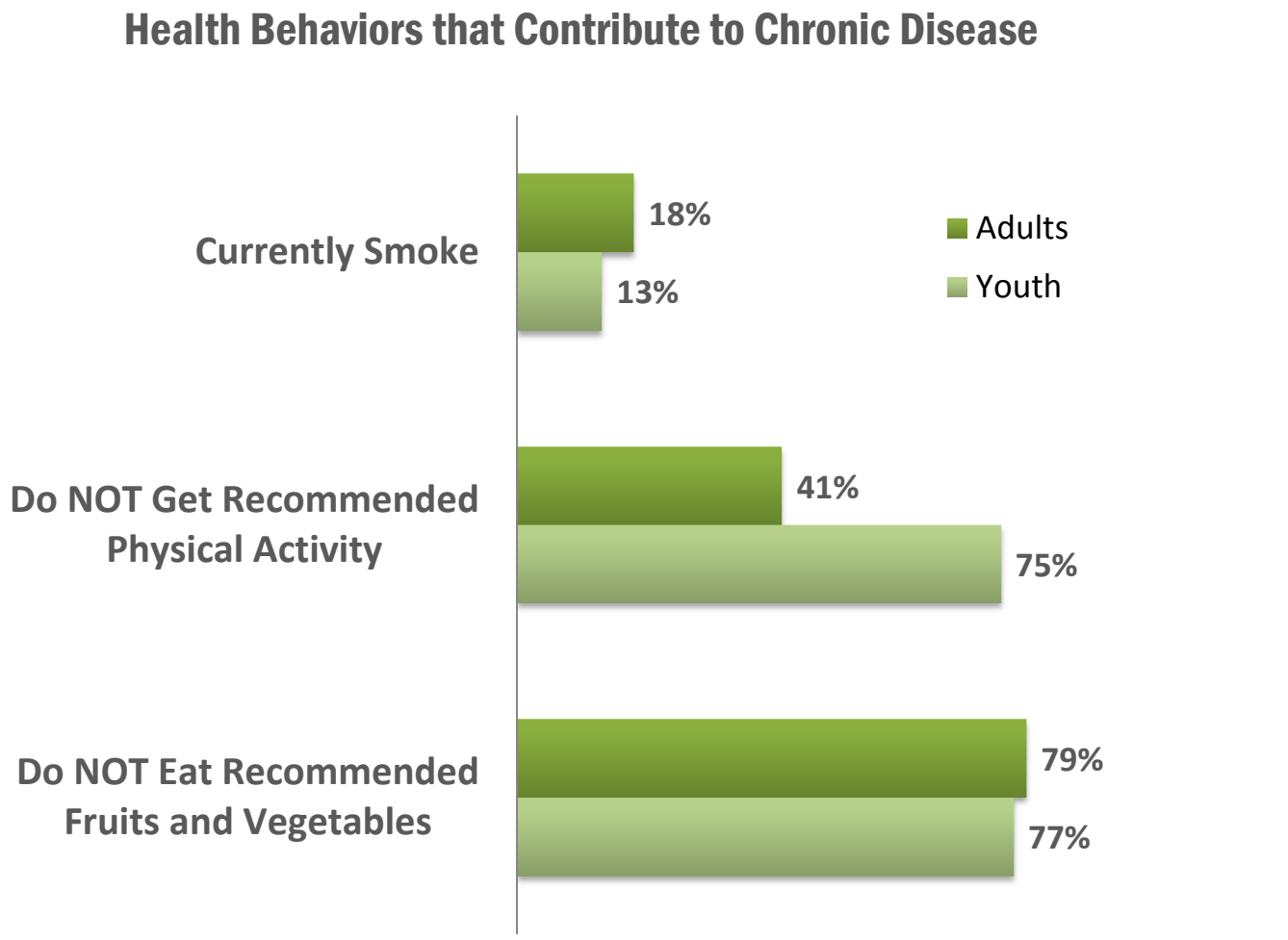
Risk for Developing Cancer

- "Cancer" is a group of more than 100 diseases characterized by uncontrolled growth and spread of abnormal cells.
  - Cancer can start in any cell in the body.
  - The cells start out as normal and then change.
  - Injuries to the cell affect how it grows, works, reproduces, and dies.
  - Cells grow and divide out of control instead of dying when they should.
- **Latency** is the time that passes between being exposed to something that can cause disease (such as sun exposure or smoking) and having symptoms.

Risk for Developing Cancer

- A **risk factor** is a condition, an activity, or an exposure that increases a person's chance of developing cancer.
  - People with known risk factors may never develop cancer.
  - Many people who develop cancer have none of the known risk factors.
- Cancer develops gradually as a result of a complex mix of factors related to lifestyle choices, environment and genetics.
  - Nearly **two-thirds** of cancer deaths in the U.S. can be linked to tobacco use, poor diet, obesity, and lack of exercise.

3 › 4 › 50



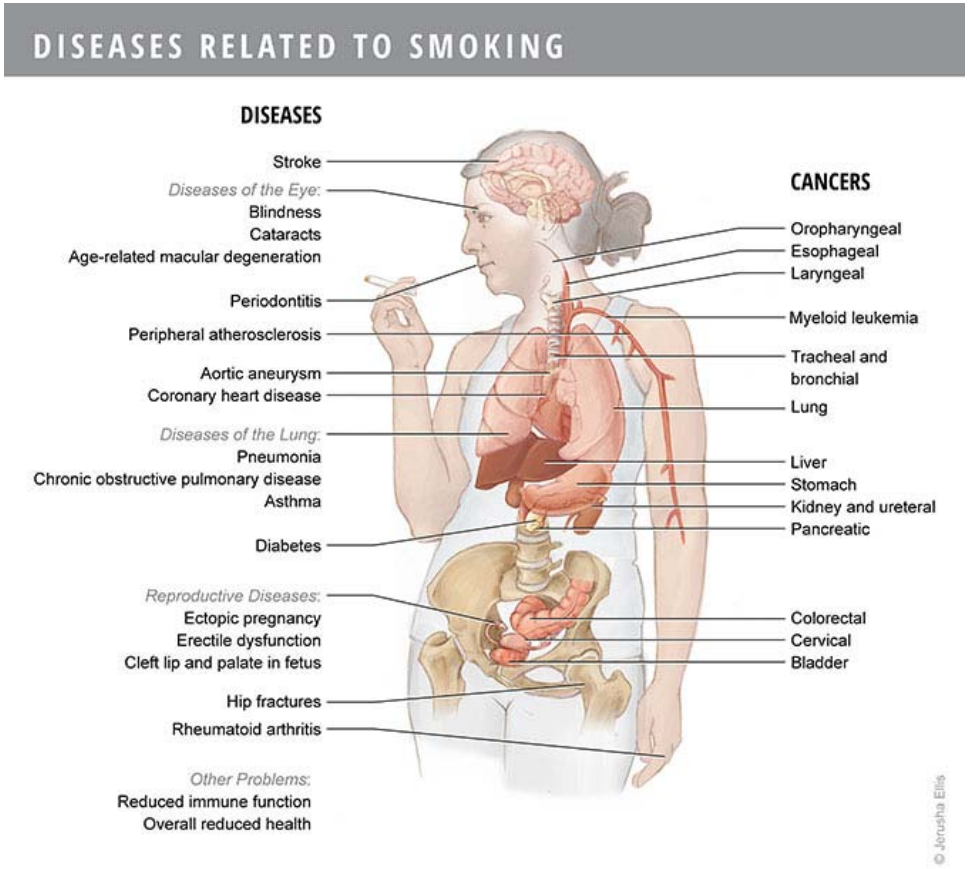
Data Sources: Vermont BRFSS and YRBSS, 2013

State Cancer Plan - 2020

Tobacco Associated Cancers

Tobacco Associated Diseases

- Tobacco use causes more than 480,000 U.S. deaths each year.
- Smoking (and secondhand smoking) can cause cancer almost anywhere in the body but also contributes to many other diseases including:
  - Heart Disease
  - Respiratory Illness
  - Stroke
  - Diabetes
  - Reproductive Health
  - Dental Health
  - Preterm birth, low birth weight, still birth, birth defects, SIDS



Data Source: Centers for Disease Control and Prevention.

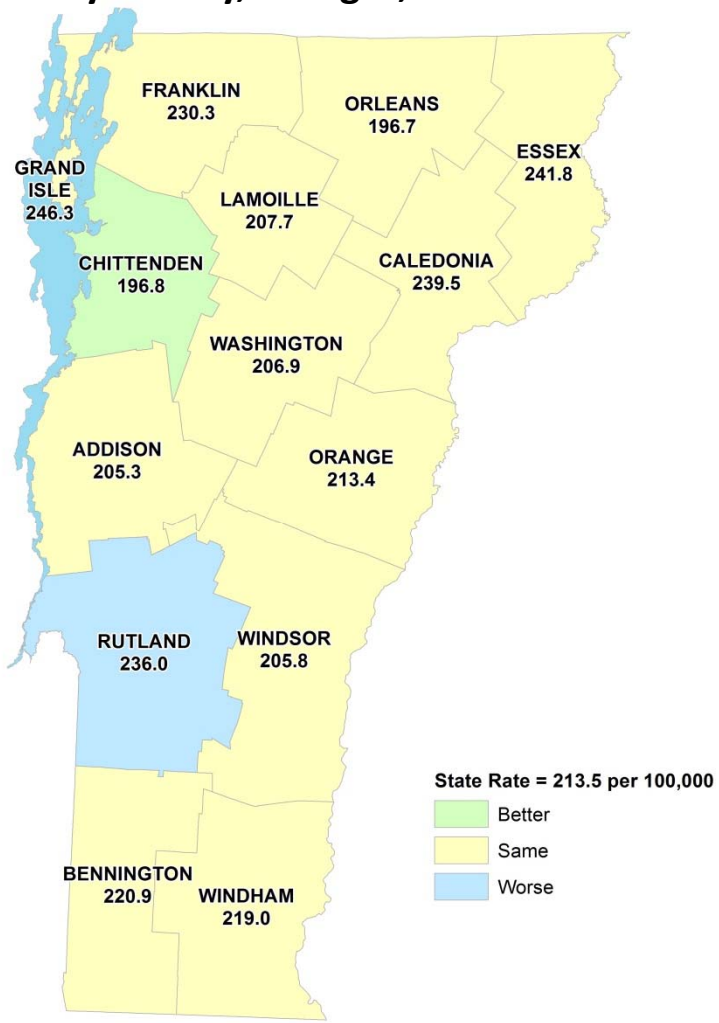
Tobacco Associated Cancers

- Tobacco use increases the risk for many types of cancer, particularly lung cancer.
- Tobacco also increases the risk for cancers of the mouth, lips, nose and sinuses, larynx (voice box), pharynx (throat), esophagus, stomach, colon and rectum, pancreas, cervix, uterus, ovary, bladder, kidney, and acute myeloid leukemia.
- **Chittenden County** has a lower rate of tobacco associated cancers compared to the state.

Notes: All rates are age adjusted to the 2000 U.S. standard population.

Data Source: VCR, 2008-2012

Tobacco Associated Cancers, Incidence Rate by County, All Ages, 2008-2012



Lung Cancer Statistics – Males

- **Incidence:**
  - 262 Vermont male cases per year
  - VT: 75.8 per 100,000 (U.S. 76.6 per 100,000).
  - **42 Chittenden County new cases per year**
  - **Chittenden County: 62.2 per 100,000**

- **Late Stage (regional and distant, age 55+):**
  - VT: 239.9 per 100,000 (U.S. 234.2 per 100,000)
  - **Chittenden County: 201.0 per 100,000**

Data Source: Vermont Cancer Registry, 2008-2012; National Program of Cancer Registries (NPCR) and the Surveillance, Epidemiology, and End Results (SEER) Program - Incidence State Restricted Access Data File (1999-2012); Cancer Statistics Review, 1975-2012.

Lung Cancer Statistics - Females

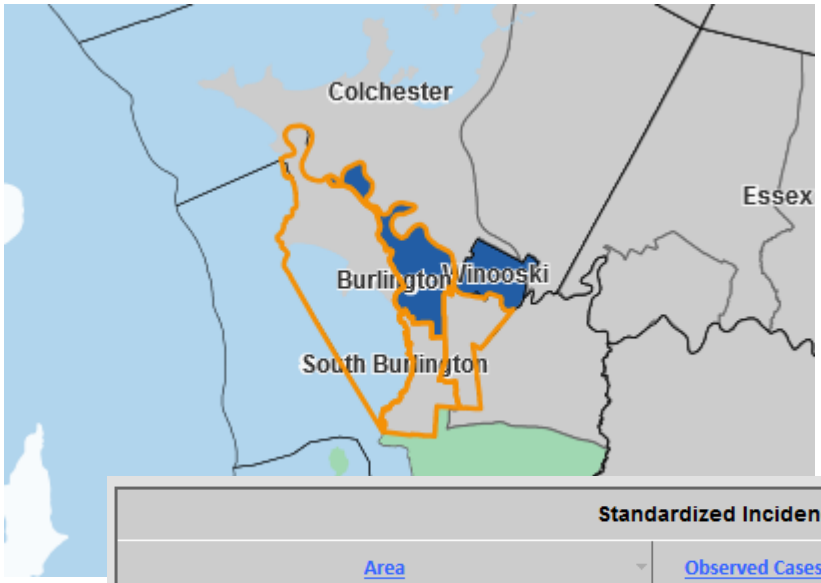
- **Incidence:**
  - 259 Vermont female cases per year
  - VT: 62.7 per 100,000 ▲ (U.S. 54.1 per 100,000).
  - **59 Chittenden County cases per year**
  - **Chittenden County: 67.1 per 100,000 (▲ than U.S.)**

- **Late Stage (regional and distant, age 55+):**
  - VT: 188.4 per 100,000 ▲ (U.S. 153.4 per 100,000)
  - **Chittenden County: 203.3 per 100,000 (▲ than U.S.)**

Data Source: Vermont Cancer Registry, 2008-2012; National Program of Cancer Registries (NPCR) and the Surveillance, Epidemiology, and End Results (SEER) Program - Incidence State Restricted Access Data File (1999-2012); Cancer Statistics Review, 1975-2012.

Lung Cancer Statistics – SIR's

Lung Cancer Standardized Incidence Ratios (SIR's) by Sub-County Areas, 2003-2012



- **Burlington's Old North End** has more lung cancers then expected compared to the state.

Standardized Incidence Ratio (SIR) = Observed Cases/Expected Cases

Area	Observed Cases	Expected Cases	SIR	Statistically Compared to State
BURLINGTON - Downtown / S. End	78	63.3	1.23	Not Different
BURLINGTON - Hill	24	31.2	0.77	Not Different
BURLINGTON - New North End	78	90.9	0.86	Not Different
BURLINGTON - Old North End	66	38.4	1.72	Statistically Higher
Caledonia County North	21	34.5	0.61	Statistically Lower
Caledonia County South	60	51.9	1.16	Not Different

Notes: All rates are age adjusted to the 2000 U.S. standard population.
Data Source: VCR, 2003-2012

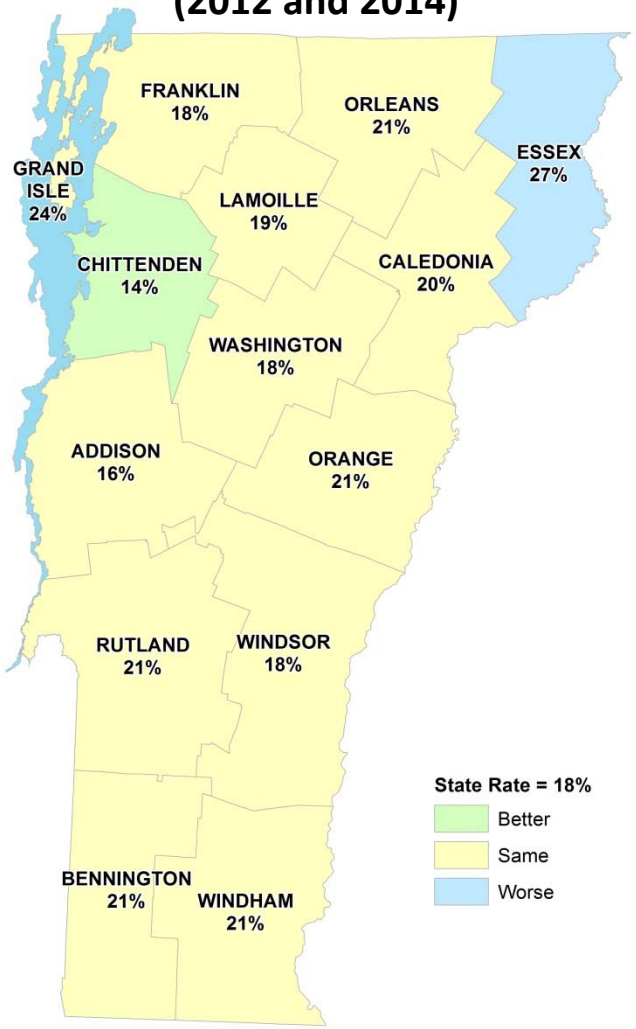
Cancer Related Risk Factors – **Smoking**

- Eighteen percent of Vermonters reported being current smokers in 2014; this is similar to the national rate (18%) in 2014.
- **Chittenden County** had lower smoking rates to the state as a whole.
- Among current smokers in Vermont, 59% reported quitting for at least one day in the past 12 months. This was similar to the national quit attempt rate of 60%.

Notes: All rates are age adjusted to the 2000 U.S. standard population

Data Source: BRFSS, VT: Statewide 2014, Counties 2013 and 2014

Smoking Rate by County, Age 18+, (2012 and 2014)



State Cancer Plan - 2020

Prevention

Prevent cancer from occurring or recurring

Overview

Preventing cancer and cancer recurrence is fundamental to the overall reduction of cancer in Vermont. Although not all cancers are preventable, many cancers are linked to lifestyle choices such as tobacco use, alcohol consumption, physical inactivity, poor diet and exposure to ultraviolet (UV) light. Other influences such as viral infections and environmental exposures can also increase a person's risk for cancer.

Tobacco

Tobacco use is the number one cause of preventable death. People who use tobacco products or who are regularly around secondhand smoke have an increased risk of many different cancers as described in the *Burden of Cancer in Vermont* section of the plan. In the U.S., exposure to cancer-causing substances in tobacco products accounts for about one-third of all cancer deaths.[6]

There is no safe level of tobacco use. People who quit smoking, regardless of their age, experience major and immediate health benefits as well as significant gains in life expectancy compared to those who continue to smoke. Furthermore, quitting smoking after a cancer diagnosis has been proven to increase survival rates, reduce risk of developing secondary cancers, improve treatment response, and reduce treatment side effects as well as an improved quality of life.

The objectives laid out in this plan align with the priorities of the Vermont Department of Health's Tobacco Control Program. This program works with partners such as VTAAC to carry out strategies to reduce smoking and secondhand smoke exposure in Vermont.

Oral Health

Regular oral health care can directly impact cancer prevention and control. Because some oral cancers can spread quickly, screening and early detection are important. Most oral cancers are related to tobacco and heavy alcohol use. Dentists and hygienists play a key role in the prevention and early identification of oral cancers (and other chronic disease risk factors) by performing oral cancer exams, discussing

Goal 2. Reduce exposure to tobacco among Vermonters.

	Objectives	Measures BASELINE (YEAR)	TARGET (2020)
2.1	Decrease % of adults who smoke cigarettes. (Data Source: BRFSS)*	18% (2014)	12%
	a. Decrease % of adults *below 250% of FPL* who smoke cigarettes. (Data Source: BRFSS)*	29% (2014)	12%
	b. Decrease % of adult *cancer survivors* who smoke cigarettes. (Data Source: BRFSS)*	26% (2014)	12%
2.2	Decrease % of adolescents in grades 9-12 who smoke cigarettes. (Data Source: YRBS)	11% (2015)	10%
2.3	Increase % of adult smokers attempting to quit in the past year. (Data Source: BRFSS)*	59% (2014)	80%
2.4	Decrease % of adult non-smokers exposed to secondhand smoke. (Data Source: Adult Tobacco Survey)	46% (2014)	30%
2.5	Decrease incidence rate of tobacco-associated cancers. (Per 100,000 persons, Data Source: VCR)*	213.5 (2008-2012)	202.8

* Measure is age adjusted to the 2000 U.S. standard population.

Strategies

- Educate health care providers on cessation resources, interventions and strategies.
- Facilitate the integration of closed-loop e-referrals into electronic health records systems to increase referrals to 802Quits.
- Coordinate efforts with cancer care providers to increase referrals to 802Quits for cancer patients and survivors.
- Support efforts to increase the number and type of tobacco and smoke-free environments including, college and hospital campuses, parks, beaches and community gathering spots.
- Support the decrease in point-of-sale tobacco advertising through policy and education.
- Promote broad media cessation messaging to increase registrants to 802Quits.

- Support efforts to increase the number and type of tobacco and smoke-free environments including, college and hospital campuses, parks, beaches and community gathering spots.

Obesity Associated Cancers

Obesity Associated Cancers

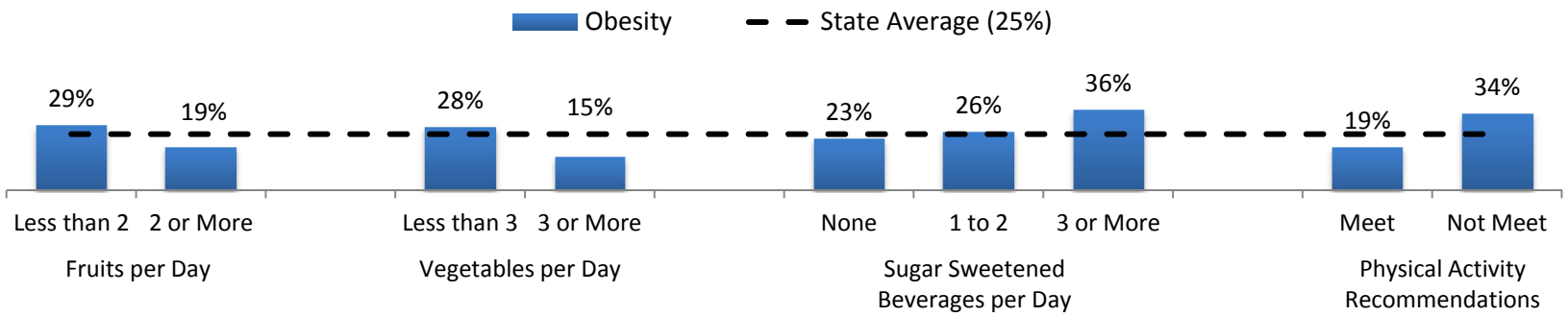
- Overweight and obesity may contribute to as much as 25% of newly diagnosed cancers in the U.S. annually.
- The prevalence of obesity (BMI 30+) among Vermonters age 20+ has increased from 21% in 2005 to 25% in 2014.
- 36% of Vermonters were considered overweight (BMI between 25 and 29).
- 60% of Vermont 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.
- Excess weight has also been associated with poor prognosis including: later stage of diagnosis, complications from treatments, increased recurrence of cancers, and increased mortality.

Data Source: BRFSS, 2014

Obesity Associated Cancers

- 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.
- 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 by Nutritional Factors and Physical Activity, Age 18+, 2013



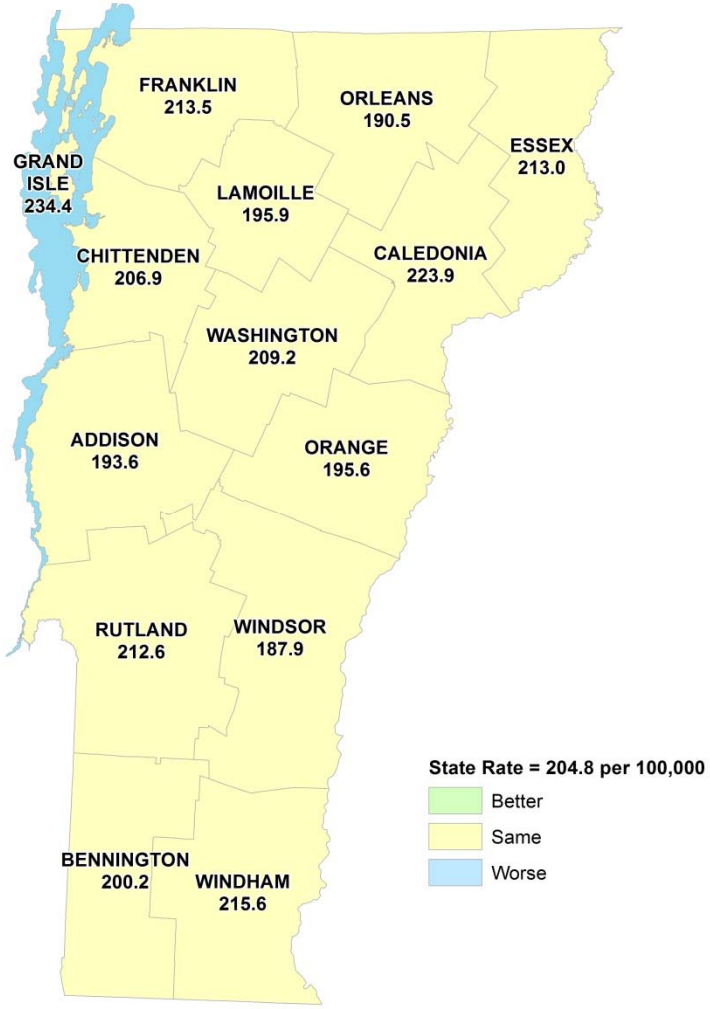
Data Source: BRFSS, 2013

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).

- **Chittenden County** has similar obesity associated cancer rates compared to the state rate.

Obesity Associated Cancers, Incidence Rate by County, All Ages, 2008-2012



Notes: All rates are age adjusted to the 2000 U.S. standard population.

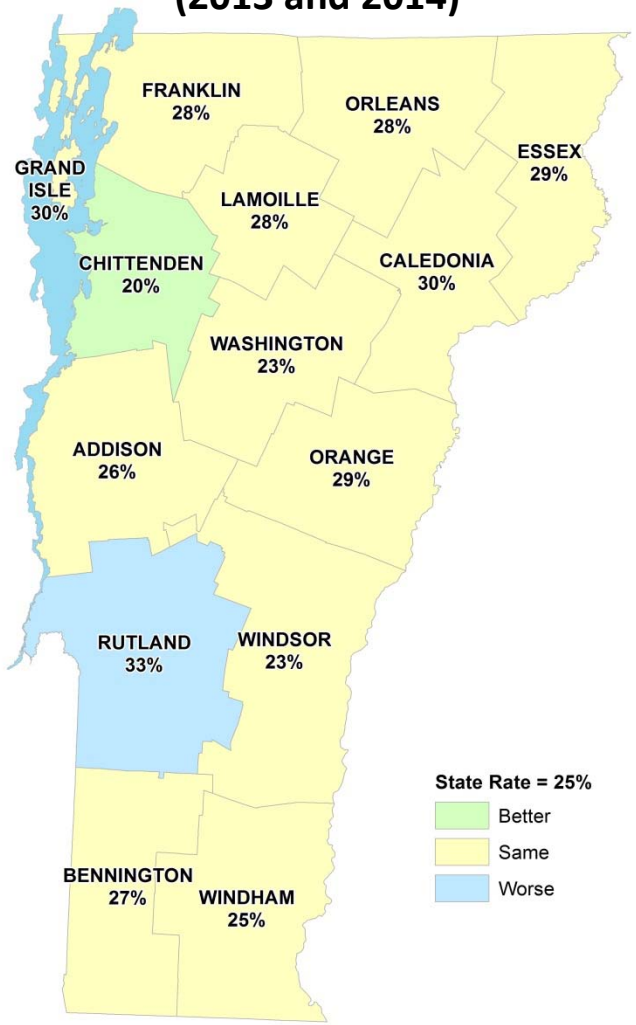
Data Source: VCR, 2008-2012

Cancer Related Risk Factors – **Obesity**

- In the United States, 30% of adults 20 and older are obese. In Vermont in 2014, the rate was 25%, which is lower than the national rate.

- While most Vermont counties have obesity rates that are similar to the state as a whole, **Chittenden County** has a lower obesity rate (20%) compared to Vermont.

Obesity Rates by County, Ages 20+, (2013 and 2014)



Notes: All rates are age adjusted to the 2000 U.S. standard population.
Obesity rates include adults, age 20 and over, with a Body Mass Index (BMI) classified as obese (BMI of 30+).

Data Source: BRFSS, VT: Statewide 2014, Counties 2013 and 2014

State Cancer Plan - 2020

Goal 4. Improve nutrition and physical activity among Vermonters.

	Objectives	Measures: BASELINE (YEAR)	Measures: TARGET (2020)
4.1	Decrease % of adults age 20+ who are obese. (Data Source: BRFSS)*	25% (2014)	20%
	a. Decrease % of adults age 20+ *below 250% of the FPL* who are obese. (Data Source: BRFSS)*	31% (2014)	20%
	b. Decrease % of *cancer survivors* age 20+ who are obese. (Data Source: BRFSS)*	21% (2014)	20%
4.2	Decrease % of adolescents in grades 9-12 who are obese. (Data Source: YRBS)	12% (2015)	8%
4.3	Increase % of adults who meet physical activity guidelines. (Data Source: BRFSS)*	59% (2013)	65%
4.4	Increase % of adults eating the daily recommended servings of fruit and vegetables per day. (Data Source: BRFSS)*	Fruit: 35% Veg: 18% (2013)	Fruit: 45% Veg: 35%
4.5	Increase % of adolescents in grades 9-12 eating the daily recommended servings of fruit and vegetables per day. (Data Source: YRBS)	Fruit: 34% Veg: 18% (2015)	Fruit: 40% Veg: 35%
4.6	Decrease incidence rate of obesity-associated cancers. (Per 100,000 persons, Data Source: VCR)*	204.8 (2008-2012)	194.6

* Measure is age adjusted to the 2000 U.S. standard population.

Strategies

- Support Vermont schools in developing and implementing local wellnes policies.
- Support worksites in developing policies and programs to promote healthy behaviors.
- Support healthy community design initiatives, such as increasing opportunities for physical activity and access to healthy foods, to make it easier for people to live healthy lives.
- Promote messages to health care providers and the public emphasizing the link between obesity and cancer.

"I would tell any young person or anyone, for that matter, not to smoke because cancer risks are too high."

Jim—Vermont Cancer Survivor

The objectives laid out in this plan align with the priorities of the Vermont Oral Health Plan, coordinated by the Vermont Department of Health Office of Oral Health. This program works with partners such as VTAAC to address oral health issues in Vermont.

Physical Activity and Nutrition

Overweight and obesity are associated with an increased risk of developing many types of cancer as defined in the *Burden of Cancer in Vermont* section of this plan. Lack of physical activity and poor nutrition are the main contributors to obesity. Approximately one-third of the cancers diagnosed in the U.S. are linked to these risk factors.[7]

Adopting or maintaining a healthy lifestyle after a cancer diagnosis can reduce morbidity and mortality from cancer and other chronic diseases. Reducing excess body weight through good nutrition and regular exercise can enhance the quality of life and extend the lifespan of cancer survivors as well as reduce their risk of developing secondary cancers and experiencing treatment side effects.

The objectives laid out in this plan align with the priorities of the Vermont Obesity Prevention Plan coordinated by the Department of Health Physical Activity and Nutrition Program. This program works with partners such as VTAAC to address obesity-related health issues in Vermont.

HPV

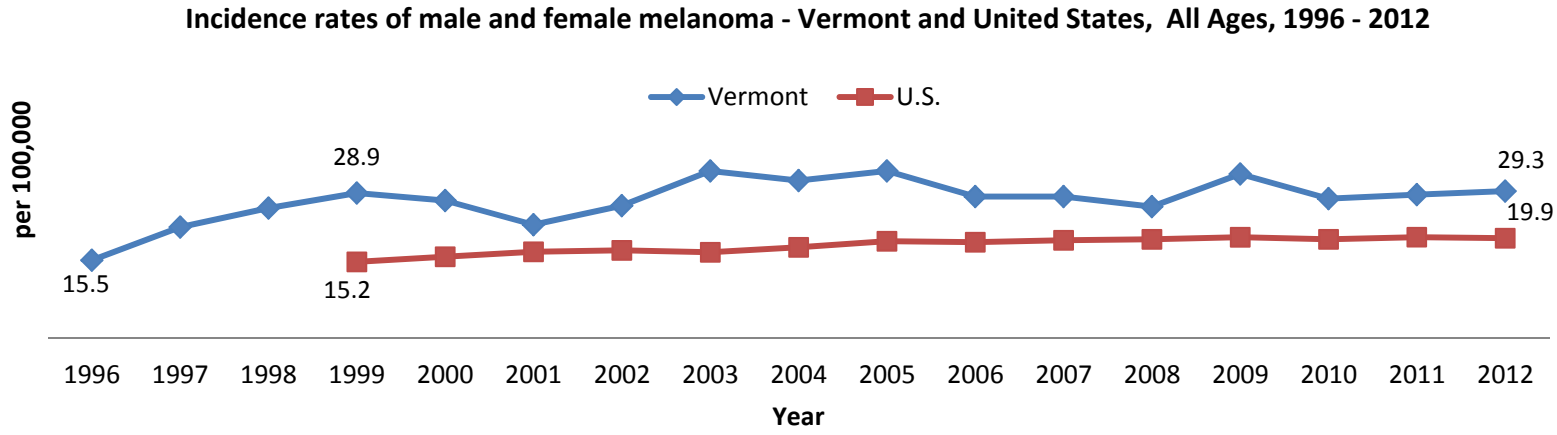
Human Papillomavirus (HPV) is the most common sexually transmitted infection in the U.S. There are many types of HPV. Some types cause genital warts, while

- Support healthy community design initiatives, such as increasing opportunities for physical activity and access to healthy foods, to make it easier for people to live healthy lives.

UV Exposure

Melanoma Statistics – Trend

- Third most commonly diagnosed cancer among cancers that affect both sexes.
- Vermonters have significantly higher rates of melanoma (29.0 per 100,000) compared to the U.S. rates (19.9 per 100,000).
- The incidence of melanoma has increased significantly in both Vermont and the U.S.



Data Source: Vermont Cancer Registry, 2008-2012; National Program of Cancer Registries (NPCR) and the Surveillance, Epidemiology, and End Results (SEER) Program - Incidence State Restricted Access Data File (1999-2012); Cancer Statistics Review, 1975-2012.

Melanoma Statistics - Males

- **Incidence Rankings by State:** Vermont is #3.

- **Incidence:**
  - 121 Vermont male cases per year.
  - VT: 35.2 per 100,000 ▲ (U.S. 25.5 per 100,000).
  - **27 Chittenden County cases per year.**
  - **Chittenden County: 38.6 per 100,000 (▲ than U.S.).**

Data Source: Vermont Cancer Registry, 2008-2012; National Program of Cancer Registries (NPCR) and the Surveillance, Epidemiology, and End Results (SEER) Program - Incidence State Restricted Access Data File (1999-2012); Cancer Statistics Review, 1975-2012.

Melanoma Statistics – Females

- **Incidence Rankings by State:** Vermont is #1.

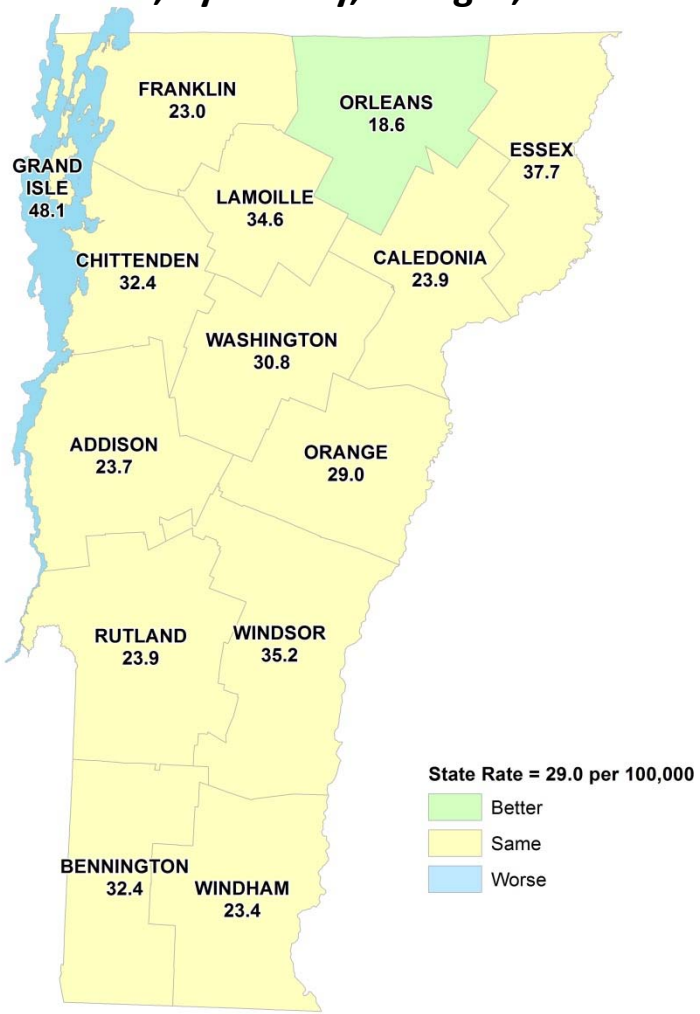
- **Incidence:**
  - 94 Vermont female cases per year.
  - VT: 24.7 per 100,000 ▲ (U.S. 16.0 per 100,000).
  - **25 Chittenden County cases per year.**
  - **Chittenden County: 28.9 per 100,000 (▲ than U.S.).**

Data Source: Vermont Cancer Registry, 2008-2012; National Program of Cancer Registries (NPCR) and the Surveillance, Epidemiology, and End Results (SEER) Program - Incidence State Restricted Access Data File (1999-2012); Cancer Statistics Review, 1975-2012.

Melanoma, UV Associated Cancers

- Most skin cancers are strongly associated with ultraviolet radiation (UV) exposure.
- As much as 90 percent of melanomas are estimated to be caused by UV exposure, the most preventable risk factor.
- **Chittenden County** has a similar rate of UV associated cancers compared to the state.

Melanoma, UV Exposure Associated Cancer, Incidence Rate, by County, All Ages, 2008-2012



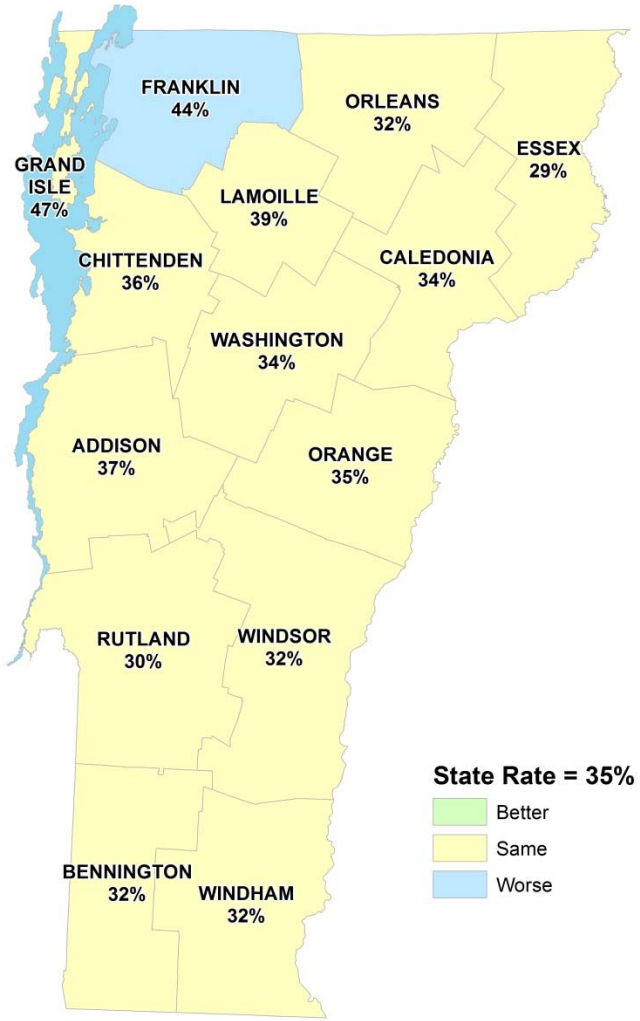
Notes: All rates are age adjusted to the 2000 U.S. standard population.

Data Source: VCR, 2008-2012

Cancer Related Risk Factors – **Sun Exposure**

- Among Vermont adults, 35% reported having one or more sunburns in the past year.
- Sunburn rates in **Chittenden County** are similar to the state.

Sunburn Rate by County, Age 18+, 2013



Data Source: BRFSS, 2013

Cancer Related Risk Factors –**Sun Exposure**

The use of tanning devices before age 35 years increase melanoma risk by as much as 75 percent.

During the past 12 months:

- 65% of high school students reported having at least one sunburn after being outside in the sun or using an indoor tanning device.
  - Among middle school students, 54% reported having at least one sunburn.
- 11% had five or more sunburns.
- 4% used an indoor tanning device such as a sunlamp, sunbed, or tanning booth.
- Females were significantly more likely than males to report having at least one sunburn or using an indoor tanning device.

Data Source: YRBS, 2015

State Cancer Plan - 2020

make sure Vermont children and adults are protected against vaccine-preventable disease.

To further reduce the burden of cervical cancer, women age 21-65 should be screened regularly to help prevent cervical cancer or detect cancers early. The objectives and strategies related to cervical cancer screening can be found in the *Early Detection* section of this plan.

Environmental Hazards

…nment can increase
f cancer. In addition to
ultraviolet (UV) radi-
and asbestos are all
rs known to increase

Ultraviolet Radiation

Skin cancer is the most common form of cancer in Vermont and the U.S. Melanoma is the least common, but most serious form of skin cancer. Vermont has one of the highest rates of melanoma incidence in the U.S.

Ultraviolet radiation exposure from the sun, sunlamps and tanning beds is the major known factor associated with melanoma. An intermittent pattern of sun exposure over many years and having at least one severe, blistering sunburn significantly increases melanoma risk. The use of tanning devices before the age of 35 also significantly increases the risk of developing melanoma.

Goal 6. Reduce exposure to environmental hazards among Vermonters.

6A. Ultraviolet (UV) radiation from the sun and sun lamps

	Objectives	Measures: BASELINE (YEAR)	Measures: TARGET (2020)
6.1	Decrease % of youth in grades 6-12 reporting sunburns in the past 12 months. (Data Source: YRBS)	Grades 6-8: 54% (2015) Grades 9-12: 65% (2015)	**Grades 6-8: 51%** **Grades 9-12: 62%**
6.2	Decrease % of youth in grades 9-12 who have used a tanning booth or sun lamp in the past 12 months. (Data Source: YRBS)	4% (2015)	**3%**
6.3	Decrease incidence rate of invasive melanoma. (Per 100,000 persons, Data Source: VCR)*	29.0 (2008-2012)	**27.6**

* Measure is age adjusted to the 2000 U.S. standard population.

Strategies

- Promote awareness of and compliance with Vermont's tanning regulations prohibiting use of tanning beds by Vermonters under age 18.
- Educate the public regarding the dangers of exposure to ultraviolet (UV) light, including indoor tanning.
- Promote evidence-based skin cancer prevention strategies in schools and parks/recreation programs.
- Promote education of health care providers about the importance of sun-safety counseling for children, adolescents, and young adults age 10 to 24 who have fair skin.
- Promote education of health care providers on the burden of skin cancer in Vermont and the evidence and information related to visual skin examination and skin cancer diagnosis and treatment.

- Promote evidence-based skin cancer prevention strategies in schools and parks/recreation programs.

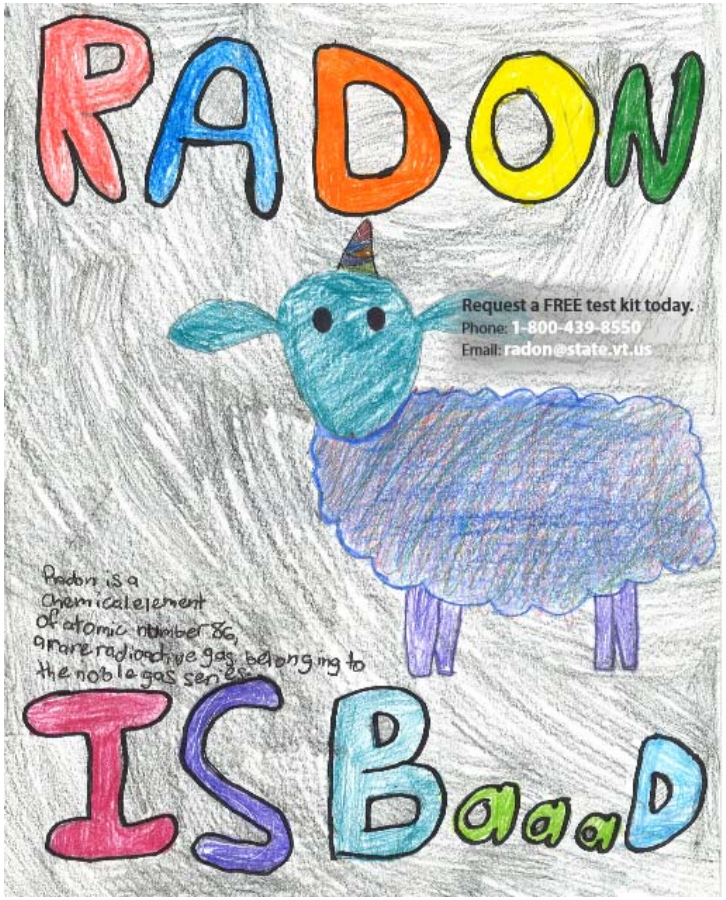
Water and Radon

Water and Radon Testing

- Environmental agents are estimated to account for roughly four percent of cancer cases.
- The Vermont Department of Health makes recommendations for water and radon testing.

Radon

- Radon is a naturally occurring radioactive gas that is present in soil, air, and water.
- Radon increases a person's risk of developing lung cancer.
- Unless you test for it, there is no way of knowing if radon is present in your home.
- Testing is free!
  - **Radon@vermont.gov** or **1-800-439-8550.**



Water

- If you pay a bill for your water your water comes from a **public water supply**.
- Public water supplies must be tested regularly for bacteria, nonorganic chemicals, naturally occurring radioactivity, and naturally occurring compounds.
- Public water supply test results for a specific system can be obtained from the water company upon request.
- For **private water systems** the health department recommends periodic testing by homeowners:
  - Coliform bacteria (Kit A) once a year.
  - Inorganic chemicals, including arsenic (Kit C) every five years.
  - Mineral radioactivity (Kit RA) every five years.
  - **Request a test kit by phone at 1-800-660-9997.**

Accessing Cancer Data

Accessing Data – Vermont Department of Health

Cancer Data and Statistics

Overview

- Age Adjusted Incidence and Mortality Rates
- 2015 Cancer Data Pages - Full Report
- Cancer Dashboard - Healthy Vermonters 2020
- Cancer from a Public Health Perspective

Risk Factors and Associated Cancers

- Cancer-Related Risk Factors and Preventative Behaviors
- Data Brief: Melanoma
- Data Brief: Obesity Associated Cancers
- Data Brief: Tobacco Associated Cancers

Screening, Diagnosis, and Mortality

- Age Adjusted Incidence and Mortality Rates
- Cancer Incidence
- Cancer Screening
- Cancer Mortality
- Data Brief: Colorectal Cancer
- Thyroid Cancer
- Screening and Early Detection

Cancer Survivorship

- Cancer Prevalence and Health of Survivors
- Data Brief: Cancer Survivorship

Community Data

- **Cancer Fact Sheets**

Addison	Bennington	Caledonia	Chittenden
Essex	Franklin	Grand Isle	Lamoille
Orange	Orleans	Rutland	Washington
Windham	Windsor		

http://healthvermont.gov/cancer

VERMONT DEPARTMENT OF HEALTH

Accessing Data – County Cancer Fact Sheets

Cancer Related Risk Factors and Preventative Behaviors

Chittenden County rates for adult smoking and obesity, as well as youth tanning in the past 12 months are better than Vermont overall. The percentages of males and females ages 13-17 who have received the full HPV vaccine series are higher in Chittenden County than Vermont overall.

	Percent		
	Chittenden	Vermont	Goal Type[G]
Smoke Cigarettes, Currently (Adults)*	14	18	HV, SCP
Obesity (Ages 20+)*[D]	20	25	HV, SCP
Tanning, Past 12 Months (Youth, Grades 9-12)	9	10	SCP
Completed 3 dose HPV vaccination series (Females, Ages 13-17)	51	46	SCP
Completed 3 dose HPV vaccination series (Males, Ages 13-17)	39	30	SCP

Data Sources: Smoking, Obesity: BRFSS; County: 2013-2014, State: 2014. Youth Tanning: YRBS, 2011. HPV vaccination: IMR, 2014.

Cancer Incidence by Risk Factor: Newly Diagnosed Cases per Year

The incidence rate for tobacco associated cancers is better in Chittenden County than Vermont overall. Other risk factor associated cancer incidence rates in Chittenden County are similar to the Vermont rates.

	Rate per 100,000 People		
	Chittenden	Vermont	Goal Type[G]
Tobacco Associated Cancers*[1]	196.8	213.5	SCP
Obesity Associated Cancers*[2]	206.9	204.8	SCP
Melanoma (UV Associated Cancer)*[3]	32.4	29.0	SCP
HPV Associated Cancers*[4]	9.0	10.4	SCP

Data Source: VCR, 2008-2012.
Note: Excludes basal cell and squamous cell skin cancers and in situ carcinomas, except urinary bladder.

[1] *Tobacco use increases the risk of cancers of the lung and bronchus, mouth, lips, nose and sinuses, larynx (voice box), pharynx (throat), esophagus, stomach, colon and rectum, pancreas, cervix, uterus, ovary, bladder, kidney, and acute myeloid leukemia.*
[2] *Excess weight increases the risk of cancers of the breast (postmenopausal), colon and rectum, uterus, esophagus, kidney, pancreas, thyroid and gallbladder. Excess weight may increase the risk of cancers of the ovary, cervix, liver, non-Hodgkin lymphoma, myeloma and prostate (advanced stage).*
[3] *Ultraviolet radiation (UV) exposure increases the risk of melanoma.*
[4] *Infection with the HPV virus increases the risk of cancers of the cervix, vulva, vagina, penis, anus, mouth and throat.*

Cancer Screening

The Chittenden County colorectal cancer screening rate is better than Vermont overall. Other screening rates are similar to state rates.

	Percent		
	Chittenden	Vermont	Goal Type[G]
Breast Cancer Screening (Females, Ages 50-74)*[D]	82	79	HV, SCP
Cervical Cancer Screening (Females, Ages 21-65)*[D]	87	86	HV, SCP
Colorectal Cancer Screening (Males and Females, Ages 50-75)*[D]	77	71	HV, SCP

Data Source: BRFSS; County: 2012 and 2014, State: 2014.

Cancer Diagnosis: Advanced Stage[D]

Chittenden County has similar advanced stage diagnosis rates for cancers of the breast, lung and bronchus, and colon and rectum, compared to Vermont overall.

	Rate per 100,000 People		
	Chittenden	Vermont	Goal Type[G]
Breast* (Females, Ages 50+)	90.5	96.5	SCP
Colorectal* (Males and Females, Ages 50+)	52.4	62.4	SCP
Lung* (Males and Females, Ages 55+)	201.4	210.0	SCP

Data Source: VCR, 2008-2012.
Note: The number of advanced stage cervical cancers is too small to report by county.

Cancer Survivors (Prevalence)[D]: Ever Diagnosed with Cancer

There are approximately 7,200 adult cancer survivors living in Chittenden County.

Data Source: BRFSS, 2012-2014.
Note: Cancer prevalence excludes those whose only cancer was a skin cancer.

Cancer Mortality: Deaths Due to Cancer

The cancer death rate in Chittenden County is similar to the Vermont rate.

	Rate per 100,000 People		
	Chittenden	Vermont	Goal Type[G]
Overall Cancer Deaths*	160.8	173.4	HV

Data Source: Vital Statistics, 2008-2012 *–preliminary.*

Chittenden County Cancer Fact Sheet- Published February 2016

Indicates statistically worse or indicates statistically better than Vermont.

Accessing Data – Environmental Public Health Tracking

http://healthvermont.gov/tracking

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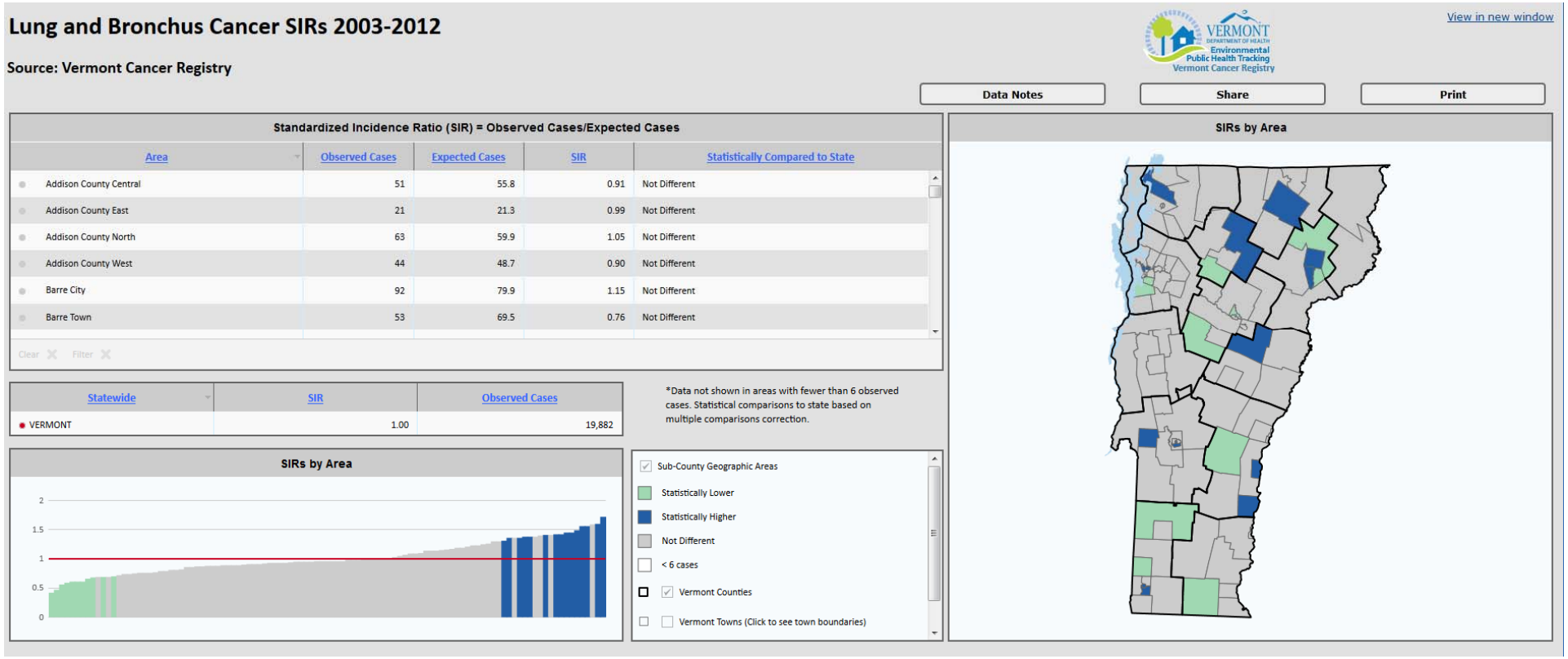
Accessing Data – Vermont Cancer Incidence Maps



Lung and Bronchus Cancer SIRs 2003-2012

Source: Vermont Cancer Registry

View in new window

VERMONT DEPARTMENT OF HEALTH Environmental Public Health Tracking Vermont Cancer Registry

Data Notes | Share | Print

Standardized Incidence Ratio (SIR) = Observed Cases/Expected Cases

Area	Observed Cases	Expected Cases	SIR	Statistically Compared to State
Addison County Central	51	55.8	0.91	Not Different
Addison County East	21	21.3	0.99	Not Different
Addison County North	63	59.9	1.05	Not Different
Addison County West	44	48.7	0.90	Not Different
Barre City	92	79.9	1.15	Not Different
Barre Town	53	69.5	0.76	Not Different

Clear | Filter

Statewide	SIR	Observed Cases
VERMONT	1.00	19,882

*Data not shown in areas with fewer than 6 observed cases. Statistical comparisons to state based on multiple comparisons correction.

SIRs by Area

Sub-County Geographic Areas
Statistically Lower
Statistically Higher
Not Different
< 6 cases
Vermont Counties
Vermont Towns (Click to see town boundaries)

SIRs by Area

State Cancer Plan - 2020

Wrap Up

- There are many types of cancer statistics and data sources.
- Chittenden County compares similarly to Vermont for cancer risk factors and cancer diagnosis.
- Excess weight and tobacco use contribute to more cancers than environmental pollutants do.
- The most current cancer data for Chittenden County and for Burlington are available at healthvermont.gov.

Any Questions?

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