



Health Resources in Action  
*Advancing Public Health and Medical Research*

*Submitted to Bank of America | Philanthropic Management | Trustee*

**2010-2011 COMMUNITY HEALTH ASSESSMENT REPORT:**

# Fanny Holt Ames & Edna Louise Holt Fund

*May 14, 2012*

**Submitted by:**

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# Executive Summary

## BACKGROUND & METHODS

Since 2000, the Fanny Holt Ames and Edna Louise Holt Fund (hereafter referred to as the Holt Fund) has been investing in programs and services to improve community health for individuals and families in Grafton, Vermont and surrounding communities. As Trustee, Bank of America Philanthropic Management oversees the Holt Fund. To ensure that grantmaking activities and programs are meeting the health needs in the community, the Trustee engaged Health Resources in Action (HRiA), to undertake a comprehensive community assessment effort across the Holt Fund's catchment area, which includes Grafton, VT and 12 surrounding communities (Andover, Athens, Brookline, Chester, Jamaica, Londonderry, Rockingham, Springfield, Townshend, Westminster, Weston and Windham). The goals of the assessment are to:

- Provide a health portrait of the community,
- Determine trends and emerging issues, and
- Identify perceived assets, needs, gaps in services, and opportunities for improvement

A mixed methods approach was used to gather information for the community assessment. Existing quantitative data on key health issues and demographic characteristics across Vermont and the catchment area were compiled and analyzed to develop a social, economic, and health portrait of the area. Qualitative research was conducted to explore stakeholders' and residents' perceptions of community health concerns and strengths and opportunities for improvement.

This document provides a summary of the key findings from both the quantitative and qualitative data, which included:

- Reviewing the economic, social, and epidemiological data for Vermont and the Holt Fund catchment area. Sources of data included the U.S. Census, CDC's Behavioral Risk Factors Surveillance Survey (BRFSS), and the State of Vermont Department of Health.
- Conducting qualitative research comprising of 10 interviews with health and human service providers and 7 focus groups with a broad range of population groups, including youth, parents, and elderly across the region. A total of 55 individuals participated in the qualitative research to discuss their perceptions of the health needs and assets in their community and to solicit suggestions for community health improvement.

A social determinants of health perspective guides this assessment. This lens looks beyond proximal, individual-level factors in accounting for a community's health problems and considers how upstream factors such as housing, education, employment status, and community-level resources critically impact population health. Thus, this assessment considers a multitude of socioeconomic factors and their relationship with health outcomes.



## KEY FINDINGS

The following provides a brief overview of key findings that emerged from this assessment:

### Demographics: Who lives in the Holt area?

- In 2009, the thirteen towns in the Holt catchment area varied widely in population size from a low of 330 in Athens to a high of 8,668 in Springfield. Overall, the population of the Holt catchment area decreased by 2.8% between 2000 (27,355) and 2009 (26,596), while the population for Vermont overall increased by 1.9%.
- Age distribution in the Holt area generally mirrors that of Windham County, Windsor County and Vermont; however the percentage of the Holt population under age 15 (17.2%) and over age 65 (14.6%) is slightly higher. While the elderly population has increased across the State of Vermont (11.0%) over the past nine years, in the Holt area there was a slight decrease in the elderly population (-2.3%).
- Nonetheless, focus group and interview participants expressed concerns about the aging population; elders were described as living alone and becoming increasingly disconnected from the community.

*“People (elderly) are on their own who shouldn’t be. We try to stay connected with them.”*

– COMMUNITY VOLUNTEER

- Consistent with the State of Vermont, the Holt catchment area is not racially/ethnically diverse. In 2009, 97.7% of the population was White. The proportion of non-White residents ranged from 0% in Andover and Grafton to almost 4% in Townshend.

### Social Environment:

#### What is the Holt area like?

- It is important to note that focus group and interview participants cited numerous strengths of the communities surrounding Grafton, VT. Many community members identified the residents of the area and helping nature of the community as strengths.

*“We have a strong, collaborative sense of community.”*

– COMMUNITY VOLUNTEER

- Educational attainment is not distributed equally across the Holt catchment area. Over 15% of the population in Athens (18.7%) and Rockingham (15.3%) do not have a high school diploma, compared to less than 9% of the population in Andover (8.3%), Westminster (7.9%), Jamaica (6.8%), and Weston (3.7%).

*“Large numbers of our community members are illiterate or functionally illiterate. They can’t write their name, address or phone number.”*

– HEALTH SERVICE PROVIDER

- In 2009, the median household income in the Holt catchment area was \$45,276 per year, which is below that of Windsor County (\$51,066) and Vermont (\$51,284). There was an uneven distribution of income within the Holt catchment area, ranging from \$40,000–43,000 in Athens, Chester and Springfield to \$53,000–55,000 in Grafton and Westminster.
- Rockingham and Springfield, which account for half of the population in the Holt area, experienced crime rates at least double the rate of most other towns in the area at 66.6 and 71.5 criminal offenses per 1,000 persons, respectively.

*“I am scared to go certain places alone because I don’t like what could happen there. My friends have been hurt.”*

– YOUTH COMMUNITY MEMBER

## Physical Environment:

### What is the Holt area built community like?

- A majority of occupied housing units in the Holt catchment area were owner-occupied (75.3%); Rockingham (33.5%) and Springfield (30.7%) had the highest proportion of rental units. Despite the recent housing crisis, Vermont has one of the lowest foreclosure rates in the country, ranking 49th in the United States.

*“In late August 2011, Vermont was impacted by flooding and winds from Hurricane Irene. While clean up and repair efforts have continued, it is expected that some residents will be impacted by unseen mold and allergens in their homes.”*

– LONG-TERM RECOVERY COMMITTEE MEMBER

- In 2009, the vast majority of commuters in the Holt catchment area traveled to and from work by car; there is limited availability of public transportation within the area.

*“You have to have a car to get around. Many people don’t have cars or if they do, they can’t afford to put gas in it.”*

– HEALTH SERVICE PROVIDER

- Focus group and interview participants noted a shortage of grocery stores in the area making it difficult for households to access healthy and/or affordable food. In 2010, 37% and 42% of the zip codes in Windham and Windsor counties, respectively, had a healthy food outlet.

## Lifestyle Behaviors

### Overweight and Obesity

- In 2008, less than one in five adults (20 years old and older) in Windsor (18%) and Windham (19%) counties were overweight and obese, which is slightly less than Vermont (21%). The rate of overweight and obese youth in grades 9–12 was lower than the adult rate in Windsor and Windham counties at 12% but higher than the statewide rate of 10%.

### Physical Activity

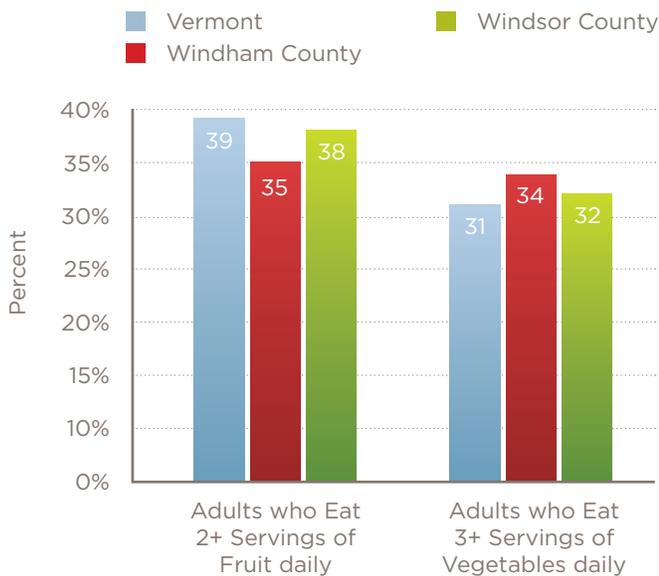
- According to the 2008 BRFSS, almost 60% of adult respondents in Windsor and Windham counties reported engaging in some type of activity for exercise, which is similar to the statewide average. According to the 2008 YRBS, around 30% of youth in grades 9–12 reported engaging in moderate activity at least 5 times per week.



### Healthy Eating

- Across Windsor and Windham counties, approximately one-third of adult respondents and less than one-fifth of youth reported eating the daily recommended serving of fruits or vegetables, indicating that both adults and youth are at risk of not getting proper nutrition. Additionally, one in seven households and one in five children in Vermont lack access to enough food to fully meet basic dietary requirements due to lack of financial resources.

**FIGURE 1. FRUIT AND VEGETABLE CONSUMPTION AMONG ADULTS, 2002, 2003 AND 2005**



**Source:** Health of Vermonters Health Status Report 2008, [http://healthvermont.gov/pubs/documents/HealthStatus-Rpt2008\\_appendix.pdf](http://healthvermont.gov/pubs/documents/HealthStatus-Rpt2008_appendix.pdf)

### Alcohol, Tobacco and Other Drugs

- Approximately one in five adults and youth in grades 9 to 12 reported being current cigarette smokers.
- Some focus group and interview participants discussed their concerns about alcoholism and substance abuse in their communities.

*“People are self medicating with alcohol.”*

– COMMUNITY MEMBER

### Health Outcomes:

**Why are individuals in the Holt area being hospitalized and what are they dying from?**

#### General Health Status

- 2008 BRFSS respondents in Windsor and Windham counties reported an average of 3.4 and 3.3 days, respectively, of poor physical and mental health in the past month, which was comparable to the State of Vermont.

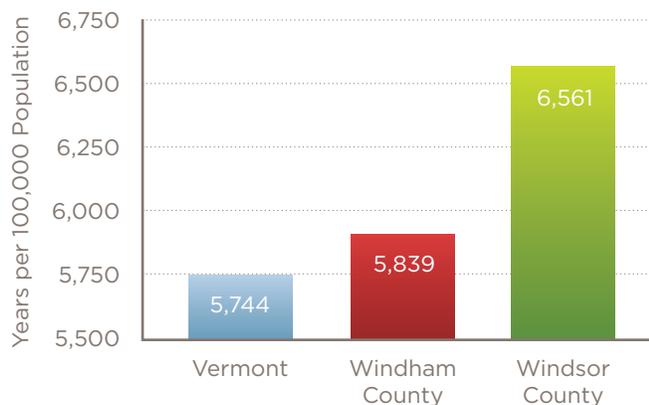
#### Leading Causes of Hospitalization

- Cardiovascular disease was the leading cause of hospitalization in the region (166.1 hospitalizations per 10,000 adults), followed by injuries (93.9 per 10,000), mental health (82.4 per 10,000) and cancer (47.8 per 10,000).

### Mortality Rates

- Congenital anomalies (18 deaths) were the primary cause of death in Vermont for infants (under age 1), while unintentional injuries (51 deaths) were the primary cause of death for children (age 1–18).
- In Windsor and Windham counties, the top two causes of death among adults (45 and above) were cancer (all types) and heart disease (including stroke).
- The number of years of potential life lost before age 75 in Windsor County (6,561 per 100,000 population) was higher than that of Windham County (5,839 per 100,000) and the State of Vermont (5,744 per 100,000).

**FIGURE 2. YEARS OF POTENTIAL LIFE LOST BEFORE AGE 75 PER 100,000 POPULATION, 2010**



**Source:** County Health Rankings, <http://www.countyhealthrankings.org/vermont>

### Maternal, Child, and Adolescent Health

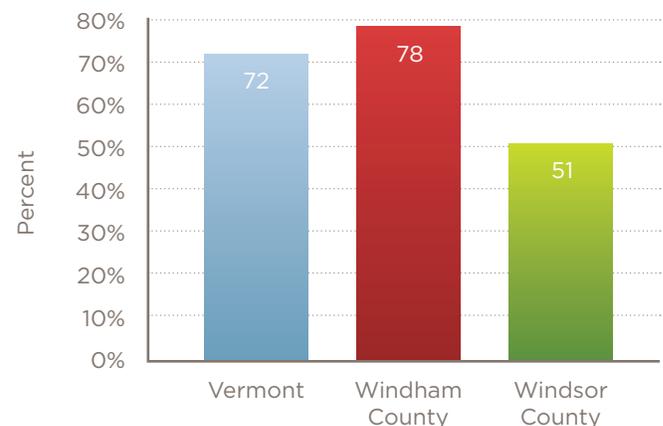
#### Low Birth Weight

- During 2008, a higher proportion of Windsor County infants were low birth weight (7.0%) compared to Windham County (5.4%) and Vermont (6.4%).

#### Childhood Vaccinations

- According to the 2008 BRFSS, the proportion of children under age 6 who had received two or more vaccinations was highest in Windham County (78%), which is above that of Vermont (72%). In Windsor County, approximately half of children under age 6 had received two or more vaccinations (51%).

**FIGURE 3. TWO OR MORE VACCINATIONS ADMINISTERED TO CHILDREN UNDER AGE 6, 2008**



**Source:** Health of Vermonters Health Status Report 2008, [http://healthvermont.gov/pubs/documents/HealthStatusRpt2008\\_appendix.pdf](http://healthvermont.gov/pubs/documents/HealthStatusRpt2008_appendix.pdf)



### *Lead Poisoning*

- The Vermont 2011 Poisoning Prevention Report to the Legislature indicated that the number of children screened who have lead poisoning has decreased from 6.6% of one-year olds and 10.7% of two-year olds in 1997 to 1.8% of one-year olds and 1.3% of two-year olds in 2010.

### *Children's Oral Health*

- A statewide assessment of the oral health status and treatment needs of children in grades one through three found that among those surveyed, 87% had regular dental visits (one to two visits per year), 60% were cavity free, and 85% required preventative dental care only.

### *Sexual Health among Youth*

- In 2008, there were 24 births per 1,000 teens in Windham and Windsor counties, which is slightly higher than that of Vermont (21 per 1,000).
- Between 40% and 50% of teens in grades 9 to 12 reported having had sexual intercourse. Of those who are currently sexually active, approximately one-third reported not using a condom the last time they had sex.

### *Substance Use among Youth*

- Between 25% and 33% of youth in grades 9 to 12 reported that they have used marijuana and engaged in binge drinking; all usage rates in Windham County exceeded those in Windsor County and Vermont.

### *Mental Health among Youth*

- Approximately 4% of youth in grades 9 to 12 reported that they have made at least one suicide attempt in the past.

### **Safety and Injury**

- Injuries are the second highest reason for hospitalization in the Holt area following cardiovascular disease. The Springfield Hospital Service Area had the highest rate of hospitalizations due to injuries at 102.1 per 10,000 population.
- From 2005–2008, motor vehicle crashes killed about 13 per 100,000 population annually in Windsor County, which is equivalent to the statewide rate, and 18 per 100,000 population in Windham County.

## Mental Health

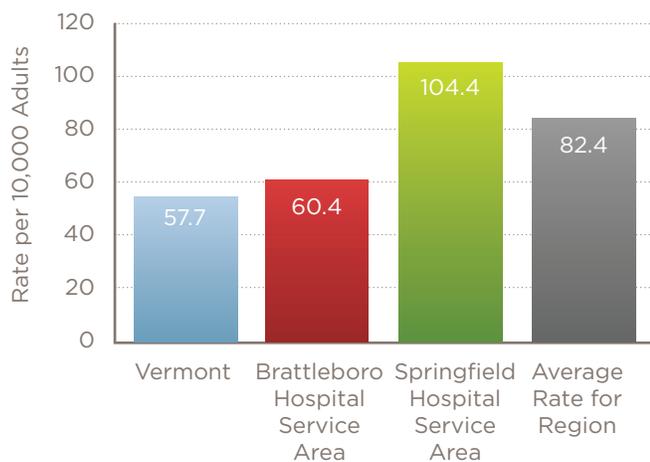
- Focus group and interview participants identified long-term, consistent needs for mental and behavioral health services across the region. Of primary concern were issues of stress and depression related to difficult economic circumstances.

*“Most of the people I work with suffer from depression and something else.”*

– HEALTH CARE PROVIDER

- In 2008, there was an average of 15 deaths per 100,000 population due to suicide in the region.
- Overall, about 82.4 per 10,000 adults were hospitalized annually for mental disorders in the region; the rate for the Springfield Hospital Service Area is almost double that of the statewide rate at 104.4 adults per 10,000 population.

**FIGURE 4. HOSPITALIZATION RATE FOR MENTAL HEALTH PER 10,000 ADULTS, 2010**



**Source:** Health and Health Care — Trends in Vermont, Vermont Department of Health, Public Health Statistics, May 2010. Brattleboro Hospital Service Area includes Brattleboro Memorial Hospital and Grace Cottage Hospital. Springfield Hospital Service Area includes Springfield Hospital.

## Oral Health

- Challenges in accessing dental services were noted by some focus group and interview participants. These individuals cited an improvement in services in Rockingham with the Dental Clinic but pointed out there is still a lack of providers taking Medicaid and a portion of the community that does not have dental insurance.

*“Dental insurance is hard to come by particularly for the elderly.”*

– HUMAN SERVICE PROVIDER

- Around three-fourths of BRFSS respondents indicated they had been to a dentist or dental clinic within the past year.



## Chronic Disease

- Chronic disease, including cardiovascular disease, diabetes, and asthma, was noted as a primary health issue by all adult focus group and interview participants.

### Heart Disease

- Cardiovascular disease is the leading cause for hospitalizations in the Holt area at 166.1 per 10,000 adults.
- The number of chronic heart disease (CHD) related deaths ranged from 135 per 100,000 persons in Windsor County to 153 per 100,000 persons in Windham County; both of these rates were higher than that of Vermont (138 per 100,000).

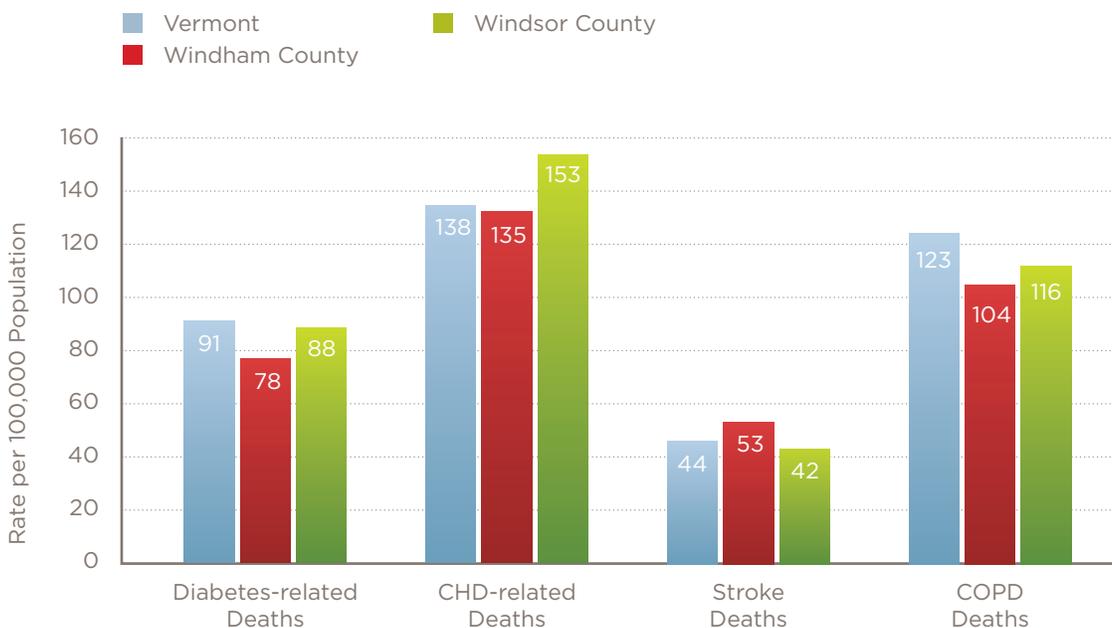
### Chronic Obstructive Pulmonary Disease

- The number of deaths due to Chronic Obstructive Pulmonary Disease (COPD) ranged from 104 per 100,000 persons in Windham County to 116 per 100,000 in Windsor County, which were both lower than the State of Vermont (123 per 100,000). The hospitalization rate for COPD was 16 per 10,000 adults in 2010, which places it 8th in the rankings.

### Diabetes

- Windsor County (88 per 100,000 population) had a higher rate of deaths due to diabetes than Windham County (78 per 100,000); however, both rates were below that of Vermont (91 per 100,000). The hospitalization rate for diabetes was 14.2 per 10,000 adults in 2010, which places it 9th in the rankings.

**FIGURE 5. CHRONIC DISEASE DEATHS PER 100,000 POPULATION, 2008**



**Source:** Health of Vermonters Health Status Report 2008, [http://healthvermont.gov/pubs/documents/HealthStatusRpt2008\\_appendix.pdf](http://healthvermont.gov/pubs/documents/HealthStatusRpt2008_appendix.pdf)

### *Cancer*

- In Vermont, breast (31% of women), prostate (29% of men), and lung cancer (12% of women and 14% of men) top the list of the most commonly diagnosed cancers.
- Cancer is also the primary cause of death among adults age 45 to 64 and the second leading cause of death for persons over age 65. While lung cancer was the second leading cause of cancer, it was the most common cause of death from cancer in Vermont (30% of men and 24% of women).

### *Asthma*

- The rate of asthma in adults is slightly higher in Windham (10.6%) and Windsor counties (10.3%) than for the State of Vermont (9.9%). The prevalence of asthma in the youth population (grades 9 to 12) of Vermont is the same rate as for adults.

## **Communicable Diseases**

### *Sexually Transmitted Diseases*

- Chlamydia is the most frequently reported sexually transmitted disease (STD) in Vermont, followed by Gonorrhea; however, the rate of Chlamydia infections in both Windham (164 per 100,000) and Windsor (92 per 100,000) counties are lower than the statewide rate (169 per 100,000).

### *Adult Vaccinations*

- It is recommended that persons over age 65 receive an annual flu vaccine and a pneumonia vaccine. According to the BRFSS, at least two-thirds of Vermont adults over age 65 reported receiving an annual flu vaccine (66%) and having ever received a pneumonia vaccine (67%). In Windham County, almost three-fourths of adults reported receiving a flu vaccine (74%); whereas in Windsor County this rate was slightly lower (68%), yet still above the statewide average.

## **Access to Care**

- Access to health care is a key health concern, particularly access to health insurance and a primary care physician (PCP). Across all focus groups and interviews, participants noted the value of the existing services in meeting the needs of individuals and families in the community; however, concerns were expressed about a decrease in available services and consolidation of services resulting in the closing of service sites.

*“People can’t afford their prescriptions. Most have more than one medication.”*

– SENIOR SERVICE PROVIDER

- However, over 80% of adult respondents in Windsor (88%) and Windham (84%) counties reported that they have health insurance, which was similar to the statewide rate (86%).
- Similarly, more than 80% of respondents in Windsor (84%) and Windham (86%) counties indicated that they have a usual PCP, which was slightly lower than that of the state (87%).



## DISCUSSION & RECOMMENDATIONS

### Discussion

This assessment report provides an overview of the social and economic environment of the Holt Fund's catchment area, the health conditions and behaviors that most affect the population, and the perceptions of strengths and gaps in the current public health and health care environment. Several key themes emerged from this synthesis:

- **The composition and socioeconomic levels of the Holt catchment population varies both across the area and from surrounding counties.** Since 2000, the Holt area has experienced a greater loss in population than Windham and Windsor counties and the State. Despite having a higher proportion of elderly residents, in contrast to other areas in Vermont and nationally, this population does not appear to be growing.

The majority of the Holt population resides in Springfield and Rockingham. These towns experience higher indicators of distress, including lower median incomes, lower levels of education, and higher rates of crime, resulting in a concentration of poverty. These factors all have a significant impact on people's health priorities, their ability to seek services, access to resources, reliance on support networks, stress level, and opportunities to engage in healthful lives.

- **The ability to live a healthy lifestyle is challenging for residents of the Holt catchment area.** Lack of access to healthy foods appears to be associated with a shortage of grocery stores and limited public transportation, not to mention cost. On the other hand, despite the availability of recreational facilities, most residents, youth in particular, are not achieving the recommended daily exercise.

Notably, residents of Windham County have less access to recreational facilities than those of Windsor County and Vermont overall.

- **Cardiovascular disease, cancer, injuries, and mental health are the top causes of morbidity and mortality in the Holt catchment area.** Cardiovascular disease was the leading cause of hospitalization in the region, followed by injuries, mental health and cancer. While cancer is the fourth leading cause of hospitalization, it is the primary cause of death among adults, followed by cardiovascular disease.

Focus group and interview participants also identified long-term, consistent needs for mental and behavioral health services across the region. Of primary concern were issues of stress and depression related to difficult economic circumstances; alcohol and other substances were associated with managing these challenges.

- **Access to health care is exacerbated by the social and economic context of the region.** The Holt catchment area is comprised of residents with low educational attainment as well as an aging population, which has implications for navigating the health care system. In a changing health care environment that demands educated consumers, individuals must possess the ability to obtain, process and understand basic health information needed to make appropriate health decisions and access services needed to prevent or treat illness.

- **Residents of the Holt catchment area experience disparities in health outcomes by geographic location.** While Windham and Windsor counties share similar rates for several health indicators, Windsor County residents experience disproportionately higher morbidity and mortality rates for the leading causes of hospitalization and death in the region. A prime example of this is the number of years of potential life lost before the age of 75; according to this measure of premature death, residents of Windsor County appear to die much earlier than expected as compared to Windham County and Vermont.
- **Several health issues identified in this report are costly health problems that can be prevented with evidence-based approaches.** Vaccination is one of the most cost effective and clinically proven methods to reduce preventable diseases, yet vaccination rates among both children and adults in Windsor County are below the state average. The majority of sexually active youth do not practice safe sex; encouraging condom use could lower both the rates of STD's and teen pregnancy. High rates of unintentional injury, resulting in costly medical care and lost productivity, also present an opportunity for prevention. For example, many motor-vehicle accidents are due to lack of seatbelt use or driving while alcohol impaired.

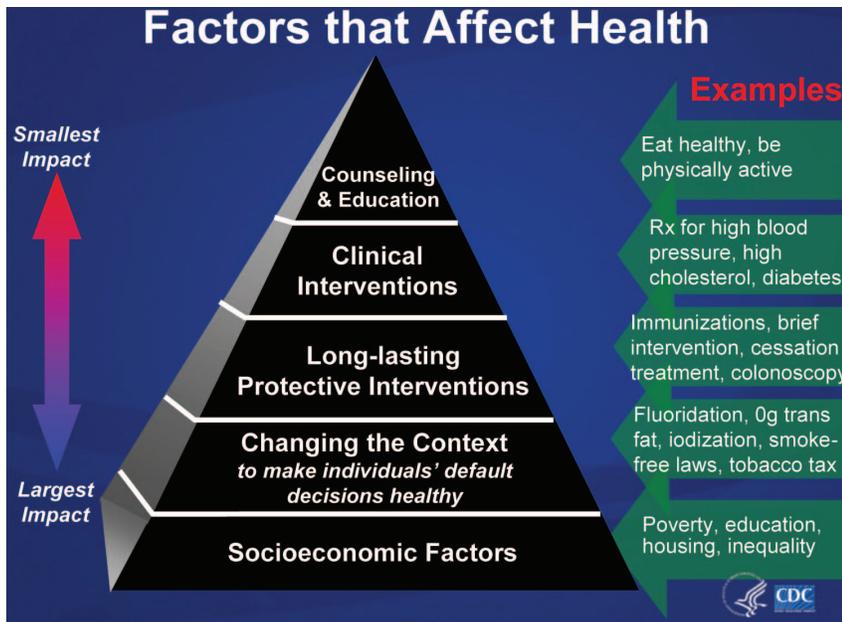
## Recommendations

The findings in this report lead to several recommendations for the Holt Fund to consider. These recommendations are not designed to be a definitive list but a set of suggestions that build on the data provided in this report and the assets of the communities in the Holt area. The final decision on the actions of the Holt Fund is that of the Trustee.

- **The Holt Fund has an opportunity to address the leading reasons for morbidity and mortality in the region — cancer, cardiovascular disease, injury, and mental health.** These conditions cause the majority of hospitalizations and deaths in the area and there is a wealth of opportunity for the Holt Fund to achieve change. Addressing these challenges will require a variety of strategies and resources as well as an understanding of the complex nature of these issues. Strategies to consider could include both those that address prevention, intervention and treatment within the traditional health care arena as well as those that change the social and physical environment.
- **The role that the social and physical environment plays in shaping an individual's and community's health and risk for illness, injury or disease should be considered.** Factors such as where we live, the state of our environment, our income and education level, and our relationships with friends and family, all considerably impact our health. Thus, the role of the social and physical environment should not be overlooked when the Holt Fund considers the types of initiatives it invests in or the partnerships it engages in to address health outcomes. However, it should be noted that the rural nature of the Holt catchment area presents challenges to changing these environments.



FIGURE 6. HEALTH IMPACT PYRAMID, 2010



**Source:** Frieden, Thomas R. *A Framework for Public Health Action: The Health Impact Pyramid*. *American Journal of Public Health*. April 2010, Vol. 100, no. 4., pp. 590-595.

- Identifying strategic partnerships and leveraging resources will be necessary to enhance the impact of Holt funding in addressing priority health issues. The Holt Fund should be cognizant that its investments alone cannot solve these issues. Foundation funding is often used to fund operating or programmatic expenses. While the Holt Fund’s annual investments in the region are approximately \$650,000, they represent only a portion of the state, federal, health insurance and self-pay dollars that are being spent on health and human services in the area. With the variety of public and private investors in the area, opportunities exist to identify partnerships with other funders as well as government to leverage resources and increase the positive impacts of funded strategies. The Holt Fund is just one of the many assets in the area.
- Various levels of interventions should be considered when identifying how best to address community need. According to CDC Director Thomas Frieden’s Health Impact Pyramid, the interventions focusing on the lower levels of the pyramid that impact social determinants of health such as poverty, education and housing tend to be more effective because they reach broader segments of the community and require less individual effort. To have a sustained benefit, interventions should be enacted at all levels and include program and service delivery as well as policy and systems change approaches.

- **Emphasis should be made on the use of evidence-based strategies whenever feasible.** Evidence-based strategies are approaches to health promotion and disease prevention where the effectiveness is supported by research. In order to maximize the impact of Holt funded programs or initiatives and increase the likelihood of their success, the Holt Fund should encourage grantees to use evidence-based strategies when choosing how and where to invest its limited resources.
- **Efforts to increase health literacy would positively impact health behaviors.** Every day, individuals make health related decisions in such places as the grocery store, pharmacy, workplace, playground, doctor or dentist's office, hospital and at home. In the Holt catchment area, low literacy levels, an aging population, and limited opportunities for regular, consistent communication further impact the health literacy of the region. When considering the Holt catchment area, improved health literacy can influence increased rates of health screenings, improved oral hygiene, and better understanding of how to incorporate fresh fruits and vegetables into a regular nutritious diet.
- **Disparate rates in health outcomes suggest the need for further research.** This report provides an overview of existing social, economic and health data for the area. Within the findings, there are some areas that may be relevant for the Holt Fund or others to explore further. For example, the years of potential life lost (YPLL) for Windsor County is substantially higher than that of Windham County or Vermont. What factors are influencing this number? What can be done to reduce the YPLL of the County? Findings from this research could be the basis for coordinated efforts across the community to address factors associated with this indicator.
- **The Holt Fund should build on the assets of the community by continuing to engage the Distribution Review Committee in guiding and informing funding decisions.** Throughout the focus groups and interviews, participants commented on the strength of the collaborative nature of the communities. To effectively be part of the community fabric that makes up the Holt catchment area and Vermont, the Holt Fund should continue to engage an advisory group of Vermont residents to advise the Holt Fund on funding decisions and give a local voice to planning.



- Finally, the Holt Fund should reevaluate the health needs and assets in the area every five to six years to ensure its activities are working to change the health of residents in Grafton, Vermont and surrounding communities. Guided by a social determinants of health framework, this report provides a health portrait of the Holt Fund's catchment area. Reviewing available quantitative and qualitative data every five to six years will enable the Holt Fund to identify emerging issues, trends, factors and events influencing the community's health. As the Holt Fund continues to invest in activities to meet the health and medical needs of Grafton, Vermont and surrounding communities, this information can be utilized to assess impact and guide future investments and partnerships.

## Background

Since 2000, the Fanny Holt Ames and Edna Louise Holt Fund (hereafter referred to as the Holt Fund) has been investing in programs and services to improve community health for individuals and families in Grafton, Vermont and surrounding communities.

As Trustee, Bank of America Philanthropic Management oversees the Holt Fund and engaged Health Resources in Action<sup>1</sup> (HRiA) to conduct a comprehensive community health assessment. The goals of the assessment are to:

- Provide a health portrait of the community,
- Determine trends and emerging issues, and
- Identify perceived assets, needs, gaps in services, and opportunities for improvement

For this assessment, social, economic, and epidemiological data at the community level were analyzed and reviewed to provide a health portrait of the community. Additionally, community stakeholders and residents provided feedback in focus groups and interviews. This report integrates salient community feedback with relevant community level data to inform future grantmaking activities of the Trustee and guide future community planning to improve the health of residents.

### HISTORY OF THE HOLT FUND

The Holt Fund was created through the generosity of Fanny Holt Ames and Edna Louise Holt. Both Miss Holt and her sister were longtime residents of Grafton, Vermont. Quiet and unassuming, they nonetheless held a deep and abiding concern for the health and well-being of the communities in which they lived.

In 1983, an automobile accident claimed the life of Fanny Holt Ames and seriously injured Edna Louise Holt. Following a series of hospitalizations, Miss Holt successfully recovered from her injuries. The experience had a profound effect on her view of medical care. She felt fortunate to have been able to afford the care she received and expressed a desire to help others access the same health opportunities.

Per Miss Holt's instructions, The Fanny Holt Ames and Edna Louise Holt Fund was established, in perpetuity, with Bank of America as the Trustee, following her death in February 1998. The trust document used to establish the Fund was created by the financial and legal advisors to Miss Edna Louise Holt and approved by Miss Holt. This document states that the funds shall be used to meet the medical needs of Grafton, Vermont and surrounding communities, with primary consideration to Grace Cottage Hospital. Thus, fully funded in 2000 as a charitable entity, the Fanny Holt Ames and Edna Louise Holt Fund makes grants to qualified not-for-profit organizations that provide health and medical services to individuals living in and around Grafton, Vermont.

<sup>1</sup> *Health Resources in Action (formerly known as The Medical Foundation) is a non-profit organization located in Boston, serving philanthropic, governmental, and health care organizations across the United States.*



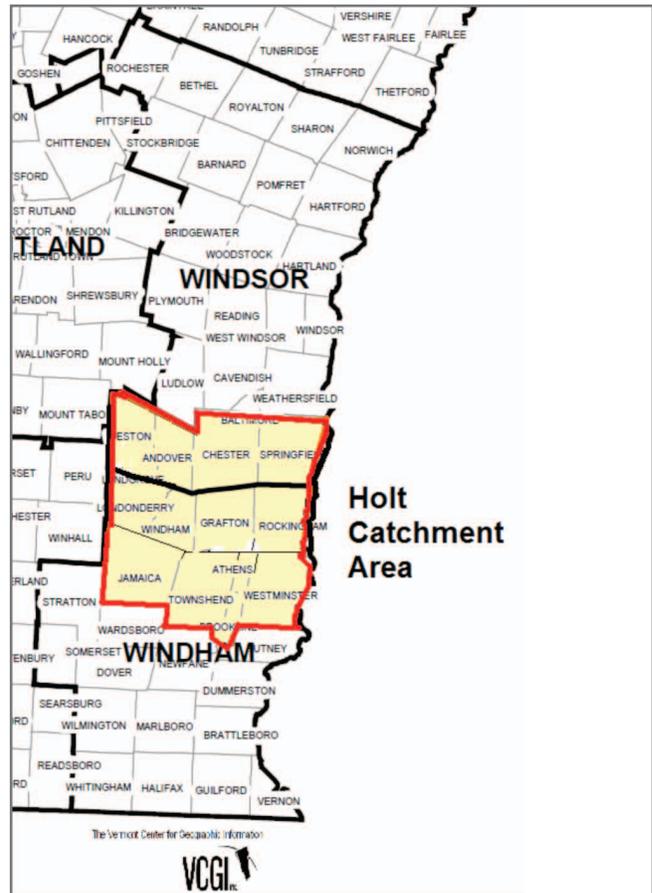
In 2000, prior to establishing the grantmaking process for the Holt Fund, the Trustee engaged HRiA to conduct a community health assessment study, using a similar methodology as described in this report, to understand the most pressing regional medical needs for Grafton and surrounding communities. The study’s findings were used to identify the priority health issues and establish a geographic catchment area for the Holt Fund. Based on the findings, the Holt Fund defined the term “medical needs” to encompass a broad range of activities, including medical services, diagnostic screening, emergency services and community based prevention and health promotion activities. Additionally, the study identified the following ten priority focus areas:

1. Access to Services to Meet Medical Need
2. Cardiovascular Disease
3. Cancer
4. Diabetes/Obesity/Nutrition
5. Elder/Disabled Services
6. Mother-Infant Care
7. Smoking Cessation, Prevention & Education
8. Substance Abuse Prevention & Treatment
9. Mental & Behavioral Health
10. Dental Services

## THE HOLT CATCHMENT AREA

As a result of the study’s findings, the Holt Fund’s catchment area was defined as a set of towns that follow regional patterns of work and in which residents obtain the necessities of life, including health care and education. The catchment area is located in Windham and Windsor counties (Figure 1) and consists of Grafton, VT and its 12 surrounding towns (Table 1).

FIGURE 1. HOLT FUND CATCHMENT AREA



*Source:* Map from Vermont Center for Geographic Information (VCGI), Holt Catchment Area highlighted by Heath Resources in Action.

The geographic area covers 476.5 square miles with an average population density across the towns of 50.9 individuals per square mile. This area has less population density than that of the State which is 67.7 individuals per square mile.

According to the Vermont Agency of Transportation, within the catchment area there are 955 miles of roads, 56% or 539 miles of which are not paved.<sup>2</sup> To travel around the region, residents can access Vermont Route 5 or U.S. Interstate 91 on the eastern edge of the region or Vermont Route 35 through Grafton to travel north or south. To travel east or west, residents may use Vermont Route 121 or 103 and 11. In these rural communities, most households lack access to public water and sewer systems. The 13 towns include two labor market areas and four school systems.

The climate and terrain in Vermont provides year round opportunities for outdoor recreational activities such as skiing, snowmobiling, hiking and birding. However, the heavy snow in the winters and wet springs present challenges for travel.

<sup>2</sup> "Surface by County and Town," Vermont Agency of Transportation, 2010. [http://www.aot.state.vt.us/Planning/Documents/Mapping/Publications/Surface\\_byCountyTown.pdf](http://www.aot.state.vt.us/Planning/Documents/Mapping/Publications/Surface_byCountyTown.pdf)

**TABLE 1. HOLT CATCHMENT AREA, WINDHAM AND WINDSOR COUNTY, VT**

Windham County	
Athens	
Brookline	
Grafton	Including Houghtonville
Jamaica	Including East Jamaica and Rawsonville
Londonderry	Including South Londonderry
Rockingham	Including Bellows Falls, Saxtons River, Bartonville and Cambridgeport
Townshend	Including West Townshend, Simpsonville and Harmonyville
Westminster	Including North Westminster, Westminster West, and Westminster Station
Windham	Including South Windham and North Windham
Windsor County	
Andover	Including Simonsville
Chester	Including North Chester, Gassetts and Chester Depot
Springfield	Including North Springfield and Goulds Mill
Weston	



## ECONOMIC & ENVIRONMENTAL CONTEXT

In 2000, researchers could not have foreseen the events that are presently impacting residents in the Holt catchment area. In the late 2000's, the United States entered a severe economic recession, considered by many economists to be the worst financial crisis since the Great Depression of the 1930's.<sup>3</sup> The recession resulted in the collapse of large financial institutions, downturns in the stock market, loss of liquidity, successful companies or businesses laying off employees or closing their doors, and declines in consumer wealth. In many areas in the U. S., the housing market suffered, resulting in numerous evictions and foreclosures.

Adding to the economic pressures, in late August 2011, the State of Vermont was overcome by heavy rains, flash flooding and high winds related to Hurricane Irene. Flooding and high winds damaged or destroyed homes, farms and other buildings, leading businesses to close either temporarily or permanently. The hurricane also impacted health and social service providers. For example, the Vermont State Hospital, a mental health provider, was closed and residents were taken to other facilities across the State.<sup>4</sup> State officials and providers are developing plans to ensure Vermont's mental health community has access to quality services through several facilities (see page 50).

<sup>3</sup> Reuters, February 27, 2009.  
<http://www.reuters.com/article>.

<sup>4</sup> "Gov. Shumlin Outlines Plan for Closing Vermont State Hospital," Office of the Governor, 2011. State of Vermont, <http://governor.vermont.gov/newsroom-gov-shumlin-outlines-closing-plan-for-vermont-state-hospital>

## Methods

To develop a social, economic, and health portrait of the Holt catchment area, HRiA examined social and economic indicators, as well as leading causes of morbidity and mortality for area residents. Existing data drawn from state and federal sources, including the U.S. Census Bureau and the State of Vermont, were reviewed and analyzed. Additional data included risk factors and behaviors from the Center for Disease Control's (CDC) Behavior Risk Factor Surveillance Survey (BRFSS) and the Youth Risk Behavior Survey (YRBS). To provide community context and insight into perceptions of the health needs and assets in the community, HRiA conducted focus groups and interviews with community members and key stakeholders ranging from youth and parents to elders and health and human service providers.

### SOURCES OF DATA

For demographic and economic indicators, HRiA compiled aggregate data from the 2000 U.S. Census, 2009 American Community Survey (ACS), and 2010 U.S. Census, all produced by the U.S. Department of Commerce, Bureau of the Census — the most reliable sources for social and economic indicators of the area. Census data are reported for the State of Vermont, Windham County, Windsor County, the Holt catchment area and the 13 individual towns.

Health behavior and health risk factor data in this report were drawn from Behavioral Risk Factors Surveillance Survey (BRFSS) data in the “Health of Vermonters Health Status Report 2008.”<sup>5</sup> The BRFSS is a state-based system of health surveys established by the CDC that collects information on health risk behaviors, preventive health practices, and health care access primarily related to chronic disease and injury. Vermont uses the telephone survey to track risk behaviors which can inform

health promotion and disease prevention program planning and evaluation. Over 7,000 Vermonters are randomly and anonymously selected and called annually.

In addition, data on mortality, incidence, health resources, and other indicators were drawn from the CDC as well as reports published by the State of Vermont Department of Health.

To provide insight into people's perceptions of the health needs and assets in their community and to solicit suggestions for community health improvement, focus groups and interviews were conducted with a number of stakeholders and community residents. Between February and May 2011, 10 interviews and 7 focus groups were conducted with a total of 55 individuals. These included interviews with health and human service providers and focus groups with a broad range of population groups, including youth, parents, and elderly across the region.



Each interview lasted approximately 30–60 minutes, while each of the focus groups lasted 90 minutes. At the beginning of the discussions, all interview and focus group participants were told the purpose of the research and that their individual responses would remain confidential. Moderators of the interviews and focus groups used semi-structured interview/focus group guides.

Detailed notes were taken during each of the interviews and focus groups. Notes were coded and analyzed for key themes that emerged across discussions. For purposes of confidentiality, any sensitive information that could be connected directly to a specific individual was not included in reporting.

<sup>5</sup> *Health of Vermonters Health Status Report 2008*, [http://healthvermont.gov/pubs/documents/HealthStatusRpt2008\\_appendix.pdf](http://healthvermont.gov/pubs/documents/HealthStatusRpt2008_appendix.pdf)

## LIMITATIONS

As with all research efforts, there are several limitations related to the data presented in this report that should be acknowledged. A number of secondary data sources were drawn upon for quantitative data included in this report. Although all sources used for this purpose (e.g., BRFSS, State of Vermont) are considered highly credible, sources may use different methods and assumptions when collecting data on specific racial/ethnic groups and across different subsectors. Specifically, how sources segment by geographic area varies. Some sources collect data for small areas, which is how the Census and American Community Survey (ACS) can provide town-level data; other sources delineate health data by zip code or by a larger geographic region, such as a hospital service area (HSA) or county. Therefore, various data sources are not consistent in their geographic segmentation.

Publicly available quantitative information is not always the most current because of the length of time required for data collection and analyses. For example, 2008 is the most recent year for which health statistics are publicly available. The social and economic data from the ACS is available at the town-level for 2009. Therefore, interpretation of these data should take into consideration this time lag and that the most recent health and demographic shifts may not be captured in this report.

Additionally, much of the data on health behaviors are self-reported. In the BRFSS, respondents were asked to answer questions about their behaviors, such as their fruit and vegetable consumption and physical activity levels. These responses may not accurately portray reality due to issues related to social desirability and/or memory recall. While independent observation or requiring participants to keep journals or activity logs may yield more accurate responses, these methods are typically only feasible for studies with much smaller sample sizes. Lastly, the BRFSS is a telephone survey, which has limitations in yielding a representative sample because it excludes residents without landlines. Residents without landlines typically include poorer residents who do not own any type of phone or younger residents who are more likely to use only mobile phones. Though, according to the most recent estimates, only 5.1% of Vermont households have at least one wireless cellular phone, but no landline telephone.<sup>6</sup>

<sup>6</sup> *Blumberg et al. (2009). Wireless Substitution: State-level Estimates from the National Health Interview Survey, January – December 2007. National Health Statistics Report, 14.*

Where possible, town level data for the Holt catchment area are presented in this report; however, due to the small population sizes of towns, data below the county and state level are often not available because the numbers are too small (i.e., less than 10). Therefore, in some cases, the prevalence of health behaviors and outcomes data presented in this report compare Windham County, Windsor County, and the State of Vermont or are provided for the State of Vermont only. Additionally, since the Holt catchment area consists of towns located in both Windham and Windsor counties, the report provides results from both counties to present a health profile that closely matches the Holt area. However, it should be noted that towns outside the Holt catchment area but within the counties could differ from towns within the Holt area, potentially affecting the county-wide averages presented. For example, the poverty rate for the Holt area is 11.8% while the poverty rate for the area outside the Holt area in the two counties is 9.7%.

Qualitative methods also have their limitations. Focus groups and interviews provide in-depth information on particular topics and population sub-groups; however, by the inherent nature of these methods, recruiting techniques do not yield randomly selected samples and sample sizes are relatively small. Therefore, the participants involved in the focus groups and interviews may not be representative of the larger population of community residents and stakeholders.

## SOCIAL DETERMINANTS OF HEALTH FRAMEWORK

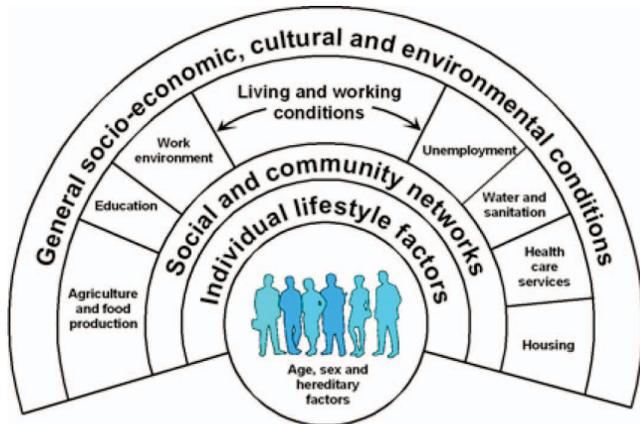
While this report is a health assessment, substantial space is devoted to factors external to individuals because of the important role they play in shaping an individual's health and risk for illness, injury, or disease. Thus, health and well-being are viewed through a social determinants framework — that is, health is more than just the effect of genes, bacteria, and bodies. While these entities are the final forms by which illness affects individuals, there are numerous factors in the social and physical environment that influence the way genes, bacteria, and bodies take shape in certain social groups and not in others. In the field of public health, these factors are distinguished as proximal and distal factors in the causation of disease.<sup>7</sup>

Furthermore, it is important to recognize that understanding social determinants makes the exploration of race, class, gender, immigration status, sexuality, occupation, religious affiliation, education, and other factors explicit in the investigation of patterns of health and disease. There is strong evidence in the larger public health research showing that these characteristics create disparities in exposure to risks and in access to health care within the social and political context. *Figure 2* provides a visual depiction of the relationship of these proximate and distal factors to health.

<sup>7</sup> Link BG, Phelan J. (1995) *Social Conditions as Fundamental Causes of Disease*. *J Health Soc. Behav. Spec No*: 80-94.



FIGURE 2. SOCIAL DETERMINANTS OF HEALTH



Source: World Health Organization, 2005

This framework, proposed by the World Health Organization, can be used to study the health of individuals and groups. To this end, the assessment process examines health at multiple levels in order to determine patterns of disease and sources of health and illness that can be used to improve the health of all residents. By considering the multiple layers that influence an individual's health, the most effective point of intervention can be determined to improve the health of residents. Understanding the way social and physical contexts affect individuals' health can determine how to distribute services at the community level. Thus, communities can be informed of their health needs and risk for disease and organizations can develop targeted services to effectively serve their community members.

# Findings

## DEMOGRAPHICS: WHO LIVES IN THE HOLT AREA?

Population health is associated with resources and services that are available in an area, such as housing stock and employment opportunities, as well as who lives in the area (i.e., compositional factors such as income and age of the population). The section below provides an overview of the population of the Holt catchment area with comparisons to the State of Vermont, Windham County and Windsor County. In addition, data is presented on each of the thirteen towns that comprise the Holt catchment area. Characteristics of residents such as age, gender, race, and ethnicity not only impact individual health; the distribution of these characteristics in an area also affect emerging health behaviors and outcomes as well as the number and type of services and resources available. For example, an area with a large elderly population may have higher rates of heart disease or more senior services available to address their needs.

### Total Population

According to the most recent U.S. Census data available, in 2009, the population of the Holt catchment area was 26,596, which was one-fourth (25.4%) of the total population in Windham and Windsor counties (*Table 2*). The thirteen towns in the Holt catchment area varied widely in population size from a low of 330 in Athens to a high of 8,668 in Springfield. Six of the thirteen towns, including Grafton (465), had populations under 1,000. The largest towns included Springfield (8,668), Rockingham (5,027), Westminster (3,212) and Chester (3,023); three-fourths (75.0%) of the

TABLE 2. POPULATION OF THE HOLT AREA BY TOWN, 2009

	Total Population	% of Holt Area
Andover	416	1.6
Athens	330	1.2
Brookline	591	2.2
Chester	3,032	11.4
Grafton	465	1.7
Jamaica	1,042	3.9
Londonderry	1,721	6.5
Rockingham	5,027	18.9
Springfield	8,668	32.6
Townshend	1,058	4.0
Westminster	3,213	12.1
Weston	513	1.9
Windham	520	2.0
Holt Area	26,596	100.0
Windham County	43,627	
Windsor County	56,921	
Vermont	620,414	

*Source:* U.S. Department of Commerce, Bureau of the Census, 2009 American Community Survey

total population in the Holt catchment area lived in these four towns and half (51.5%) lived in two of the towns (Springfield and Rockingham).<sup>8</sup>

<sup>8</sup> It is important to note that the towns vary considerably by population from a low of 330 in Athens to a high of 8,668 in Springfield. Calculations of percentages for towns with small populations can result in large percentage changes. The reader should consider both the absolute number as well as the percentage in analyzing the data.



### Population Change

As shown in *Table 3*, from 2000 to 2009, the population of the Holt catchment area decreased by 759 persons from 27,355 to 26,596. When compared to the State of Vermont, the Holt catchment area population decreased at a rate of 2.8%, while the population for the State overall increased by 1.9%. The population loss of the Holt area was higher than that of the two counties

in which it is located. In nine years, most of the thirteen towns had either a reduction in population size or their populations remained relatively stable. Grafton experienced the largest percentage decrease (-26.7%), which represents 169 individuals. The town of Windham on the other hand saw an increase of 189 persons (57.1%) and Brookline increased by 109 persons (22.6%).

**TABLE 3. POPULATION CHANGE OF HOLT AREA BY TOWN, 2000 TO 2009**

	Population 2000	Population 2009	Change 2000 to 2009	% Change 2000 to 2009
Andover	517	416	(101)	-19.5
Athens	337	330	(7)	-2.1
Brookline	482	591	109	22.6
Chester	3,044	3,032	(12)	-0.4
Grafton	634	465	(169)	-26.7
Jamaica	946	1,042	96	10.1
Londonderry	1,709	1,721	12	0.7
Rockingham	5,309	5,027	(282)	-5.3
Springfield	9,078	8,668	(410)	-4.5
Townshend	1,149	1,058	(91)	-7.9
Westminster	3,210	3,213	3	0.1
Weston	609	513	(96)	-15.8
Windham	331	520	189	57.1
Holt Area	27,355	26,596	(759)	-2.8
Windham County	44,216	43,627	(589)	-1.3
Windsor County	57,418	56,921	(497)	-0.9
Vermont	608,827	620,414	11,587	1.9

**Source:** U.S. Department of Commerce, Bureau of the Census, 2009 American Community Survey

### Population Projections

It is important to estimate the future population of an area in order to plan for any changes in health status or needs that emerge due to an increase or decrease of the population or a different distribution of the population among area towns and counties. Population projections are based on changes in prior years as well as assumptions about future growth or decline. Population projections based on the 2010 census are not currently available. The most recent projections made at the county and state level were based on 2000 census data and are therefore inaccurate.

Since between 2000 and 2009 the Holt catchment area experienced a population loss greater than that of either county (*Table 4*), county-level projections would not be useful for planning in the Holt area. Projections for individual towns would not be reliable because of their small geographic scale and lack of known assumptions (such as new construction or birth rate) which could affect projections at a small scale. In the past, projections have relied on the decennial census (every 10 years) or inter-census

projections. The American Community Survey (ACS) produced by the U.S. Census Bureau will provide small scale populations on an annual basis, which can assist with planning. After a few years of tracking annual changes it will be possible to see if the decline experienced over the past ten years is continuing. Until that time it would be prudent to use the 2010 census data.

### Age

*Table 5* displays the age distribution of the total population in the towns of the Holt area, each county and Vermont.

### Children

The average percentage of children (age 0–14) in the Holt area was 17.2%, which was slightly higher than that of Windham County (16.2%), Windsor County (16.0%) and Vermont (16.9%). Among the towns, Weston (9.9%) and Grafton (11.0%) had the lowest percentage of children, while Brookline (28.4%) and Jamaica (27.1%) had the highest percentage of children.

**TABLE 4. POPULATION PROJECTIONS AND ACTUAL CHANGE, 2000–2010**

	2010 Estimate	2009 Actual	2000–2010 Estimated Change (%)	2000–2009 Actual Change (%)
Holt Area	NA	26,596	NA	-2.8
Windham County	45,769	43,627	3.5	-1.3
Windsor County	58,553	56,921	2.0	-0.9
Vermont	639,241	620,414	4.9	1.9

**Source:** Massachusetts Institute for Social and Economic Research (estimates). U.S. Census Bureau (actual).

**Note:** NA - Projections were not available for the Holt area.



The largest number of children were located in Springfield (1,378), Rockingham (922), Westminster (602), and Chester (448) which together accounted for 73.4% of all children in the Holt area. The remainder of the towns were similar to the county and state average age distribution.

### *Youth and Young Adults*

Older youth and young adults age 15 to 24 comprised 10.4% of the population in the Holt area. This rate was significantly lower than

that of Windham County (13.2%), Windsor County (11.8%) and the State of Vermont (15.3%). The highest proportions of youth and young adults resided in Rockingham (14.5%), Westminster (11.9%), and Londonderry (11.3%). The largest number of youth and young adults were located in Springfield (851), Rockingham (728), Westminster (383), and Chester (263) which together accounted for 80.1% of all youth and young adults in the Holt area. Most of the remaining towns were significantly below the mean.

**TABLE 5. POPULATION OF HOLT AREA BY AGE GROUP, 2009**

	Age 0 to 14		Age 15 to 24		Age 25 to 64		Age 65+		Total Population
	(n)	%	(n)	%	(n)	%	(n)	%	
Andover	68	16.3	24	5.8	216	51.9	98	23.6	416
Athens	53	16.1	31	9.4	203	61.5	38	11.5	330
Brookline	168	28.4	34	5.8	342	57.9	44	7.4	591
Chester	448	14.8	263	8.7	1,795	59.2	492	16.2	3,032
Grafton	51	11.0	29	6.2	301	64.7	69	14.8	465
Jamaica	282	27.1	59	5.7	612	58.7	79	7.6	1,042
Londonderry	291	16.9	194	11.3	986	57.3	220	12.8	1,721
Rockingham	922	18.3	728	14.5	2,558	50.9	698	13.9	5,027
Springfield	1,378	15.9	851	9.8	4,774	55.1	1,386	16.0	8,668
Townshend	164	15.5	101	9.5	599	56.6	175	16.5	1,058
Westminster	602	18.7	383	11.9	1,845	57.4	347	10.8	3,213
Weston	51	9.9	33	6.4	244	47.6	166	32.4	513
Windham	85	16.3	24	4.6	339	65.2	68	13.1	520
Holt Area	4,563	17.2	2,754	10.4	14,814	55.7	3,880	14.6	26,596
Windham County	7,056	16.2	5,780	13.2	24,237	55.6	5,712	13.1	43,627
Windsor County	9,090	16.0	6,678	11.7	31,525	55.4	8,415	14.8	56,921
Vermont	104,612	16.9	94,706	15.3	335,629	54.1	74,745	12.0	620,414

**Source:** U.S. Department of Commerce, Bureau of the Census, 2009 American Community Survey

### Adults

Adults age 25 to 64 made up 55.7% of the population in the Holt area. This rate was consistent with that of Windham County (55.6%), Windsor County (55.4%) and the State of Vermont (54.1%).

### Elderly

The percentage of the population age 65 and over in the Holt area (14.6%) was higher than that of Windham County (13.1%), Windsor County

(14.8%) and the State of Vermont (12.0%). Two towns had a particularly higher than average percent of elderly, including Andover (23.6%) and Weston (32.4%); however, the numbers of persons age 65 and over in these towns was small. Towns with the highest number of persons age 65 and over included Springfield (1,386), Rockingham (698), Chester (492) and Westminster (347). Together these four towns accounted for 75.0% of all persons age 65 and over in the Holt area.

**TABLE 6. POPULATION CHANGE OF HOLT AREA BY TOWN AMONG PERSONS AGE 65+, 2000 TO 2009**

	Population 2000	Population 2009	Change 2000 to 2009	% Change 2000 to 2009
Andover	110	98	(12)	-10.9%
Athens	25	38	13	52.0%
Brookline	54	44	(10)	-18.5%
Chester	446	492	46	10.3%
Grafton	108	69	(39)	-36.1%
Jamaica	109	79	(30)	-27.5%
Londonderry	255	220	(35)	-13.7%
Rockingham	716	698	(18)	-2.5%
Springfield	1,504	1,386	(118)	-7.8%
Townshend	169	175	6	3.6%
Westminster	293	347	54	18.4%
Weston	125	166	41	32.8%
Windham	57	68	11	19.3%
Holt Area	3,971	3,880	(91)	-2.3%
Windham County	5,336	5,712	376	7.0%
Windsor County	8,074	8,415	341	4.2%
Vermont	67,323	74,745	7,422	11.0%

Source: U.S. Department of Commerce, Bureau of the Census, 2009 American Community Survey



### Change in the Population Age 65+

The increase in the elderly population in the United States has been raised in discussions on health policy, including a need for geriatric health care and concern over controlling the increase in Medicare costs. Therefore, it is important to see if this trend is present in the Holt catchment area. As noted in *Table 6*, there was an increase in the elderly population from 2000 to 2009 for the State of Vermont (11.0%), Windham County (7.0%), and Windsor County (4.2%); but there was a small decrease in the elderly population in the Holt area of 91 persons (-2.3%). This decrease was in line with the overall decrease in population for the Holt area during that period of time (-2.8%).

**“People (elderly) are on their own who shouldn’t be. We try to stay connected with them.”**

#### – FOCUS GROUP PARTICIPANT

Focus group and interview participants expressed concerns about the aging population; elders were described as living alone and becoming increasingly disconnected from the community because they are not able to “get out every day” and do not have people coming to their homes. Additional challenges for the elderly included difficulty using the phone due to loss of hearing and lack of computer ownership or internet access. Some participants noted that many elders do not access services or resources because they have difficulty with or are overwhelmed by the paperwork for eligibility.

### Gender

According to the U.S. Census Bureau, in 2009 there were slightly more women in the Holt

**TABLE 7. PERCENT OF HOLT AREA POPULATION BY GENDER, 2009**

	% Male	% Female
Andover	48.3	51.7
Athens	50.6	49.4
Brookline	51.3	48.7
Chester	47.7	52.3
Grafton	54.4	45.6
Jamaica	45.2	54.8
Londonderry	50.1	49.9
Rockingham	49.7	50.3
Springfield	47.4	52.6
Townshend	49.4	50.6
Westminster	47.1	52.9
Weston	56.7	43.3
Windham	55.6	44.4
Holt Area	48.8	51.2
Windham County	48.8	51.2
Windsor County	48.6	51.4
Vermont	49.2	50.8

*Source:* U.S. Department of Commerce, Bureau of the Census, 2009 American Community Survey

catchment area (51.2% vs. 48.8%). This distribution is consistent with the State of Vermont (50.8% female), Windham County (51.2% female) and Windsor County (51.4% female) (*Table 7*). The distribution by gender varies within the Holt catchment area; several towns have a relatively larger percentage of males including Windham (55.6% male), Grafton (54.4% male) and Weston (56.7% male). Jamaica had a higher percentage of females (54.8% female).

## Race and Ethnicity

In 2009, the population of the Holt catchment area was 97.7% White, which was consistent with the State of Vermont (96.0% White), Windham County (96.1% White) and Windsor County (96.9% White)(Table 8). Only 617 or 2.3% of the Holt area population was a race other than White, which was less than that of Windham County (3.9%), Windsor County (3.1%) and the State of Vermont (4.0%).

## SOCIAL ENVIRONMENT:

### WHAT IS THE HOLT AREA LIKE?

The social environment as discussed in this report includes education, employment, poverty and crime. These factors have all been shown to affect the health of individuals and groups living in communities. For example, additional years of formal education strongly correlate with improved work and economic opportunities, reduced psychosocial stress, and healthier lifestyles.

**TABLE 8. POPULATION OF HOLT AREA BY RACE AND ETHNICITY, 2009**

	White		Black	Asian	Other/ Multiple	Non-white Subtotal	Hispanic (all races)	
	(n)	(%)	(n)	(n)	(n)	(%)	(n)	(%)
Andover	416	100.0	0	0	0	0.0	0	0.0
Athens	323	97.9	0	3	4	2.1	5	1.5
Brookline	589	99.7	0	1	1	0.3	17	2.9
Chester	2,991	98.6	0	16	25	1.4	0	0.0
Grafton	465	100.0	0	0	0	0.0	17	3.7
Jamaica	1,011	97.0	28	0	3	3.0	12	1.2
Londonderry	1,711	99.4	0	10	0	0.6	19	1.1
Rockingham	4,888	97.2	0	26	113	2.8	208	4.1
Springfield	8,405	97.0	31	4	228	3.0	179	2.1
Townshend	1,017	96.1	0	5	36	3.9	8	0.8
Westminster	3,153	98.1	0	13	47	1.9	16	0.5
Weston	503	98.1	4	6	0	1.9	0	0.0
Windham	507	97.5	0	9	4	2.5	0	0.0
Holt Area	25,979	97.7	63	93	461	2.3	481	1.8
Windham County	41,921	96.1	293	426	987	3.9	686	1.6
Windsor County	55,182	96.9	255	524	960	3.1	680	1.2
Vermont	595,731	96.0	4,820	6,757	13,106	4.0	8,434	1.4

**Source:** U.S. Department of Commerce, Bureau of the Census, 2009 American Community Survey.

**Note:** Column totals do not equal population due to duplication between Hispanic ethnicity and race. Non-White Subtotal includes Black, Asian, Other and Multiple Races.



Poverty can result in reduced access to health services and negative health consequences, such as increased risk of mortality, prevalence of medical conditions and disease incidence, depression, and poor health behaviors. The section below provides an overview of these social factors for the towns in the Holt area, Windham and Windsor counties, and Vermont. These factors influence the environment, behaviors, exposures and health outcomes in a given community.

### Community Assets

While it is common in a needs assessment report to focus on the ‘negative’ — areas in which there are significantly elevated risks, it is important to acknowledge community assets as well. Community assets have a relationship to the health status of communities. There are several approaches to defining assets, but one prominent approach has been that of Robert Putnam who suggests that communities high in what he calls social capital also enjoy high health status. Putnam’s fourteen indicators of social capital include such things as voting percentage, numbers of civic and social organizations in a community, and frequency of volunteer work.<sup>9</sup>

<sup>9</sup> Putnam, Robert. (2000) *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon & Schuster

The correlation between social capital and health status is evident in the relationship between social capital ratings and ratings on the Kids Count Index, developed by the Annie E. Casey Foundation. The ten indicators in the Kids Count Index includes such things as teen birth rates, percent of teens not attending school and not working, and child death rates. The “Kids Count” index of health and social measures for children and teens is highest in communities high in social capital. Vermont is third among all states in social capital (only North and South Dakota score higher). It is also fourth on the Kids Count Index (behind Massachusetts, Minnesota and New Hampshire).

“We have a strong, collaborative sense of community.”

– COMMUNITY MEMBER

Furthermore, focus group and interview participants cited numerous strengths of the communities surrounding Grafton, Vermont. Many community members identified the residents of the area and helping nature of the community (e.g., “culture of neighbor helping neighbor”) as strengths. A common theme of these discussions was the importance of knowing and helping your community because institutional or organizational resources and services are limited or not available in the immediate area. Community members were described as resourceful and self-sufficient. Some individuals noted that these traits also led to people declining or delaying assistance.

## Educational Attainment

Around one-third of adults (ages 25 years and above) in Windsor and Windham counties and the State of Vermont had a four-year college degree or higher, while about 9% completed less than a H.S. diploma (Table 9). This contrasts sharply with the population in the Holt catchment area where one-fourth (25.9%) of the population had a college degree and over

12% had not completed H.S. (12.4%). Educational attainment is also not distributed equally across the Holt catchment area. Athens (18.7%), Rockingham (15.3%), and Chester (14.0%) had a higher than average rate of individuals who did not complete H.S. Weston and Grafton had the highest proportions of individuals with college degrees at 52.0% and 37.9%, respectively.

**TABLE 9. EDUCATIONAL ATTAINMENT OF HOLT AREA AMONG INDIVIDUALS 25 YEARS OLD AND OVER, 2009**

	Population Age 25+	Less Than H.S. (%)	H.S. or GED (%)	Some College or Assoc. Degree (%)	College Degree (4+ years) (%)
Andover	324	8.3	33.3	27.5	30.9
Athens	246	18.7	41.9	15.0	24.4
Brookline	389	9.8	31.9	24.2	34.2
Chester	2,321	14.0	34.6	26.4	25.0
Grafton	385	11.2	24.9	26.0	37.9
Jamaica	701	6.8	34.4	25.5	33.2
Londonderry	1,236	12.2	32.8	23.8	31.1
Rockingham	3,377	15.3	38.6	21.9	24.2
Springfield	6,439	13.3	38.4	27.1	21.1
Townshend	793	12.7	31.4	25.1	30.8
Westminster	2,228	7.9	40.3	25.7	26.1
Weston	429	3.7	21.4	22.8	52.0
Windham	411	10.7	39.9	17.8	31.6
Holt Area	19,279	12.4	36.6	25.1	25.9
Windham County	30,791	8.9	33.5	24.3	33.3
Windsor County	41,153	9.3	32.5	24.1	34.0
Vermont	421,096	9.9	32.3	24.9	32.9

*Source: U.S. Department of Commerce, Bureau of the Census, 2009 American Community Survey*



Related to education, some focus group participants raised concerns regarding a large number of individuals who have low literacy levels. This challenge was described as affecting their self-confidence and ability to access services because they cannot read instructions or even complete eligibility paperwork.

“Large numbers of our community members are illiterate or functionally illiterate. They can’t write their name, address or phone number.”

– HEALTH SERVICE PROVIDER

### Income

In 2009, the median (middle value) household income in the Holt catchment area was \$45,276 per year. As noted in *Table 10*, this income level was comparable to that of Windham County (\$46,465) but lower than the median income of Windsor County (\$51,066) and Vermont (\$51,284). There was also an uneven distribution of income within the Holt catchment area. The median income for the towns ranged from a low of \$40,000–42,000 in Athens, Chester and Springfield to a high of \$50,000–55,000 in Brookline, Grafton, Jamaica, Townshend, Westminister, Andover and Weston. The highest median incomes were in Grafton (\$54,432) and Westminister (\$53,103).

**TABLE 10. MEDIAN HOUSEHOLD INCOME OF HOLT AREA BY TOWN, 2009**

Median Household Income (\$)	
Andover	51,667
Athens	42,750
Brookline	51,776
Chester	42,535
Grafton	54,432
Jamaica	50,375
Londonderry	48,587
Rockingham	45,343
Springfield	40,290
Townshend	50,147
Westminister	53,103
Weston	51,544
Windham	44,000
Holt Area	45,276
Windham County	46,465
Windsor County	51,066
Vermont	51,284

**Source:** U.S. Department of Commerce, Bureau of the Census, 2009 American Community Survey

## Poverty

The U.S. Census Bureau uses poverty thresholds to calculate official poverty population statistics. Individuals and families are classified as being in poverty if their income is less than their poverty threshold. In 2009, the poverty threshold for individuals was \$10,830. The poverty threshold for a family of four (two adults and two children under 18 years old) was \$22,050.

As displayed in *Figure 3*, the percentage of individuals in the Holt catchment area living below poverty was 11.8% in 2009. The comparable rate for families was much lower at 6.6%. A higher proportion of female-headed households with children were below poverty than other household types in the Holt catchment area at 23.2%. While this rate is

the highest for the Holt catchment area, it is actually considerably lower than the rate for female-headed households with children in the State of Vermont (33.5%).

The poverty rate is calculated as a percent of the population in a county or town that is below poverty. The 11.8% poverty rate in the Holt catchment area was above the poverty rate for both Windham County (10.9%) and Windsor County (9.8%) (*Table 11*). Within the Holt catchment area, the poverty rate for individual towns varied considerably. The poverty rate in six towns was between 7.0% and 9.0%, which was less than the area average. Weston had the lowest poverty rate of all the towns at 4.7%. The highest poverty rates in the area were found in Chester (15.6%), Jamaica (15.5%) and Rockingham (14.4%).

**FIGURE 3. PERCENTAGE OF PERSONS AND FAMILIES LIVING BELOW THE FEDERAL POVERTY LEVEL, 2009**



**Source:** U.S. Department of Commerce, Bureau of the Census, 2009 American Community Survey



Another way to look at poverty is the distribution of poverty within the Holt catchment area. This is calculated as the number of persons below poverty in a town as a percent of all persons below poverty in the Holt area. This gives us the geographic location and concentration of persons below poverty in the area.

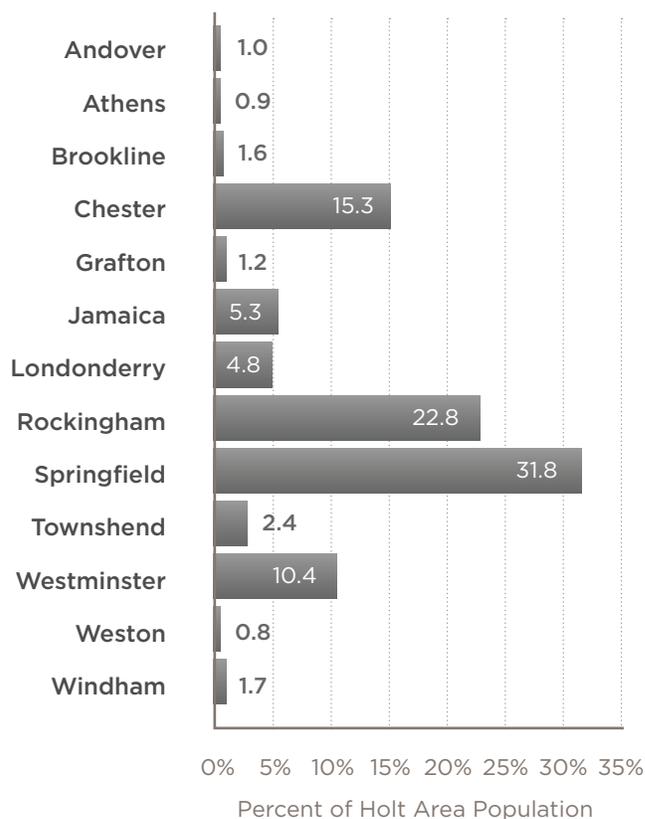
When poverty is examined in this manner, we find that close to one-third (31.8%) of all persons below poverty in the Holt area reside in Springfield (Figure 4); this is followed by Rockingham (22.8%), Chester (15.3%) and Westminster (10.4%). Combined, these four towns are home to 80.3% of all persons in poverty in the Holt area.

**TABLE 11. POVERTY RATE FOR INDIVIDUALS IN THE HOLT AREA BY TOWN, 2009**

	Individuals Below Poverty	Poverty Rate for Individuals(%)
Andover	32	7.7
Athens	29	8.8
Brookline	49	8.3
Chester	472	15.6
Grafton	38	8.2
Jamaica	162	15.5
Londonderry	147	8.6
Rockingham	704	14.4
Springfield	979	11.9
Townshend	74	7.1
Westminster	319	9.9
Weston	24	4.7
Windham	52	10.0
Holt Area	3,081	11.8
Windham County	4,636	10.9
Windsor County	5,504	9.8
Vermont	65,749	11.0

*Source:* U.S. Department of Commerce, Bureau of the Census, 2009 American Community Survey

**FIGURE 4. DISTRIBUTION OF POVERTY IN THE HOLT AREA BY TOWN, 2009**



*Source:* U.S. Department of Commerce, Bureau of the Census, 2009 American Community Survey

Because the poverty thresholds are the same across the 48 contiguous states, they do not take into account local costs of living. The living wage is an estimate of income needed for individuals and families to live at a minimal level in a specific area and includes typical expenses such as childcare, medical care, food, housing, and transportation. According to the Poverty in America's Living Wage Calculator the living wage for a family of four in Windham County and Windsor County was \$53,800.<sup>10</sup> This figure is 244% of the federal poverty level (\$22,050). It is important to note that while many residents in the Holt catchment area may not be classified as living in poverty, this does not indicate that they are not experiencing economic hardships.

Focus group and interview participants discussed a growing “divide between the haves and the have nots.” These economic differences were noted as a source of tension in the community between long term residents and newcomers from out of state, “Flatlanders”, or second homeowners with perceived higher incomes. Overcoming generational poverty was also noted as a significant challenge for many long time Vermont residents.

<sup>10</sup> The Living Wage Calculator can be found at <http://www.livingwage.geog.psu.edu>

## Employment

The daily work and workplace of an individual are associated with their exposure to physical and environmental risk factors. As shown in *Figure 5*, the distribution of employment by sector for the Holt catchment area was consistent with Windham and Windsor counties and the State of Vermont;

it was highly diversified into many industrial sectors with a focus on local-serving sectors (education, health and social services). The U.S. Census estimates indicate that in 2009 the education, health and social services sector employed approximately one-fourth of the civilian population, a rate that is comparable for Windham and Windsor counties and the State of Vermont. The addition of other services and public administration (government) brings the percentage employed in the education, health and social services sector to slightly less than half the civilian working population. The remainder of the civilian population was employed in a diversified set of industries without dominance by any one sector. Construction, manufacturing and retail trade had the largest employment, while agriculture and mining, transportation and utilities, information, and finance played a smaller role in the economy of the area.

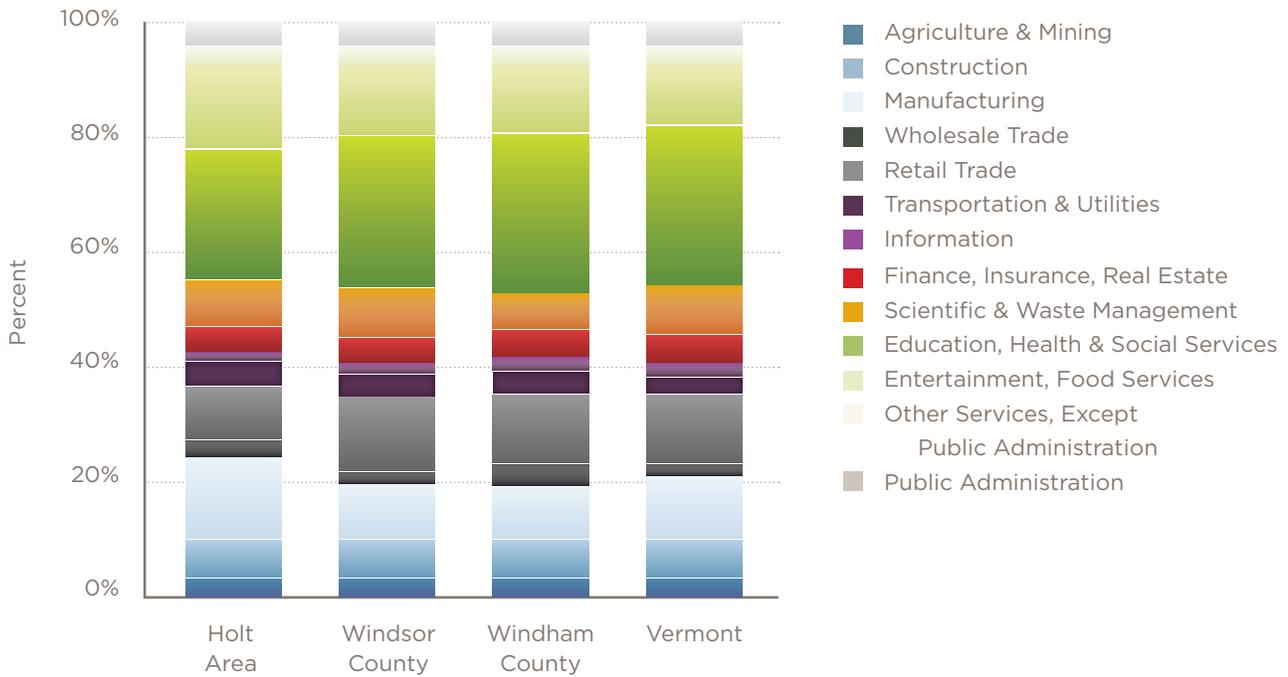
Some community members who were part of the focus group and interview process discussed the impact that the job market was having on individuals and families in the area. Several individuals mentioned fellow community members who were working multiple jobs to make ends meet or were struggling to find permanent positions with year round employment. Job opportunities were characterized as scarce, low paying, and primarily in the service industry. The impact of employment status on access to health insurance and an individual's mental health was also noted.

**“Jobs are scarce. If you can find one, it is seasonal.”**

— COMMUNITY MEMBER



**FIGURE 5. INDUSTRY SECTOR FOR CIVILIAN POPULATION AGE 16 YEARS AND OLDER, 2009**



*Source: U.S. Department of Commerce, Bureau of the Census, 2009 American Community Survey*

## Unemployment

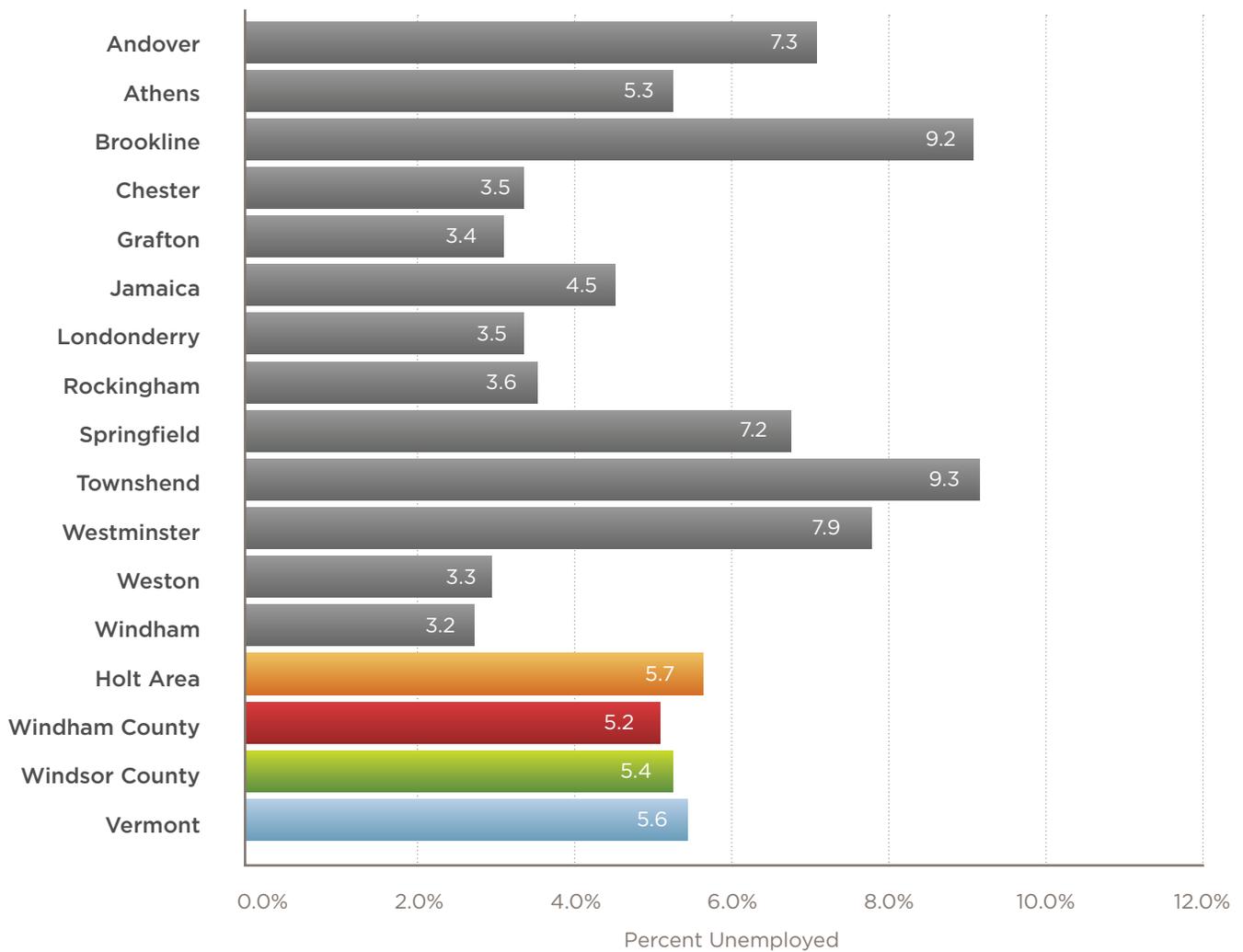
In 2009, the Holt catchment area as a whole had an unemployment rate<sup>11</sup> of 5.7%, which was higher than that of Windham County (5.2%) and Windsor County (5.4%) and comparable to the rate for the State of Vermont (5.6%). However, as seen in *Figure 6*, there were considerable disparities in the rate of unemployment between towns in 2009. Eight of the towns had relatively low or average unemployment rates between 3.2% and 5.3%. Five towns experienced relatively high unemployment rates ranging from 7.2% to 9.3%. These towns included Brookline, Townshend, Westminster, Andover, and Springfield.

<sup>11</sup> The unemployment rate is calculated as the percent of civilian persons age 16 and above who are in the workforce (looking for work) but who are not employed. It excludes persons who have stopped looking for work but who would work if it was available.

The following section considers the work status of all civilian persons. Categories include working full time/full year<sup>12</sup>, working part-time/part year, unemployed, or not in the workforce.<sup>13</sup> The total number of persons in the Holt area that are not in the labor force is 7,433. This includes persons who choose not to work or cannot work for various reasons such as retirement or disability, but also

includes persons who would work but have given up looking for work. This number represents about one-third (34.2%) of the adult population over age 16 in the Holt catchment area. The rate of persons not in the workforce for the Holt area is higher than that of the State of Vermont (31.0%) and Windham County (31.5%) but comparable to the rate for Windsor County (33.1%) (Figure 6).

**FIGURE 6. UNEMPLOYMENT RATE OF HOLT AREA BY TOWN, 2009**



**Source:** U.S. Department of Commerce, Bureau of the Census, 2009 American Community Survey

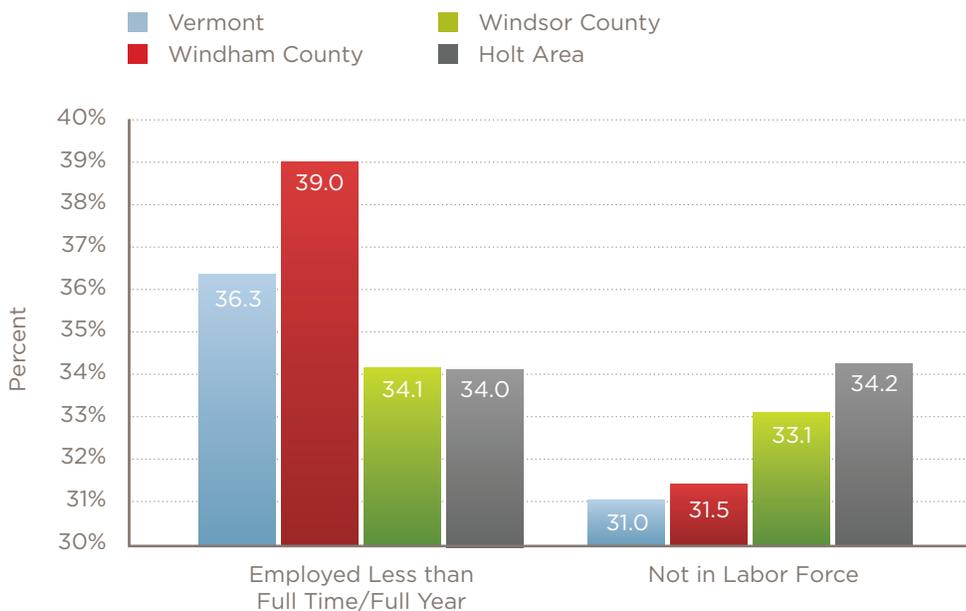


Also considered here is the rate of full-time employment for those persons age 16 and above who are employed. Part-time employment is often desired by the employee but in other cases part-time/part-year employment can be considered “underemployment” if the person would actually prefer full-time/full-year employment. The rate of less than full-time/full year employment can also impact the income and poverty rate for the area. There were 4,586 persons age 16 and above employed less than full-time/full year in the Holt area. As displayed in *Figure 7*, the percentage in the Holt area was 34.0%, which was lower than that of Windham County (39.0%) and the State of Vermont (36.3%) but comparable to Windsor County (34.1%).

<sup>12</sup> Full-Time/Full-Year is defined here as the civilian workforce over age 16 working over 32 hours per week and over 40 weeks per year. Part-Time/Part-Year is the remainder with fewer hours per week and/or fewer weeks per year.

<sup>13</sup> Persons not in the workforce include retired persons, disabled persons, students, unemployed persons who have stopped looking for work, and any other persons who do not work for other reasons.

**FIGURE 7. PERCENTAGE OF PERSONS AGE 16 YEARS AND OLDER WITH LESS THAN FULL-TIME EMPLOYMENT OR NOT IN LABOR FORCE, 2009**



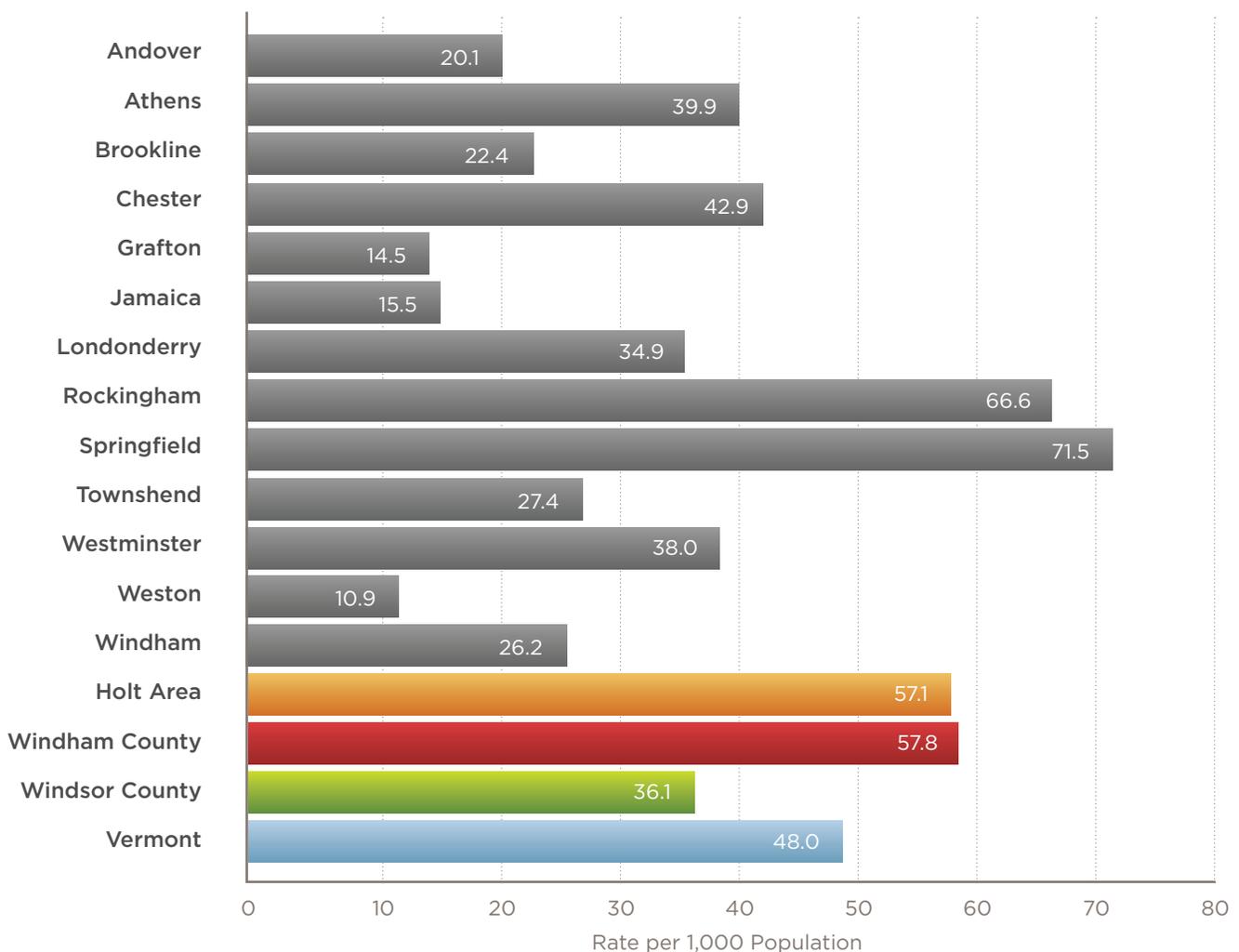
**Source:** U.S. Department of Commerce, Bureau of the Census, 2009 American Community Survey

## Crime and Violence

The crime rate is the number of criminal offenses per 1,000 persons residing in the area. As seen in *Figure 8*, the crime rate for the Holt catchment area was 57.1 criminal cases per 1,000 persons, which is comparable to Windham County but much higher than that of Windsor County. The higher crime rate in the Holt area can be attributed to higher than average crime rates in the towns of Rockingham (66.6 per 1,000) and Springfield (71.5 per 1,000),

which are the two largest towns in the Holt area accounting for half its population. The remainder of the towns have fairly low crime rates below 43.0 per 1,000 population. Grafton, Jamaica and Weston had the lowest crime rates at less than 15.5 per 1,000 population. Destruction of property, followed by larceny and burglary, were the most frequent types of offenses committed in the region.

**FIGURE 8. CRIMINAL OFFENSE RATE PER 1,000 POPULATION IN HOLT AREA BY TOWN, 2010**



*Source: County Health Rankings, <http://www.countyhealthrankings.org/vermont>*



“I am scared to go certain places alone because I don’t like what could happen there. My friends have been hurt.”

– YOUTH COMMUNITY MEMBER

Young people participating in the focus groups expressed concerns about a perceived increase in violence among youth. When asked about the reason behind this violence, youth noted feelings of anger and frustration and a lack of hope for the future. Other community members expressed concerns about the risk of an increase in violence in the future as economic conditions stay the same or do not improve.

### PHYSICAL ENVIRONMENT: WHAT IS THE HOLT AREA BUILT COMMUNITY LIKE?

The physical environment that is structured around us influences behaviors and affects individuals’ and families’ access to goods and services. While having a house or apartment meets a basic need of shelter, the quality and condition of this home may have negative impacts on chronic health conditions, such as asthma. Adequate environmental quality in terms of good air and water quality are prerequisites for good health. Poor air or water quality can be particularly detrimental to the very young, the old, and those with chronic health conditions. As obesity rates have increased over the past decades, interest in providing opportunities for physical activity and looking at the local food environment as a potential contributor to obesity has increased. Commute time to work and access to green space impact an individual’s and family’s opportunity for physical activity.

The variety, price, and availability of healthy foods in the local environment can play a role in types of food consumed. Likewise, the availability of liquor may influence alcohol-related behaviors and health outcomes.

The rural nature of the Holt catchment area and the winter weather were noted by focus group and interview participants as significant challenges. Rural communities lack a compact physical structure and tend to have low population density. This results in long distances between households and services thus presenting physical challenges to accessing services. Community members noted that when the snowy and cold winters in Vermont were added, getting to school, jobs and services was difficult.

“Winters here are brutal. The fuel assistance checks provide a little help but not enough to buy the minimum amount of fuel to keep warm.”

– COMMUNITY MEMBER

The winter weather brings opportunities and challenges to Vermonters. Towns in the Holt catchment area contain or are located near opportunities for winter recreational activities like skiing and snowmobiling. The winter tourism season brings jobs to the region. The winter also brings cold temperatures and the increased cost of home heating. With the increase in oil prices this expenditure is an increasingly large percentage of a household’s budget. Focus group and interview participants shared concerns about individuals making choices in their spending among heat, food and medications, as they are not able to afford all.

## Housing

The lack of quality, affordable housing was noted as a health issue by several participants in the focus groups and interviews. Discussions were held about the mental and physical impacts housing has on the individual and family. Participants noted the stress related to finding and paying for long-term housing with increased rents, increasingly stringent bank lending policies and increased costs of living when a household's finances are limited. In addition, participants described the lack of quality housing as many housing opportunities are not well insulated for Vermont winters, lack heat, may have mold, mildew or other allergens or are generally not well maintained.

“It is hard to see a \$5 million home vacant and only visited twice a year when I can't find a roof that doesn't leak.”

– COMMUNITY MEMBER

“In late August 2011, Vermont was impacted by flooding and winds from Hurricane Irene. While clean up and repair efforts have continued, it is expected that some residents will be impacted by unseen mold and allergens in their homes.”

– LONG-TERM RECOVERY  
COMMITTEE MEMBER

### *Age of Housing*

The proportion of housing built prior to 1970 in the Holt area was 59.4%, which is higher than that of Windham County (47.8%), Windsor County (48.7%) and the State of Vermont (48.5) (*Table 12*). Housing built prior to 1970 (which has not been rehabilitated) is likely to contain lead paint, which is known to have serious health effects on young children. Of the 9,150 units in the Holt area built before 1970, one-third were located in Springfield and 22% were located in Rockingham. The Holt area had very little new construction in the last 10 years with only 4.2% of units constructed from 2000 to 2009. All the towns experienced this modest rate of new construction except for Rockingham, which had no new construction since 2000.



**TABLE 12. NUMBER AND AGE OF HOUSING UNITS IN HOLT AREA BY TOWN, 2009**

	Housing Units		Built before 1970		Built 2000 or later	
	(n)	(n)	(%)	(n)	(%)	
Andover	369	142	38.5	21	5.7	
Athens	199	88	44.2	12	6.0	
Brookline	280	143	51.1	33	11.8	
Chester	1,820	941	51.7	116	6.4	
Grafton	480	195	40.6	28	5.8	
Jamaica	1,045	456	43.6	62	5.9	
Londonderry	1,368	603	44.1	63	4.6	
Rockingham	2,452	2,031	82.8	0	0.0	
Springfield	4,351	3,009	69.2	167	3.8	
Townshend	720	351	48.8	42	5.8	
Westminster	1424	813	57.1	55	3.9	
Weston	542	277	51.1	29	5.4	
Windham	365	101	27.7	25	6.8	
Holt Area	15,415	9,150	59.4	653	4.2	
Windham County	29,388	14,046	47.8	1,574	5.4	
Windsor County	33,911	16,508	48.7	1,957	5.8	
Vermont	319,364	154,908	48.5	22,843	7.2	

**Source:** U.S. Department of Commerce, Bureau of the Census, 2009 American Community Survey

### Rental Housing

Approximately one-fourth of the 11,174 occupied housing units in the Holt catchment area were renter-occupied (2,760 housing units) and three-fourths (8,413 housing units) were owner-occupied. The percentage of rental units in the region was lower than that of Windsor County (26.5%), Windham County (30.5%), and the State of Vermont (28.2%). Rockingham (33.5%) and

Springfield (30.7%) had the highest percentage of rental units. These are also the two largest towns in terms of population and accounted for 1,812 rental units, or two-thirds (65.6%) of all rental units in the Holt catchment area. The other towns had fewer rental units, but no town was without rental housing (*Table 13*).

**TABLE 13. HOUSING UNITS, OWNER AND RENTER OCCUPIED IN HOLT AREA BY TOWN, 2009**

	Occupied Housing Units		Owner-Occupied Units		Rental-Occupied Units	
	(n)	(n)	(%)	(n)	(%)	
Andover	174	163	93.7	11	6.3	
Athens	138	121	87.7	17	12.3	
Brookline	215	173	80.5	42	19.5	
Chester	1,362	1,078	79.1	284	20.9	
Grafton	229	195	85.2	34	14.8	
Jamaica	407	329	80.8	78	19.2	
Londonderry	752	619	82.3	133	17.7	
Rockingham	2,019	1,343	66.5	676	33.5	
Springfield	3,705	2,569	69.3	1,136	30.7	
Townshend	474	401	84.6	73	15.4	
Westminster	1,234	1,022	82.8	212	17.2	
Weston	249	207	83.1	42	16.9	
Windham	216	193	89.4	23	10.6	
Holt Area	11,174	8,413	75.3	2,761	24.7	
Windham County	18,643	12,949	69.5	5,694	30.5	
Windsor County	24,398	17,923	73.5	6,475	26.5	
Vermont	250,375	179,710	71.8	70,665	28.2	

**Source:** U.S. Department of Commerce, Bureau of the Census, 2009 American Community Survey



### Housing Cost

Housing costs differed widely between owner units with a mortgage, owner units without a mortgage and rental units. Housing costs for owners is a combination of the mortgage (if there is one), taxes, insurance and utilities. Rents on the other hand do not include the cost of utilities (unless the cost has been included in the rent). The cost of housing for the renter would likely be higher with the addition of utilities if they were not included in the rent.

As noted in *Table 14*, the cost of housing in the Holt catchment area for owners was lower than that of Windham County, Windsor County and the State of Vermont; the monthly housing cost for owners with a mortgage was \$1,337/month and \$546/month for those owners without a mortgage. The housing cost for owners did not differ greatly between the towns.

The monthly median rent in the Holt catchment area was \$612 (*Figure 9*) and varied widely by town, ranging from a low of \$398 in Townshend to a high of \$861 in Brookline.

### Foreclosures

The recent economic downturn and housing crisis saw a significant increase in housing foreclosures across the country. Yet, according to RealtyTrac, Vermont has one of the lowest foreclosure rates in the country. At one foreclosure for every 12,902 housing units, Vermont is ranked 49th in the United States, which has an overall rate of one foreclosure for every 662 housing units.

**TABLE 14. HOUSING COST FOR OWNERS IN HOLT AREA BY TOWN, 2009**

	Median Owner Cost (with mortgage)	Median Owner Cost (without mortgage)
Andover	\$1,232	\$650
Athens	\$1,083	\$465
Brookline	\$1,221	\$578
Chester	\$1,293	\$540
Grafton	\$1,275	\$453
Jamaica	\$1,386	\$598
Londonderry	\$1,403	\$630
Rockingham	\$1,342	\$595
Springfield	\$1,308	\$491
Townshend	\$1,348	\$643
Westminster	\$1,436	\$491
Weston	\$1,484	\$700
Windham	\$1,331	\$544
Holt Area	\$1,337	\$546
Windham County	\$1,444	\$571
Windsor County	\$1,424	\$591
Vermont	\$1,442	\$563

**Source:** U.S. Department of Commerce, Bureau of the Census, 2009 American Community Survey

**Note:** Owner housing costs includes mortgage (if there is one), taxes, insurance, and utilities.

## Transportation

In 2009, around 80–85% of workers in the Holt catchment area traveled to and from work by car (*Table 15*). About three-quarters traveled alone and another 10% carpooled. Less than 1% used public transportation to get to work. A fair amount of workers (between 10% and 23%, depending on the town) worked from home.

The most significant reason for less than 1% of the working population using public transportation is the limited availability of this service within the Holt catchment area. Connecticut River Transit provides in-town service for Bellows Falls and Springfield. In both communities, stops are located at or near many of the sites of local and regional health and human service providers.

**FIGURE 9. MEDIAN RENT IN HOLT AREA BY TOWN, 2009**



**Source:** U.S. Department of Commerce, Bureau of the Census, 2009 American Community Survey

**Note:** NA = data suppressed — too few cases. Rents do not include utilities unless included in the rent.



There is a shuttle that runs from Bellows Falls to Springfield in the morning and Springfield to Bellows Falls in the afternoon. Four times a day, a commuter service runs from Bellows Falls through Westminster and into Brattleboro. To access Brattleboro Memorial Hospital, riders may use an in-town bus service. Public transportation is not available in the other towns within the Holt area.

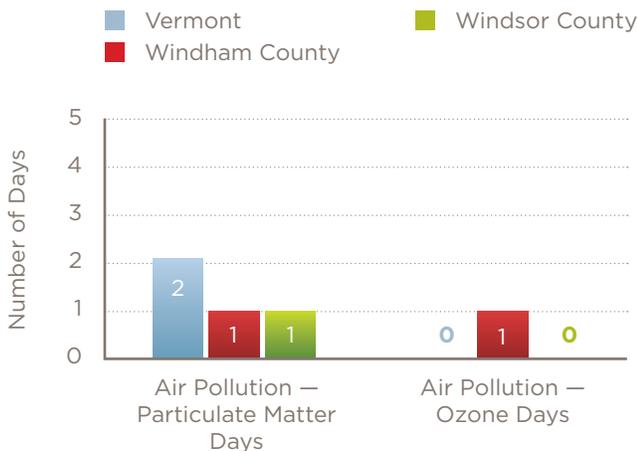
The impact of a lack of public transportation was discussed throughout the focus groups and interviews. Without frequent and reliable public transportation, many community members have limited access to employment and services. All discussions recognized the high costs and resources needed to provide transportation services in rural areas.

**TABLE 15. MEANS OF TRANSPORTATION TO WORK FOR WORKERS (AGED 16 AND ABOVE) IN HOLT AREA BY TOWN, 2009**

	Total Workers (age 16+)	Car Alone (%)	Carpool (%)	Subtotal Car (%)	Public Transport (%)	Other/Work at Home (%)
Andover	226	65.5	8.4	73.9	2.2	23.9
Athens	157	77.7	4.5	82.2	0.0	17.8
Brookline	316	81.0	2.5	83.5	0.0	16.5
Chester	1,614	75.1	7.4	82.5	0.4	17.0
Grafton	270	64.1	15.9	80.0	0.0	20.0
Jamaica	513	74.1	7.6	81.7	0.0	18.3
Londonderry	886	71.3	10.3	81.6	0.0	18.4
Rockingham	2,437	74.3	10.9	85.1	0.0	14.9
Springfield	4,039	79.4	13.8	93.2	0.9	5.8
Townshend	493	65.5	11.0	76.5	0.0	23.5
Westminster	1,622	72.1	16.4	88.5	0.7	10.9
Weston	191	50.8	10.5	61.3	1.6	37.2
Windham	225	76.4	4.9	81.3	0.0	18.7
Holt Area	12,990	74.7	11.6	86.2	0.5	13.3
Windham County	22,456	72.5	11.5	83.9	0.4	15.8
Windsor County	28,780	76.3	10.6	86.9	0.7	12.5
Vermont	320,723	74.4	10.7	85.1	0.9	14.1

*Source: U.S. Department of Commerce, Bureau of the Census, 2009 American Community Survey*

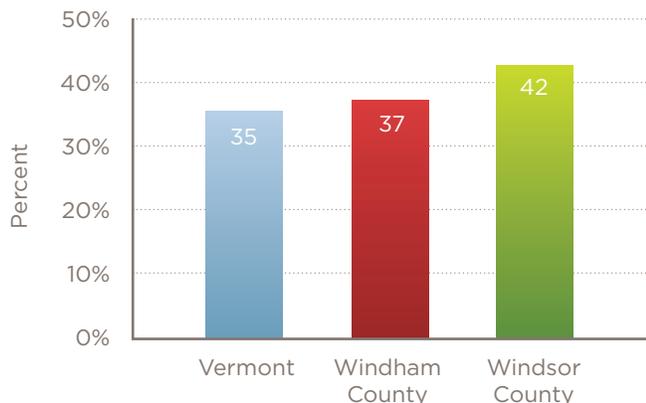
**FIGURE 10. AIR QUALITY MEASURED BY NUMBER OF DAYS PER MONTH WITH HIGH PARTICULATE MATTER AND OZONE, 2008**



**Source:** County Health Rankings, <http://www.countyhealthrankings.org/vermont>

**Note:** Vermont and Windsor County had zero air pollution ozone days

**FIGURE 11. POPULATION WITH ACCESS TO HEALTHY FOODS (GROCERY STANDS AND FARMER’S MARKETS), 2010**



**Source:** County Health Rankings, <http://www.countyhealthrankings.org/vermont>

“You have to have a car to get around. Many people don’t have cars or if they do, they can’t afford to put gas in it.”

— HUMAN SERVICE PROVIDER

### Air quality

Air quality is measured as the number of days per month with high particulate matter or ozone in the air. The rates for Windham County and Windsor County were all low with 0–1 days per month (*Figure 10*).

### Access to Healthy Foods, Liquor Stores and Recreational Outlets

#### Healthy Foods

Access to healthy foods links the food environment to consumption of healthy food and overall health outcomes. The County Health Rankings reviewed economic data from the U.S. Census Bureau and determined the percentage of zip codes of an area that included at least one healthy food outlet. A healthy food outlet was defined as a grocery store of at least four employees or a produce stand/farmer’s market. In 2010, 37% of the zip codes in Windham County and 42% in Windsor County had a healthy food outlet (*Figure 11*). These rates were slightly greater than Vermont as a whole at 35%. Focus group and interview participants noted a shortage of grocery stores in the area making it difficult for households to access healthy and/or affordable food.



“Grocery stores are kind of far away.”

– COMMUNITY MEMBER

“There are a growing number of farmer’s markets. They take food stamps. You just need to know what to do with the vegetables.”

– HUMAN SERVICE PROVIDER

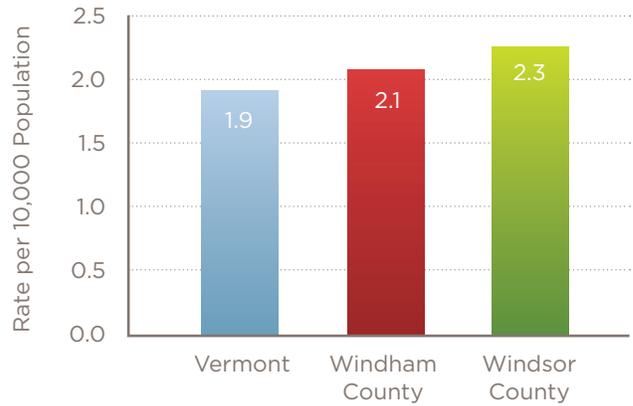
### Liquor Stores

As displayed in *Figure 12*, there were slightly more liquor stores per 10,000 population in Windham County (2.1 per 10,000) and Windsor County (2.3 per 10,000) compared to the State of Vermont (1.9 per 10,000).

### Recreation

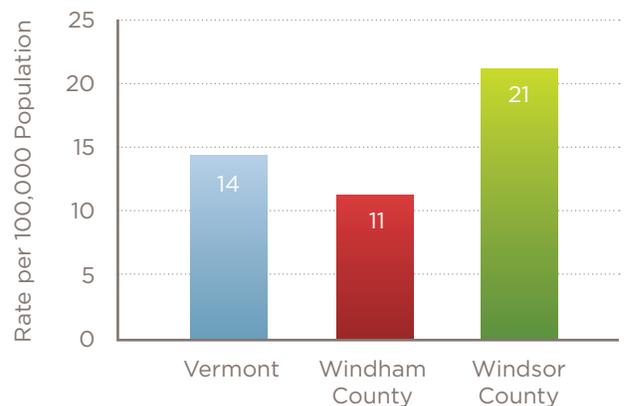
The density of recreation and fitness facilities in the two counties was very different, with approximately 11 recreational facilities available per 100,000 people in Windham County while there were 21 recreational facilities per 100,000 people in Windsor County. This compared with an average of 14 recreational facilities per 100,000 people for the State of Vermont (*Figure 13*).

**FIGURE 12. NUMBER OF LIQUOR STORES PER 10,000 POPULATION, 2010**



**Source:** County Health Rankings, <http://www.countyhealthrankings.org/vermont>

**FIGURE 13. RATE OF RECREATIONAL FACILITIES PER 100,000 POPULATION, 2008**



**Source:** County Health Rankings, <http://www.countyhealthrankings.org/vermont>

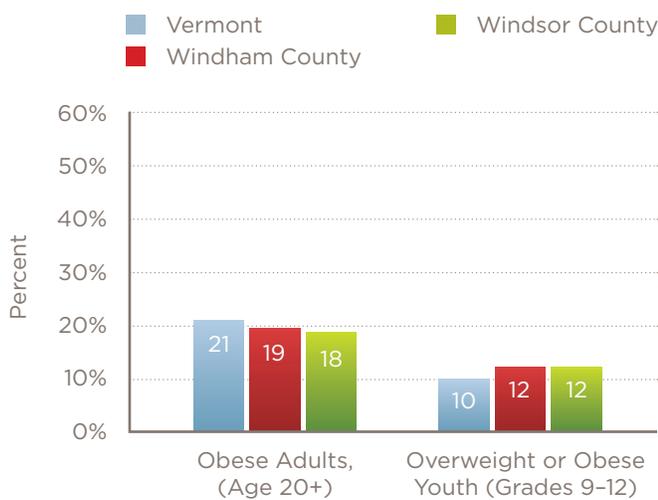
## LIFESTYLE BEHAVIORS

Lifestyle factors and individual behaviors are important determinants of risk for chronic diseases and other health conditions. This section examines several aspects of individuals' personal health behaviors and risk factors (including obesity, physical activity, diet, tobacco, and alcohol consumption) that result in the leading causes of morbidity and mortality among Windham County, Windsor County and Vermont residents. Data for this section are largely drawn from the 2008 BRFSS and YRBS surveys. It should be noted that numerous factors are associated with health behaviors ranging from more individual issues such as awareness, motivation, self-efficacy in accomplishing the action, and attitude to larger social and community factors such as adequate resources, the built environment (e.g., presence of sidewalks, adequate lighting, green space) to community and social norms around the behavior.

## Overweight and Obesity

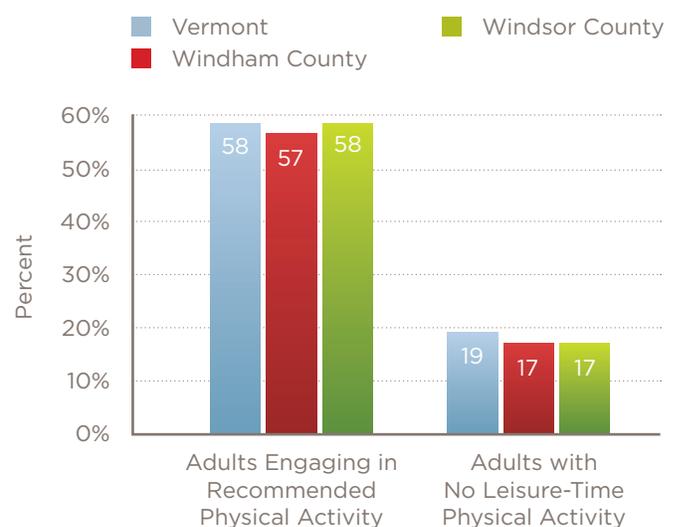
Overweight and obesity are important risk factors for a number of chronic diseases, such as diabetes and heart disease. Intertwined with poor diet and limited physical activity, overweight and obesity is considered a significant health concern nationally. Given national concerns over increasing rates of overweight and obesity across the U.S. population, the BRFSS survey administered a series of questions aimed at determining the current weight and weight management behaviors of county residents. As presented in *Figure 14*, the rate of overweight and obese adults (20 years and older) in Windsor and Windham counties was between 18–19% which is slightly better than that of the State of Vermont (21%). The rate of overweight and obese youth in grades 9 to 12 was lower than the adult rate in Windsor and Windham counties at 12% but higher than the statewide rate of 10%.

**FIGURE 14. PERCENTAGE OF OVERWEIGHT AND OBESE ADULTS AND YOUTH, 2008**



**Source:** *Health of Vermonters Health Status Report 2008*, [http://healthvermont.gov/pubs/documents/HealthStatus-Rpt2008\\_appendix.pdf](http://healthvermont.gov/pubs/documents/HealthStatus-Rpt2008_appendix.pdf)

**FIGURE 15. PHYSICAL ACTIVITY AMONG ADULTS, 2008**



**Source:** *Health of Vermonters Health Status Report 2008*, [http://healthvermont.gov/pubs/documents/HealthStatus-Rpt2008\\_appendix.pdf](http://healthvermont.gov/pubs/documents/HealthStatus-Rpt2008_appendix.pdf)



## Physical Activity

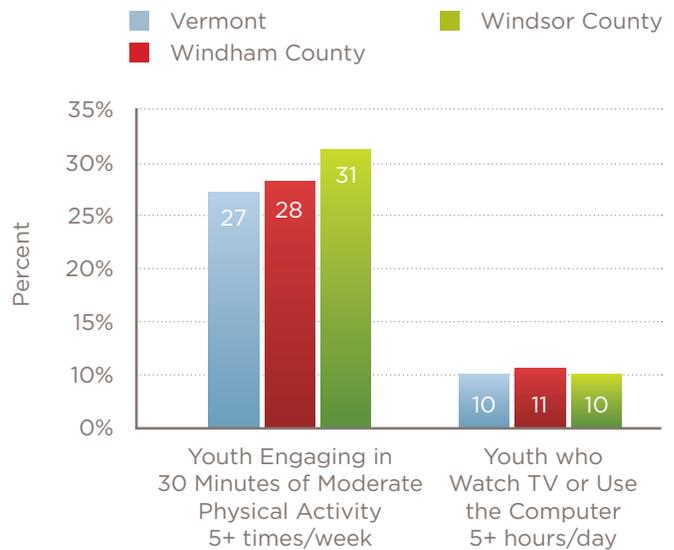
The BRFSS assesses engagement in physical activity by asking respondents about whether they participated in any activities other than their regular job for the purpose of exercise. As displayed in *Figure 15*, for Windsor and Windham counties, between 57–58% of respondents reported engaging in some type of activity for exercise other than their regular job, which is consistent with the statewide average. Between 17% and 19% of adults reported that they do not engage in any leisure time physical activity.

When examining physical activity among youth, results from the 2008 YRBS indicated that between 28% and 31% of youth in grades 9 to 12 in Windham and Windsor counties reported engaging in moderate activity at least 5 times per week. Between 10–11% of these young people reported watching TV or using the computer over 5 hours per day. Both rates are at or near the statewide average (*Figure 16*).

## Healthy Eating

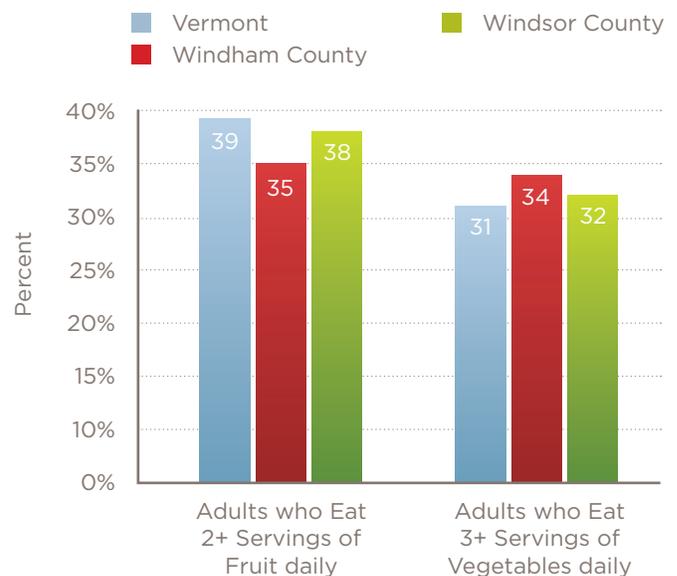
Diet, particularly fruit and vegetable intake, is another key aspect of maintaining a healthy lifestyle. Healthy diet has been associated with lower rates of overweight and obesity, as well as, chronic diseases such as diabetes and cardiovascular disease. Findings from the BRFSS and YRBS revealed that many area residents have difficulty consuming the recommended level of fruits and vegetables. Research has shown that numerous factors can contribute to people’s dietary behaviors. These factors include a lack of nutritional knowledge and time for healthy preparation, lack of access to fresh, affordable products as well as cultural and social norms. The following section provides an overview of the findings concerning residents’ behaviors around diet and nutrition.

**FIGURE 16. PHYSICAL ACTIVITY AMONG YOUTH GRADES 9-12, 2005**



**Source:** *Health of Vermonters Health Status Report 2008*, [http://healthvermont.gov/pubs/documents/HealthStatus-Rpt2008\\_appendix.pdf](http://healthvermont.gov/pubs/documents/HealthStatus-Rpt2008_appendix.pdf)

**FIGURE 17. FRUIT AND VEGETABLE CONSUMPTION AMONG ADULTS, 2002, 2003 AND 2005**

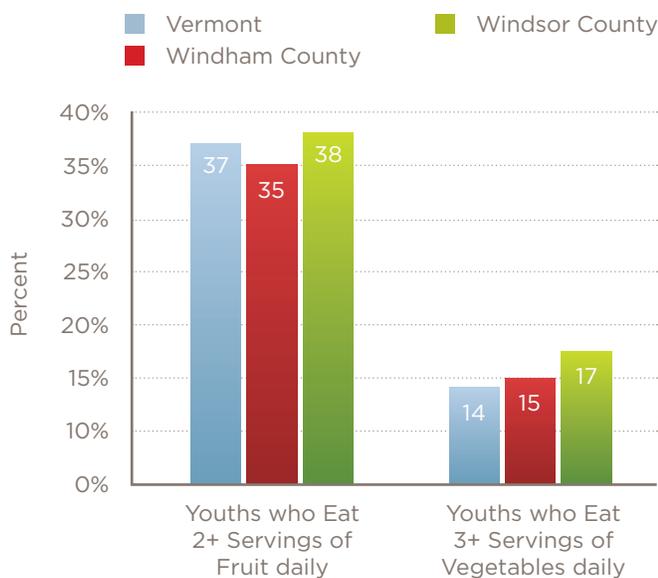


**Source:** *Health of Vermonters Health Status Report 2008*, [http://healthvermont.gov/pubs/documents/HealthStatus-Rpt2008\\_appendix.pdf](http://healthvermont.gov/pubs/documents/HealthStatus-Rpt2008_appendix.pdf)

In 2008, respondents of the most recent BRFSS were asked to indicate how many servings of fruits and vegetables they ate per day. *Figure 17* presents the proportion of respondents in Windham County, Windsor County and Vermont who ate two or three or more servings of fruits or vegetables per day. Across these three geographic areas, approximately two-thirds of respondents did not meet the servings recommended.

Youth in grades 9 to 12 report lower rates of eating fruits or vegetables than adults (*Figure 18*). Across the three geographies between 14–17% of youth in grades 9 through 12 reported eating three or more servings of vegetables per day indicating that over 80% of youth are at risk of not getting proper nutrition on a daily basis.<sup>14</sup>

**FIGURE 18. FRUIT AND VEGETABLE CONSUMPTION AMONG YOUTH (GRADES 9-12), 2002, 2003, AND 2005**



**Source:** *Health of Vermonters Health Status Report 2008*, [http://healthvermont.gov/pubs/documents/HealthStatus-Rpt2008\\_appendix.pdf](http://healthvermont.gov/pubs/documents/HealthStatus-Rpt2008_appendix.pdf)

### Food Insecurity

Food insecurity impacts a family and individuals ability to eat healthy. Hunger Free Vermont reviewed US Census data from 2007 to 2009. The results of their review indicated 1 in 7 households in Vermont and 1 in 5 children in Vermont were food insecure, meaning that there was a lack of access to enough food to fully meet basic dietary requirements due to lack of financial resources. Numerous focus group and interview participants expressed concerns about a perceived increasing number of children and individuals who appear to be hungry. While the existing food shelves were noted as importance resources, the discussions focused on these resources being unable to meet all of the need in the community. In Vermont, food insecurity is influenced by a lack of affordable housing, low wages, high unemployment, a decrease in the number of local, affordable grocery stores and a lack of public transportation.

In 2010, over 7,000 residents in each county participated in 3SquaresVT (formerly known as Food Stamps). Across Vermont, from 2009 to 2010 there was a 7.0% increase in the number of residents participating in 3SquaresVT. The increase in Windham County was the same as that of the State at 7.0%, while there was a 9.5% increase in Windsor County (*Table 16*).

<sup>14</sup> The survey responses reported here are for two or three or more servings per day. The daily recommended servings of fruits and vegetables is actually higher at five.



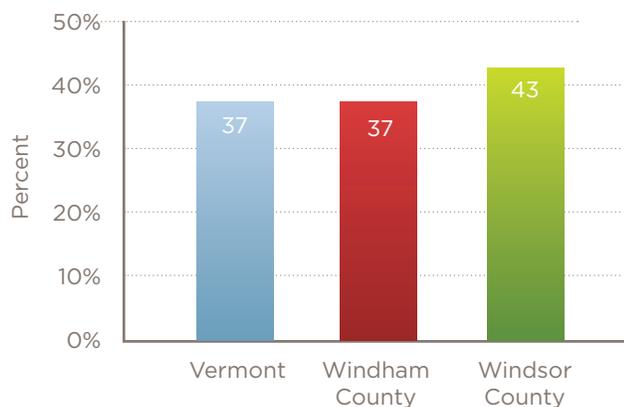
**TABLE 16. PARTICIPATION IN FOOD STAMPS (3SQUARESVT), 2009 TO 2010**

	Windham County	Windsor County	Vermont
Number of county residents participating in 3SquaresVT	7,217	7,595	88,567
County-wide increase in 3SquaresVT participation from 2009 to 2010	7.0%	9.5%	7.0%

*Source: Vermont Economic Services Division, Vermont Department of Children and Family, 2009, 2010 data analysis completed by Hunger Free Vermont*

The need for access to affordable, healthy food is also demonstrated by the percentage of Kindergarten through 12th grade students who are eligible for free or reduced lunch. At the beginning of the 2010–2011 school year, 37% of all Vermont Kindergarten through 12th grade students were eligible for free or reduced lunch (*Figure 19*). In Windsor County the percentage was the same as that of the State, while in Windham County the percentage was higher at 43%.

**FIGURE 19. PERCENTAGE OF STUDENTS ELIGIBLE FOR FREE OR REDUCED PRICE SCHOOL LUNCH, 2010**



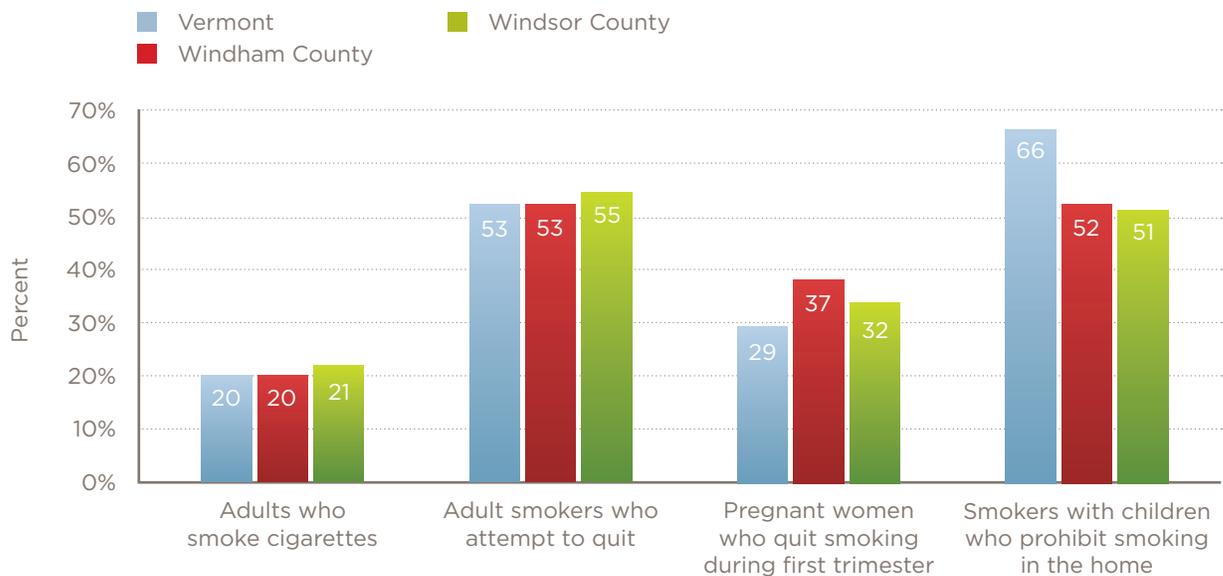
*Source: Vermont Department of Education, 2010*

### Alcohol, Tobacco and Other Drugs

*Figure 20* demonstrates that 20% of Vermont adults reported being current cigarette smokers, which is similar to the rate of youth in grades 9 to 12 (18%). Approximately half of all adults who are or were smokers attempted to quit smoking. About one-third of pregnant women who smoked reported quitting during the first trimester of pregnancy; the rate in Windham County (37%) was the highest and well above the rate for the State as a whole (29%). About half of adult smokers with children reported that they prohibit smoking in the home; the rates for Windham County (52%) and Windsor County (51%) were well below the overall rate for the State (66%).

Some focus group and interview participants discussed their concerns about alcoholism and substance abuse in their communities. Several individuals noted their perceptions that alcohol is being used by community members to manage their stress or depression. Others expressed concerns about increasing amounts of substance abuse and drug dealing of methamphetamine and heroin as a strategy to improve an individual’s economic situation.

**FIGURE 20. TOBACCO USE AMONG ADULTS, 2000-2005**



*Source: Health of Vermonters Health Status Report 2008, [http://healthvermont.gov/pubs/documents/HealthStatusRpt2008\\_appendix.pdf](http://healthvermont.gov/pubs/documents/HealthStatusRpt2008_appendix.pdf)*

“People are self medicating with alcohol.”

– COMMUNITY MEMBER

**HEALTH OUTCOMES:  
WHY ARE INDIVIDUALS IN THE  
HOLT AREA BEING HOSPITALIZED  
AND WHAT ARE THEY DYING FROM?**

The rest of this report focuses on specific health issues for the Holt catchment area, with an emphasis on differences in rates of health behaviors, incidence, illness, and death. In this section, the leading causes for hospitalization and death are examined for infants, children, adults, and the elderly. The overall impact of various causes of illness and death are examined using epidemiologic evidence regarding hospitalization and mortality rates as they vary geographically.



## General Health Status

To assess self-reported health status, the BRFSS survey included four questions developed and validated by the CDC called the Health Related Quality of Life scale. These measures are useful at the local, state, and national level for identifying health disparities, tracking population trends, and building broad coalitions around a measure of population health compatible with the World Health Organization’s definition of health, “Health is a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity.”

BRFSS respondents were asked to report how many days in the past 30 days that their physical and mental health was not good. Respondents

in the region said their physical health was not good between 3.2–3.4 days in the past 30 days. The average number of days that mental health was reported as poor (between 3.2–3.4) was comparable to that of physical health (*Figure 21*).

## Leading Causes of Hospitalization

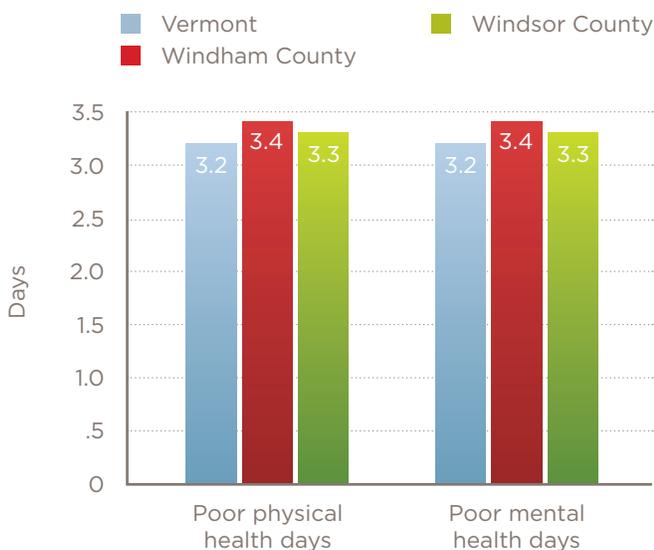
There are two hospital service areas in or near the Holt catchment area; the Brattleboro Hospital Service Area includes Brattleboro Memorial Hospital and Grace Cottage Hospital and the Springfield Hospital Service Area includes Springfield Hospital. Data in this section are presented as a hospitalization rate per 10,000 persons for each of these service areas, the region (the average of the two hospital service areas), and the State of Vermont.

Cardiovascular disease was the leading cause of hospitalization in the region with 166.1 hospitalizations per 10,000 adults, followed by injuries (93.9 per 10,000), mental health (82.4 per 10,000) and cancer (47.8 per 10,000) (*Table 17*). These were also the top four causes of hospitalization in Vermont, the Brattleboro Hospital Service Area and Springfield Hospital Service Area.

If hospitalizations for mental health and depression are combined they overtake injuries and become the second highest reason for hospitalization in the region (111.4 per 10,000 persons).

The Springfield Hospital Service Area had significantly higher rates for all causes of hospitalization (50–75%) than the Brattleboro Hospital Service Area. Because rates are standardized by the number of persons in the service area, these differences are not caused by differences in the population of the service area.

**FIGURE 21. AGE-ADJUSTED AVERAGE NUMBER OF UNHEALTHY DAYS REPORTED IN PAST 30 DAYS, 2008**



**Source:** County Health Rankings, <http://www.countyhealthrankings.org/vermont>

**TABLE 17. AGE-ADJUSTED PRIMARY REASON FOR HOSPITALIZATION PER 10,000 ADULTS, 2010**

Rank	Reason for Hospitalization	Vermont	Brattleboro Hospital Service Area	Springfield Hospital Service Area	Average Rate for Region
1	Cardiovascular Disease (including Stroke)	142.7	142.7	189.5	166.1
2	Injury	80.6	85.7	102.1	93.9
3	Mental Health	57.7	60.4	104.4	82.4
4	Cancer	40.1	38.9	56.6	47.8
5	Osteoarthritis	30.1	28.0	40.5	34.3
6	Depression (Moderate to Severe)	20.1	23.0	35.0	29.0
7	Heart Failure	24.5	19.0	31.2	25.1
8	COPD	16.1	12.7	19.3	16.0
9	Diabetes	10.1	13.8	14.6	14.2
10	Substance Abuse	9.7	8.8	11.3	10.1
11	Asthma	6.3	4.9	11.0	8.0

**Source:** Health and Health Care – Trends in Vermont, Vermont Department of Health, Public Health Statistics, May 2010. Brattleboro Hospital Service Area includes Brattleboro Memorial Hospital and Grace Cottage Hospital. Springfield Hospital Service Area includes Springfield Hospital.

**TABLE 18. CAUSE OF DEATH, INFANTS AND CHILDREN, STATE OF VERMONT, ANNUAL THREE YEAR AVERAGE 2005-2007**

Rank	Age < 1 (n)	Age 1 to 18 (n)
1	Congenital Anomalies (18)	Unintentional Injuries (51)*
2	Placenta Cord Membranes (11)	Suicide (11)
3	Short Gestation (11)	Malignant Neoplasm (cancer) (7)
4	Maternal Pregnancy Compromised (10)	Heart Disease (4)
5	Circulatory System Disease (4) Gastritis (4) Unintentional injury (4)	

**Source:** WISQUARS

\* 31 of the 51 Unintentional injury deaths were the result of motor vehicle crashes.



## Mortality Rates

Mortality on a population level can be measured and expressed in two related but different ways. One way is to use age-adjusted mortality rates to show what proportion of people died of a certain condition in a given year, adjusted for the age of the population relative to a standard comparison population. Mortality rates are useful for comparing groups of people, tracking changes over time, and comparing the number of deaths caused by different conditions.

### Infant and Child Mortality

Data on infant and child mortality is only available at the state level due to suppression of data with a small number of cases. The primary cause of death for infants under age one was congenital anomalies (18 deaths), followed by placenta and cord problems (11 deaths), short gestation (11 deaths), and maternal pregnancy compromised (10 deaths) (Table 18).

The primary cause of death for children age 1 to 18 years was unintentional injuries (51 deaths), followed by suicide (11 deaths), cancer (7 deaths) and heart disease (4 deaths). A majority (60%) of deaths from unintentional injuries were from motor vehicle crashes (Table 19).

### Adult Mortality

There were 189 deaths per year reported from 2007 to 2009 in Windham County out of 43,467 persons between the ages of 45 and 64 (Table 19). The number of deaths in Windsor County was 216 out of 56,156 persons. The primary cause of death among adults age 45 to 64 was cancer (all types). There were 89 deaths per year in Windham County and 125 deaths per year in Windsor County from cancer. The second leading cause of death was heart disease (from all causes including stroke), followed by accidents.

**TABLE 19. CAUSE OF DEATH, PERSONS AGE 45 TO 64, ANNUAL THREE YEAR AVERAGE 2007-2009**

Rank	Causes	Windham County (43,467 people)	Windsor County (56,156 people)
1	Malignant Neoplasms (cancer)	89	125
2	Major Cardiovascular Diseases (heart disease including stroke)	48	63
3	Accidents (unintentional injuries)	26	21
**	Chronic Lower Respiratory Disease	13	0
**	All Other Causes (residual after all listed causes)	13	28
<b>Total All Causes</b>		<b>189</b>	<b>216</b>

**Source:** Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2009 on CDC WONDER Online Database, released 2012.

\*\*Due to small numbers, the reliability of ranking below the top three is not appropriate. A change of only 10 deaths could result in different rankings.

### Elder Mortality

There were 1,722 deaths per year reported from 2007 to 2009 in Windham County out of 19,631 persons age 65 and over (*Table 20*). The number of deaths in Windsor County was 1,044 out of 28,794. The primary cause of death among elderly adults was heart disease (including stroke). There were 275 deaths per year in Windham County and 398 deaths per year in Windsor County from heart disease. The second leading cause of death was cancer (from all causes including stroke), followed by all other causes.

### Years of Potential Life Lost (YPLL)

The other way to assess population death rates is by using Years of Potential Life Lost (YPLL), which measures the general mortality or economic impact of different diseases on a population based on how much earlier people die than expected.

YPLL represents premature death and is calculated by subtracting the age of death for people dying of various causes from a reference age. In this report, 75 years is used as the base age to calculate life lost based on average life expectancy. In other words, every death occurring before the age of 75 contributes to the total number of years of potential life lost. For example, a person dying at age 25 contributes 50 years of life lost, whereas a person who dies at age 65 contributes 10 years of life lost to a county's YPLL. The YPLL rate is a calculation used to standardize these numbers across populations for purposes of comparison per 100,000 people in a population. In 2010, the number of years of potential life lost before age 75 in Windsor County (6,561 per 100,000 population) was higher than that of Windham County (5,839 per 100,000) and the State of Vermont (5,744 per 100,000) (*Figure 22*).

**TABLE 20. CAUSE OF DEATH, PERSONS AGE 65 AND ABOVE, ANNUAL THREE YEAR AVERAGE 2007-2009**

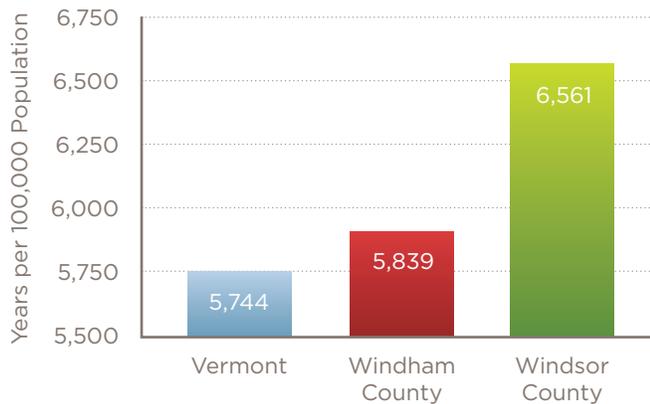
Rank	Causes	Windham County (19,631 people)	Windsor County (28,794 people)
1	Major Cardiovascular Diseases (heart disease including stroke)	275	398
2	Malignant Neoplasms (cancer)	201	272
3	All Other Causes (residual after all listed causes)	123	154
**	Chronic Lower Respiratory Disease	73	81
**	Alzheimer's Disease	61	51
**	Accidents (unintentional injuries)	32	43
**	Diabetes	39	31
**	Influenza	0	14
	<b>Total All Causes</b>	<b>1,722</b>	<b>1,044</b>

**Source:** Centers for Disease Control and Prevention, National Center for Health Statistics. *Underlying Cause of Death 1999-2009 on CDC WONDER Online Database, released 2012.*

\*\*Due to small numbers, the reliability of ranking below the top three is not appropriate. A change of only 10 deaths could result in different rankings.

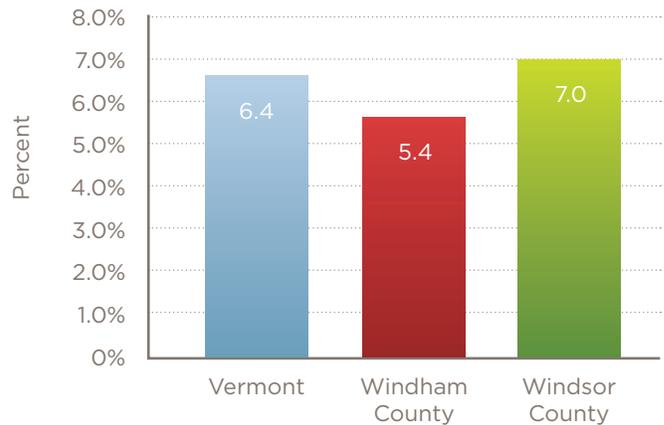


**FIGURE 22. YEARS OF POTENTIAL LIFE LOST BEFORE AGE 75 PER 100,000 POPULATION, 2010**



**Source:** County Health Rankings, <http://www.countyhealthrankings.org/vermont>

**FIGURE 23. PERCENT OF LOW BIRTH WEIGHT (<2,500 GRAMS) LIVE BIRTHS, 2008**



**Source:** County Health Rankings, <http://www.countyhealthrankings.org/vermont>

## MATERNAL, CHILD, AND ADOLESCENT HEALTH

The following section examines the health of children from birth through adolescence including weight at birth, drug and alcohol use, access to health services, teen pregnancy and oral health. Data for this section were drawn from the 2008 YRBS survey and 2008 County Health Rankings.

### Low Birth Weight

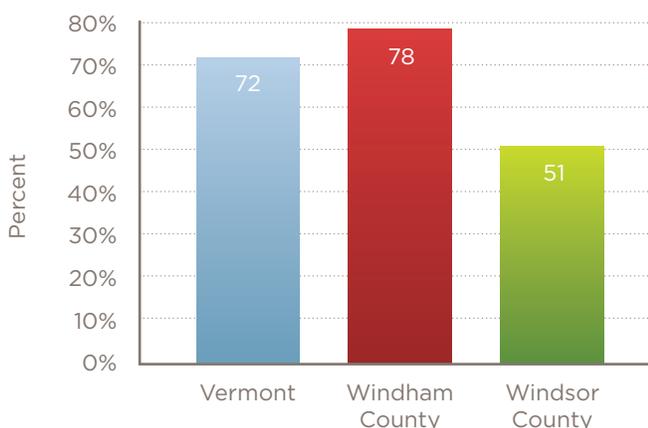
Health problems during pregnancy and at birth can be associated with a number of conditions in early childhood and later in life. Low birth weight, maternal smoking and drug use, maternal age, and lack of prenatal care are some risk factors that can be associated with physical and mental disabilities.

Infants weighing less than 2500 grams at birth are classified as being low birth weight. *Figure 23* illustrates the proportion of infants born with low birth weight in Windham County, Windsor County and Vermont in 2008. During 2008, a higher proportion of Windsor County infants were low birth weight (7.0%) compared to Vermont (6.4%). The rate for Windham County (5.4%) was lower than either the State or Windsor County.

## Childhood Vaccinations

Vaccination is one of the most cost effective and clinically proven approaches to reduce preventable diseases. The recommendations for vaccination of children include Haemophilus influenzae type b (Hib), Pneumococcal (PCV), Hepatitis B (HepB), Diphtheria, Tetanus, Pertussis (DTaP), Poliovirus (Polio) (IPV), Measles, Mumps, Rubella (MMR), and Varicella (Chicken pox). In addition, the Vermont Department of Health recommends that all children receive the Hepatitis A (HepA), Rotavirus (RV), Human Papillomavirus (HPV), and Influenza vaccinations. The BRFSS asks whether children under age 6 have received two or more vaccinations. The results ranged considerably depending on geography from a high of 78% in Windham County and 72% in the State of Vermont to a considerably lower percentage in Windsor County (51%) (*Figure 24*).

**FIGURE 24. TWO OR MORE VACCINATIONS ADMINISTERED TO CHILDREN UNDER AGE 6, 2008**



**Source:** Health of Vermonters Health Status Report 2008, [http://healthvermont.gov/pubs/documents/HealthStatusRpt2008\\_appendix.pdf](http://healthvermont.gov/pubs/documents/HealthStatusRpt2008_appendix.pdf)

## Lead Poisoning

According to the Vermont 2011 Poisoning Prevention Report to the Legislature, Vermont has seen a decrease in the number of children screened who have a lead level greater than 10 micrograms per deciliter. In 2010, screening showed that 1.8% of one-year olds and 1.3% of two-year olds tested had blood lead levels exceeding 10 micrograms per deciliter. This is a marked improvement since 1997 when 6.6% of one-year olds and 10.7% of two-year olds were found to have elevated blood lead levels. Data on lead poisoning was not available at the county level.

## Children's Oral Health

In 2002–2003, the Dental Health Services of the Vermont Department of Health and the Vermont Department of Education conducted a statewide assessment of the oral health status and treatment needs of children in grades 1 through 3. Among those children surveyed, 87% had regular dental visits (one to two visits per year), 60% were cavity free, and 85% required preventative dental care only.

## Sexual Health among Youth

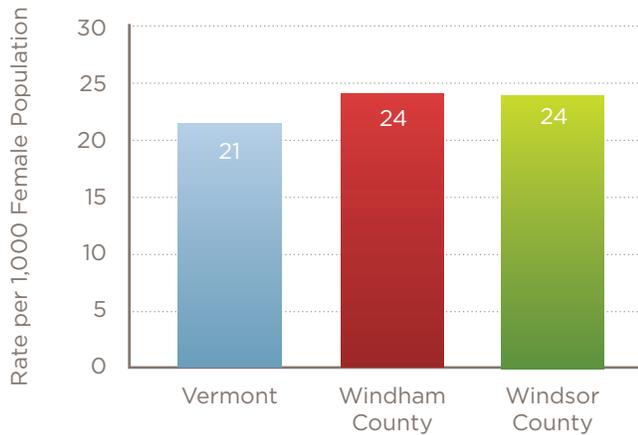
### Teen Pregnancy

Teen pregnancy results in substantial social and economic costs. Teenage mothers are more likely to have a lower annual income, increased rates of alcohol abuse and substance abuse, and lower education levels. For the purposes of this report, teen pregnancy is defined as pregnancies among females between the ages of 15 and 19 years.

As illustrated in *Figure 25* there were 24 births per 1,000 teens in Windham County and Windsor County in 2008. The rate per 1,000 teens for the State of Vermont in that year was 21.



**FIGURE 25. TEEN BIRTH RATE PER 1,000 FEMALES AGE 15-19, 2008**

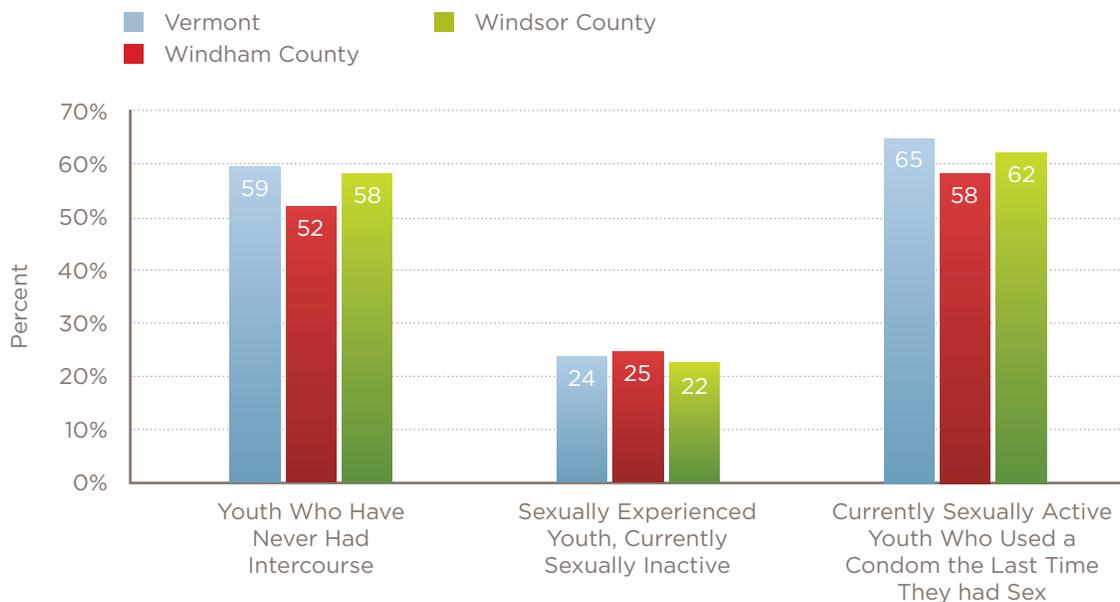


**Source:** County Health Rankings, <http://www.countyhealthrankings.org/vermont>

*Sexual Practices among Youth*

Between 40% to 50% of teens in grades 9 to 12 reported having had sexual intercourse (*Figure 26*). Between 22% and 25% of those who had intercourse reported that they are not currently sexually active. This results in an estimate that between 30 to 40% of students in grades 9 to 12 are currently sexually active. Of those who are currently sexually active, approximately one-third reported not using a condom the last time they had sex.

**FIGURE 26. YOUTH SEXUAL BEHAVIORS IN GRADES 9-12, 2008**



**Source:** Health of Vermonters Health Status Report 2008, [http://healthvermont.gov/pubs/documents/HealthStatusRpt2008\\_appendix.pdf](http://healthvermont.gov/pubs/documents/HealthStatusRpt2008_appendix.pdf)

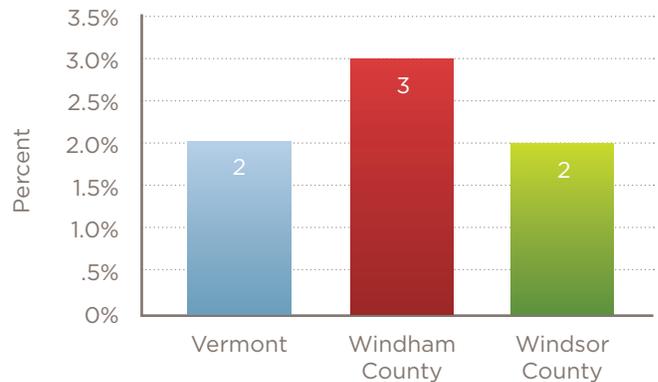
### Substance Use among Youth

Between 25% and 32% of youth in grades 9 to 12 reported that they have used marijuana and engaged in binge drinking (Figure 27). Between 18% and 23% of youth reported that they currently smoke cigarettes. The usage rates in Windham County exceeded those in Windsor County and the State of Vermont for all types of substances reported.

### Mental Health among Youth

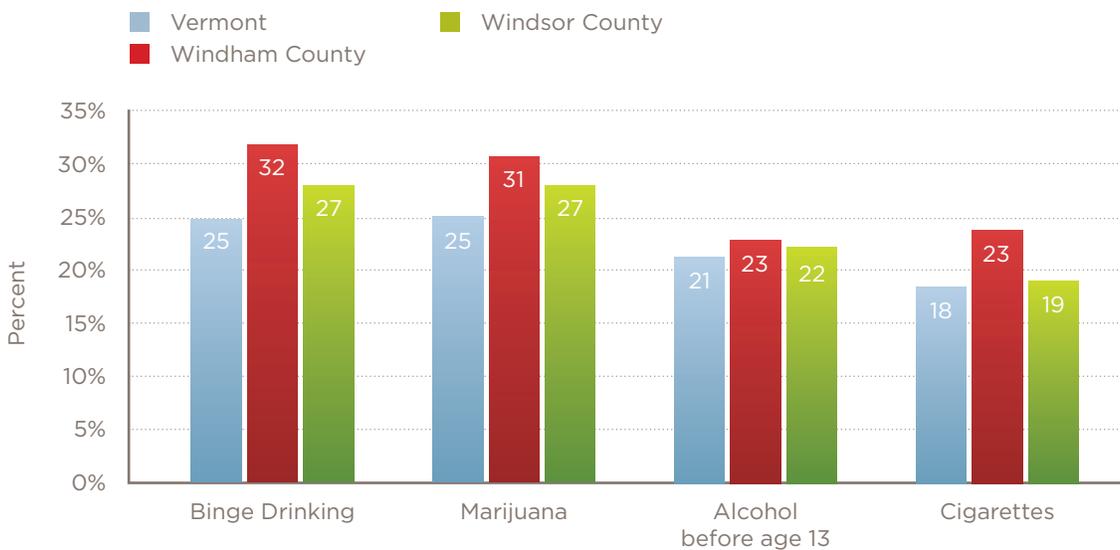
Two to three percent of youth in grades 9 to 12 reported that they have made at least one suicide attempt in the past (Figure 28).

**FIGURE 28. SUICIDE ATTEMPTS BY YOUTH IN GRADES 9-12, 2008**



**Source:** Health of Vermonters Health Status Report 2008, [http://healthvermont.gov/pubs/documents/HealthStatusRpt2008\\_appendix.pdf](http://healthvermont.gov/pubs/documents/HealthStatusRpt2008_appendix.pdf)

**FIGURE 27. SUBSTANCE USE BY YOUTH IN GRADES 9-12, 2008**



**Source:** Health of Vermonters Health Status Report 2008, [http://healthvermont.gov/pubs/documents/HealthStatusRpt2008\\_appendix.pdf](http://healthvermont.gov/pubs/documents/HealthStatusRpt2008_appendix.pdf)



## SAFETY AND INJURY

### Unintentional Injuries

Injuries are the second highest reason for hospitalization in the Holt area following cardiovascular disease (Table 18). In 2010, the average hospitalization rate per 10,000 adults for injuries was 93.9 in the region; this rate was higher than that of Vermont (80.6 per 10,000) and the Brattleboro Hospital Service Area (85.7 per 10,000). The Springfield Hospital Service Area had the highest rate of hospitalizations due to injuries, well above the other areas at 102.1 per 10,000.<sup>15</sup> Accidents were the third highest cause of death among adults age 45 to 64 (Table 20) and the fifth highest cause of death for persons over age 65 (Table 21).

### Motor Vehicle Crashes

Motor vehicle crashes killed between 13–18 people per 100,000 annually in Windham and Windsor counties from 2005 to 2008. The rate for Windham County (18 per 100,000) was higher than that of Windsor County (13 per 100,000) or the State of Vermont (13 per 100,000) (Figure 29).

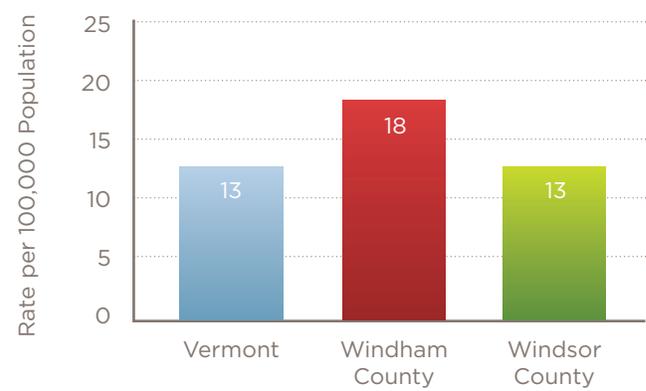
## MENTAL HEALTH

Health is more than about the physical body. Mental health is related to how people think, feel, and act as they cope with life. It also helps to determine how people handle stress, relate to others, and make choices. Mental health conditions and disorders have clinical recognition and many can have serious consequences if not treated.

Adults in Windham and Windsor counties reported that they experience on average 3 days per month with poor mental health (Figure 21). In 2008, there were between 14 and 16 deaths per 100,000 population due to suicide (Figure 30).

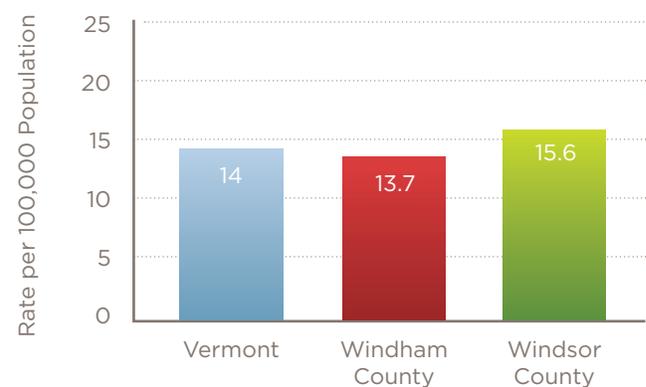
<sup>15</sup> Health and Health Care — Trends in Vermont, Vermont Department of Health, Public Health Statistics, May 2010. Brattleboro Hospital Service Area includes Brattleboro Memorial Hospital and Grace Cottage Hospital. Springfield Hospital Service Area includes Springfield Hospital.

**FIGURE 29. MOTOR VEHICLE CRASH DEATHS PER 100,000 POPULATION, 2008**



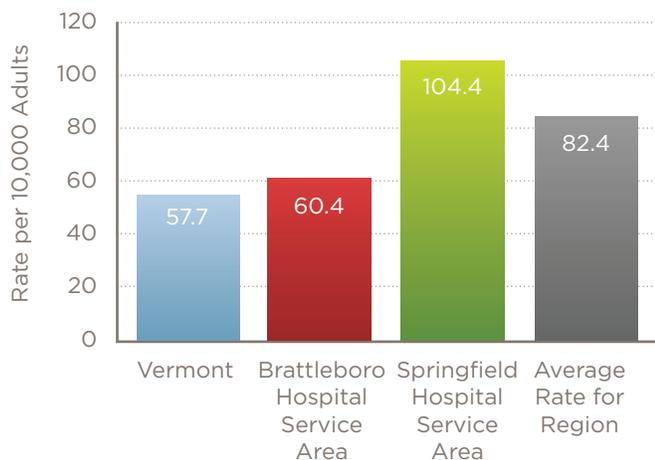
**Source:** County Health Rankings, <http://www.countyhealthrankings.org/vermont>

**FIGURE 30. SUICIDE DEATHS PER 100,000 POPULATION BY, 2008**



**Source:** County Health Rankings, <http://www.countyhealthrankings.org/vermont>

**FIGURE 31. HOSPITALIZATION RATE FOR MENTAL HEALTH PER 10,000 ADULTS, 2010**



**Source:** Health and Health Care — Trends in Vermont, Vermont Department of Health, Public Health Statistics, May 2010. Brattleboro Hospital Service Area includes Brattleboro Memorial Hospital and Grace Cottage Hospital. Springfield Hospital Service Area includes Springfield Hospital.

Overall, about 82.4 people per 10,000 adults were hospitalized for mental disorders every year in the region that includes hospitals in the Brattleboro and Springfield Hospital Services Areas (Figure 31). The rate for the Springfield Hospital Service Area was particularly high at 104.4 adults per 10,000, which was higher than the average of 82.4 per 10,000 in the region and 60.4 per 10,000 in the Brattleboro Hospital Service Area. The rate for the Springfield Hospital Service Area was almost double that of Vermont (57.7 per 10,000).

Focus group and interview participants identified long-term, consistent needs for mental and behavioral health services across the region. Of primary concern were issues of stress and depression related to difficult economic circumstances.

**“Most of the people I work with suffer from depression and something else.”**

— HEALTH CARE PROVIDER

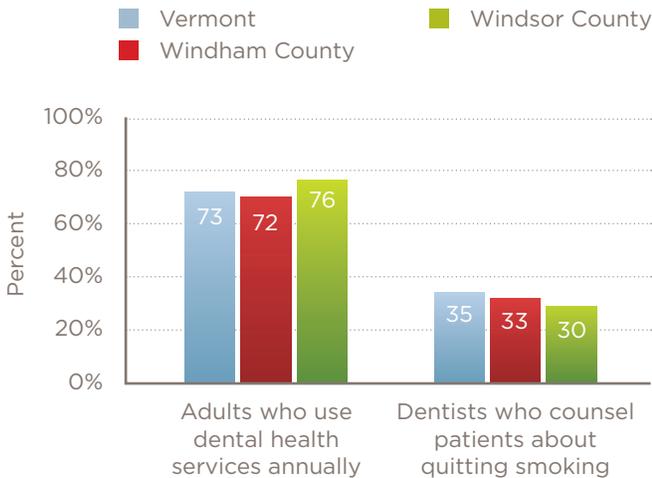
## ORAL HEALTH

In addition to assessing overall health and mental health status, the BRFSS survey also asked survey participants to rate the condition of their mouth, teeth, and gums — or “oral health status.” Semi-annual visits with a dentist and dental hygienist are recommended to maintain good oral health. Survey respondents were asked about the length of time since their last visit to a dentist or dental clinic. Around three-fourths (72–76%) of respondents indicated they had been to a dentist or dental clinic within the past year. Less than 35% reported that their dentist counseled them to quit smoking if they currently smoke (Figure 32).

**Hospital based mental health services in Vermont are in transition.** In October 2011, Vermont Governor Peter Shumlin announced that the Vermont State Hospital in Waterbury, which closed following Hurricane Irene, would not re-open. State officials are developing a plan to “ensure Vermont’s mental health community has access to quality services across the state.” Suggestions include acute in-patient care in at least two locations, increased services that enable individuals to remain in their communities, expanded local emergency services, and increased support for effective programs helping those with mental health conditions.



**FIGURE 32. ANNUAL DENTAL HEALTH SERVICES USAGE AND DENTAL SMOKING CESSATION COUNSEL, 2008**



**Source:** *Health of Vermonters Health Status Report 2008*, [http://healthvermont.gov/pubs/documents/HealthStatus-Rpt2008\\_appendix.pdf](http://healthvermont.gov/pubs/documents/HealthStatus-Rpt2008_appendix.pdf)

Challenges in accessing dental services were noted by some focus group and interview participants. These individuals cited an improvement in services in Rockingham with the Dental Clinic but pointed out there is still a lack of providers taking Medicaid and a portion of the community that does not have dental insurance.

**“Dental insurance is hard to come by particularly for the elderly.”**

– HUMAN SERVICE PROVIDER

**“There isn’t a dentist close by who accepts Medicare or is free.”**

– HUMAN SERVICE PROVIDER

## CHRONIC DISEASE

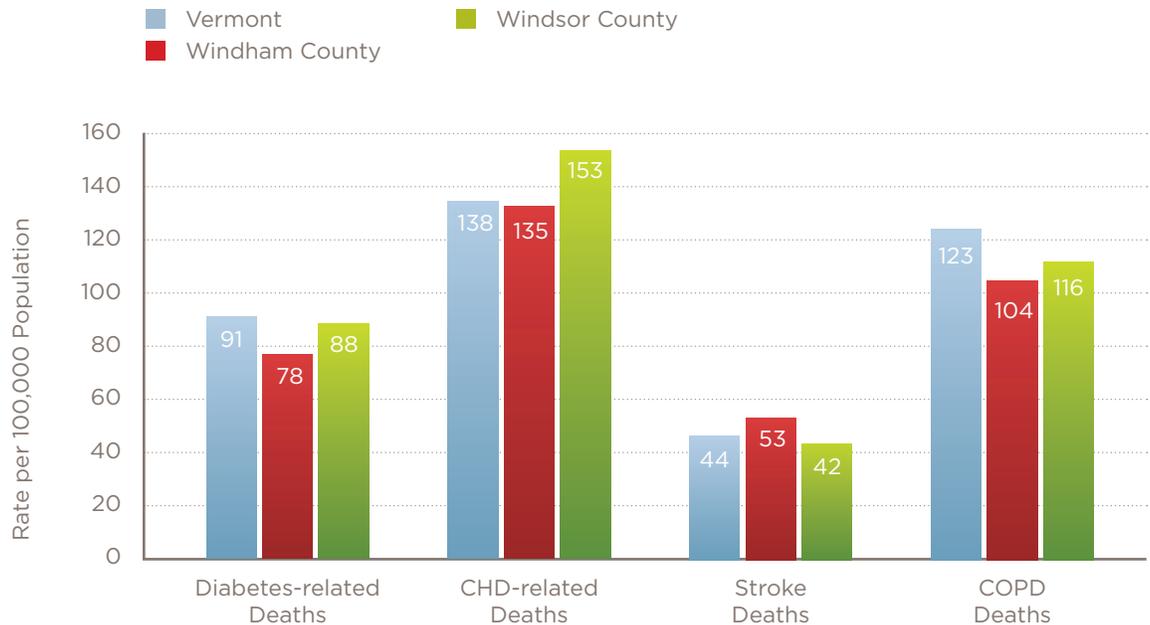
Chronic diseases are leading causes of death in the United States and can have a severe negative impact on one’s quality of life. They are also among the most common, costly, and preventable health problems. In addition to prevention, management of debilitating chronic diseases such as heart disease, hypertension, diabetes, asthma, and cancer is necessary to improve health outcomes. This includes engaging in healthy behaviors, taking medications as prescribed, and getting screenings and tests as needed. Additionally, according to research sponsored by the Agency for Healthcare Research and Quality, almost 75% of people age 65 and older have at least one chronic disease and about half have at least two chronic diseases.<sup>16</sup> Chronic conditions can lead to severe and immediate disability, such as hip fractures and stroke, as well as progressive disability that erodes the ability of elderly people to care for themselves.<sup>17</sup> This section presents mortality rates related to the most common chronic diseases.

Chronic disease, including cardiovascular disease, diabetes and asthma, was noted as a primary health issue by all adult focus group and interview participants. Community members discussed the impact these diseases have on the day-to-day lives of individuals and families. Health care providers noted a need for increased services related to prevention and self-management.

<sup>16</sup> Calkins E, Boulton C, Wagner E, et al. (1999) *New ways to care for older people. Building systems based on evidence.* New York: Springer.

<sup>17</sup> Fried LP, Guralnik JM. (1997) *Disability in older adults: evidence regarding significance, etiology, and risk.* *J Am Geriatr Soc*;45(1):92-100.

**FIGURE 33. CHRONIC DISEASE DEATHS PER 100,000 POPULATION, 2008**



**Source:** Health of Vermonters Health Status Report 2008, [http://healthvermont.gov/pubs/documents/HealthStatusRpt2008\\_appendix.pdf](http://healthvermont.gov/pubs/documents/HealthStatusRpt2008_appendix.pdf)

## Heart Disease

Heart disease is the leading cause of death for both men and women in the U.S. and has been associated with a number of health behaviors such as diet, exercise, and smoking status. Heart disease is a broad term that includes several conditions, such as heart attack or myocardial infarction. The number of chronic heart disease (CHD) related deaths ranged from 135 to 153 per 100,000 persons depending on geography (*Figure 33*). The rate in Windham County was the highest (153 per 100,000) while the rates in Windsor County (135 per 100,000) and the State of Vermont (138 per 100,000) were

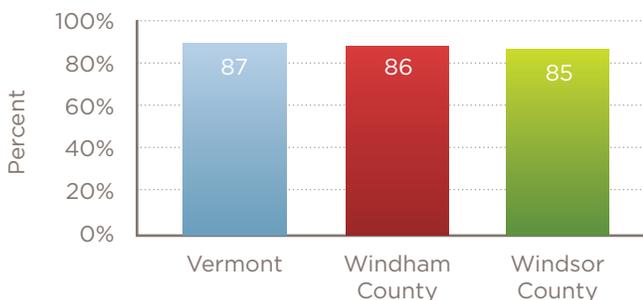
lower. The number of deaths due to stroke ranged from 42 to 53 per 100,000 persons depending on geography. The rate in Windham County was the highest (53 per 100,000) while the rates in Windsor County (42 per 100,000) and the State of Vermont (44 per 100,000) were lower. Hospitalizations for cardiovascular disease (including stroke) was 166.1 per 10,000 adults in the hospital service areas located in or near the Holt area. This rate places cardiovascular disease as the leading cause of hospitalization and places it well above the next highest cause which was injuries (*Table 18*).



## Chronic Obstructive Pulmonary Disease

While tobacco use is a key factor in the development and progression of COPD, indoor air quality (e.g., exposure to air pollutants in the home and workplace) can also play a role; early detection can change its course and progress. The number of deaths due to Chronic Obstructive Pulmonary Disease (COPD) ranged from 104 to 123 per 100,000 persons depending on geography (*Figure 33*). The rate in both Windham County (104 per 100,000) and Windsor County (116 per 100,000) were both lower than the State of Vermont (123 per 100,000). The rate in Windham County was considerably lower than that of either Windsor County or the State. The hospitalization rate for COPD was 16.0 per 10,000 adults in 2010, which places it 8th in the rankings.

**FIGURE 34. DIABETES SCREENING (HbA1c) PERCENTAGE, 2008**



**Source:** County Health Rankings, <http://www.countyhealthrankings.org/vermont>

## Diabetes

Diabetes is a chronic disease that, when left untreated or not properly managed, can result in serious complications, including kidney failure, blindness, limb amputation, and death. The number of deaths ranged from 78 to 91 per 100,000 persons depending on the geography (*Figure 33*). The rate in Windham County (78 per 100,000) was lower than that of Windsor County (88 per 100,000) or the State of Vermont (91 per 100,000). The hospitalization rate for diabetes was 14.2 per 10,000 adults in 2010, which places it 9th in the rankings. County Health Ranking data indicate that a screening test for diabetes (HbA1c) was administered to 85–87% of the population in 2008 (*Figure 34*).

## Cancer

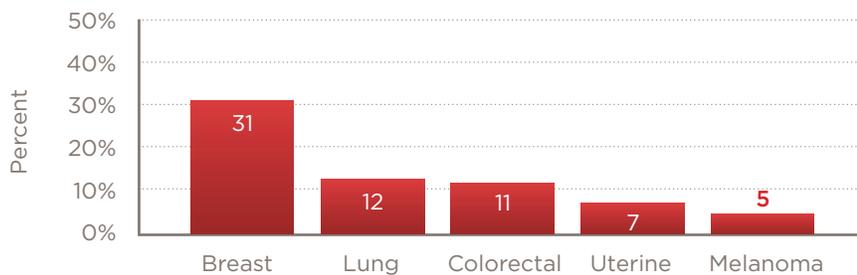
In Vermont, breast, prostate and lung cancer top the list of the most commonly diagnosed cancers. The most common diagnosis of cancer in Vermont for women is breast cancer (31%) (*Figure 35*) while for men it is prostate cancer (29%) (*Figure 36*). Both breast and prostate cancer diagnoses are significantly higher than lung cancer in both women (12%) and men (14%) and colorectal cancer in both women (11%) and men (10%). Other major causes of cancer in women are uterine cancer (7%) and melanoma (5%). Other major causes of cancer in men are bladder cancer (7%) and melanoma (5%).

Cancer is the primary cause of death among adults age 45 to 64 and the second leading cause of death for persons age 65 and over (*Table 19* and *Table 20*). The number of deaths from cancer in adults age 45 to 64 was 89 per year in Windham County and 125 per year in Windsor County. This level was almost double that of cardiovascular disease. The number of deaths from cancer in adults age 65 and above was 201 per year in Windham County and 272 per year in Windsor County, which makes cancer the second leading cause of death behind cardiovascular disease.

### *Most Common Causes of Death from Cancer*

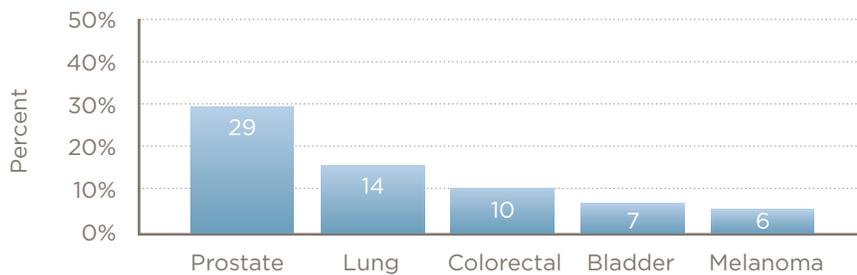
Lung cancer was the second highest cause of cancer but is the most common cause of death from cancer in Vermont. The percentage of cancer deaths from lung cancer is higher for men (30%) than for women (24%) (*Figure 37* and *Figure 38*). The second most common cause of death from cancer was breast cancer (16%) in women and prostate cancer (11%) in men, each of which was the second highest cancer diagnosis. The third most common cause of death from cancer was colorectal cancer, which accounted for 11% of women and 10% of men. Colorectal cancer was the third highest cancer diagnosis for both men and women. Other major

**FIGURE 35. MOST COMMONLY DIAGNOSED CANCERS FOR WOMEN IN VERMONT, 2008**



*Source: Cancer Registry, Department of Health, Vermont Agency of Human Services*

**FIGURE 36. MOST COMMONLY DIAGNOSED CANCERS FOR MEN IN VERMONT, 2008**



*Source: Cancer Registry, Department of Health, Vermont Agency of Human Services*



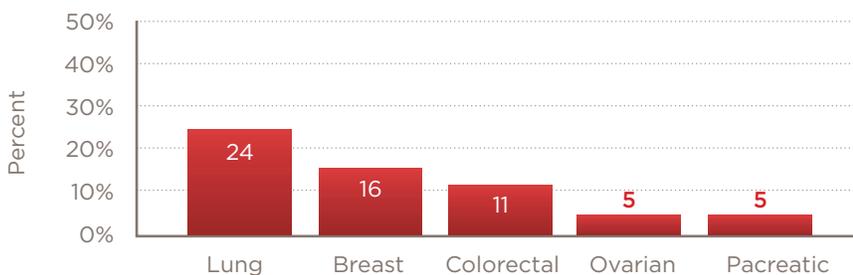
causes of death from cancer in women were ovarian cancer (5%) and pancreatic cancer (5%). Other major causes of death from cancer in men were pancreatic (5%) and non-Hodgkin's lymphoma (5%).

Cancer screenings, such as mammograms or colonoscopies, are tests or procedures used to look for cancer prior to the development of symptoms. They are a secondary prevention measure critical for early detection and prompt intervention. Knowledge of, and equal access to comprehensive screening services is essential to improving cancer morbidity and mortality (*Figure 39*).

### Mammogram

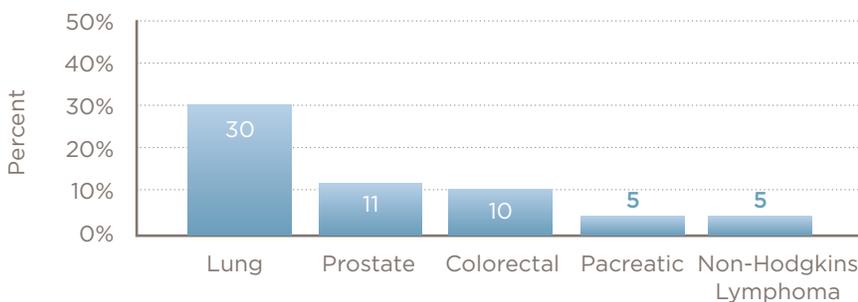
Mammograms (an x-ray of each breast used to look for cancer) and clinical breast exams are among the most common breast cancer screening tests. Based on the screening guidelines that were in place during the time when the BRFSS survey was administered, women over 40 years old were asked if they had an annual mammogram. Sixty-eight to seventy-seven percent of women in the region over 40 years old reported that they had a mammogram in the past two years. This rate was lowest in Windham County (68%) compared to Windsor County (77%) and the State of Vermont (77%).

**FIGURE 37. MOST COMMON CAUSES OF DEATH FROM CANCER FOR WOMEN IN VERMONT, 2008**



*Source: Cancer Registry, Department of Health, Vermont Agency of Human Services*

**FIGURE 38. MOST COMMON CAUSES OF DEATH FROM CANCER FOR MEN IN VERMONT, 2008**



*Source: Cancer Registry, Department of Health, Vermont Agency of Human Services*

### Pap Test

The recommended screening for cervical cancer is a Papanicolaou test (pap test) conducted annually. Female survey respondents were asked how long it had been since their last pap test. At least 80% reported having had a pap test in the past three years.

### Fecal Occult Blood Test

A recommended screening for colon cancer is a fecal occult blood test. Both males and females age 50 and above were asked whether they had this test conducted within the last two years. Between 32 and 40% reported that they had this test within the last two years. The rates in Windham County (40%) and Windsor County (38%) were above the rate for Vermont (32%).

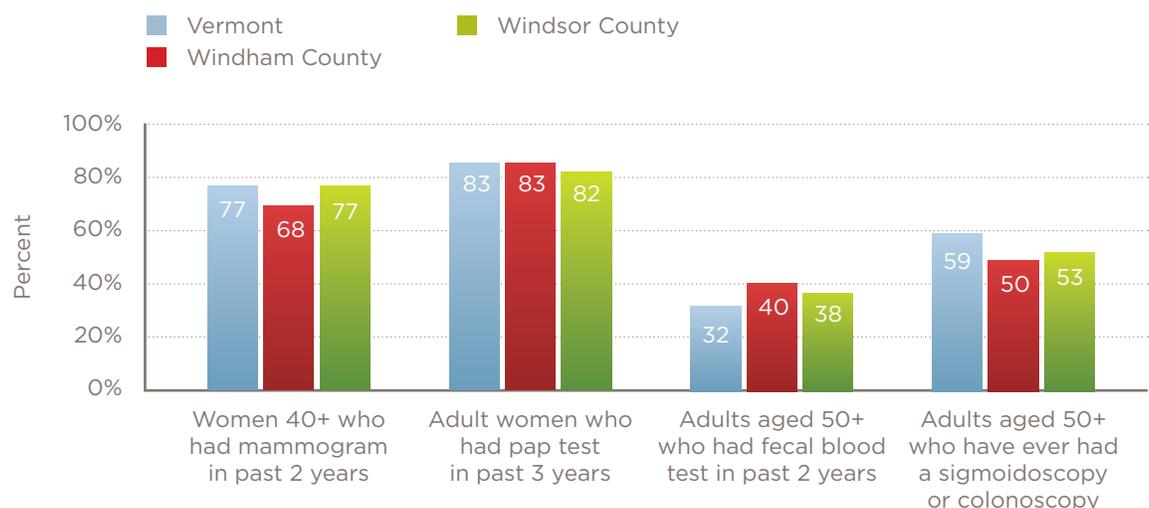
### Sigmoidoscopy or Colonoscopy

Another recommended screening for colon cancer is a sigmoidoscopy or colonoscopy after age 50. Both males and females age 50 and above were asked whether they had ever had this test. At least 50% reported that they had ever had this test. The rates in both Windham County (50%) and Windsor County (53%) were below the rate for Vermont (59%).

### Asthma

Asthma is a chronic disease that can be deadly if not managed properly. The prevalence of asthma has increased dramatically over the past few decades across the U.S. The rate of asthma in adults was higher in Windham County (10.6%) and Windsor County (10.3%) than for the State of Vermont (9.9%) (*Figure 40*). The prevalence of asthma in the youth population (grades 9 to 12) was 9.9% in Vermont, the same rate as for adults. County level data was not available for youth.

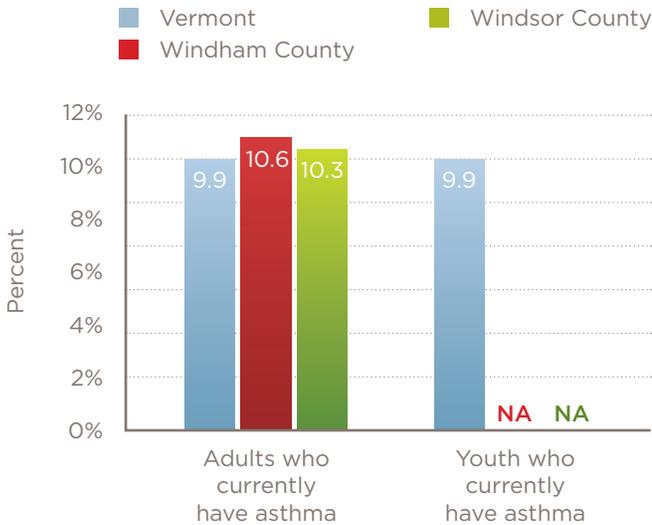
**FIGURE 39. BREAST, CERVICAL, AND COLON CANCER SCREENING, 2008**



**Source:** *Health of Vermonters Health Status Report 2008*, [http://healthvermont.gov/pubs/documents/HealthStatusRpt2008\\_appendix.pdf](http://healthvermont.gov/pubs/documents/HealthStatusRpt2008_appendix.pdf)



**FIGURE 40. PREVALENCE OF ASTHMA AMONG ADULTS AND YOUTH (GRADES 9 TO 12), 2008**



**Source:** *Health of Vermonters Health Status Report 2008*, [http://healthvermont.gov/pubs/documents/HealthStatusRpt2008\\_appendix.pdf](http://healthvermont.gov/pubs/documents/HealthStatusRpt2008_appendix.pdf)

**Note:** NA – data not available at county level

## COMMUNICABLE DISEASES

### Sexually Transmitted Diseases<sup>18</sup>

#### *Chlamydia*

Chlamydia is by far the most-reported sexually transmitted disease (STD). Because many people infected with Chlamydia do not have symptoms or do not seek testing or care, cases go undiagnosed and unreported. If left untreated, up to 40% of women with Chlamydia will develop Pelvic Inflammatory Disease and up to 20% will become infertile. Chlamydia is the most frequently reported STD in Vermont. In 2011, there were 1,570 cases reported to the Vermont Department of Health,

though epidemiologists believe that only a fifth of the total cases of Chlamydia are reported. From 1999 to 2011, three times as many women as men were diagnosed with Chlamydia, and individuals aged 15–24 were infected in greatest numbers, accounting for over 73% of the morbidity. The age-adjusted rate is expressed per 100,000 people. The rate of Chlamydia infections in Windham County was 164 per 100,000 persons, about the same as that of Vermont (169 per 100,000) while Windsor County had a much lower rate at 92 per 100,000.

#### *Gonorrhea*

Gonorrhea is the second most reported STD. People age 14 to 39 account for nearly all reported cases of Chlamydia and Gonorrhea. Gonorrhea is much less common than Chlamydia, with only 46 cases reported in Vermont in 2011. However, 22 cases have been reported between January and April 2012. From 1999–2008, men and women were diagnosed at the same rate. Communities of color represented more than 15% of the reported cases even though this group accounts for less than 4% of Vermont’s population. Since 2009, more than 40% of males diagnosed with Gonorrhea have identified as men who have sex with men.

#### *HIV and AIDS*

In 2000, HIV became a reportable disease in Vermont. At the close of 2005, there were 429 people diagnosed with HIV/AIDS in the state. At time of diagnosis, 41% lived in Chittenden County.

<sup>18</sup> Source: Vermont Department of Health Division of Health Surveillance – Infectious Disease Epidemiology Section

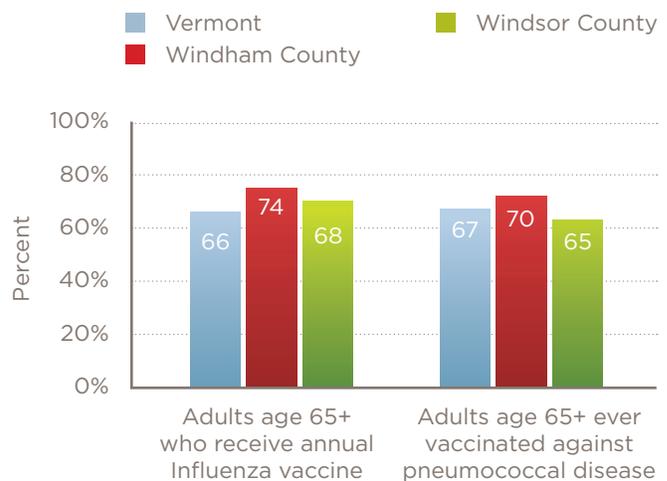
## Hepatitis C

Hepatitis C is a blood borne virus that infects the liver. It is the most commonly reported chronic infection in Vermont. Testing and early diagnosis is important to improve care for people living with Hepatitis C and prevent others from becoming infected. From 2003 to 2005, the Vermont Department of Health identified 1,350 cases of Hepatitis C, but national data suggest that the number infected may be closer to 12,000, or 2% of the state's population. From 2003- 2005, the total number of chronic/resolved and acute cases reported to the Vermont Department of Health, was 107 cases in Windham County and 61 cases in Windsor County.

## Adult Vaccinations

It is recommended that persons over age 18 receive an annual flu vaccine. The BRFSS survey asks adult respondents to report on whether they receive an annual vaccine. Between 66% and 74% of respondents age 65 and above reported receiving an annual flu vaccine depending on geography (*Figure 41*). The highest rate was in Windham County (74%), followed by Windsor County (68%) and the State of Vermont (66%). A vaccine for pneumonia is also recommended for persons age 65 and over. At least 65% of adults over age 65 and over reported having ever received a pneumonia vaccine.

**FIGURE 41. VACCINATIONS ADMINISTERED TO ELDERLY (AGE 65+) POPULATION, 2001-2005**



**Source:** *Health of Vermonters Health Status Report 2008*, [http://healthvermont.gov/pubs/documents/HealthStatus-Rpt2008\\_appendix.pdf](http://healthvermont.gov/pubs/documents/HealthStatus-Rpt2008_appendix.pdf)

## ACCESS TO CARE

Access to health care is a key health concern, particularly access to health insurance and a primary care physician (PCP). Across all focus groups and interviews, participants noted the value of the existing services in meeting the needs of individuals and families in the community; however, concerns were expressed about a decrease in available services and consolidation of services resulting in the closing of service sites. Additionally, some focus group participants expressed concerns about the uncertainty of future services as the state and federal government go through changes in policy and how existing health and human service governmental agencies are organized. Quantitative data from the BRFSS 2008 survey further elucidate this concern.



“People can’t afford their prescriptions. Most have more than one medication.”

– SENIOR SERVICE PROVIDER

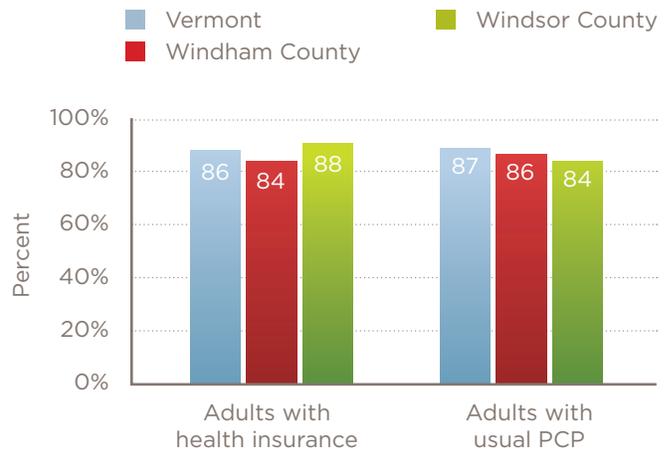
### Insurance Coverage

To assess the extent of insurance coverage among those surveyed, BRFSS respondents were asked if they currently had any kind of health coverage (including private insurance, military insurance, or publicly funded insurance programs such as Medicare or Medicaid). Twelve percent of adult respondents in Windsor County reported that they did not have insurance and 16% in Windham County. Both were near the rate for the State of Vermont (14%).

### Primary Care Physician

While health coverage is one variable that factors into both access to care and health status, also relevant to the health of residents is the extent to which individuals have a regular health care provider and how regularly they utilize medical services. These factors were also assessed in the BRFSS survey. To assess the extent to which residents had a regular source of care, BRFSS survey respondents were asked whether they had one person they thought of as their personal doctor or health care provider. As shown in *Figure 42* between 14% and 16% of respondents indicated that they did not have a person they thought of as their personal doctor or health care provider, which is consistent with the State of Vermont (13%).

**FIGURE 42. ADULTS WITH HEALTH INSURANCE OR PERSONAL CARE PHYSICIAN, 2001-2005**



**Source:** *Health of Vermonters Health Status Report 2008*, [http://healthvermont.gov/pubs/documents/HealthStatus-Rpt2008\\_appendix.pdf](http://healthvermont.gov/pubs/documents/HealthStatus-Rpt2008_appendix.pdf)

**Note on the Vermont Health Care Reform Bill (H. 202)** In May 2011, the Vermont Legislature took the first step toward a universal publicly financed health care system with the signing of the Vermont health care reform bill, H.202.

The immediate impact of the bill will be to establish the Green Mountain Care Board to oversee cost containment strategies and the Vermont Health Benefit Exchange to help achieve universal insurance coverage, as required under the federal Accountable Care Act (ACA). In addition, the bill anticipates the possible evolution of the Health Benefit Exchange into Green Mountain Care as the state’s publicly financed health care system for all Vermonters. The purpose of Green Mountain Care — the bill’s conditional universal publicly-financed health care system — is to provide, as a public good, comprehensive, affordable, high-quality health care coverage for all Vermont residents.

# Discussion & Recommendations

## DISCUSSION

Through a review of the secondary social, economic and epidemiological data in the region as well as discussions with community residents and health and human service providers, this assessment report provides an overview of the social and economic environment of the Holt Fund's catchment area, the health conditions and behaviors that most affect the population, and the perceptions of strengths and gaps in the current public health and health care environment. Several key themes emerged from this synthesis:

*The composition and socioeconomic levels of the Holt catchment population varies both across the area and from surrounding counties.*

While the Holt area accounts for 26% of the population in Windham and Windsor counties, the region differs from both counties on several socioeconomic indicators. Since 2000, the Holt area has experienced a greater loss in population than the counties and the State. Despite having a higher proportion of elderly residents, in contrast to other areas in Vermont and nationally, this population does not appear to be growing.

The majority of the Holt population resides in Springfield and Rockingham. These towns experience higher indicators of distress, including lower median incomes, lower levels of education, and higher rates of crime, resulting in a concentration of poverty. These factors all have a significant impact on people's health priorities, their ability to seek services, access to resources, reliance on support networks, stress level, and opportunities to engage

in healthful lives. Additionally, while towns such as Andover, Westminster and Townshend are more affluent, they have experienced higher levels of unemployment than neighboring towns and Vermont overall.

*The ability to live a healthy lifestyle is challenging for residents of the Holt catchment area.*

Lifestyle factors and individual behaviors are important determinants of risk for chronic diseases and other health conditions. Lack of access to healthy foods appears to be associated with a shortage of grocery stores and limited public transportation. These factors were further substantiated by focus group and interview participants who noted a shortage of grocery stores in the area making it difficult for households to access healthy and/or affordable food. This is most likely compounded by the lack of a robust transportation system in these rural communities. Although, participants did note a growing number of farmer's markets in the area which may aid in addressing this challenge. On the other hand, despite the availability of recreational facilities, most residents, youth in particular, are not achieving the recommended daily exercise. However, it is important to consider that residents of Windham County have less access to recreational facilities than those of Windsor County and Vermont overall.

*Cardiovascular disease, cancer, injuries, and mental health are the top causes of morbidity and mortality in the Holt catchment area.*

Cardiovascular disease was the leading cause of hospitalization in the region, followed by injuries,



mental health and cancer. While cancer is the fourth leading cause of hospitalization, it is the primary cause of death among adults, followed by cardiovascular disease; breast, prostate, and lung cancer are the most commonly diagnosed cancers. Cancer screening is critical for early detection and prompt intervention, yet certain screening rates in the Holt area (e.g., breast cancer screening in Windham County and colon cancer screening) are below that of the State.

Focus group and interview participants also identified long-term, consistent needs for mental and behavioral health services across the region. Of primary concern were issues of stress and depression related to difficult economic circumstances. Related to mental health, participants expressed concerns about increasing substance abuse in their communities. Alcohol and other substances were associated with managing stress or depression, often in relation to economic hardships.

*Access to health care is exacerbated by the social and economic context of the region.*

The Holt catchment area is comprised of residents with low educational attainment as well as an aging population, which has implications for navigating the health care system because low health literacy is more prevalent among older adults and those of low socioeconomic status. In a changing health care environment that demands educated consumers, individuals must possess the ability to obtain, process and understand basic health information needed to make appropriate health decisions and access services needed to prevent or treat illness.

*Residents of the Holt catchment area experience disparities in health outcomes by geographic location.*

Life expectancy and overall health have improved in recent years for most Americans; however, there are segments of the population with poor health status, including residents of rural areas. While Windham and Windsor counties share similar rates for several health indicators, Windsor County residents experience disproportionately higher morbidity and mortality rates for the leading causes of hospitalization and death in the region. A prime example of this is the number of years of potential life lost before the age of 75; according to this measure of premature death, residents of Windsor County appear to die much earlier than expected as compared to Windham County and Vermont.

*Several health issues identified in this report are costly health problems that can be prevented with evidence-based approaches.*

Vaccination is one of the most cost effective and clinically proven methods to reduce preventable diseases, yet vaccination rates among both children and adults in Windsor County are below the state average. The majority of sexually active youth do not practice safe sex; encouraging condom use could lower both the rates of STD's and teen pregnancy. High rates of unintentional injury, resulting in costly medical care and lost productivity, also present an opportunity for prevention. For example, many motor vehicle accidents are due to lack of seatbelt use or driving while alcohol impaired.

## RECOMMENDATIONS

The findings in this report lead to several recommendations for the Holt Fund to consider. These recommendations are not designed to be a definitive list but a set of suggestions that build on the data provided in this report and the assets of the communities in the Holt area. The final decision on the actions of the Holt Fund is that of the Trustee.

*The Holt Fund has an opportunity to address the leading reasons for morbidity and mortality in the region — cancer, cardiovascular disease, injury, and mental health.*

These conditions cause the majority of hospitalizations and deaths in the area and there is a wealth of opportunity for the Holt Fund to achieve change. The factors influencing these hospitalizations and deaths are a combination of an individual's genetics, their behaviors and the social and physical environment in which they live, work and play. Addressing these challenges will require a variety of strategies and resources as well as an understanding of the complex nature of these issues. Strategies to consider could include both those that address prevention, intervention and treatment within the traditional health care arena as well as those that change the social and physical environment. For example, to address cardiovascular disease, strategies could include:

- Raising both individual and community awareness of the risk factors, warning signs and symptoms of a heart attack or stroke;

- Encouraging appropriate treatment of heart disease and stroke by providing specific knowledge and skills to support healthier lifestyles (e.g., video and audiotapes on healthy eating, cooking, exercise and tobacco cessation classes);
- Creating supportive social networks that encourage individuals to adopt healthier lifestyles and assist in coping with the aftermath of a heart attack or stroke (e.g., telephone counseling services, peer educators, caregiver support groups); and,
- Increasing access to places in which to practice healthier lifestyles (e.g., recreation centers, walking trails, healthier menu options in restaurants).

Additionally, having access to quality preventive, emergency and rehabilitative care providers (e.g., specialized stroke unit, helicopter transport, special stroke rehabilitation ward) can improve short and long term outcomes.

*The role that the social and physical environment plays in shaping an individual's and community's health and risk for illness, injury or disease should be considered.*

Factors such as where we live, the state of our environment, our income and education level, and our relationships with friends and family, all considerably impact our health. Thus, the role of the social and physical environment should not be overlooked when the Holt Fund considers the types of initiatives it invests in or the partnerships it engages in to address health outcomes. While some strategies may be outside of the scope of the Holt Fund, there are opportunities to address the social



and physical environment such as improving access to healthy and affordable food, encouraging physical activity, increasing resources for lead abatement and mold and mildew remediation, and supporting the implementation of policies that reduce exposure to secondhand smoke. However, it should be noted that the rural nature of the Holt catchment area presents challenges to changing the social and physical environment.

*Identifying strategic partnerships and leveraging resources will be necessary to enhance the impact of Holt funding in addressing priority health issues.*

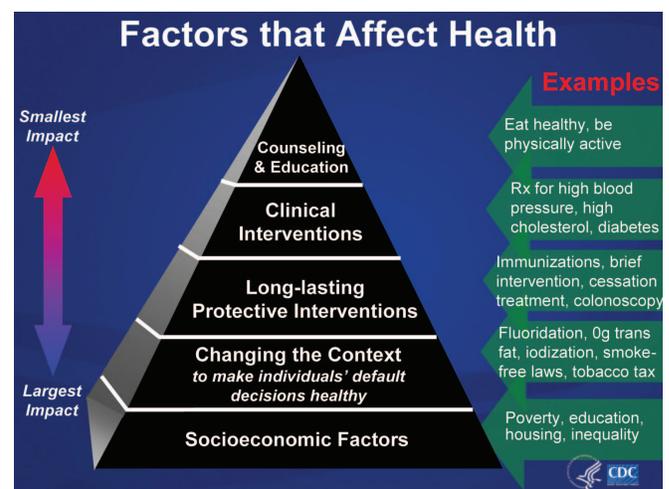
The Holt Fund should be cognizant that its investments alone cannot solve these issues. Foundation funding is often used to fund operating or programmatic expenses. While the Holt Fund’s annual investments in the region are approximately \$650,000, they represent only a portion of the state, federal, health insurance and self-pay dollars that are being spent on health and human services in the area. With the variety of public and private investors in the area, opportunities exist to identify partnerships with other funders such as the United Way, the Vermont Community Foundation and others interested in health and health care as well as government to leverage resources and increase the positive impacts of funded strategies. The Holt Fund is just one of the many assets in the area. The recommendation of specific partnerships and strategies goes beyond the scope of this report.

*Various levels of interventions should be considered when identifying how best to address community need.*

The Health Impact Pyramid developed by CDC Director Thomas Frieden, uses a five tier approach to describe the impact of different types of public health interventions and provides a framework

to improve health (Figure 43). At the base of the pyramid are interventions with the greatest impact that influence social determinants of health such as poverty, education and housing. Above the base level are interventions that change the context in which an individual is making health related decisions so that the default decision is the healthy choice. Above the context are protective interventions such as immunizations and screenings that have short term contact with the individual but long lasting protection. The top two tiers of the pyramid focus on ongoing direct clinical care, and health education and counseling. According to Frieden’s research, the interventions focusing on the lower levels of the pyramid tend to be more effective because they reach broader segments of the community and require less individual effort. To have a sustained benefit, interventions should be enacted at all levels and include program and service delivery as well as policy and systems change approaches.

**FIGURE 43. HEALTH IMPACT PYRAMID, 2010**



**Source:** Frieden, Thomas R. *A Framework for Public Health Action: The Health Impact Pyramid*. *American Journal of Public Health*. April 2010, Vol. 100, no. 4., pp. 590–595.

*Emphasis should be made on the use of evidence-based strategies whenever feasible.*

Evidence-based strategies are approaches to health promotion and disease prevention where the effectiveness is supported by research. In order to maximize the impact of Holt funded programs or initiatives and increase the likelihood of their success, the Holt Fund should encourage grantees to use evidence-based strategies when choosing how and where to invest its limited resources. When identifying appropriate evidence-based strategies or best-practice models, it should be recognized that the rural nature of the Holt area may impact the effectiveness or feasibility of a particular strategy.

*Efforts to increase health literacy could positively impact health behaviors.*

Every day, individuals make health related decisions in such places as the grocery store, pharmacy, workplace, playground, doctor or dentist's office, hospital and at home. Health information and services are essential to making appropriate health decisions. In the Holt catchment area, low literacy levels, an aging population, and limited opportunities for regular, consistent communication further impact the health literacy of the region. The need to improve health literacy is important as the health care system is putting greater emphasis on consumers to take charge of their own health and health decisions.

When considering the Holt catchment area, improved health literacy can influence increases in:

- Rates of cancer or mental health screenings, for early detection
- Improved oral health through better oral hygiene
- Understanding of how to prepare and utilize fresh fruits and vegetables in a regular nutritious diet

*Disparate rates in health outcomes suggest the need for further research.*

This report provides an overview of existing social, economic and health data for the area. Within the findings, there are some areas that may be relevant for the Holt Fund or others to explore further. For example, the years of potential life lost (YPLL) for Windsor County is substantially higher than that of Windham County or Vermont. What factors are influencing this number? What can be done to reduce the YPLL of the County? Findings from this research could be the basis for coordinated efforts across the community to address factors associated with this indicator.



*The Holt Fund should build on the assets of the community by continuing to engage the Distribution Review Committee in guiding and informing funding decisions.*

Throughout the focus groups and interviews, participants commented on the strength of the collaborative nature of the communities. To effectively be part of the community fabric that makes up the Holt catchment area and Vermont, the Holt Fund should continue to engage an advisory group of Vermont residents to advise the Holt Fund on funding decisions and give a local voice to planning. This group, currently known as the Distribution Review Committee, connects the Holt Fund to the day to day activities in the area and supports the neighbor helping neighbor culture in the community by advising the Trustee on local context, resources and challenges.

*Finally, the Holt Fund should reevaluate the health needs and assets in the area every five to six years to ensure its activities are working to change the health of the residents in Grafton, Vermont and surrounding communities.*

Guided by a social determinants of health framework, this report provides a health portrait of the Holt Fund's catchment area. Reviewing available quantitative and qualitative data every five to six years will enable the Holt Fund to identify emerging issues, trends, factors and events influencing the community's health. As the Holt Fund continues to invest in activities to meet the health and medical needs of Grafton, Vermont and surrounding communities, this information can be utilized to assess impact and guide future investments and partnerships.

For more information, please visit [www.hria.org](http://www.hria.org).  
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