

Vermont in Transition:

A Summary of Social Economic and Environmental Trends

A study by

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for the

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Chapter 12: HEALTH AND HEALTH CARE



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Chapter 12:

HEALTH AND HEALTH CARE

One of the great triumphs of the 20th century has been the vast improvement in human health, a pattern that continues even into the 21st century. Perhaps the simplest summary statistic to capture these improvements is life expectancy—the length of time newborn children will live if they die at the rates that are current at the year of their births. Demographers estimate that the average American child born in 1900 would only live to his or her 47th birthday. By 1950, the figure had increased to 68, and the 2005 estimate of life expectancy is almost 78 years—longest for White females (80 years) and lowest for Black males (69 years). The reasons for these successes are partly related to advances in medical technology, but more important are improvements in public health and the gradual and universal increase in the standard of living. Immunology, stable food and water supplies, as well as improvements in housing, work conditions, and a better understanding of the hidden threats to good health have all played central roles in improving health. These improvements have helped extend health care to more people, but the most dramatic improvements have gone to the very young and the very old. Unfortunately, segments of the population with fewer resources—such as less access to health care and lower educations—have significantly higher rates of morbidity and mortality.

By virtually all measures, Vermont ranks as one of the healthiest states in the United States, and has been in that enviable position for most of the past 20 years. According to the United Health Foundation's 2008 ranking, Vermont has been number one in overall health for two consecutive years, up from number six at the turn of the century. Going back to 1990, Vermont only fell out of the top quintile two years of the 17. Other ranking systems also give Vermont similarly high grades, so the trends are very good indeed. The United Health Foundation includes in its list of Vermont's strengths the low percent of children in poverty, the low percent of obesity, the low infant mortality rate, the high rates of immunization, and high educational levels. As will be seen in this chapter, Vermonters also exercise more, smoke less, and have high rates of prenatal care. The rates of violent crime in Vermont are often the lowest in the nation, as are the proportion of births to unwed

mothers and teenagers, and the percent of alcohol-related highway deaths. Despite all this, there are problems. Not everyone has access to high quality health care, and Vermont has high rates of binge drinking among all ages (including teens), and drug abuse is a continuing source of concern.

The reasons for Vermont's high rankings are many, but high on the list of causes is a very good medical care infrastructure given the size of the state (e.g., a large medical school) and high rates of insurance coverage, including Medicaid benefits extended to more citizens and covering more expenses.¹ This chapter will also show that such good health care is expensive—Vermont has higher than average per capita health care costs than the U.S. average, but lower than most of New England.

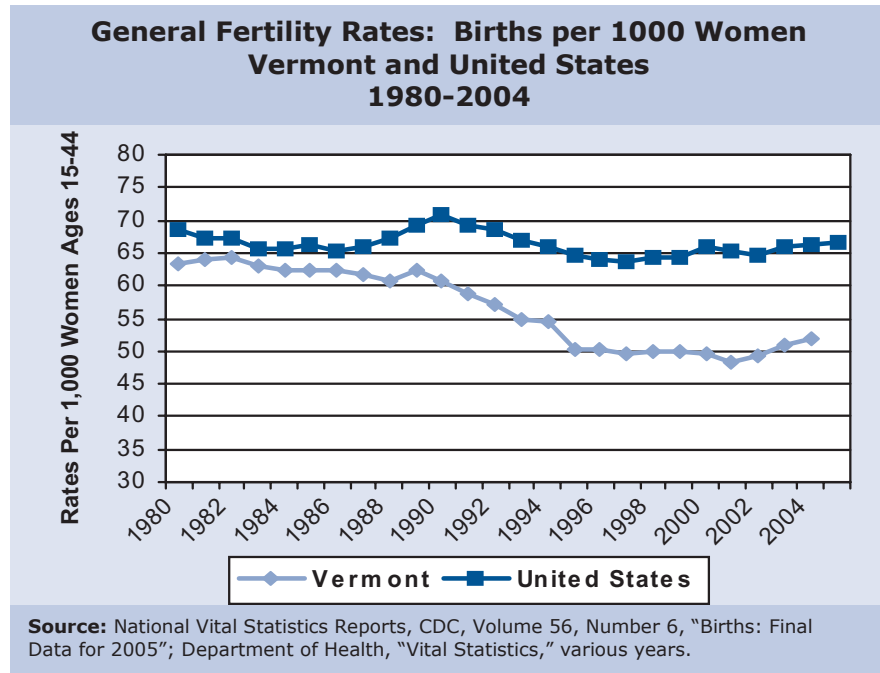
Health Trends in Vermont

Trend number 1: There have been significant reductions in fertility among women of all ages, but increases in births to women who are not married. Mortality trends have continued their historic improvements resulting in longer life expectancies and lower death rates for most causes.

The general fertility rate in Vermont continues to fall and consistently ranks among the lowest in the nation. The chart below shows this continuing decrease to about 50 births per 1,000 women of childbearing age for 2004, a far cry from the baby boom rates of the 1950s and 1960s when the rate frequently exceeded 100; in 1960 it was as high as 126. Birth rates in much of the Western world are lowest among non-Hispanic Whites, a category that includes the vast majority of Vermont's population. This is one of the reasons

¹ The Henry J. Kaiser Foundation, "State Medicaid Fact Sheets" and "Health Coverage in the U.S., 2006."

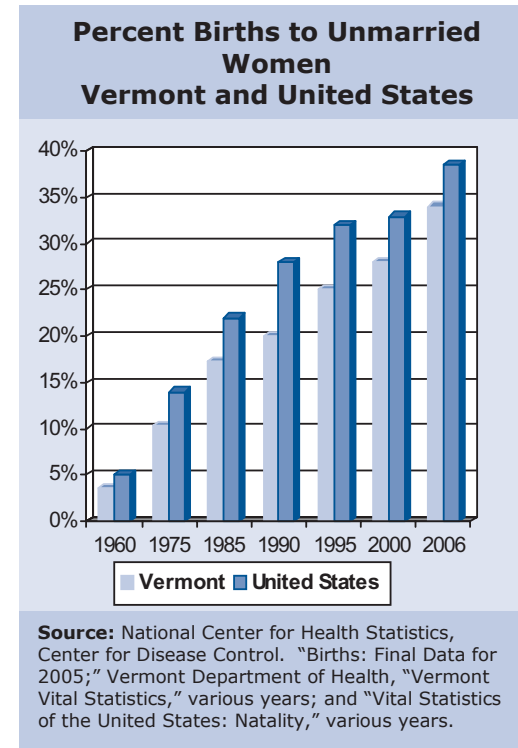
for Vermont's relatively low rate of population growth. Between 2000 and 2007, 47,131 babies were born, easily replacing the 36,718 deaths for the same period. But as one reminder of the prevailing trend towards fewer births, there were 6,597 Vermont babies born in 2004. In 1857, when the population was about half the current number, 6,538 babies were born.²



A surprising part of the fertility change is that the Vermont rate of birth for teens has consistently been among the five lowest in the nation, and it continues to drop (see Appendix, chart 12-1). This is universally regarded as a healthy sign among health care officials and human service workers alike. Prior to the 1970s, most teen births were to young married women, but no longer.

The percent of births to unmarried women of all ages has been rising dramatically for half a century, a cause of concern among many agencies of the state as well as social critics. For complex reasons, African American women have had high rates of fertility among the unmarried. For more than a decade, two-thirds of births to Black women have been to women who were

not married. White birth rates have been significantly lower, but seem to be following the non-marital childbearing pattern of Blacks. In 1960, only one out of every 20 babies born in Vermont were born to mothers who were not married, but by 2006 that ratio had increased to one out of every three. The pattern is increasing in most of Europe as well, where marriage rates have fallen precipitously. This is an important trend that is of great interest to social scientists and public officials and has an impact on households and families in Vermont.

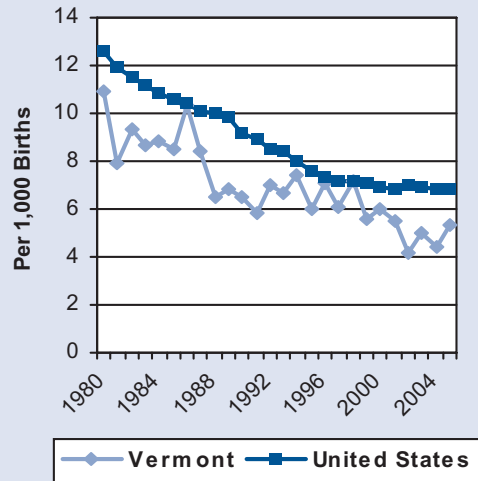


By almost all measures, the quality of health in Vermont has improved over the past several decades. If the secret to a long life is simply to postpone death, then more and more Vermonters have succeeded. Regardless of which measure of mortality one uses, there is a downward trend in the rates at which people die, allowing longer and healthier lives. In fact, Vermont's rates are among the lowest in the country, even when compared to the rates of the national White population (see Appendix, 12-2). It was not always this way; prior to the 1970s, the Vermont "crude death rate" was higher than that of the national crude death rate for Whites. Most of the improvements in curbing deaths have taken place at the extremes of life—to infants and to the very old. Increasing rates of immunization, broader education, improvements in medical technology, and strong public health measures have also succeeded in controlling infectious diseases, allowing higher proportions of deaths to occur among the elderly where the "diseases of degeneration" inevitably take their toll.

The infant mortality rate is a common measure of societal health, and by that standard, the trends in Vermont have been very positive indeed. Here

² U.S. Census Bureau, Population Division, "Cumulative Estimates of the Components of Population Change" December, 2007.

Infant Mortality Rates Vermont and United States 1980-2005



Source: Bureau of the Census, "Statistical Abstract of the United States," various years; Vermont Department of Health, "Vital Statistics," various years.

too, Vermont's rates are consistently among the lowest in the nation, and the trend continues downward. There is speculation that the rates are approaching the hypothetical minimum, so it is not clear that the rates can fall much more. According to the March of Dimes Foundation, even the death rate for premature infants is the lowest in the nation. The long-term trend is quite impressive—at the start of the 20th century, more than 100 out of every 1,000 babies died before his or her first birthday. By 1950, the ratio in Vermont was down to 26 out of 1,000, and today the figure stands at about six per 1,000. One associated trend that has helped is that Vermont has one of the highest rates of mothers getting early pre-natal care (see Appendix, 12-3). Fewer than 2% of mothers get no prenatal care, the fourth best rate in the nation. There is a vexing counter-trend: Vermont's rate of smoking during pregnancy is quite high—18% in Vermont compared to only 11% for the nation. Improvements since 1990 have been minor and inconsistent.³

Vermont's leading causes of death among non-infants are parallel to the leading causes of death throughout the United States. Heart disease, cancer and stroke are the leading killers. The combined deaths from heart disease and cancer claim the lives of about 50% of Vermonters in any given year. As can be seen in the chart in the Appendix (12-4) good progress in reducing deaths by heart disease is being made; although overall cancer mortality rates have changed very little in the past two

decades, they are higher than they were in the 1950s through the 1970s. It is especially good news, however, that since 1990, cancer mortality rates have declined appreciably in three of the most common forms of cancer: lung cancer, breast cancer, and prostate cancer. Reasons for these improvements are complex, but such factors as decreasing the percentage of Vermonters who smoke and increasing the number of mammograms per year are among the types of changes that promise improvements in future cancer death rates.⁴ Appendix, 12-13 also contains a chart on the positive trends in increased use of mammogram screening. It sometimes helps focus our perspective to see the actual number of people who die from the leading causes. In 2004 the numbers were as follows: *heart diseases* (1,285 deaths), *cancer* (1,212), *stroke* (328), *lower respiratory disease* (297), *accidents and unintentional injuries* (252), *Alzheimer's disease* (173), *diabetes* (149), *suicide* (91), *influenza and pneumonia* (86), *kidney disease* (59). The numbers of AIDS/HIV deaths are currently in single digits (see Appendix, 12-5).

Trend number 2: Many forms of risk behavior have declined over the past several decades. Smoking has shown improvements, and seat belt use has vastly improved, but binge drinking remains a persistent problem, and obesity and diabetes have emerged as widespread concerns.

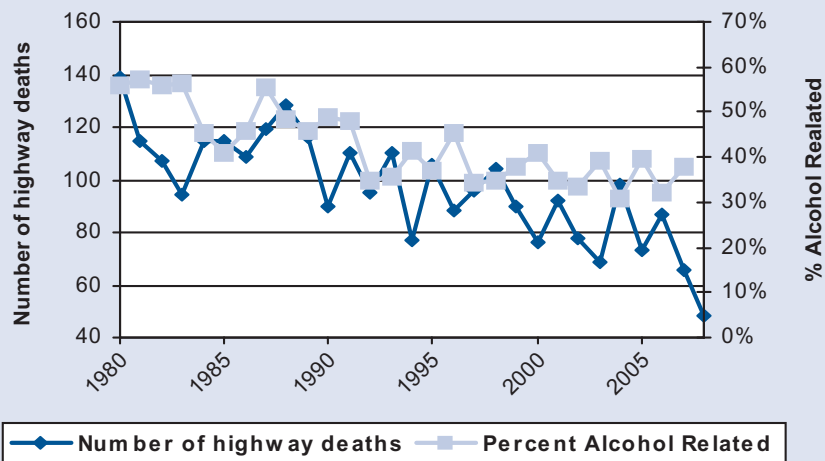
Among some of the more "preventable" deaths, the trends also tend to be positive. Death rates for accidents and injuries have fallen since 1980 (see Appendix, 12-6) as have motor vehicle deaths, and most conspicuously, those involving alcohol. One reason is the increase in the use of seatbelts—from only about 20% in 1985 to 80% in 2007 (see Appendix, 12-7 and 12-8). Deaths from suicide, however, have shown modest and uneven improvements (see Appendix, 12-9). Urban legend has it that Vermont has a particularly high suicide rate, but the gap virtually disappears when the Vermont rate is compared to the White rate for the rest of the country, as Whites have significantly higher rates than others. Suicide is also predominantly done by males, especially during their retirement years with rates that are seven to ten times higher than the rates for women in the same ages.⁵

³ Vermont Agency of Human Services, Planning Division, "Vermont Well-Being: A Social Indicators Sourcebook," May, 2006, David Murphey.

⁴ Vermont Department of Health, "The Health Status of Vermonters: 2008."

⁵ Ibid.

Total Highway Deaths and Percent Alcohol Related 1980-2007 Vermont



Source: Vermont Department of Public Safety, Governor's Highway Safety, courtesy Steve Reckers

As the baby boom generation (those born between 1946 and 1964) enters the retirement years, the suicide rate will almost certainly increase. The number of suicides in Vermont is always higher than the number of homicides; in 2004, there were only ten homicides (always one of the lowest rates in the U.S.) but 91 suicides.

Unfortunately, some mortality trends are of ongoing concern. Diabetes, for example, has been claiming the lives of Vermonters at a rate which is higher than the U.S. average (91 deaths per 100,000 compared to 68 per 100,000) and the projected prevalence is quite alarming--especially type 2 diabetes, often linked to the obesity epidemic. According to the Vermont Department of Health 2008 publication on "The Health Status of Vermonters," about 650 Vermonters die each year from diabetes and diabetes-related causes, and the "Vermont Health Care Quality Report" singled diabetes out as a focus in the 2003 report. Another major concern to public health officials is the prospect of influenza of pandemic proportions. A health "Summit" was held on the subject in January of 2006, and "preparedness exercises" have been carefully rehearsed and critiqued. Sharon Moffatt, the Acting Commissioner of the

Department of Health, called pandemic influenza of "highest concern" in her report in the February *Blue Book* of 2007. Recent fears of a Vermont HIV/AIDS pandemic seem to have been met with successful public educational efforts and modern drug treatments. After reaching a peak of 33 deaths in the early stages of the epidemic, the number of annual deaths has fallen to the single digits for the past five years (see Appendix, 12-5).

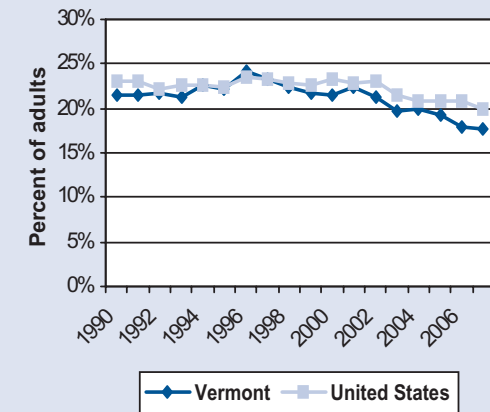
Death is inevitable, but there are many behaviors that can either shorten or extend our life expectancy. Smoking is often regarded as the greatest preventable cause of death, as well as one of the major contributors to chronic illness and compromised quality of life. While the rates have dropped to just under 20% of Vermont adults, the state is still well short of the year 2010 goal of 12% set forth in "Healthy Vermonters, 2010."⁶ For many analysts, the disparities in smoking habits symbolize deeper social and economic issues. For example, the rates are much higher among those who experience mental illness (40%), racial and ethnic minorities (31%) and persons living within 125% of the state's poverty level (37%).⁷ The smoking rate for teens has been dropping significantly over the past decade. To pick just one teen age category, 45% of Vermont 12th graders smoked in 1995, but by 2005 the proportion had dropped to 23%.⁸ Higher taxes and education seems to be having the desired effect. On the other

⁶ A current smoker is one who smokes "every day" or "some days."

⁷ Vermont Department of Health, "The Health Status of Vermonters: 2008."

⁸ Vermont Agency of Human Services, Planning Division, "Vermont Well-Being: A Social Indicators Sourcebook," May, 2006, David Murphey.

Current Adult Smokers as Percent of the Adult Population Vermont and United States 1990-2007



Source: Centers for Disease Control, Behavioral Risk Factor Surveillance System, "Current Smokers;" and Smoking and Tobacco Use, State Tobacco Activities Tracking and Evaluation System (STATE): Detailed Report, <http://apps.nccd.cdc.gov/statesystem/>.

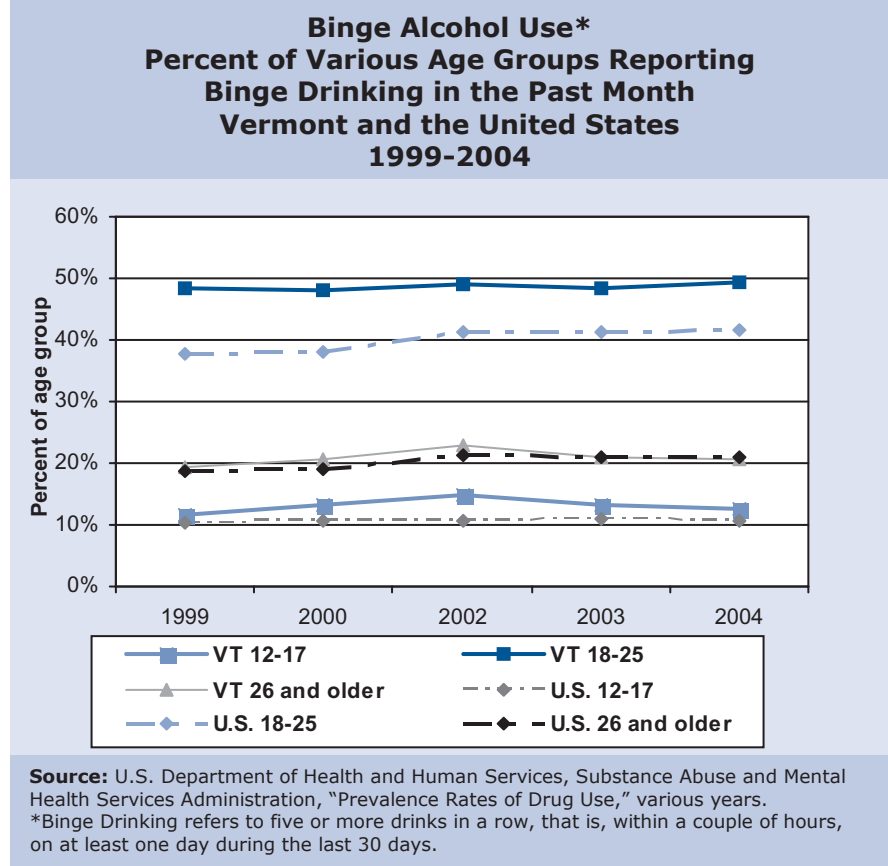
* A current smoker is one who smokes "every day" or "some days."

hand, the current rate of marijuana usage among high school students was of concern, at about 25%, compared to the U.S. average of only 20% (also see other relevant charts in the Appendix, 12-10.)⁹

The per capita amount of alcohol consumed has also fallen since the 1970s, but is still much higher in Vermont than in most other states. Expressed in terms of per capita ethanol consumed, the average has fallen from 3.5 gallons per person per year to about 2.5 gallons per year (see Appendix, 12-11). “Binge drinking” (the percentage of adults who have drunk five or more drinks on a single occasion in the past 30 days) has also dropped from 21% in 1990 to 16% in 2004, but Vermont still ranks above the national average in problem drinking.¹⁰ Coordinated efforts of multiple private and public agencies have made impressive strides in reducing the amount of alcohol related highway fatalities as well as increased seat belt compliance. In 1980, Vermont experienced 139 highway deaths, and 78 of them were alcohol related. By 2007, the number of highway deaths was down to 66, with only 25 of them alcohol related (see charts in Appendix).

According to the well respected national surveys conducted by the Substance Abuse and Mental Health Services Administration and the CDC, drinking among young people is a special problem. Almost 50% of Vermont’s 18 to 25 year olds have “binged” at a rate that is significantly higher than the national norm, and even the rate for high school aged youth runs a bit higher than the national averages, with about 12% of Vermont’s 12 to 17 year old children binge drinking in the past month. By a less extreme measure, the overall rate of teen drinking (those who had at least one drink in the last 30 days) has been falling over the past 10 or more years, from 53% in 1993 to 42% in 2007.¹¹ The level of drinking is not only considered a problem because of its direct threat to health, but it also is an indicator of broader problems of well-being as well as shortages of social and psychological assets, an association well documented by David Murphey in “Vermont Well-Being: A Social Indicators Sourcebook,” by the Vermont Agency of Human Services.

⁹ Center for Disease Control, Youth Risk Behavior Survey, and Vermont Department of Health, “The Health Status of Vermonters: 2008.”
¹⁰ Vermont Agency of Human Services, Planning Division, Vermont Well-Being: A Social Indicators Sourcebook,” May, 2006, David Murphey.
¹¹ Ibid. and Center for Disease Control, the Youth Risk Behavior Survey, and Vermont Department of Health, “The Health Status of Vermonters: 2008.”

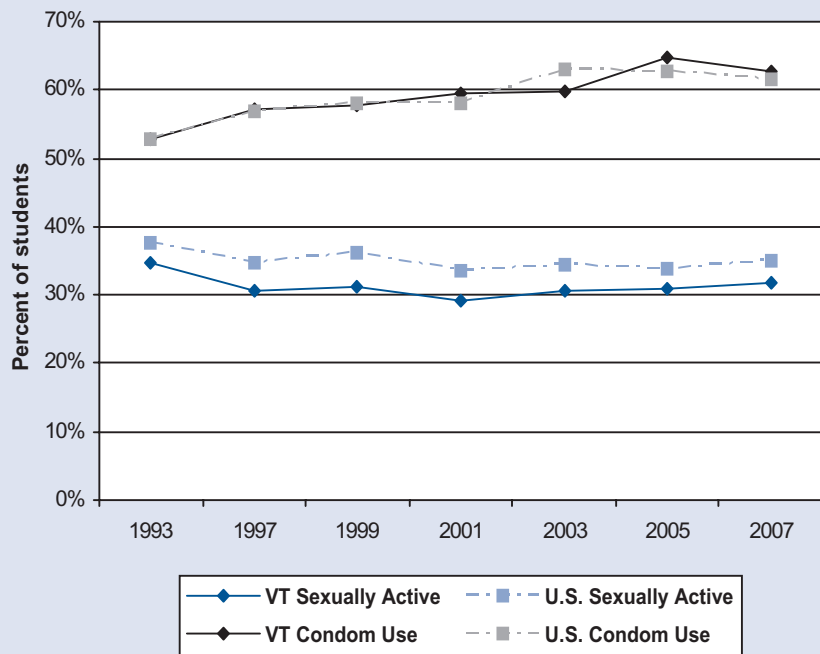


Teenage sexual activity presents risk factors that many young people are not prepared to manage. The rate of sexual activity has decreased slightly, but there has been a steep rise in sexually transmitted infections. By 2004, the rate of infections to 15-19 year olds had nearly doubled from the rate of 1995.¹² While the rate of births among teens has fallen, teens are particularly vulnerable to the consequences of unwanted pregnancies. Condom use in the age group has shown little change.

One of the most notable health problems in the United States is the unmistakable trend towards increased rates of obesity, i.e., those with a “Body Mass Index” in excess of 30. Even Vermont, with its lower than average obesity rates, has increased its proportion of obese from about

¹² Vermont Agency of Human Services, Planning Division, “Vermont Well-Being: A Social Indicators Sourcebook,” May, 2006, David Murphey.

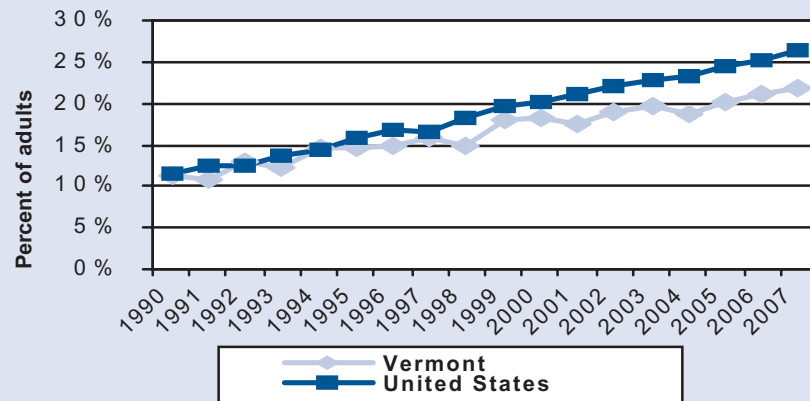
Sexual Activity of High School Students: Self-Reports of Risk Behavior* Vermont and United States 1993-2007



Source: Center for Disease Control, Youth Risk Behavior Survey, Healthy Youth!, Youth Online: Comprehensive Results
 *Sexually Active: Percentage of students who had sexual intercourse with at least one person during the 3 months before the survey
 *Condom Use: Among students who were currently sexually active, the percentage who reported that either they or their partner had used a condom during last sexual intercourse

11% in 1990 to 21% in 2005 (see chart). Left unchecked, the consequences for future rates of heart disease, stroke, diabetes, and ultimately life expectancy, are alarming. The list of causes of this national epidemic is long, but inadequate diets and lack of exercise are well documented. Partly in response to our widening waistlines, there has been a recent trend to desire greater exercise. Today, however, about one out of every five Vermont adults has no regular leisure time physical activity in their lives, down from one of four in 1990 (see Appendix, 12-12).

Percent of Adults Who are Obese Vermont and United States 1990-2007



Source: Centers for Disease Control, Behavioral Risk Factor Surveillance System.

Trend number 3: Health care costs are high and continue to increase both on a per capita basis and as a percent of the Gross State Product. In-patient hospitalization has fallen while out-patient care has increased. In the mental health field, caseloads at community based facilities have risen as have hospitalization episodes for mental illness and substance abuse.

The health care industry is constantly in the news, and health care reform is a frequent topic of political discussion. Steady increases in the costs of both medical care and health insurance—as well as issues of access—have touched the lives of many Vermonters and kept health care on the political burner for more than a decade. A 2005 poll of Vermonters found that among 10 possible aspects of life that were potentially “under attack,” health care issues were tied with economic issues as the most concerning, well ahead of people’s worries about crime, the environment, education or the “family values” issues. This concern was dramatically higher in 2005 than it had been in earlier polls done in 1995 and 2000.¹³ By many

¹³ Vermont Business Roundtable, “Pulse of Vermont: Quality of Life Study 2005” by Vince Bolduc and Herb Kessel.

measures, health care has improved with improved technology, better preventative care, and more efficient delivery systems.

These concerns of costs and access are not without basis. The medical care component of the national consumer price index regularly exceeds the overall index, and these increasing costs are also felt in the state. The total annual health care expenditures in Vermont have experienced growth rates of between seven and 12% every year since 1999 (see Appendix, 12-15). By 2006, per capita health care expenditures were at \$6,321—less than the national per capita figure of \$7,092, but nonetheless representing an increasing burden to Vermonters over prior decades. Vermont’s total health care expenditures climbed from about 11% of the Gross State Product in 1994 to 16.3% in 2006 (see chart). Vermont costs are increasing at a slightly higher rate than other New England states, but Vermont’s per capita spending has traditionally been lower than that of those other states. According to national estimates for the latest years available (2000 to 2004) health care spending as a percent of Gross State Product for Vermont was estimated to be about two to three percentage points higher than that of the U.S. Also, the average annual growth rate for Vermont residents’ total health care expenditures from 1991 to 2004 was estimated to be 8.4%, compared to the U.S. average of 6.7%.¹⁴

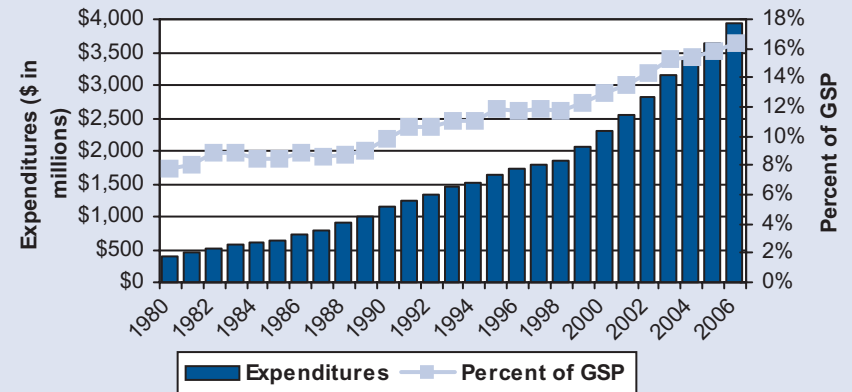
Vermont is ahead of the nation in extending health care insurance to a higher proportion of its citizens, with yearly surveys typically finding about 10% (63,639 people in 2006) without coverage, well under the 16% figure for the United States (see Appendix, 12-14).¹⁵ Vermont’s proportion without coverage has been increasing slightly since 2000 as many small companies find the costs of coverage burdensome. The highest proportion of uninsured are aged 18 to 34, and 35% of the uninsured have been without coverage for five or more years.¹⁶ It is expected that the new State run medical insurance program, Catamount, will increase the coverage to

¹⁴ Vermont Department of Banking, Insurance, Securities and Health Care Administration, “2006 Vermont Health Care Expenditure Analysis and Three Year Forecast,” The national data from CMS are from: <http://www.cms.hhs.gov/NationalHealthExpendData/downloads/nhestatesummary2004.pdf> and <http://www.cms.hhs.gov/NationalHealthExpendData/downloads/res-us.pdf>

¹⁵ The Henry J. Kaiser Foundation, “Health Coverage in the U.S., 2006.”

¹⁶ Vermont Department of Banking, Insurance, Securities and Health Care Administration, Vermont Division of Health Care Administration, “2005 Vermont Household Health Insurance Survey: Final Report,” August, 2006, by Market Decisions.

Total Health Care Expenditures and Expenditures as a Percent of Gross State Product* Vermont 1980-2006



Source: Vermont Department of Banking, Insurance, Securities and Health Care Administration, “2006 Vermont Health Care Expenditure Analysis and Three Year Forecast,” January, 2008; Centers for Medicaid and Medicare Services, “Health Expenditures by State of Residence:1991-2004”; U.S. Dept of Commerce, Bureau of Economic Analysis. “State Economic Growth Widespread in 2006.”

* State estimates of both variables are based in two separate sources (some provider based) which—for methodological reasons—sometimes differ slightly from year to year, but the overall picture remains the same.

still more Vermonters. Private insurance companies provide the bulk of the insurance coverage (59%), with Medicaid and Medicare each covering an additional 14.5% each. But when it comes to actually paying the bills, private payers picked up over 40% of the state’s expenditures, with another 12% coming out-of-pocket; government programs paid the remainder (see charts on next page). Compared to most other states, Vermont has been particularly efficient at extending Medicaid coverage to a higher proportion of eligible recipients as well as paying a higher ratio of benefits.¹⁷

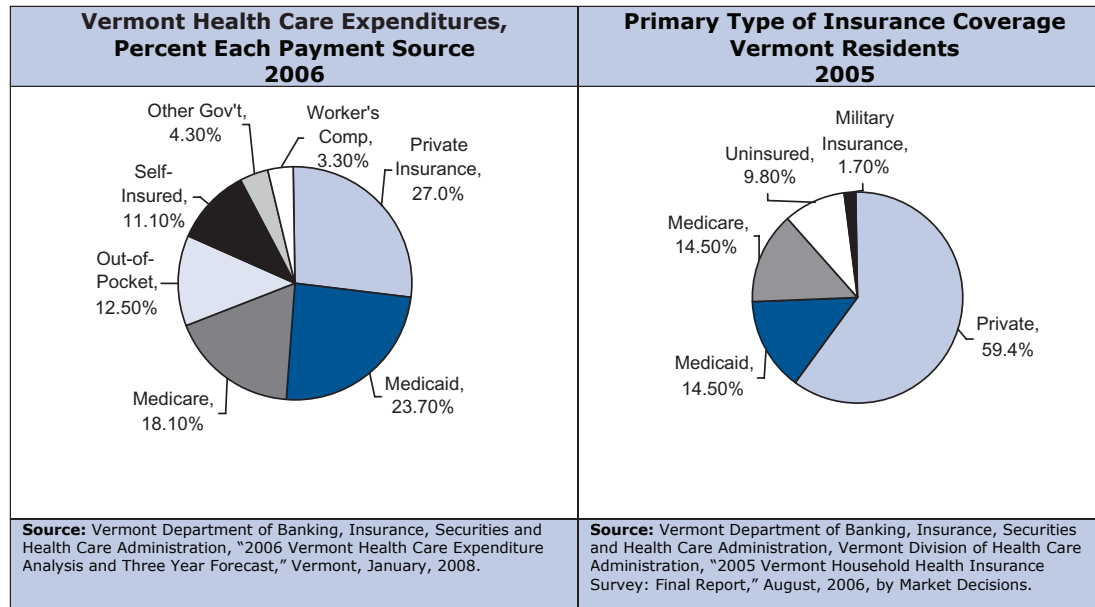
¹⁷ “2006 Vermont Health Care Expenditure Analysis and Three-Year Forecast,” Vermont Department of Banking, Insurance, Securities & Health Care Administration.

Overall hospital services have increased due to improved health care technologies, population growth, patient's access to services, and intensity of services. Increased technologies are reflected in services such as surgery, radiology, and prescription drugs. While services have increased, there has been a shift from care in the inpatient setting to care in the outpatient setting. Vermont's hospitalization rate (as measured by discharges per 1,000

population) has declined 27% since 1990 (see chart in Appendix, 12-16). In addition, the average length of hospital stays has also decreased by 30% during the same time period, from about 6.6 days in 1990 to 4.5 in 2006 (see Appendix, 12-17). This trend has also been seen nationally and is reflective of both the change in technology and an effort by payers to reduce cost increases. For example, Medicare and insurance reimbursement policies have encouraged hospitals to reduce lengths of stay and to provide services in the outpatient setting.¹⁸

Approaches to the treatment of mental illness have changed significantly over the past decades, reflecting some national changes in both funding sources and preferred practice changes. For example, there were more than 1,200 patients in the Vermont State Hospital in Waterbury in 1960 and today the number is under 50 (see Appendix, 12-18). Instead, many Vermonter adults dealing with mental illness (and often drug abuse) are being treated in Community Mental Health facilities with caseloads that continue to climb; others spend time in community hospitals, the Brattleboro Retreat or the White River Junction VA Medical Center. Since 1990, the number of hospitalization episodes has increased, while the number of patient days has decreased. (See several charts

¹⁸ Vermont Department of Banking, Insurance, Securities & Health Care Administration, "2006 Inpatient Hospitalization Report"



in Appendix on this subject, 12-19 through 12-21).¹⁹

In recent decades, the health care workforce has undergone changes that are a cause of concern, and are a focus of a 500 page report sent to the Governor in 2005 by the Commissioner of the Vermont Department of Banking, Insurance, Securities & Health Care Administration. Some of the trends are very positive, such as the increasing percent of women physicians (see

Appendix, 12-22).²⁰ Just a few of the concerns are:

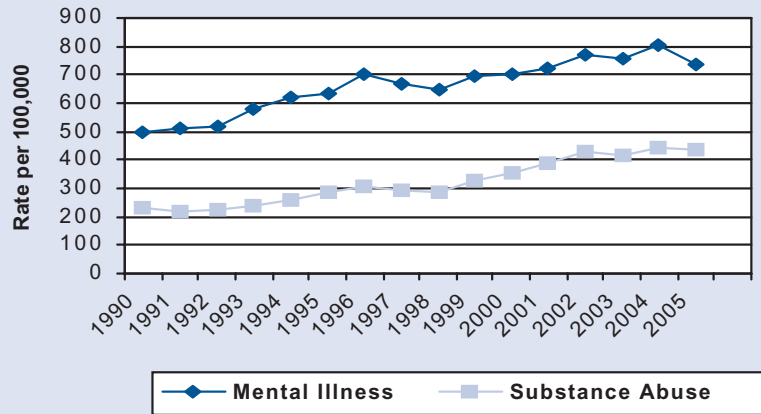
- Both an aging Vermont population and an aging workforce of health care providers, already "prone to shortages and mal-distribution;"²¹
- Four hospital service areas with shortages of primary care physicians;
- A shortage of Psychiatrists and other specialists, and employers reporting difficulty in recruiting many health care workers, especially registered nurses;
- Many areas of the state report shortages and mal-distribution of personnel in ambulatory care services;
- In keeping with the trends to shorten in-hospital stays and an aging population, community based health services (both long-term care and mental health and substance abuse services) are under stress. Many home health and enhanced residential care programs are already at or near capacity, and others have long waiting lists.

¹⁹ Department of Health, "Inpatient Behavioral Health Care Services Provided to Vermont Residents, 1990-2005," Vermont Mental Health Performance Indicator Project, , John Pandiani and Brennan Martin, August, 2007.

²⁰ State of Vermont, Vermont Department of Banking, Insurance, Securities & Health Care Administration, "Health Resource Allocation Plan," 2005.

²¹ State of Vermont, Vermont Department of Banking, Insurance, Securities & Health Care Administration, "Health Resource Allocation Plan," 2005, page 233-235,

**Rate of Hospitalization Episodes
For Mental Illness and Substance Abuse
Per 100,000 population
Vermont
1990-2005**



Note: Included in the category of "Vermont hospitals" Vermont State Hospital, Brattleboro Retreat, VA Hospital, out-of-state hospitals.
Source: Vermont Department of Health, Mental Health Performance Indicator Project, "Inpatient Behavioral Health Care Services Provided to Vermont Residents, 1990-2005," John Pandiani and Brennan Martin, August, 2007.

In sum, the most notable trends in Vermont health issues in the past several decades appear in the list below.

1. There have been significant reductions in fertility among women of all ages, but increases in births to women who are not married. Mortality trends have continued their historic improvements resulting in longer life expectancies and lower death rates for most causes.
2. Many forms of risk behavior have declined over the past several decades. Smoking has shown improvements, and seat belt use has vastly improved, but binge drinking remains a persistent problem, and obesity and diabetes have emerged as widespread concerns in the health community.
3. Health care costs are high and continue to increase both on a per capita basis and as a percent of the Gross State Product. In-patient hospitalization has fallen while out-patient care has increased. In the mental health field, caseloads at community based facilities have risen as have hospitalization episodes for mental illness and substance abuse.

For the appendices and for pdf versions of this report, please visit the Council on the Future of Vermont's website; www.futureofvermont.org, or visit Vermont Council on Rural Development at www.vtrural.org.

The Appendix for this chapter contains the following charts:

1. Teen Birth Rates per 1,000 Women, Ages 15-19, Vermont and United States, 1982-2005
2. Crude Death Rates, Vermont and United States, 1980-2005
3. Early Prenatal Care, Vermont and United States, 1992-2004
4. Death Rates for the Two Leading Causes of Death, (Age-Adjusted Per 100,000), Vermont and United States, 1980-2005
5. Number of Deaths to HIV/AIDS, Vermont, 1988-2004
6. Death Rates for All Accidents and Injuries (Per 100,000), Vermont and United States, 1980-2004
7. Motor Vehicle Accident Death Rates, Vermont and United States, 1982-2004
8. Percent of Population Using Seatbelts, Vermont and United States, 1985-2007
9. Suicide Rate Per 100,000, Vermont and United States, 1981-2005
10. Substance Abuse of High School Students, Self-Reports of Risk Behavior, Vermont and United States, 1993-2007
11. Per Capita Alcohol Consumption, Gallons of Ethanol, Vermont and the United States, 1970-2005
12. Percent of Adults Without Leisure Time Physical Activity, Vt. and United States, 1990-2007
13. Percent of Women (Aged 40+), Having a Mammogram within the Past 2 Years, Vermont and United States, 1990-2006
14. Percent Population Covered by Health Insurance, Vermont and United States, 1987-2005
15. Health Care Expenditures per Capita, Vermont, 1991-2004
16. Inpatient Hospital Care, Measured by Discharge Rates, Per 1,000 Age Adjusted Population, Vermont and United States, 1990-2006
17. Average Length of Acute Hospital Stay, Age Adjusted, Vermont, 1990-2006
18. Vermont State Hospital, Year-End Census, 1960-2008
19. Vermont Community Mental Health Caseload, 1985-2007
20. Number of Cumulative Patient Days and Number of Hospitalization Episodes For Mental Illness plus Substance Abuse, Vermont, 1990-2005
21. Hospital Admissions, Discharges & Readmissions, Vermont State Hospital Vermont, 1980-2008
22. Active Physicians and Percent Female, Vermont, 1996-2006

Vermont in Transition:

A Summary of Social Economic and Environmental Trends

A study by

Center for Social Science Research at Saint Michael's College

Vince Bolduc, Ph. D. and Herb Kessel, Ph. D.

for the

Council on the Future of Vermont

December 2008

Chapter 12: HEALTH AND HEALTH CARE ~ APPENDIX

The Appendix for this chapter contains the following charts:

1. Teen Birth Rates per 1,000 Women, Ages 15-19, Vermont and the U.S., 1982-2005
2. Crude Death Rates, Vermont and United States, 1980-2005
3. Early Prenatal Care, Vermont and United States, 1992-2004
4. Death Rates for the Two Leading Causes of Death, (Age-Adjusted Per 100,000), Vermont and United States, 1980-2005
5. Number of Deaths to HIV/AIDS, Vermont, 1988-2005
6. Death Rates for All Accidents and Injuries (Per 100,000), Vermont and United States, 1980-2004
7. Motor Vehicle Accident Death Rates, Vermont and United States, 1982-2004
8. Percent of Population Using Seatbelts, Vermont and United States, 1985-2007
9. Suicide Rate Per 100,000, Vermont and United States, 1981-2005
10. Substance Abuse of High School Students, Self-Reports of Risk Behavior, Vermont and United States, 1993-2007
11. Per Capita Alcohol Consumption, Gallons of Ethanol, Vermont and the United States, 1970-2005
12. Percent of Adults Without Leisure Time Physical Activity, Vt. and United States, 1990-2007
13. Percent of Women (Aged 40+), Having a Mammogram within the Past 2 Years, Vermont and United States, 1990-2006
14. Percent Population Covered by Health Insurance, Vermont and United States, 1987-2005
15. Health Care Expenditures per Capita, Vermont, 1991-2004
16. Inpatient Hospital Care, Measured by Discharge Rates, Per 1,000 Age Adjusted Population, Vermont and U.S., 1990-2006
17. Average Length of Acute Hospital Stay, Age Adjusted, Vermont, 1990-2006
18. Vermont State Hospital, Year-End Census, 1960-2008
19. Vermont Community Mental Health Caseload, 1985-2007
20. Number of Cumulative Patient Days and Number of Hospitalization Episodes For Mental Illness plus Substance Abuse, Vermont, 1990-2005
21. Hospital Admissions, Discharges & Readmissions, Vermont State Hospital Vermont, 1982-2008
22. Active Physicians and Percent Female, Vermont, 1996-2006



**Vermont Council on
Rural Development**

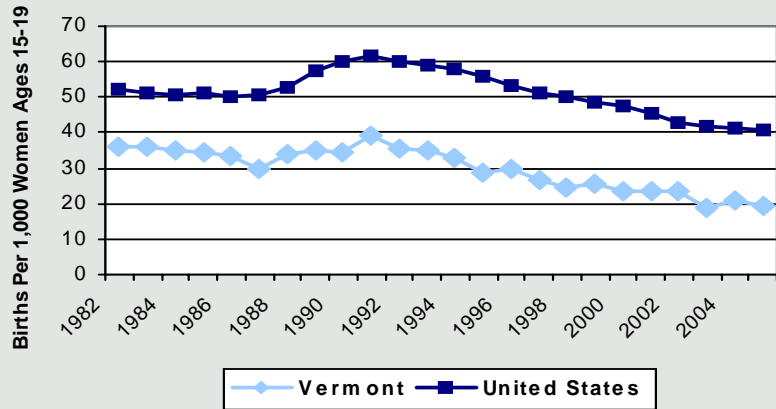
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vcrd2@sover.net;

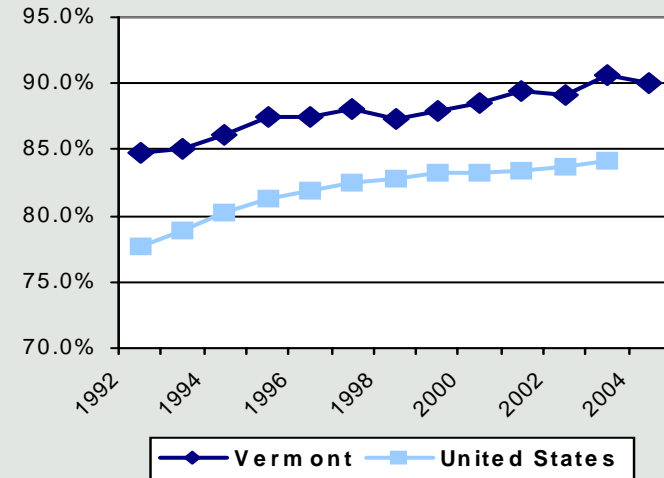
<http://www.vtrural.org>

Chart 12-1: Teen Birth Rates per 1,000 Women, Ages 15-19 Vermont and United States, 1982-2005



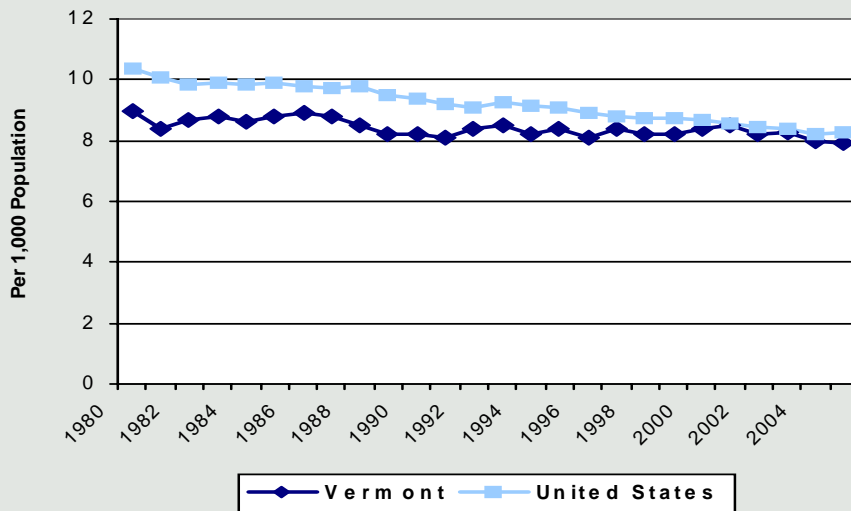
Source: National Center for Health Statistics, Center for Disease Control. "Births: Final Data for 2005;" Vermont Department of Health, "Vermont Vital Statistics," various years.

Chart 12-3: Early Prenatal Care Vermont and United States 1992-2004



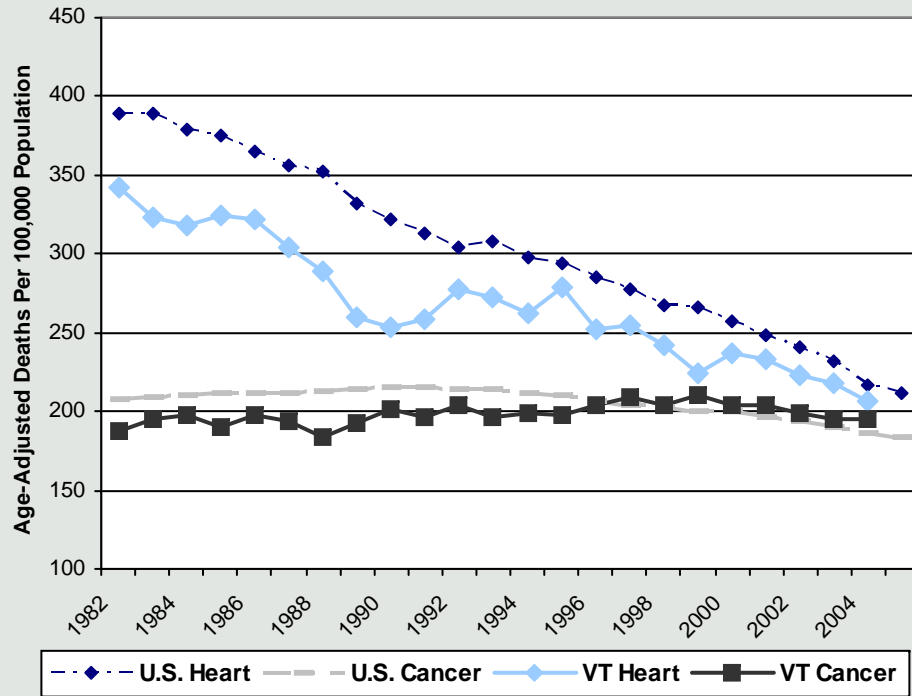
Source: Vermont Agency of Human Services, Planning Division, "Vermont Well-Being: A Social Indicators Sourcebook," May, 2006, David Murphey.

Chart 12-2: Crude Death Rates Vermont and United States, 1980-2005



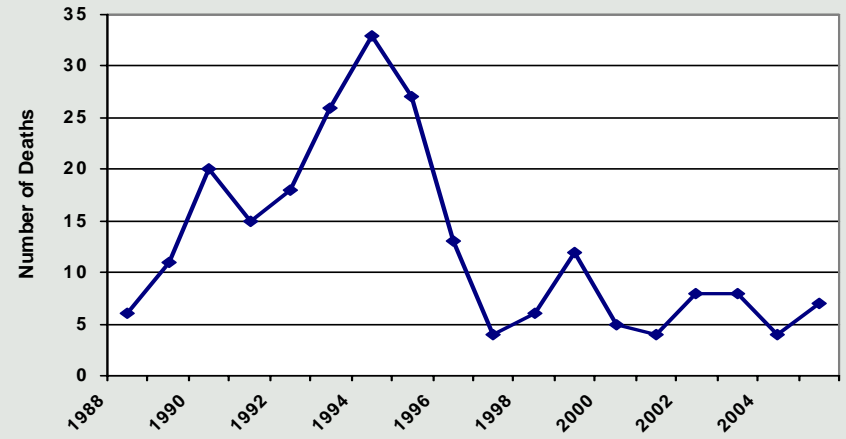
Source: Bureau of the Census, "Statistical Abstract of the United States," various years; Vermont Department of Health, "Vermont Vital Statistics," various years.

Chart 12-4: Death Rates for the Two Leading Causes of Death (Age-Adjusted Per 100,000) Vermont and United States



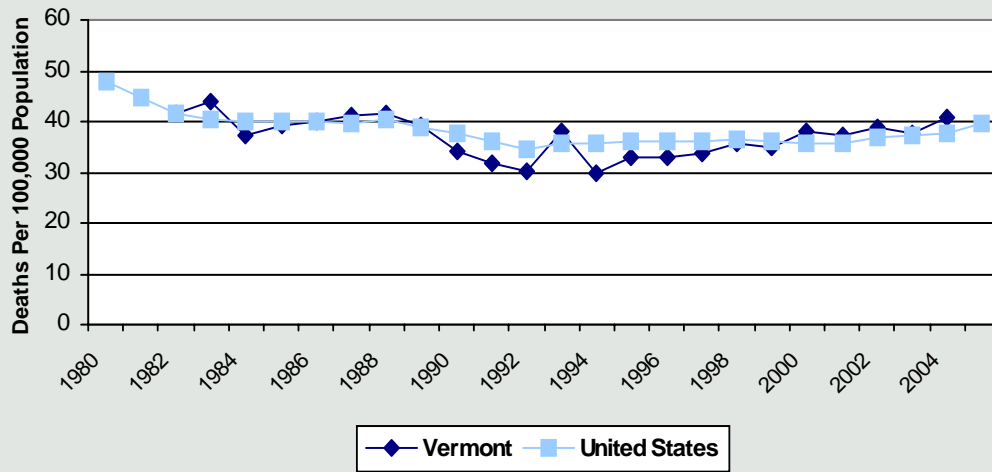
Note: The rates for the time period between 1952 and 1972 were in the 160 per 100,000 range.
Source: Bureau of the Census, "Statistical Abstract of the United States," various years; Vermont Department of Health, "Vermont Vital Statistics," various years.

**Chart 12-5
Number of Deaths Due to HIV/AIDS*
Vermont, 1988 to 2005**



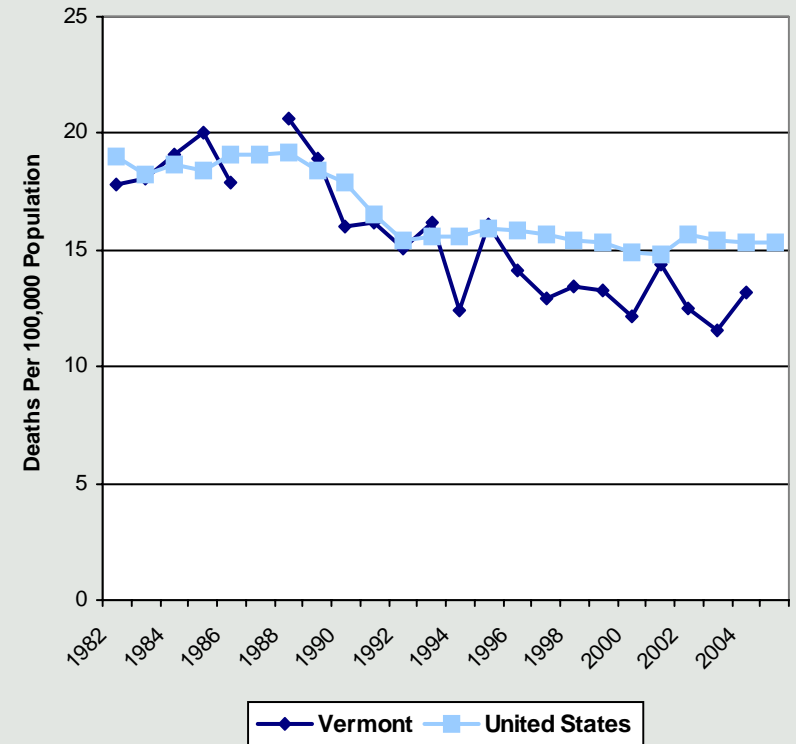
Source: Vermont Department of Health, "Vermont Vital Statistics," various years.

Chart 12-6: Death Rates for All Accidents and Injuries (Per 100,000) Vermont and United States, 1980-2004



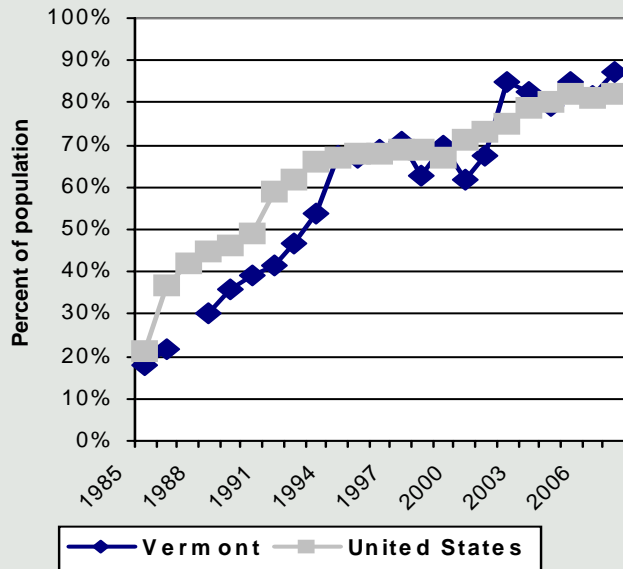
Source: Bureau of the Census, "Statistical Abstract of the United States," various years; Vermont Department of Health, "Vermont Vital Statistics," various years; National Center for Health Statistics, "Deaths: Injuries; National Vital Statistics Reports, Deaths: Final Data."

Chart 12-7: Motor Vehicle Accident Death Rates Vermont and United States 1982 to 2004



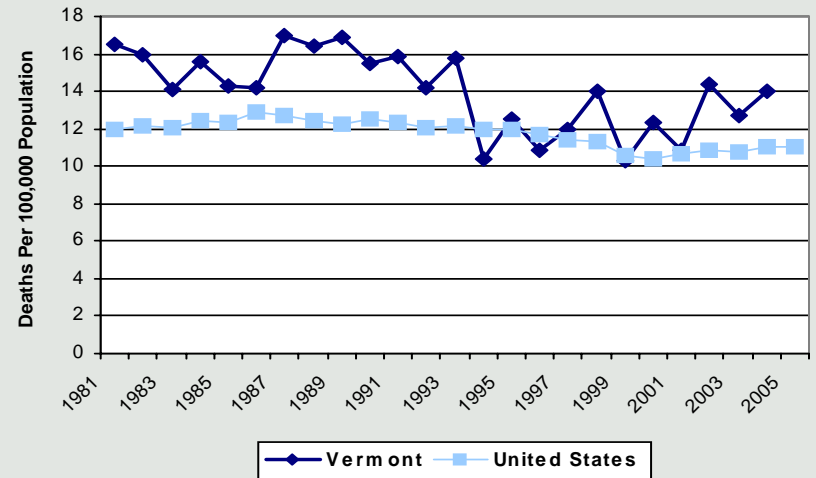
Source: Bureau of the Census, "Statistical Abstract of the United States," various years; Vermont Department of Health, "Vermont Vital Statistics," various years; "Datapedia of the United States: American History in Numbers," (2004), George Thomas Kurian.

Chart 12-8
Percent of Population Using Seatbelts
Vermont and United States
1985 to 2007



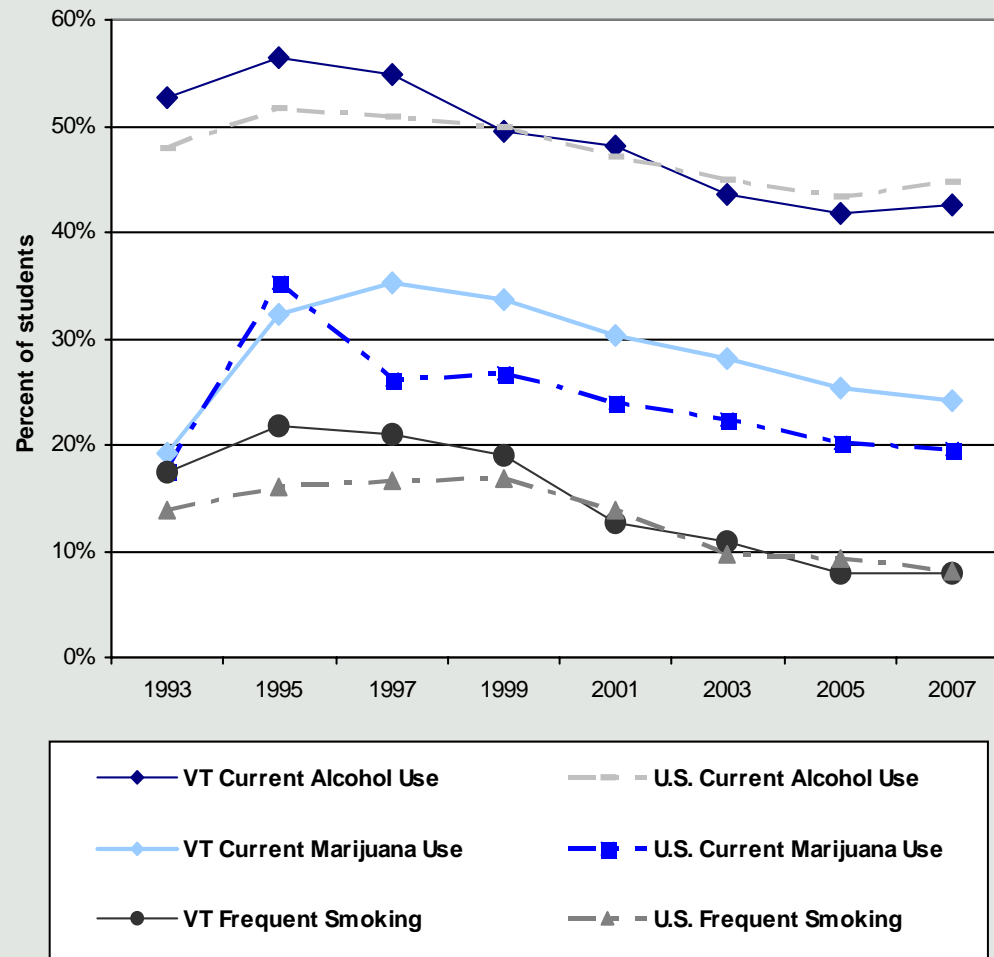
Source: Vermont Department of Public Safety, Governor's Highway Safety, courtesy Steve Reckers.
 Note: A change in method of data collection partially explains the drop in 1998.

Chart 12-9: Suicide Rate Per 100,000
Vermont and United States
1981 to 2005



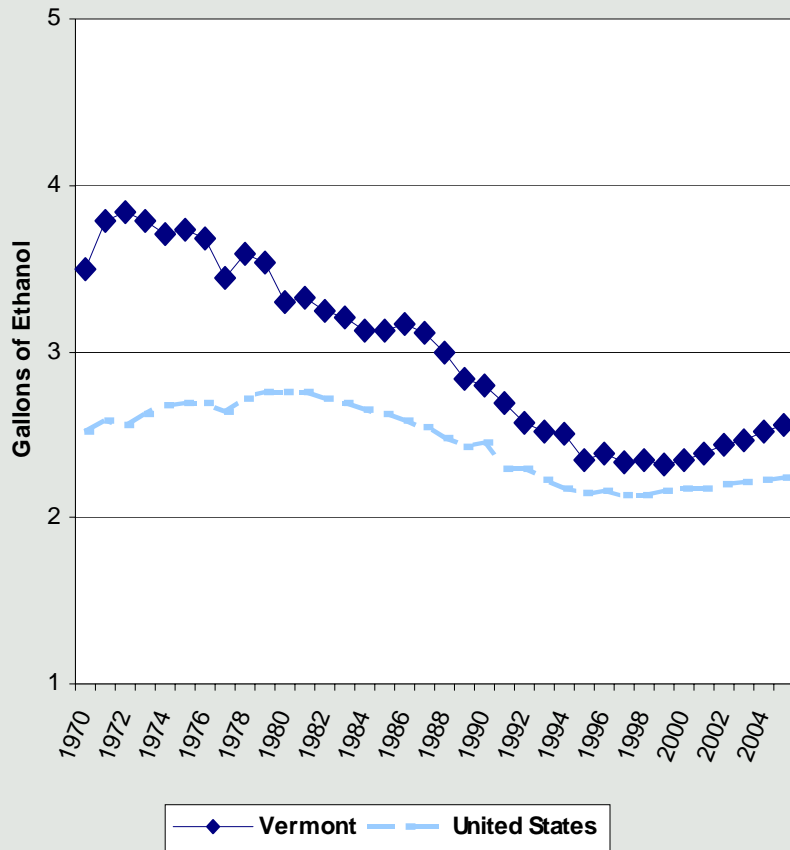
Source: Center for Disease Control, National Center for Injury Prevention

Chart 12-10
Substance Abuse of High School Students*
Self-Reports of Risk Behavior
Vermont and United States
1993 to 2007



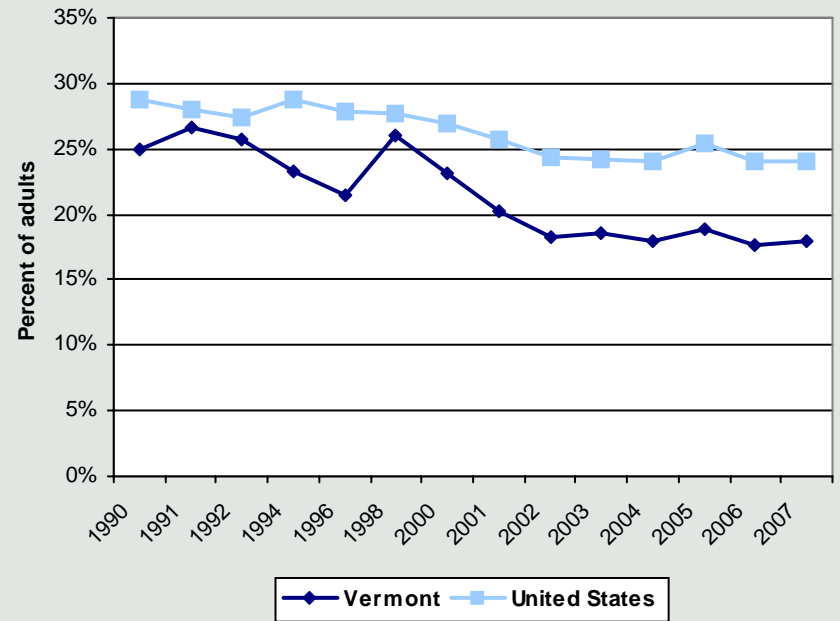
Source: Center for Disease Control, Youth Risk Behavior Survey, Healthy Youth! Youth Online: Comprehensive Results.
***Definitions:** "Current Alcohol Use" is the percentage of students who had at least one drink of alcohol on at least 1 day during the 30 days before the survey. "Current Marijuana Use" is the percentage of students who used marijuana one or more times during the 30 days before the survey. "Frequent Smoking" refers to the percentage of students who smoked cigarettes on 20 or more days during the 30 days before the survey.

Chart 12-11
Per Capita Alcohol Consumption
Gallons of Ethanol
Vermont and the United States
1970 to 2005



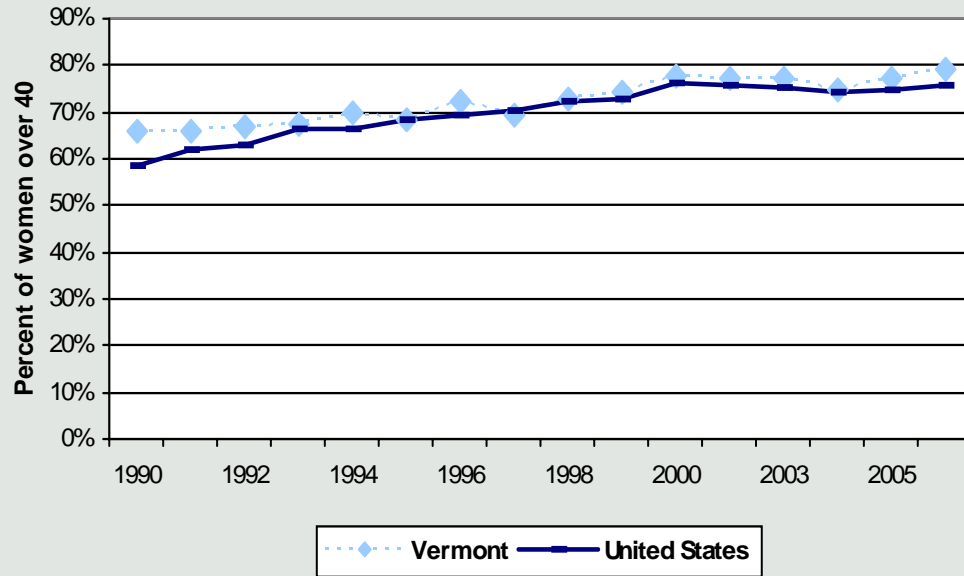
Source: National Institute of Alcohol Abuse and Alcoholism, National Institute of Health, "Database Resources."

Chart 12-12
Percent of Adults Without Leisure Time Physical Activity
Vermont and United States
1990 to 2007



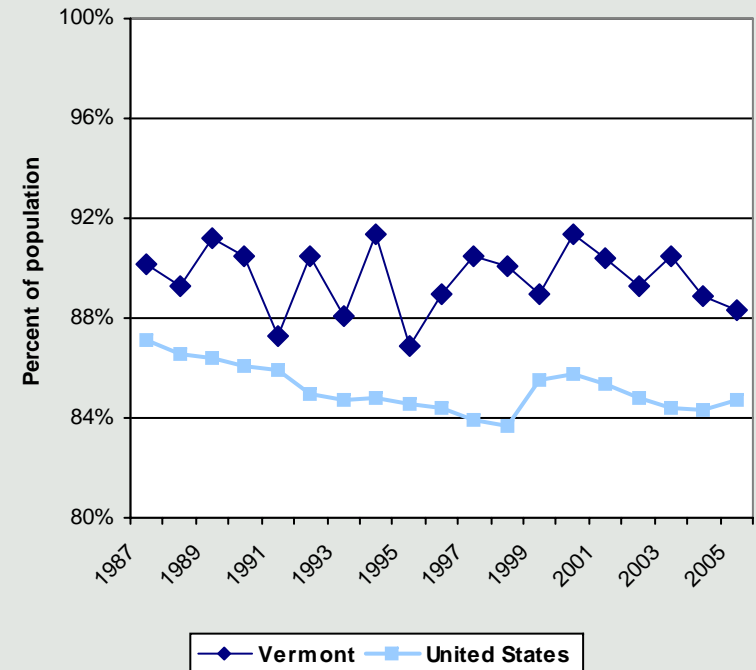
Source: Center for Disease Control, National Center for Chronic Disease Prevention & Health Promotion, Behavioral Risk Factor Surveillance System, Physical Activity Statistics,

Chart 12-13
Percent of Women (Aged 40+)
Having a Mammogram Within the Past 2 Years
Vermont and United States
1990 to 2006



Source: Center for Chronic Disease Prevention & Health Promotion, Behavioral Risk Factor Surveillance System, Trends Data, Vermont vs. Nationwide.

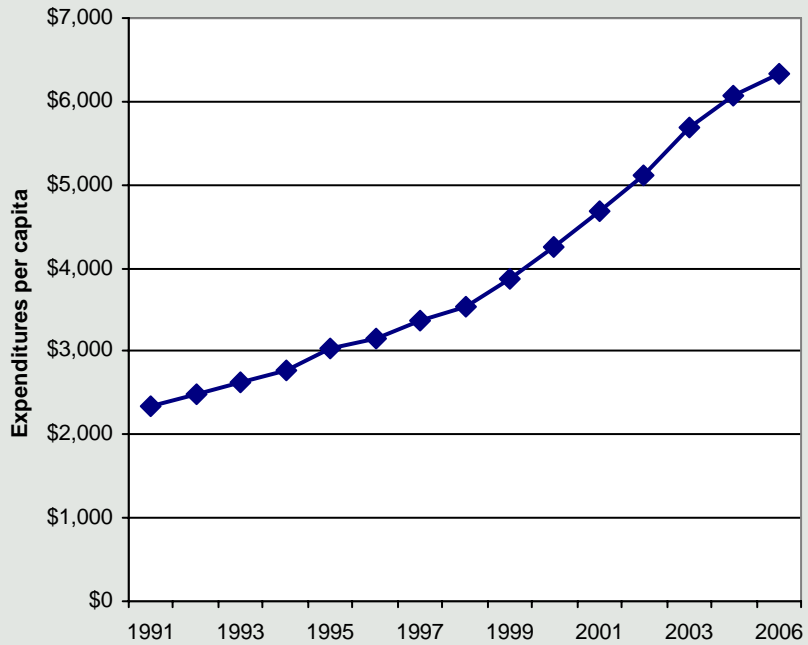
Chart 12-14
Percent Population Covered by Health Insurance *
Vermont and United States



Source: Historical Statistics of the United States, Millennial Edition, "Work and Welfare"; Bureau of the Census, "Statistical Abstract of the United States," various years; Social Change in America: The Historical Handbook, edited by Patricia C. Becker, Bernan Press (2006); Health Insurance, Historical Health Insurance Tables, *Table HI-4. Health Insurance Coverage Status and Type of Coverage by State All People: 1987 to 2005.*

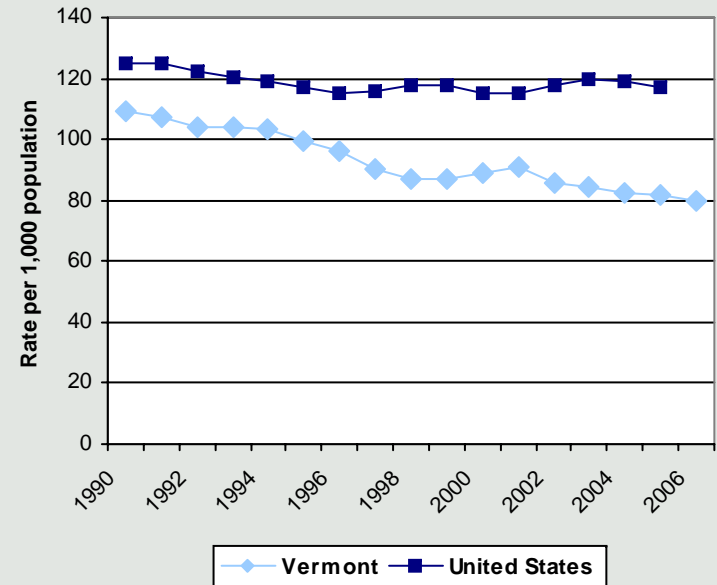
* The Vermont data is based on estimates made by federal surveys of relatively small sample sizes. Larger Vermont based surveys for 2000 and 2005 arrived at figures that were within two percentage points of

Chart 12-15
Health Care Expenditures per Capita
Vermont



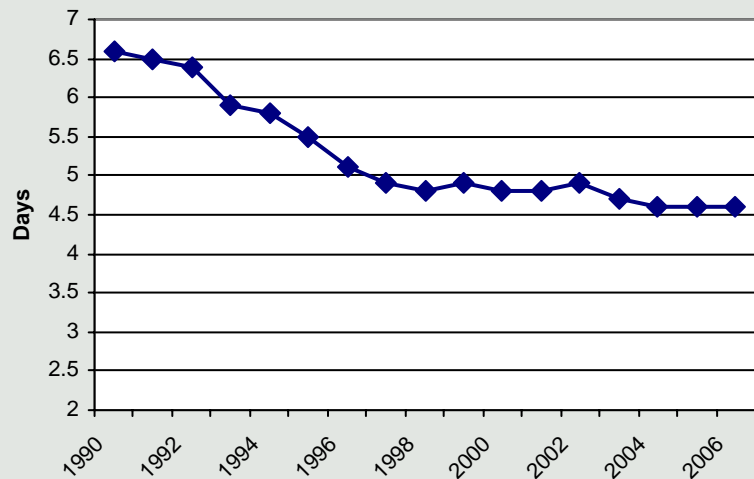
Source: Department of Banking, Insurance, Securities and Health Care Administration, "2006 Vermont Health Care Expenditure Analysis and Three Year Forecast," Vermont January, 2008; Centers for Medicaid and Medicare Services. "Health Expenditures by State of Residence: 1991-2004."

Chart 12-16
Inpatient Hospital Care
Measured by Discharge Rates
Per 1,000 Age Adjusted Population
Vermont and United States 1990 to 2006



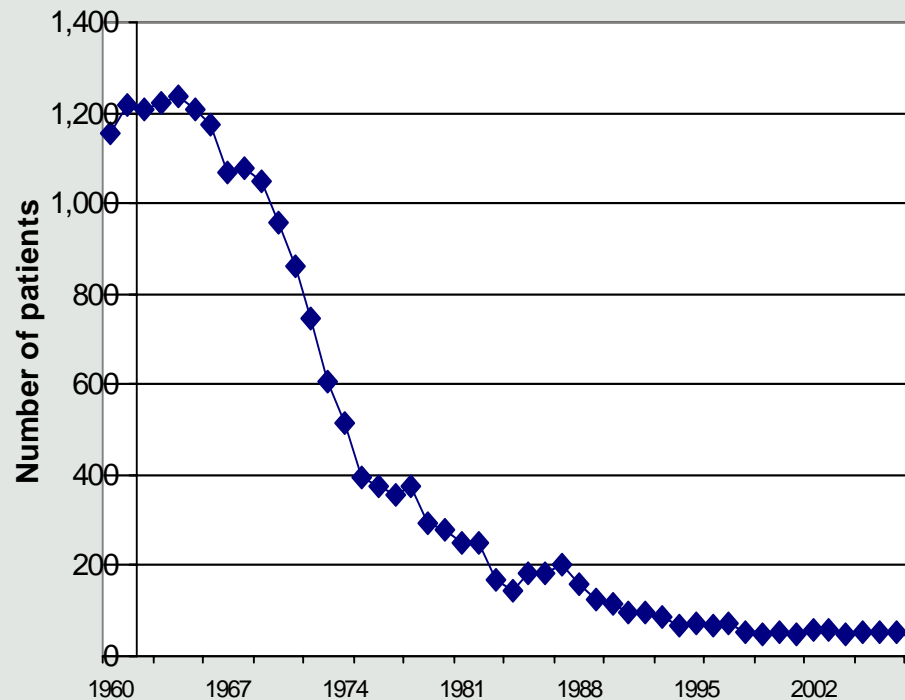
Source: Department of Banking, Insurance, Securities and Health Care Administration, "2006 Vermont Inpatient Hospitalization Re-

Chart 12-17
Average Length of Acute Hospital Stay*
Age Adjusted
Vermont 1990 to 2006



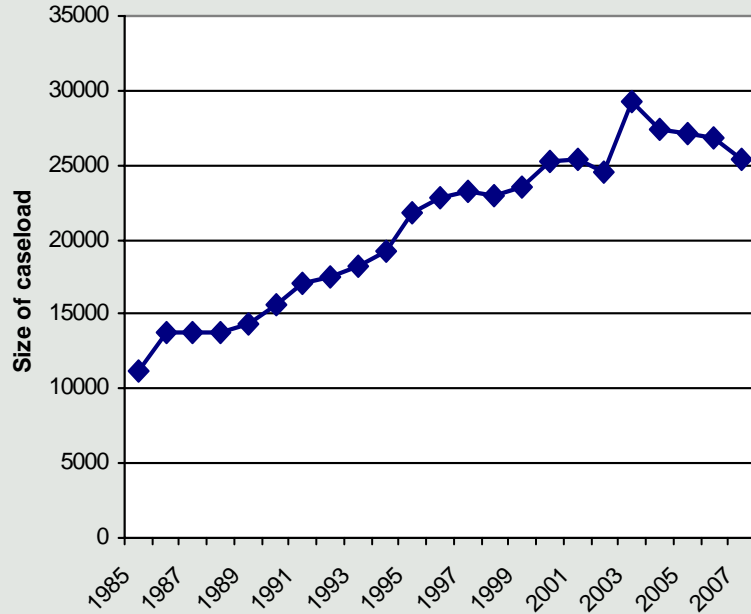
Source: Department of Banking, Insurance, Securities and Health Care Administration, "2006 Vermont Inpatient Hospitalization Report," June, 2006, VT Uniform Hospital Discharge Data Set.

Chart 12-18
Vermont State Hospital
Year-End Census
1960 to 2008



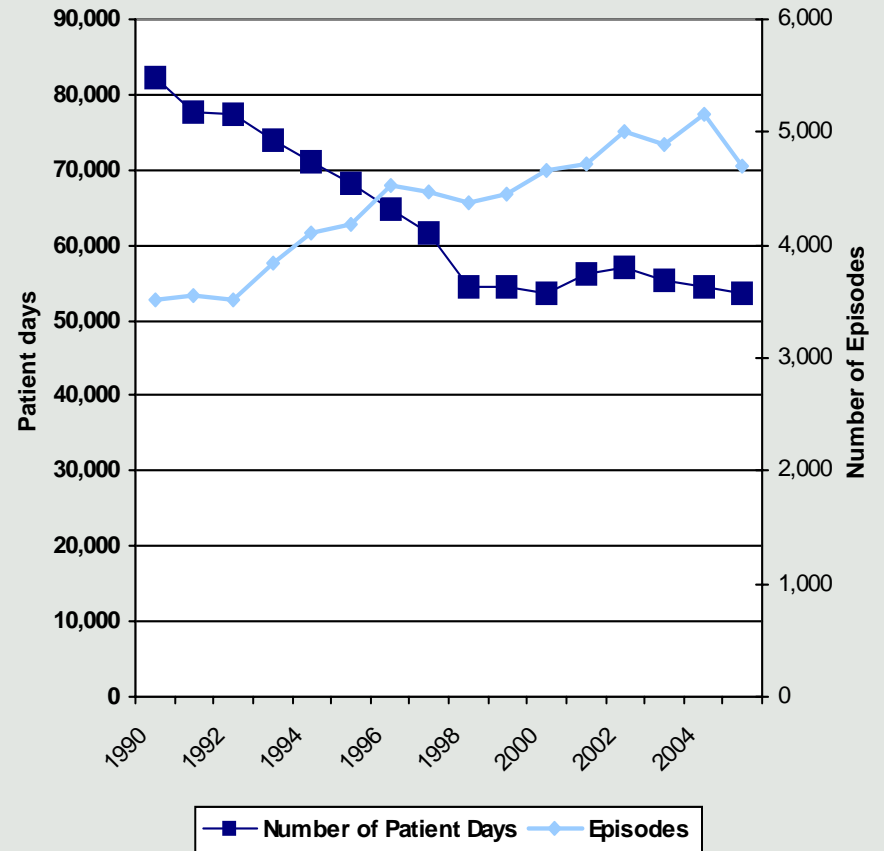
Source: Vermont Department of Health, Mental Health Performance Indicator Project, "Inpatient Behavioral Health Care Services Provided to Vermont Residents, 1990-2005," John Pandiani and Brennan Martin, August, 2007.

Chart 12-19
Vermont Community Mental Health Caseload*
1985 to 2007



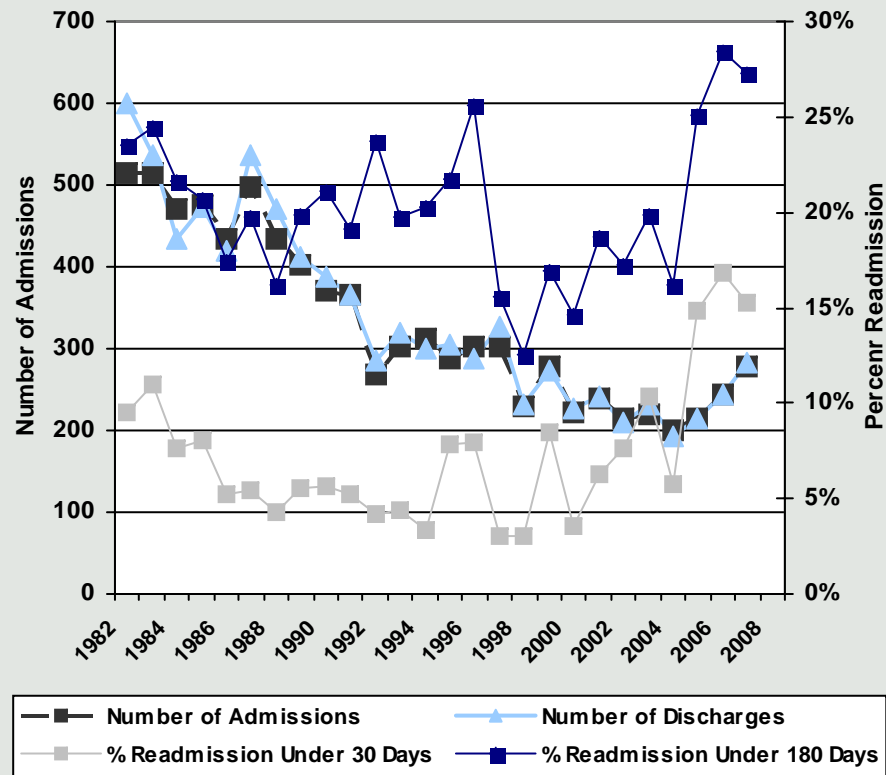
Source: Based on analysis of Monthly Service Report data provided to the Vermont Department of Mental Health by designated community mental health agencies. Analysis conducted by the Vermont Mental Health Performance Indicator Project.
 * Caseload includes only Vermont Community Mental Health Centers, not hospitals or private practice.

Chart 12-20
Number of Cumulative Patient Days
and Number of Hospitalization Episodes
For Mental Illness plus Substance Abuse
Vermont 1990 to 2005



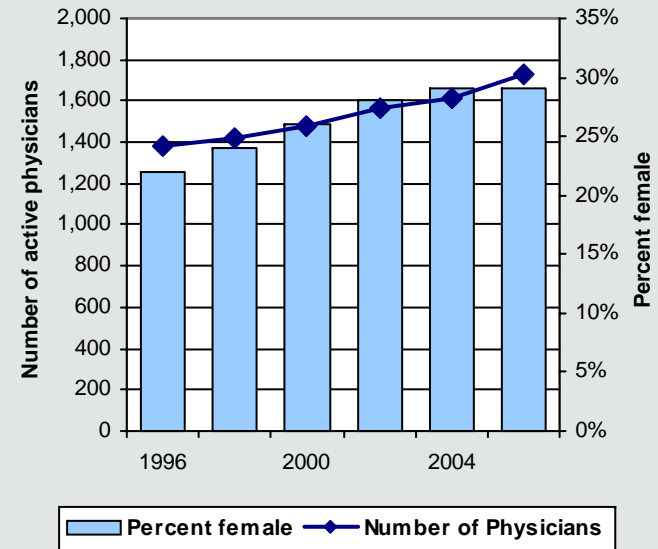
Source: Vermont Department of Health, Mental Health Performance Indicator Project, "Inpatient Behavioral Health Care Services Provided to Vermont residents, 1990-2005," Vermont Department of Health, John Pandiani and Brennan Martin, August, 2007.

Chart 12-21
Hospital Admissions, Discharges & Readmissions
For Vermont State Hospital



Source: Vermont Department of Health, Mental Health Performance Indicator Pro-

Chart 12-22
Active Physicians and Percent Female
Vermont 1996 to 2006



Source: Vermont Department of Health, "2006 Physician Survey Statistical Report."