

# Chronic Disease • Protective Behaviors

## • What are protective behaviors?

Regular physical activity and good nutrition are behaviors that protect against overweight and obesity, plus a number of other chronic conditions. While the health benefits are clear, behavior is complicated and change is not easy for anyone. Vermonters with the least resources too often have the fewest opportunities for healthy behaviors. Not enough money, time or access, combined with the daily stressors brought on by lack of money, time and access, means that more immediate needs take priority over a healthy diet and regular exercise.

## • Elements of a Healthy Diet

As a measure of good nutrition, a healthy diet includes two servings of fruit and three servings of vegetables every day. By this measure, most Vermonters do not have the best nutrition, a trend that has changed little over time. Youth of color are more likely to eat the recommended number of servings compared to white youth. Adults with higher income and education are more likely to eat the recommended number of servings. By another measure, the news is good: most Vermonters do not drink more than one sugar-sweetened beverage a day.

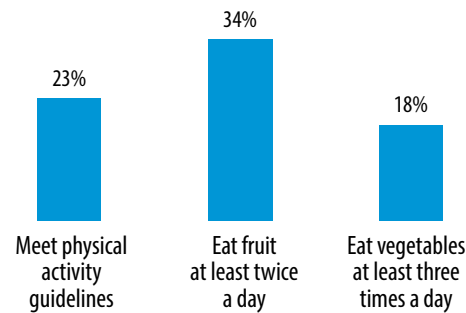
## • The Problem with Food Insecurity

Food insecurity means not having enough food to eat, and not having enough money to buy food. Adults who do not have food security must often compromise quality, buying less nutritious but lower cost foods for themselves and their families.

## Protective Behaviors Among Youth

Vermont Youth Risk Behavior Survey • 2015

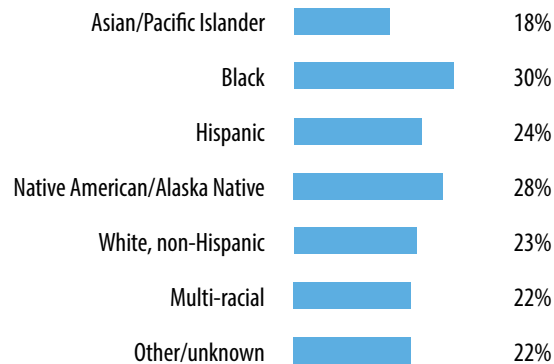
% of students in grades 9–12 who meet recommendations



## Youth Physical Activity

Vermont Youth Risk Behavior Survey • 2015

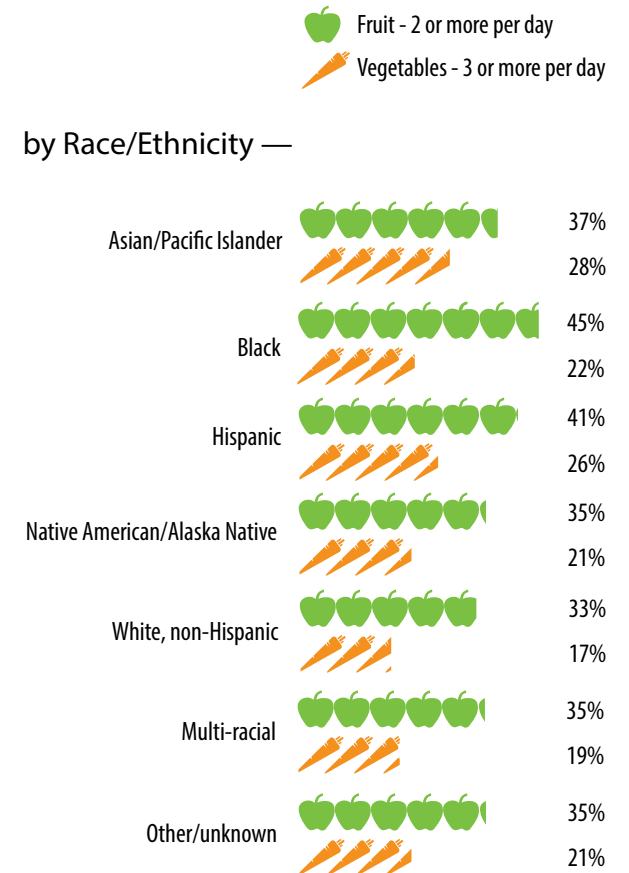
% of students in grades 9–12 who meet guidelines



## Youth Healthy Eating Habits

Vermont Youth Risk Behavior Survey • 2015

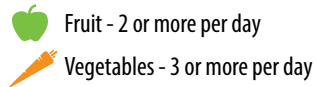
% of students in grades 9–12 who meet recommendations



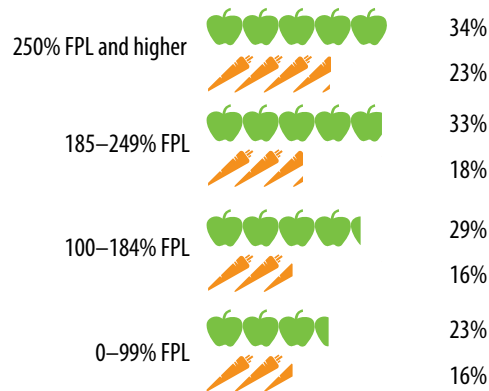
## Adult Healthy Eating Habits

Vermont Behavioral Risk Factor Surveillance System • 2016

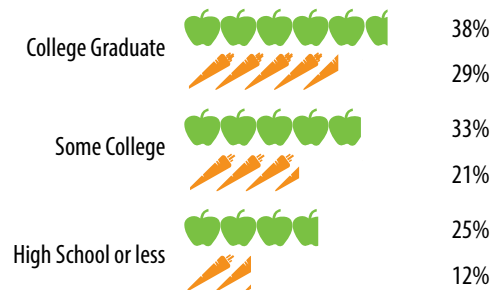
% of adults who meet recommendations (age-adjusted)



by Federal Poverty Level —



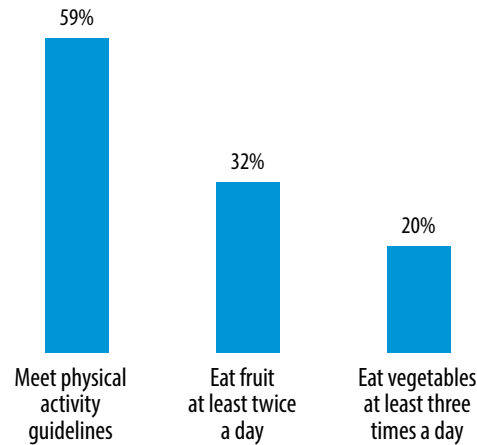
by Education —



## Protective Behaviors Among Adults

Vermont Behavioral Risk Factor Surveillance System • 2016

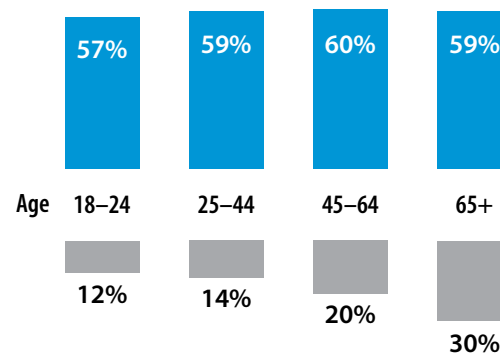
% of adults who meet recommendations (age-adjusted)



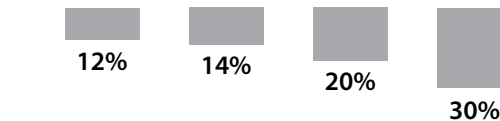
## Adult Physical Activity

Vermont Behavioral Risk Factor Surveillance System • 2016

### Adults who meet aerobic activity guidelines



### Adults with NO leisure time physical activity



## • Are healthy foods within reach?

Communities that provide easy access to affordable food within a reasonable distance promote health by making it easier for residents to have a healthy diet. Still, some areas of the state can seem to be a food desert, especially during the long winter months.

Vermonters with lower incomes who live in a rural agricultural area may live in a food desert if they can't afford to buy nutritious foods from a local market or neighbors. With limited or unreliable transportation to a grocery store, it's easier to stock up on shelf-stable, but less healthful foods.

For people with disabilities, getting a ride to the grocery store is a lower priority for transportation services, which may mean having to schedule rides far in advance. Our partners said that they may want to eat healthy, but it takes a lot of work.

## • Differences in Physical Activity

Overall, 59% of adult Vermonters meet guidelines for physical activity (30 minutes a day), but they tend to become less active as they age. Adults age 65+ are much less likely than younger adults to be active in their leisure time. Likewise, adults age 45 to 64 are less likely than those age 18 to 44 to be active in their leisure time.

For youth, physical activity should add up to at least 60 minutes a day. Among students in grades 9–12, there is no difference when comparing white, non-Hispanic students to all students of color.

# Chronic Disease • Risk Behaviors

## • What influences our behavior?

Behavior is not driven by our personal preferences and choices alone, but is greatly influenced by the conditions, communities, systems and social structures in which we live. The need to belong to a group that shares common values and habits is another powerful influence on behavior. And many policies have kept already disadvantaged groups from having equal opportunities for health.

## • 3-4-50: Risk Behaviors & Chronic Disease

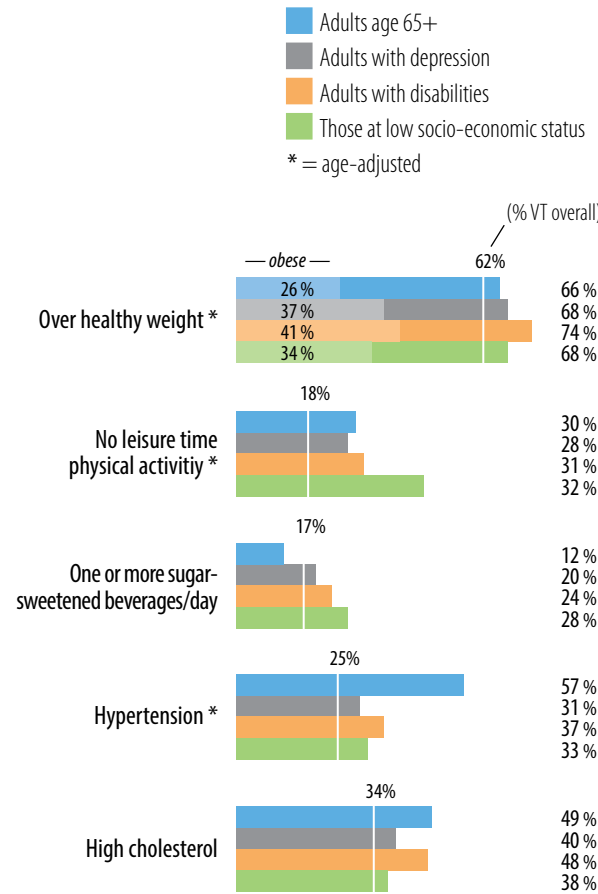
Poor nutrition, lack of physical activity and tobacco use are 3 behaviors that contribute to development and severity of 4 chronic diseases that cause more than 50% of the deaths of all Vermonters. But focusing on changing behavior person by person is not the solution for preventing disease in the population. Vermont communities can be powerful agents of change. Simple changes in local policies or programming can help create conditions for everyone to have an equal chance to be healthy.

## • Who is most at risk for chronic disease?

Lower income Vermonters, those who have a high school education or less, have depression or disabilities, people of color, LGBT and older adults have a higher prevalence of risk behaviors and chronic illnesses. And some risks can be circular: Vermonters who are obese or smoke have more tooth loss, making it harder to eat healthy foods. Poor diet and sugar-sweetened beverages are linked to tooth decay, which are risks for obesity. These disparities are at least partly a result of not having fair and just opportunities.

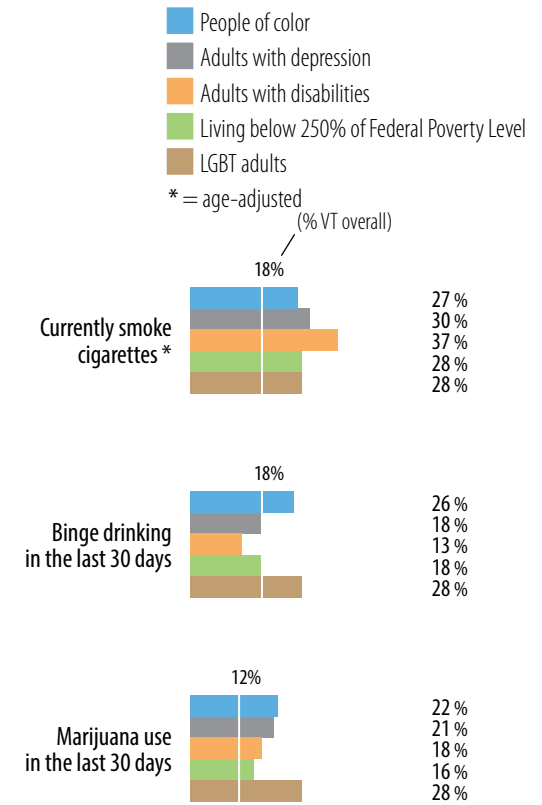
## Physical Activity & Nutrition Risks

Vermont Behavioral Risk Factor Surveillance System • 2016



## Tobacco, Alcohol & Marijuana Use Risks

Vermont Behavioral Risk Factor Surveillance System • 2016



## Tobacco, Weight & Tooth Loss Vermont Behavioral Risk Factor Surveillance System • 2016

Vermonters who use tobacco or who are obese are more likely to have tooth loss, even when accounting for other factors such as differences in education, income, dental visits, and age:

**If you use tobacco every day, the odds of losing all your teeth are 15x greater than someone who has never used.**

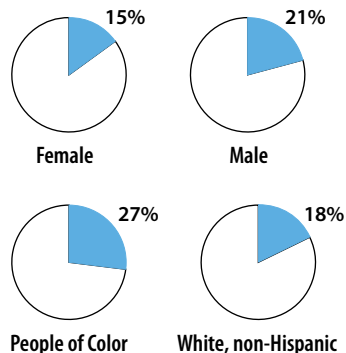
**If you previously used tobacco but quit, the odds of losing all your teeth are 5x greater.**

**If you are obese, the odds of losing all your teeth are 2x greater than those who are at a healthy weight or underweight.**

## Adult Smoking

Vermont Behavioral Risk Factor Surveillance System • 2016  
(age-adjusted)

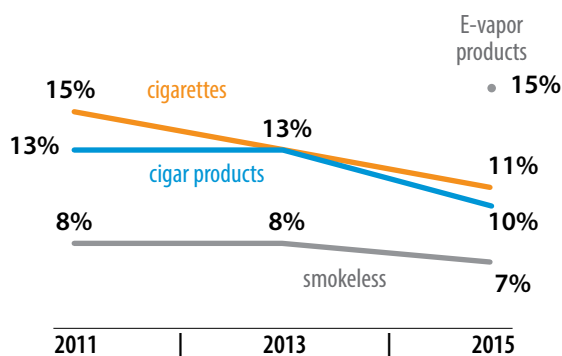
### 18% of Vermonters smoke cigarettes



## Youth Tobacco Use, by Product

Vermont Youth Risk Behavior Survey • 2011–2015

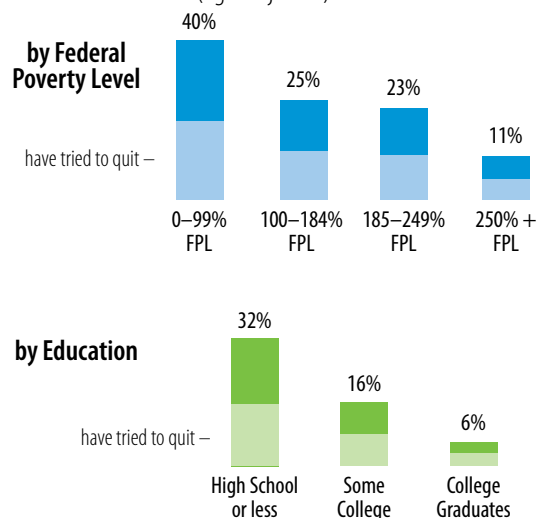
% of students in grades 9–12 who use tobacco



## Adult Smoking & Quit Attempts

Vermont Behavioral Risk Factor Surveillance System • 2016

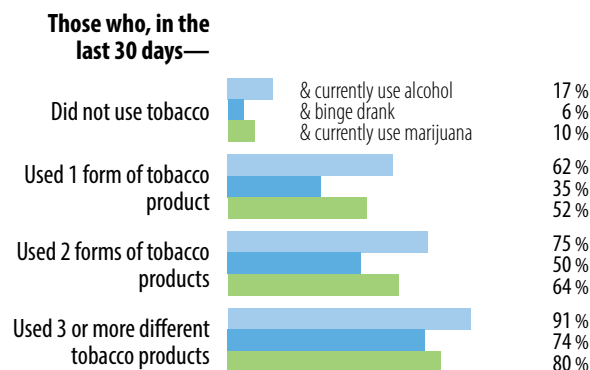
% of current smokers (age-adjusted)



## Youth Smoking, Alcohol & Marijuana

Vermont Youth Risk Behavior Survey • 2015

% of students in grades 9–12 who use tobacco + alcohol or marijuana



## • Adult Smoking & Quit Attempts

Half of all adult smokers have attempted to quit in the past year. Both smoking and quit attempts among adults have stayed relatively unchanged over the past 10 years. In 2016, 18% of all adult Vermonters smoked. Smoking rates vary by population. As income and education rises, fewer people smoke. Males are more likely to smoke than females. Vermonters of color are more likely to smoke than white, non-Hispanic Vermonters, but they are also more likely to make a quit attempt (59% compared to 49%).

## • Youth Tobacco Use

In 2015, one-quarter of high school students reported using a tobacco product (cigarette, cigar, smokeless tobacco or e-vapor) in the past month. Of the 35 states that collect data on e-cigarette/vapor use, Vermont is currently the lowest, at 15%. West Virginia is highest, at 31%.

Frequency of use varies by product. Among cigarette users, 37% smoked on 20+ days in the past month, similar to smokeless tobacco users. Cigar and e-vapor users were more likely to use these products rarely or occasionally. Only 13% of cigar or e-vapor users reported frequent use.

## • Tobacco & Other Risk Behaviors

Use of multiple tobacco products is linked with other risks. Vermont high school students who used one or more tobacco products in the past month were much more likely to use marijuana, alcohol, and to binge drink compared to students who do not use tobacco. For students who have asthma, the use of tobacco, alcohol and marijuana may make asthma symptoms worse.

# Chronic Disease • Risk Behaviors

## • Why do people use alcohol and drugs?

There are many reasons why people use alcohol, tobacco and other drugs: to relieve physical or psychological pain, to counter stress, to alter traumatic experiences or feelings of hopelessness. Prioritizing future health over immediate needs is especially difficult in the face of multiple daily stressors and pervasive marketing that can make it seem as if alcohol or drugs will make life easier.

Addiction is not a choice or a moral failing. Some people are genetically prone to addiction, and this in itself is a risk factor in developing a substance use disorder. As a chronic illness, addiction becomes a physiological and psychological need. Quitting or seeking treatment is never easy, and relapse is common. Adding to the stress of behavior change is the feeling of isolation that may come from avoiding friends or situations that may trigger smoking, drinking or drug use.

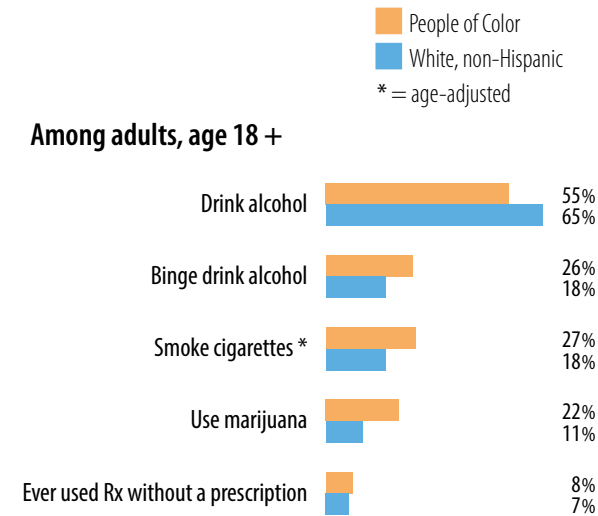
## • Perception of Harm Matters

Perceptions of risk and community acceptance strongly influence behavior. In Vermont, more people drink alcohol and use marijuana compared to the U.S. population overall. For Vermonters age 12+, alcohol is by far more commonly used than marijuana or any other drug.

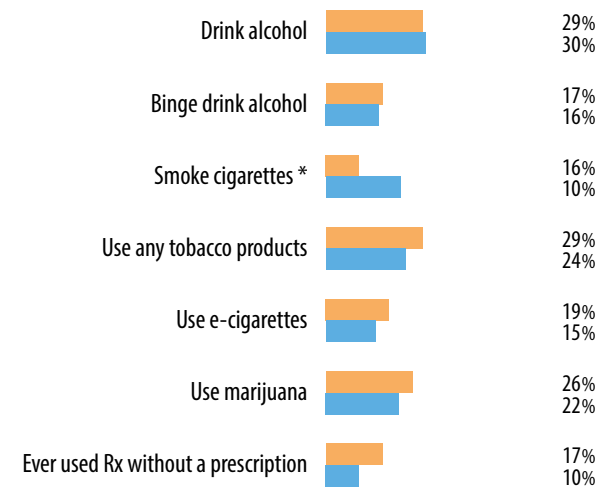
More than three-quarters of high school students think it is wrong or very wrong for someone their age to smoke cigarettes, yet only a little over half think it is wrong or very wrong to use marijuana or to drink.

## Current Alcohol, Tobacco & Drug Use

Vermont Behavioral Risk Factor Surveillance System • 2016  
Vermont Youth Risk Behavior Survey • 2015

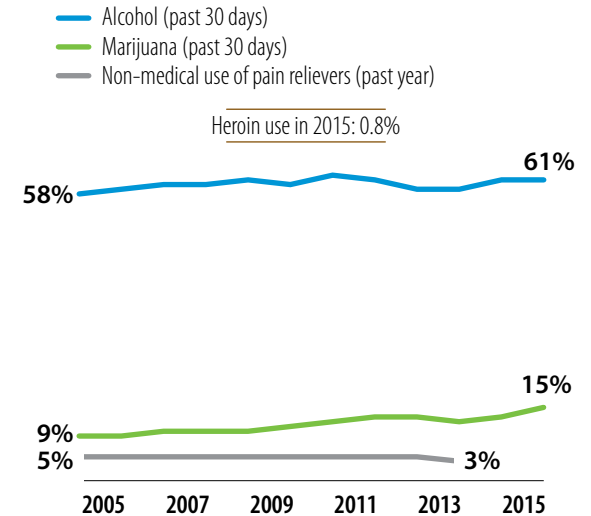


## Among Students Grades 9–12



## Alcohol/Drug Use (Age 12+)

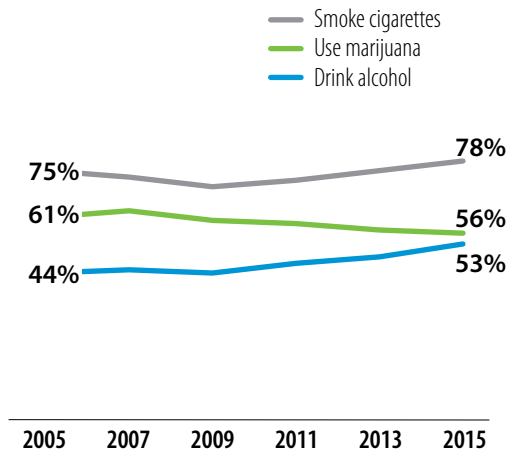
National Survey on Drug Use & Health/Vermont • 2004–2015



## Perception of Harm Among Youth

Vermont Youth Risk Behavior Survey • 2005–2015

% of students in grades 9–12 who think it is wrong or very wrong for someone their age to:

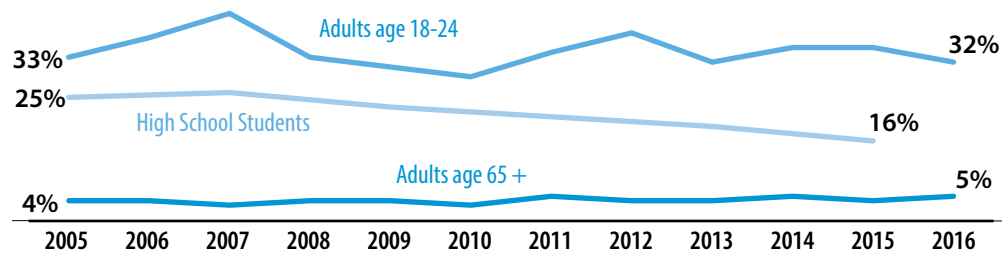


## Binge Drinking

Vermont Youth Risk Behavior Survey • 2005–2016

Vermont Behavioral Risk Factor Surveillance System • 2005–2016

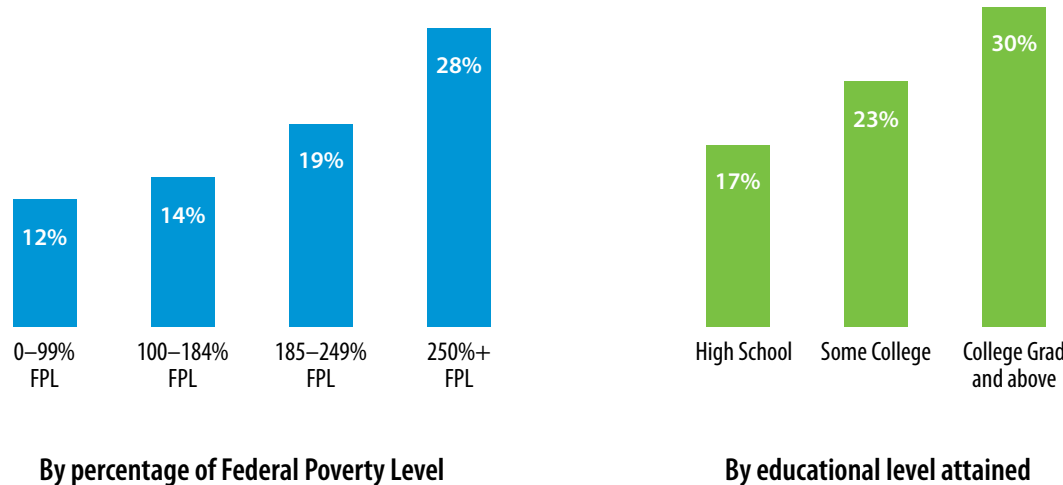
% of Vermonters who binge drank in the last month



## High Risk Drinking Among Older Adults

Vermont Behavioral Risk Factor Surveillance System • 2016

% of adults age 65+ who drink at a level of risk = 2+ drinks for females/3+ drinks for males on one occasion in the past month:



## • Youth & Adult Drinking Patterns

The age when a young person starts drinking strongly predicts alcohol dependence later in life. By middle school, 2% of students in Vermont binge drink, defined as having five or more drinks on one occasion. By high school, 16% of students binge drink. The percentage of high school students who are current drinkers, having one or more drinks in the past month, has decreased significantly – from 42% in 2005 to 30% in 2015. As adults, one in three of those age 18 to 24 binge drink, and 5% of older adults age 65+ binge drink.

## • What is risky drinking for older adults?

Older adults are more susceptible to health risks of alcohol due to physiological changes, a chronic disease they may have, or medications they take. Excessive alcohol use can increase the risk for dementia.

One in four (25%) Vermonters age 65+ engage in risky alcohol use, higher than the U.S. average of 19%. Risky drinking for this age group is two or more drinks on one occasion for females, three or more for males. In contrast to other risk behaviors, older adults with higher incomes and education are more likely to engage in risky drinking compared to those with lower incomes and less education.

## • Alcohol Use Disorder

Problem drinking that becomes severe is given the medical diagnosis of alcohol use disorder—a chronic relapsing brain disease characterized by compulsive alcohol use, loss of control over intake, and a negative emotional state when not using. An estimated 33,000 Vermonters are in need, but have not received treatment for alcohol use disorder.

## Chronic Disease • Risk Behaviors

### • Is marijuana use a community norm?

Most Vermonters do not use marijuana. Still, the prevalence of marijuana use is higher than other states. The percentage of Vermonters who have tried marijuana for the first time at an early age is also higher than the U.S. overall.

Marijuana use is widely accepted, and this may be due to a number of influences: the perception that it is less harmful than alcohol or other drugs, ease of access, and the policy shift toward legalization. But early and continuous use of marijuana is linked with lower academic achievement in youth, and lower income as an adult. These factors are generally associated with worse health outcomes.

### • Marijuana Use Among Youth

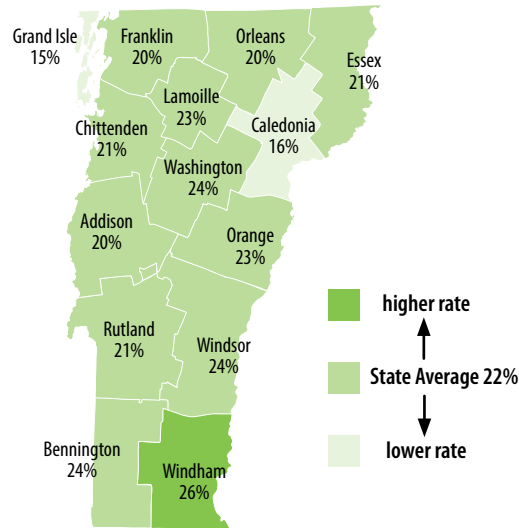
More than one-third (37%) of high school students in Vermont report ever using marijuana, and 6% have tried marijuana before age 13. By the time they graduate, half (49%) have tried marijuana.

Marijuana use varies across the state, by gender, race and socioeconomic status. Windham County high school students report more marijuana use than students in the rest of the state. Students who identify as LGB are much more likely to use marijuana compared to heterosexual students. White students are more likely than students of color, students with mothers who did not graduate from high school are more likely than those with mothers who did, and students with average or failing grades are more likely to use marijuana, compared to those who earn As or Bs.

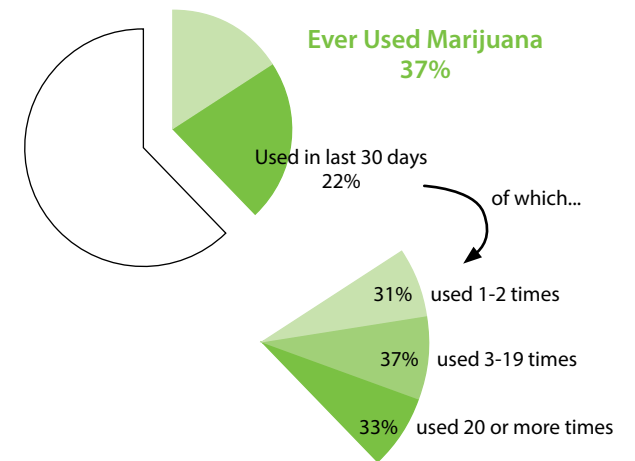
### Marijuana Use Among High School Students

Vermont Youth Risk Behavior Survey • 2015

% of students in grades 9–12 who used marijuana in the past 30 days, by county



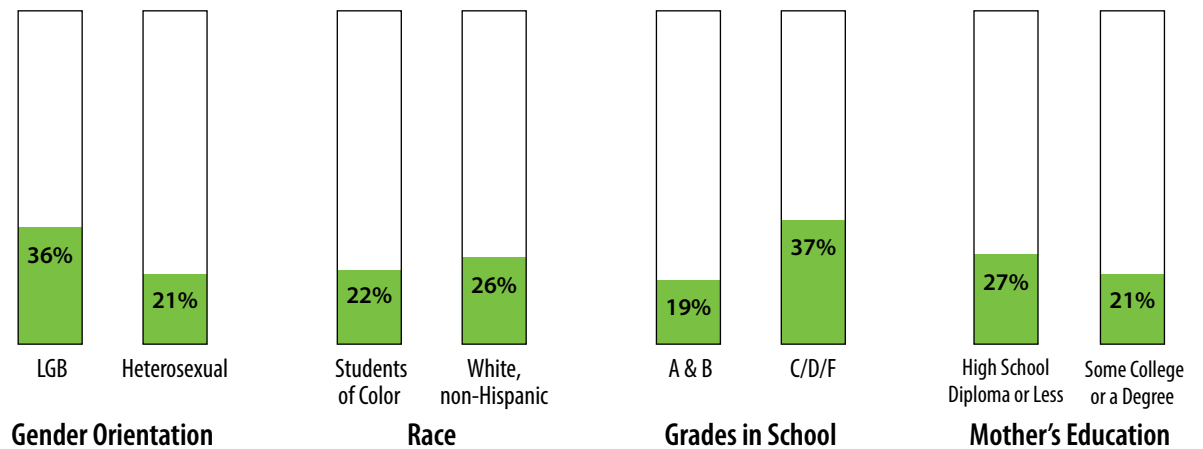
% of students in grades 9–12 who used marijuana, by frequency of use



### Marijuana Use Among High School Students

Vermont Youth Risk Behavior Survey • 2015

% of students in grades 9–12 who use marijuana, by various populations



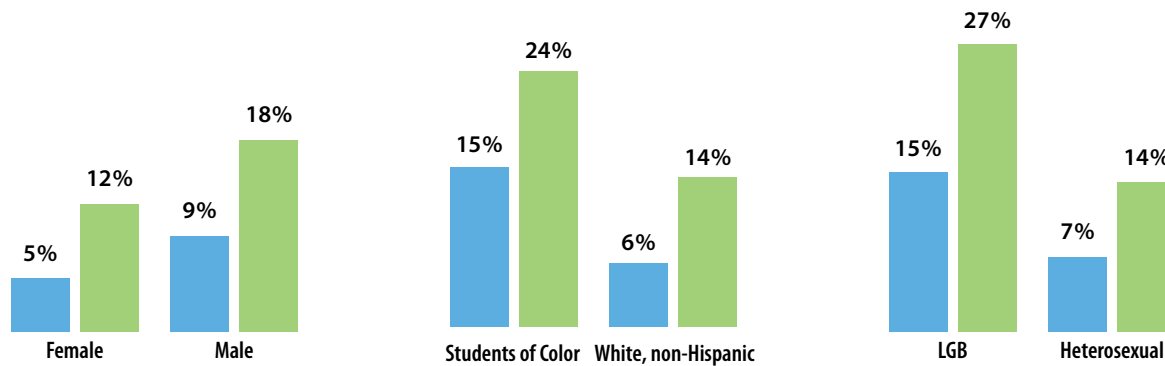
## Student Driving Under the Influence

Vermont Youth Risk Behavior Survey • 2015

% of students in grades 9–12 who drove under the influence in the past 30 days

**7%** of all Vermont high school students who drive have done so under the influence of alcohol

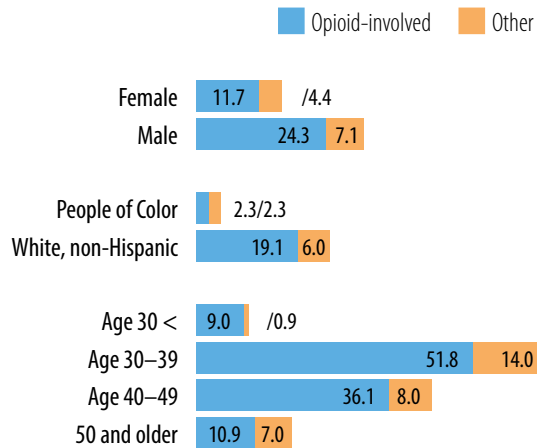
**15%** have driven under the influence of marijuana



## Drug-related Deaths, by Population

Vermont Vital Statistics • 2016

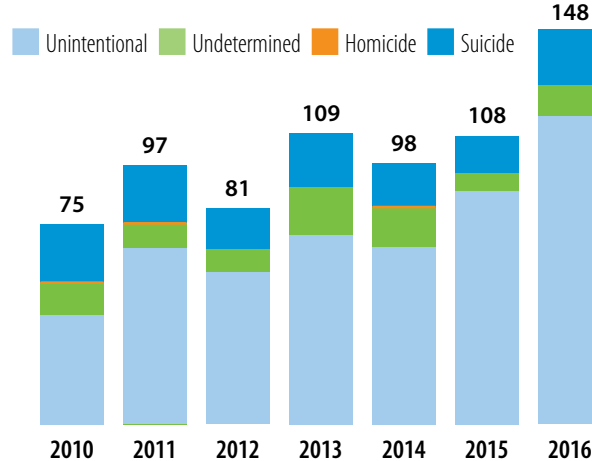
# deaths, per 100,000 people



## Drug-related Deaths, by Intention

Vermont Vital Statistics • 2010–2016

# deaths and manner of death in 6 years



## • Driving Under the Influence

Alcohol is a risk or contributing factor to almost every category of injury, including injuries from falls, assaults and motor vehicle crashes.

Among all Vermont high school students who drive, 7% have driven after drinking and 15% have driven after using marijuana. Males are more likely than females, people of color are more likely than white students, and those who identify as LGB are more likely than heterosexual students to drive under the influence of alcohol or marijuana.

And among adults who used marijuana, three in 10 drove within three hours of using.

## • Drug-Related Deaths

In 2016, 148 deaths in Vermont were drug-related, and most were due to opioids. This is an increase from 108 drug-related deaths in 2015, and nearly double the number of deaths in 2010.

Most deaths were the result of unintentional overdoses, rather than suicide or homicide, and most were due to a combination of drugs, rather than a single drug – e.g. prescription opioids and cocaine, or benzodiazepines and alcohol.

Nearly all of the drug-related deaths are among white, non-Hispanic adults. Two-thirds are among males. People age 30 to 50 accounted for most of the deaths. The average age at death is 43.



## Chronic Disease • Mental Health

### • Chronic Stress & Depressive Disorders

Stress is a risk to health that is difficult to quantify, but anyone who lives with great stress from day to day knows the toll it can take on one's energy, mental outlook and quality of life.

### • What is depression?

A depressive disorder is not a passing blue mood, but rather persistent feelings of sadness and worthlessness. According to the National Institute of Mental Health, depression is a common but serious mood disorder. It causes severe symptoms that affect how you feel, think and handle daily life: interacting with others, sleeping, eating, or working. To be diagnosed with depression, symptoms must be present for at least two weeks.

### • Who has depression?

In 2016, among Vermont children age 3 to 17, about 11% had a diagnosis of anxiety, and 3% had a diagnosis of depression. Over the past decade, the percentage of adults who have been diagnosed with depression has remained unchanged, at 20% to 23%.

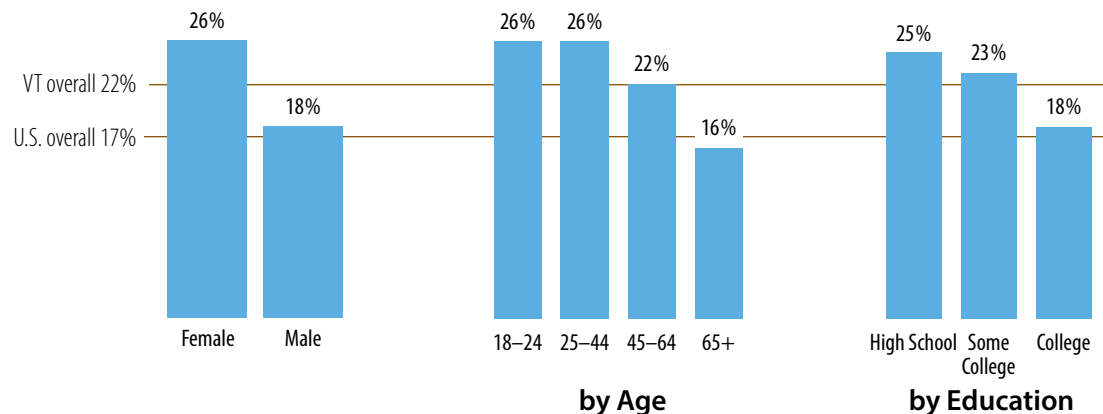
### • Mental Health Treatment

About half of all adults who have been diagnosed with a mental health condition are not in treatment or counseling. For children, a small percentage who need to see a mental health professional are not in care. For those age 6 and older, about half who sought care had a diagnosable condition.

### Adults Diagnosed with Depression

Vermont Behavioral Risk Factor Surveillance System • 2016

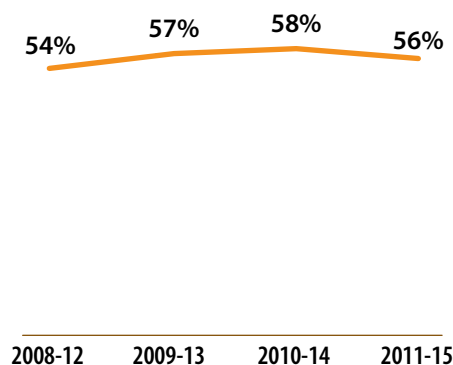
% of Vermont adults who report having ever been told they have a depressive disorder



### Adults in Mental Health Treatment

Substance Abuse & Mental Health Services Administration  
Vermont Behavioral Health Barometer • 2013–2016

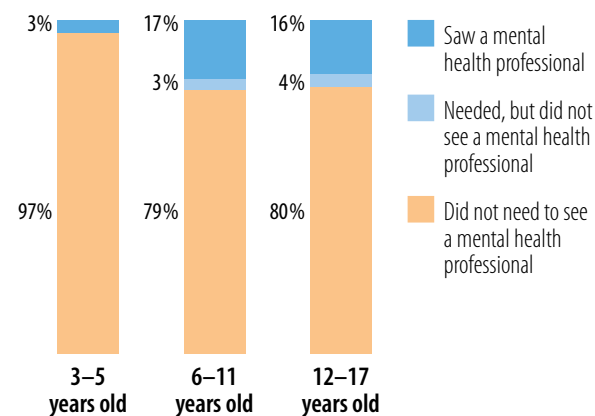
% of Vermont adults with any mental health condition who are receiving treatment or counseling (5-year averages)



### Children in Mental Health Treatment

National Survey of Children's Health/Vermont • 2016

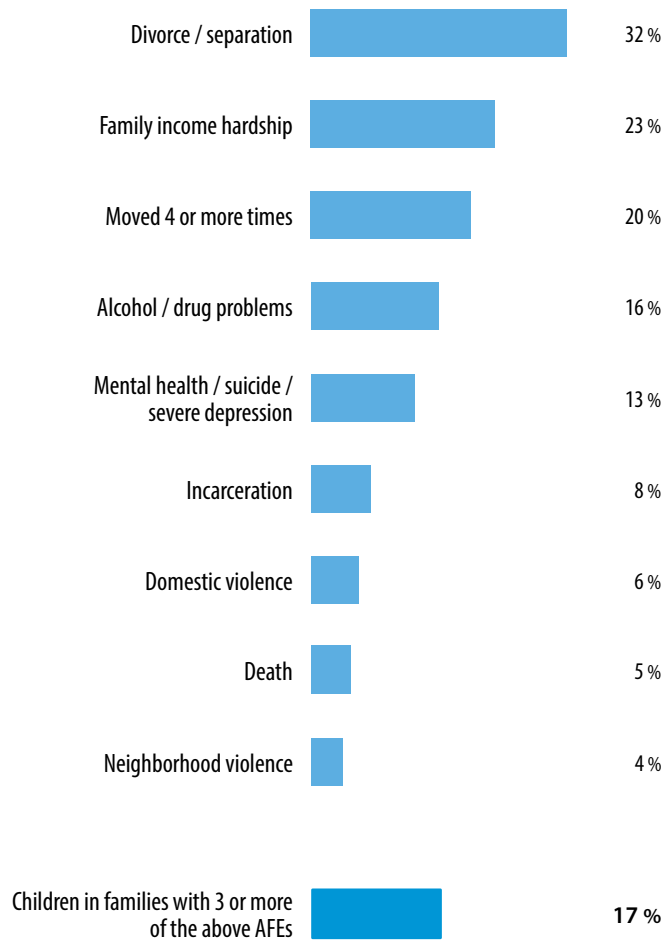
% of Vermont children who –



## Adverse Family Experiences

National Survey of Children's Health/Vermont • 2016

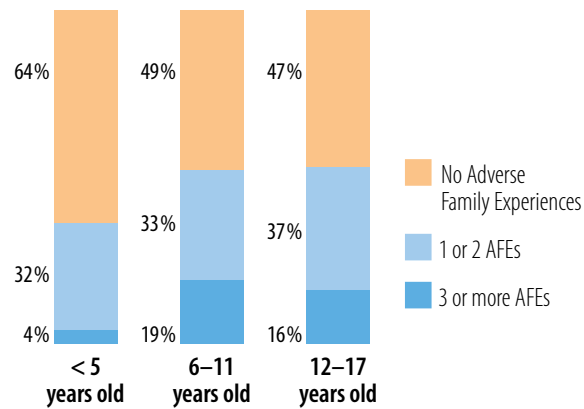
% of Vermont children age 6–17 living in households with Adverse Family Experiences (AFE)



## Adverse Family Experiences, by Age

National Survey of Children's Health/Vermont • 2016

% of Vermont children living with 0-3 or more Adverse Family Experiences (AFE)



## Early Signs of Thriving or Flourishing

National Survey of Children's Health/Vermont • 2016

Responses from Vermont parents of children age <6

	Definitely True	Somewhat True
Child is affectionate	95%	5%
Child smiles / laughs	95%	5%
Child is interested / curious	97%	3%
Child is resilient / bounces back	72%	28%

## • Family Strengths & Adversities

About half (47%) of Vermont's children live in families that are stressed due to one or more of these types of experiences: divorce or separation, financial hardship, unstable housing, alcohol or drug problems, mental health issues, incarceration, violence or death. These stressors accumulate as children grow up and they carry their experience into adulthood.

Among adults age 18 to 44, one-quarter grew up in a household with a parent or caregiver who was severely depressed, suicidal or had another mental health condition.

Despite these early childhood stressors, parents' responses to the National Survey of Children's Health show that the youngest Vermonters are generally flourishing. One area of concern is resilience: one in three children under age 6 have difficulty "bouncing back" or managing emotions when faced with a frustration. Among those age 6 to 17, about half have difficulty staying calm and in control when challenged.

## • The Stigma of Mental Illness

Anyone can be affected by mental illness, but those who are brave enough to admit they have a problem are often blamed for their condition. The stigma applied by society to people who experience mental illness can lead to exclusion or discrimination within social circles or the workplace. Some groups of people may be especially resistant to seeking care due to stigmatization in their own communities. To remove the stigma, our partners wished for more outreach about mental health, and greater access to welcoming, culturally and linguistically competent care.

# Chronic Disease • Morbidity

## • The Burden of Chronic Disease

Of all adult Vermonters, 64% had at least one chronic disease in 2016. In addition to the physical and social burden of illness, medical care for chronic diseases cost the state \$2.17 billion that same year.

## • What does 'over healthy weight' mean?

The terms 'overweight' and 'obese' describe weight ranges above what is medically considered to be healthy. Obesity is a complex, multi-faceted condition but, simply put, it is most often the result of poor nutrition and physical inactivity. As a chronic condition, obesity increases one's risk for other serious illnesses and conditions – such as high blood pressure, high cholesterol, diabetes, heart disease, stroke, gallbladder disease, osteoarthritis, sleep apnea and some cancers.

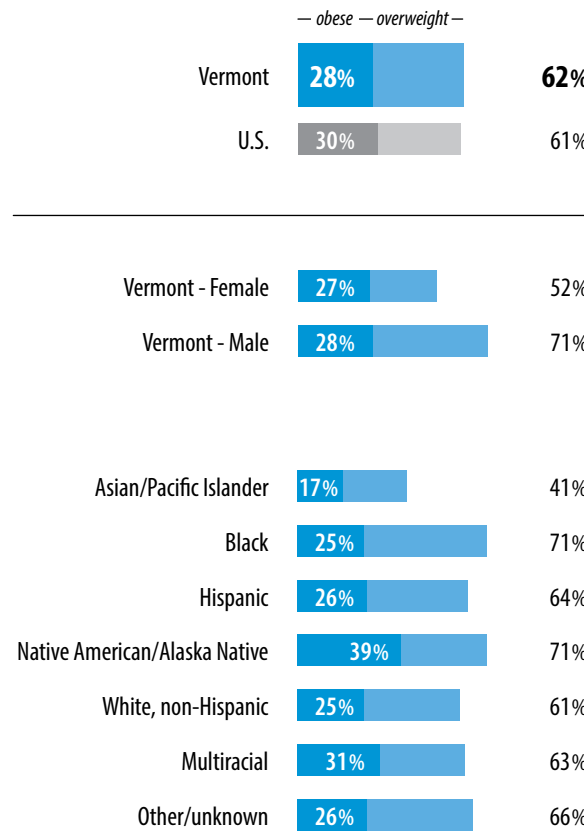
## • A Growing Trend toward Obesity

Vermonters, like other Americans, are becoming more overweight. In 2016, two-thirds of adults were overweight or obese. Compared to the U.S., Vermont adults have a lower rate of obesity (28% compared to 30%), but a similar rate of overweight. This growing trend affects males and females, and people of all races, incomes and education levels, but especially Vermonters at the lower end of the socioeconomic ladder. And just as we are more likely to become less active as we age, we are also more likely to gain weight. Adults age 65+ are more likely to be overweight compared to those age 20 to 44. Adults age 45 to 64 are likewise more likely to be overweight than those age 20 to 24.

## Overweight & Obesity, by Population

Vermont Behavioral Risk Factor Surveillance System • 2016

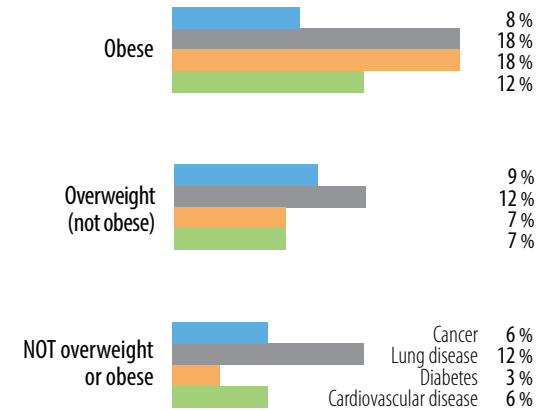
% of adults age 20+ who are over a healthy weight (age-adjusted)



## Weight & Chronic Diseases

Vermont Behavioral Risk Factor Surveillance System • 2016

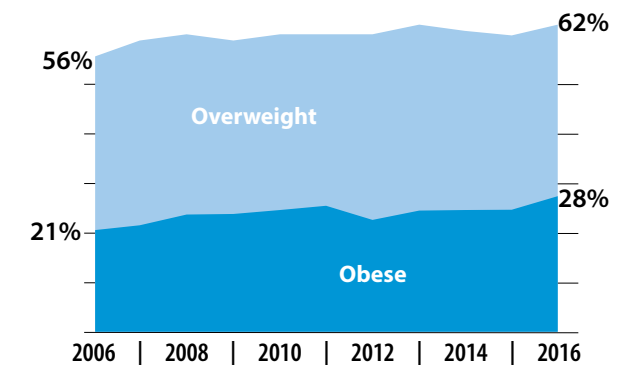
% of adults with chronic diseases by weight category



## Overweight & Obesity Trend

Vermont Behavioral Risk Factor Surveillance System • 2016

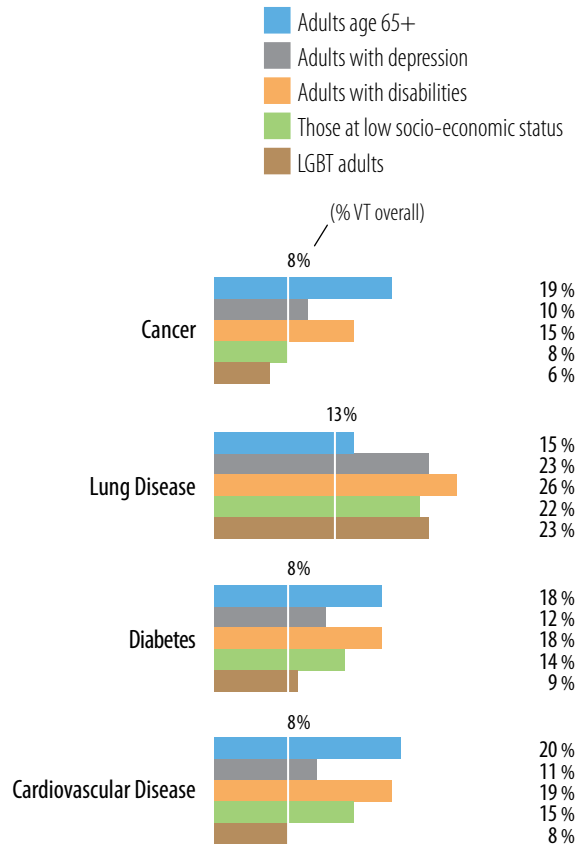
% of adults age 20+ who are over a healthy weight (age-adjusted)



## Chronic Diseases, by Population

Vermont Behavioral Risk Factor Surveillance System • 2016

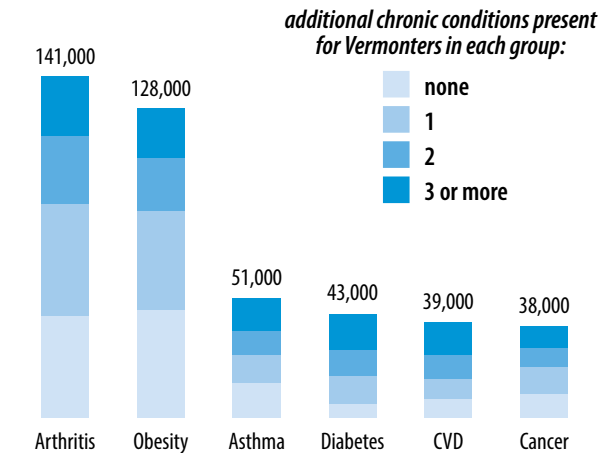
% of adults who have chronic diseases among –



## Adults with Multiple Chronic Conditions

Vermont Behavioral Risk Factor Surveillance System • 2016

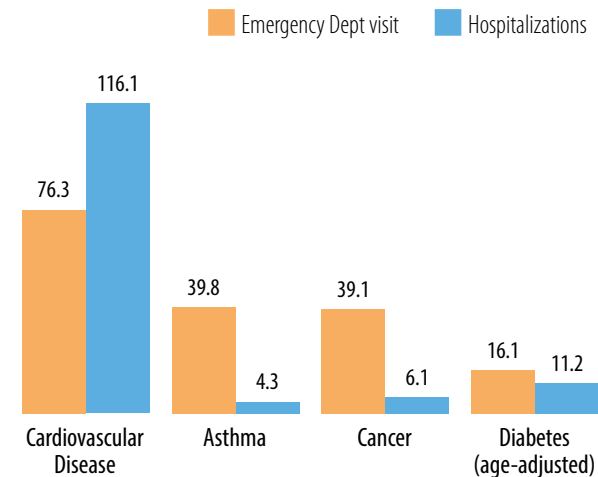
Estimated total # by disease/condition (rounded to nearest 1,000)



## Hospitalizations & Emergency Dept. Visits

Vermont Uniform Hospital Discharge Data Set • 2015

# hospitalizations & ED visits per 10,000 people with primary diagnosis of these chronic conditions:



### • Obesity & Chronic Disease

Adults who are obese are more likely than those who are overweight or at a healthy weight to have cancer, lung disease, diabetes or cardiovascular disease. These four chronic diseases are the cause of more than half of all deaths in Vermont.

Older adults are more likely to have one or more chronic conditions. Beyond age, adults who have disabilities, depression, or who are of low socio-economic status face a greater burden of disease.

### • Multiple Chronic Diseases

Chronic conditions are common: six in 10 adult Vermonters have at least one chronic disease or condition, and 14% have two or more.

Depending on the condition – obesity, diabetes, cardiovascular disease, asthma or arthritis – two-thirds to nine in 10 adults who have one or more of these conditions also have at least one other.

As an example, of the 128,000 Vermonters who are obese, 35% have no other chronic conditions, and 16% have three or more. This is in contrast to 38,000 Vermonters who have diabetes, 11% of whom have no other conditions, and 37% have three or more other conditions.

### • Hospital & Emergency Department Visits

Vermonters who have chronic diseases are going to the emergency department or being hospitalized to treat heart disease, stroke, asthma, cancer or diabetes, but generally only if their illness is life-threatening. For asthma and cancer, the rates of emergency department visits are much higher than the rates of hospitalization.

## Chronic Disease • Cancer

### • Cancer is Not One Disease, but Many

Cancer is not a single disease, but a group of more than 100 different diseases that often develop gradually as the result of a complex mix of genetic, behavioral and environmental factors.

### • Cancer Incidence & Risk Factors

Cancer affects thousands of Vermonters and is a leading cause of death. Cancer occurs in people of all ages, but risk increases significantly with age. Approximately four in 10 of all males and females in the U.S. will develop cancer in their lifetime.

Some types of cancer are more prevalent among Vermonters compared to the U.S. population. For females, the incidence of breast cancer, cancers of the lung/bronchus, uterus, urinary bladder, and melanoma of the skin is worse than in the U.S. For males, the incidence of melanoma of the skin, urinary bladder cancer, non-Hodgkins lymphoma and esophageal cancer is worse than in the U.S.

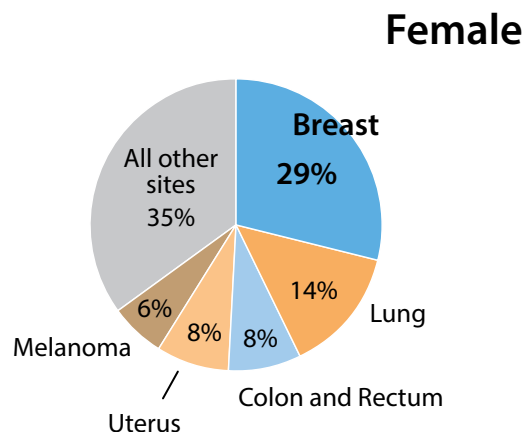
Nearly two-thirds of cancer deaths in the U.S. can be linked to tobacco use, poor nutrition, lack of physical activity, and obesity. Not all cancers can be prevented, but risk for many can be reduced through a healthy lifestyle.

### • Cancer is Survivable

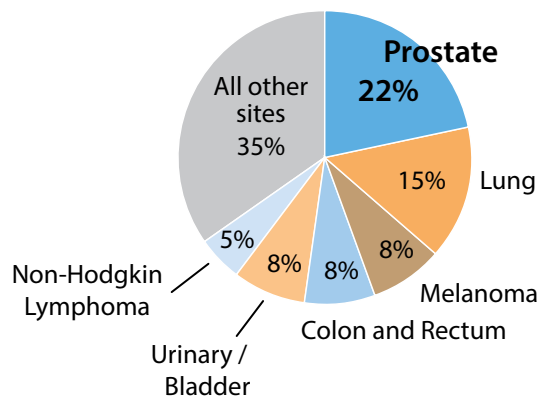
Cancer is most survivable when found and treated early, before it has spread. That's why it's important for everyone to have the recommended cancer screenings.

## Most Common Cancers Among Vermonters

Vermont Cancer Registry • 2010–2014



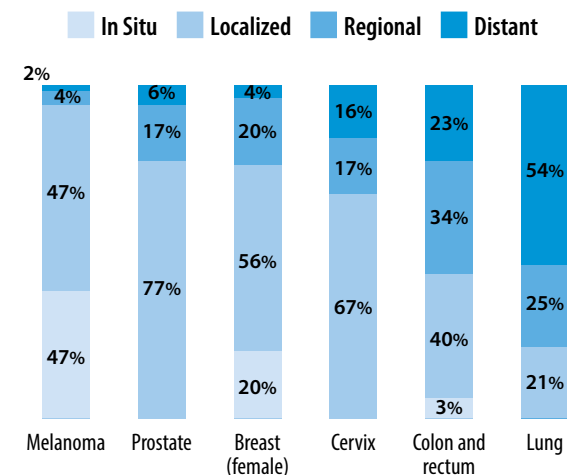
### Male



## Cancer Stage at Time of Diagnosis

Vermont Cancer Registry • 2010–2014

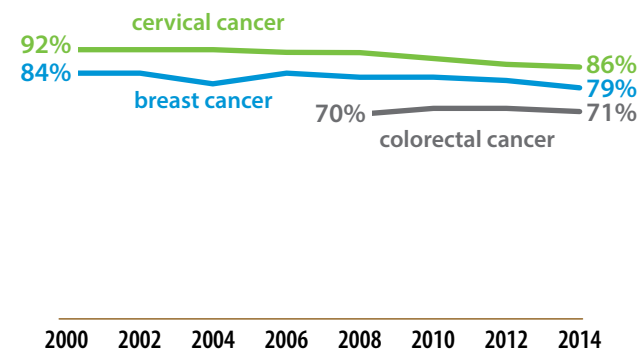
Stage of progression when major cancers are first diagnosed



## Cancer Screening

Vermont Behavioral Risk Factor Surveillance System • 2014

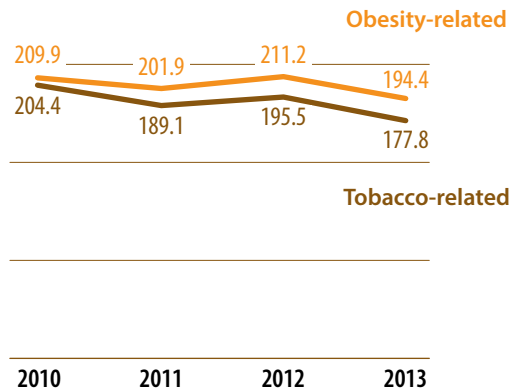
% of adults who get the screening recommended for them (age-adjusted)



## Tobacco & Obesity-Associated Cancers

Vermont Cancer Registry • 2010–2013

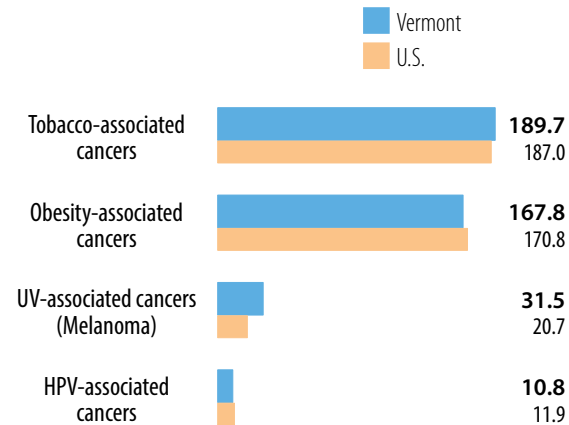
# of new cases, per 100,000 Vermonters (age-adjusted)



## Cancer Rates, by Risk

Vermont Cancer Registry • 2010–2013

# of new cases, per 100,000 people



## • Obesity-Associated Cancers

Being over a healthy weight increases a person's risk of developing a number of different cancers. Nearly one-third of cancers diagnosed in the U.S. are linked to excess weight. Cancer patients and survivors who are overweight or obese also have higher rates of complications from treatment, recurrence of cancer, and death.

## • Tobacco-Associated Cancers

Smoking can cause cancer almost anywhere in the body. One-third of cancers diagnosed in the U.S. are associated with tobacco; nine out of 10 cases of lung cancer are caused by smoking. Vermont adults with non-skin cancer smoke at a higher rate than those without cancer (25% vs. 18%), which can worsen the odds of survival.

## • HPV-Associated Cancers

Cervical cancer is the most common cancer associated with the human papilloma virus or HPV. Oral and throat cancers are common HPV-associated cancers in males. The majority of these cancers can be prevented with the HPV vaccine.

## • Melanoma

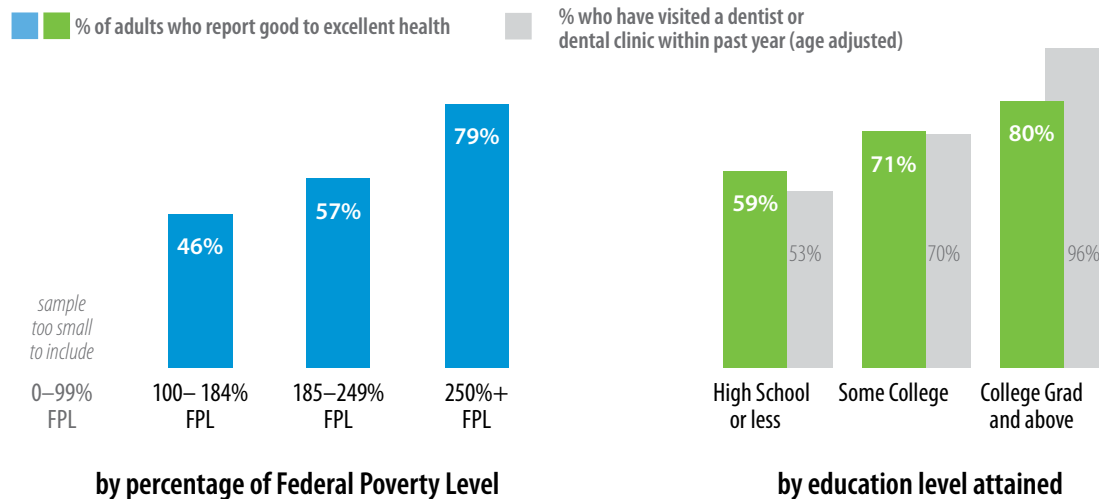
Ultraviolet radiation exposure from the sun, sun lamps and tanning beds is the greatest risk factor associated with melanoma. Melanoma is largely preventable by protecting the skin from UV rays.

## • Quality of Life for Cancer Survivors

As quality of life measures, the percentage of cancer survivors who report they are in good or excellent health, and who have visited a dentist or dental clinic within the past year, generally corresponds with higher income and education.

## Cancer Survivors — Health Status & Dental Care

Vermont Behavioral Risk Factor Surveillance System • 2016



# Chronic Disease • Mortality

## • Mortality & Years of Potential Life Lost

Vermonters today are more likely to die from a largely preventable chronic disease than from infectious disease. Seven of the top 10 causes of death in the state are chronic diseases (page 11). Years of potential life lost is a measure of premature death (before age 75). Cancer, heart disease, and lower respiratory disease (bronchitis and asthma) are chronic diseases that are among the top five contributors to years of life lost.

## • Cancer

Since the 1960s, cancer and heart disease have been the leading causes of death. Vermont's overall cancer mortality rate is higher than the U.S. White, non-Hispanic Vermonters (166.1 per 100,000) are about twice as likely to die from cancer than Vermonters of color (86.1 per 100,000). Males have a higher risk compared to females, and risk increases significantly as adults age.

## • Heart Disease & Stroke

Deaths from heart disease and stroke have been declining steadily over the past decade. Vermonters are significantly less likely to die from stroke than Americans overall.

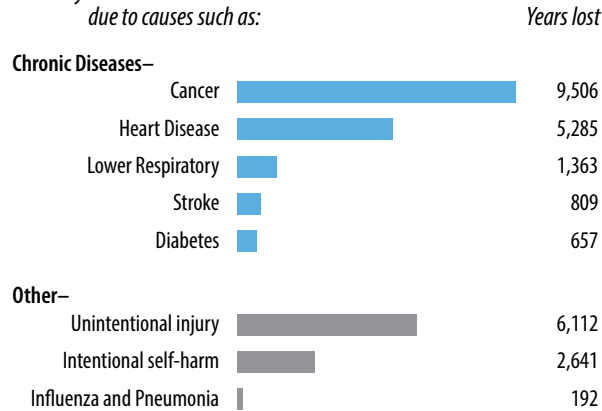
## • Lung Disease

Deaths from chronic lower respiratory disease – bronchitis, emphysema, asthma – is the #3 cause of death, and there has been no change over time. Nearly all of these deaths occur among adults age 45+. The death rate increases with age, and is higher among white, non-Hispanic Vermonters.

## Years Lost to Premature Death

Vermont Vital Statistics • 2015

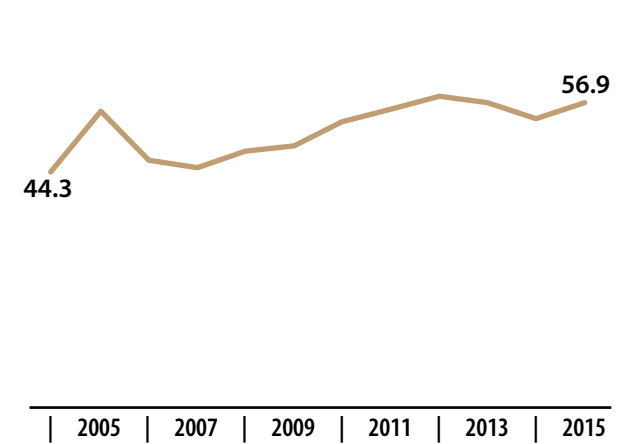
In 2015 there were an estimated 35,215 total years of life lost to Vermonters due to causes such as:



## Chronic Lower Respiratory Disease Deaths

Vermont Vital Statistics • 2004–2015

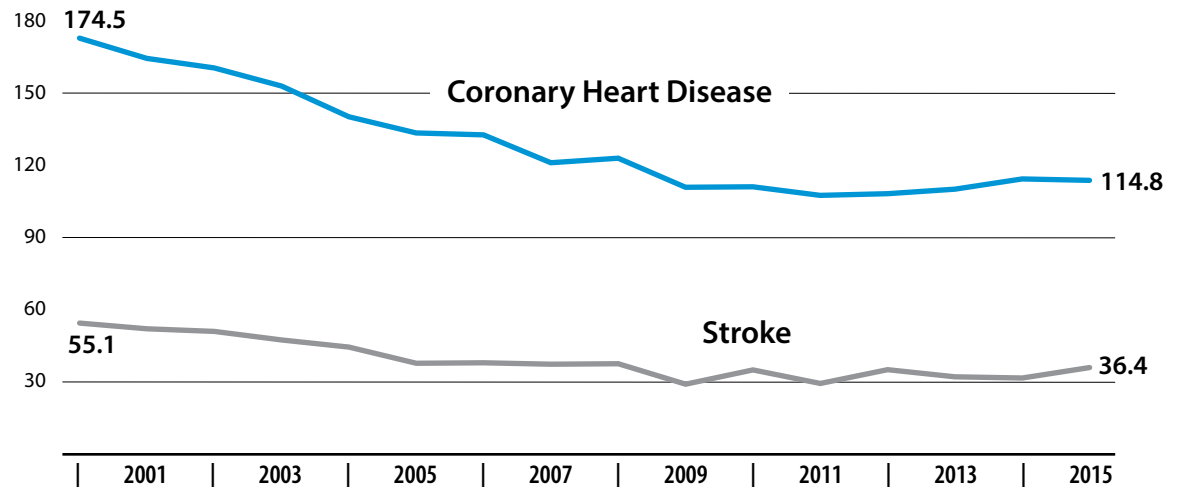
# of deaths, per 100,000 people



## Cardiovascular Disease Deaths

Vermont Vital Statistics • 2000–2015

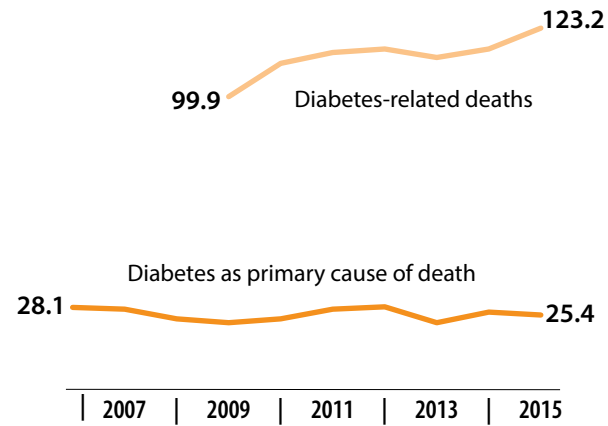
# of deaths, per 100,000 people (age-adjusted)



## Diabetes-related Deaths

Vermont Vital Statistics • 2006–2015

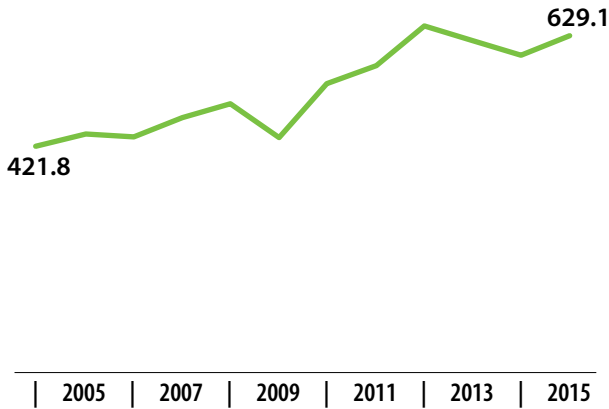
# of deaths, per 100,000 people



## Alzheimer's Disease Deaths

Vermont Vital Statistics • 2004–2015

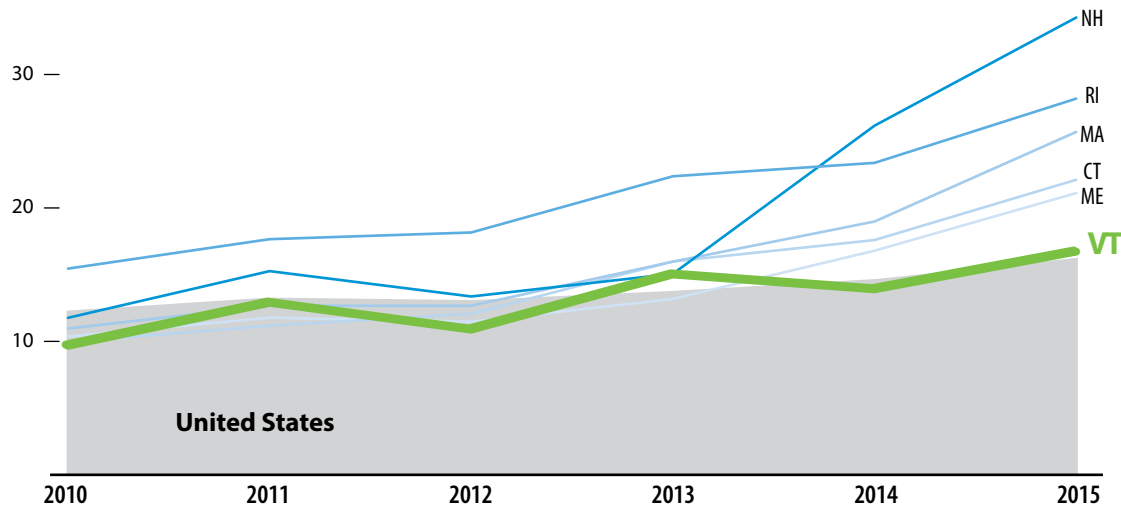
# of deaths among adults age 75+, per 100,000 people



## Drug Overdose Deaths in New England States

Vermont Vital Statistics / National Center for Health Statistics • 2010–2015

# of deaths by drug poisoning, per 100,000 population



### • Diabetes

In 2015, diabetes was the primary cause of 25.4 deaths for every 100,000 Vermonters, and the contributing cause for 123.2 deaths per 100,000 Vermonters.

The difference between primary and contributing cause likely reflects the fact that diabetes is the cause of other fatal diseases. For example, diabetes is the most common cause of kidney disease, which can progress to death from kidney failure.

### • Alzheimer's Disease

Alzheimer's is a disease of the brain that is not yet fully understood. The disease primarily affects adults age 75+. In Vermont, the number of deaths due to Alzheimer's disease has steadily increased since the 1990s. Among Vermonters age 75+, the mortality rate has nearly doubled in the past decade. The average age at death is 87.

### • Drug Overdose

Compared to other chronic diseases, substance use disorder is not a leading cause of death. Still, an increasing number of people have been dying from opioid drug overdoses. In Vermont in 2016, 96 people died from accidental or undetermined drug poisoning from opioids.

Heroin and fentanyl-related deaths have risen sharply since 2013, and fentanyl is now the main contributor to opioid-involved fatalities.

The New England states have higher rates of drug overdose deaths compared to the U.S. Of the New England states, Vermont has the lowest death rate, which is similar to the U.S. rate overall.