

Utah Statewide Substance Abuse Epidemiology Profile Report



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Prepared by:

The State Epidemiological Outcomes Workgroup
and Bach Harrison, LLC

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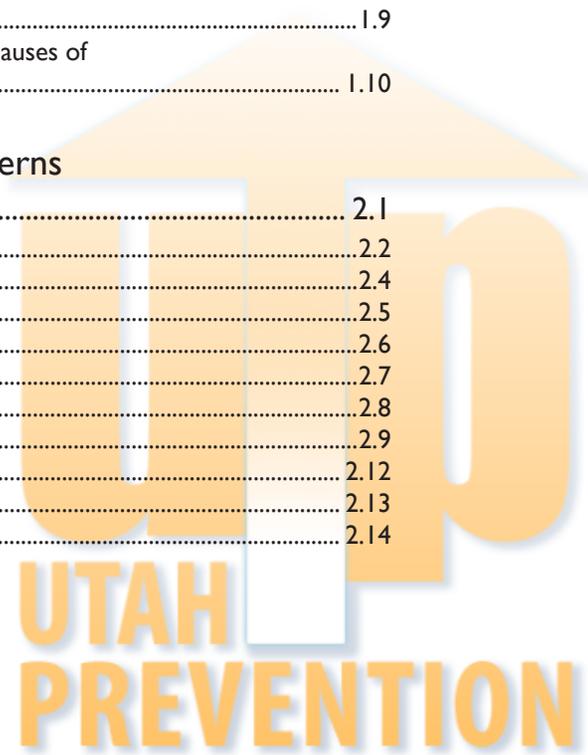


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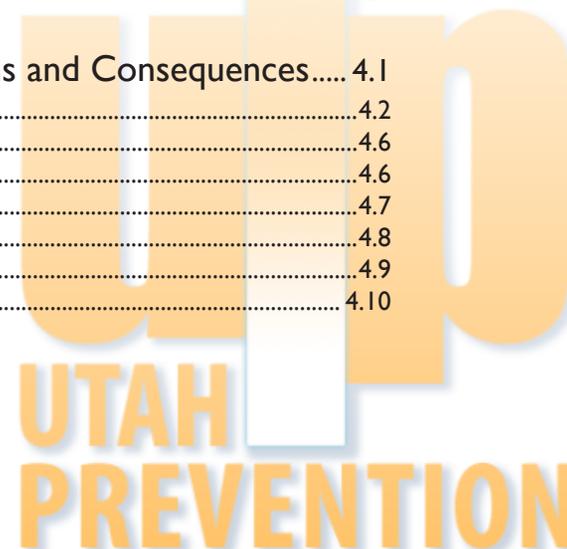


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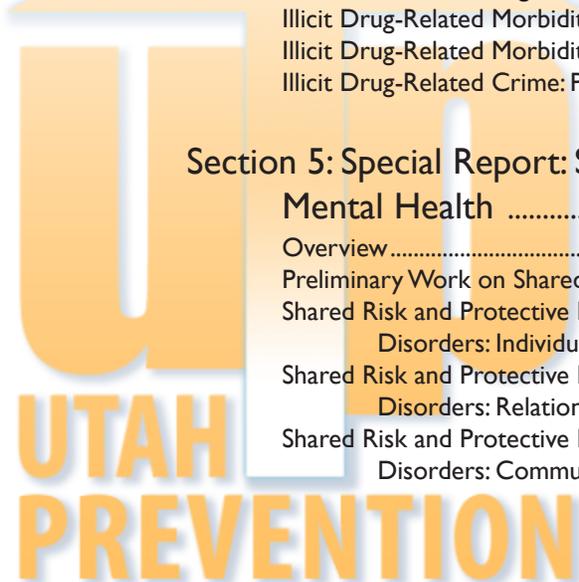


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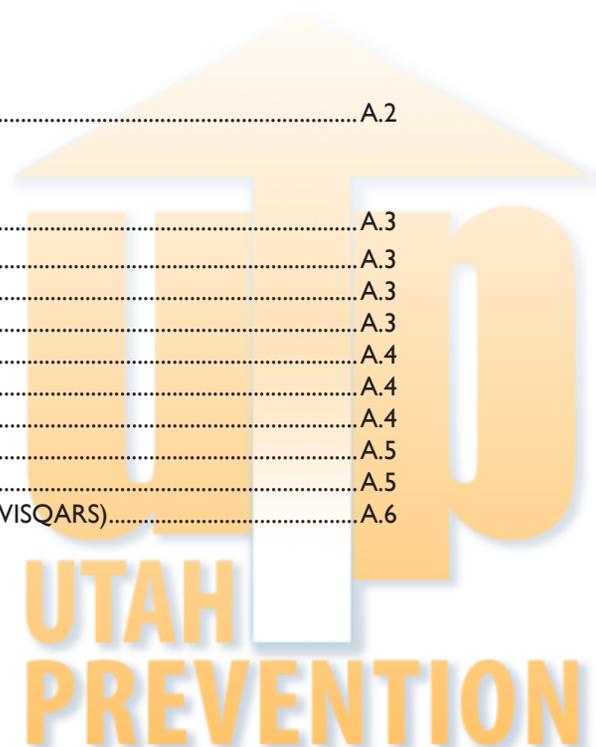


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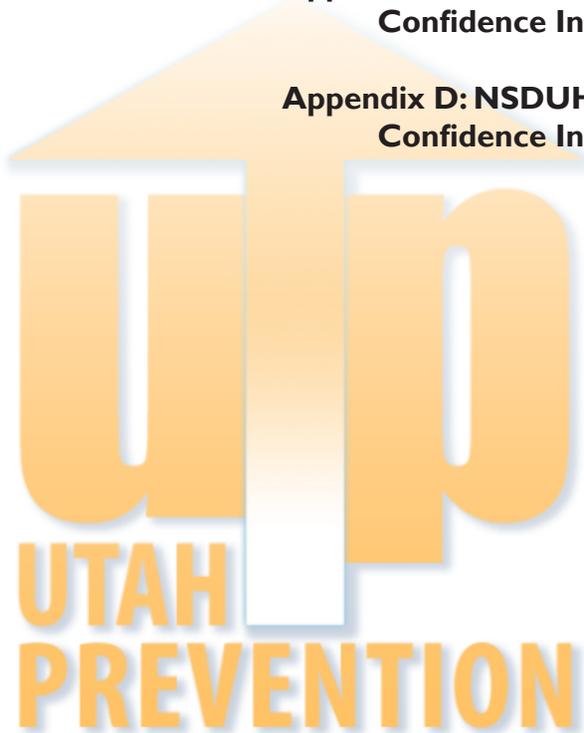


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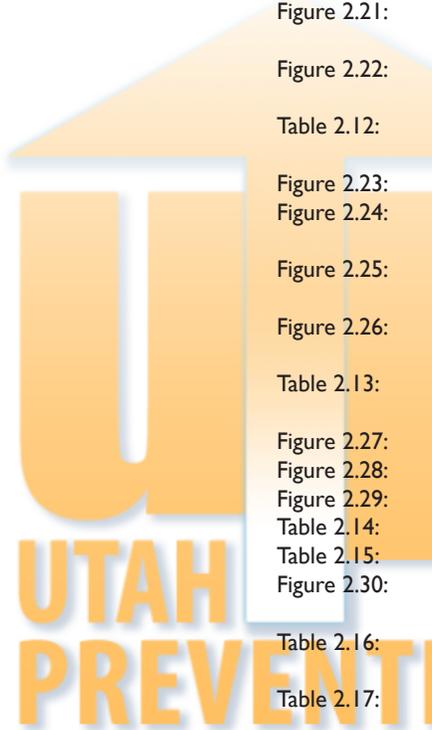


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State Epidemiological Outcomes Workgroup Membership

This report was prepared by Bach Harrison, LLC, and made possible in part by the members of the Utah SEOW, especially those who provided data from their agency or authorized staff from their agency to provide data. The current membership of the SEOW as of January 2013 is provided below.

Brenda Ahlemann, MBA, Research Consultant, Utah Division of Substance Abuse and Mental Health

Susannah Burt, Program Manager, Utah Division of Substance Abuse and Mental Health

Kitt Curtis, MPA, Program Director, Salt Lake County Division of Behavioral Health Services

Anna Fondario, MPH, Epidemiologist, Utah Department of Health, Injury and Violence Prevention

Ron Harrell, Administrator, Utah Juvenile Justice Services

Steve Harrison, PhD, SEOW Chair, Bach Harrison, LLC

Rick Hendy, Adult Mental Health Administrator, Utah Division of Substance Abuse and Mental Health

Edward Ho, PhD, SEOW Consultant, Bach Harrison, LLC

Verne Larsen, MS, Safe and Drug Free Schools Coordinator, Utah Department of Education

Kim Myers, MSW, Program Manager Prevention by Design, Utah Chapter of National Alliance on Mental Health

Christina Porucznik, PhD MSPH, Epidemiologist, University of Utah

Craig PoVey, LCSW, Project Director, Utah Division of Substance Abuse and Mental Health

April Rylander, Sgt, Prevention Manager, Utah National Guard

Dave Stein, PhD, Department of Psychology, Utah State University

Barbara Sullivan, PhD, Utah Addictions Center, University of Utah

Heidi Valdez, Program Manager, Utah Division of Child and Family Services

2013 Utah State Epidemiological Profile Report Authors

Edward Ho, PhD, Bach Harrison, LLC

Mary VanLeeuwen Johnstun, M.A., Bach Harrison, LLC



Section 1: Introduction: Utah Statewide Substance Abuse Epidemiology Profile 2013



Section 1 Contents:

Executive Summary
Overview and Background
Population Estimates Used for this Report
Substance Abuse Related Mortality and Morbidity
Impacts

Executive Summary

This epidemiological profile report is the third edition of the Utah State Substance Use and Abuse Epidemiological Profile report that was first published in 2007. Three years have passed since the last edition was published in 2010, yet the prevention related data infrastructure within the state of Utah has continued to grow during these years. This document is a compilation of substance-related consequence and consumption data for the state of Utah and contains more than 50 indicators of substance use consequences and consumption. The presentation of these data in this epidemiological profile report are intended to provide an overview of data available for substance abuse prevention planning and monitoring efforts within the state. Nearly all of the indicators presented in this report are available for viewing and downloading through the Utah State Epidemiological Outcomes Workgroup Online Data System (<http://indicators.bach-harrison.com/utsocialindicators>) which allows customizable queries of prevention related data.

Utah is fortunate to experience low rates of substance use and substance use related outcomes compared to the nation. With only a few notable exceptions, rates of substance use and substance related outcomes in Utah adults are substantially less than the United States. Additionally, youth substance abuse rates are generally much lower than national rates. In fact, 30 day use rates of Utah youth for the most commonly reported substances (alcohol, tobacco and marijuana) have consistently been about half of the national rates for these substances.

Alcohol Data Overview

- Overall, alcohol consumption in Utah has been consistently less than the national average regardless of the consumption measure, including per capita alcohol sales, all levels of adult alcohol use (30 day, binge and heavy alcohol use), all levels of college student alcohol use (lifetime, 30 day and binge), and youth alcohol use (lifetime, 30 day and binge).
- Within the state, younger adults (ages 21-29) generally indicated higher alcohol use rates than other adult groups, with differences between younger and older adults being more pronounced for binge drinking and heavy alcohol use; male adults report greater alcohol use than females, especially for higher risk use behaviors (binge and heavy alcohol consumption).
- Youth alcohol use predictably increases with age in a somewhat linear fashion; gender differences in alcohol consumption among high school students were surprisingly small (in terms of use rates and age of first use).
- Utah rates of alcohol related consequences are lower than U.S. rates nearly across the board (health consequences, drinking and driving, alcohol related crashes, etc.); one exception is suicide, where Utah consistently has had a higher than national rate.

Tobacco Data Overview

- Tobacco consumption in Utah has historically been much lower than the national average across consumption measures; this is true of adult use at all levels, college students, youth and pregnant women.
- Within the state, younger adults (ages 21-29) generally indicated higher tobacco use rates than other adult groups, and males consistently report higher levels of tobacco use than females.
- As with alcohol use, youth tobacco use increases with age; gender differences are small for cigarette use, but males clearly use smokeless tobacco at much higher rates than females.
- Utah rates of tobacco related consequences are lower than U.S. rates for all of the indicators included in this report (lung cancer, cardiovascular disease, lung disease, ischemic cerebrovascular disease); nearly all of the consequences highlighted in this report represent consequences of chronic, long term tobacco use and affect older individuals at much higher rates than young people.

Illicit Drug Data Overview

- Like alcohol and tobacco use, consumption of illicit drugs in Utah is generally lower than the national average; in particular, Utah marijuana (which is the most commonly used illicit drug) use rates are much lower than national rates for adults, college students and youth.
- Utah adult use rates for the following illicit drugs were similar to U.S. rates: any illicit drug other than marijuana in the past 30 days, cocaine in the past year, and non-medical prescription pain relievers.
- Among youth, illicit drug use rates were generally similar to U.S. rates, which were quite low; use rates for many illicit drugs such as methamphetamine, cocaine and heroin were less than 2%; however, Utah youth did have higher than national use rates for a handful of illicit drugs, including: 30 day ecstasy use, 30 day sedative use, and 30 day hallucinogen use among 12th graders.
- While drug poisoning/overdose deaths (often associated with prescription opiates/opioids) rose at a dramatic rate from 2000-2007, it appears that levels peaked in 2007 and declined somewhat from 2007 to 2010; additional data are needed to confirm the stability of this decline.
- Utah rates of need for drug treatment are similar to rates for the U.S., and rates of property crime in Utah have consistently been higher than the U.S.

Overview and Background

Population Summary of Utah

Utah's population has been growing rapidly. Between 2000 and 2010, Utah's population grew by 24%. In 2012, the state of Utah had a projected population of approximately 2,855,287 according to the United States Census Bureau. Utah is one of the youngest states in the nation, with over 31% of the population under the age of 18 (vs. 24% for the nation), and only 9% of the population over the age 65 (vs. 13% for the nation). One contributor is the fact that Utah often leads in the nation in birthrate. In terms of race, the vast majority of Utah's population is White (92%), with small percentages reporting Asian (2.2%), multi-racial (2.2%), American Indian (1.5%), Black (1.3%) and Pacific Islander/Native Hawaiian (1%). In terms of ethnicity, 13% of the state's population identified as Hispanic/Latino in 2012. Educationally, over 90% of Utahns have received a high school diploma (or equivalent), and 30% of residents over the age of 25 have a bachelor's degree or higher. Utah enjoys relatively low unemployment (6.5% vs. 8.7% [total unemployed]) and poverty rates compared to the nation (11.4% vs. 14.3%), as well as a higher than average median household income (\$57,783 vs. \$52,762). However, because of Utah families are larger than average, per capita income in Utah trails that of the nation (\$23,650 vs. \$27,915).

Geographically, Utah is a diverse state noted for its beautiful snowcapped mountains and salt flats in the north, and its red rock deserts in the south. The state is divided into 29 counties which are organized into 13 local substance abuse authorities (LSAAs) who are tasked with prevention planning and implementation. In 2010, four counties were considered urban, 12 rural, and 13 were considered frontier status. Seventy-five percent of the state's population resides in the four northern "Wasatch Front" counties of Utah, Salt Lake, Davis and Weber (which comprise only 5% of the state's land mass). This dense population distribution ranks Utah in the top ten most urbanized states in the U.S. (#8 in 2010).

The data in this report are organized by three general substance categories: a) alcohol, b) tobacco, and c) illicit drugs. The epidemiological profile begins with this overview, followed by chapters focusing on data related to each of the substance types listed above. At the beginning of each chapter, reference tables providing an overview of the indicators associated with each substance category are presented. These tables provide a summary of the contents of each chapter, and allow the reader to compare multiple indicators on a variety of attributes.

State Epidemiological Profile Report History and Methods

In preparation for the Strategic Prevention Framework State Incentive Grant (SPF SIG), the State of Utah received funding in October 2005 from the Federal Center for Substance Abuse Prevention (CSAP) to organize and convene a State Epidemiological Outcomes Workgroup (SEOW). The primary task of the SEOW at that time was to collect and interpret data related to consumption and consequences of substance use and abuse in an effort to make recommendations about the substance abuse priorities for the State of Utah, and for the Utah SPF SIG Project. For more than a year the Utah SEOW looked within the agencies represented in the workgroup and throughout the state, to find suitable data regarding substance use and the outcomes of substance use that could be added to the State Epidemiological Data System (SEDS) data provided by CSAP. The result of this effort was the original Utah State Substance Use and Abuse Epidemiological Profile Report which was completed in 2007. Contained within the 2007 epidemiological profile report were the indicators compiled by the SEOW as of March 2007. The data collected for the 2007 epidemiological profile report reflected data obtained through both national and state level sources, and covered a wide range of substance use and consequence indicators.

A second edition of the Utah State Substance Use and Abuse Epidemiological Profile Report was published in 2010. The 2010 profile report provided the most recent data available for each data source, as well as improvements to the layout, general content and organization of the report to enhance the presentation of the data and increase its ease of use. The current edition represents the continuing evolution of these epidemiological profile reports by presenting the most recent data available as of March 2013, and through continued refinements in layout, content and presentation that hopefully will improve the usability of the data further from the last edition.

Online SEOW Indicator Database Website

Since the release of the second edition of the Utah State Substance Use and Abuse Epidemiological Profile Report, the Utah Division of Substance Abuse and Mental Health has launched the Utah State Epidemiological Outcomes Workgroup Online Data System at: www.bach-harrison.com/utsocialindicators.

The online data system website was developed to increase the accessibility of data housed within the SEOW dataset. This online resource is available publicly and has become a valuable tool for providing data to prevention professionals that may otherwise not have access to these data. While state epidemiological profile report provides an excellent overview of the data available to the substance abuse field in Utah, it can by no means serve as a comprehensive source of the vast amount of data collected by the SEOW. The website allows users to query data housed by the SEOW for download, as well as providing charting and mapping of the data for analyses. The system was developed by the current SEOW support contractor, Bach Harrison, LLC, and was specifically designed for

use by prevention professionals at both the state and community levels. The online data system greatly expands the ability of prevention stakeholders (and professionals from other related fields) to utilize data for planning, monitoring and evaluation purposes.

The website allows users to make customizable queries of nearly all of the indicators presented in this epidemiological profile report as well as provide data charts and tables that facilitate analyses of the data. Website users can query indicators at the state, county and regional levels (as available). Users are able to view trends in specified indicators over time, and compare up to three counties or regions and the state to better understand the meaning of the data values observed. Additionally, the website will allow users a visual comparison of all counties or regions across the state in a given year through a mapping feature that color codes each county based on its levels of a particular indicator.

Profile Report Overview

The data in this report are organized by three general substance categories: a) alcohol, b) tobacco, and c) illicit drugs. This epidemiological profile begins with this overview, followed by chapters focusing on data related to each of the substance types listed above. At the beginning of each chapter, reference tables providing an overview of the indicators associated with each substance category are presented. These tables provide a summary of the contents of each chapter, and allow the reader to compare multiple indicators on a variety of attributes.

1. Indicator Name– The name or description of the indicator is provided. For mortality and morbidity indicators defined by either the International Classification of Diseases Ninth Revision (ICD-9) or Tenth Revision (ICD-10), the coding definitions for the indicator are also provided.
2. Year(s) – The specific (data) years which are summarized in the table
3. Average Annual Number of Cases – The average number of cases of the substance consequence that occurred during the specified years
4. Average Rate per 100,000 Population – The average annual rate of cases per 100,000 population during the specified years
5. UT:USA Rate Ratio – Provides a comparison of the rate in Utah to the national rate during the same years; Ratios less than one reflect a lower state rate vs. the national rate, while ratios above one reflect a higher state rate vs. the national rate
6. Trend – The general trend in Utah for the number of cases or rate of incidence over the most recent years of data available
7. Time from Use to Outcome – A general (but subjective) index of the amount of time between use of the substance to the onset of the consequence (immediacy)
8. Strength of Relationship - A general (but subjective) index of the extent to which substance use is a strong determinant of or is highly correlated with the consequence
9. Data source - The acronym for the source from which the data was obtained. Detailed information about each source is contained in Appendix A.
10. Use rates (For consumption tables only) - State and National use rates expressed as percentages are provided in the columns labeled “Utah” and “USA,” respectively

Glossary of Data Source Acronyms:

AEDS	Alcohol Epidemiologic Data System
BRFSS	Behavioral Risk Factor Surveillance System
DAWN	Drug Abuse Warning Network
FARS	Fatality Analysis Reporting (System)
NSDUH	National Survey on Drug Use and Health
NVSS	National Vital Statistics System
SHARP	Student Health and Risk Prevention (Survey)
UDH-PPMP	Utah Department of Health, Prescription Pain Management Program
UCR	Uniform Crime Reports (System)
UHEHBS	Utah Higher Education Health Behavior Survey
UT IBIS	Utah's Indicator Based Information System

Following the reference tables, detailed “snapshots” of each indicator are presented. Within each chapter, substance use data are presented first for each substance type, followed by consequence (outcome) data related to the use of the substance. Information about the various data sources from which the indicators were obtained is provided in the data sources section (Appendix A).

Methods

Much of the data used in this report was obtained through the State Epidemiological Data System (SEDS) website, which is funded and administered by the Center for Substance Abuse Prevention (CSAP) of the Substance Abuse and Mental Health Services Administration (SAMHSA) to make epidemiological data available to States for purposes of substance use/abuse prevention needs assessment, planning, and monitoring. The data in the SEDS are compiled from several national level data sources by CSAP in support of the Strategic Prevention Framework (SPF). Most of the data available through the SEDS are available through the original source agency directly as well. However, the SEDS website provides a convenient method for collecting all of these data in a single location and greatly eases the data collection process.

In addition to the SEDS dataset, many indicators included in the SEOW dataset are collected from state level agencies within the state of Utah. In particular, the Utah Department of Health's Indicator Based Information System (IBIS) provides a variety of health related data, including health survey data and morbidity and mortality data for the state of Utah. The following National and Utah data sources were used in this profile. If the listed source is included in the SEDS, it is noted. For detailed source information, please see Appendix A.

National Data Sources

- Alcohol Epidemiologic Data System (AEDS) from SEDS
- Behavioral Risk Factor Surveillance System (BRFSS) from SEDS
- Drug Abuse Warning Network (DAWN)
- Fatality Analysis Reporting System (FARS) from SEDS
- Monitoring the Future Survey (MTF)
- National Survey on Drug Use and Health (NSDUH) from SEDS
- National Vital Statistics System (NVSS) from SEDS
- Uniform Crime Reporting Program (UCR) from SEDS
- Web-based Injury Statistics Query and Reporting System (WISQARS)

Utah Data Sources

- Medical Examiner Drug Poisoning Deaths Data - Utah Department of Health, Prescription Pain Management and Education Program
- Prescription Pain Medication BRFSS Supplement Data - Utah Department of Health, Prescription Pain Management and Education Program
- Student Health and Risk Prevention Survey (SHARP) [Prevention Needs Assessment (PNA)] - Utah Department of Human Services, Division of Substance Abuse and Mental Health (DSAMH)
- Utah Crash Summary Report Data - Utah Department of Public Safety, Highway Safety Office
- Utah Higher Education Health Behavior Survey (UHEHBS) - Utah Department of Human Services, DSAMH
- Utah Indicator Based Information System for Public Health (IBIS) – Utah Department of Health

Notes about Mortality Indicator Presentations

For most of the mortality indicators presented in this epidemiological profile report, data were available through both the National Vital Statistics System (via the SEDS) and through Utah's IBIS. Each of these data sources has distinct advantages and disadvantages over the other regarding what are available for each indicator. Some of the relative strengths and weaknesses of the data provided by NVSS and IBIS are highlighted below:

NVSS (via SEDS) advantages/disadvantages:

- Available through 2007 (most recent)
- Provides both state level and national data
- Only available for counties with population over 100,000
- Does not allow calculation of age-adjusted mortality rates

IBIS advantages/disadvantages:

- Available through 2011 (most recent)
- Provides data by county and regional levels within Utah
- Provides age-adjusted mortality rates
- Does not provide national data

To maximize the benefits of both data sources, a choice was made to use data from both the NVSS and IBIS for each mortality indicator that was available through both sources. Specifically, NVSS data were used to present comparisons of state and national trends for each mortality indicator using data, as well as for state level snapshots by gender and age. IBIS data were used for providing regional data comparisons within state. As a result, data years presented across charts and tables within each mortality indicator may vary depending on the source of the data used for that particular presentation. Additionally, throughout the report NVSS rates reflect crude mortality rates based on total population, whereas IBIS rates reflect age-adjusted mortality rates based on age of decedents. Typically, age-adjusted rates are preferred for epidemiological analyses because they take into account the age at which individuals die from a particular cause. Comparing communities based on age-adjusted rates effectively controls for differences in the age distribution from one community to the next, and therefore provides a less biased comparison of the impact of that cause of death across communities. As such, reported rates for a particular indicator may appear to be discrepant across tables or charts, but actually just reflect different methods of calculation (crude vs. age-adjusted).

Population Estimates Used For this Report

In addition to providing data at the state level, data are also provided (when possible) at the Local Substance Abuse Authority (LSAA) level to allow for comparisons among the different LSAs and between each LSA and the state. Table 1.1 provides the population estimates for each LSA. If LSA rates were not provided by the original source, these population estimates were used to calculate the rates provided in this report.

Table 1.1:
Utah Local Substance Abuse Authority (LSAA) Population Estimates (2000-2011)

LSAA	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Bear River District	136,708	138,125	141,478	143,688	145,571	147,646	149,219	152,941	157,488	161,916	164,895	165,837
Central Utah	66,305	66,897	67,335	67,784	68,384	68,823	70,039	71,710	73,970	75,073	75,707	75,845
Davis County	240,422	244,687	249,676	255,582	262,189	269,208	278,800	288,236	295,801	301,965	306,479	307,856
Four Corners District	39,761	38,987	39,218	39,247	39,014	38,998	39,304	39,958	40,317	41,073	41,604	41,749
Northeastern District	40,590	41,367	42,271	42,477	43,047	44,101	45,469	47,545	49,414	52,504	52,254	52,113
Salt Lake County	901,018	910,750	918,152	924,802	934,140	947,963	966,798	983,719	999,553	1,016,795	1,029,655	1,033,910
San Juan County	14,334	13,495	13,662	13,571	13,723	13,653	13,679	14,028	14,436	14,514	14,746	14,836
Southwest District	142,047	145,987	151,791	157,167	164,259	175,698	186,425	193,816	198,375	201,402	203,204	203,754
Summit County	29,964	30,803	31,536	32,353	33,271	34,137	34,242	34,647	35,229	35,838	36,324	36,521
Tooele County	41,519	43,331	44,998	46,652	47,894	49,258	51,483	53,821	55,909	57,218	58,218	58,557
Utah County	371,811	385,671	397,190	406,158	416,220	430,697	448,296	469,574	487,615	504,801	516,564	520,049
Wasatch County	15,421	16,205	16,975	17,765	18,349	19,410	20,755	21,413	22,120	22,886	23,530	23,705
Weber and Morgan Counties	204,602	207,410	210,533	212,891	215,519	218,127	220,998	226,338	232,802	237,436	240,705	241,737
State of Utah	2,244,502	2,283,715	2,324,815	2,360,137	2,401,580	2,457,719	2,525,507	2,597,746	2,663,029	2,723,421	2,763,885	2,776,469

Source: Compiled with population estimates from U.S. Census Bureau, Population Division.

Substance Abuse Related Mortality and Morbidity Impacts: Causes of Substance-Related Death

Several of the leading causes of death in Utah are attributable to the abuse of alcohol, tobacco, or other drugs. In fact, the top five leading causes of death in 2010 were all substance related causes of mortality, and accounted for about 55% of all deaths statewide that year. Diseases of the heart and malignant neoplasms (cancers), both of which are associated with smoking, are the two leading causes of death in Utah. The third leading cause of death in Utah is accidents-unintentional injury which is strongly related to alcohol use. Finally, cerebrovascular disease (strokes) and chronic lower respiratory disease are also frequently associated with smoking.

Table 1.2:
Fifteen Leading Causes of Death in Utah and Corresponding Percentage for the United States (2010)

Cause of Death	# of UT Deaths	% of UT Deaths ¹	UT Rank	% of U.S. Deaths ¹	U.S. Rank*
Diseases of Heart	2889	26.9%	1	30.1%	1
Malignant Neoplasms	2810	26.2%	2	29.0%	2
Accidents- Unintentional Injury	970	9.0%	3	6.1%	5
Cerebrovascular Diseases	739	6.9%	4	6.5%	4
Chronic Lower Respiratory Diseases	671	6.3%	5	7.0%	3
Suicide	473	4.4%	6	1.9%	10
Diabetes Mellitus	471	4.4%	7	3.5%	7
Alzheimer's Disease	375	3.5%	8	4.2%	6
Influenza and Pneumonia	348	3.2%	9	2.5%	9
Nephritis	263	2.4%	10	2.5%	8
Parkinson's Disease	170	1.6%	11	1.1%	14
Liver Disease	167	1.6%	12	1.6%	12
Septicemia	139	1.3%	13	1.8%	11
Congenital Anomalies	125	1.2%	14 (Tie)	NR	>15
Hypertension	125	1.2%	14 (Tie)	1.3%	13

Source: Web-based Injury Statistics Query and Reporting System, Leading Causes of Death for 2010

¹Percent of the number of deaths caused by the top 15 causes of deaths.

NR = Not Ranked in Top 15 Causes for Nation

*Ranks primary causes of death across the U.S., not Utah's rank within the U.S.

Substance Abuse Related Mortality and Morbidity Impacts: Causes of Substance-Related Death, Cont.

Table 1.3 displays the eight leading causes of substance related death in Utah for 2007. Chronic causes of death represent long-term consequences, while proximal causes of death represent more immediate or short-term consequences of substance use. Ischemic cerebrovascular disease (1st), other cardiovascular diseases (2nd), lung cancer (3rd), and lung disease (4th) top the list and are associated with tobacco use. Alcohol consumption is often associated with homicide (5th), suicide (6th), and cirrhosis (7th). The relationship of illicit drug deaths (8th) to substance use is self-evident.

Table 1.3:
Mortality Rates for Substance Related Proximal Causes of Death and Chronic Diseases, Utah vs. U.S. (2007)

Chronic Disease Causes of Death	Utah		United States	
	Number	Rate per 100,000 Population	Number	Rate per 100,000 Population
Ischemic Cerebrovascular Disease	2,214	85.2	542,303	180.0
Smoking Related Cardiovascular Disease	1,521	58.6	209,716	69.6
Lung Disease	593	22.8	124,477	41.3
Lung Cancer	437	16.8	158,686	52.7
Alcohol Related Cirrhosis	80	3.1	14,406	4.8
Proximal Causes of Death				
Suicides	378	14.6	34,598	11.5
Drug Poisoning	511	19.7	36,010	12.0
Homicides	67	2.6	18,126	6.0

Source: National Vital Statistics System, State Epidemiological Data System

Section 2:

Alcohol Indicators in Utah: Consumption Patterns and Consequences



Section 2 Contents:

Alcohol Indicator Overview

Alcohol Consumption in Utah

Consequences of Alcohol Consumption

Alcohol Indicator Overview

The following tables provide an overview of the alcohol use and consequence indicators presented in this section of the report. While not all of the alcohol related indicators contained in this section of the report lend themselves for inclusion in the overview tables, the tables provide a useful summary of alcohol related data at the state level. Presented in this format, the data tables allow for a comparison of use rates across different populations, as well a comparison of most of the alcohol consequence indicators included in this epidemiological profile report.

Table 2.1:
Estimates of Alcohol Use

	Indicator	Age Category	Year	Utah	USA	Utah:USA Ratio	Utah Trend	Data Source
Youth	30 Day Alcohol (%)	Grade 6	2011	1.4	Not Available	Not Available	Decreasing	SHARP
		Grade 8	2011	6.0	12.7	.47	Decreasing	SHARP
		Grade 10	2011	11.2	27.2	.41	Decreasing	SHARP
		Grade 12	2011	17.0	40.0	.43	Decreasing	SHARP
	Binge Drinking (%) (5 or more drinks in the past 2 weeks)	Grade 6	2011	1.8	Not Available	Not Available	Stable	SHARP
		Grade 8	2011	5.1	6.4	.80	Stable	SHARP
		Grade 10	2011	8.2	14.7	.56	Stable	SHARP
		Grade 12	2011	12.2	21.6	.56	Increasing	SHARP
Adult	Population Adjusted Alcohol Sales (gallons/person)		2008	1.4	2.3	.61	Stable	AEDS
	Current Alcohol Use (%)		2011	29.5	57.1	.52	Stable*	BRFSS
	Binge Alcohol Use (%)		2011	12.0	18.3	.66	Stable*	BRFSS
	Heavy Alcohol Use (%)		2011	4.1	6.6	.62	Increase since 2006*	BRFSS
	College Enrolled Population 30 Day Alcohol Use (%)		2007	21.9	66.6	.33	Stable	UHEHBS
	College Enrolled Population Binge Drinking in Past 2 Weeks (%)		2007	10.9	41.1	.27	Stable	UHEHBS
	Alcohol Use During Last 3 Months of Pregnancy (%)		2010	2.9	Not Available	Not Available	Fluctuating: Decrease since 2008	UT IBIS

*Comparisons between 2011 BRFSS data with previous years should be made with caution due to methodology changes in sampling and weighting.

Overview, Cont.

Table 2.2:
Alcohol Use Consequences

	Indicator	Years	Average Annual Number of Cases (UT)	Average Rate per 100,000 Population	UT:USA Rate Ratio	Trend	Time from Use to Outcome	Strength of Relationship	Data Source
Mortality	# of Fatal Alcohol Related Vehicle Crashes	2005-2009	51.8	2.0	.40	Fluctuating: Decrease since 2007	Immediate	Strong	FARS
	Proportion of Fatal Motor Vehicle Crashes Related to Alcohol	2005-2009	21.5%	41.4% (U.S. Rate)	.52	Stable	Immediate	Medium	FARS
	Alcoholic Cirrhosis (ICD-10 K70)	2003-2007	60.4	2.4	.55	Increasing	Distant	Strong	NVSS
	Alcoholism Fatalities (ICD-10 F10)	2007-2011	53.6	2.3	Not Available	Stable	Variable	Strong	UT IBIS
	Homicides (ICD-10 X85-Y09, Y87.1)	2003-2007	56.4	2.3	.38	Stable	Variable	Low-Medium	NVSS
	<i>Suicides* (ICD-10 X60-X84, Y87.0)</i>	<i>2003-2007</i>	<i>360.2</i>	<i>14.6</i>	<i>1.31</i>	<i>Stable</i>	<i>Variable</i>	<i>Low-Medium</i>	<i>NVSS</i>
	Falls	2007-2011	161.6	8.1	Not Available	Increasing	Short	Low-Medium	UT IBIS
	Accidental Drowning and Submersion	2007-2011	23.6	.86	Not Available	Increasing	Short	Low-Medium	UT IBIS
Morbidity	Emergency Department Encounters with Toxic Effect of Alcohol (ICD-9 980.0)	2006-2010	456.8	17.6	Not Available	Increasing	Immediate	Strong	UT IBIS
	Alcohol Dependence or Abuse	2010	<i>Estimated**</i> <i>123,507</i>	5.7%	.78	Decreasing	Variable	Strong	NSDUH
Other Consequences	Reported Violent Crimes	2003-2007	5713.8	231.5	.51	Fluctuating: Increase in 2007	Variable	Medium	UCR

*Bolded/italicized item indicates the state rate is higher than the national rate.

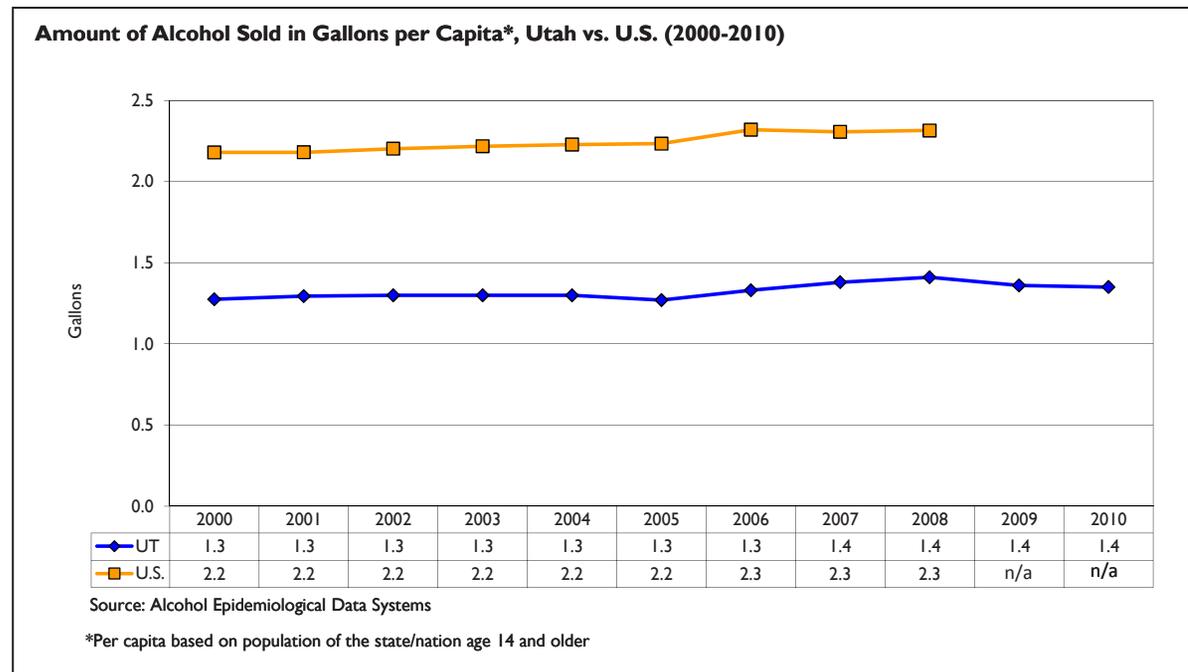
**Estimate based on 2010 Utah population ages 12 and older.

Alcohol Consumption: General Consumption Patterns and Concerns

In the United States, alcohol is consumed more frequently than all other illicit drugs combined and is the substance most likely associated with injury or death. In Utah, alcohol use rates have historically been well below the national average. In fact, 30 day alcohol use rates for both adults and youth in Utah tend to be about half the national rates. However, relative to other substances, alcohol is still the most widely used substance in the state according to both adult and youth surveys. Given the relationship between alcohol and a host of negative outcomes (e.g., homicides, suicides, chronic diseases, and accident related deaths and injuries), alcohol use in Utah still remains an important issue for substance abuse prevention efforts occurring throughout the state.

Figure 2.1 shows the trend of alcohol sales in Utah and the United States from 2000 to 2010. The amount of alcohol sold in Utah per capita has consistently been approximately 60% of the rate of the nation overall.

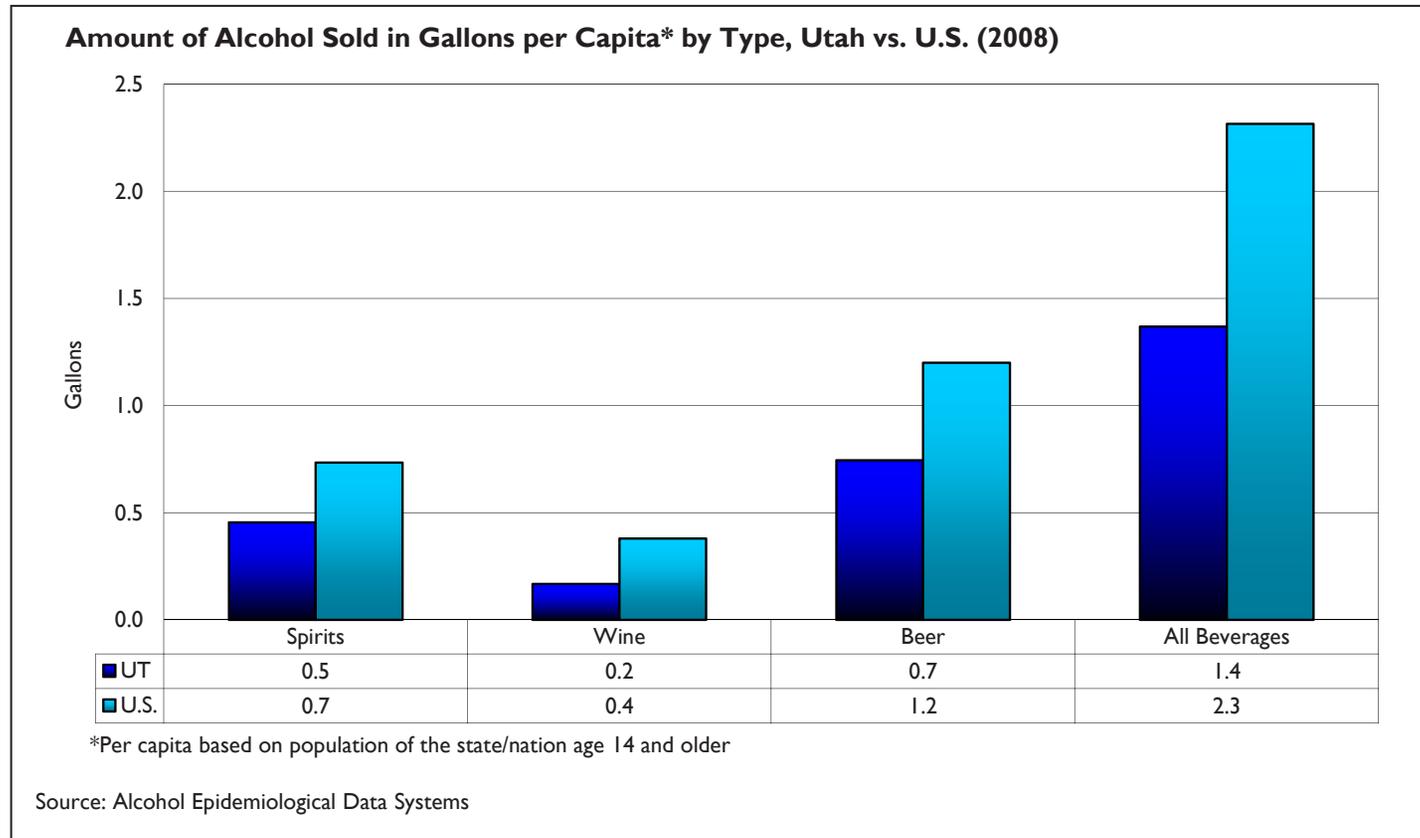
Figure 2.1:



Alcohol Consumption: General Consumption by Type of Alcohol

Figure 2.2 presents the amount of alcohol sold per capita by type of alcohol for 2008 (national data were not available beyond 2008). Not surprisingly, the greatest volume of alcohol sold in Utah was in the form of beer (given the far greater availability of beer), followed by spirits and wine.

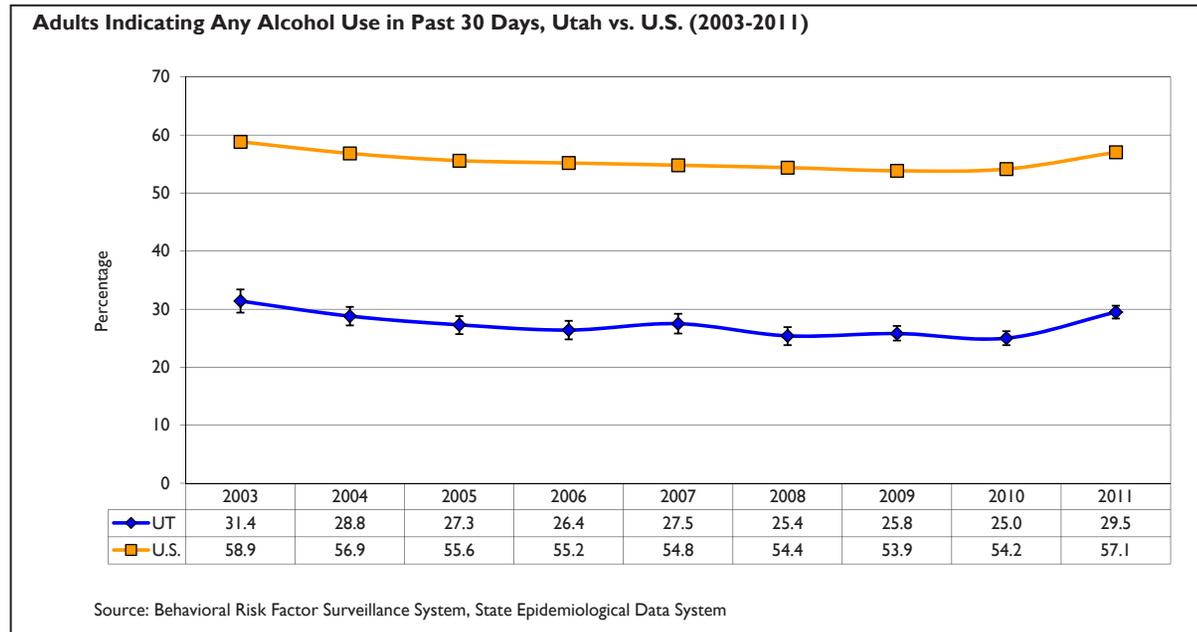
Figure 2.2:



Adult Alcohol Consumption: Past Month Alcohol Use

The Behavioral Risk Factor Surveillance System (BRFSS) survey is a national survey of adults that provides estimates of alcohol consumption at both state and national levels. Three measures of alcohol consumption from the BRFSS are highlighted in this epidemiological profile report: current drinking (past 30 day use), heavy alcohol use, and binge drinking. Regardless of the level of consumption, Utah alcohol use rates on all three of these indicators are much lower than the rates for the United States overall. Figure 2.3 shows that from 2003 through 2011 the percentage of Utah adults who indicated any alcohol use in the past 30 days consistently remained about half of the U.S. use rate. Within that timeframe, rates in Utah fell to their lowest in 2010. While there was a noticeable increase in 2011 (from 25% to 29.5%, respectively), this is likely the result of changes in the BRFSS methodology (both sampling and weighting) that were implemented by the Centers for Disease Control and Prevention in 2011 rather than a large jump in actual use. A similar “increase” in use was seen at the national level as well. The CDC cautions comparing data reported in 2011 with data collected prior to 2011.

Figure 2.3:

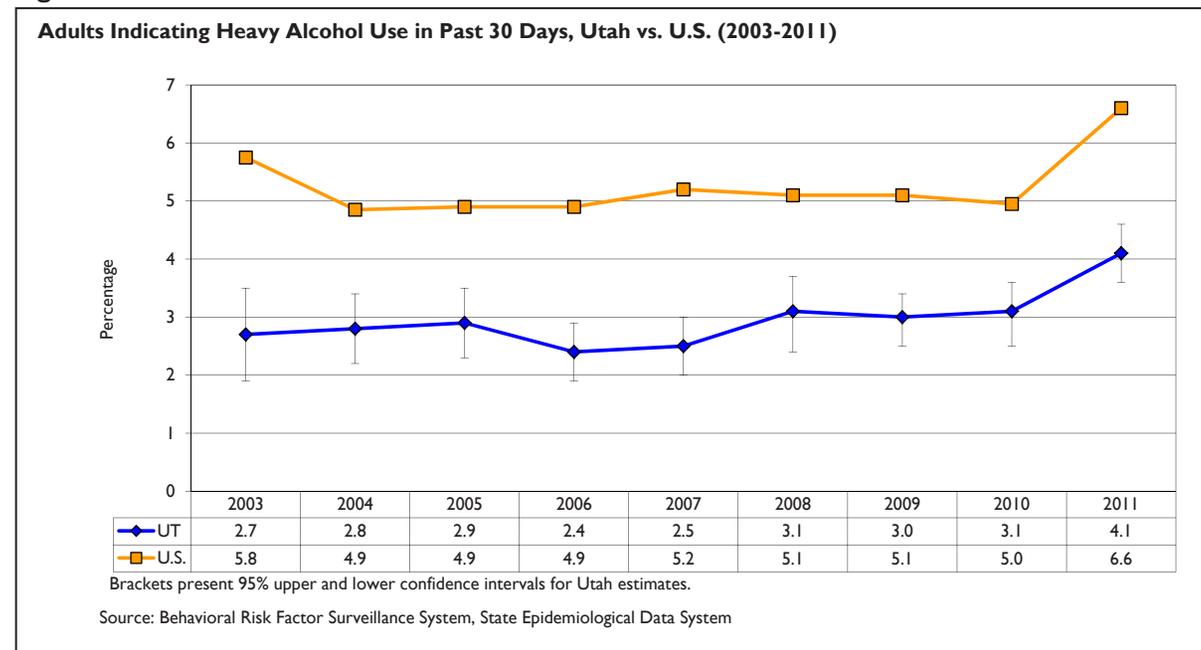


Note: BRFSS estimates with confidence interval data are included in Appendix C for those interested in examining the 95% confidence range for Utah state level BRFSS estimates.

Adult Alcohol Consumption: Past Month Heavy Alcohol Use

The BRFSS defines heavy alcohol use as 60 or more drinks per month for males (an average of two or more drinks per day) and 30 or more drinks per month for females (an average of one or more drinks per day). As seen in Figure 2.4, from 2003-2011 the percentage of heavy drinkers in Utah has historically been about 50-60% of the U.S. rate. The lowest heavy drinking rate in Utah was observed in 2006, and the highest rate in 2011. Similar to the current drinking data, there was a sharp increase in the rate of heavy drinking between 2010 and 2011 for both the Utah and national samples that is likely due to methodology changes associated with the 2011 BRFSS.

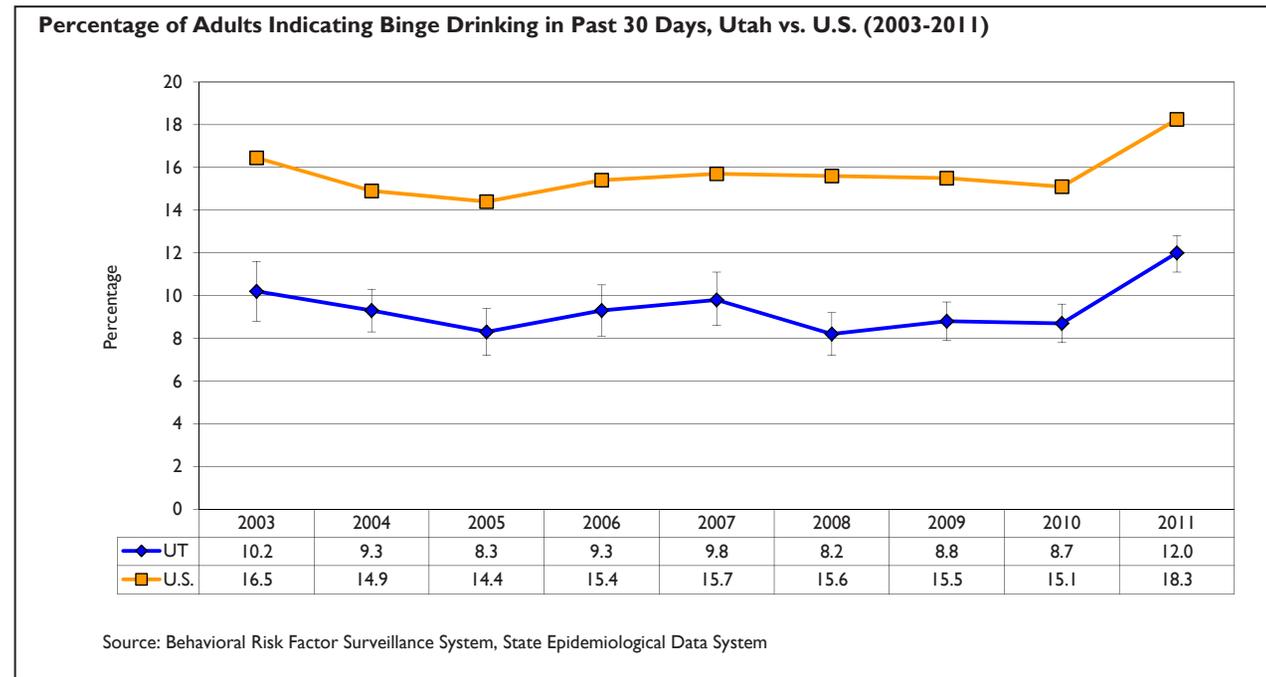
Figure 2.4:



Adult Alcohol Consumption: Binge Drinking

The BRFSS defines binge drinking as 5 drinks in a row for males and 4 drinks in a row for females on an occasion. This definition of binge drinking was developed to estimate the amount of alcohol necessary for an individual to reach the legal limit of a blood alcohol level of .08, and therefore reflects a more risky alcohol use behavior. Figure 2.5 shows the percentage of adults in Utah who engaged in binge drinking in the past 30 days between 2003 and 2011. The rate in Utah has remained well below the United States rate throughout this timeframe. The lowest binge drinking rate observed in Utah was for 2008 (8.2%) and the highest in 2011 (12%).

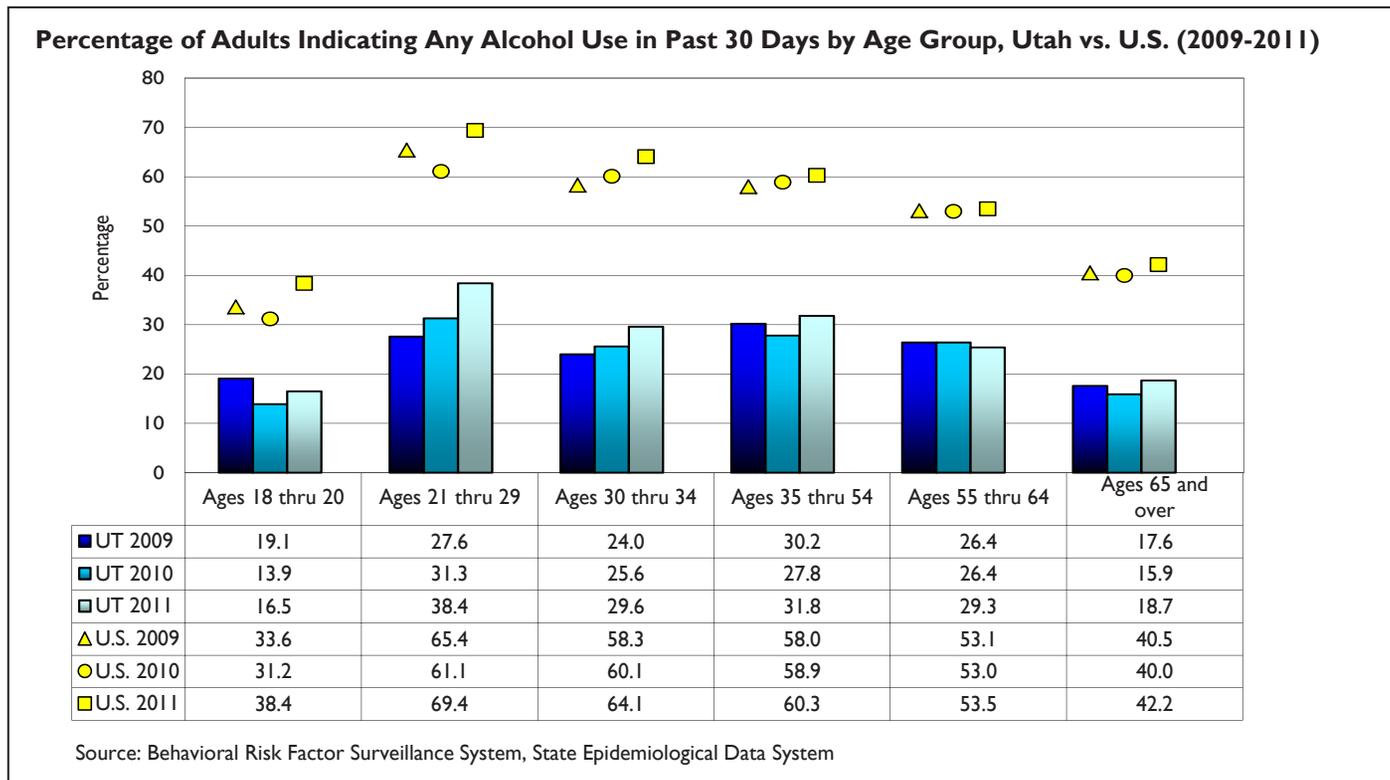
Figure 2.5:



Adult Alcohol Consumption: Alcohol Use by Age Group

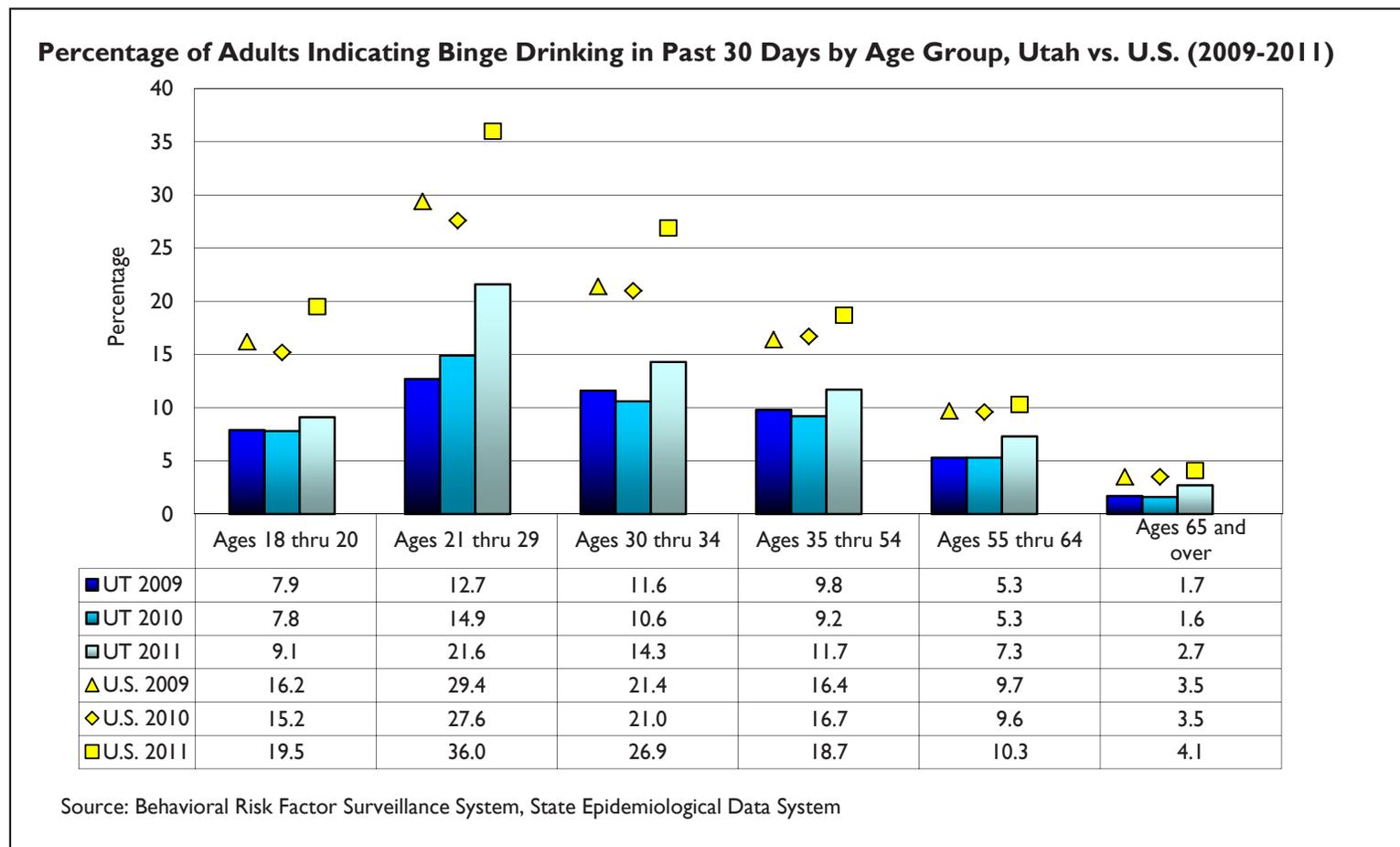
An examination of alcohol use by age group can be informative for identifying populations of higher or lower risk. As can be seen in Figures 2.6, 2.7 and 2.8, the percentage of Utah respondents who reported current (past 30 day) drinking, binge drinking, and heavy drinking was lower than the U.S. across the age spectrum. Within Utah, the 21-29 age group had the highest alcohol use rates across all three indicators. Historically, the 21-29 age group has had the highest binge drinking rates (since 2005), and the highest rates of heavy alcohol use (since 2008). However, until 2010 the 35-54 age group traditionally had the highest rates of current drinking (albeit, by a small margin).

Figure 2.6:



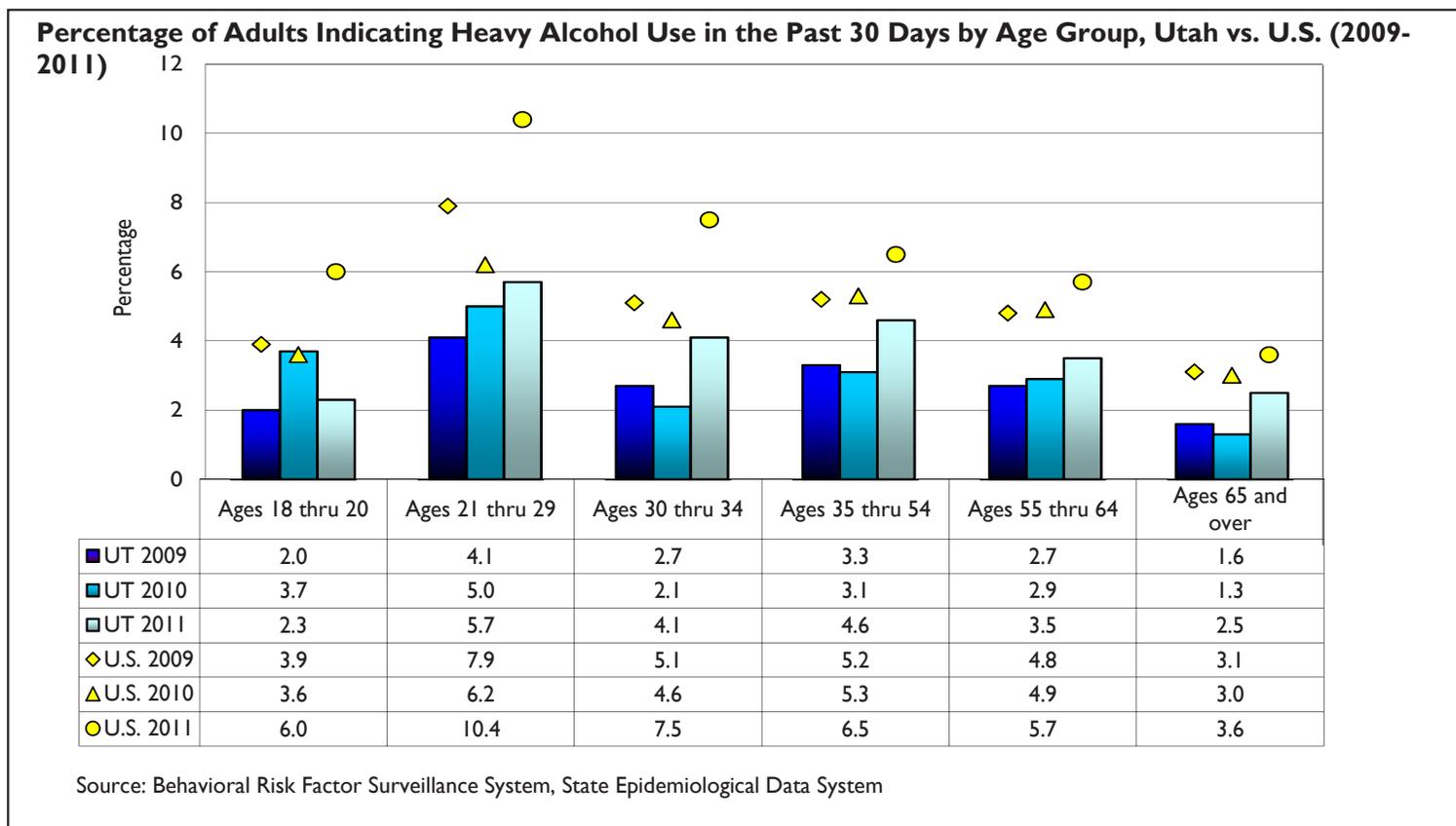
Adult Alcohol Consumption: Alcohol Use by Age Group, Cont.

Figure 2.7:



Adult Alcohol Consumption: Alcohol Use by Age Group, Cont.

Figure 2.8:



Adult Alcohol Consumption: Alcohol Use by Demographics

Table 2.3 shows the breakdown of drinking behavior from 2011 BRFSS among different ethnic groups and both genders. Men were more likely to be current drinkers, binge drinkers, and to indicate heavy alcohol use. In regards to race and ethnicity, Whites and Asian/Pacific Islanders had the lowest past 30 day use rates, while Hispanics and Blacks had the highest rates. For binge drinking, the rates among Hispanics and Native Americans were higher than for other groups, and for heavy alcohol use the rate was highest among Blacks.

Table 2.3:

Percentage of Adults in Utah Indicating Any Alcohol Use, Binge Drinking, and Heavy Alcohol Use In Past 30 Days, by Gender and Race/Ethnicity (2011)

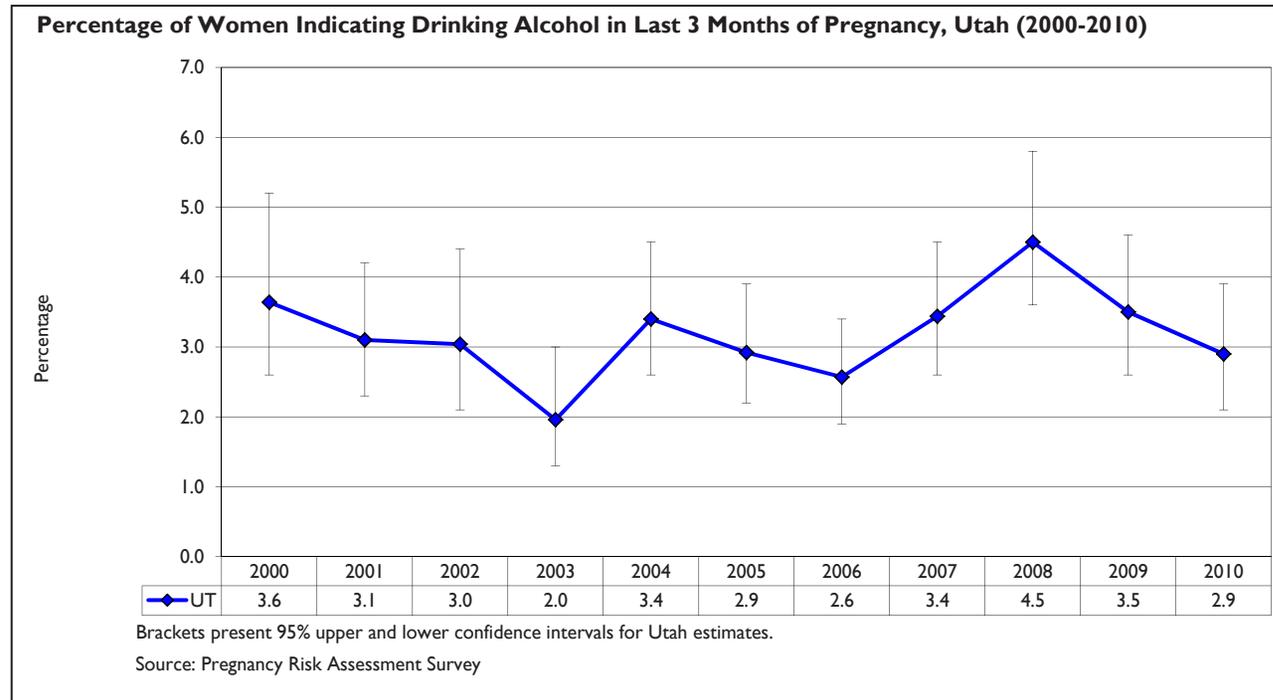
Gender	Past 30 Day	Binge Drinking	Heavy Drinking
Male	35.6%	17.0%	5.1%
Female	23.5%	7.0%	3.2%
Race/Ethnicity			
Hispanic	40.4%	16.5%	3.4%
White	27.8%	11.5%	4.3%
Black	35.9%	12.4%	7.9%
Asian, Pacific Islander	25.6%	6.0%	1.9%
Native American, Alaska Native	32.9%	14.4%	2.2%
Other	31.3%	10.3%	2.4%
Missing/Not Available	45.3%	11.9%	5.2%

Source: Behavioral Risk Factor Surveillance System, State Epidemiological Data System

Adult Alcohol Consumption: Alcohol Use by Pregnant Women

Figure 2.9 examines alcohol use in pregnant women. The Pregnancy Risk Assessment Monitoring System (PRAMS) collects data from pregnant women regarding health behaviors and attitudes, including alcohol use. The figure presents the percentage of women who indicated using alcohol during the last 3 months of their pregnancy from 2000 to 2010. During this timeframe, the lowest observed use rate was in 2003 and the highest rate was in 2008 (2% and 4.5%, respectively). However, while rates of alcohol use during pregnancy have fluctuated to some extent, historically the rate has hovered consistently at about 3%.

Figure 2.9:



College Alcohol Consumption in Utah

The Harvard School of Public Health, based on its annual College Alcohol Study, reported that the 2003 mean binge drinking rate was 44.4% ($\pm 14.2\%$) for undergraduates enrolled at institutions of higher education. Research from various studies has identified a range of serious “first-hand” consequences of excessive drinking by college students: deaths from vehicle crashes, accidents, overdoses, suicides, and homicides; battery and sexual assaults; physical injuries and psychological impairments; criminal offenses and legal records; academic failures and career problems; credit card debt and poor credit ratings, etc. The greater community is also subjected to “second-hand” social and economic consequences resulting from individuals’ excessive drinking: physical harm, property damage, devaluation of neighborhoods, community and university degradation, excessive involvement of emergency and public safety personnel, and increased legal costs – all unduly draining available community services and resources.¹

The Utah Division of Substance Abuse and Mental Health (DSAMH) has conducted three biennial statewide surveys of college students’ use of alcohol, tobacco and other drugs called the Utah Higher Education Health Behavior Survey (UHEHBS). The most recent administration of the survey was completed in 2007, and included more than 10,000 students from nine public colleges and universities across the state. Due to funding limitations the UHEHBS has not been conducted since 2007, however, a new higher education substance abuse survey (the American College Health Association’s National College Health Assessment) was administered statewide in all of the publicly funded colleges and universities in 2012. While the data from this survey were not available at the time of writing, it is expected to be published later in 2013. Table 2.4 presents state level alcohol use data from the UHEHBS. Included in Table 2.4 are data reflecting the percentages of survey participants who had: a) ever used alcohol in their lifetime, b) used in the past year, c) used in the past 30 days, and d) engaged in binge drinking in the 2 weeks prior to the survey. Also presented are data representing a reference group for the U.S. collected by Monitoring the Future from a college student population. As seen below, alcohol use rates in the higher education population in Utah were lower than the U.S. reference group across all use categories and all years. In comparing use rates within Utah from 2003 to 2007, differences observed across the three administrations of the survey were relatively small, and generally, the highest use rates were observed in 2005.

Table 2.4:
Percentage of College Students Indicating Varying Levels of Alcohol Use, Utah and U.S. (2003-2007)

	UT 2003	UT 2005	UT 2007	U.S. 2003	U.S. 2005	U.S. 2007
Lifetime Alcohol Use	39.7%	44.1%	42.7%	86.2%	86.6%	83.1%
Past Year Alcohol Use	27.8%	30.4%	29.9%	81.7%	83.0%	80.9%
Past 30 Day Alcohol Use	20.4%	22.1%	21.9%	66.2%	67.9%	66.6%
Binge Drinking in Past 2 Weeks	9.4%	11.7%	10.9%	38.5%	40.1%	41.1%

Source: Utah Higher Education Health Behavior Survey (Utah) and Monitoring the Future (U.S.)

Table 2.5:
Alcohol Use Among Utah College Students by Gender (2003-2007)

Indicator	Males			Females		
	2003	2005	2007	2003	2005	2007
Any Alcohol in the Past 30 Days	19.5%	21.9%	18.7%	20.6%	22.2%	24.6%
Binge Drinking During Past 2 Weeks	n/a	14.0%	11.6%	n/a	9.7%	10.4%

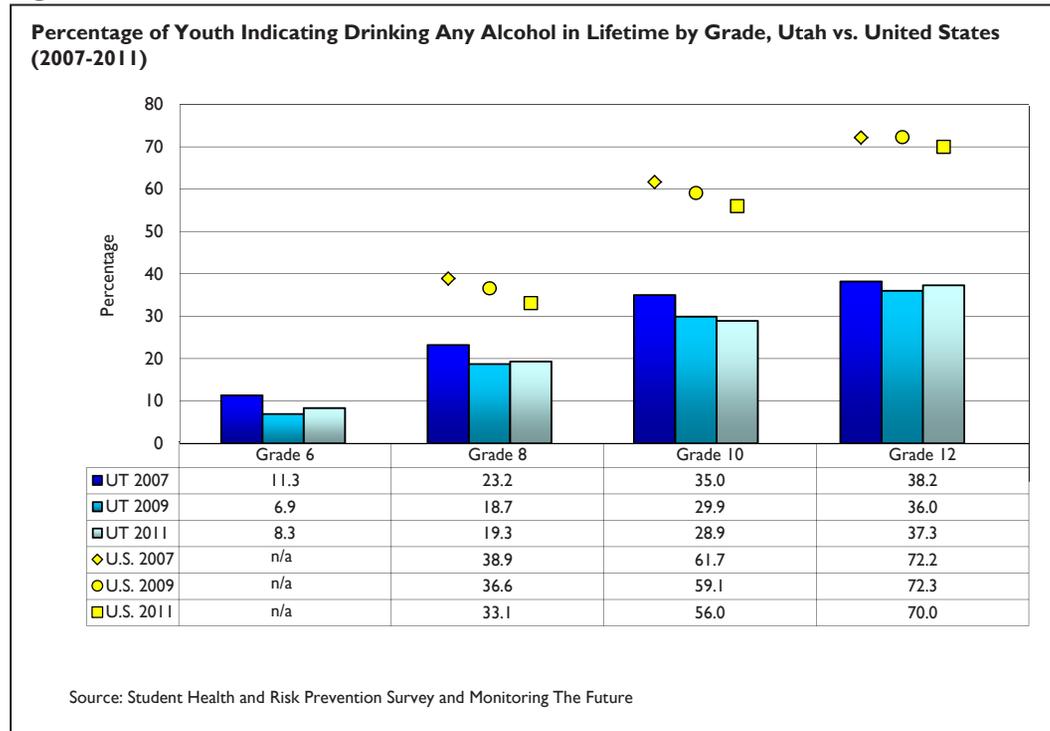
Source: Utah Higher Education Health Behavior Survey (Utah) and Monitoring the Future (U.S.)

Youth Alcohol Consumption: Lifetime Use

Data concerning youth alcohol consumption are available through the Utah Prevention Needs Assessment Survey collected as part of the biennial Student Health and Risk Prevention (SHARP) Survey. The SHARP Survey is a large statewide survey of 6th, 8th, 10th, and 12th grade students designed to measure the prevalence of youth substance use and antisocial behaviors, as well as risk and protective factors that relate to these behaviors. The SHARP Survey has been administered statewide biennially since 2003 with the most recent data available collected in 2011. The 2013 SHARP Survey data administration was occurring at the time of writing, and will be available in the summer of 2013. National comparisons for the SHARP Survey are available for 8th, 10th, and 12th grades using the national Monitoring the Future survey which provides national estimates of substance use prevalence using the same items as the SHARP Survey.

Figure 2.10 displays the percentage of Utah and U.S. students who have ever tried alcohol in their lifetime. Rates of lifetime alcohol use in Utah are well below national rates for all grades and all years. In both Utah and the United States, there has been a slight decrease from 2007 to 2011 among all surveyed grades in the percentage who has ever tried alcohol.

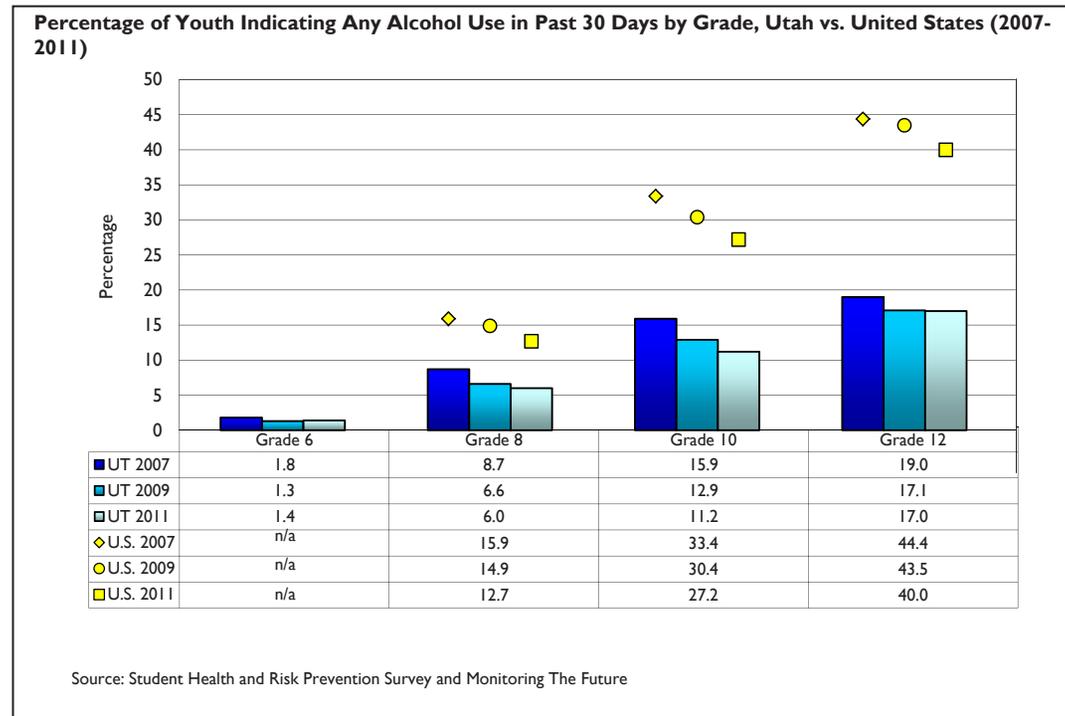
Figure 2.10:



Youth Alcohol Consumption: Past Month Use

While lifetime alcohol use rates provide a barometer for understanding experimentation with alcohol, 30 day use rates provide a better estimate of recent and/or current alcohol use. Figure 2.11 presents 30 day alcohol use rates for Utah and the U.S. by grade from 2007 to 2011. Generally speaking, past 30 day alcohol use rates in Utah are about half of the U.S. rates across all grades. In 2011, 17% of 12th graders in Utah reported using alcohol in the past 30 days, compared to 40% of 12th graders in the United States. The prevalence of past 30 day alcohol use has dropped slightly from 2007 to 2011 for both Utah and the United States.

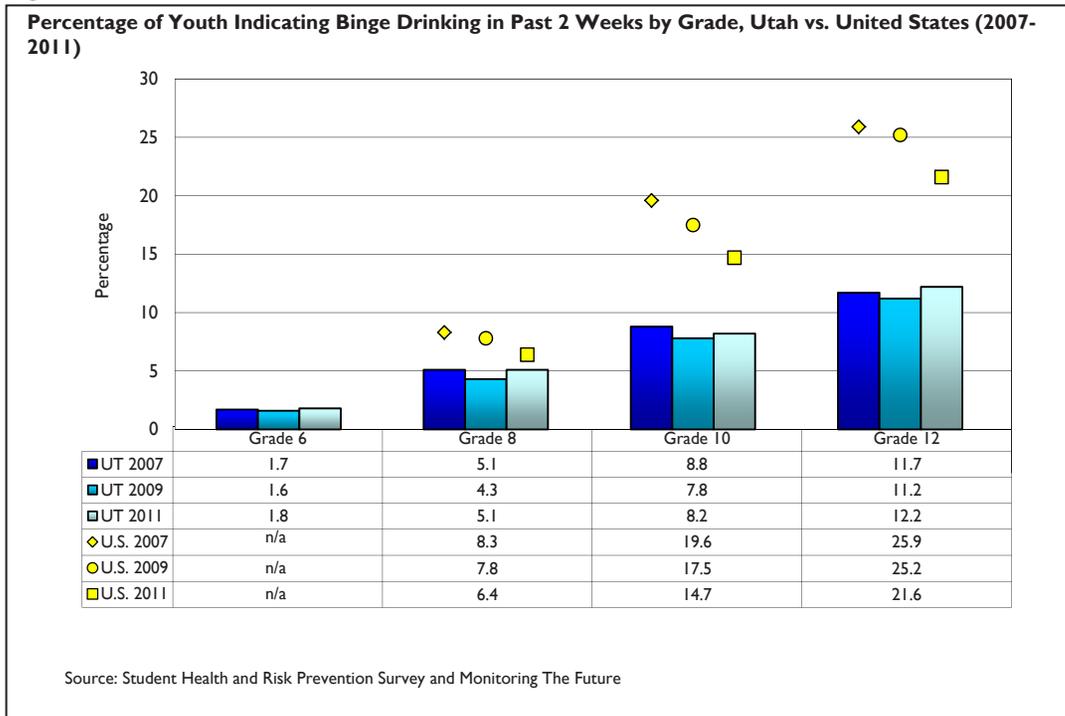
Figure 2.11:



Youth Alcohol Consumption: Binge Drinking

Studies indicate that adolescents drink less frequently than adults but drink more per occasion, and that binge drinking increases dramatically during adolescence. Binge drinking, as indicated by consumption of five drinks or more on a single occasion, is a relatively high risk alcohol use behavior that is strongly associated with injuries, motor vehicle crashes, violence, fetal alcohol spectrum disorder, chronic liver disease, and a number of other chronic and acute conditions. Binge drinking is defined by the SHARP Survey as having five or more drinks in one occasion in the past 2 weeks. Figure 2.12 presents binge drinking data from the SHARP Survey by grade from 2007-2011. Consistent with the other alcohol use indicators, binge drinking rates in Utah are much lower than rates for the U.S. About one in eight 12th grade students in Utah reported binge drinking in the past 2 weeks, compared to one in five for the U.S.

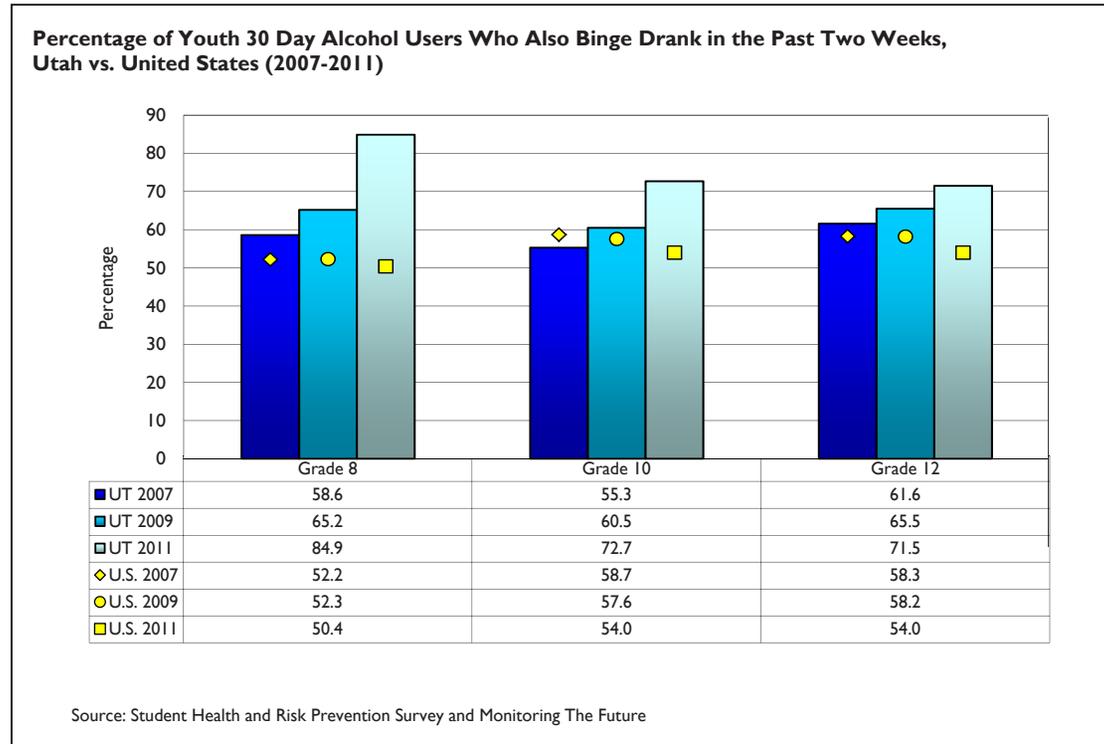
Figure 2.12:



Youth Alcohol Consumption: Percent of Past Month Alcohol Users Who Engaged in Binge Drinking

While a smaller proportion of Utah’s youth drink alcohol compared to the nation, evidence suggests that Utah youth who do drink alcohol are more likely to engage in binge drinking than their national counterparts. Figure 2.13 presents the percentage of youth 30 day alcohol users who also indicated binge drinking in the past two weeks by grade. Nationally, about 55% of 12th graders who drank alcohol in the past 30 days also engaged in binge drinking in the past two weeks, for Utah about 72% of 12th graders reporting 30 day alcohol use also indicated binge drinking. A similar pattern of high binge drinking rates among 30 day alcohol users holds for 8th and 10th graders in Utah as well.

Figure 2.13:



Youth Alcohol Consumption: Binge Drinking by Gender

Table 2.6 compares the rates of lifetime, past 30 day, and binge drinking of males and female high school students in Utah from the 2011 SHARP Survey. While males were predictably higher than females for past 30 day use and binge drinking, differences between the genders have gradually lessened over time and the genders are now more similar than different regarding alcohol use. In fact, reported lifetime alcohol use was actually higher for females than males in 2011.

Table 2.6:

Gender Comparisons on Lifetime, Past 30 Day and Binge Drinking among High School Youth (Grades 10 and 12) in Utah (2011)

Indicator	Male	Female	Total
Drank Alcohol in Lifetime	31.8%	33.9%	32.8%
Alcohol Use in Past 30 Days	14.2%	13.6%	13.9%
Binge Drinking in Past 2 Weeks	10.4%	9.6%	10.0%

Source: Student Health and Risk Prevention Survey

Youth Alcohol Consumption: Alcohol Use by LSAA

Table 2.7 shows the prevalence of lifetime, past 30 day, and binge drinking for each Local Substance Abuse Authority (LSAA) from the 2011 SHARP Survey. As was the case in 2009, Summit County had the highest level of reported lifetime, past 30 day, and binge drinking. Other LSAA's with 30 day alcohol use rates higher than the state rate include: Salt Lake County, Four Corners, Tooele, Northeastern, Wasatch, and Weber-Morgan. For binge drinking, Salt Lake County, Four Corners, Tooele, Summit, Wasatch and Weber-Morgan were higher than the state rate.

Table 2.7:
Percentage of High School Youth (Grades 10 and 12) Indicating Alcohol Use in Lifetime, Past 30 Days, and Binge Drinking Past 2 Weeks, by LSAA (2011)

Local Substance Abuse Authority (LSAA)	Lifetime	Past 30 Day	Binge Drinking in Past 2 Weeks
Bear River District	23.0%	10.1%	7.0%
Central Utah	28.8%	12.0%	7.9%
Davis County	18.7%	13.0%	9.7%
Four Corners District	49.1%	21.8%	14.3%
Northeastern District	36.3%	14.8%	9.7%
Salt Lake County	41.1%	18.0%	12.8%
San Juan County	18.9%	3.5%	1.3%
Southwest District	31.6%	11.2%	9.4%
Summit County	49.6%	28.6%	20.6%
Tooele County	40.6%	20.4%	13.6%
Utah County	19.5%	6.8%	5.4%
Wasatch County	29.9%	17.1%	12.0%
Weber and Morgan Counties	39.2%	16.3%	10.9%
State	32.8%	13.9%	10.0%

Source: Student Health and Risk Prevention Survey

Youth Alcohol Consumption: Age of First Alcohol Use

Research has focused on the association between the age at which a person first uses alcohol and alcohol problems later in life. Delaying the onset of alcohol use has been proposed as a strategy to prevent alcohol dependence or abuse in adulthood. According to a special 2003 National Survey on Drug Use and Health (NSDUH) report, persons reporting first use of alcohol before age 15 were more than 5 times as likely to have past year alcohol dependence or abuse compared with persons who first used alcohol at age 21 or older (16% vs. 3% percent likelihood, respectively). Those who drank before age 15 were also seven times more likely to report having been in a traffic crash because of drinking both during adolescence and adulthood. Additionally, almost 74 percent of U.S. adults aged 21 or older reported that they had started using alcohol before the current legal drinking age of 21. Among these individuals, 4% indicated they were less than 12 years old at time of first use, 14% indicated they were between the ages of 12 and 14, 33% indicated they were between the ages of 15 and 17, and 22% indicated they were between the ages of 18 and 20 at time of first use.

Table 2.8 shows the average age of first alcohol use (among those who indicated using) by male and female 10th and 12th grade students (combined). The table shows that Utah male and female students initiate alcohol use at a similar age (at approximately 14 years of age for first sip and 15 years for first regular alcohol use). Nationally, the 2003 NSDUH survey indicated that males were more likely than females to report having initiated alcohol use before age 21 (83% vs. 65%, respectively), and also more likely than females to report having first used alcohol before age 15 (24% vs. 13%, respectively).

Table 2.8:
Gender Comparisons on Age of Initiation of Alcohol Use among High School Youth (Grades 10 and 12) Youth, Utah (2011)

	Male	Female	Total
Average Age of First Sip of Alcohol or More	13.8	14.0	13.9
Average Age of First Regular Alcohol Use*	15.1	15.0	15.0

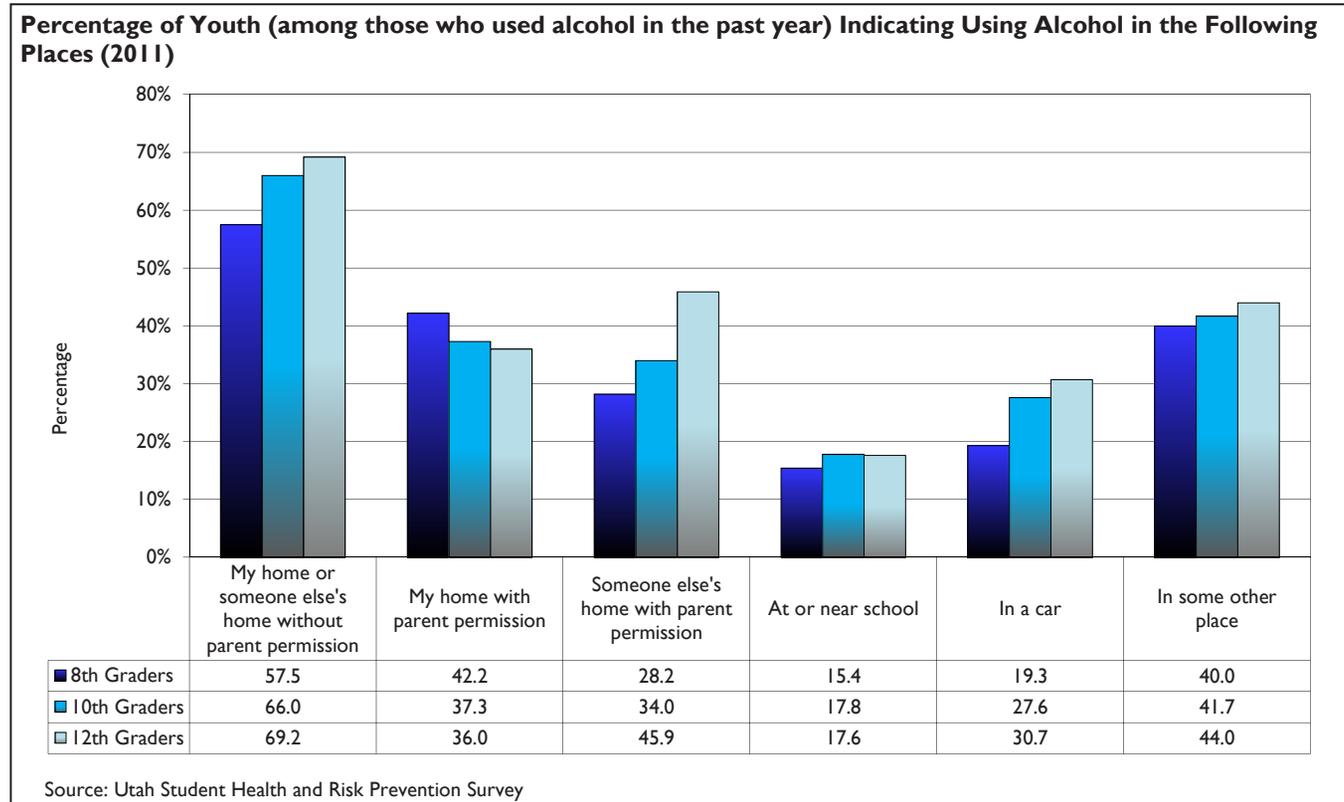
Source: Student Health and Risk Prevention Survey

*Drinking at least once or twice a month.

Youth Alcohol Consumption: Contexts for Youth Alcohol Use

In addition to alcohol use data, the SHARP Survey also asks youth to report where they consumed alcohol during the past year. Figure 2.14 presents the percentage of youth who reportedly used alcohol at least once in each place queried through the survey in 2011 by grade. Only participants who indicated drinking alcohol are included. A look at the data provides insight regarding the contexts for underage drinking. Overwhelmingly, among those who drink, the most common place to drink is their home or someone else's home, usually without permission (approximately two-thirds of 10th and 12th grader drinkers), but surprisingly, often with parent permission as well (36% of 12th grader drinkers indicated drinking at their home with parent permission; 46% at someone else's home with parent permission). About one-third of 10th and 12th graders indicated drinking in a car, and 40-44% indicated "some other place."

Figure 2.14:



Consequences of Alcohol Consumption: Overview

Alcohol use is associated with a myriad of negative social, developmental and health related outcomes. According to the U.S. Department of Health and Human Services, injury is the leading cause of death among young people in the United States and alcohol is the leading contributor to injury deaths. Alcohol is involved in approximately half of all homicides and fatal traffic crashes in the United States³. Additionally, according to the National Institute on Alcohol Abuse and Alcoholism (NIAAA), an estimated 5,000 individuals under age 21 die each year in the U.S. from injuries caused by underage drinking.

The NIAAA also estimates that underage drinking contributes to about 1,900 motor vehicle crash deaths, about 1,600 homicides, and 300 suicides each year⁴. It is estimated that underage drinking in Utah cost \$266 million in 2005⁵, with almost \$156 million of the cost a result of youth violence. Many of these costs were connected to alcohol related death and injury, such as direct costs for healthcare, medical consequences of alcohol consumption, ancillary services at motor vehicle crashes, and pain and suffering associated with problems resulting from the use of alcohol by youth.

Table 2.9 here presents a variety of alcohol related causes of death and injury and the percentage that can be attributed to alcohol.

Table 2.9:
Causes of Death or Injury and Diseases That Are Attributable to Alcohol

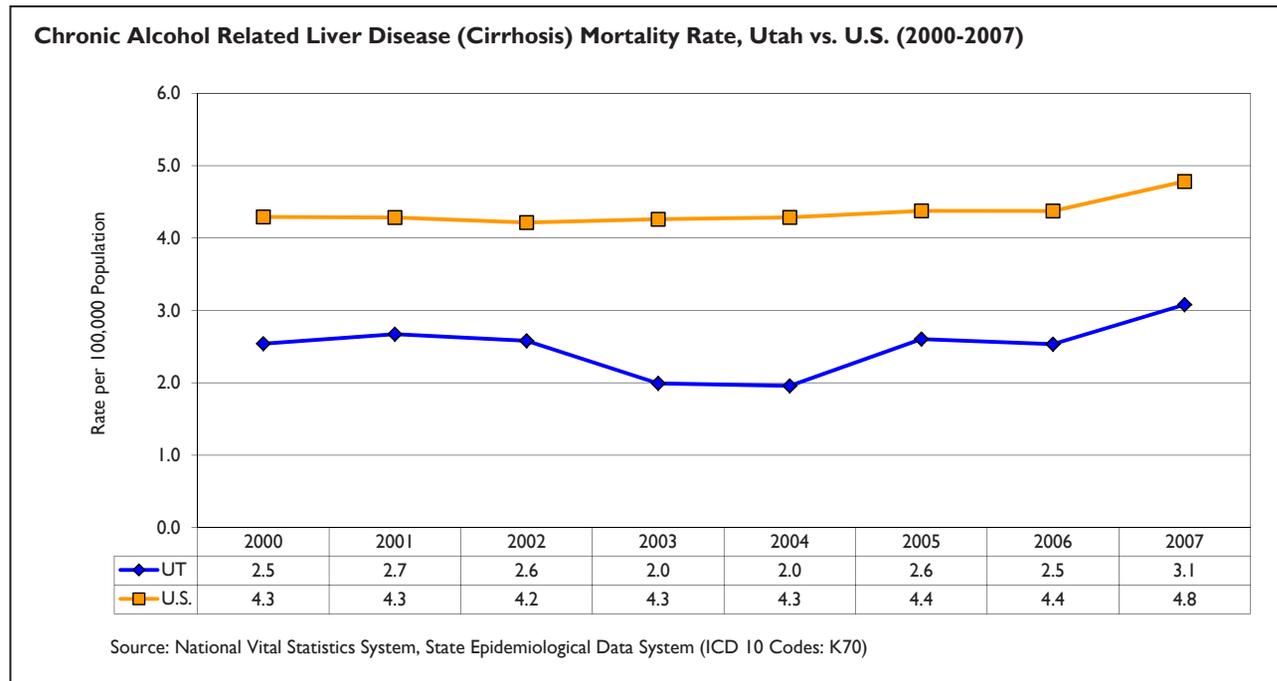
Cause/Disease	Percentage Attributable to Alcohol
Alcohol abuse/dependence	100%
Alcohol cardiomyopathy	100%
Alcohol polyneuropathy	100%
Alcohol-induced chronic pancreatitis	100%
Alcohol gastritis	100%
Alcoholic myopathy	100%
Alcoholic psychosis	100%
Degeneration of nervous system due to alcohol	100%
Fetal alcohol syndrome/Fetus and newborn affected by maternal alcohol use	100%
Alcohol poisoning	100%
Excessive blood alcohol level	100%
Suicide by and exposure to alcohol	100%
Chronic pancreatitis	84%
Gastroesophageal hemorrhage	47%
Homicide	47%
Fire Injuries	42%
Hypothermia	42%
Esophageal varices	40%
Liver cirrhosis unspecified	40%
Portal hypertension	40%
Drowning	34%
Fall injuries	32%
Poisoning (not alcohol)	29%
Acute pancreatitis	24%
Suicide	23%

Source: Centers for Disease Control and Prevention, 2004 (Alcohol-Related Disease Impact System)

Alcohol Mortality Indicator: Chronic Liver Disease

Alcohol-related chronic liver disease, such as cirrhosis, is the single cause of mortality that accounts for the most deaths due to alcohol-related chronic diseases. Long term, heavy alcohol consumption is the leading cause of chronic liver disease, particularly cirrhosis. Chronic liver disease was the 12th leading cause of death in Utah and also in the United States in 2010. Approximately 15,000 people in the United States die from cirrhosis each year. Figure 2.15 compares Utah to the United States on the rate of alcohol related cirrhosis deaths from 2000 to 2007. In 2007, 3.1 deaths per 100,000 people in Utah were attributable to alcohol related cirrhosis compared to 4.8 in the United States. A lower rate was observed in Utah compared to the U.S. for all years between 2000-2007.

Figure 2.15:



Alcohol Mortality Indicator: Chronic Liver Disease (Cirrhosis) Deaths

Figures 2.16 and 2.17 present the percentage of alcohol-related liver disease deaths in Utah by gender and age group for 2003-2007, combined. Cirrhosis deaths were much more likely to occur to males than females. In regards to age, alcohol-related cirrhosis deaths are rare before the age of 35. The middle-age adults group (ages 35 thru 54) see the largest number of deaths, but keep in mind that this age group spans 20 years (the other age categories are generally much shorter, with the exception of 65 and older, which is open ended). The general pattern, however, is that cirrhosis is a long term health consequence of alcohol, and thus affects older adults rather than younger individuals.

Table 2.10 provides the number and rate of alcohol-related liver disease deaths by LSAA from 2006-2011 in 3 year aggregates. Death rates in Central, Four Corners, Northeastern, San Juan, Salt Lake, Southwest, and Tooele districts were all higher than the state rate for 2009-2011, with most being higher for 2006-2008 as well.

Figure 2.16:
% Alcohol Related Cirrhosis Deaths by Gender (2003-2007)

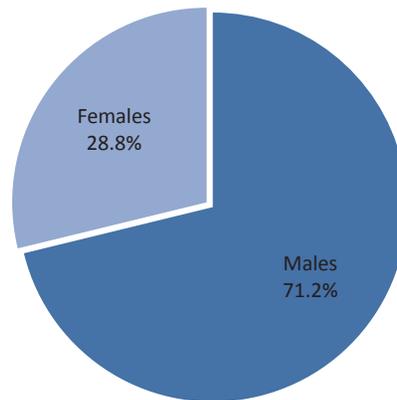


Figure 2.17:
% of Alcohol Related Cirrhosis Deaths by Age Group (2003-2007)

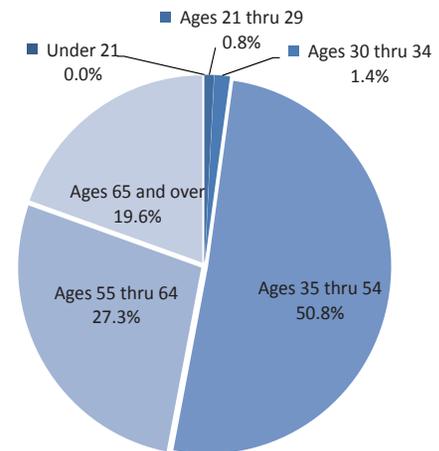


Table 2.10:
Number and Rate of Alcohol-Related Liver Disease Deaths by LSAA (2006-2011)

Local Substance Abuse Authority (LSAA)	2006-2008		2009-2011	
	Number	Rate per 100,000 Population	Number	Rate per 100,000 Population
Bear River District	11	2.4	6	1.2
Central Utah	6	2.8	11	4.8
Davis County	20	2.3	10	1.1
Four Corners District	5	4.2	10	8.0
Northeastern District	13	9.1	11	7.0
Salt Lake County	76	2.6	100	3.2
San Juan County	**	**	6	13.6
Southwest District	21	3.6	24	3.9
Summit County	**	**	**	**
Tooele County	7	4.3	9	5.1
Utah County	18	1.3	21	1.4
Wasatch County	**	**	**	**
Weber and Morgan Counties	26	3.8	16	2.2
State of Utah	208	2.7	228	2.7

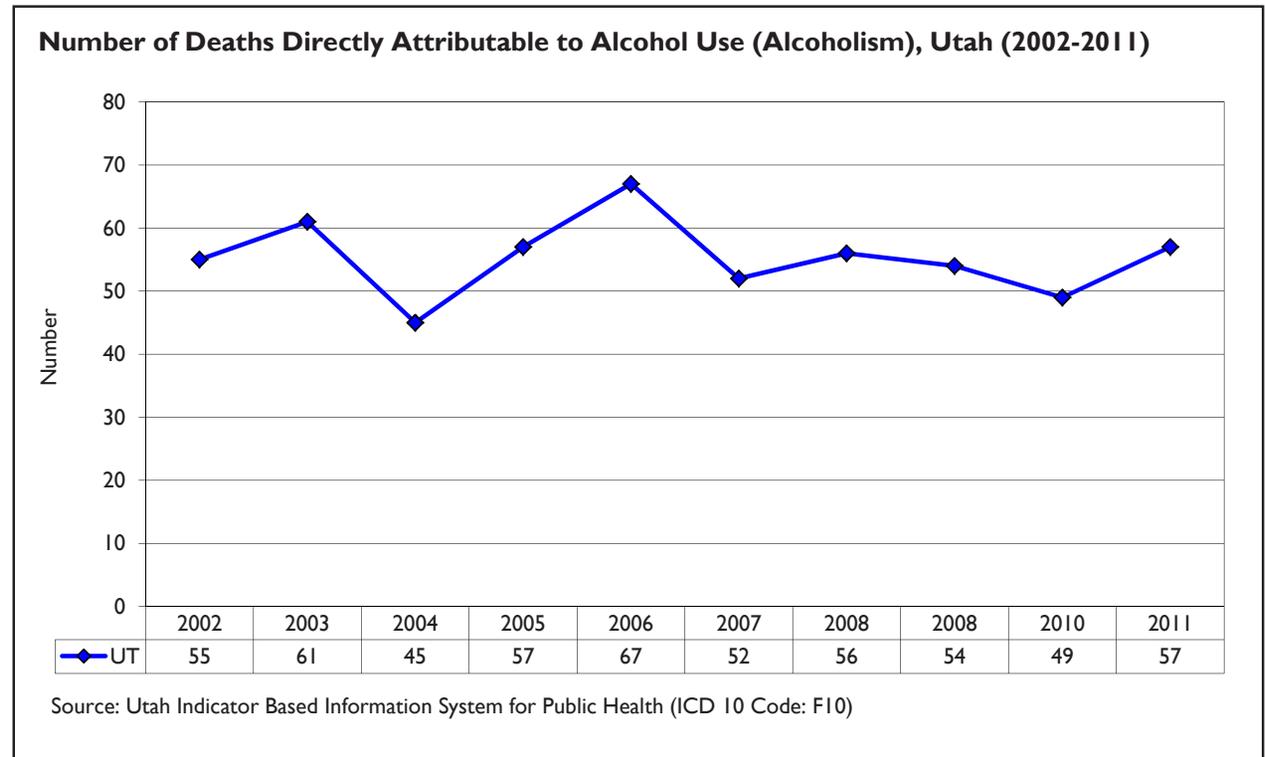
Source: Utah Indicator Based Information System for Public Health (ICD 10 Code: K70)

**Estimate suppressed by IBIS because the relative standard error is greater than 50%, the observed number of events is very small, or it could be used to calculate the number in a cell.

Alcohol Mortality Indicator: Alcoholism Fatalities

A number of deaths each year are attributable directly to alcoholism. Figure 2.18 presents the number of deaths from 2002-2011 that were classified with the primary cause of alcohol use, from either acute (e.g., alcohol poisoning) or chronic use (alcoholism related issues). The number of deaths due to a primary cause of alcohol use has fluctuated between a low of 45 (2004) to a high of 65 (2006) between 2000 and 2011.

Figure 2.18:



Alcohol Mortality Indicator: Alcoholism Fatalities

Figure 2.19 presents the percentage of alcoholism fatalities in Utah by gender for 2007-2011, combined. Alcoholism deaths were much more frequently associated with males than females.

Table 2.11 provides the rate of alcoholism fatalities by LSAA from 2002-2011 in 5 year aggregates. Four Corners, Northeastern, Salt Lake, Southwest, Tooele, Wasatch and Weber-Morgan districts all had higher than the state rates for alcoholism fatalities for 2007-2011.

Figure 2.19:

% of Alcoholism Deaths by Gender (2007-2011)

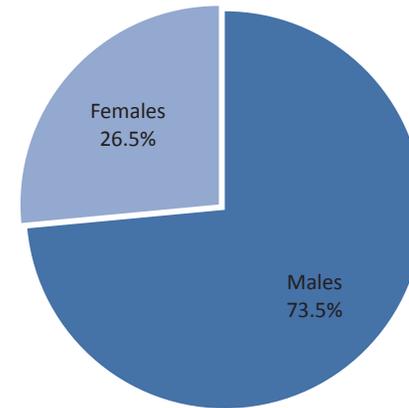


Table 2.11:

Number and (Age Adjusted) Rate of Alcoholism Fatalities by LSAA (2002-2011)

Local Substance Abuse Authority (LSAA)	2002-2006		2007-2011	
	Number	Rate per 100,000 Population	Number	Rate per 100,000 Population
Bear River District	7	1.0	6	0.7
Central Utah	9	2.6	7	1.9
Davis County	16	1.2	14	0.9
Four Corners District	11	5.6	11	5.4
Northeastern District	17	7.8	9	3.5
Salt Lake County	141	3.0	127	2.5
San Juan County	**	**	**	**
Southwest District	13	1.6	21	2.1
Summit County	**	**	**	**
Tooele County	11	4.6	9	3.2
Utah County	27	1.3	20	0.8
Wasatch County	0	0.0	4	3.5
Weber and Morgan Counties	26	2.4	32	2.7
State of Utah	285	2.4	268	2.0

Source: Utah Indicator Based Information System for Public Health (ICD 10 codes: F10)

**Estimate suppressed by IBIS because the relative standard error is greater than 50%, the observed number of events is very small, or it could be used to calculate the number in a cell.

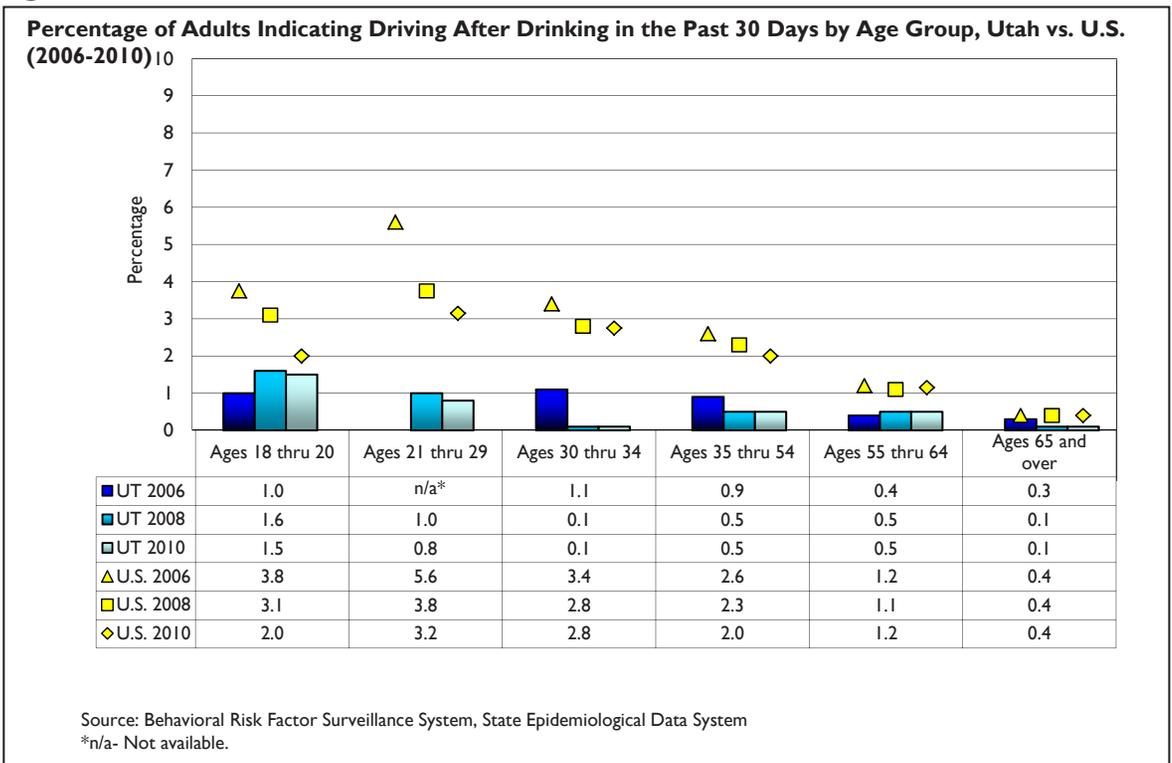
Alcohol-Related Motor Vehicle Crash Fatalities and Injuries

Alcohol consumption impairs a person’s ability to operate a motor vehicle in a safe manner. A large number of alcohol related motor vehicle crashes result in death, injury or property damage each year in Utah. This section of the epidemiological profile report highlights data regarding drinking and driving and alcohol related motor vehicle crashes.

Alcohol-Related Motor Vehicle Crash Fatalities and Injuries: Adult Drinking and Driving

Alcohol Related Motor Vehicle Crashes are a direct result of drinking and driving. The BRFSS Survey provides estimates of drinking and driving behavior at the national and state levels. Between 2002 and 2006, there appeared to be a trend of increased driving after drinking at the national level. As seen in Figure 2.20, that trend seems to have reversed, and the percentage of individuals who reported driving after “perhaps having too much to drink” decreased sharply from 2006 to 2010 nationally. Trends in Utah have remained relatively stable, and Utah drivers at all age groups were less likely to report drinking and driving compared to the U.S.

Figure 2.20:



Alcohol-Related Motor Vehicle Crash Fatalities and Injuries: Youth Drinking and Driving

In addition to estimates of adult drinking and driving provided by the BRFSS, the SHARP Survey asks youth about whether they have driven after drinking or ridden with a drinking driver in the past 30 days. Figures 2.21 and 2.22 present trend data regarding the percentage of 6th, 8th, 10th, and 12th graders who indicated having driven a vehicle after drinking alcohol and ridden in a car with a driver who had been drinking, respectively. As seen in Figure 2.21, rates of drinking and driving have decreased for all grades from 2007 to 2011. Most importantly, notable decreases have been observed among 10th and 12th grade respondents who are the most likely to actually drive a vehicle on a regular basis. Also encouraging are data on riding with a drinking driver. As seen in Figure 2.22, rates of riding with a drinking driver decreased substantially from 2007 to 2011 for every grade.

Figure 2.21:

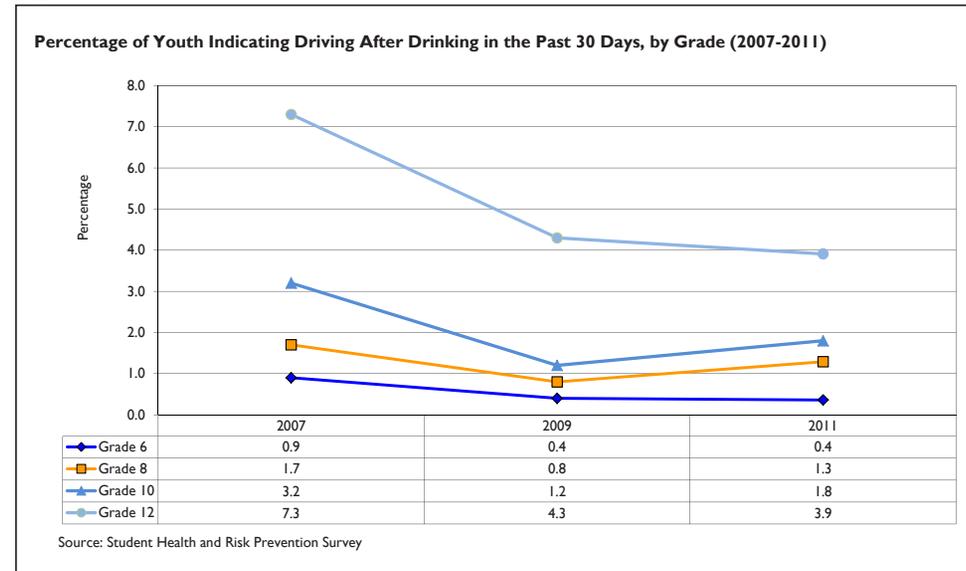
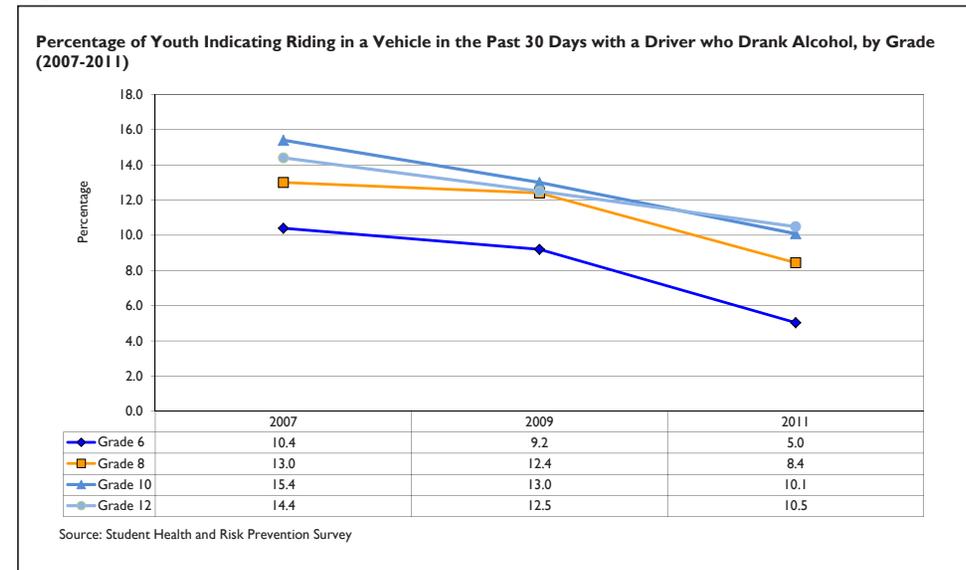


Figure 2.22:



Alcohol-Related Motor Vehicle Crash Fatalities and Injuries: Youth Drinking and Driving by LSAA

Table 2.12 provides the percentage of high school youth who reported drinking and driving and who rode as a passenger of a driver who was drinking and driving in the past 30 days for each LSAA in 2011. Salt Lake County LSAA had the highest levels of reported drinking and driving, and riding with a drinking driver among high school youth respondents. Other districts with higher than state rate levels of youth drinking and driving included Central, Four Corners, Northeastern, San Juan, and Tooele. Districts with higher than state rate levels of riding with a drinking driver included Central, Four Corners, Northeastern, San Juan, Tooele and Utah County.

Table 2.12:
Percentage of High School Youth (Grades 10 and 12) Indicating Drinking and Driving, Riding with a Drinking Driver, by LSAA (2011)

Local Substance Abuse Authority (LSAA)	Drinking and Driving	Riding with a Drinking Driver
Bear River District	2.5%	7.1%
Central Utah	3.6%	11.4%
Davis County	2.4%	8.1%
Four Corners District	3.5%	13.9%
Northeastern District	5.2%	12.6%
Salt Lake County	6.0%	16.5%
San Juan County	4.0%	12.3%
Southwest District	2.6%	8.1%
Summit County	1.4%	5.5%
Tooele County	3.6%	10.2%
Utah County	3.0%	12.3%
Wasatch County	2.3%	8.9%
Weber and Morgan Counties	0.6%	5.9%
State	2.7%	10.3%

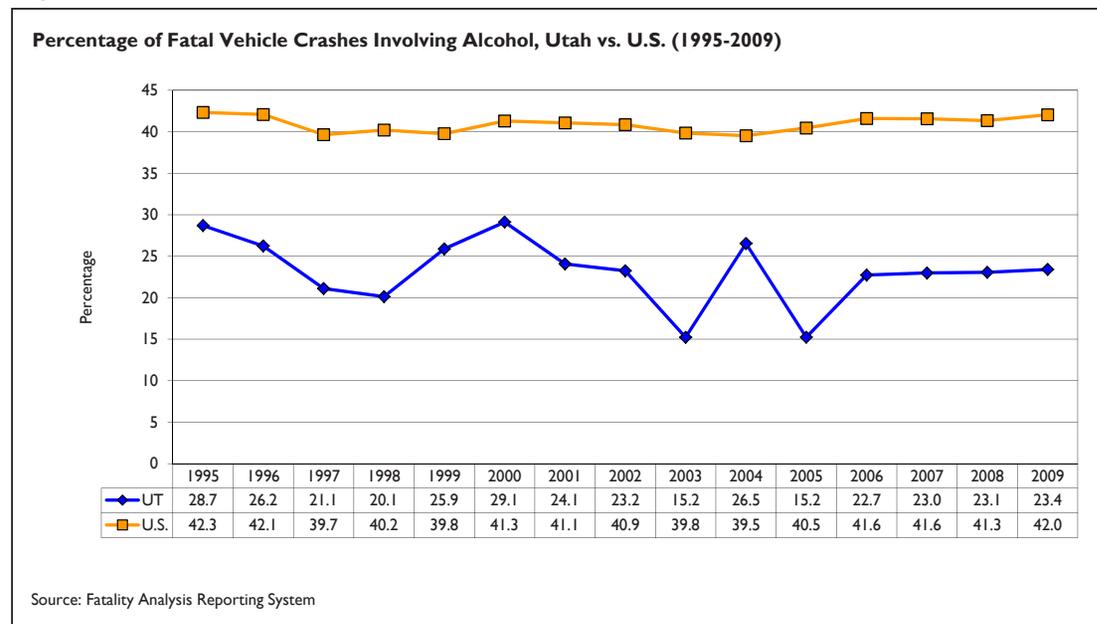
Source: Student Health and Risk Prevention Survey

Alcohol-Related Motor Vehicle Crash Fatalities and Injuries: Fatal Vehicle Crashes Involving Alcohol

Two sources of data provide estimates of the number of alcohol related motor vehicle crashes (ARMVC) that occur in Utah each year. The first source is the National Highway Traffic Safety Administration’s (NHTSA) Fatality Analysis Reporting System (FARS) which provides both national and state level estimates for alcohol-related crashes and fatalities. The second source of ARMVC data is from the Utah Department of Public Safety’s Highway Safety Office (UHSO). While FARS data allow easy comparisons between trends in Utah and the U.S. (as well as other states), UHSO data provide greater detail regarding alcohol-related crashes that occur within the state (e.g., UHSO provides data regarding the number of alcohol involved crashes resulting in injury and property damage only, as well as fatal crashes). Both data sources are useful and important for understanding ARMVC trends in the state. However, it is important to note that estimates provided by FARS often differ substantially from estimates provided by UHSO. The FARS uses a statistical model to amend the statistics from each state agency in an effort to estimate the likelihood that unclassified crash deaths can be attributed to alcohol (NHTSA DOT HS 810 627). Their estimation method leads to larger estimates of ARMVC than through UHSO.

According to Fatality Analysis Reporting System (FARS) data, almost 17,000 people die from alcohol-related crashes each year in the United States. Fatal vehicle crashes involving alcohol account for approximately 40 percent of U.S. traffic fatalities. Additionally, motor vehicle crashes are the leading cause of death for people ages 15-19. Figure 2.23 illustrates that in Utah the proportion of fatal accidents involving alcohol is much lower than for the nation. In 2009, 23% of all fatal vehicle crashes in Utah involved alcohol, compared to 42% for the U.S.

Figure 2.23:



Alcohol-Related Motor Vehicle Crash Fatalities and Injuries: Crashes Resulting in Fatalities and Injuries

Figure 2.24 presents the rate of fatal alcohol related motor vehicle crashes for the Utah and the US per 100,000 population. The rate of fatal alcohol crashes in Utah has consistently been less than half the rate for the nation. The trend has been relatively stable since 2006, with an overall decline since 2000.

Data provided by the Utah Highway Safety Office’s Crash Facts Reports allow examinations of alcohol related crashes by age, gender and county. Figures 2.25 and 2.26 present the percentage of alcohol involved injury and fatal vehicle crashes by age group and gender for 2009-2010, respectively. In regards to age, nearly 60% of injury and fatal ARMVC were associated with drivers between the ages of 21 and 39. The highest risk age group were 21-29 year olds who accounted for 36% of all alcohol-related crashes resulting in injury or fatality. In regards to gender, the overwhelming majority of injury and fatal ARMVC were associated with male drivers (75%).

Figure 2.24:

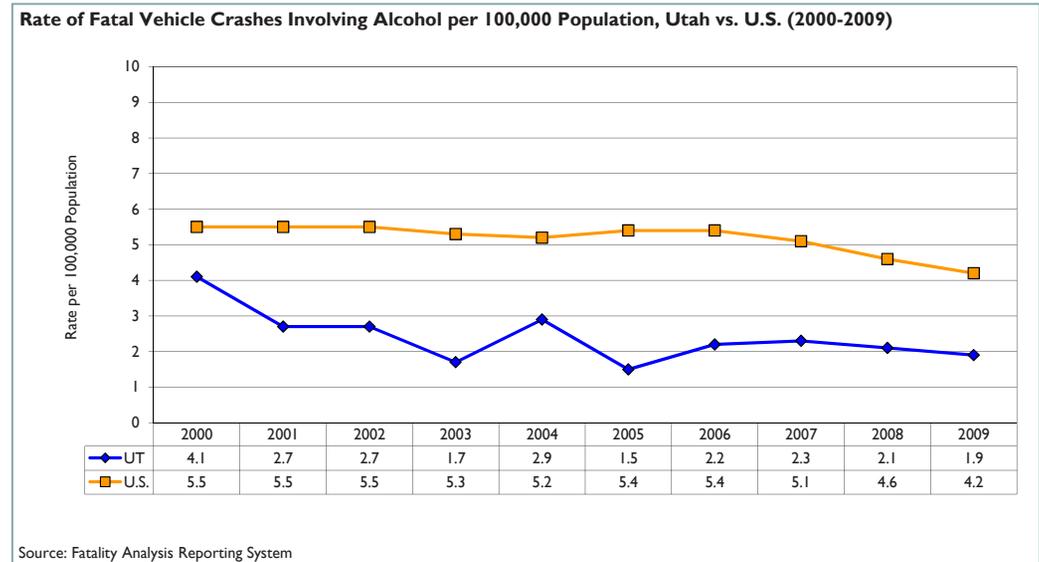


Figure 2.25

% of Alcohol Related Motor Vehicle Crashes Resulting in Injury or Fatality by Age Group (2009-2010)

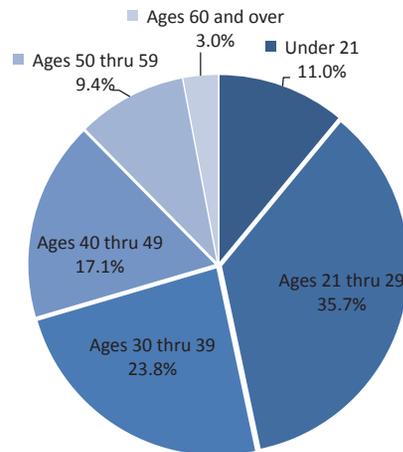
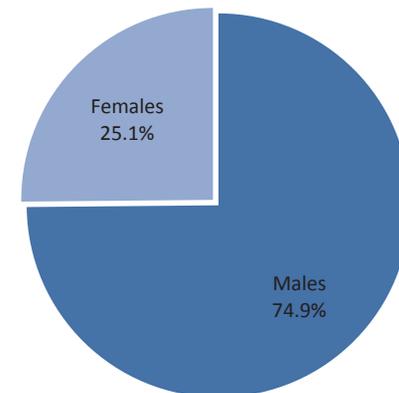


Figure 2.26:

% of Alcohol Related Motor Vehicle Crashes Resulting in Injury or Fatality by Gender (2009-2010)



Alcohol-Related Motor Vehicle Crash Fatalities and Injuries: Crashes Resulting in Fatalities and Injuries

Table 2.13 presents the number and rate of injury and fatal ARMVC as well as the total number of alcohol related crashes (including those that result in property damage only) for 2009 and 2010, by LSAA. Caution should be used in interpreting rates of low population LSAs as a small change in the number of fatal crashes can lead to large changes in rates for these LSAs. For example, San Juan County had a rate of 6.8 fatal crashes per 100,000 population, one of the highest rates in the state. However, the actual number of fatal crashes in San Juan was two crashes. Because of the small population in this LSAA, their rate was quite high relative to other districts. It is recommended that several data years be considered when examining data from LSAs with small populations.

Additionally, counties and LSAs with major interstates or close to recreational areas are likely to have higher rates of crashes due to relatively higher levels of traffic. In such cases, high rates of alcohol related crashes may be affected by residents outside of the county (LSAA) and not necessarily a simple reflection of alcohol consumption and consequences of the local residents.

Table 2.13:
Number and Rate of Alcohol Related Injury and Fatal Vehicle Crashes, by LSAA (2009-2010 Combined)

	Injury Crashes		Fatal Crashes		Total Crashes	
	Number	Rate per 100,000 Population	Number	Rate per 100,000 Population	Number	Rate per 100,000 Population
Bear River District	78	23.9	4	1.2	170	52.0
Central Utah	53	35.2	4	2.7	113	74.9
Davis County	120	19.7	4	0.7	262	43.1
Four Corners District	49	59.3	7	8.5	98	118.5
Northeastern District	65	62.0	6	5.7	139	132.7
Salt Lake County	741	36.2	8	0.4	1,789	87.4
San Juan County	23	78.6	2	6.8	35	119.6
Southwest District	145	35.8	4	1.0	262	64.8
Summit County	46	63.7	3	4.2	100	138.6
Tooele County	58	50.2	2	1.7	93	80.6
Utah County	169	16.5	2	0.2	363	35.5
Wasatch County	9	19.4	2	4.3	23	49.6
Weber and Morgan Counties	129	27.0	4	0.8	295	61.7
State of Utah	1,685	30.7	52	0.9	3,742	68.2

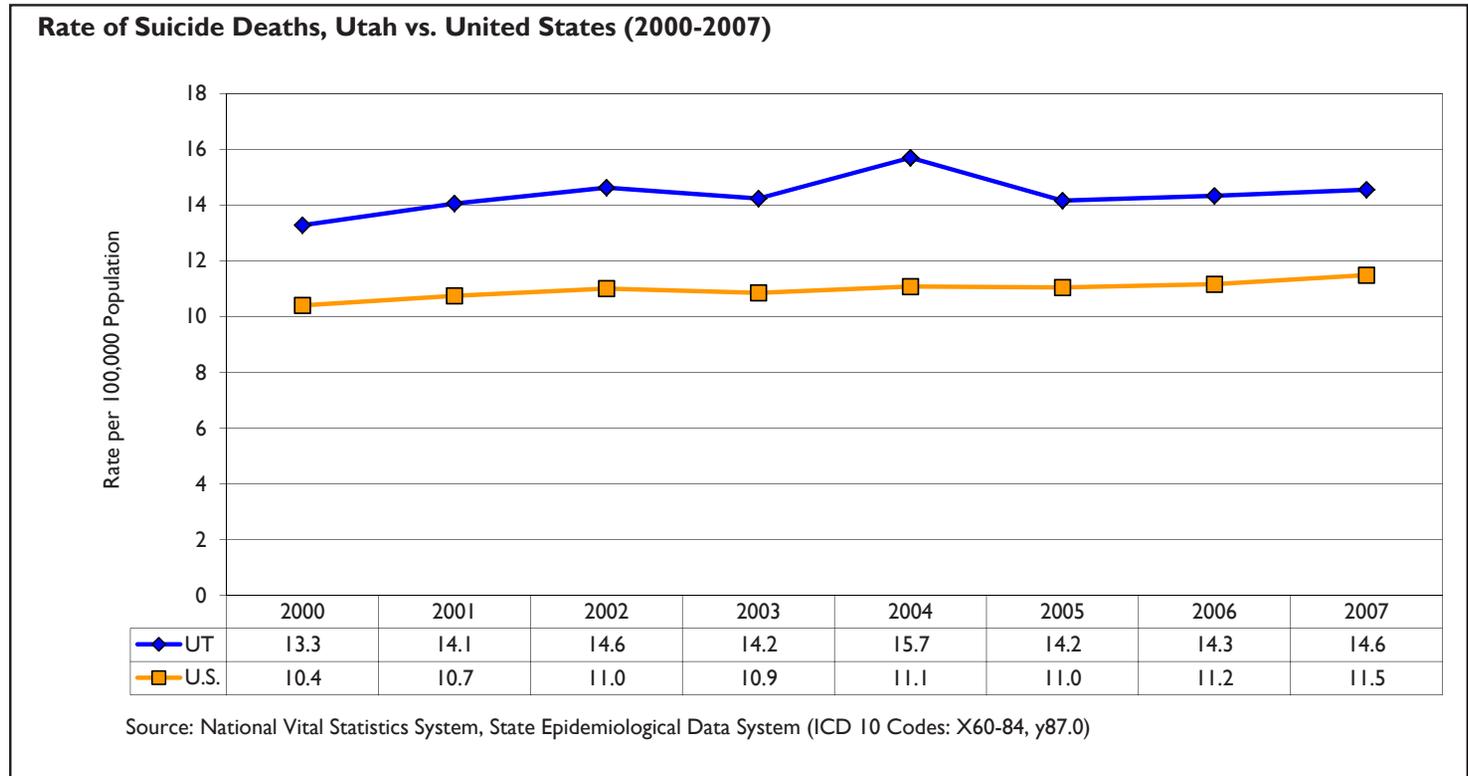
Source: Compiled with data from Utah Crash Facts, Utah Department of Public Safety.

Alcohol-Related Mortality Indicator: Suicides

The association between alcohol use and suicide has been well documented. Suicidal individuals have high rates of alcohol use and abuse and alcohol abusers have higher rates of suicidal behavior⁶. It is estimated that about 23 percent of all suicides are attributable to alcohol.

In 2010, Suicide was the 6th leading cause of death in Utah and the 10th leading cause of death in the United States. As can be seen in Figure 2.27, from 2000 through 2007 death rates from suicide in Utah have been consistently higher than national rates. Unfortunately, according to more recent data available through the Utah Department of Health’s Indicator Based Information System (IBIS), the suicide death rate in Utah has continued to climb since 2007 (see Table 2.14 next page). The high rates of suicide that afflict our state have led to a greater level of attention on suicide prevention in recent years, with both the Division of Substance Abuse and Mental Health and Utah Department of Public Health focused on reducing suicide deaths through prevention efforts.

Figure 2.27:



Alcohol-Related Mortality Indicator: Suicides

Figures 2.28 and 2.29 present the percentage of suicide deaths in Utah from 2003-2007 by gender and age. Males are much more likely to die of suicide than females, with over 80% of suicide deaths involving males. In regards to age, a significant percent of suicides are associated with every age group. The age groups associated with the largest percentages of suicides were the 30-54 (40%) and 21-29 (21%) age groups. Keep in mind that the 30-54 group comprises the largest age spread of all the age groups, and therefore should be expected to have a higher percentage of deaths than other age groups.

The Utah Department of Health provides suicide death data through 2011 for the state. Table 2.14 presents the number and rate of suicide deaths in Utah from 2000-2011. Unfortunately, the data reveal an increasing trend in suicide deaths. Table 2.15 shows the number and rate of suicides for each LSAA from 2002-2011 in 5 year aggregates. Central, Four Corners, Northeastern, Salt Lake, Southwest, and Weber-Morgan all had rates of suicide that exceed the state rate for 2007-2011.

Table 2.14:
Number and (Age-Adjusted) Rate of Suicide Deaths in Utah, 2000-2011

Year	Number	Rate per 100,000 Population
2000	295	14.5
2001	316	15.2
2002	338	16.1
2003	338	15.5
2004	377	17.2
2005	344	15.2
2006	359	15.8
2007	369	15.4
2008	385	15.7
2009	444	17.7
2010	459	17.7
2011	492	19.1

Source: Utah Indicator Based Information System

Figure 2.28:
% of Suicide Deaths by Gender (2003-2007)

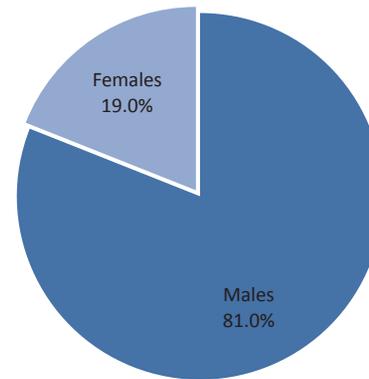


Figure 2.29:
% of Suicide Deaths by Age Group (2003-2007)

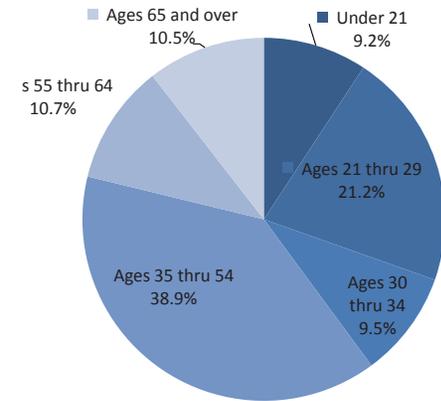


Table 2.15:
Number and (Age Adjusted) Rate of Suicide Deaths by LSAA (2002-2011)

Local Substance Abuse Authority (LSAA)	2002-2006		2007-2011	
	Number	Rate per 100,000 Population	Number	Rate per 100,000 Population
Bear River District	98	15.3	99	13.2
Central Utah	77	25.2	75	21.8
Davis County	161	13.7	212	15.3
Four Corners District	54	28.9	55	27.4
Northeastern District	48	23.3	52	22.3
Salt Lake County	691	15.7	893	18.3
San Juan County	8	14.1	10	13.0
Southwest District	125	16.2	186	20.8
Summit County	15	11.8	23	11.4
Tooele County	23	9.8	38	15.8
Utah County	236	13.5	263	11.9
Wasatch County	18	20.1	17	16.1
Weber & Morgan Counties	195	19.3	218	19.6
State of Utah	1,749	15.9	2,141	17.1

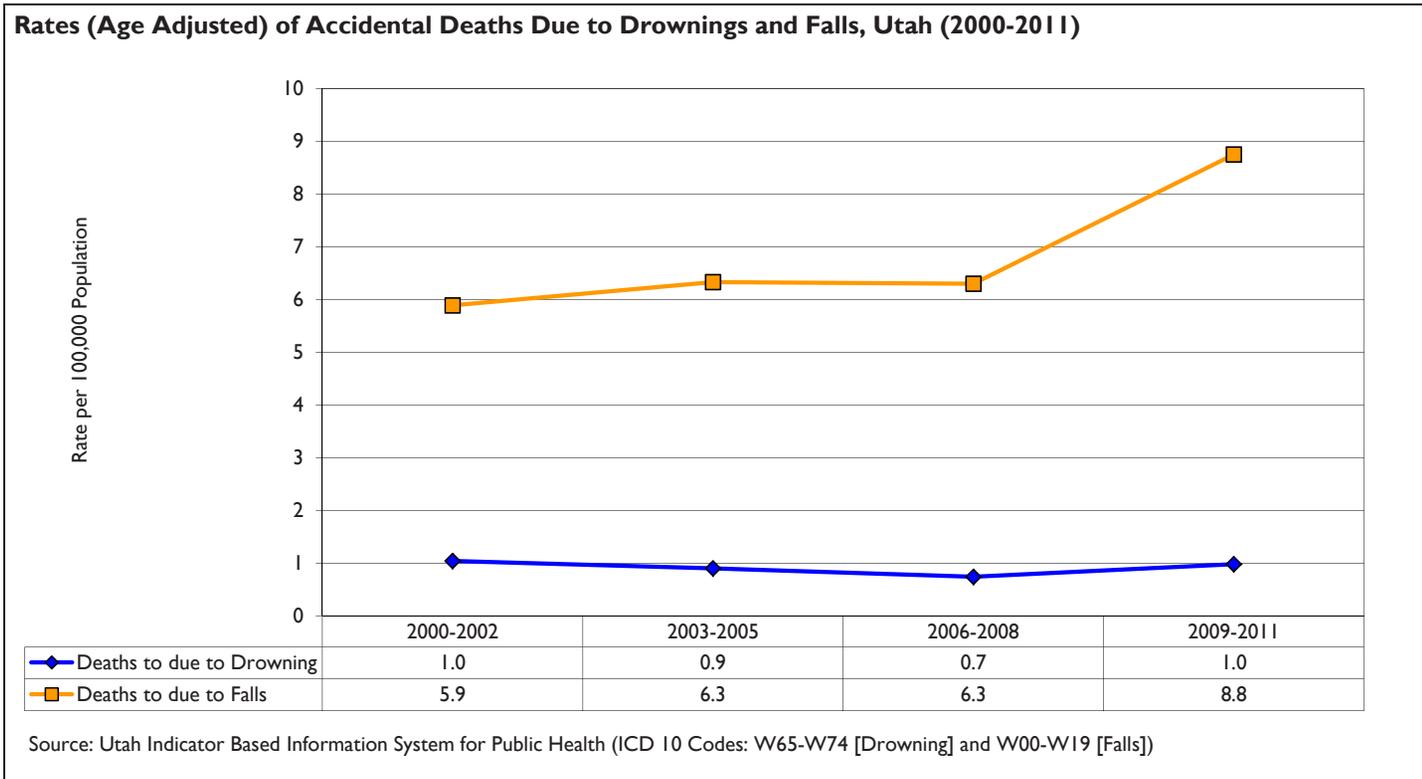
Source: Utah Indicator Based Information System for Public Health (ICD 10 Codes: X60-84, Y87.0)

Alcohol-Related Mortality Indicator: Accidental Deaths Due to Falls and Drowning

According to the Centers for Disease Control and Prevention, the fourth and sixth leading causes of injury deaths in the United States were accidental falls and drowning in 2006⁸. As a group, accidents/unintentional injuries were the third leading cause of death in Utah and the 5th leading cause in the U.S. Accidental falls and accidental drowning are among the leading causes of accidental deaths (motor vehicle accidents and poisonings are the top two causes of accidental death). According to the Centers for Disease Control and Prevention (CDC), these causes of accidental death are often associated with alcohol consumption³.

Figure 2.30 shows the number and average rate of accidental drowning deaths for 2002-2011 by LSAA. During this ten year timeframe, there were a total of 232 accidental drowning deaths in the state, reflecting a rate of less than 1 per 100,000 population. Because of the relative infrequency of drowning deaths in Utah, data for several LSAsAs were not available for publication.

Figure 2.30:



Alcohol-Related Mortality Indicator: Accidental Deaths Due to Falls and Drowning

Table 2.16 displays the number and rates of deaths due to accidental falls in 5 year aggregates for each of Utah's LSAA from 2002-2011. The table illustrates a large increase in the number of deaths in Utah from 2002-2006 to 2007-2011 that resulted from accidental falls (535 and 808, respectively). Central, Four Corners, Salt Lake, San Juan, Tooele, and Utah County all had rates higher than the state rates for 2007-2011.

Table 2.17 shows the number and average rate of accidental drowning deaths for 2002-2011 by LSAA. During this ten year timeframe, there were a total of 232 accidental drowning deaths in the state, reflecting a rate of less than 1 per 100,000 population. Because of the relative infrequency of drowning deaths in Utah, data for several LSAs were not available for publication.

Table 2.16:
Number and (Age Adjusted) Rate of Deaths from Accidental Falls by LSAA (2002-2011)

Local Substance Abuse Authority (LSAA)	2002-2006		2007-2011	
	Number	Rate per 100,000 Population	Number	Rate per 100,000 Population
Bear River District	29	5.4	46	7.7
Central Utah	24	7.3	41	11.3
Davis County	61	7.4	79	8.0
Four Corners District	8	4.0	22	10.3
Northeastern District	10	5.4	8	3.5
Salt Lake County	212	6.3	314	8.2
San Juan County	4	7.7	7	11.9
Southwest District	38	4.4	70	6.3
Summit County	9	8.7	5	5.6
Tooele County	9	7.1	15	8.8
Utah County	66	5.7	123	9.2
Wasatch County	4	8.1	5	6.4
Weber and Morgan Counties	61	7.0	72	7.1
State of Utah	535	6.1	808	8.1

Source: Utah Indicator Based Information System for Public Health (ICD 10 Codes:W00-W19)

Table 2.17:
Number and (Age Adjusted) Rate of Accidental Drowning and Submersion Deaths by LSAA (2002-2011)

Local Substance Abuse Authority (LSAA)	2002-2011	
	Number	Rate per 100,000 Population
Bear River District	13	0.7
Central Utah	9	1.2
Davis County	24	0.8
Four Corners District	**	**
Northeastern District	7	1.2
Salt Lake County	79	0.8
San Juan County	**	**
Southwest District	23	1.1
Summit County	**	**
Tooele County	6	1.4
Utah County	37	0.8
Wasatch County	**	**
Weber and Morgan Counties	22	0.9
State of Utah	232	0.9

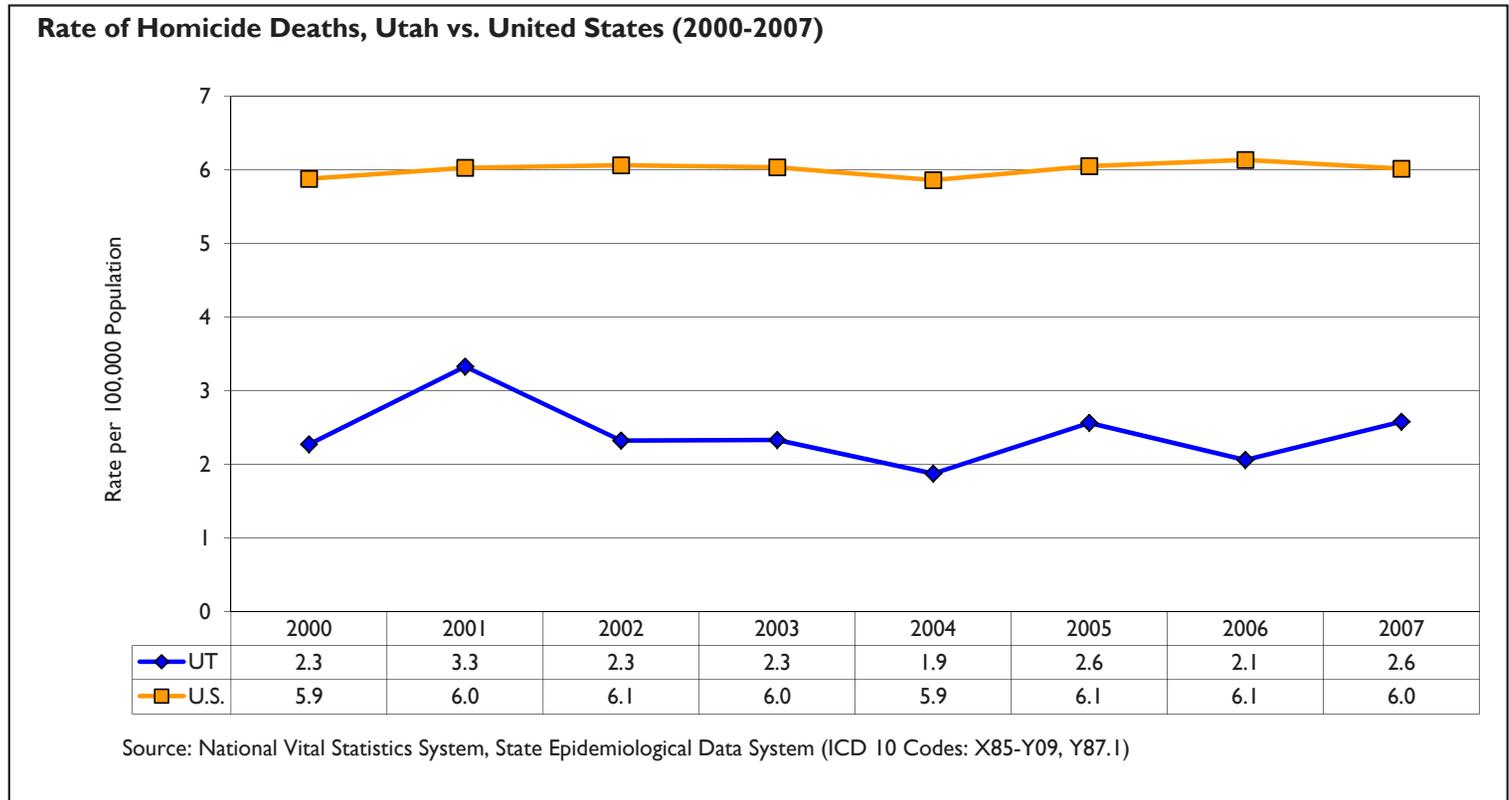
Source: Utah Indicator Based Information System for Public Health (ICD 10 Codes:W65-W74)

**Estimate suppressed by IBIS because the relative standard error is greater than 50%, the observed number of events is very small, or it could be used to calculate the number in a cell.

Alcohol-Related Mortality Indicator: Homicides

According to the Center for Substance Abuse Prevention’s State Epidemiological Data System website, it is estimated that approximately 47 percent of homicides in the United States are attributable to alcohol. Figure 2.31 presents the homicide rates for Utah and the U.S. from 2000-2007. As seen in the figure, Utah’s homicide rate has consistently been less than half of the nation’s rate.

Figure 2.31:



Alcohol-Related Mortality Indicator: Homicides

Figures 2.32 and 2.33 present the percentage of homicide victims in Utah by gender and age for 2003-2007. Consistent with national homicide trends, the vast majority of homicide victims are male rather than female. In regards to age, approximately 70% of homicide victims were under the age of 35.

Table 2.18 provides the number and rate of homicides for all LSAA's from 2002-2011 in 5 year aggregates. Because of the relative infrequency of homicides in Utah, data for some LSAA's were not suitable for publication (due to a low number of events). Based on the available data, Salt Lake County clearly accounts for the largest number of homicides and had a higher rate than the state for this indicator for both timeframes. Other districts with higher than state rates of homicide for 2007-2011 include Central and Northeastern (additional districts with insufficient numbers for publication may have also had rates higher than the state).

Figure 2.32:
% of Homicide Deaths by Gender (2003-2007)

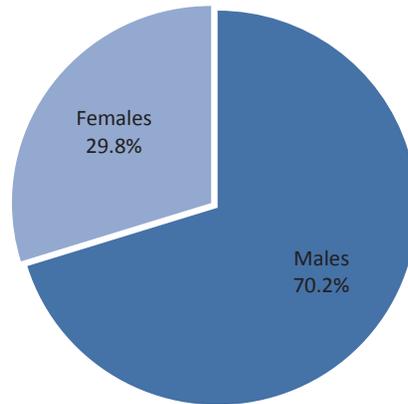


Figure 2.33:
% of Homicide Deaths by Age Group (2003-2007)

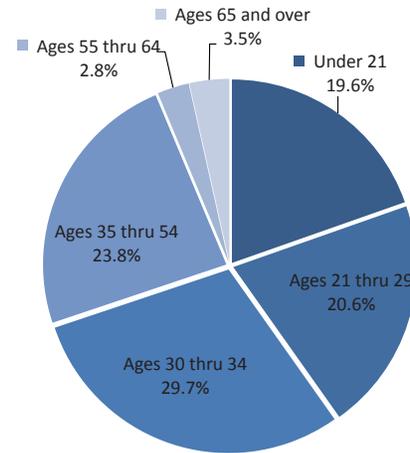


Table 2.18:
Number and (Age Adjusted) Rate of Homicide Deaths by LSAA (2002-2011)

Local Substance Abuse Authority (LSAA)	2002-2006		2007-2011	
	Number	Rate per 100,000 Population	Number	Rate per 100,000 Population
Bear River District	8	1.3	6	0.8
Central Utah	7	2.2	10	3.2
Davis County	17	1.2	16	1.1
Four Corners District	5	4.2	**	**
Northeastern District	8	3.5	6	2.3
Salt Lake County	142	2.9	151	2.9
San Juan County	**	**	**	**
Southwest District	15	2.1	16	1.7
Summit County	**	**	**	**
Tooele County	7	2.8	**	**
Utah County	18	0.9	20	0.9
Wasatch County	**	**	0	0.0
Weber and Morgan Counties	26	2.4	23	1.9
State of Utah	261	2.2	258	1.9

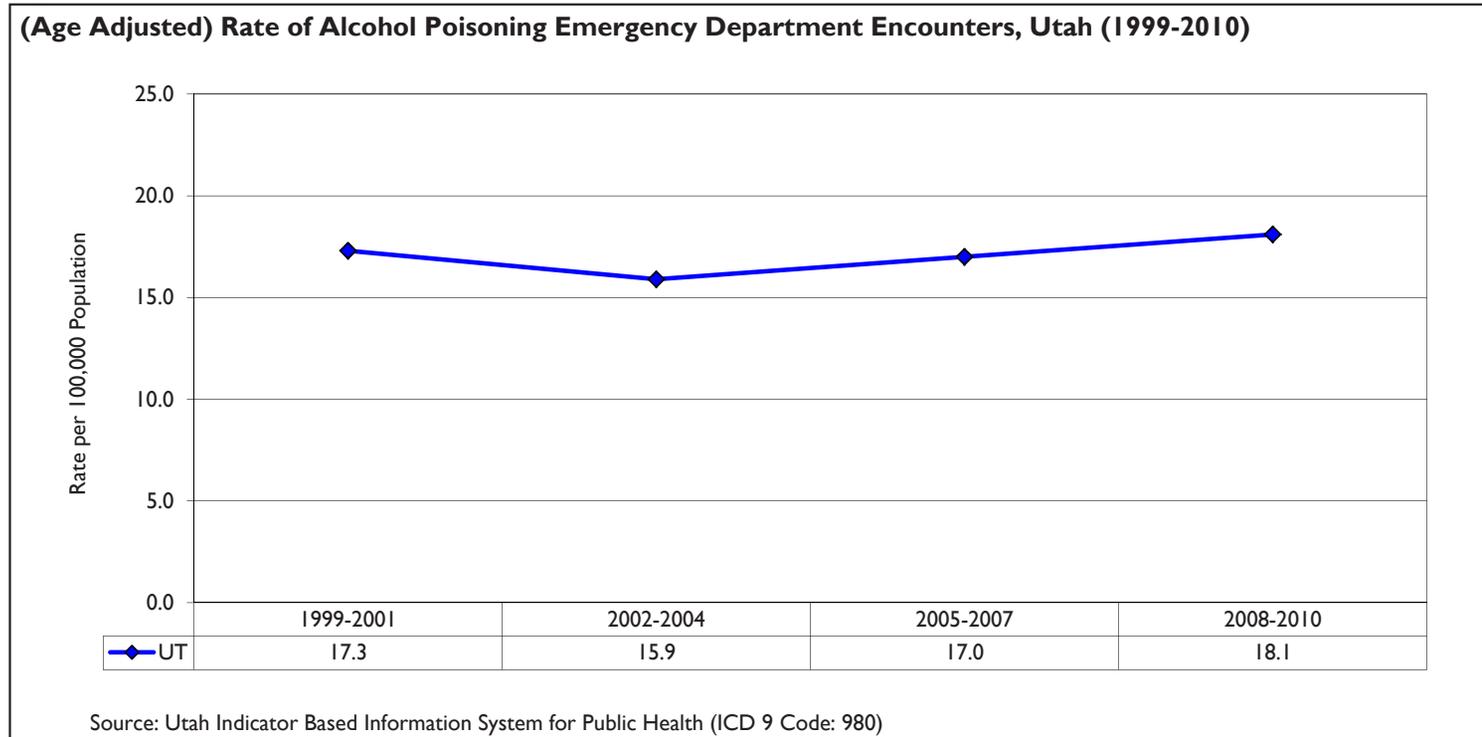
Source: Utah Indicator Based Information System for Public Health (ICD 10 Codes: X85-Y09, Y87.1)

**Estimate suppressed by IBIS because the relative standard error is greater than 50%, the observed number of events is very small, or it could be used to calculate the number in a cell.

Alcohol-Related Morbidity Indicator: Alcohol-Related Emergency Room Encounters

In addition to the alcohol related mortality indicators presented above, emergency department data also provide information pertaining to injuries that are linked to alcohol use. Figure 2.34 presents the rate of alcohol poisoning emergency room (ER) encounters in Utah from 1999 to 2010 in 3 year aggregates. The rate of ER encounters has remained relatively stable over time, decreasing or increasing by about 1 per 100,000 population across each time period.

Figure 2.34:



Alcohol-Related Morbidity Indicator: Alcohol-Related Emergency Room Encounters

Figures 2.35 and 2.36 present the percentage of alcohol poisoning ER encounters for 2008-2010 by gender and age, respectively. In regards to age, alcohol poisoning ER encounters are fairly evenly split, with females representing a slight majority of visits. In regards to gender, no age group stands out as being much higher than the others. Seventy percent of ER visits were associated with individuals between the ages of 15 to 44.

Table 2.19 provides the rate of alcohol poisoning ER encounters by LSAA from 2005-2010 in 3 year aggregates. As expected, Salt Lake County accounts for the largest proportion of emergency department encounters resulting from alcohol poisoning, followed by Utah and Davis Counties. Other LSAs with higher than state rates of alcohol poisoning ER encounters for 2008-2010 include: Central, Four Corners, San Juan County, Southwest, and Weber-Morgan.

Figure 2.35:

% of Alcohol Poisoning ER Encounters by Gender (2008-2010)

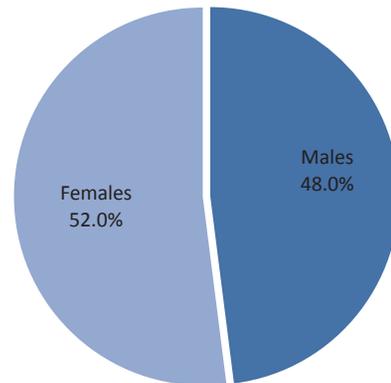


Figure 2.36:

% of Alcohol Poisoning ER Encounters by Age Group (2008-2010)

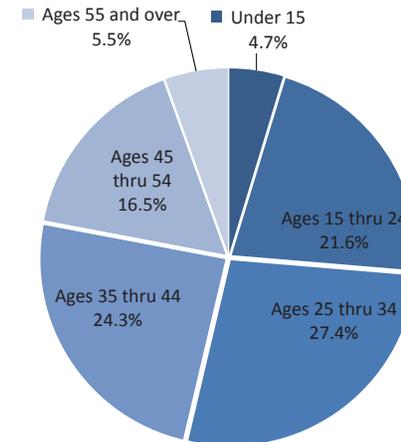


Figure 2.19:

Number and (Age Adjusted) Rate of Alcohol Poisoning Emergency Department Encounters by LSAA (2007-2010)

Local Substance Abuse Authority (LSAA)	2005-2007		2008-2010	
	Number	Rate per 100,000 Population	Number	Rate per 100,000 Population
Bear River District	35	7.3	45	9.6
Central Utah	37	19.9	41	21.7
Davis County	144	17.0	200	23.2
Four Corners District	47	42.6	39	34.1
Northeastern District	40	32.1	24	15.2
Salt Lake County	516	17.5	564	18.5
San Juan County	9	22.5	11	29.6
Southwest District	103	21.9	110	20.5
Summit County	14	13.8	12	11.3
Tooele County	48	32.9	22	12.6
Utah County	191	14.0	208	14.8
Wasatch County	4	6.8	6	9.5
Weber and Morgan Counties	89	13.7	139	20.7
State of Utah	1,277	17.0	1,421	18.1

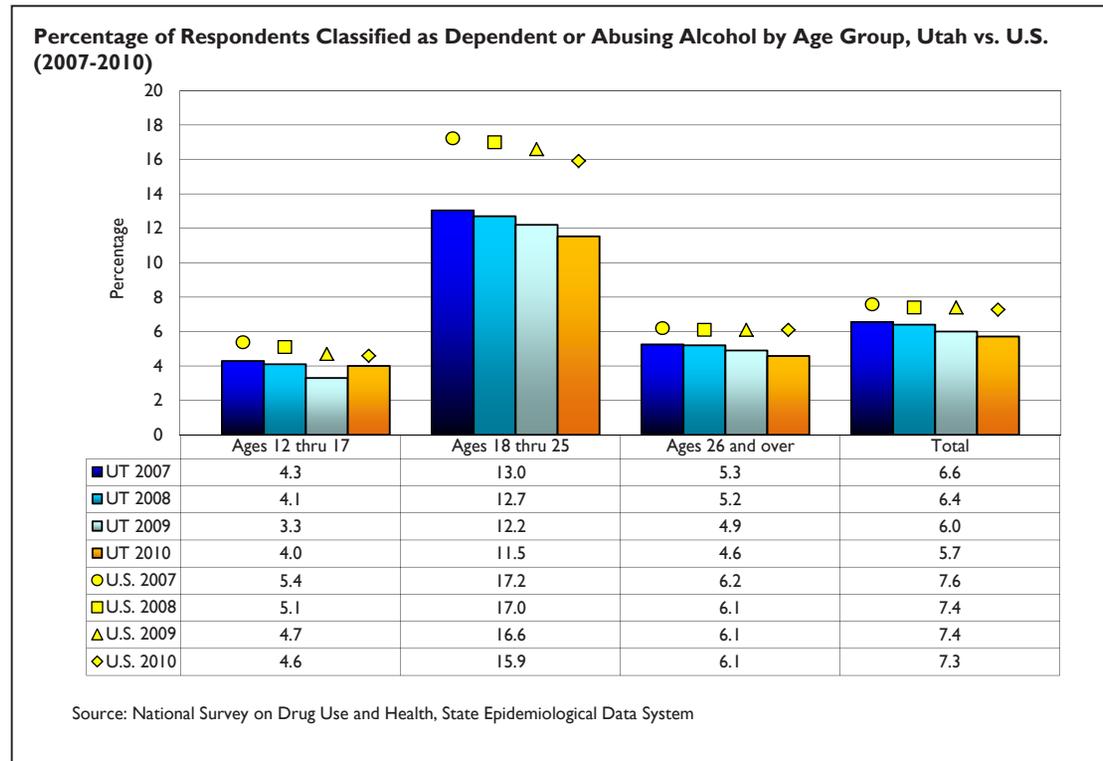
Source: Utah Indicator Based Information System for Public Health (ICD 9 Code: 980)

Alcohol-Related Morbidity Indicator: Alcohol Abuse and Dependence

Abuse and dependence are clinical terms used to characterize patterns of alcohol use associated with significant social, psychological, and physical problems for the user and/or others that may be impacted by the user. The NSDUH defines alcohol dependence or abuse using criteria specified in the American Psychiatric Association’s Diagnostic and Statistical Manual of Mental Disorders (DSM-IV), which include such symptoms as recurrent alcohol use resulting in physical danger, trouble with the law due to alcohol use, increased tolerance to alcohol, and giving up or reducing other important activities in favor of alcohol use.

Figure 2.37 shows that the percentages of alcohol abuse or dependence among adults in Utah were lower than national rates for all age groups between 2007 and 2010. In particular, Utah rates for the 18 to 25 age group were substantially lower than the nation, while the rates for the other age groups were lower, but similar to national rates.

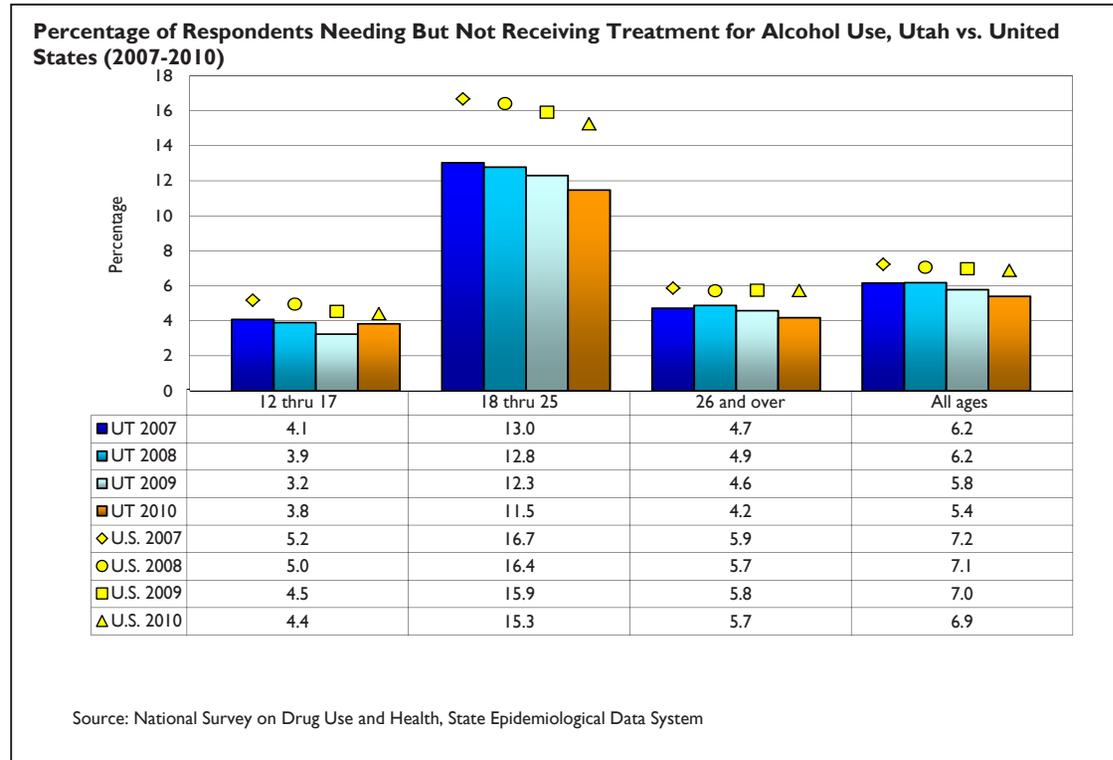
Figure 2.37:



Alcohol-Related Morbidity Indicator: Adults in Need of Treatment

In addition to providing estimates of the percent of population with an alcohol abuse or dependence issue, the NSDUH also provides estimates of those who need but are not receiving treatment for alcohol use disorders as well. Figure 2.38 compares percentages of individuals needing but not receiving treatment for alcohol use in Utah vs. the U.S. The need for treatment data mirror those for alcohol abuse and dependence with Utah having consistently lower, but similar rates of need (but not receiving) treatment as the nation for all age groups except the 18-25 group which had a substantially lower rate than the nation.

Figure 2.38:



Alcohol-Related Morbidity Indicator: Youth in Need of Treatment

Estimates of the percentage of youth in need of alcohol treatment are provided by the Student Health and Risk Prevention Survey through scores on a need for alcohol treatment scale included in the survey. Figure 2.39 presents the percentage of youth in grades 6, 8, 10 and 12 that were classified as in need for alcohol treatment between 2005 and 2011. The trend for all grades during this timeframe was a decreasing percentage of youth being classified as needing alcohol treatment. Table 2.20 presents the percentage of youth estimated to be in need for treatment by LSAA for 2011.

Figure 2.39:

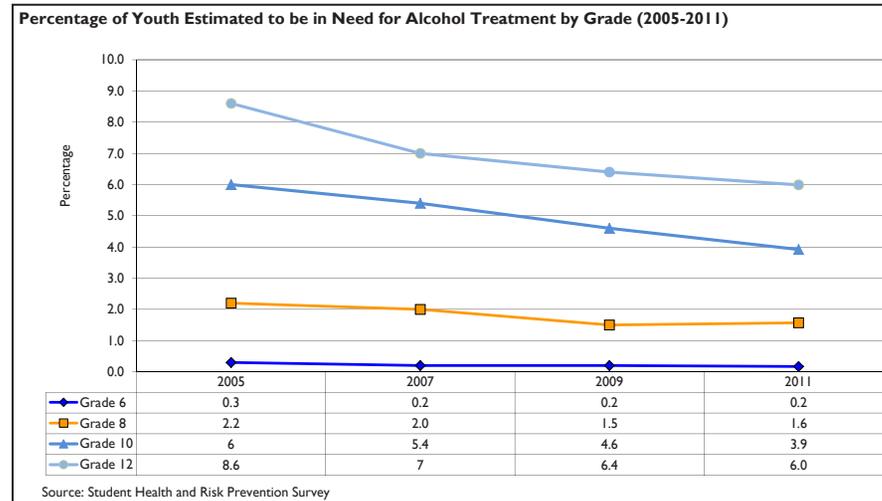


Table 2.20:

Percentage of Youth Estimated to be in Need for Alcohol Treatment by Grade and LSAA (2011)

Local Substance Abuse Authority (LSAA)	Grade 6	Grade 8	Grade 10	Grade 12
Bear River District	0.1%	1.1%	2.5%	3.1%
Central Utah	0.0%	1.5%	3.9%	6.5%
Davis County	0.0%	1.8%	4.8%	5.9%
Four Corners District	0.3%	3.7%	6.1%	7.1%
Northeastern District	0.0%	2.1%	1.8%	4.6%
Salt Lake County	0.2%	2.2%	5.2%	8.1%
San Juan County	0.0%	0.0%	0.0%	0.0%
Southwest District	0.3%	0.2%	3.2%	4.2%
Summit County	0.0%	1.4%	5.4%	5.6%
Tooele County	0.3%	2.6%	5.5%	5.0%
Utah County	0.2%	0.6%	1.7%	3.5%
Wasatch County	0.0%	0.4%	4.4%	4.1%
Weber and Morgan Counties	0.2%	2.1%	4.4%	8.4%
State of Utah	0.2%	1.6%	3.9%	6.0%

Source: Student Health and Risk Prevention Survey

Alcohol-Related Morbidity Indicator: College Students in Need of Treatment

For the college and university population in Utah, the Utah Higher Education Health Behavior Survey includes questions regarding their need for treatment. Table 2.21 lists the questions and the percentage of students who responded yes to each need for treatment question in 2007. The last line of the table presents the percentage of students who are likely to need treatment based on the aggregate responses to the need for treatment questions included on the survey (students who responded affirmatively to three or more of the six questions were classified as in need for treatment).

Table 2.21:
Need for Alcohol Treatment Among Utah College Students (2007)

Need for Treatment Symptoms: In the past 12 months, have/has...	Responding Yes
You spent more time using alcohol than you intended?	4.8%
You neglected responsibilities because of alcohol use?	4.5%
You wanted to cut down on alcohol use?	7.1%
Anyone objected to your alcohol use?	6.1%
You frequently thought about using alcohol?	8.4%
You used alcohol to relieve bad feelings?	11.4%
Needs Alcohol Treatment (based on above questions)	6.3%

Source: Utah Higher Education Health Behavior Survey

Other Alcohol-Related Consequences: Violent Crime

Violence is associated with alcohol, though the causal pathway is not completely understood. Drinking on the part of the victim or a perpetrator can increase the risk of assaults and assault-related injuries. According to CSAP’s State Epidemiological Data System (SEDS) website, approximately 23% of sexual assaults, 30% of physical assaults, and 3% of robberies are attributable to alcohol. Based on another set of estimates, alcohol is thought to be a key factor in as many as 68% of manslaughters, 62% of assaults, 54% of murders/attempted murders, and 48% of robberies⁷.

Figure 2.40 compares the rate of violent crime between Utah and the United States from 1994 to 2007. The Uniform Crime Reports defines violent crime as simple and aggravated assault, sexual assault, and robbery. As seen in Figure 2.40, Utah has had a much lower rate of reported violent crime than the nation since at least 1994. In 2007, the rate of reported violent crime in Utah was 236 violent crimes per 100,000 versus 448 in the United States. In looking at the trend over time, it appears that after an initial decreasing trend from 1994-2001, the rate of violent crime in Utah has been relatively stable since 2001 until the present.

Table 2.22 lists the number and rate of reported violent crimes in each LSAA for 2006 and 2007. In both 2006 and 2007, Salt Lake County and Weber-Morgan had the highest and second highest number and rate of reported violent crimes in the state, respectively, and together accounted for approximately 75% of all reported violent crimes in the state each year. No other district exceeded the state rate during 2006 or 2007.

Figure 2.40:

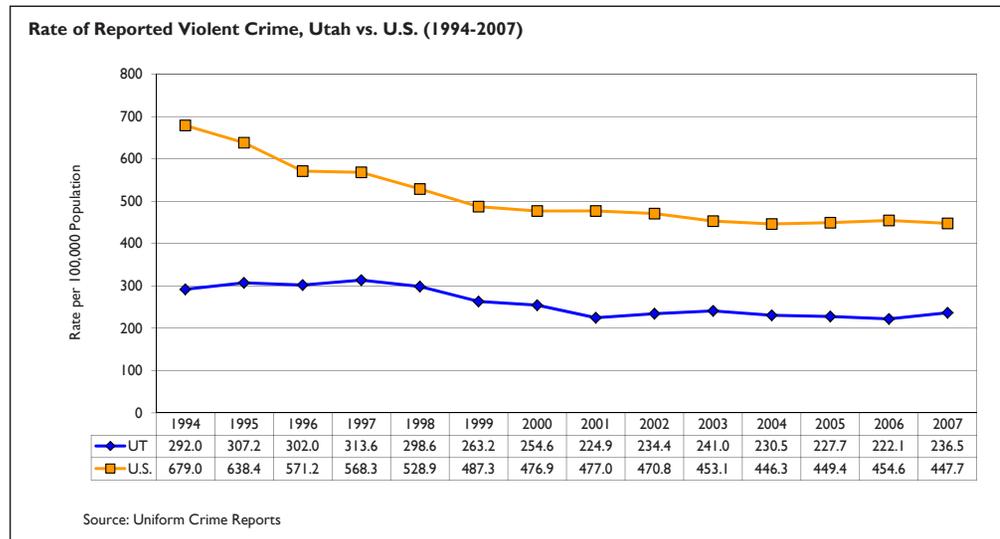


Table 2.22:

Number and Rate of Violent Crime Reports by LSAA (2006-2007)

	2006		2007	
	Number	Rate per 100,000 Population	Number	Rate per 100,000 Population
Bear River District	130	87.1	122	79.8
Central Utah	79	112.8	78	108.8
Davis County	293	105.1	295	102.3
Four Corners District	62	157.7	74	185.2
Northeastern District	85	186.9	76	159.8
Salt Lake County	3,542	366.4	3,953	401.8
San Juan County	11	80.4	11	78.4
Southwest District	256	137.3	315	162.5
Summit County	44	128.5	21	60.6
Tooele County	91	176.8	98	182.1
Utah County	433	96.6	421	89.7
Wasatch County	18	86.7	11	51.4
Weber and Morgan Counties	564	255.2	668	295.1
State of Utah	5,608	222.1	6,143	236.5

Source: Uniform Crime Reports, State Epidemiological Data System

Section 3:

Tobacco Use in Utah: Consumption Patterns and Consequences



Section 3 Contents:

- Tobacco Indicator Overview
- Tobacco Consumption in Utah
 - Consumption Patterns and Concerns
 - Adult Tobacco Consumption
 - Youth Tobacco Consumption
- Consequences of Tobacco Consumption

Tobacco Indicator Overview

The following tables (Tables 3.1 and 3.2) provide an overview of the tobacco use and consequence indicators presented in this section of the report. While not all of the tobacco related indicators contained in this section of the report lend themselves for inclusion in the overview tables, the tables provide a useful summary of tobacco related data at the state level. Presented in this format, the data tables allow for a comparison of use rates across different populations, as well a comparison of most of the tobacco consequence indicators included in this epidemiological profile report.

Table 3.1: Estimates of Tobacco Use

	Indicator	Age Category	Year	Utah	USA	Utah:USA Ratio	Utah Trend	Data Source
Youth	30 Day Smokeless Tobacco (%)	Grade 6	2011	.3	Not Available	Not Available	Stable	SHARP
		Grade 8	2011	.8	3.5	.23	Stable	SHARP
		Grade 10	2011	1.5	6.6	.23	Fluctuating: Decrease in 2011	SHARP
		Grade 12	2011	2.8	8.3	.34	Fluctuating: Decrease in 2011	SHARP
	30 Day Smoking (%)	Grade 6	2011	.7	Not Available	Not Available	Stable	SHARP
		Grade 8	2011	2.8	6.1	.46	Slight Increase	SHARP
		Grade 10	2011	5.2	11.8	.44	Stable	SHARP
		Grade 12	2011	7.0	18.7	.37	Stable	SHARP
	Heavy Smoking (%) (1/2 pack or more/day)	Grade 6	2011	.1	Not Available	Not Available	Stable	SHARP
		Grade 8	2011	.2	.7	.29	Stable	SHARP
		Grade 10	2011	.5	1.9	.26	Slight Decrease	SHARP
		Grade 12	2011	1.1	4.3	.26	Stable	SHARP
Adult	Current smoking (%)		2011	11.8	21.1	.56	Stable*	BRFSS
	Current Smokers Who Attempted to Quit Smoking in Past Year (%)		2011	56.4	Not Available	Not Available	Increasing	UT IBIS
	College Enrolled Population 30 Day Cigarette Use (%)		2007	6.4	19.9	.32	Decreasing	UHEBHS
	Smoked during last 3 months of pregnancy (%)		2008	4.5	Not Available	.40 (in 2008)	Decreasing since 2006	UT IBIS

*Comparisons between 2011 BRFSS data with previous years should be made with caution due to methodology changes in sampling and weighting.

Tobacco Indicator Overview, Cont.

Table 3.2:
Tobacco Use Consequences

	Indicator	Years	Average Annual Number of Cases (UT)	Average Rate per 100,000 Population	UT:USA Rate Ratio	Utah Trend	Time from Use to Outcome	Strength of Relationship	Data Source
Mortality	Lung Cancer (ICD-10 C34)	2003-2007	436.2	17.7	.33	Stable	Distant	Strong	NVSS
	Ischemic Cerebrovascular Disease (ICD-10 I20-I25, I60-I69)	2003-2007	2295.6	93.0	.47	Decreasing	Distant	Strong	NVSS
	Cardiovascular Disease (ICD-10 I00-I09, I11, I13, I26-I51 (exclude I32, I39, I41), I51.6)	2003-2007	1431	58.0	.83	Stable	Distant	Strong	NVSS
	Other Lung Diseases (ICD-10 K73-K74)	2003-2007	559.8	22.7	.55	Stable	Distant	Strong	NVSS
	Accidental Deaths due to Fires	2007-2011	10.8	.46	Not Available	Fluctuating due to small numbers	Short	Low-Medium	UT IBIS

Tobacco Consumption: Patterns and Concerns

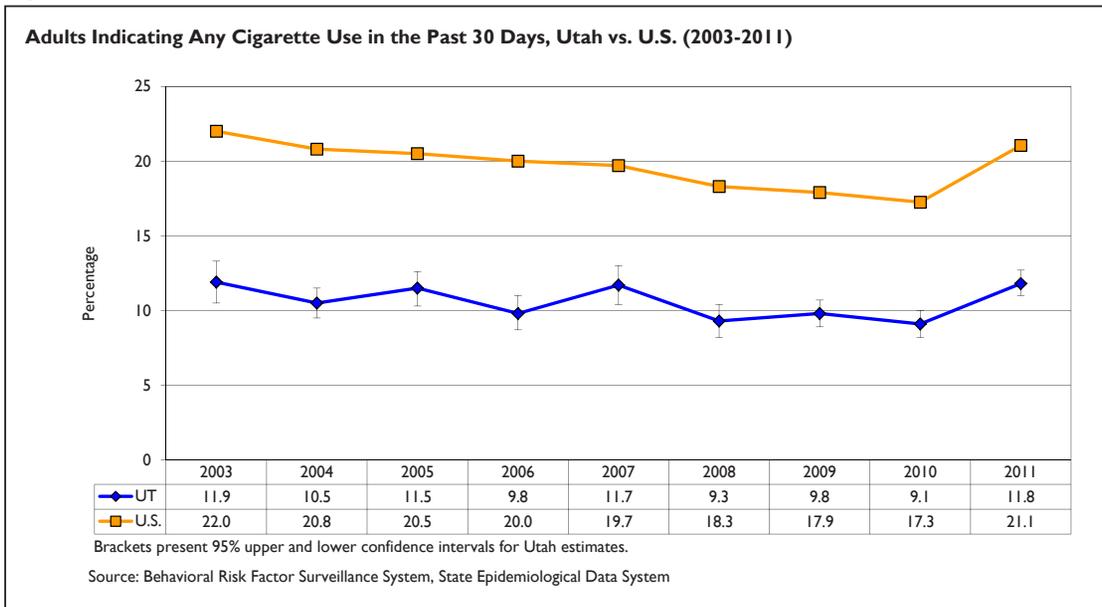
Utah generally enjoys much lower tobacco consumption rates than the nation. Data on both adult and youth cigarette use illustrate that past 30 day cigarette use rates in Utah have been and continue to be about half that of U.S. rates.

The use of tobacco is strongly associated with a variety of negative health consequences. In fact, four of the five leading causes of death in Utah and the U.S. for 2010 are at least partially attributable to tobacco use (heart disease, cancer, strokes, and respiratory disease). Consistent with the low rates of smoking in Utah, our state has historically had a lower rate of disease deaths associated with tobacco consumption than the nation as well.

Adult Tobacco Consumption in Utah: Past Month Use

The Behavioral Risk Factor Surveillance System (BRFSS) is an annually conducted telephone health survey system that has tracked health conditions and risk behaviors in the U.S. since 1984. BRFSS asks adults (18 and older) to respond to questions about health-related issues. Included in the BRFSS survey are questions about past 30 day tobacco consumption among adults, as well as lifetime use, and frequency of use¹. Figure 3.1 presents the trend for smoking in the past 30 days for Utah and the U.S. Past 30 day consumption is considered a measure of current smoking. From 2001 to 2011, the percentage of current smokers in Utah has been about half the rate of the U.S., and has not exceeded 12% at any point during this timeframe. As with the alcohol use data described earlier, the observed jump in cigarette use rates seen in 2011 is likely due to changes in the BRFSS methodology (both sampling and weighting) that were implemented by the Centers for Disease Control and Prevention in 2011, rather than reflecting true changes in cigarette use behavior. As such, the CDC cautions comparing data reported in 2011 with data

Figure 3.1:

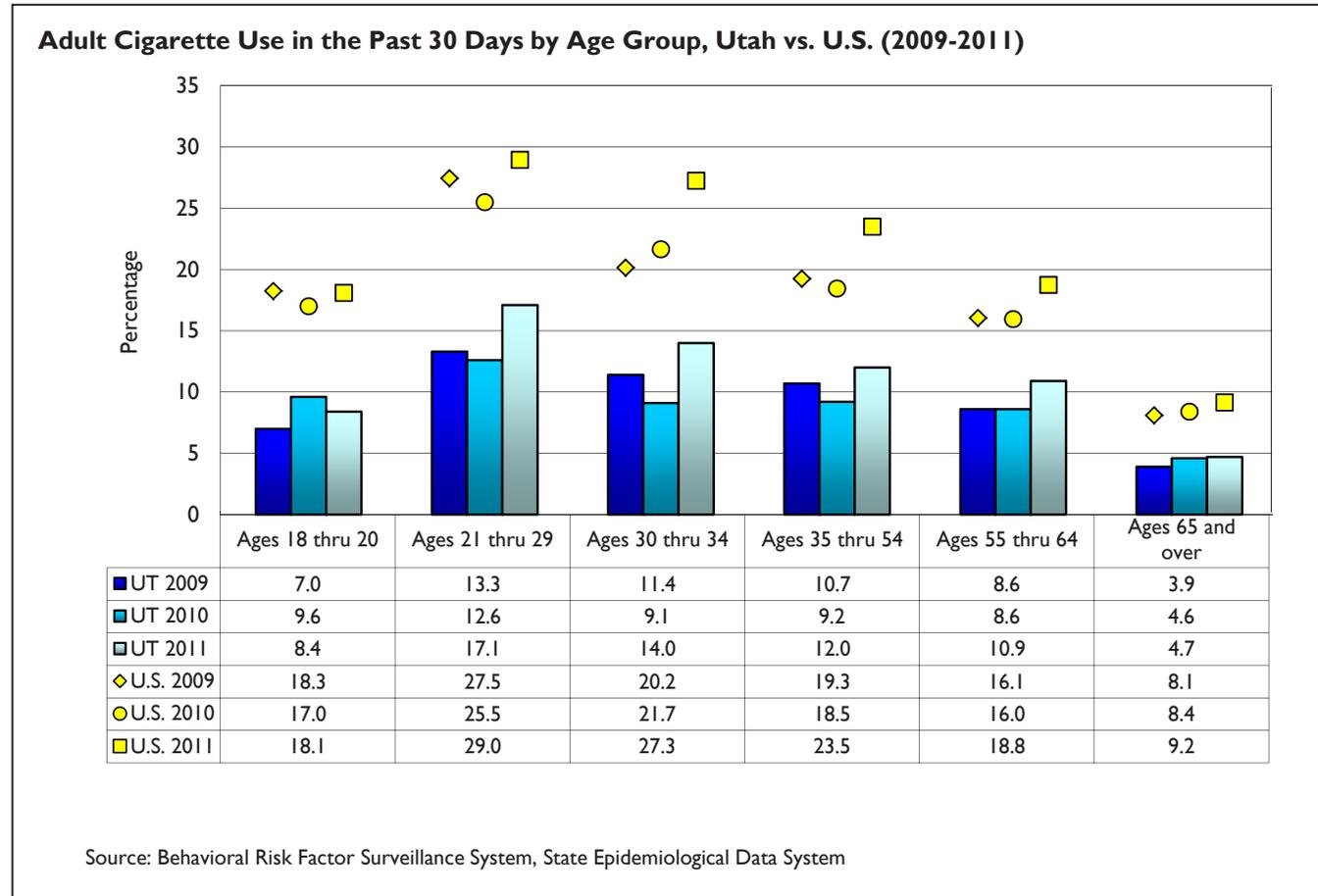


¹BRFSS estimates with confidence interval data are included in Appendix C for those interested in examining the 95% confidence range for Utah state level BRFSS estimates.

Adult Tobacco Consumption: Past Month Use by Age Group

Figure 3.2 presents past 30 day cigarette use in Utah and the U.S. by age from 2009 to 2011. Unsurprisingly, Utah cigarette use rates were lower for all age groups compared to the U.S. Within Utah, the 21-29 age group had the highest use rates across all three years, followed by the 30-34 age group and the 35-54 group.

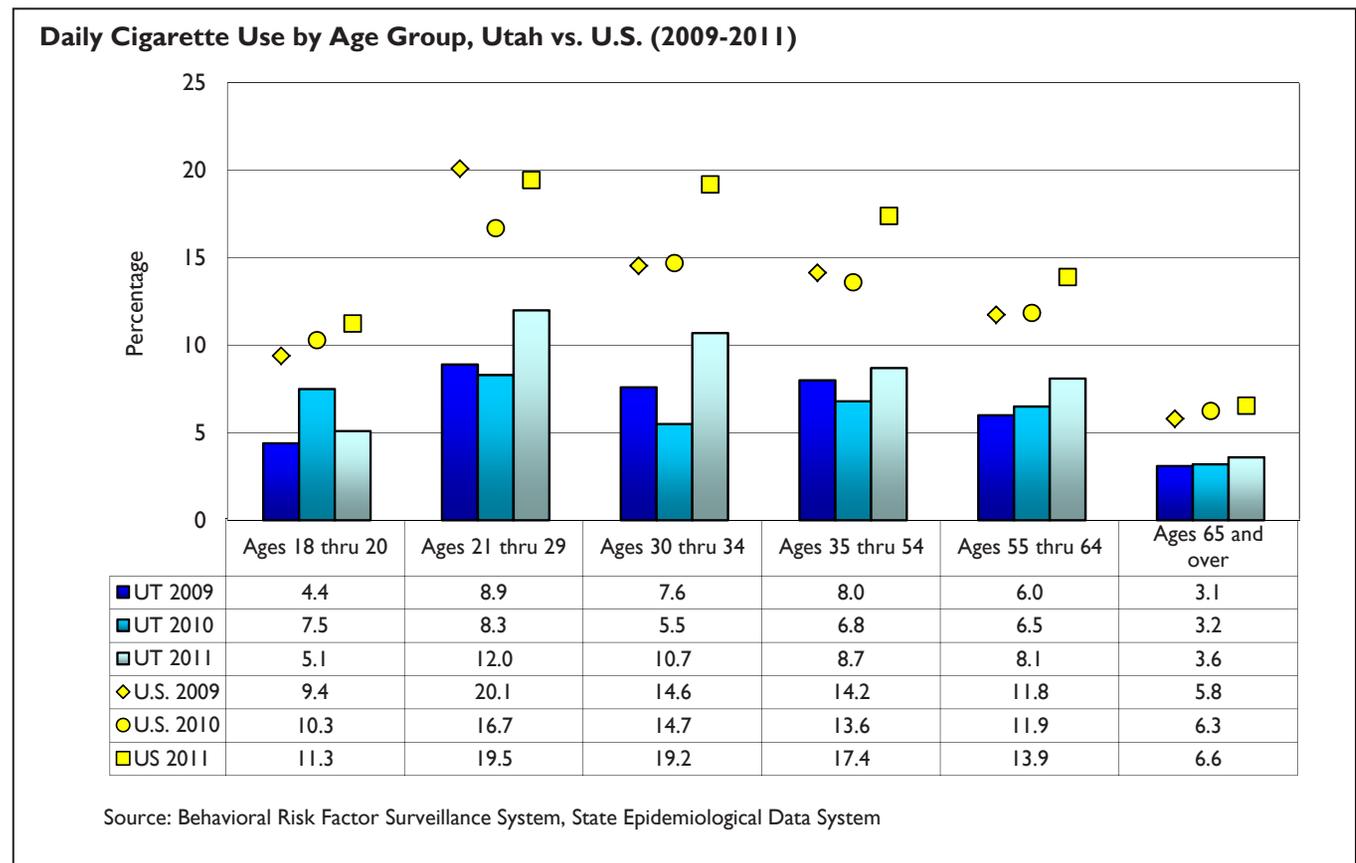
Figure 3.2:



Adult Tobacco Consumption: Daily Cigarette Use by Age Group

In addition to 30 day use rates for cigarettes, the BRFSS attempts to measure frequent or heavy use of cigarettes by inquiring about daily cigarette use. Figure 3.3 compares Utah adults to U.S. adults on the use of cigarettes on a daily basis. Consistent with the overall trend of adult cigarette use indicators, the prevalence of daily cigarette use was substantially lower in Utah than in the U.S. across all age categories. Within Utah, the 21-29 age group again had the highest rate of use (for all three years), with the 30-34 group having the second highest rate in 2011, and the 35-54 group having the second highest rate in 2009 and 2010.

Figure 3.3:



Adult Tobacco Consumption: Smoking Prevalence

Table 3.3 presents a comparison of cigarette use rates by gender and race/ethnicity for 2010 and 2011. Male cigarette use (both daily use and past 30 day) was slightly higher than female use. In terms of race/ethnicity, past 30 day use rates were highest among Native Americans (20.9%) and Blacks (29.1%), while the lowest rates were among Asians and Whites in 2011. Note: Differences in tobacco use rates from 2010 to 2011 for some racial/ethnic groups may be exaggerated as a result of changes in the methodology used by the CDC in administering the BRFSS, as well as large confidence intervals associated with the small sample size of some of these groups in the Utah BRFSS sample.

Table 3.3:
Percentage of Adults in Utah Indicating Any Cigarette Use in the Past 30 Days, and Daily Cigarette Use, by Gender and Race/Ethnicity (2010-2011)

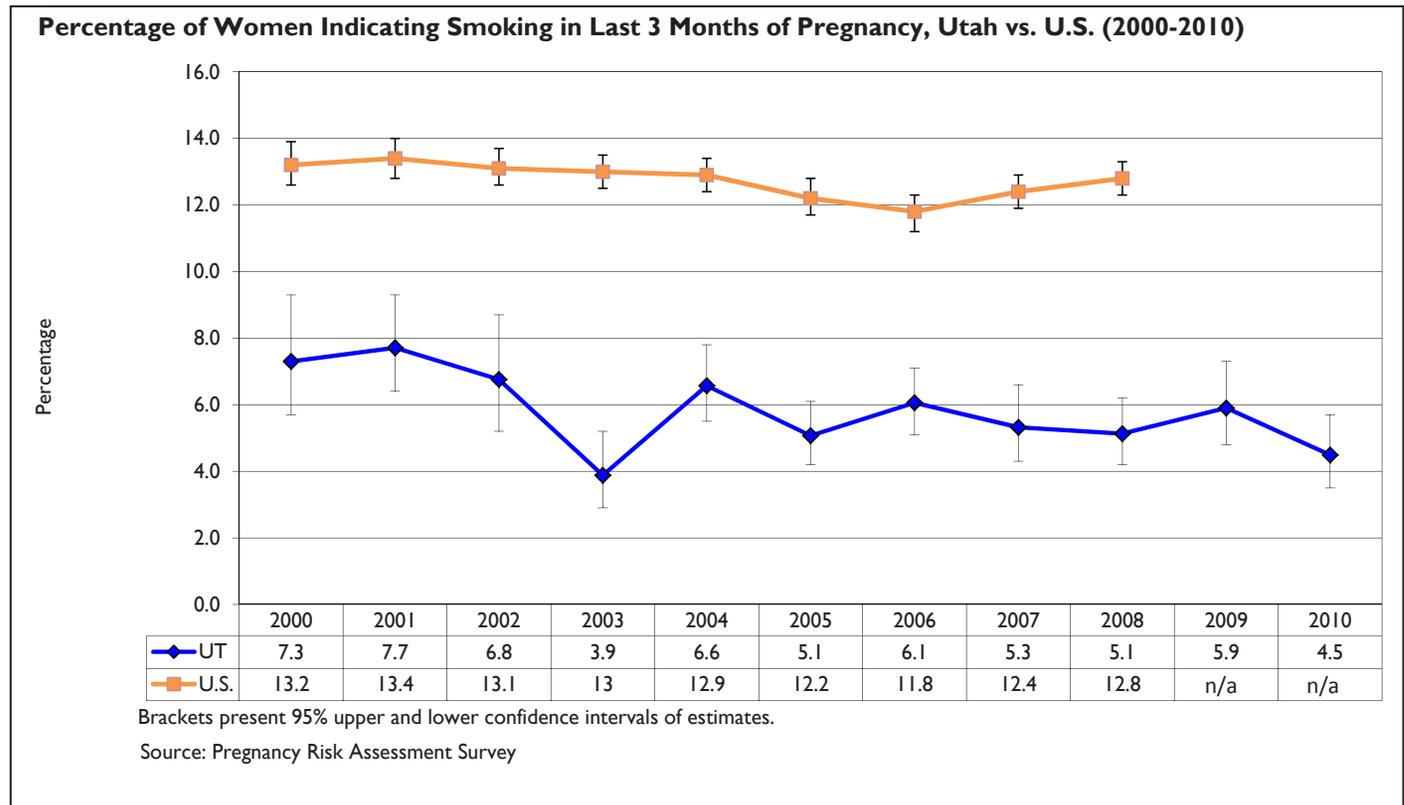
Gender	Past 30 Day Use		Daily Cigarette Use	
	2010	2011	2010	2011
Male	10.6%	14.1%	7.2%	10.0%
Female	7.7%	9.6%	5.6%	7.1%
Race/Ethnicity				
Hispanic	10.1%	14.5%	3.6%	9.2%
White	8.9%	11.0%	6.4%	8.3%
Black	12.2%	29.1%	7.4%	18.1%
Asian, Pacific Islander	3.5%	9.6%	2.2%	4.8%
Native American, Alaska Native	27.0%	20.9%	22.7%	12.4%
Other	16.5%	18.2%	14.5%	13.0%
Missing/Not Available	6.9%	18.4%	5.9%	13.4%

Source: Behavioral Risk Factor Surveillance System, State Epidemiological Data System

Adult Tobacco Consumption: Smoking Prevalence by Pregnant Women

Figure 3.4 examines smoking in pregnant women. The Pregnancy Risk Assessment Monitoring System (PRAMS) collects data from pregnant women regarding health behaviors and attitudes, including tobacco use. The figure presents the percentage of women who indicated smoking cigarettes during the last 3 months of their pregnancy from 2000 to 2010. Clearly, a smaller percentage of pregnant women in Utah smoke cigarettes during pregnancy than for the nation. Since 2005, between 4.5% and 6.1% of pregnant women in Utah indicated having smoked cigarettes during the last 3 months of pregnancy, with the lowest observed rate since 2000 being 2010 at 4.5%.

Figure 3.4:



College Tobacco Consumption in Utah

The Utah Division of Substance Abuse and Mental Health (DSAMH) has conducted three biennial statewide surveys of college students' use of alcohol, tobacco and other drugs called the Utah Higher Education Health Behavior Survey (UHEHBS). The most recent administration of the survey was completed in 2007. National comparison data were obtained from the Monitoring the Future (MTF) Survey. The MTF is a national survey which monitors trends in substance use and abuse among adolescents and young adults in the U.S.

Table 3.4 presents the prevalence of past 30 day smoking among Utah college students compared to their U.S. counterparts. As seen in the table, Utah higher education students were much less likely to smoke compared to U.S. students in all years surveyed, with observed rates cigarette use being less than half the rates of nation.

Table 3.4:
Percentage of College Students Indicating Cigarette Use in the Past 30 Days, Utah and U.S. (2003-2007)

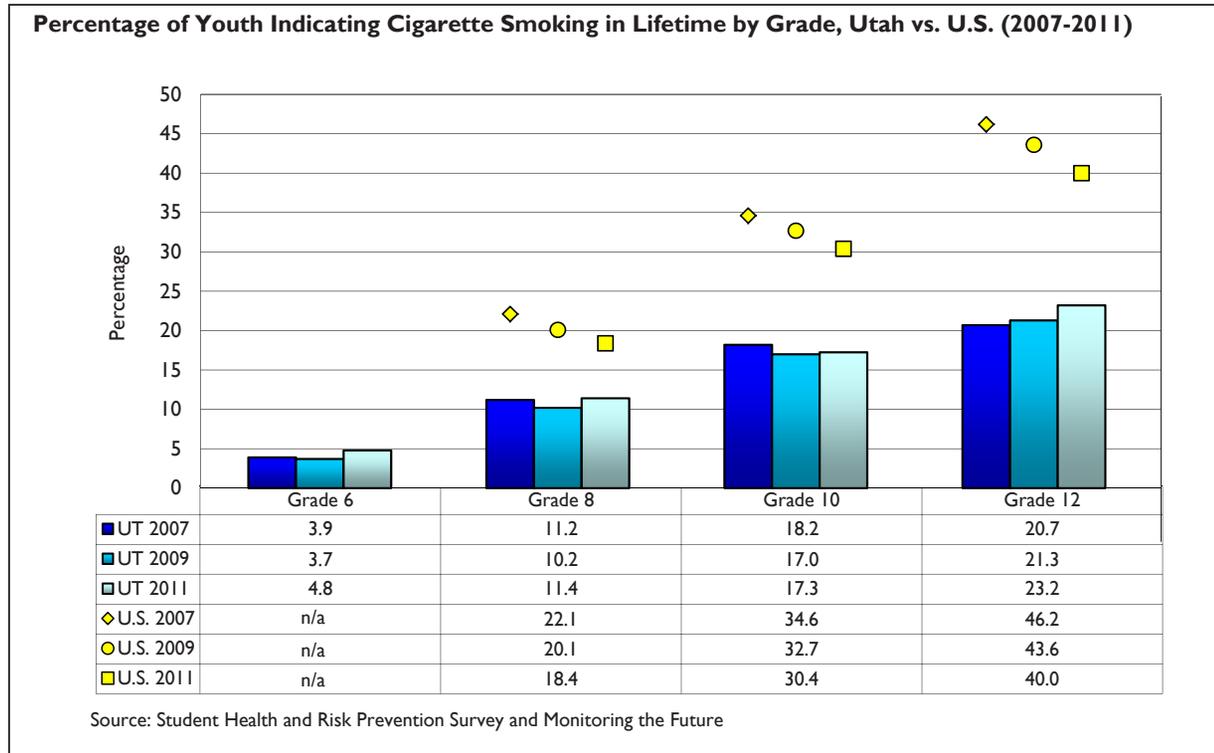
	2003	2005	2007
Utah	8.6%	7.9%	6.4%
U.S.	22.5%	23.8%	19.9%

Source: Utah Higher Education Health Behavior Survey (Utah) and Monitoring the Future (U.S.)

Youth Tobacco Consumption: Lifetime Cigarette Use

Youth tobacco consumption data are presented from the SHARP Survey in Utah and Monitoring the Future Survey for the U.S. Figure 3.5 compares Utah to the U.S. on the percentage of youth reporting ever smoking cigarettes in their lifetime. This indicator is often used as an indicator of experimentation. Again, a familiar pattern becomes evident when comparing Utah use rates to the nation, with state rates being about 50% of the national average across all grades. Additionally, use rates in Utah have remained relatively stable since 2007. However, a slight increasing trend seems to be emerging for 12th graders.

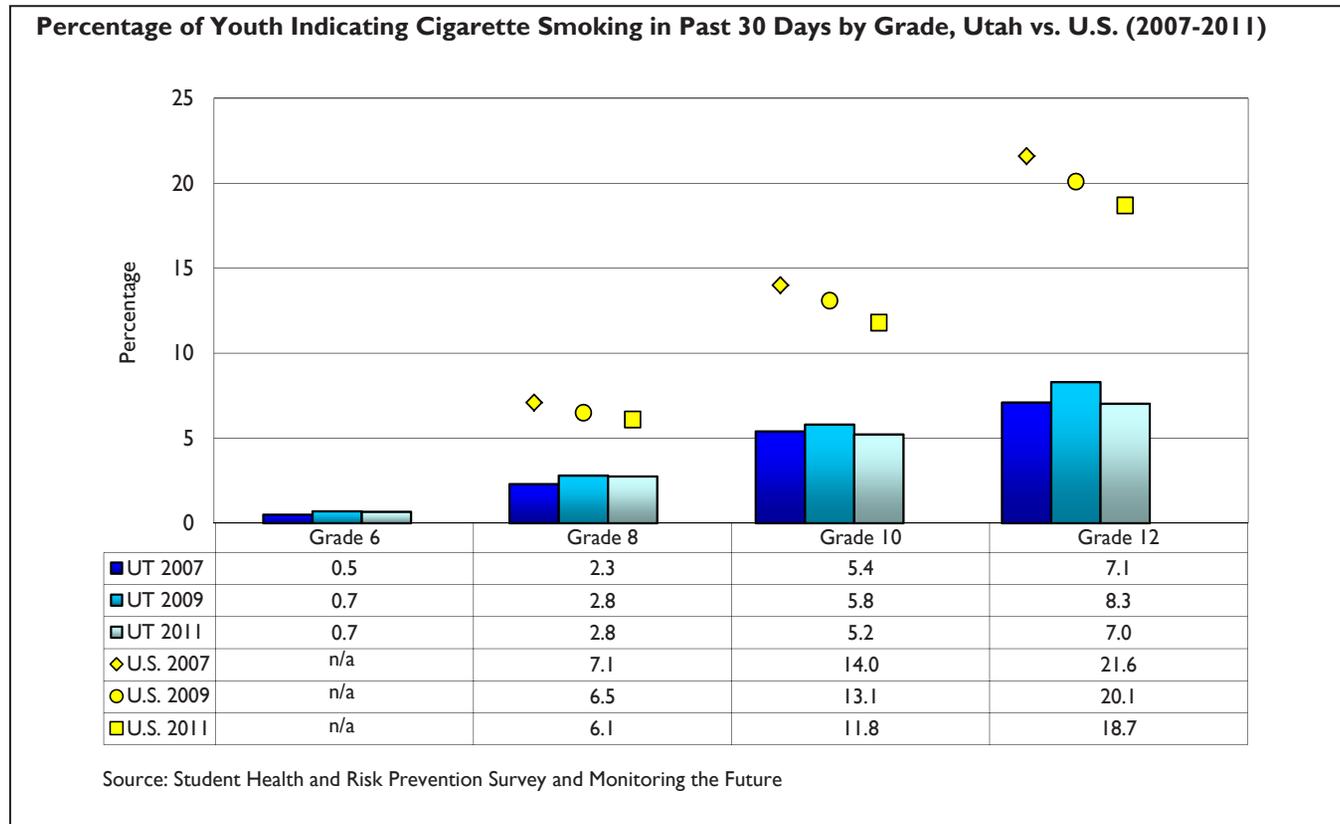
Figure 3.5:



Youth Tobacco Consumption: Past Month Cigarette Use

Past 30 day consumption is considered an indicator of current smoking. Figure 3.6 presents the percentage of Utah and U.S. students who reported smoking in the past 30 days. As seen in the figure, cigarette use rates among Utah students have historically been less than half of the nation's rates. Within Utah, 30 day cigarette use rates seem to be relatively stable for all three grades across since 2007. The slight upward trend for 12th graders for lifetime cigarette use is not apparent for past 30 day use.

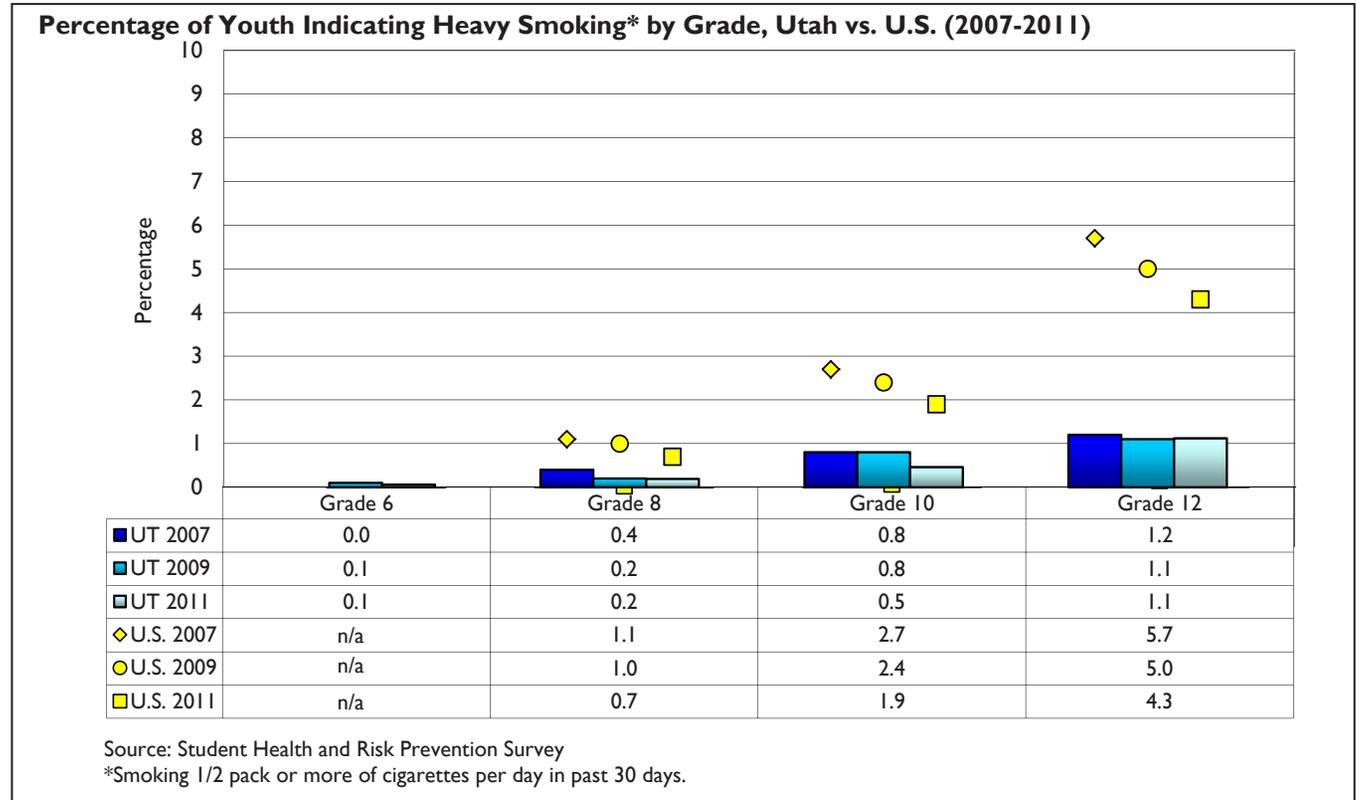
Figure 3.6:



Youth Tobacco Consumption: Heavy Cigarette Use

Figure 3.7 presents the percentage of Utah and U.S. students who reported heavy cigarette use (smoking a half pack or more of cigarettes per day) in the past month. As seen in the figure, a very small percentage of Utah youth indicate heavy cigarette use at any grade, and Utah rates are much lower than rates for the U.S. For example, only 1% of Utah 12th graders indicated heavy cigarette use from 2007-2011, while rates for the U.S. ranged from 4.3% to 5.7% during this time span.

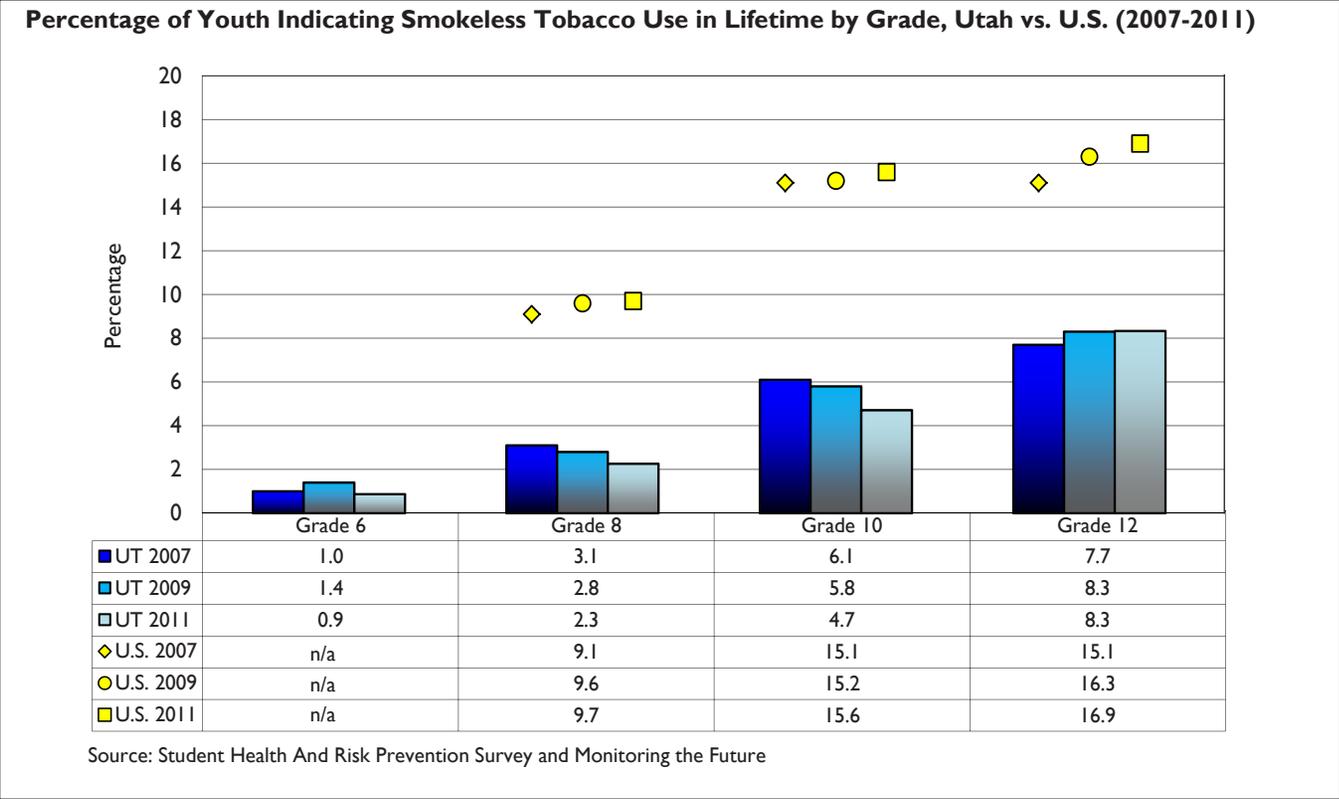
Figure 3.7:



Youth Tobacco Consumption: Lifetime Smokeless Tobacco Use

The SHARP Survey also provides data regarding smokeless (e.g. chewing) tobacco use among youth. Figure 3.8 compares Utah to the nation for lifetime smokeless tobacco use. Consistent with cigarette use, Utah rates for all grades were about 50% of the national rates for all years between 2007 and 2011. Within Utah, rates for all grades appear to be stable, or in the case of 8th and 10th graders, decreasing slightly over time.

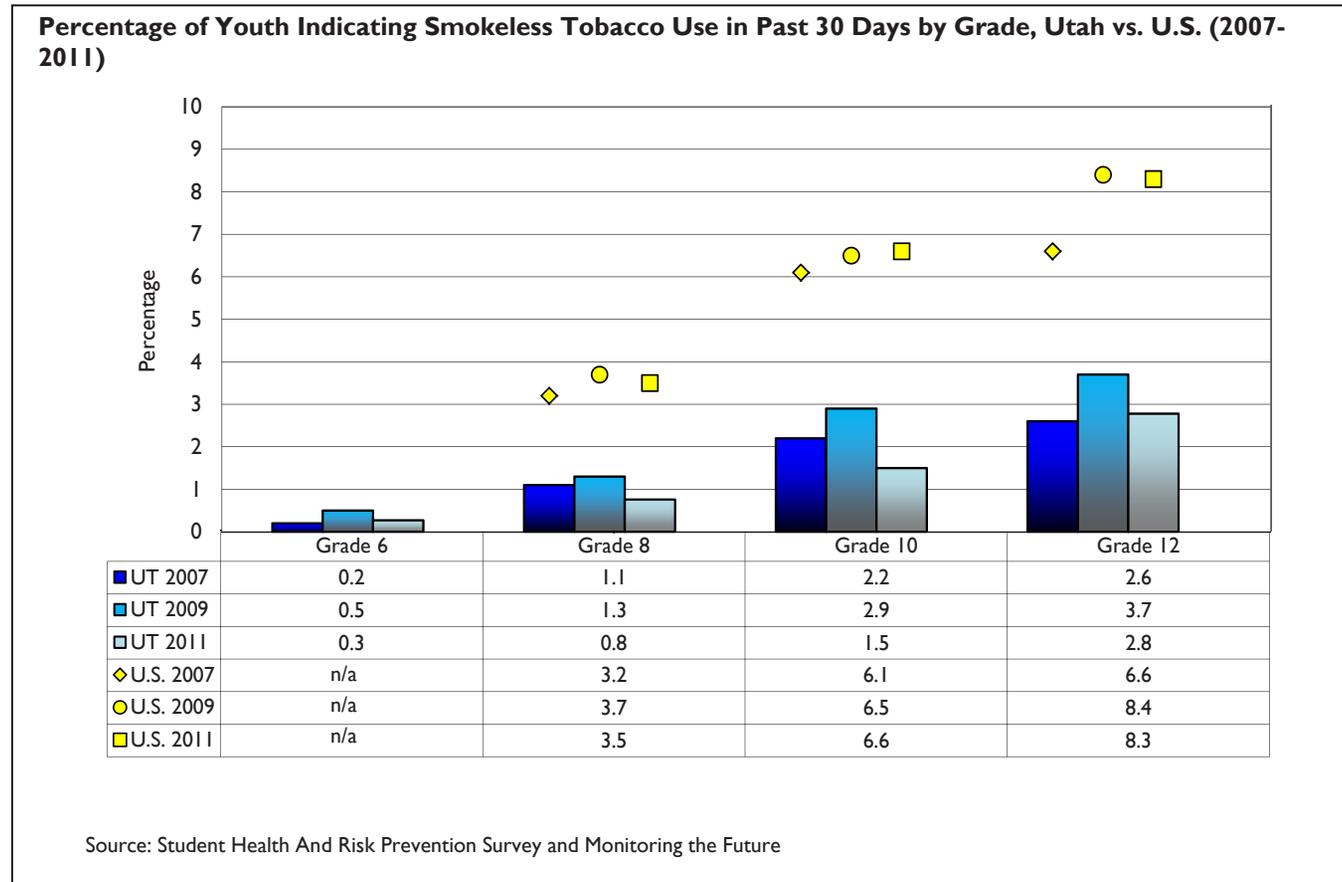
Figure 3.8:



Youth Tobacco Consumption: Past Month Smokeless Tobacco Use

Figure 3.9 presents the percentage of Utah and U.S. students who reported using smokeless tobacco in the past 30 days. Again, Utah use rates much lower than U.S. rates for all grades and years between 2007 and 2011, and were relatively stable during this time.

Figure 3.9:



Youth Tobacco Consumption: Smokeless Tobacco Use by Gender

Table 3.5 compares male and female youth regarding tobacco use (both cigarette and smokeless tobacco), including lifetime (ever used) and past 30 day use of cigarettes and smokeless tobacco, as well as smoking one or more pack of cigarettes a day (a measure of heavy cigarette use) in 2011. There was virtually no difference in cigarette use rates between male and females students for lifetime and past 30 day use. However, males indicated a higher rate of heavy cigarette use, and a much higher rate of smokeless tobacco use (both lifetime and 30 day).

Table 3.5:
Gender Comparisons of Tobacco Use Among High School Youth (Grades 10 and 12) in Utah (2011)

Indicator	Male	Female	Total
Cigarette Use in Lifetime	19.8%	20.3%	20.0%
Cigarette Use in Past 30 Days	6.0%	6.2%	6.1%
Heavy Smoking* in Past 30 Days	1.0%	0.6%	0.8%
Smokeless Tobacco in Lifetime	9.6%	3.0%	6.4%
Smokeless Tobacco in Past 30 Days	3.5%	0.6%	2.1%

Source: Student Health and Risk Prevention Survey

*Heavy smoking defined as smoking one or more packs of cigarettes per day.

Youth Tobacco Consumption: Smokeless Tobacco Use by LSAA

Table 3.6 compares tobacco use among high school students (10th and 12th grades) by LSAA for 2011. Summit County high school youth reported the highest percentage of current smoking, almost twice the state average. Utah county high school youth reported the lowest prevalence in the state.

Table 3.6:
Percentage of High School Youth (Grades 10 and 12) Indicating Cigarette or Smokeless Tobacco Use, by LSAA (2011)

Local Substance Abuse Authority (LSAA)	Cigarettes Lifetime	Cigarettes Past 30 Days	Heavy Cigarette Use*	Smokeless Tobacco Lifetime	Smokeless Tobacco Past 30 Days
Bear River District	14.7%	4.9%	0.9%	5.8%	1.9%
Central Utah	19.2%	6.5%	0.6%	11.0%	4.2%
Davis County	17.1%	5.6%	0.7%	5.3%	1.6%
Four Corners District	34.3%	12.2%	2.2%	20.9%	7.6%
Northeastern District	21.7%	7.0%	0.9%	10.6%	6.8%
Salt Lake County	24.7%	7.5%	0.8%	6.0%	1.6%
San Juan County	26.6%	2.7%	0.0%	5.1%	4.1%
Southwest District	19.1%	4.6%	0.3%	6.4%	2.3%
Summit County	21.9%	6.9%	1.2%	7.7%	1.6%
Tooele County	26.7%	8.8%	2.5%	11.3%	3.9%
Utah County	11.9%	3.0%	0.5%	4.1%	1.3%
Wasatch County	18.7%	5.2%	0.5%	12.5%	6.3%
Weber and Morgan Counties	24.5%	8.3%	1.0%	8.2%	2.7%
State	20.0%	6.1%	0.8%	6.4%	2.1%

Source: Student Health and Risk Prevention Survey
 *Smoking 1/2 pack or more of cigarettes per day in past 30 days.

Consequences of Tobacco Consumption: Overview

As stated in the introduction of the tobacco section of this epidemiological profile, the use of tobacco is strongly associated with a variety of negative health consequences. According to the Center for Substance Abuse Prevention's State Epidemiological Data System 80-90% of lung cancer fatalities, 80% of chronic obstructive pulmonary disease (COPD) and emphysema fatalities, and a sizeable number of cardiovascular disease fatalities are attributable to cigarette smoking. While the relationship between tobacco use and many of these health conditions is clear, tobacco related diseases are typically long term, chronic conditions that affect users after many years of tobacco use, rather than acute conditions that have an immediate impact on health. As such, causes of death associated with tobacco are more likely to affect older adults rather than youth or younger adults. As such, interventions planned to reduce tobacco related mortality and morbidity present a challenge because decreases in tobacco use rates do not quickly translate into changes in rates of tobacco related morbidity and mortality. Despite this, it is clear that given the large number of individuals who suffer from or die of tobacco related diseases each year, the prevention of tobacco use remains a priority for Utah.

Tobacco-Related Mortality Indicator: Lung Cancer Deaths

Figure 3.10 compares Utah to the U.S. on the rate of lung cancer mortality from 2000-2007. Utah has consistently had a much lower rate of lung cancer mortality than the U.S. over this time period. Utah's rate has held steady, at a rate between 16 and 19 deaths per 100,000 population, while the U.S. rate has hovered near 55 per 100,000 population.

Figures 3.11 and 3.12 present the percentage of lung cancer deaths in Utah by gender and age group for 2003-2007, combined. About 60% of lung cancer fatalities are males. This may reflect differences in smoking behaviors between males and females in the past when males were more likely to smoke than females. In regards to age, lung cancer is much more likely to affect older individuals than young people. Approximately 90% of lung cancer fatalities were individuals over the age of 55.

Figure 3.10:

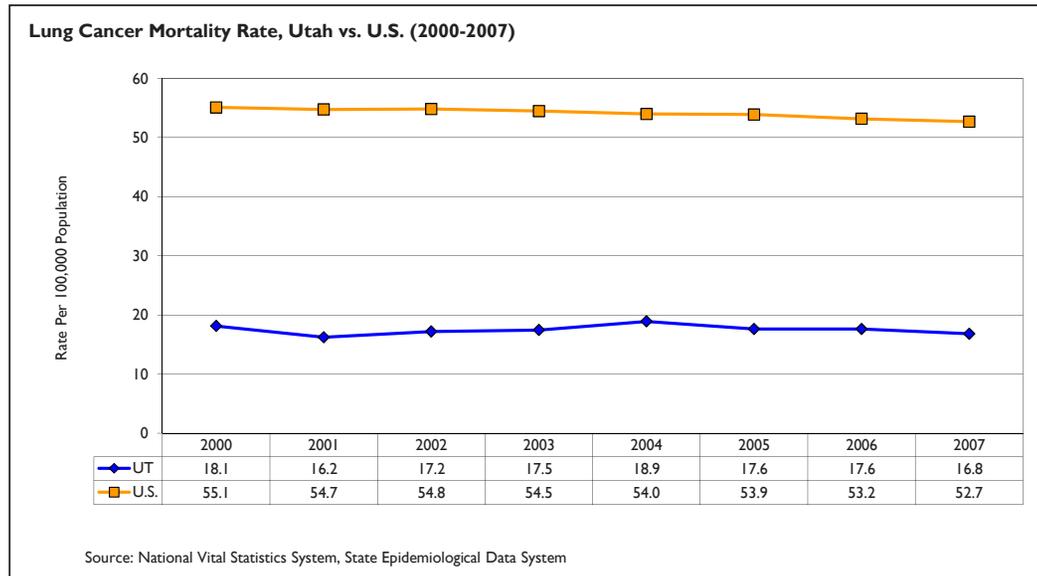


Figure 3.11:

% of Lung Cancer Deaths by Gender (2003-2007)

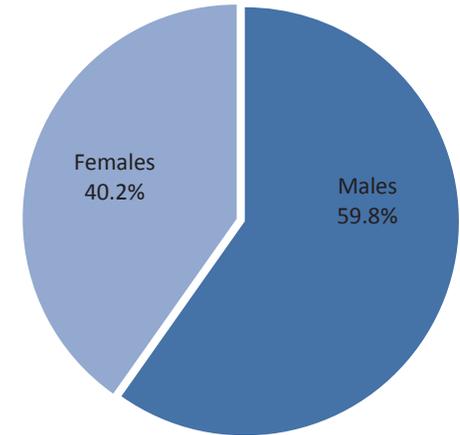
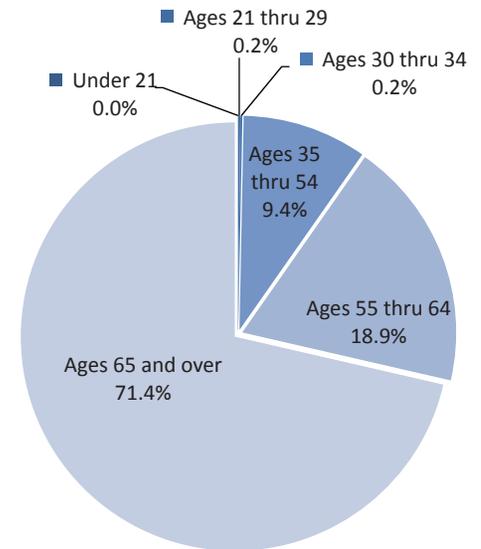


Figure 3.12:

% of Lung Cancer Deaths by Age Group (2003-2007)



Tobacco-Related Mortality Indicator: Lung Cancer Deaths

Table 3.7 presents the number and rate of lung cancer deaths by LSAA from 2000-2011 by three year groupings. Areas with higher than state rates of lung cancer deaths for 2009-2011 include Four Corners, Northeastern, Salt Lake, San Juan, Southwest, Tooele, Wasatch and Weber-Morgan.

Table 3.7:
Number and (Age Adjusted) Rate of Lung Cancer Deaths by LSAA (2000-2011)

Local Substance Abuse Authority (LSAA)	2000-2002		2003-2005		2006-2008		2009-2011	
	Number	Rate per 100,000						
Bear River District	39	14.0	40	13.3	52	15.7	53	14.4
Central Utah	49	26.3	48	24.7	50	23.6	45	19.3
Davis County	110	23.8	132	25.7	96	16.4	102	16.0
Four Corners District	47	40.1	39	32.2	38	30	44	31.3
Northeastern District	40	40.7	33	29.6	46	39.6	41	31.5
Salt Lake County	462	25.1	526	26.6	511	23.4	519	22.2
San Juan County	6	19.6	15	45.1	**	**	11	30.5
Southwest District	118	25.1	137	24.9	155	24.1	164	23.4
Summit County	9	23.9	16	32.5	*	7.8	12	16.9
Tooele County	34	44.4	29	35.2	32	31.7	42	34.8
Utah County	105	17.4	102	15.5	106	14.0	110	12.6
Wasatch County	9	29.4	6	18.1	11	25.4	14	29.3
Weber and Morgan Counties	140	27.5	172	32.1	139	24.4	153	24.7
State of Utah	1,168	24.4	1,295	25.0	1,244	21.6	1,310	20.7

Source: Utah Indicator Based Information System for Public Health (ICD 10 Code:C34)

*Number is over 5, but suppressed because it could be used to calculate the number in another cell.

**Estimate suppressed by IBIS because the relative standard error is greater than 50%, the observed number of events is very small, or it could be used to calculate the number in a cell.

Tobacco-Related Mortality Indicator: Lung Disease Deaths

Figure 3.13 shows the trend for lung disease mortality in Utah and the U.S. from 2000-2007. The rate of lung disease in Utah has been quite stable over time, and consistently been less than or about half the U.S. rate.

Figures 3.14 and 3.15 present the percentage of lung disease deaths in Utah by gender and age group for 2003-2007, combined. Lung disease fatalities are slightly more likely to affect males than females. Again, this may reflect differences in smoking behaviors between males and females in the past when males were more likely to smoke than females. In regards to age, lung disease, like most tobacco related mortality, is much more likely to affect older individuals than young people. More than 95% of lung disease fatalities were individuals over the age of 55.

Figure 3.13:

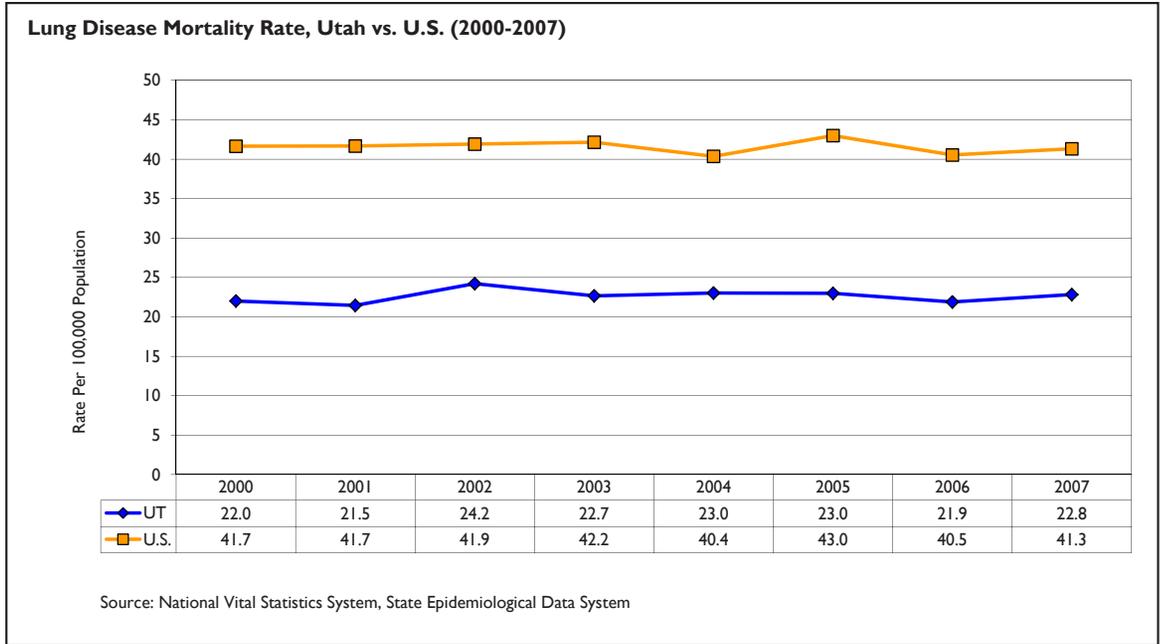


Figure 3.14:

% of Lung Disease Deaths by Gender (2003-2007)

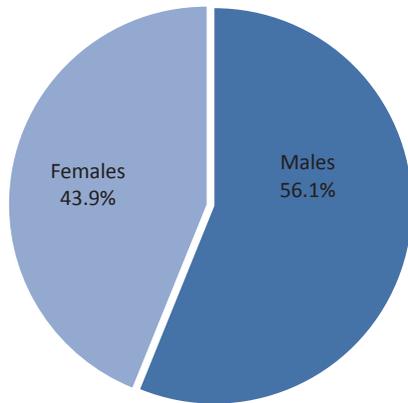
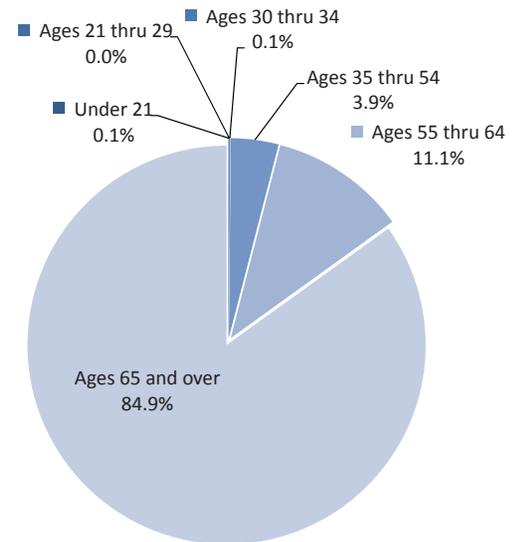


Figure 3.15:

% of Lung Disease Deaths by Age Group (2003-2007)



Tobacco-Related Mortality Indicator: Lung Disease Deaths

Table 3.8 shows the number and rate of lung disease deaths for each LSAA in Utah from 2000-2011 in 3 year aggregates. For 2009-2011, areas with rates higher than the state included Central, Four Corners, Northeastern, Salt Lake, Summit, Tooele, Wasatch, and Weber-Morgan.

Table 3.8:
Number and (Age Adjusted) Rate of Lung Disease Deaths by LSAA (2000-2011)

Local Substance Abuse Authority (LSAA)	2000-2002		2003-2005		2006-2008		2009-2011	
	Number	Rate per 100,000 Population						
Bear River District	75	26.7	83	28.0	78	24.1	60	16.8
Central Utah	65	34.5	97	49.9	67	30.85	81	35.2
Davis County	122	28.7	137	28.7	150	27.41	132	21.0
Four Corners District	62	53.0	67	55.7	57	44.98	66	50.3
Northeastern District	35	37.6	43	39.6	62	55.37	55	46.2
Salt Lake County	687	38.1	664	35.1	713	34	718	31.9
San Juan County	5	17.9	4	11.9	**	**	6	14.2
Southwest District	121	25.3	131	23.2	163	25.6	169	23.8
Summit County	7	20.7	4	10.7	12	31.36	16	35.2
Tooele County	24	34.6	36	48.2	49	58.07	52	49.5
Utah County	135	23.1	148	23.1	162	22.11	154	18.9
Wasatch County	11	36.9	14	46.2	13	32.91	18	40.8
Weber and Morgan Counties	196	39.2	217	41.2	219	39.27	264	43.1
State of Utah	1,545	33.2	1,645	32.8	1,747	31.4	1,791	29.2

Source: Utah Indicator Based Information System for Public Health (ICD 10 Codes: J40-J44, J47)

Tobacco-Related Mortality Indicator: Cardiovascular Disease

Figure 3.16 presents the smoking related cardiovascular disease (CVD) death rates for Utah and the U.S from 2000-2007. The CVD mortality rate in Utah has been consistently lower than the U.S. rate since at least 2000, although not to the same extent as with Lung Cancer or Lung Disease. Utah's CVD mortality rate was lower than the U.S. rate by about 11 deaths per 100,000 population since 2002.

Figures 3.17 and 3.18 present the percentage of smoking related CVD deaths in Utah by gender and age group for 2003-2007, combined. Unlike lung cancer and lung disease, CVD fatalities are more likely to affect females than males. In regards to age, CVD, like most tobacco related mortality, is much more likely to affect older individuals than young people. More than 90% of CVD fatalities were individuals over the age of 55.

Figure 3.16:

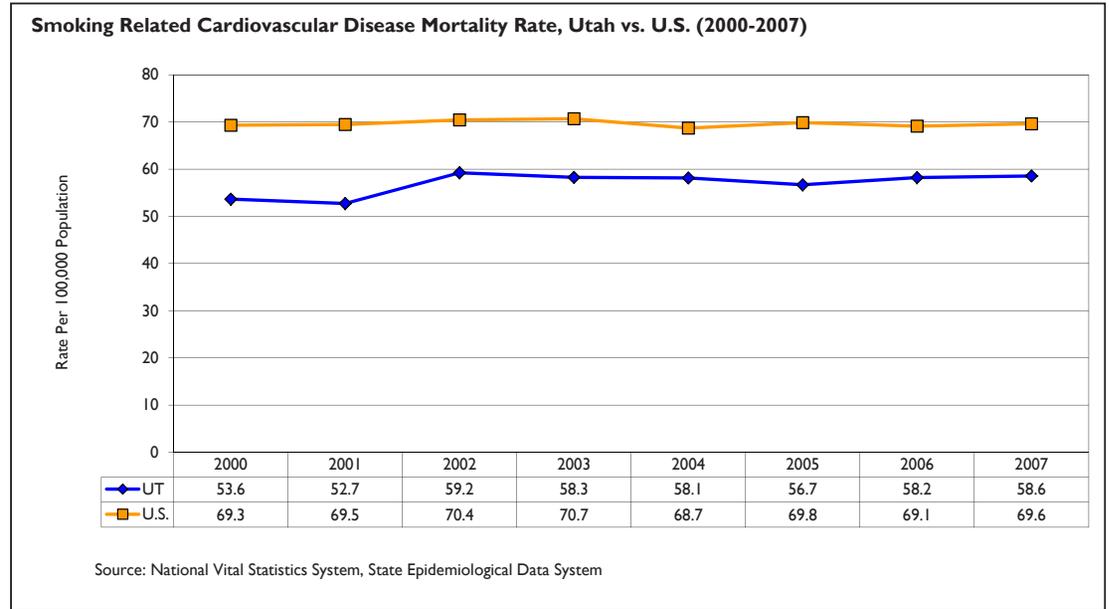


Figure 3.17:

% of Smoking Related Cardiovascular Disease by Gender (2003-2007)

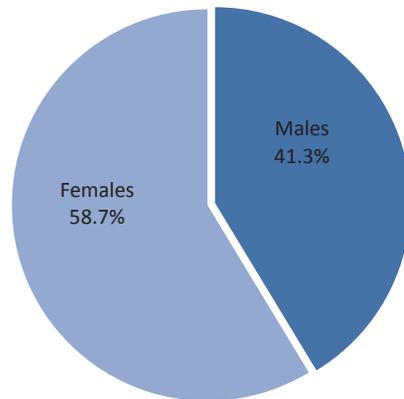
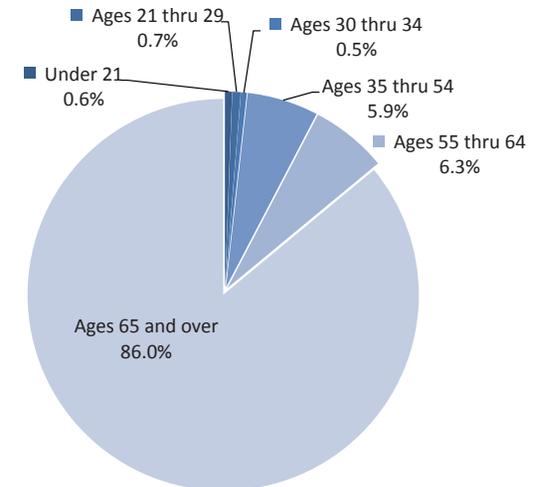


Figure 3.18:

% of Smoking Related Cardiovascular Disease Deaths by Age Group (2003-2007)



Tobacco-Related Mortality Indicator: Cardiovascular Disease

Table 3.9 shows the number and rate of smoking related cardiovascular disease deaths for each LSAA by 3 year groupings from 2000-2011. Areas with higher than state rates for 2009-2011 include Central, Four Corners, Northeastern, Salt Lake, Tooele, and Utah County

Table 3.9:
Number and (Age Adjusted) Rate of Smoking Related Cardiovascular Disease Deaths by LSAA (2000-2011)

Local Substance Abuse Authority (LSAA)	2000-2002		2003-2005		2006-2008		2009-2011	
	Number	Rate per 100,000 Population						
Bear River District	176	59.7	214	70.5	206	63.29	229	63.8
Central Utah	158	83.6	207	105.8	206	101.34	173	78.3
Davis County	335	80.8	349	75.0	386	70.88	382	63.1
Four Corners District	87	74.6	92	76.7	119	96.73	118	90.0
Northeastern District	73	83.8	94	103.3	75	72.97	96	83.4
Salt Lake County	1,484	81.8	1,577	82.5	1,685	81	1,680	74.5
San Juan County	19	65.1	15	48.7	20	57.64	16	44.6
Southwest District	312	67.6	374	72.0	383	62.28	368	53.6
Summit County	26	80.0	27	71.2	31	70.58	26	61.9
Tooele County	61	95.5	90	130.0	65	78.3	90	90.6
Utah County	567	95.2	620	95.8	677	91.28	687	84.7
Wasatch County	33	116.2	34	117.1	35	101.72	27	71.4
Weber and Morgan Counties	445	91.0	462	90.0	499	88.05	439	71.1
State of Utah	3,776	81.8	4,155	84.1	4,388	79.6	4,331	71.4

Source: Utah Indicator Based Information System for Public Health (ICD 10 Codes: I00-I09, I11, I13, I26-I31.9, I33-I38, I40, I42-I51, I51.6)

Tobacco-Related Mortality Indicator: Ischemic Cerebrovascular Disease

Figure 3.19 compares Utah to the U.S. on the rate of ischemic cerebrovascular disease (stroke) deaths from 2000-2007. Utah's rate of cerebrovascular disease deaths is less than half of the nation's rate. Both Utah and the U.S. experienced a decrease in the rate of cerebrovascular disease deaths from 2000-2007.

Figures 3.20 and 3.21 present the percentage of cerebrovascular deaths in Utah by gender and age group for 2003-2007, combined. Ischemic cerebrovascular deaths were relatively evenly split between males and females, with a slightly higher percentage of deaths associated with males. In regards to age, cerebrovascular fatalities were associated with older individuals, with more than 90% of cerebrovascular fatalities affecting people over the age of 55.

Figure 3.19:

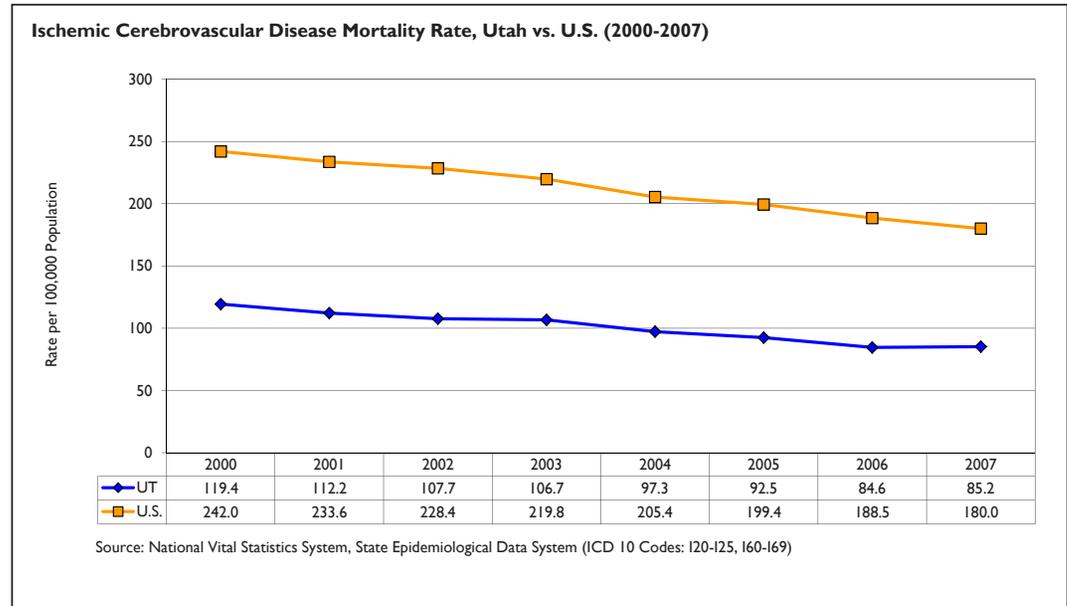


Figure 3.20:

% of Ischemic Cerebrovascular Deaths by Gender (2003-2007)

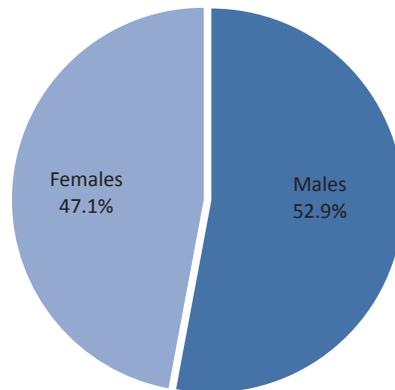
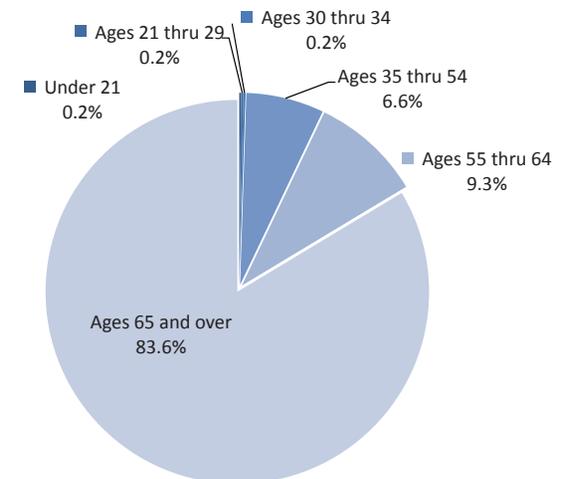


Figure 3.21:

% of Ischemic Cerebrovascular Disease Deaths by Age Group (2003-2007)



Tobacco-Related Mortality Indicator: Ischemic Cerebrovascular Disease

Table 3.10 displays the rate of ischemic cerebrovascular disease deaths for each LSAA from 2000-2011 in three year aggregates. Areas with rates higher than the state for 2009-2011 included Bear River, Central, Davis, Four Corners, Northeastern, Summit, Wasatch and Weber-Morgan.

Table 3.10:
Number and (Age Adjusted) Rate of Ischemic Cerebrovascular Disease Deaths by LSAA (2000-2011)

Local Substance Abuse Authority (LSAA)	2000-2002		2003-2005		2006-2008		2009-2011	
	Number	Rate per 100,000 Population						
Bear River District	537	187.0	466	154.9	407	125.2	441	124.9
Central Utah	372	197.1	360	185.8	323	157.1	283	126.3
Davis County	697	170.2	727	156.7	627	115.3	680	110.0
Four Corners District	192	164.0	162	134.6	197	156.5	155	117.3
Northeastern District	165	179.5	165	169.8	152	143.2	152	126.8
Salt Lake County	2,813	155.6	2,570	133.5	2,247	106.5	2,266	99.5
San Juan County	36	125.2	46	143.1	32	91.6	30	83.3
Southwest District	742	159.7	700	134.5	642	104.7	670	95.5
Summit County	56	170.9	51	129.7	59	123.0	66	133.2
Tooele County	129	197.6	101	132.3	110	118.4	103	91.7
Utah County	1028	174.1	952	147.5	892	121.4	872	107.0
Wasatch County	59	201.6	35	115.3	44	123.3	52	123.8
Weber and Morgan Counties	876	178.3	717	139.0	701	124.1	769	124.3
State of Utah	7,701	166.8	7,052	141.9	6,433	115.8	6,539	107.1

Source: Utah Indicator Based Information System for Public Health (ICD 10 Codes: I20-I25, I60-I69)

Tobacco-Related Mortality and Morbidity: Accidental Deaths Due to Fire

According to the U.S. Fire Administration’s National Fire Data Center, approximately 19% of residential fire fatalities are attributable to cigarette use¹. From 2002-2011 (combined), there were 113 accidental deaths in Utah resulting from fires (smoke, fire and flames). Data for the U.S. were not available. Table 3.11 provides the number and rate of accidental deaths related to fire by LSAA. Because accidental deaths due to fire are quite rare in Utah, data for several LSAs were not available for public dissemination (due to low numbers).

Table 3.11:
Number and (Age Adjusted) Rate of Accidental Deaths Due to Fire and Flames by LSAA (2002-2011)

Local Substance Abuse Authority (LSAA)	2002-2011	
	Number	Rate per 100,000 Population
Bear River District	8	0.5
Central Utah	8	1.3
Davis County	**	**
Four Corners District	**	**
Northeastern District	7	1.8
Salt Lake County	36	0.4
San Juan County	**	**
Southwest District	11	0.5
Summit County	**	**
Tooele County	3	0.8
Utah County	13	0.4
Wasatch County	0	0.0
Weber and Morgan Counties	15	0.7
State of Utah	113	0.5

Source: Utah Indicator Based Information System for Public Health (NCHS 113 leading causes of death: Accidental exposure to smoke, fire and flames)

**Estimate suppressed by IBIS because the relative standard error is greater than 50%, the observed number of events is very small, or it could be used to calculate the number in a cell.

Section 4:

Illicit Drug Use in Utah: Consumption Patterns and Consequences



Section 4 Contents:

- Illicit Drugs Indicator Overview
- Illicit Drug Consumption in Utah
 - Consumption Patterns and Concerns
 - Adult Illicit Drug Consumption
 - Youth Illicit Drug Consumption
- Consequences of Illicit Drug Consumption

Illicit Drugs Indicator Overview

The following tables provide an overview of the illicit drug use and consequence indicators presented in this section of the report. While not all of the illicit drug related indicators contained in this section of the report lend themselves for inclusion in the overview tables, the tables provide a useful summary of illicit drug related data at the state level. Presented in this format, the data tables allow for a comparison of use rates across different populations, as well a comparison of most of the illicit drug consequence indicators included in this epidemiological profile report. For more information about the attributes included in the table or explanations of data source acronyms please see page 1.4 of the Introduction.

Table 4.1:

Estimates of Other Drug Use

		Age Category	Year	Utah	USA	UT:USA Ratio	Utah Trend	Data Source
Youth	30 Day Inhalant Use (%)	Grade 6	2011	1.8	Not Available	Not Available	Decreasing	SHARP
		Grade 8	2011	3.2	3.2	1.00	Stable	SHARP
		Grade 10	2011	1.4	1.7	.82	Decreasing	SHARP
		Grade 12	2011	.8	1.0	.80	Decreasing	SHARP
	30 Day Marijuana Use (%)	Grade 6	2011	.5	Not Available	Not Available	Increasing	SHARP
		Grade 8	2011	5.1	7.2	.71	Increasing	SHARP
		Grade 10	2011	8.9	17.6	.51	Increasing	SHARP
		Grade 12	2011	11.4	22.6	.50	Increasing	SHARP

Table Continued on Next Page

Illicit Drugs Indicator Overview, Cont.

Table 4.1, Cont.:

		Age Category	Year	Utah	USA	UT:USA Ratio	Utah Trend	Data Source
Youth, Cont.	30 Day Non-Medical Prescription Narcotics Use (%)	Grade 6	2011	.2	Not Available	Not Available	Decreasing	SHARP
		Grade 8	2011	.6	Not Available	Not Available	Decreasing	SHARP
		Grade 10	2011	1.5	Not Available	Not Available	Decreasing	SHARP
		Grade 12	2011	2.0	Not Available	Not Available	Decreasing	SHARP
	30 Day Non-Medical Prescription Sedative Use (%)	Grade 6	2011	.8	Not Available	Not Available	Decrease from 2007	SHARP
		Grade 8	2011	2.2	Not Available	Not Available	Stable	SHARP
		Grade 10	2011	2.8	Not Available	Not Available	Decreasing	SHARP
		Grade 12	2011	2.7	1.8	1.50	Decreasing	SHARP
	30 Day Ecstasy Use (%)	Grade 6	2011	.2	Not Available	Not Available	Increasing	SHARP
		Grade 8	2011	.9	.6	1.50	Increase since 2007	SHARP
		Grade 10	2011	2.1	1.6	1.31	Increasing	SHARP
		Grade 12	2011	2.4	2.3	1.04	Increasing	SHARP

Table Continued on Next Page

Table 4.1, Cont.:

		Age Category	Year	Utah	USA	UT:USA Ratio	Utah Trend	Data Source
Youth, Cont.	30 Day Hallucinogen Use (%)	Grade 6	2011	.1	Not Available	Not Available	Stable	SHARP
		Grade 8	2011	.6	1.0	.60	Slight Increase	SHARP
		Grade 10	2011	1.4	1.4	1.00	Increasing	SHARP
		Grade 12	2011	2.0	1.6	1.25	Increasing	SHARP
Adult	Current (30 Day) Marijuana Use (%)		2010	3.1	6.8	.46	Decreasing	NSDUH
	Current (30 Day) Illicit Drug (Other than Marijuana) Use (%)		2010	3.7	3.6	1.03	Increase since 2007	NSDUH
	Past Year Cocaine Use (%)		2010	1.3	1.9	.68	Decreasing	NSDUH
	Past Year Non-Medical Prescription Pain Medication Use (%)		2010	4.9	4.9	1.00	Stable	NSDUH
	College Enrolled Population 30 Day Marijuana Use (%)		2007	3.9	16.8	.23	Decreasing	UHEHBS
	College Enrolled Population 30 Day Any Illicit Drug Use (%)		2007	7.2	19.3	.37	Slightly Decreasing	UHEHBS

*Bolded/italicized item indicates the state rate is higher than the national rate.

Table 4.2:

Illicit Drug Use Consequences

	Indicator	Years	Average Annual Number of Cases (UT)	Average Rate per 100,000 Population	UT:USA Rate Ratio	Trend	Time from Use to Outcome	Strength of Relationship	Data Source
Mortality	<i>Drug Poisoning Deaths (ICD-10 X40-X44, X46, X60-X64, X66, Y10-Y14, Y16)</i>	<i>2003-2007</i>	<i>420.8</i>	<i>17.0</i>	<i>1.64</i>	<i>Increasing through 2007</i>	<i>Immediate</i>	<i>Strong</i>	<i>NVSS</i>
	Drug Related Deaths	2006-2010	416	15.4	Not Available	Decreasing since 2007	Immediate	Strong	DAWN
	Drug Related Suicides	2006-2010	61	2.3	Not Available	Stable	Immediate	Strong	DAWN
	Number of Accidental and Undetermined Intent Illicit Drug Poisoning Deaths	2007-2011	97.2	3.6	Not Available	Stable	Immediate	Strong	UDH-PPMP
	Number of Accidental and Undetermined Intent Non-Illicit Drug Poisoning Deaths	2007-2011	270.8	10.0	Not Available	Fluctuating: Peak in 2007	Immediate	Strong	UDH-PPMP
Morbidity	Emergency Department Encounters for Narcotics Overdose (ICD-9 965)	2006-2010	3218.4	117.5	Not Available	Decreasing since 2007	Immediate	Strong	UT IBIS
	<i>Drug Dependence or Abuse</i>	<i>2010</i>	<i>Estimated** 65,003</i>	<i>3.0%</i>	<i>1.07</i>	<i>Stable</i>	<i>Variable</i>	<i>Strong</i>	<i>NSDUH</i>
Other Consequences	<i>Reported Property Crimes</i>	2003-2007	<i>94,065.4</i>	<i>3810.6</i>	<i>1.16</i>	<i>Decreasing</i>	<i>Variable</i>	<i>Medium</i>	<i>UCR</i>

*Bolded/italicized items indicate that the state rate is higher than the national rate.

**Estimate based on 2010 Utah population ages 12 and older.

Illicit Drug Consumption: Patterns and Concerns

In both Utah and the U.S. use rates for illicit drugs are generally much lower than for alcohol and tobacco. The exception to this rule is marijuana use, which is by far the illicit drug with the highest use rates. Among certain populations marijuana use rates are now comparable to, or higher than cigarette use rates in many states, and at the national level.

In comparing Utah use rates to the nation, Utah rates are generally less than national rates, the occasional exception to the rule notwithstanding (e.g., adult any illicit drug other than marijuana, youth prescription sedative use, etc.). Because most illicit substances are used/abused by a small percentage of the population, the differences between Utah rates and national rates tends to be less dramatic at first glance, but the pattern of results across the spectrum of illicit drugs is encouraging. One area where differences between Utah and the nation are clear is marijuana use. Utah marijuana use rates are substantially lower across both the adult and youth populations. Another topic in this chapter particularly worthy of note is trend data related to drug poisoning (overdose) deaths that was of great concern at the time of writing the 2010 state epidemiological profile report. Recent data available through the Drug Abuse Warning Network and the Utah Department of Health suggest that the drug poisoning death epidemic in Utah may have peaked in 2007 and appears to be declining at a noticeable rate.

Adult Illicit Drug Consumption in Utah

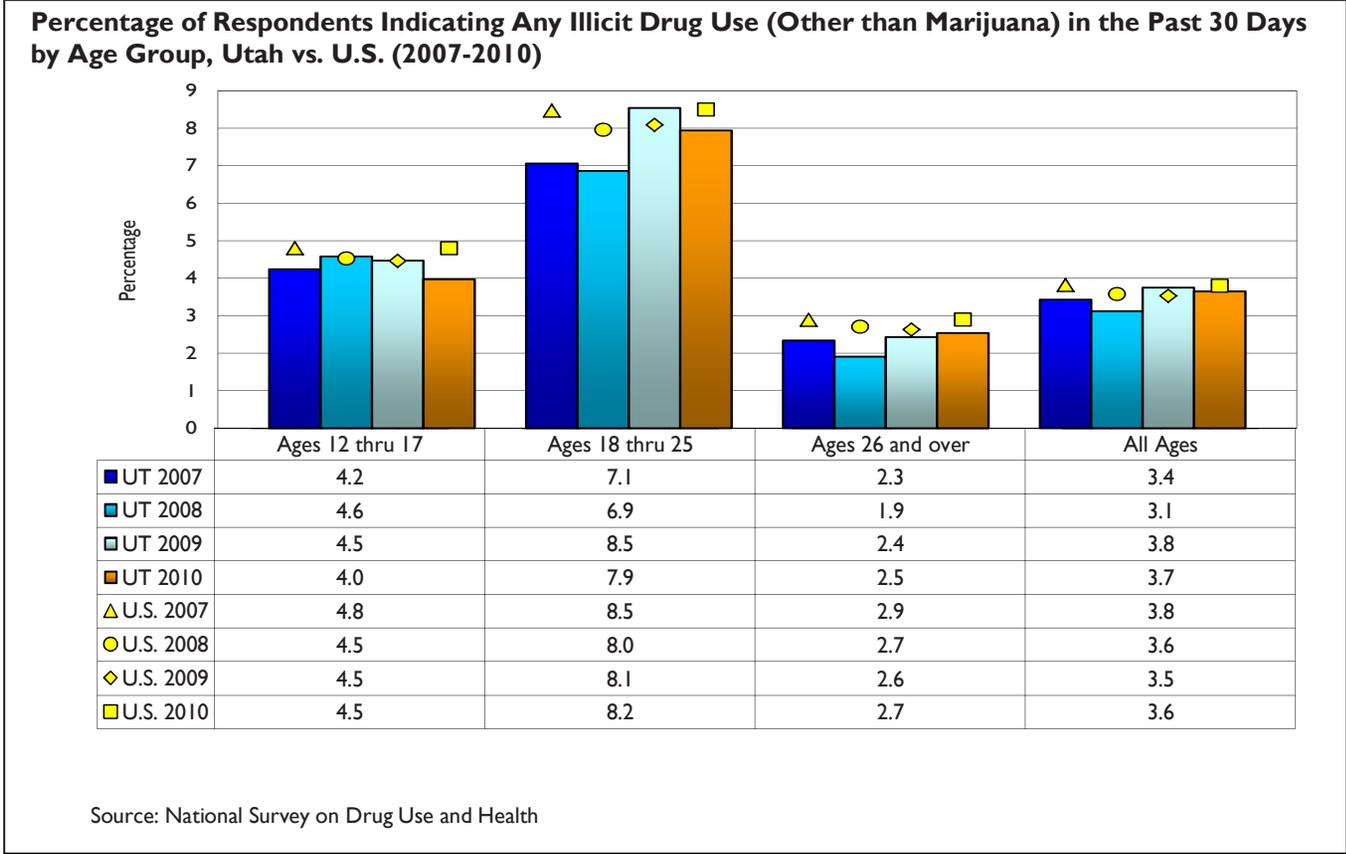
The main source of data regarding adult illicit drug consumption is the National Survey on Drug Use and Health (NSDUH). This national survey provides state level estimates for illegal drug use, but does not provide sub-state level estimates. In this section, four types of adult illicit drug use consumption data from the NSDUH are presented: a) any illicit drug (30 day), b) cocaine (past year), c) marijuana (30 day), and d) non-medical prescription drug use (past year). Data on prescription pain medication use (prescribed and not prescribed) collected by the Utah Department of Health are also presented.

Note: NSDUH estimates with confidence interval data are included in Appendix D for those interested in examining the 95% confidence range for Utah state level NSDUH estimates.

Adult Illicit Drug Consumption: Any Illicit Drug Use

Figure 4.1 shows the percentage of adults who have used any illicit drug (other than marijuana) in the past 30 days from 2007 to 2010. The data suggest that Utah is quite similar to the nation regarding any illicit drug use in the past 30 days. At all age groups and years, Utah rates tend to be highly similar to the rates of their national counterparts. Within the state, reported use rates increased slightly across the adult age groups from 2008 to 2009 and remained at similar levels in 2010.

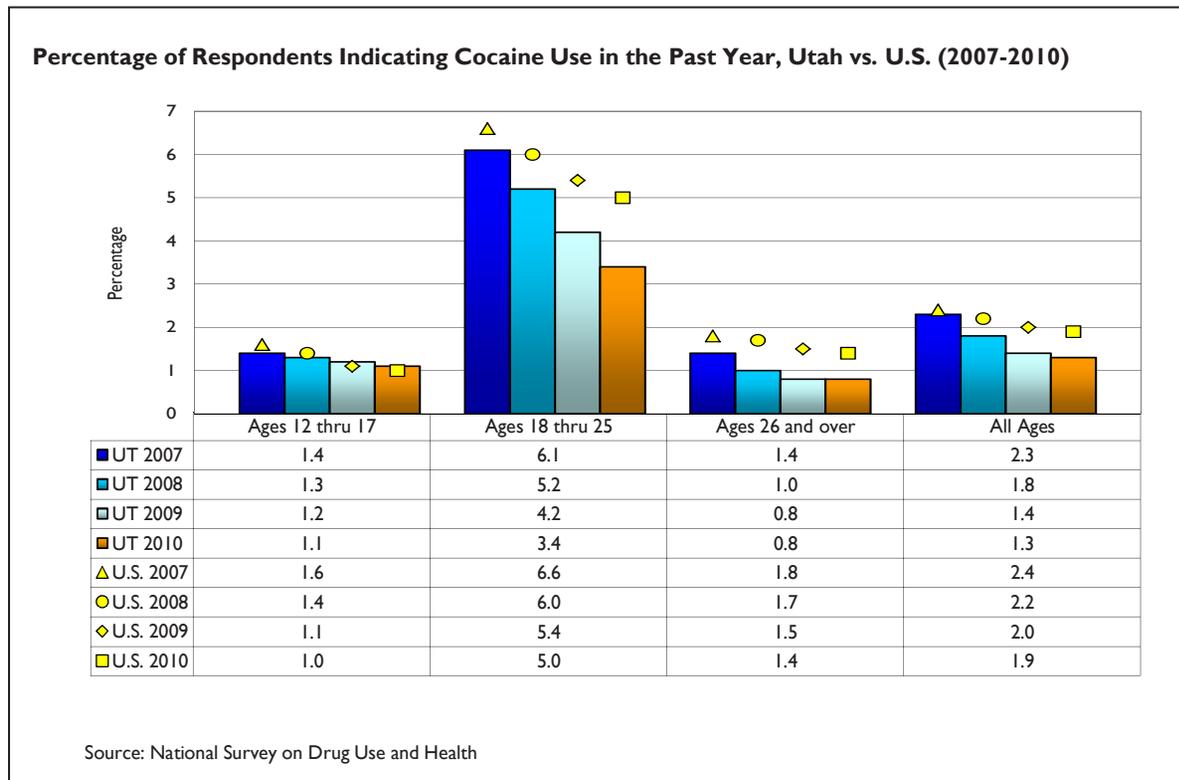
Figure 4.1:



Adult Illicit Drug Consumption: Cocaine Use

Figure 4.2 presents the percentage of respondents who reported using cocaine in the past year by age group. Please note that the time frame for this data reflect any use in the past year rather than in the past 30 days. The data show that cocaine use rates for Utah were slightly to moderately lower than the rates of their national counterparts depending on age group, with the most pronounced differences between Utah and the U.S. seen in 2011. Within the state, cocaine use was considerably higher in the 18-25 age group, but there was a clear trend of decreasing use apparent from 2007 to 2011.

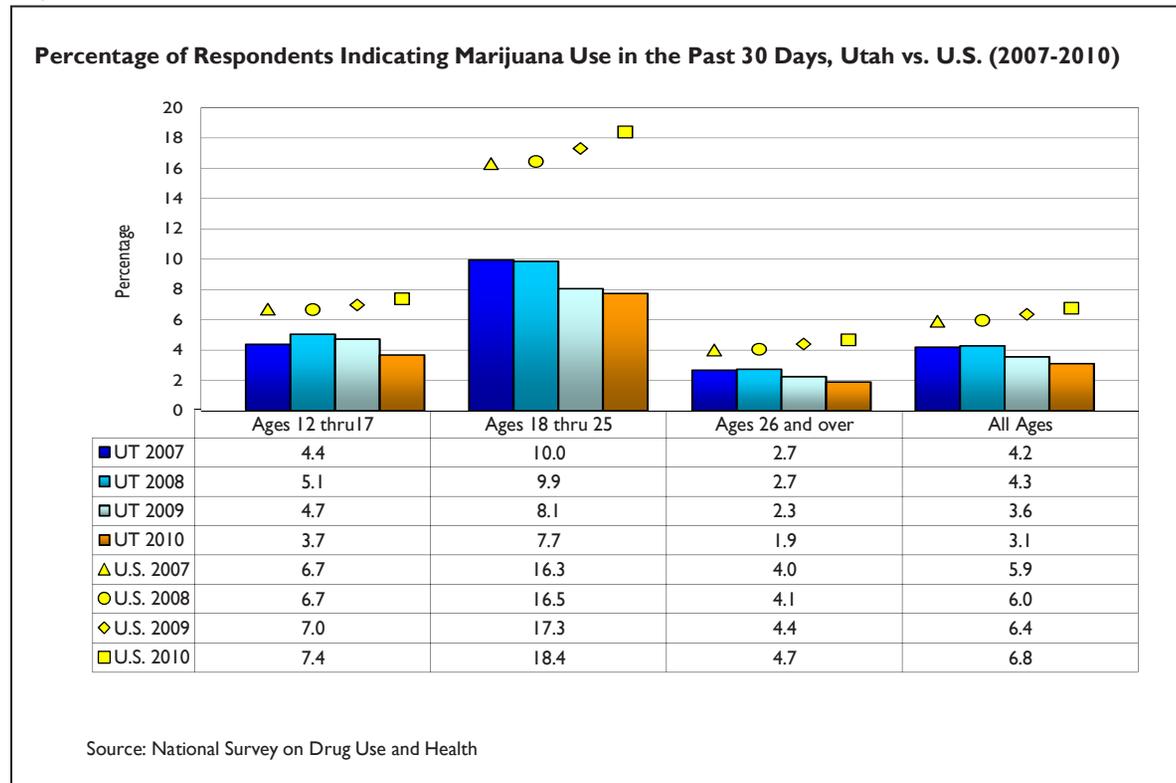
Figure 4.2:



Adult Illicit Drug Consumption: Marijuana Use

Figure 4.3 reports the percentage of adults who used marijuana in the past 30 days from 2007 to 2010. The prevalence of past 30 day marijuana use in Utah has consistently been lower than the U.S. in all age groups, especially for young adults ages 18-25. The prevalence of marijuana use in Utah has decreased slightly since 2007, whereas the U.S. rate has been increasing slightly over that same time period. The age group with the highest prevalence of marijuana use in Utah was the young adult age group (18-25 year olds), who had a 30 day use rate of about 7.5% in 2010.

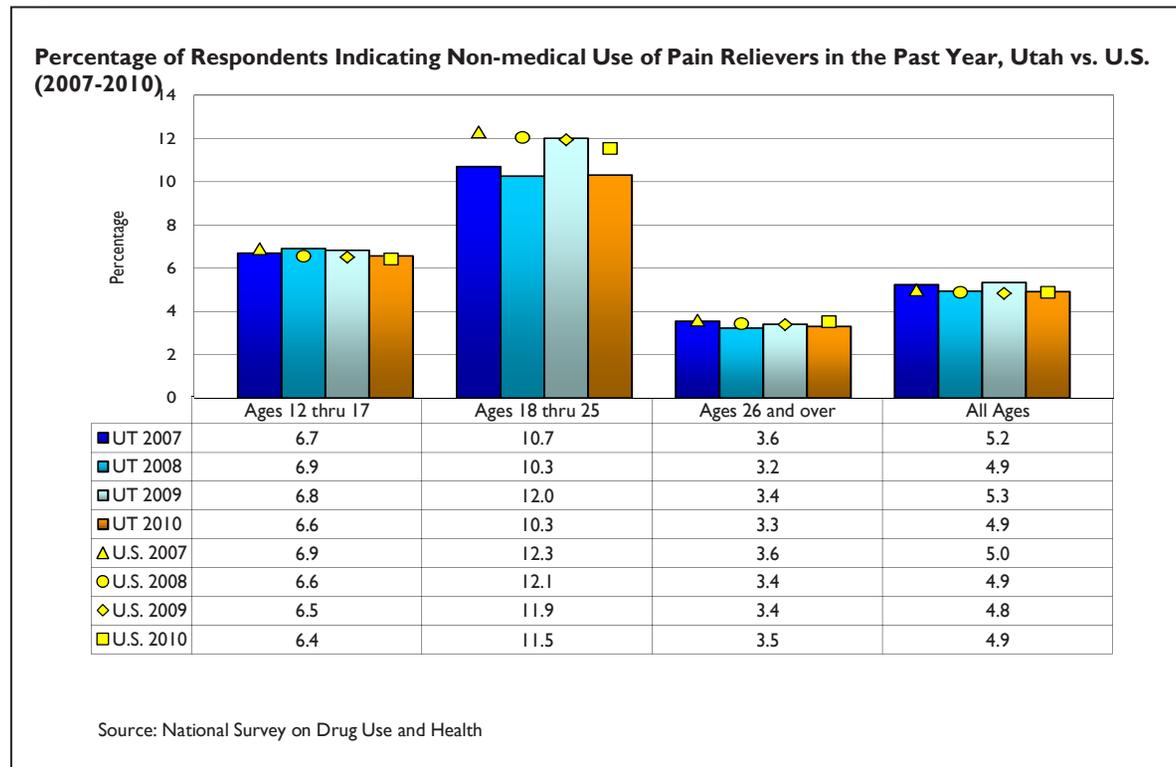
Figure 4.3:



Adult Illicit Drug Consumption: Prescription Pain Relievers

In recent years, prescription pain relievers have become associated with a large number of overdose deaths each year across the nation. In Utah, overdose deaths from legal prescription drugs had surpassed overdose deaths from illegal drugs prior to the year 2000 according to the Utah Department of Health's Prescription Pain Medication Management Program. Because prescription pain killers can be obtained legally with a prescription, many people underestimate the potential dangerousness of using these substances in a manner other than as directed by a doctor. Beginning in 2004, the NSDUH asked respondents to indicate whether they have used prescription pain killers that were not prescribed for them or that were taken "only for the experience or feeling they caused." Figure 4.4 presents the percentage of respondents who indicated non-medical prescription pain killer use in the past year by age group from 2007 to 2010. The data show that overall, past year rates of non-medical prescription pain reliever use in Utah have been similar to national use rates from 2007 to 2010. Within Utah, the age groups with the highest use rates were the 18-25 population, followed by the 12-17 population.

Figure 4.4:



Adult Illicit Drug Consumption: Past-Year Non-Medical Use of Pain Relievers, Cont.

In order to better understand the use of prescription pain medication in ways “other than prescribed by a doctor,” the Utah Department of Health added a prescription pain medication supplement to the administration of the 2008 Behavioral Risk Factor Surveillance Survey. This supplement focused on the misuse or abuse of prescription pain medications, in particular opioid based pain medications. Respondents were asked if they had used prescription pain medications that were prescribed to them in ways other than directed by a physician (e.g., in higher doses or in greater frequency than prescribed), or whether they had used prescription pain medication without a prescription. If respondents met either of these conditions, they were asked to indicate why they used the prescription medications. Table 4.3 presents reasons given by participants who had a prescription but used their pain medication in ways other than as directed by a physician. Table 4.4 presents reasons given by participants who took prescription pain medication that was not prescribed to them. In the overwhelming majority of cases, the reported reason pain medications were taken was for pain relief, however a small minority of respondents indicated they took these medications for fun or to get high.

Table 4.3: The last time you used (opioid) prescription pain medication in ways other than directed by your physician, what were the reasons? (2008)

Reason for Use	Number of Responses*	Estimated Percentage**	95% Confidence Interval
To relieve pain	20	70.8%	54.6%-87%
Other	4	10.7%	0%-23.6%
For fun, good feeling, getting high	3	19.3%	10.3%-28.2%
To relieve anxiety or depression	1	2.6%	0%-8.1%
Total Responses	28		

Source: Utah Department of Health

*Respondents could provide more than one response to this item.

**This column reflects the estimated percentage among individuals in the population (after weighing the observed frequencies) who used prescription pain medications in a manner other than prescribed by their doctor.

Table 4.4: The last time you used (opioid) prescription pain medication that was not prescribed to you, what were the reasons? (2008)

Reason for Use	Number of Responses*	Estimated Percentage**	95% Confidence Interval
To relieve pain	77	69.8%	57.9%-81.7%
Other	17	19.3%	9.5%-29.2%
For fun, good feeling, getting high	2	10.7%	0.8%-20.5%
To relieve other physical symptoms	2	2.2%	0%-5.4%
To prevent or relieve withdrawal symptoms	1	1.3%	0%-3.9%
To relieve anxiety or depression	4	3.0%	0.6%-5.5%
Total Responses	103		

Source: Utah Department of Health

*Respondents could provide more than one response to this item.

**This column reflects the estimated percentage among individuals in the population (after weighing the observed frequencies) who used prescription pain medications without a doctor's prescription.

College Illicit Drug Use in Utah

The Utah Division of Substance Abuse and Mental Health (DSAMH) has conducted three biennial statewide surveys of college students' use of alcohol, tobacco and other drugs called the Utah Higher Education Health Behavior Survey (UHEHBS). The most recent administration of the survey was completed in 2007. National comparison data are obtained from the Monitoring the Future (MTF) Survey. The MTF is a national survey which monitors trends in substance use and abuse among adolescents and young adults in the U.S., including a cohort who attend college.

Table 4.5 presents lifetime illicit drug use rates, and Table 4.6 presents 30 day illicit drug use rates. Also presented are data representing a reference group for the U.S., comprised of an aggregate sample collected by the Monitoring the Future. Other than sedatives, Utah college students reported using illicit drugs at a lower rate than students in the U.S. In 2007, 2.4% of Utah college students reported using sedatives in the past 30 days, compared to 1.4% of college students in the U.S.

Table 4.5:

Percentage of College Students Indicating Illicit Drug Use in the Lifetime (2003-2007)

	Utah 2003	Utah 2005	Utah 2007	U.S. 2003	U.S. 2005	U.S. 2007
Marijuana	24.0%	26.4%	24.1%	50.7%	49.1%	47.5%
Cocaine	6.6%	7.0%	6.5%	9.2%	8.8%	8.5%
Stimulants (Meth or Other)	12.7%	6.0%	6.6%	12.3%	n/a	n/a
Methamphetamine*	n/a	n/a	4.4%	n/a	4.1%	1.9%
Non-Meth Stimulants	n/a	n/a	4.1%	n/a	n/a	n/a
Sedatives**	5.8%	9.0%	7.9%	11.0%	8.5%	5.9%
Hallucinogens (LSD, PCP)	8.0%	8.8%	7.8%	14.5%	11.0%	9.1%
Heroin and Other Opiates***	2.3%	4.9%	5.1%	14.2%	14.9%	14.6%
Inhalants (glue, solvents, gas)	4.7%	6.6%	5.5%	9.7%	7.1%	6.3%
DXM	n/a	3.4%	2.9%	n/a	n/a	n/a
Ecstasy	5.7%	4.8%	4.2%	12.9%	8.3%	5.4%
Other Club Drugs	0.2%	2.0%	1.4%	n/a	n/a	n/a
Any Drug	28.9%	30.2%	28.6%	54.1%	52.3%	50.5%

Source: Utah Higher Education Health Behavior Survey (Utah) and Monitoring the Future (U.S.)

* In 2005, methamphetamines were included under stimulants. In 2003 and 2007, the category was separated into "Methamphetamines" and "Stimulants other than methamphetamines."

**MTF Sedatives are reported as Sedative/Tranquilizers

***MTF Heroin is reported as Heroin/Other Narcotics

Table 4.6:

Percentage of College Students Indicating Illicit Drug Use in the Past 30 Days (2003-2007)

	Utah 2003	Utah 2005	Utah 2007	U.S. 2003	U.S. 2005	U.S. 2007
Marijuana	5.4%	4.6%	3.9%	19.3%	17.1%	16.8%
Cocaine	0.7%	0.5%	0.4%	1.9%	1.8%	1.7%
Stimulants (Meth or Other)	2.7%	0.6%	0.7%	3.1%	n/a	n/a
Methamphetamine*	n/a	n/a	0.0%	n/a	0.1%	0.1%
Non-Meth Stimulants	n/a	n/a	0.7%	n/a	n/a	n/a
Sedatives**	1.3%	2.6%	2.4%	2.8%	1.3%	1.4%
Hallucinogens (LSD, PCP)	0.4%	0.4%	0.3%	1.8%	1.2%	1.3%
Heroin and Other Opiates***	0.3%	1.0%	1.3%	2.3%	3.2%	2.3%
Inhalants (glue, solvents, gas)	0.2%	0.2%	0.2%	0.4%	0.3%	0.1%
DXM	n/a	0.2%	0.2%	n/a	n/a	n/a
Ecstasy	0.4%	0.4%	0.4%	1.0%	0.8%	0.4%
Other Club Drugs	0.1%	0.1%	0.1%	n/a	n/a	n/a
Any Drug	8.3%	7.4%	7.2%	21.9%	19.5%	19.3%

Source: Utah Higher Education Health Behavior Survey (Utah) and Monitoring the Future (U.S.)

* In 2005, methamphetamines were included under stimulants. In 2003 and 2007, the category was separated into "Methamphetamines" and "Stimulants other than methamphetamines."

**MTF Sedatives are reported as Sedative/Tranquilizers

***MTF Heroin is reported as Heroin/Other Narcotics

Youth Illicit Drug Use in Utah: Overview

Illicit drug consumption data for Utah are gathered from the SHARP Survey which is a large statewide youth survey conducted every other year in grades 6, 8, 10 and 12. The SHARP Survey allows for data analyses at state and Local Substance Abuse Authority (LSAA) levels. National comparison data are obtained from the Monitoring the Future (MTF) Survey. The MTF is a national survey which monitors trends in substance use and abuse among adolescents and young adults in the U.S. MTF does not include 6th graders in its survey and therefore no 6th grade national comparisons are provided in the tables and figures.

Table 4.7 provides a summary of the percentage of 6th, 8th, 10th, and 12th grade students in Utah who have used various illicit drugs in their lifetime and in the past 30 days for 2011. Following the table are more detailed presentations of youth illicit drug use in Utah.

Table 4.7:
Percentage of Students in Grades 6, 8, 10, and 12 Who Have Used Illicit Drugs in their Lifetime, Past 30 Days, Utah (2011)

Illicit Drug	Lifetime Use				Past 30 Day Use			
	6th	8th	10th	12th	6th	8th	10th	12th
Cocaine	0.4%	1.1%	1.8%	3.4%	0.1%	0.2%	0.4%	0.7%
Ecstasy	n/a				0.2%	0.9%	2.1%	2.4%
Hallucinogens	0.4%	2.1%	4.8%	7.0%	0.1%	0.6%	1.4%	2.0%
Heroin	0.2%	0.7%	0.8%	1.4%	0.0%	0.3%	0.1%	0.2%
Inhalants	5.5%	8.9%	7.2%	7.0%	1.7%	3.2%	1.4%	0.8%
Marijuana	1.4%	7.9%	17.2%	24.0%	0.5%	3.6%	7.9%	9.8%
Methamphetamines	0.4%	1.1%	1.8%	3.4%	0.1%	0.2%	0.4%	0.5%
Prescription Narcotics*	0.5%	1.9%	5.4%	8.1%	0.2%	0.6%	1.5%	2.0%
Prescription Sedatives*	2.4%	5.6%	7.7%	8.1%	0.8%	2.2%	2.8%	2.7%
Steroids*	n/a				0.3%	0.4%	0.6%	0.7%

Source: Student Health and Risk Prevention Survey

*Without a doctor telling them to take them.

Youth Illicit Drug Consumption: Cocaine Use

Figures 4.5 and 4.6 show the prevalence of youth lifetime and 30 day use of cocaine in Utah compared to the nation by grade from 2007 to 2011. Overall, cocaine use among youth is a relatively low frequency occurrence compared to alcohol, tobacco and marijuana. Moreover, Utah students report lifetime and 30 day use of cocaine at a lower rate than U.S. students. The prevalence of lifetime use with cocaine in Utah is about half the rate of U.S. students across grades 8, 10, and 12. Similarly, the prevalence of past 30 day cocaine use in Utah is lower than the U.S. rate for grades 8, 10 and 12.

Figure 4.5:

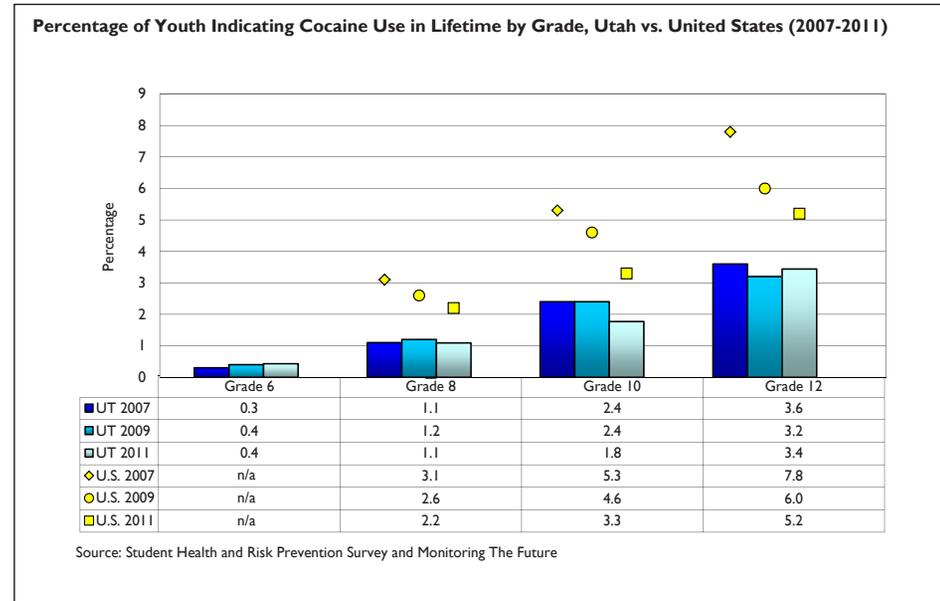
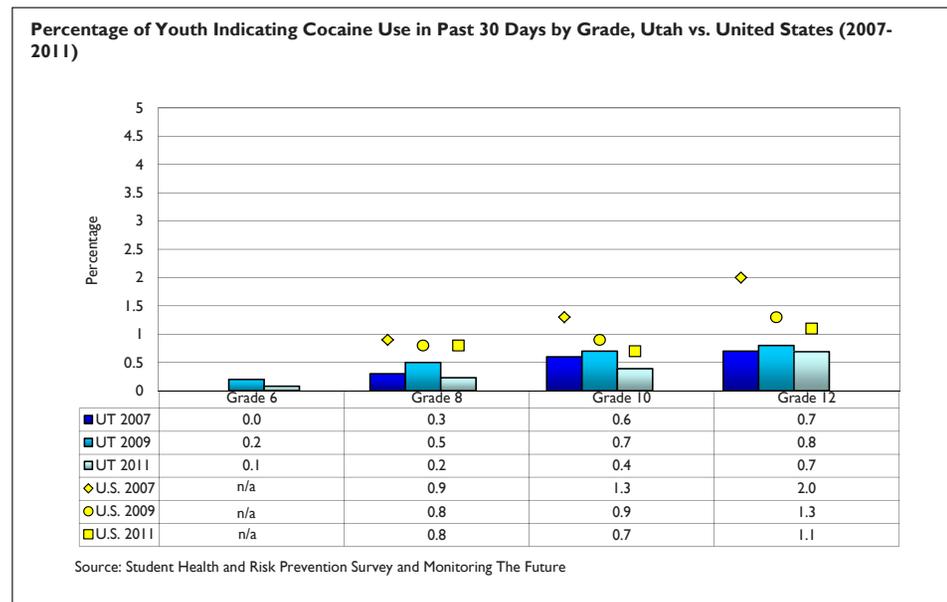


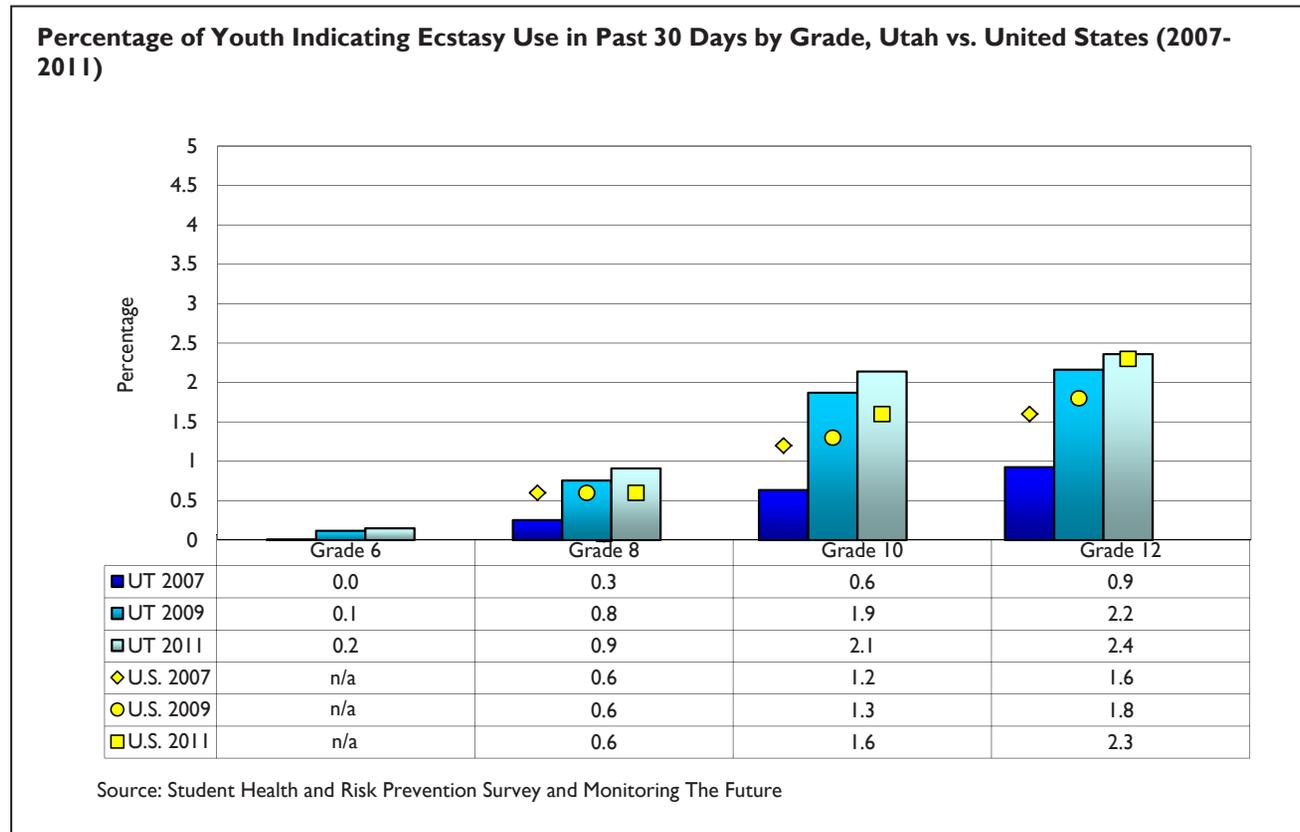
Figure 4.6:



Youth Illicit Drug Consumption: Past Month Ecstasy Use

The SHARP Survey measures past 30 day use of ecstasy, but discontinued the measurement of lifetime ecstasy use after the 2007 survey administration. Figure 4.7 shows the percentage of students who have used ecstasy in the past 30 days in Utah and the U.S by grade between 2007 and 2011. While ecstasy use in Utah remains a low frequency occurrence, the reported rate of ecstasy use in Utah was higher than in the nation for all grades in both 2009 and 2011. This coincides with an increase in use that was observed in Utah between the 2007 and 2009 surveys.

Figure 4.7:



Youth Illicit Drug Consumption: Hallucinogens Use

Figure 4.8 compares Utah and the nation regarding the percentage of youth who have ever used hallucinogens in their lifetime from 2007 to 2011, and Figure 4.9 provides a comparison of the percentage of youth who used hallucinogens in the past 30 days. As with most illegal drugs, Utah hallucinogen use rates are low (e.g., past 30 day use rates were less than 2% for all years and all grades). While use rates in Utah have historically been lower than U.S. rates, there was an uptick in reported use by Utah youth in 2011 for both 10th and 12th grades. For the 12th grade group, the increase in use pushed the Utah rate above the national rate for the first time.

Figure 4.8:

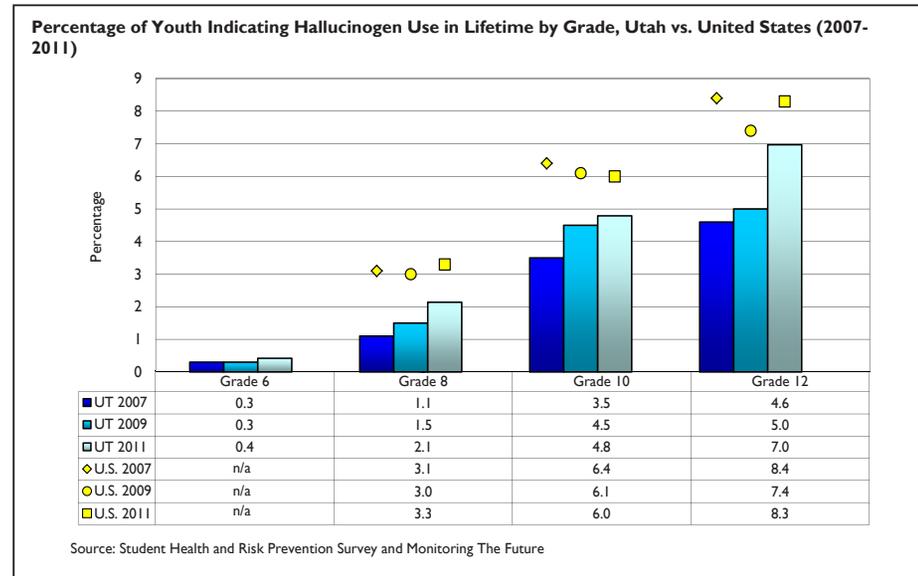
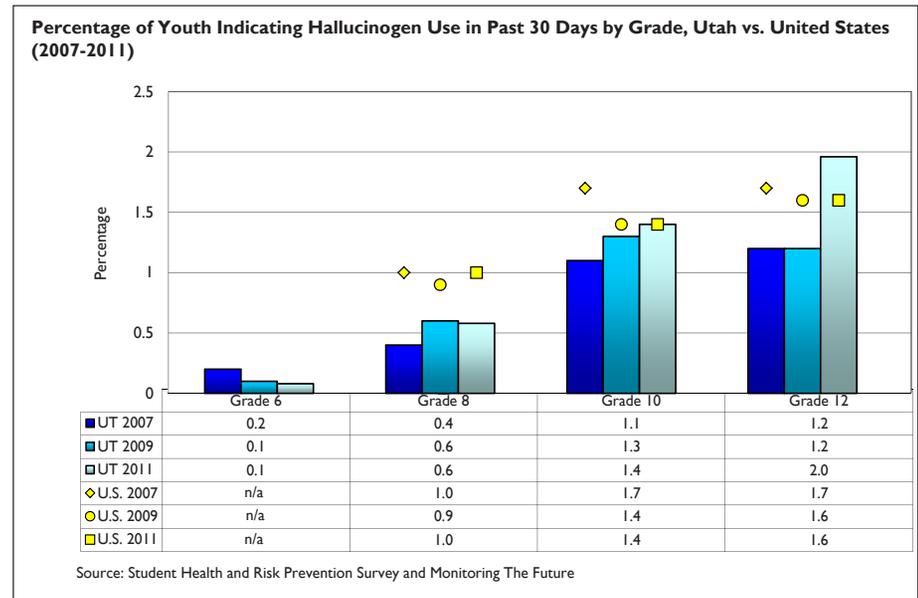


Figure 4.9:



Youth Illicit Drug Consumption: Heroin Use

Figure 4.10 shows the lifetime use rates for heroin among Utah and U.S. students by grade between 2007 and 2011. As with most of the “harder” illicit drugs, use of heroin among youth is a very infrequent occurrence in Utah. Lifetime heroin use rates across all grades never exceeded 2% in any year across this timeframe. Thirty day use rates were extremely low for both Utah and the nation, with no grade exceeding .5% in any year between 2007 and 2011. Simply put, heroin is not a very popular drug of use among youth.

Figure 4.10:

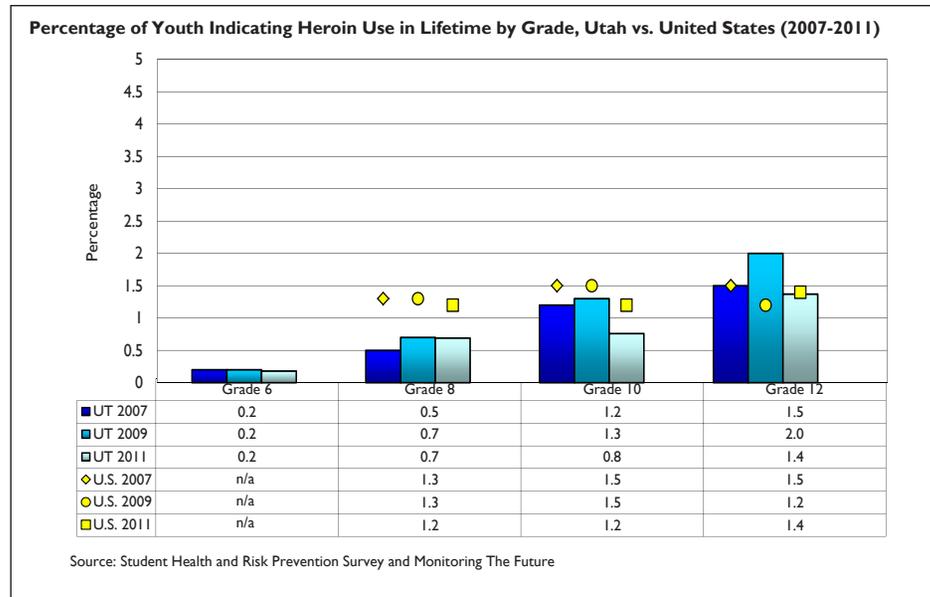
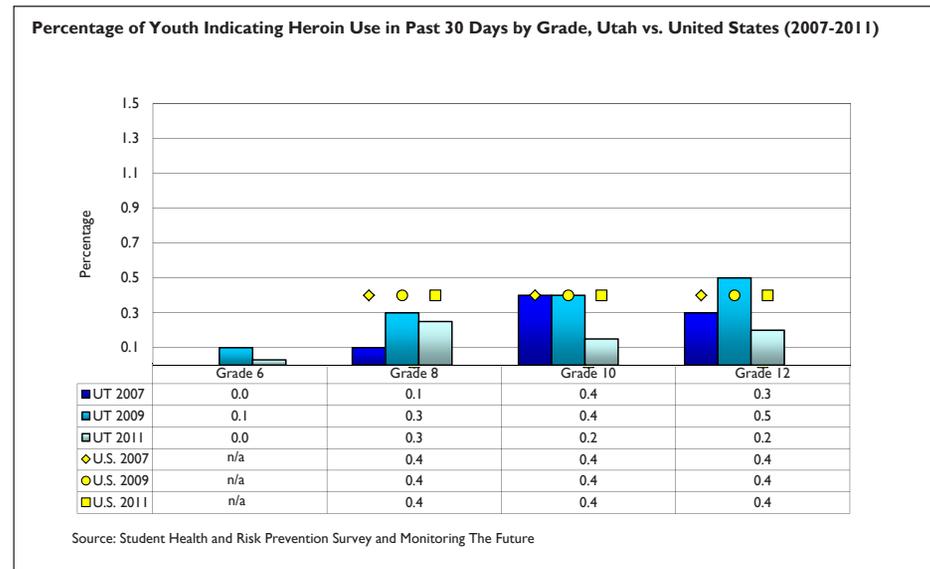


Figure 4.11:



Youth Illicit Drug Consumption: Inhalant Use

The use of inhalants includes such activities as sniffing glue or breathing in solvents or the contents of aerosol cans for the purpose of getting high. Typically, across the nation, inhalant use peaks in the 7th or 8th grade, and this holds true in Utah as well. While Utah once had higher rates of inhalant use than the nation, Figure 4.12 shows that in recent years inhalant experimentation in Utah has been less prevalent than it has been in the U.S. This was seen across all grades surveyed. Furthermore, there appears to be a decreasing trend in inhalant use both within the state and at the national level.

Figure 4.13 displays the percentage of students reporting past 30 day use of inhalants. Mirroring the patterns of lifetime inhalant use rates, 30 day use rates for Utah youth were generally lower than national rates, with the exception of Utah 8th graders who had the same use rate as the nation. It is encouraging to see that across all grades other than 8th grade, trends in 30 day inhalant use appear to be toward decreased use in recent years.

Figure 4.12:

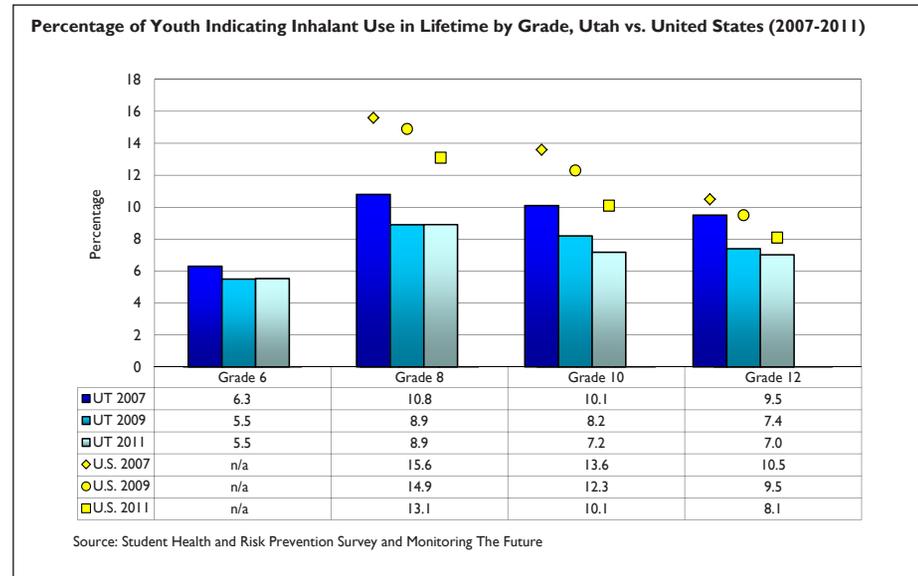
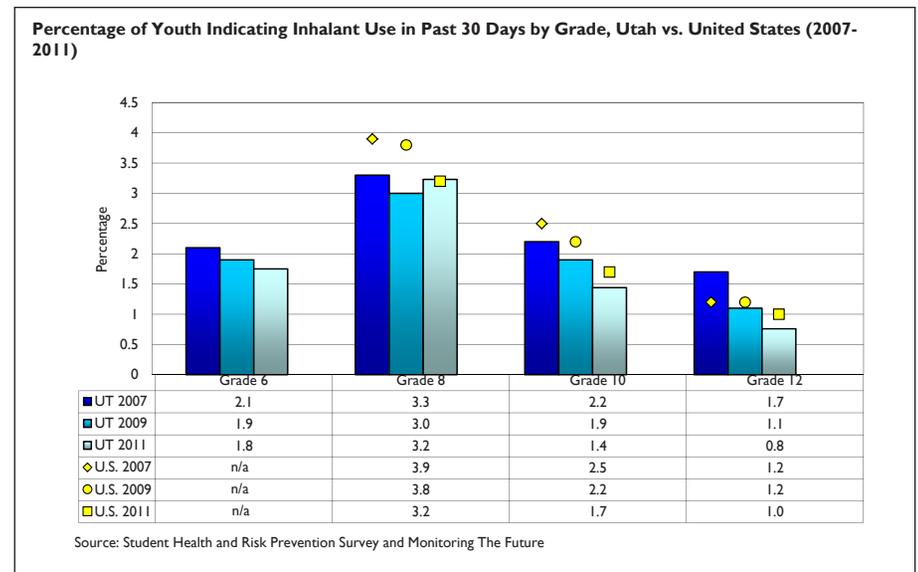


Figure 4.13:



Youth Illicit Drug Consumption: Marijuana Use

Marijuana is by far the most used illicit drug both in the nation and within Utah. It is often considered a gateway drug to the use of other illicit substances. Figure 4.14 presents the percentage of students who have ever used marijuana in their lifetime by grade between 2007 and 2011, and Figure 4.15 presents past 30 day use. While rates of lifetime marijuana use in Utah suggest a slight increasing trend over time, the rate of use in Utah is about or less than half of the nation's rate across all grades and all years. For 30 day use, the difference between Utah and national rates are similar (Utah rates are generally about 50% of U.S. use rates). However, it is important to note that a slow upward trend in use is apparent in 30 day use rates for both Utah and the nation.

Figure 4.14:

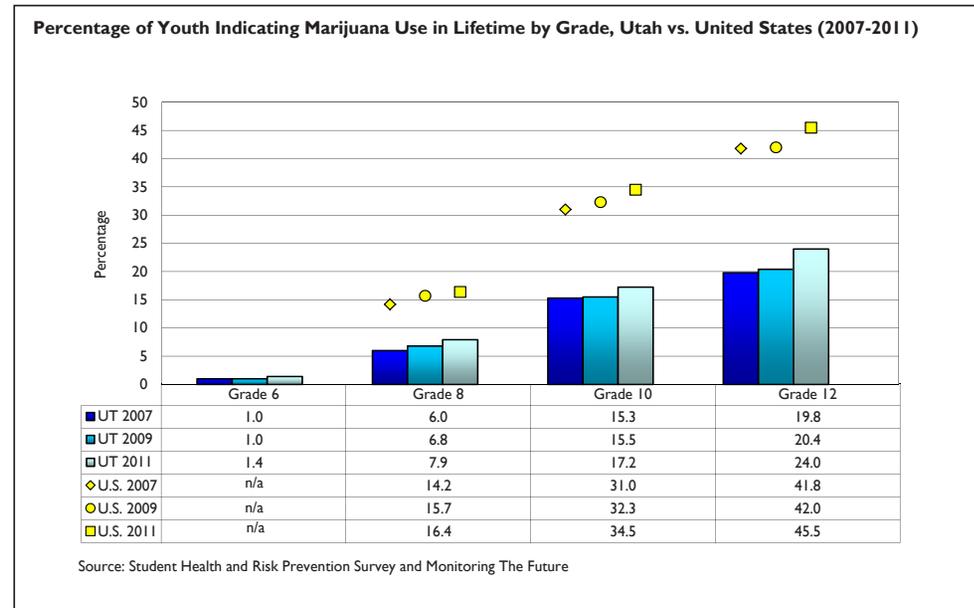
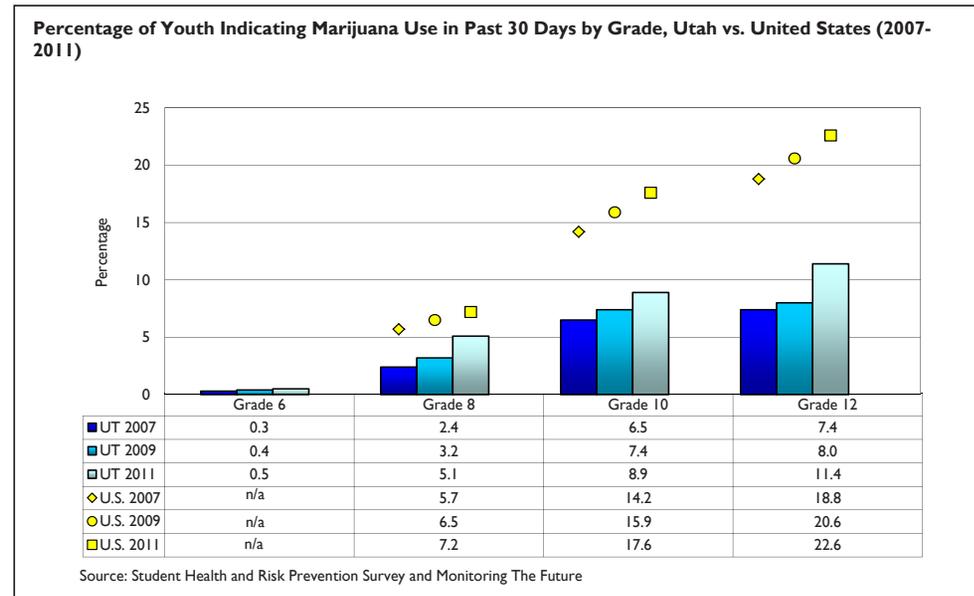


Figure 4.15:



Youth Illicit Drug Consumption: Methamphetamine Use

Figure 4.16 reports the percentage of youth in Utah and the U.S. who have ever tried methamphetamines in their lifetime by grade between 2007 and 2011, while Figure 4.17 shows the percentage of youth who reported 30 day use of methamphetamines. A look at the data suggest methamphetamine use was a relatively rare frequency occurrence in both Utah and the U.S. among youth populations, with use rates slightly lower in Utah than the nation across all grades. Lifetime use rates did not exceed 2% for any grade in Utah, and 30 day use rates did not exceed .5%. As with heroin, methamphetamine is not a drug that youth choose to use with much frequency.

Figure 4.16:

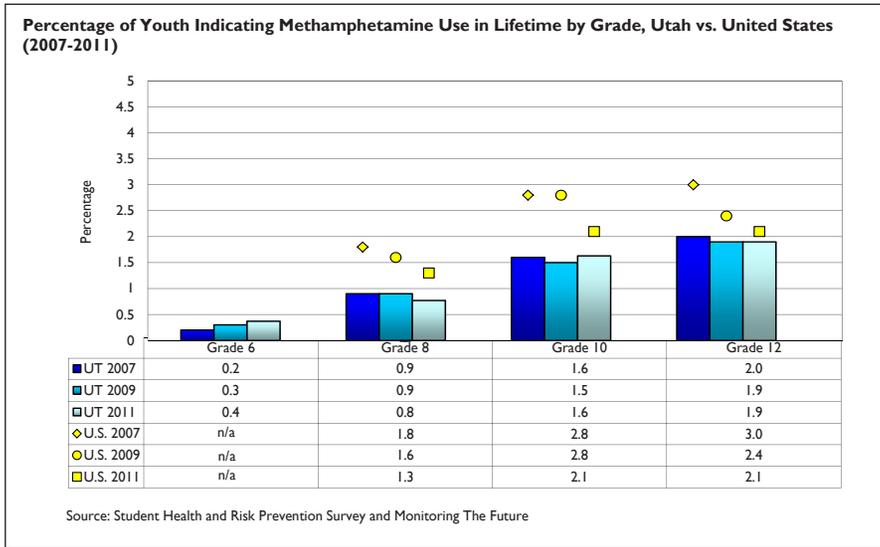
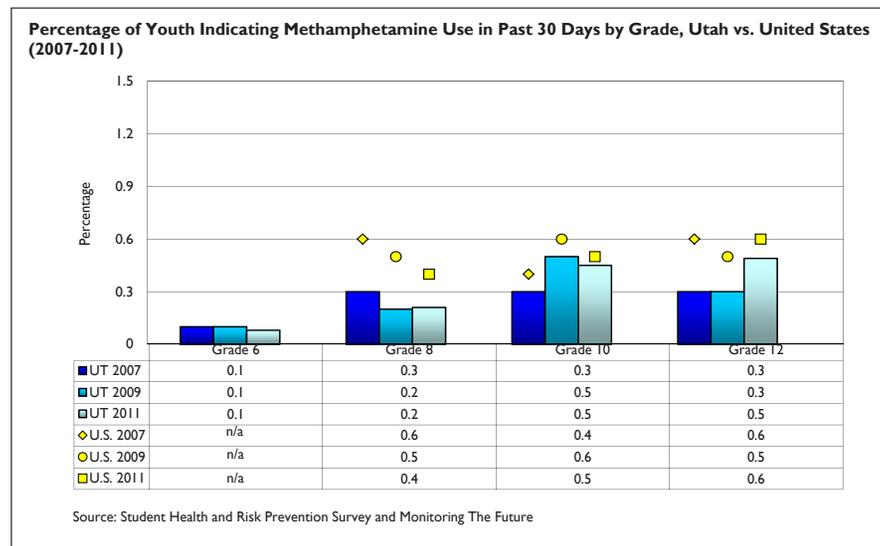


Figure 4.17:



Youth Illicit Drug Consumption: Prescription Narcotic Use

In 2007, the DSAMH included items on the SHARP survey to measure the prevalence of prescription narcotic use (“such as Oxycontin, methadone, morphine, codine, Demerol, Vicodin, Percocet”) in ways other than prescribed by a doctor. Figure 4.18 reports the percentage of Utah youth who indicated using prescription narcotics for non-prescribed purposes in their lifetime, and Figure 4.19 reports use during the past 30 days. The MTF includes a similarly worded question for 12th graders only. In comparing Utah 12th graders to a national sample, the data suggest that Utah youth use prescription narcotics at rates below the nation. Based on the data, both lifetime and 30 day non-medical use of prescription narcotics seem to be on the decline from 2007 to 2011. For example, among 12th graders lifetime use in 2007

Figure 4.18:

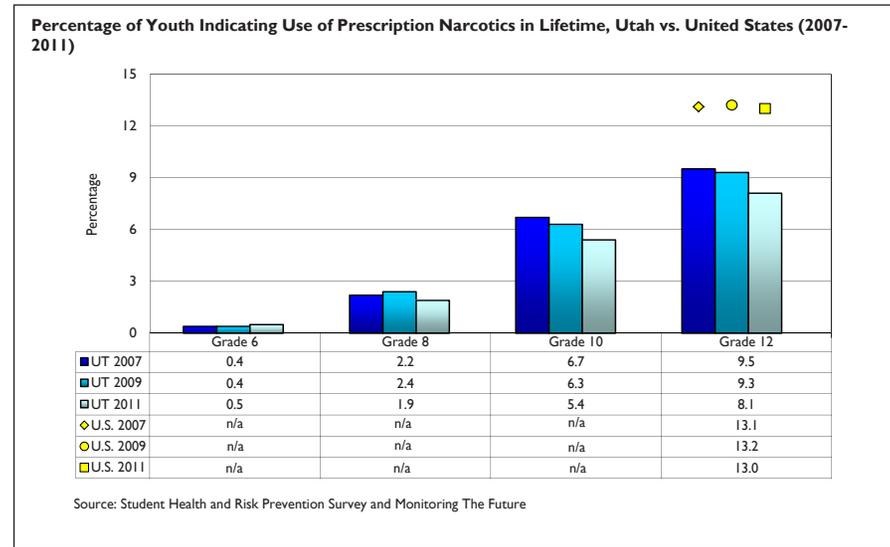
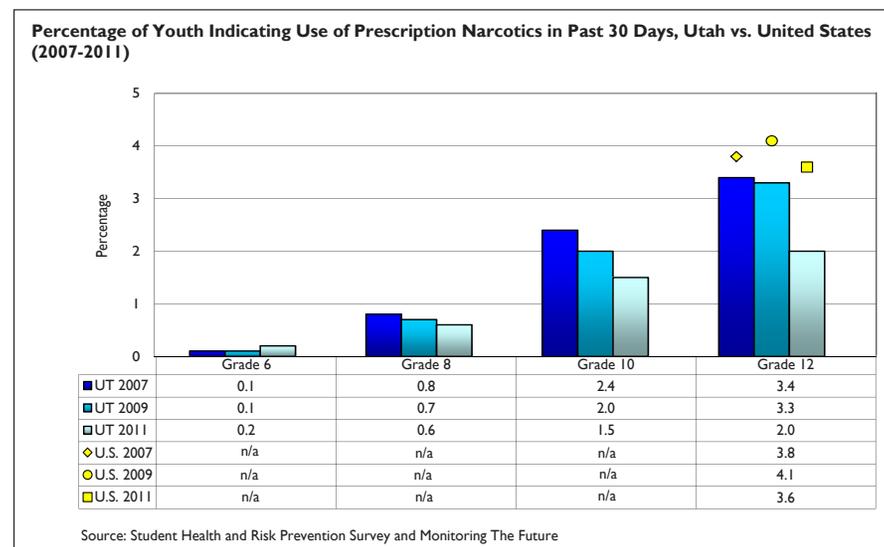


Figure 4.19:



Youth Illicit Drug Consumption: Sedative Use

Figures 4.20 and 4.21 present the percentage of youth indicating sedative use in their lifetime and in the past 30 days for Utah by grade, and the U.S. (grade 12 only) between 2007 and 2011. In comparing Utah 12th graders to the nation, Utah had a higher rate of sedative use both lifetime and in the past 30 days. On the bright side, there is clear decreasing trend in sedative use among Utah youth for both lifetime and 30 day use. This is particularly true for 10th and 12th grade youth where use has been more prevalent.

Figure 4.20:

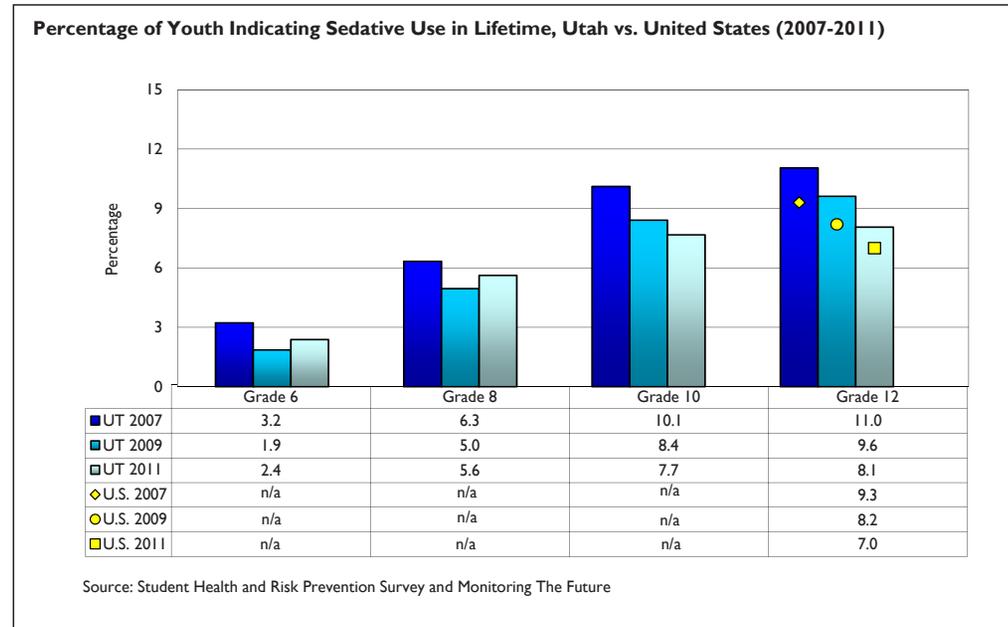
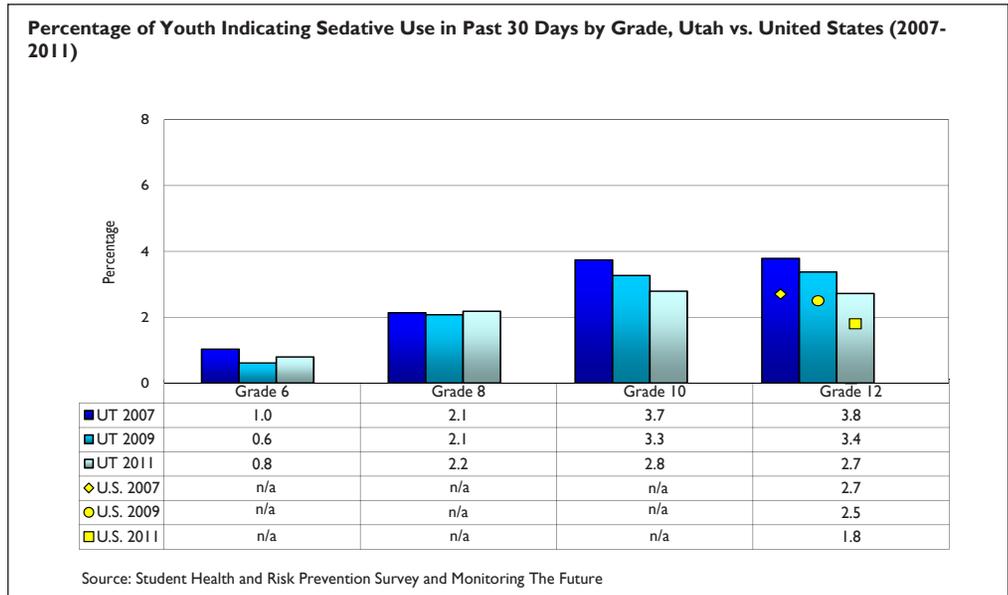


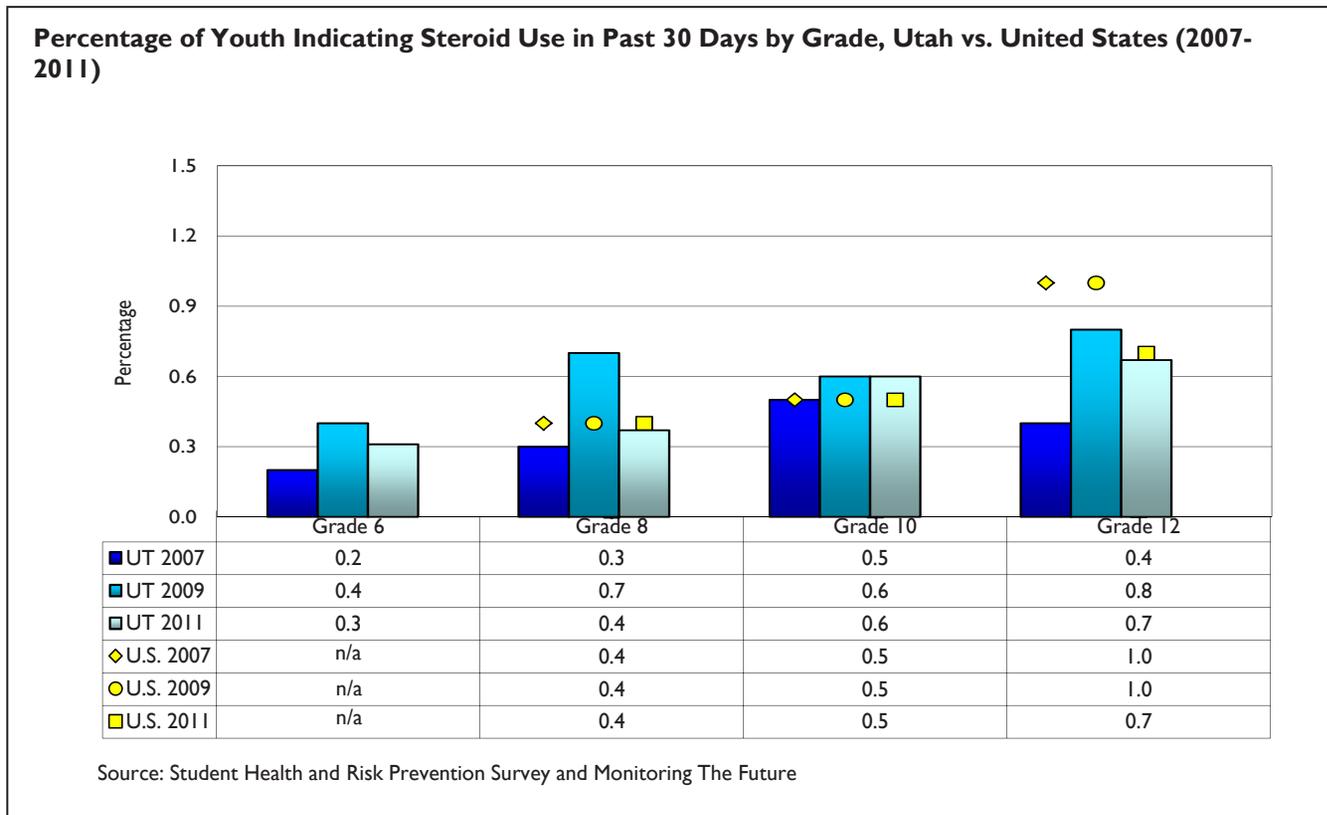
Figure 4.21:



Youth Illicit Drug Consumption: Past Month Steroid Use

The SHARP survey includes an item measuring past 30 day use of steroids, but discontinued the item measuring lifetime use in 2007. Figure 4.22 present the percentage of Utah and U.S. students indicating the use of steroids in the past 30 days by grade between 2007 and 2011. Past 30 day use steroid rates did not exceed 1% for any grade, either in Utah or for the nation. Across years and grades, Utah steroid use rates were similar to national rates during this timeframe.

Figure 4.22:



Youth Illicit Drug Use by Gender and Local Substance Abuse Authority

Table 4.8 presents a comparison of past 30 day illicit drug use rates for high school youth (grades 10 and 12 combined) by gender. Rates of illicit drug use were similar among male and female high school students. Males were more likely to indicate using hallucinogens, marijuana and steroids, while females were more likely to indicate using inhalants and sedatives.

Table 4.9 presents a comparison of past 30 day illicit drug use rates for high school youth (grades 10 and 12 combined) by LSAA. While substance use rates differed quite a bit across LSAs depending on the substance of interest, some LSAs had consistently higher use rates across multiple substances. For example, Salt Lake had use rates higher than the state for eight of the ten substances listed, while Summit and Four Corners were higher than the state for six substances. On the other side of the spectrum, Utah County use rates were lower than the state for all ten drugs and Southwest was lower than the state for nine of the ten drugs.

Table 4.8:

Gender Comparisons on Past 30 Day Use of Select Illicit Drugs Among High School (Grades 10 and 12) Youth in Utah (2011)

Indicator	Male	Female	Total
Cocaine	0.6%	0.4%	0.5%
Ecstasy	2.2%	2.3%	2.2%
Hallucinogens	1.9%	1.4%	1.7%
Heroin	0.2%	0.1%	0.2%
Inhalants	0.8%	1.4%	1.1%
Marijuana	10.0%	7.6%	8.8%
Methamphetamines	0.6%	0.3%	0.5%
Prescription Narcotics	1.9%	1.6%	1.7%
Sedatives	2.0%	3.6%	2.8%
Steroids	0.9%	0.4%	0.6%

Source: Student Health and Risk Prevention Survey

Table 4.9:

Past 30 Day Use of Select Illicit Drugs Among High School (Grades 10 and 12) Youth in Utah (2011), by LSAA (2011)

Local Substance Abuse Authority (LSAA)	Cocaine	Ecstasy	Hallucinogens	Heroin	Inhalants	Marijuana	Meth-amphetamines	Prescription Narcotics	Sedatives	Steroids
Bear River District	0.5%	1.2%	1.1%	0.3%	1.1%	5.9%	0.6%	1.8%	2.5%	0.6%
Central Utah	0.3%	0.5%	1.0%	0.2%	1.3%	4.7%	0.3%	1.8%	2.3%	0.7%
Davis County	0.5%	1.7%	1.3%	0.1%	1.1%	7.3%	0.5%	1.8%	3.3%	0.7%
Four Corners District	0.5%	2.5%	3.0%	0.0%	0.8%	10.7%	0.9%	3.4%	2.4%	1.1%
Northeastern District	0.6%	1.5%	0.6%	0.4%	0.8%	4.6%	0.3%	2.7%	2.2%	0.2%
Salt Lake County	0.9%	3.4%	2.6%	0.3%	1.2%	12.4%	0.7%	2.0%	3.1%	0.6%
San Juan County	0.0%	0.0%	0.6%	0.0%	2.9%	3.9%	1.6%	0.0%	5.1%	0.0%
Southwest District	0.2%	1.2%	0.6%	0.2%	0.9%	7.0%	0.4%	0.9%	2.4%	1.1%
Summit County	0.8%	2.5%	1.5%	0.3%	0.5%	13.7%	0.5%	2.1%	2.1%	1.0%
Tooele County	0.5%	3.3%	1.5%	0.1%	1.2%	12.3%	0.3%	2.7%	2.7%	0.8%
Utah County	0.3%	1.4%	0.8%	0.0%	1.1%	4.4%	0.2%	1.1%	1.7%	0.5%
Wasatch County	0.3%	1.6%	1.6%	0.3%	1.8%	8.5%	0.4%	2.5%	2.4%	0.7%
Weber and Morgan Counties	0.1%	2.4%	2.3%	0.1%	0.9%	11.2%	0.3%	2.0%	3.7%	0.6%
State	0.5%	2.2%	1.7%	0.2%	1.1%	8.8%	0.5%	1.7%	2.8%	0.6%

Source: Student Health and Risk Prevention Survey

Illicit Drug Consequences: Overview

Illicit drug use is associated with a variety of negative consequences at the individual, family and societal levels. In this section of the epidemiological profile report data related to the consequences of illicit drug use are presented. These data fall into two general categories: drug related mortality and morbidity and drug related crime. While these data do not tell nearly the entire story regarding the consequences of illegal drug use, they do provide insight regarding the toll that illegal drug use puts on the State of Utah and its citizens.

Illicit Drug-Related Mortality Indicator: Drug Overdose/Poisoning Deaths

Data regarding mortality associated with drug overdoses and poisonings are available from three sources. Each source produces counts independently and differences in the numbers reported for any given year reflect differences in the method of counting deaths. The first data source for drug overdose deaths is the National Vital Statistics System (NVSS). NVSS data are available at both the state and national levels as well as for counties with populations over 100,000. As such, NVSS data are very useful for making national and state comparisons. A second source of drug related death data is the Drug Abuse Warning Network (DAWN), which tracks drug related trends in participating states, one of which is Utah. DAWN data are available at both the state and county levels, making it particularly useful for examining trends at sub-state levels. Finally, the Utah Department of Public Health's Prescription Pain Medication Program provides estimates of drug overdose deaths based on data from the Utah Medical Examiner's Office. These data provide a breakdown of deaths resulting from illicit drugs vs. non-illicit drugs. All of these data sources are valuable for understanding trends in mortality associated with drug overdoses and poisonings.

Illicit Drug-Related Mortality Indicator: Drug Overdose/Poisoning Deaths

Figure 4.23 compares the rate of drug overdose deaths in Utah and the nation. As seen in the figure, while the nation had an increasing rate of drug poisoning deaths, Utah's rate increased at a more dramatic pace from 2000 to 2007. Utah's rate of drug poisoning deaths doubled, from 9.4 deaths per 100,000 population in 2000, to nearly 20 deaths per 100,000 population in 2007. The actual number of deaths more than doubled during this timeframe, from 210 deaths in 2000 to 511 deaths in 2007. NVSS data alone, however, provide only a partial picture of drug poisoning deaths. Fortunately, more recent data available through the Drug Abuse Warning Network and the Utah Department of Health (presented next) suggest that drug poisoning deaths peaked in 2007 and decreased through 2010.

Figure 4.24 and 4.25 present the percentage of drug poisoning deaths associated with each gender and age group for 2003-2007, combined. Drug poisoning deaths were more likely to affect males than females, with 60% of deaths associated with males. In regards to age, young to middle aged individuals were most likely to die from drug poisoning. About 85% of drug poisoning deaths were associated with individuals between the ages of 21 and 54.

Figure 4.23:

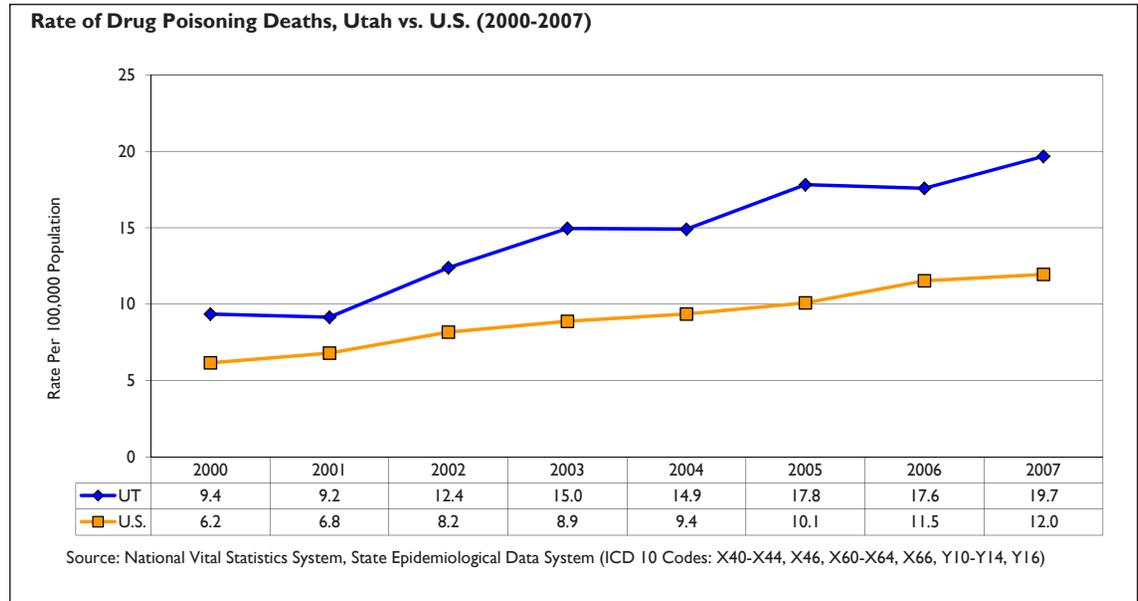


Figure 4.24:

% of Drug Poisoning Deaths by Gender (2003-2007)

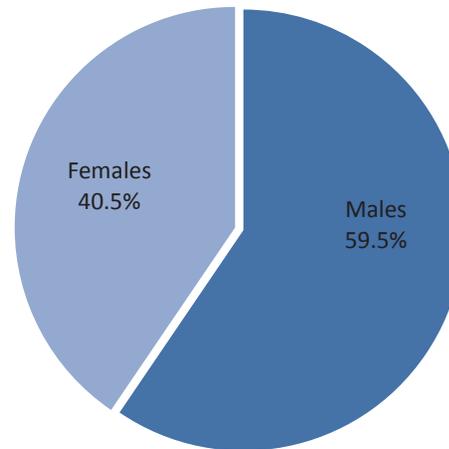
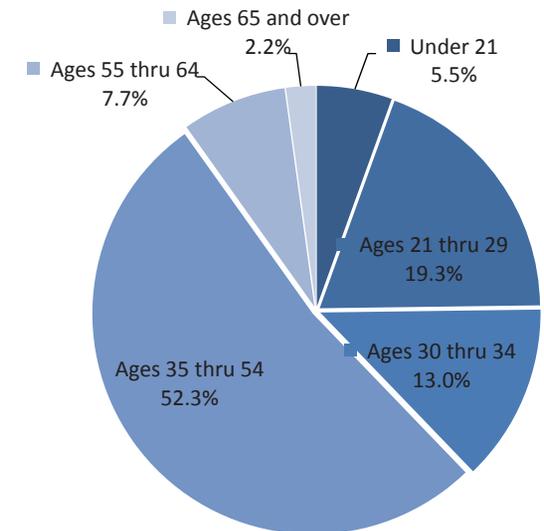


Figure 4.25:

% of Drug Poisoning Deaths by Age Group (2003-2007)



Illicit Drug-Related Mortality Indicator: Drug Poisoning Deaths

Table 4.10 presents the number of drug poisoning deaths in each LSAA from 2000-2011 in three year aggregates. Areas with rates higher than the state for 2009-2011 included Central, Four Corners, Salt Lake, Tooele, and Weber-Morgan. It is important to note that the number and rate of drug poisoning deaths in Utah appear to have decreased from 2006-2008 to 2009-2011. This potential change in the state trend was not detectable using data from the NVSS, because the most recent data available from that source were from 2007. Hopefully, this signals that drug poisoning deaths have hit their peak within the state and mortality associated with drug poisonings will decline in the coming years.

Table 4.10:
Number and (Age Adjusted) Rate of Drug Poisoning Deaths by LSAA (2000-2011)

Local Substance Abuse Authority (LSAA)	2000-2002		2003-2005		2006-2008		2009-2011	
	Number	Rate per 100,000 Population						
Bear River District	21	6.6	46	12.8	49.0	12.7	52	12.0
Central Utah	17	10.6	36	21.8	36.0	20.0	34	17.6
Davis County	66	9.8	88	11.9	145.0	18.4	109	13.1
Four Corners District	24	22.2	26	25.1	35.0	30.0	37	33.4
Northeastern District	17	15.6	21	18.5	22.0	18.6	14	11.3
Salt Lake County	359	14.0	530	19.7	616.0	21.3	532	17.7
San Juan County	0	0.0	**	**	**	**	**	**
Southwest District	29	8.6	68	15.9	88.0	18.1	82	15.4
Summit County	**	**	9	8.9	8.0	7.2	18	16.2
Tooele County	14	12.3	27	19.5	31.0	22.0	28	17.3
Utah County	79	7.7	183	16.4	212.0	17.2	217	16.6
Wasatch County	**	**	7	13.8	15.0	24.1	7	10.2
Weber and Morgan Counties	53	9.4	105	17.4	135.0	21.6	141	20.8
State of Utah	686	11.3	1,148	17.3	1394.0	19.4	1,273	16.7

Source: Utah Indicator Based Information System for Public Health (ICD 10 Codes: X40-X44, X46, X60-X64, X66, Y10-Y14, Y16)

**Estimate suppressed by IBIS because the relative standard error is greater than 50%, the observed number of events is very small, or it could be used to calculate the number in a cell.

Illicit Drug-Related Mortality Indicator: Drug Related Deaths and Suicides

Figure 4.26 presents data from the Drug Abuse Warning Network (DAWN) regarding the number and rate of drug related deaths and suicides in Utah from 2003-2010. In looking at the trend for Utah in drug related deaths, DAWN data suggest that drug related deaths in Utah hit a peak in 2007 and have begun to decline, reversing the upward trend that was evident from 2003 to 2007. In fact, the rate of drug poisoning deaths in Utah for 2010 had dropped back to 2003 levels. While there were still far too many deaths resulting from drug poisonings in 2010, this emerging trend is very welcome news for the state.

DAWN provides additional contextual information about drug related deaths, including the type of drug involved and the manner of intent. Figure 4.27 shows the percentage of drug related deaths by manner of intent in 2010, while Figure 4.28 shows the percentage of deaths by type of drug involved.

Figure 4.26:

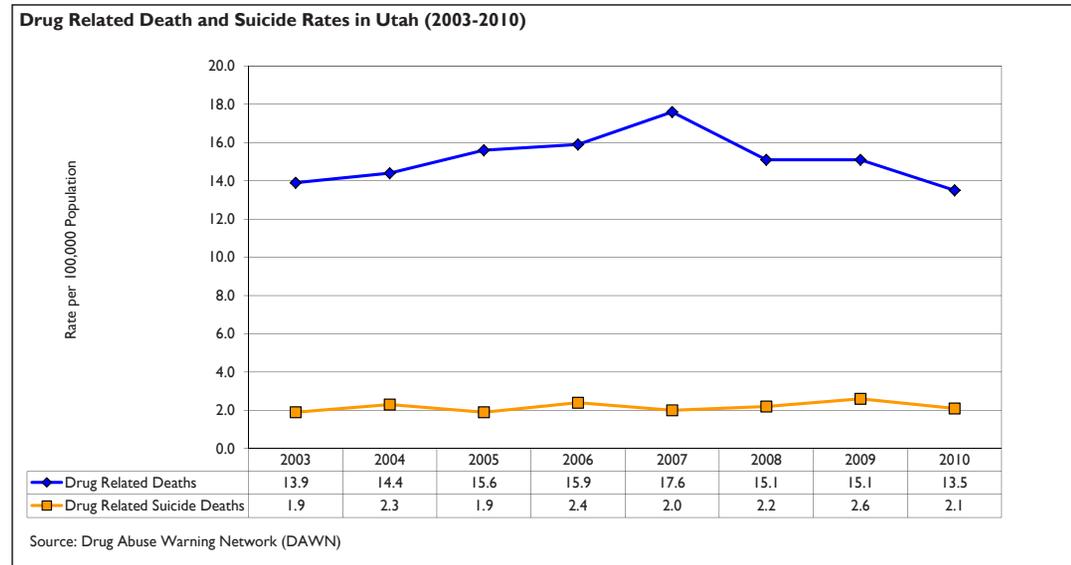


Figure 4.27:

% of Drug Related Deaths by Manner of Intent (2010)

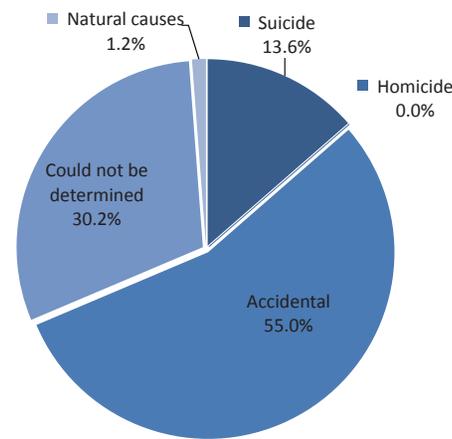
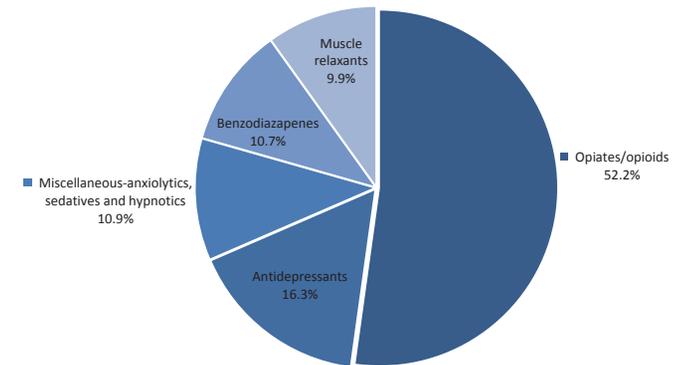


Figure 4.28:

% of Drug Related Deaths by Type of Drug* (2010)



*Percentages reflect cases of death involving the five most commonly involved types of drugs (single drug and multiple drug cases combined).

Illicit Drug-Related Mortality Indicator: Drug Related Deaths and Suicides

The number of drug related deaths and suicides for each county in Utah are available through the DAWN. These data were aggregated to allow examination of the number of drug related deaths in each LSAA. Table 4.11 presents the total number of deaths from 2008 to 2010 combined and the corresponding rate for each of the LSAA's across this timeframe. Given its large population, Salt Lake County had the highest number of drug related deaths, followed by Utah County and Weber-Morgan District. LSAA's with rates higher than the state included: Central, Four Corners, Salt Lake, Summit and Weber-Morgan.

Table 4.11:
Number and Rate of Drug Related Deaths and Suicides in Each Local Substance Abuse Authority (2008-2010 Combined)

Local Substance Abuse Authority	Drug Related Deaths		Drug Related Suicides	
	Deaths	Rate per 100,000 Population	Deaths	Rate per 100,000 Population
Bear River District	43	8.6	3	0.6
Central Utah	33	15.2	3	1.4
Davis County	114	12.7	21	2.3
Four Corners District	25	20.8	5	4.2
Northeastern District	13	8.8	3	2.0
Salt Lake County	536	17.3	94	3.0
San Juan County	2	4.4	2	4.4
Southwest District	77	12.8	9	1.5
Summit County	17	15.4	3	2.7
Tooele County	25	14.4	3	1.7
Utah County	176	10.9	25	1.5
Wasatch County	7	10.9	1	1.6
Weber and Morgan Counties	141	19.6	20	2.8
Total	1209	14.6	192	2.3

Source: Drug Abuse Warning Network (DAWN)

Illicit Drug-Related Mortality Indicator: Accidental or Undetermined Intent Drug Poisoning Deaths

Finally, data collected from the Office of the Medical Examiner (OME) by the Utah Department of Health illustrate the rising trend of non-illicit drug deaths in Utah until 2007, and subsequent decline. Figure 4.29 presents the number of poisoning deaths resulting from non-illicit drugs, illicit drugs and a combination of illicit and non-illicit drugs from 2001 to 2011. The chart shows the dramatic increase in drug poisoning deaths resulting from non-illicit drugs that began around 2001, rising from less than 100 deaths in 2001 to a peak level of 312 in 2007. According to the Utah Department of Health, most non-illicit drugs are attributable to opioid based pain medications available with a prescription (e.g., methadone, oxycontin, fentanyl, etc.). The number of deaths resulting from illicit drugs (only) remained relatively stable over that same time. Prior to 2002, the number of deaths due to illicit and non-illicit drugs was quite similar, but non-illicit drug deaths have clearly been more prevalent since 2002. Figure 4.30 presents the OME drug death trend data in rate form.

Figure 4.29:

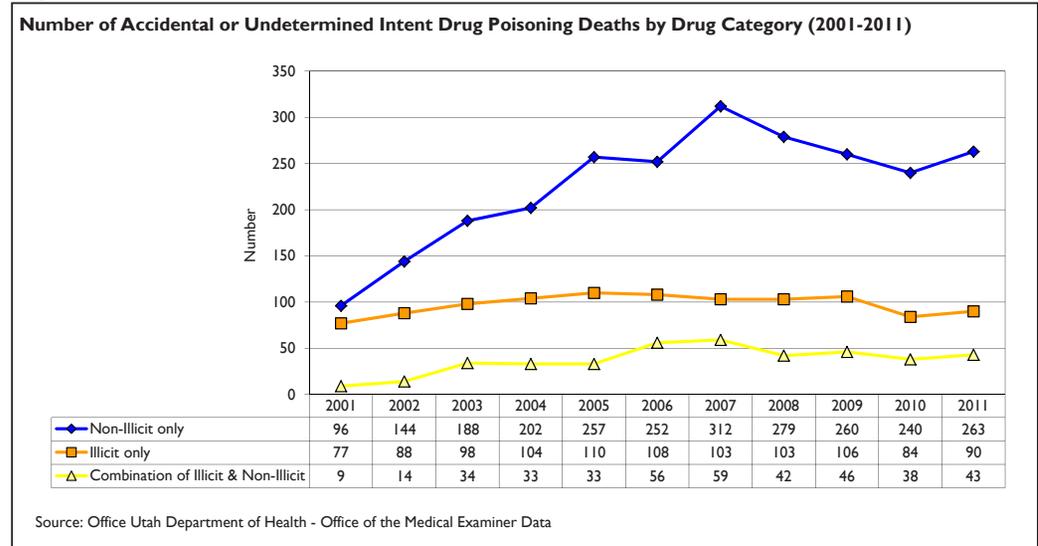
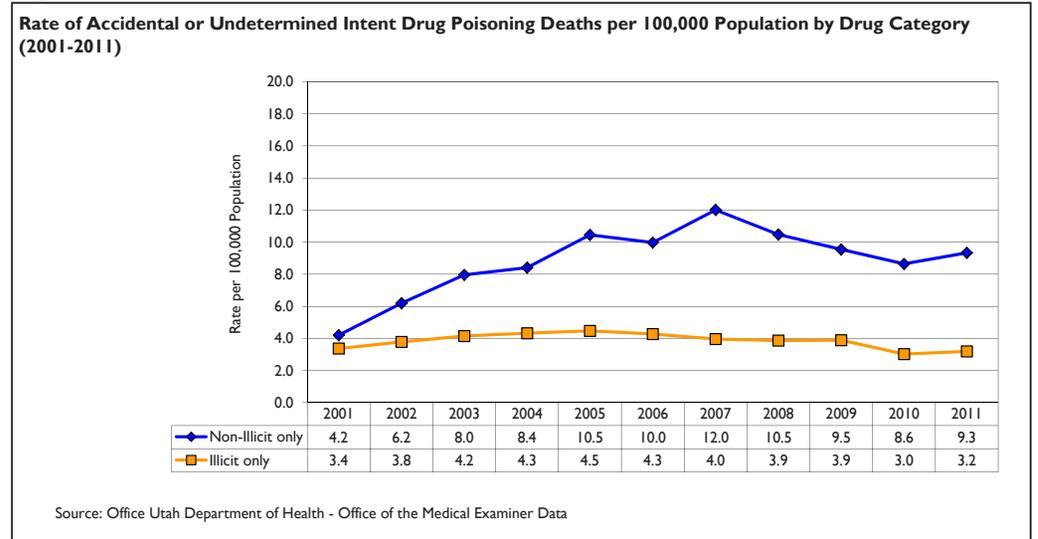


Figure 4.30:



Illicit Drug-Related Morbidity Indicator: Drug Poisoning Emergency Department Encounters

Not all drug overdoses and poisonings result in death. Data from the Utah Emergency Department Encounter Database provide information regarding the number of emergency department encounters that result from drug poisonings. Figure 4.31 presents the rate of emergency department (ED) encounters for drug poisoning in Utah from 1999-2010 in 3 year aggregates. The data show a clear upward trend from 1999-2001 to 2005-2007, but it appears to have stabilized after 2007 which is somewhat consistent with the drug poisoning mortality indicators presented earlier.

Figures 4.32 and 4.33 present the percentage of drug poisoning emergency room encounters for 2008-2010 by gender and age. Interestingly, while drug poisoning deaths were more often associated with males, the opposite is true of drug poisoning emergency room encounters where 60% were associated with females. This may suggest that females are more likely to seek medical help when drug complications occur or in situations involving potential overdose. In regards to age, drug poisoning ER encounters are associated with all age groups at significant levels. However, a disproportionately larger percentage of cases are associated with individuals between the ages of 15 and 34.

Figure 4.31:

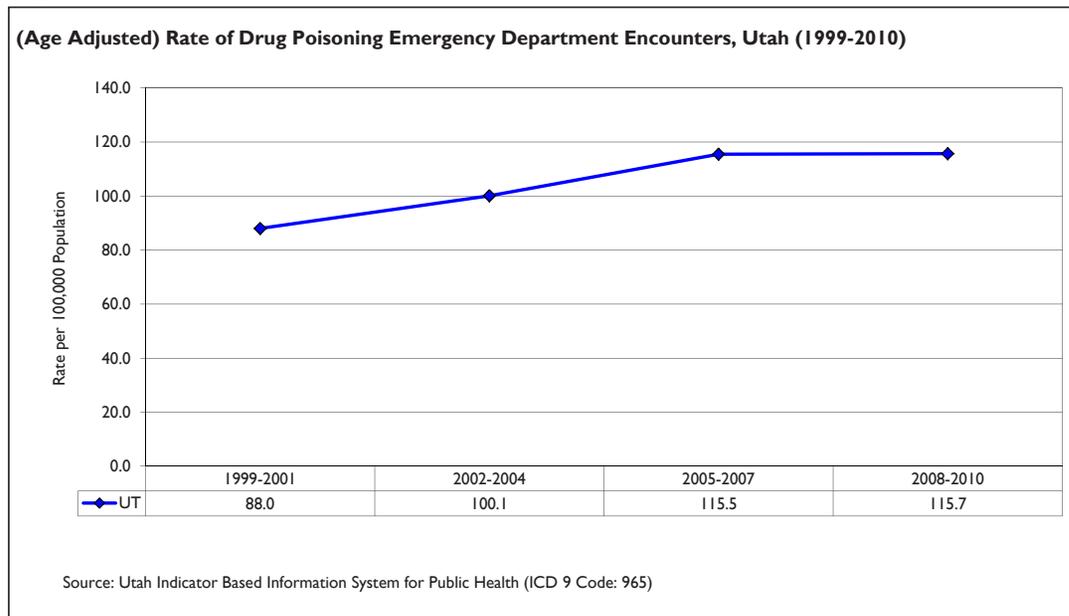


Figure 4.32:

% of Drug Poisoning ER Encounters by Gender (2008-2010)

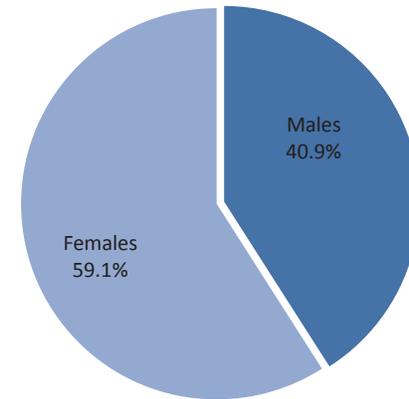
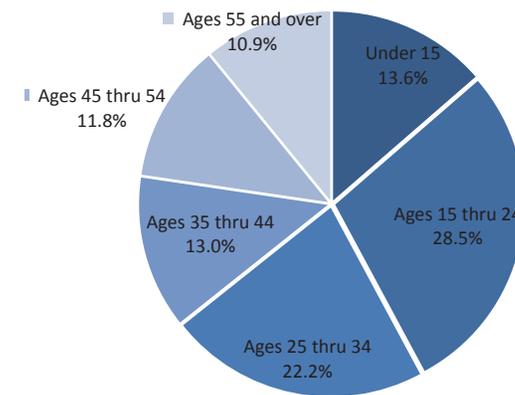


Figure 4.33:

% of Drug Poisoning ER Encounters by Age Group (2008-2010)



Illicit Drug-Related Morbidity Indicator: Drug Poisoning Emergency Department Encounters

Table 4.12 presents the number and rate of drug poisoning emergency room encounters by LSAA from 1999 to 2010 in three year aggregates. As the LSAA with the largest population, Salt Lake County had the highest number of drug poisoning emergency department encounters in each time period, and also consistently had a rate above the state rate. For 2008-2010, other districts with rates higher than the state included Four Corners, Tooele, and Weber-Morgan.

Table 4.12:
Number and (Age Adjusted) Rate of Drug Poisoning Emergency Department Encounters by LSAA (1999-2010)

Local Substance Abuse Authority (LSAA)	1999-2001		2002-2004		2005-2007		2008-2010	
	Number	Rate per 100,000 Population						
Bear River District	369	77.1	342	68.2	347	71.8	454	91.3
Central Utah	164	76.6	199	97.9	231	109.0	230	105.8
Davis County	688	86.9	749	90.1	955	109.7	990	108.0
Four Corners District	117	96.6	148	131.7	152	132.2	164	136.1
Northeastern District	100	80.8	130	96.9	140	98.7	149	91.8
Salt Lake County	3,066	104.6	3,386	114.3	3,812	126.5	4,115	131.4
San Juan County	23	53.0	17	44.7	16	36.7	18	46.9
Southwest District	343	75.1	423	86.0	620	112.5	605	102.5
Summit County	58	63.0	55	55.1	63	64.9	60	57.6
Tooele County	102	75.4	156	109.6	226	149.5	247	149.4
Utah County	977	73.1	1320	92.1	1735	116.8	1626	102.0
Wasatch County	25	48.7	30	54.7	36	57.3	41	60.2
Weber and Morgan Counties	508	77.0	709	106.4	851	124.5	959	134.9
State of Utah	6,540	88.0	7,664	100.1	9,184	115.5	9,658	115.7

Source: Utah Indicator Based Information System for Public Health (ICD 9 Code: 965 [Any field])

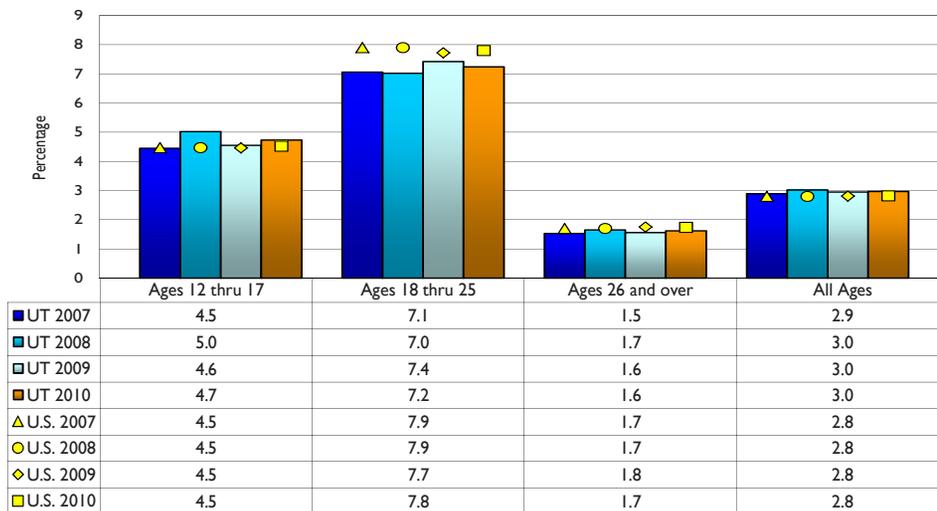
Illicit Drug-Related Morbidity Indicator: Illicit Drug Abuse and Dependence

Another form of morbidity associated with illicit drug use is drug abuse and/or dependence. The National Survey on Drug Use and Health (NSDUH) provides yearly national and state level estimates of alcohol, tobacco, illicit drug, and non-medical prescription drug use, including estimates regarding the number of people meeting criteria for drug dependence and abuse. Figure 4.34 provides data comparing Utah to the United States on the percentage of survey respondents that were classified as drug dependent or abusing drugs by age group between 2007 and 2010. Abuse and dependence are clinical terms used to characterize patterns of alcohol use associated with significant social, psychological, and physical problems for the user and/or others that may be negatively impacted by the user.

Overall, data for all ages combined suggest that the prevalence of persons meeting criteria for drug dependence or abuse is similar for both Utah and the U.S. In comparing specific age groups to the nation, Utah rates tend to be higher for the 12-17 population, slightly lower for the 18-25 population, and virtually the same for the 26 and over population. Within the state, the younger age groups clearly have higher percentages of individuals who meet criteria for drug abuse/dependence. The trends within the state appear to be stable across all age groups.

Figure 4.34:

Percentage of Persons Meeting Criteria for Drug Dependence or Abuse, By Age Group, Utah vs. U.S. (2007-2010)

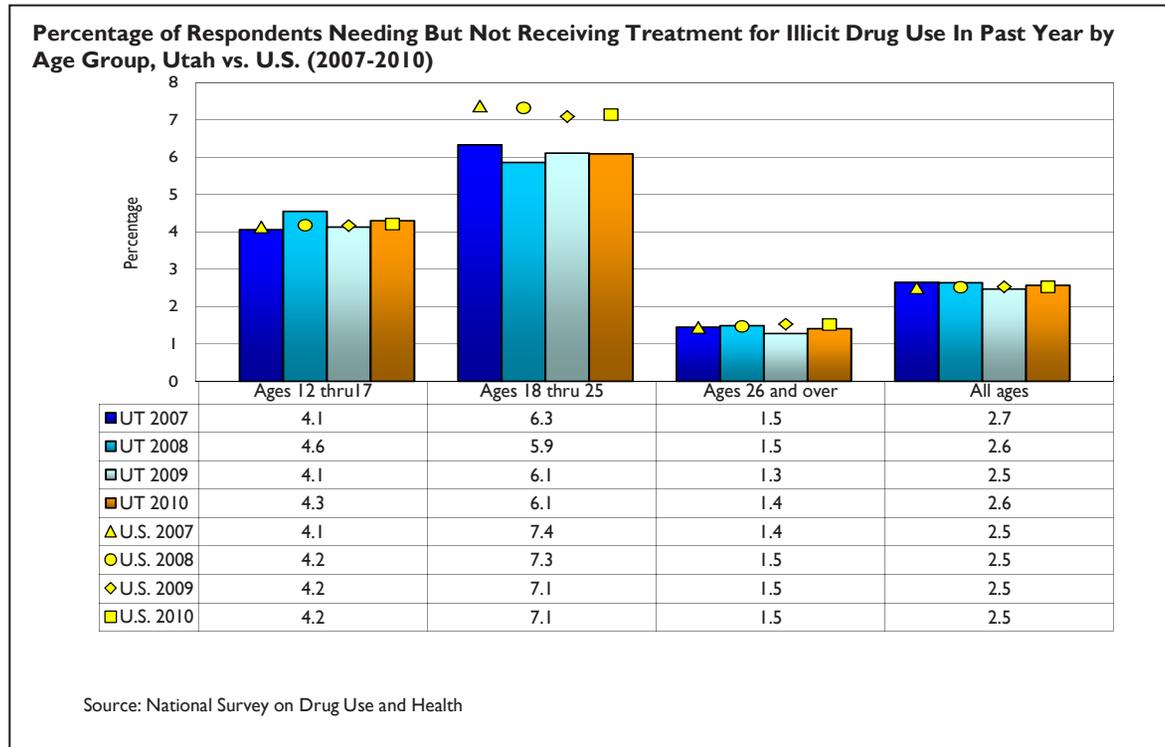


Source: National Survey on Drug Use and Health

Illicit Drug-Related Morbidity Indicator: Utahns in Need of Treatment But Not Receiving Treatment for Illicit Drug Use

Figure 4.35 compares the percentage of respondents who were classified as needing treatment for illicit drug use, but who did not receive treatment. These data show the same pattern as the abuse and dependence data above, with rates for 12-17 year olds being slightly higher than the nation, rates for 18-25 year olds being slightly lower and the overall rates being nearly identical to the nation.

Figure 4.35:



Illicit Drug-Related Morbidity Indicator: College Students in Need of Treatment

The Utah Higher Education Health Behavior Survey includes questions regarding their need for drug treatment among college and university students. Table 4.13 lists the questions and the percentage of students who responded yes to each need for treatment question. The last line of the table indicates that, based on the aggregate responses to the need for treatment questions included on the survey, about 3% of Utah higher education students need drug abuse treatment (students who responded affirmatively to three or more of the six questions were classified as in need for treatment).

Table 4.13:

Need for Drug Treatment Among Utah College Students (2007)

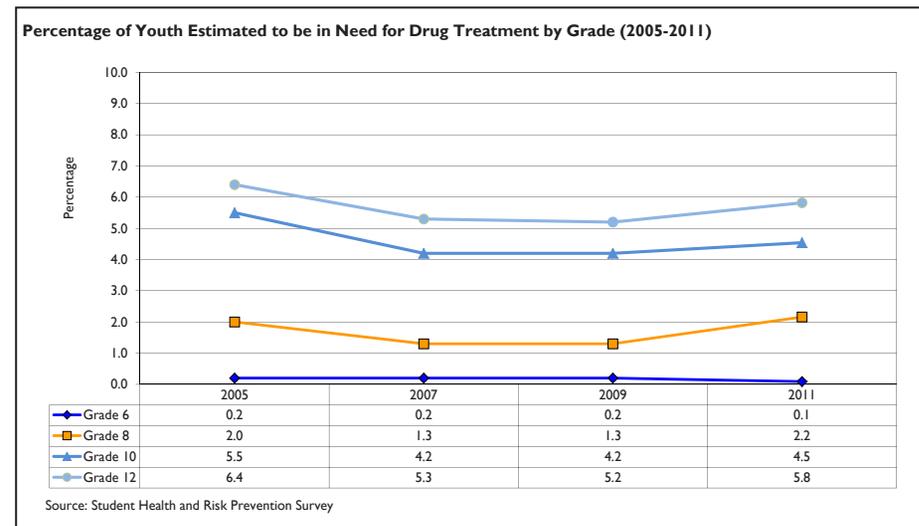
Need for Treatment Symptoms: In the past 12 months, have/has...	Responding Yes
You spent more time using drugs than you intended?	1.9%
You neglected responsibilities because of drug use?	1.9%
You wanted to cut down on drug use?	2.8%
Anyone objected to your drug use?	2.4%
You frequently thought about using drugs?	3.7%
You used drugs to relieve bad feelings?	3.9%
Needs Drug Treatment (based on above questions)	2.5%

Source: Utah Higher Education Health Behavior Survey

Illicit Drug-Related Morbidity Indicator: Youth in Need of Treatment

Estimates of the percentage of youth in need of drug treatment are provided by the Student Health and Risk Prevention (SHARP) Survey through scores on a need for drug treatment scale included in the survey. Figure 4.36 presents the percentage of youth in grades 6, 8, 10 and 12 that were classified as in need for drug treatment between 2005 and 2011. Rates for all grades were lower in 2011 when compared to 2005, and showed a similar pattern of decrease from 2005 to 2007 with a slight rebound from 2009 to 2011.

Figure 4.36:



Illicit Drug-Related Morbidity Indicator: Youth in Need of Treatment

Table 4.14 presents youth need for drug treatment data by grade for 2011 for each LSAA. For grades 10 and 12, approximately 4.5-6% of youth were estimated to be in need for drug treatment overall. Areas with higher than state rates for 10th or 12th grade include Davis (10th only), Four Corners (12th only), Salt Lake, Tooele, and Weber-Morgan.

Table 4.14:
Percentage of Youth Estimated to be in Need for Drug Treatment by Grade and LSAA (2011)

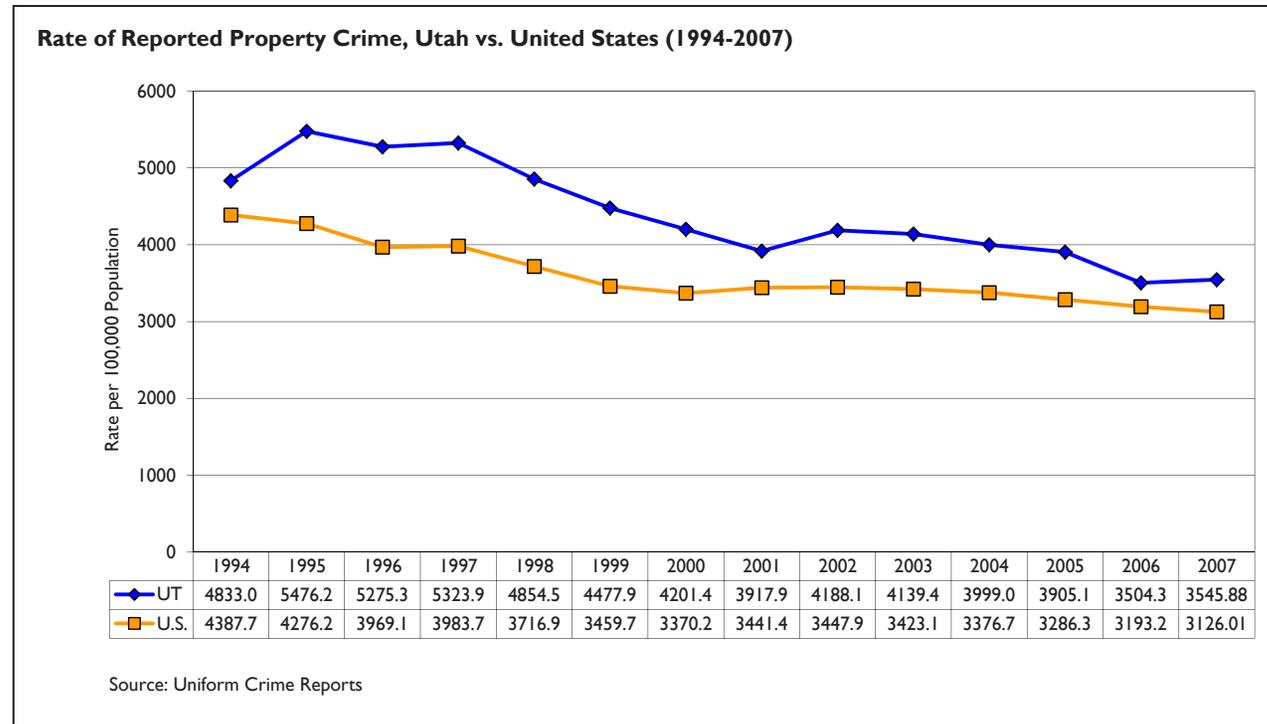
Local Substance Abuse Authority (LSAA)	Grade 6	Grade 8	Grade 10	Grade 12
Bear River District	0.1%	0.9%	1.7%	4.4%
Central Utah	0.2%	1.7%	3.0%	2.4%
Davis County	0.0%	2.3%	5.0%	5.1%
Four Corners District	0.0%	4.2%	4.3%	6.5%
Northeastern District	0.4%	1.4%	3.7%	3.1%
Salt Lake County	0.1%	3.2%	6.0%	7.8%
San Juan County	0.0%	1.0%	1.2%	0.0%
Southwest District	0.0%	1.6%	3.4%	4.3%
Summit County	0.0%	0.6%	3.7%	5.1%
Tooele County	0.2%	2.2%	6.0%	6.3%
Utah County	0.0%	0.9%	2.3%	4.2%
Wasatch County	0.0%	1.3%	4.2%	3.1%
Weber and Morgan Counties	0.2%	2.5%	7.0%	7.4%
State of Utah	0.1%	2.2%	4.5%	5.8%

Source: Student Health and Risk Prevention Survey

Illicit Drug-Related Crime: Property Crime

According to the Center for Substance Abuse Prevention’s State Epidemiological Data System (SEDS), approximately 30% of property crimes are attributable to illegal drug use. Presented in this section of the epidemiological profile report are data reflecting the number of reported property crimes. These data come from the federal Uniform Crime Reports (UCR) System via the SEDS. Property crime is defined by the UCR as an index measure combining the following indicators: a) burglary, b) larceny and c) motor vehicle theft. Please note, however, that it is commonly accepted that reported crimes underestimate the true number of crimes that occur because not all crimes are reported by victims. Figure 4.37, below, presents the rate of reported property crimes in Utah and the U.S. from 1994 to 2007. As seen in the figure, the rate of reported property crime in Utah has been consistently higher than the national rate since at least 1994, but the trend is toward a decreasing rate of crime over time.

Figure 4.37:



Illicit Drug-Related Crime: Property Crime

The rate of reported property crime across the state varies considerably from LSAA to LSAA. Figure 4.15 provides the number and rate of property crimes for each of Utah's LSAs. Salt Lake County had the highest number and highest rate of reported property crimes for both 2006 and 2007. Weber-Morgan had the second highest rate of property crimes followed by Summit County.

Table 4.15:
Number and Rate of Property Crime Reports by LSAA (2006-2007)

	2006		2007	
	Number	Rate per 100,000 Population	Number	Rate per 100,000 Population
Bear River District	3,041	2,037.9	2,590	1,693.5
Central Utah	1,349	1,926.1	1,237	1,725.0
Davis County	6,319	2,266.5	6,657	2,309.6
Four Corners District	1,010	2,569.7	946	2,367.5
Northeastern District	979	2,153.1	868	1,825.6
Salt Lake County	49,255	5,094.7	50,746	5,158.6
San Juan County	77	562.9	68	484.7
Southwest District	3,690	1,979.3	4,798	2,475.5
Summit County	1,176	3,434.4	1,197	3,454.8
Tooele County	1,267	2,461.0	1,345	2,499.0
Utah County	11,549	2,576.2	12,550	2,672.6
Wasatch County	231	1,113.0	277	1,293.6
Weber and Morgan Counties	8,559	3,872.9	8,834	3,903.0
State of Utah	88,502	3,504.3	92,113	3,545.9

Source: Uniform Crime Reports, State Epidemiological Data System

Section 5:

Special Report: Shared Risk Factors for Substance Abuse And Mental Health



Section 5 Contents:

Overview

Preliminary Work on Shared Risk and Protective Factors
Available Data Related to Shared Risk and
Protective Factors

Overview

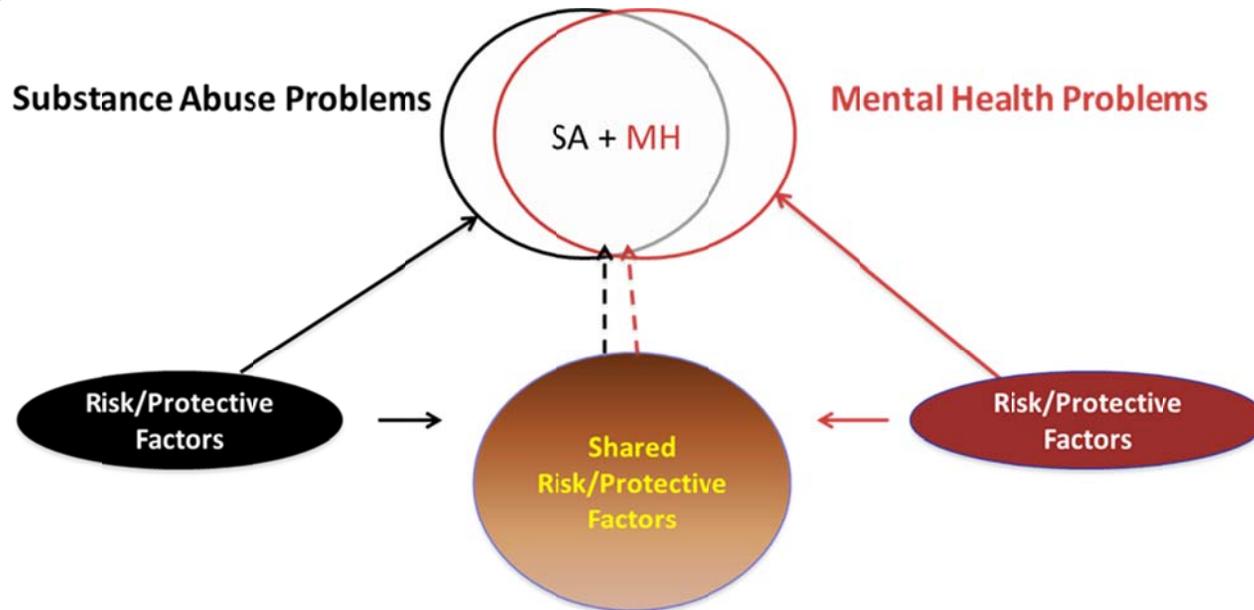
Among the primary goals of the Substance Abuse and Mental Health Services Administration (SAMHSA) is to improve the behavioral health of communities and citizens across the nation, including the prevention and treatment of substance abuse and mental health disorders. SAMHSA has recently begun to highlight the important relationship between substance abuse and mental health issues, and the following section of this report focuses on risk and protective factors common to both mental health and substance abuse disorders. Existing research suggest that the co-occurrence of mental health and substance problems within individuals is common. At the national level, the SAMHSA's National Survey of Drug Use and Health (NSDUH) reported that 45% of individuals with a substance abuse disorder also had a co-occurring mental health issue as well in 2010. Moreover, the Center for Mental Health Services estimates that approximately 8.7 million adults have co-occurring substance abuse and mental health disorders. Within this context, SAMHSA has worked to identify risk and protective factors that are common (or shared) between mental health and substance abuse prevention. Given the relatively limited resources available for implementing both substance abuse and mental health prevention services, identifying shared risk and protective factors that have the potential to reduce both problems has great appeal, and opens the door for greater levels of collaboration in implementing mental health and substance abuse prevention initiatives.

The use of risk and protective factors for understanding and addressing substance abuse has a long history within the prevention field. SAMHSA's Center for Substance Abuse Prevention (CSAP) long promoted the use of the Risk and Protective Factor Model of Adolescent Problem Behavior (Hawkins, Catalano, & Miller, 1992) as the basis for data driven strategic prevention planning. This model identifies risk factors that predict or influence the occurrence of problem behaviors in adolescence such as substance abuse, delinquency and school dropout, as well as protective factors that buffer individuals from risk and reduce the likelihood of problem behaviors. Other influential risk and protective factor models in the substance abuse prevention field include the Search Institute's Developmental Assets model, and the general causal model of alcohol, tobacco and illicit drug use that guided much of the work of the Strategic Prevention Framework State Incentive Grant program (Birckmayer, et al, 2004). Similarly, within the mental health prevention field, work has been conducted to identify risk and protective factors that predict mental health disorders.

Overview, Cont.

In order to facilitate and promote the use of shared risk and protective factors by prevention professionals, the CSAP assembled the Behavioral Health Indicator Workgroup (BHIW) in 2012 to identify risk and protective factors common to both mental health and substance abuse outcomes (see Figure 5.1), as well as indicators available for monitoring them. At the current time, the work of the BHIW remains a work in progress, but the initial foundations of a guidance model for addressing shared risk and protective factors is starting to take shape. In this section of the report, a summary of the work of the BHIW is provided, as well as some initial data available for understanding shared risk and protective factors within the state of Utah.

Figure 5.1:

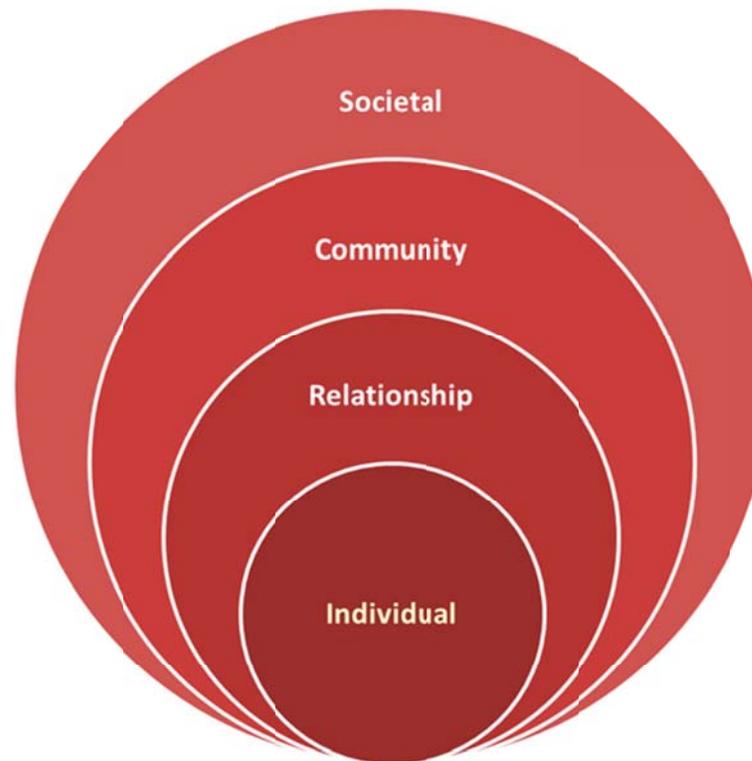


Source: SAMHSA Center for the Application of Prevention Technologies Behavioral Health Indicator Workgroup

Preliminary Work on Shared Risk and Protective Factors

The BHIW utilized an ecological approach in developing a framework for risk and protective factors shared by substance abuse and mental health. This ecological approach identifies four levels that interrelate from an inner most level of the individual to an outermost level of society (see Figure 5.2). Within each level of this ecological framework, several domains are specified each with one or more variables associated with it. As mentioned previously, this framework for shared risk and protective factors is still in development. Below is a list of the risk and protective factors identified thus far by the BHIW. As the work of the BHIW continues, refinements to the framework are likely, and changes (both additions and exclusions) to the list of variables are expected.

Figure 5.2:



Source: SAMHSA Center for the Application of Prevention Technologies Behavioral Health Indicator Workgroup

Shared Risk and Protective Factors for Substance Abuse and Mental Health Disorders: Individual Level

Factors in the individual level include biological and personal history factors such as age, education, income health and psychosocial issues.

Table 5.1:

Domain	Shared Risk Factors	Shared Protective Factors
Employment	Job loss	Stable/steady employment
	Unemployment	Part-time employment for youth, older adults
Health Issues	Chronic pain	Health promotion
	Traumatic brain injury	Preventive health care/screening
	HIV/AIDS	
	Prenatal alcohol exposure	
	Illness/poor physical health	
Housing	Residential instability	Stable housing
	Shelterless/homeless	
Income	Poverty	
	Low household income/ financial problems	
Psychosocial Issues	Poor self-esteem	Self-esteem
	Aggression/hostile to peers	
	Alienation	
	Difficult temperament	
	Rebelliousness	
	High stress	
	Insecure attachment	
Grief/death of a loved one		
Religiosity/Spirituality		Religiosity/spirituality

Shared Risk and Protective Factors for Substance Abuse and Mental Health Disorders: Relationship Level

Factors in the relationship level include close relationships including a person’s closest social circle peers, partners and family members.

Table 5.2:

Domain	Shared Risk Factors	Shared Protective Factors
Adverse Childhood Experiences (ACES)	Psychological abuse	
	Physical abuse	
	Sexual abuse	
	Household member w/ substance use disorder	
	Household member w/ mental illness	
	Incarcerated household member	
	Divorced parents	
	Witnessed domestic violence	
Family Conflict/ Disruption	Family conflict	
	Family dysfunction and disruption	
Harsh and/or Inconsistent Parenting	Harsh discipline	
	Inconsistent parenting	
	Lack of discipline	
	Low parental warmth	
	Parental hostility	
Parental Involvement	Low parental support	Parental encouragement
	Maternal inattention	Parental support and bonding
		Positive involvement and reinforcement
Positive Involvement with Other Adults		Frequent contact with other relatives
		Access to mentors
Partner/Marital Problems	Critical, unsupportive partner	
	Significant other with substance use, mental health or co-occurring disorder	
	Ever abused by a sexual partner	
	Spousal divorce	
Peer Interaction	Bullying	
	Association of deviant peers	
	Peer rejection	
	Poor peer relationships	
Social Connectivity	Lack of social support	Social support
	Social isolation/deprivation	
Lifetime Abuse/ Assault	Physical abuse	
	Sexual abuse/rape	

Shared Risk and Protective Factors for Substance Abuse and Mental Health Disorders: Community Level

Factors in the community level include settings such as schools, workplaces and neighborhoods.

Table 5.3:

Domain	Shared Risk Factors	Shared Protective Factors
Community Stress/Violence	Chronic community disorganization and stress (crime, economy)	
	Acute community stressful events (school shootings, natural disasters)	
	Exposure to violence (violent crime, gangs, etc.)	
School	Poor grades/achievement	
	Problems/difficulties in school	
	School transition	
	Truancy	
Workplace	Problems at work	
	Military (active duty, combat, redeployment)	
Community Involvement		Participation in social activities
		Participation in religious/spiritual activities
		Volunteering

Shared Risk and Protective Factors for Substance Abuse and Mental Health Disorders: Societal Level

Factors in the societal level include broad societal factors, including social and cultural norms, as well as health, economic, education and social policies that help maintain economic and social inequalities between groups in society.

Table 5.4:

Domain	Shared Risk Factors	Shared Protective Factors
Prejudice	Prejudice and perceived discrimination	
Culture	Lack of cultural identify	Culture

Available Data Related to Shared Risk and Protective Factors

The Utah State Epidemiological Outcomes Workgroup (SEOW) has begun to identify data for measuring shared risk and protective factors available in Utah. Because work on shared risk and protective factors is still in the developmental stage, the amount of available data related to factors identified by the BHIW is still relatively small. Several challenges exist in identifying Utah data relevant to shared risk and protective factors. Guidance provided by the BHIW regarding measures for shared risk and protective factors has recently become available, but is currently limited to a partial set of the factors identified. Additionally, many of the suggested indicators are only available at the state level for Utah (limiting their utility for planning community level activities), and many others are not available at all. Given the recent nature of the work on shared risk and protective factors the SEOW must rely on existing data sources for measuring shared risk and protective factors as no measures have been developed specifically to measure these constructs. In many cases, the level of “fit” between existing data/indicators and shared risk factors only allow existing measures to serve as approximate measures, and in other cases, no measures exist that provide a reasonable fit. Furthermore, the Utah SEOW has lacked sufficient time to thoroughly examine potential data sources for each risk factor identified by the BHIW. For example, the Utah SEOW is working to develop criteria for determining the relevance and quality of indicators to be used as measures of shared risk and protective factors, but does not currently have such criteria in place. In these respects, the work of the SEOW to identify data sources for shared risk and protective factors at the state level very much mirrors work by the BHIW at the national level in that the information presented below should be considered a work in progress, and revisions are to be expected.

With that said, the Utah substance abuse prevention system’s strong data infrastructure serves as a valuable resource and starting point for identifying possible indicators of shared risk and protective factors. Some of the data that have been identified as potentially useful for measuring shared risk and protective factors within the state are presented below. In particular, data from the Student Health and Risk Prevention (SHARP) survey provide potential shared risk and protective factor data pertinent to the youth population within the state. These data can be especially useful for understanding risk and protection at the community level due to the ability to examine SHARP survey data at sub-state levels. For looking at shared risk and protective factor data relevant to non-youth populations, the outlook is less optimistic, but not entirely void. Data available through the adult focused Behavioral Risk Factor Surveillance System (BRFSS) conducted by the Utah Department of Health, and the U.S. Census Bureau are potentially relevant for understanding some shared risk and protective factors. Other national data sources may also be useful for understanding levels of shared risk and protective factors at the state level. However, the SEOW would like to further consider the usefulness of these data before presenting them for public consumption.

The Utah SEOW will continue to identify additional data that relates to shared risk and protective factors as the CSAP and the BHIW further develop and refine the framework for using shared risk and protective factors of mental health and substance abuse disorders. The data available on shared risk and protective factors at the current time include the following indicators (protective factors are denoted by a “-P” after the name of the factor).

Individual Level Indicators

- Unemployment
- Prenatal alcohol exposure
- Poverty/low household income
- Rebelliousness (Youth)
- Religiosity - P (Youth)

Relationship Level Indicators

- Adverse childhood experiences
- Family conflict (Youth)
- Inconsistent parenting/lack of discipline (Youth)
- Low parental support (Youth)
- Parental support and bonding – P (Youth)
- Divorce
- Bullying (Youth)
- Association with deviant peers (Youth)

Community Level Indicators

- Chronic community disorganization and stress
- Poor grades/achievement (Youth)
- Participation in social activities – P (Youth)

Societal Level Indicators

- None currently available

Individual Level Indicators: Unemployment

For the purposes of this report, the unemployment rate is defined as the percentage of the labor force that was not employed. Figure 5.3 presents the historical unemployment rates for Utah and the United States. Utah has typically had a lower rate of unemployment relative to the U.S., but the trend pattern is highly similar with low rates of unemployment prior to the economic recession of 2008 and 2009, and a decline since 2010.

Table 5.5 presents unemployment rates from 2009 to 2012 by LSAA. In 2012, Central, Four Corners, San Juan, Tooele, Wasatch and Weber-Morgan had higher rates of unemployment than the state.

Figure 5.3:



Table 5.5:

Unemployment Rate (Percentage of Labor Force Not Employed) by LSAA (2009-2012)

Local Substance Abuse Authority (LSAA)	2009	2010	2011	2012
Bear River District	6.4%	6.6%	5.7%	5.0%
Central Utah	8.2%	8.8%	7.7%	6.7%
Davis County	3.3%	6.9%	6.2%	5.3%
Four Corners District	8.5%	8.8%	8.0%	7.7%
Northeastern District	8.7%	7.8%	5.3%	4.0%
Salt Lake County	7.4%	7.8%	6.5%	5.5%
San Juan County	12.3%	12.7%	11.5%	10.7%
Southwest District	9.7%	10.2%	8.5%	7.2%
Summit County	7.3%	7.5%	6.1%	5.3%
Tooele County	8.2%	8.2%	6.9%	6.3%
Utah County	7.3%	7.9%	6.5%	5.5%
Wasatch County	8.7%	9.7%	7.9%	6.9%
Weber and Morgan Counties	8.7%	8.8%	7.7%	6.5%
State of Utah	7.6%	8.0%	6.7%	5.7%

Source: Utah Department of Workforce Services

Individual Level Indicators: Prenatal Alcohol Exposure

See Alcohol use during last 3 months of pregnancy indicator in the alcohol section of report (page 2.13).

Individual Level Indicators: Poverty/Low Household Income

The United States Census Bureau provides estimates for the percentage of the population living below the poverty level. The latest data available provide estimates for the period of 2007-2011. Table 5.6 presents these data for the Utah, the U.S., and each county within the state (regional data are not available).

Table 5.6:

Percentage of Population Living Below the Poverty Level, State, Nation and County (2007-2011)

County	2007-2011
Beaver	18.9%
Box Elder	9.1%
Cache	15.7%
Carbon	13.6%
Daggett	10.8%
Davis	7.2%
Duchesne	9.6%
Emery	8.6%
Garfield	14.2%
Grand	13.3%
Iron	20.7%
Juab	12.4%
Kane	8.3%
Millard	12.9%
Morgan	3.0%
Piute	18.1%
Rich	3.5%
Salt Lake	11.1%
San Juan	29.4%
Sanpete	15.5%
Sevier	12.4%
Summit	6.4%
Tooele	7.6%
Uintah	11.0%
Utah	12.9%
Wasatch	7.0%
Washington	11.9%
Wayne	14.5%
Weber	11.8%
State of Utah	11.4%
United States	14.3%

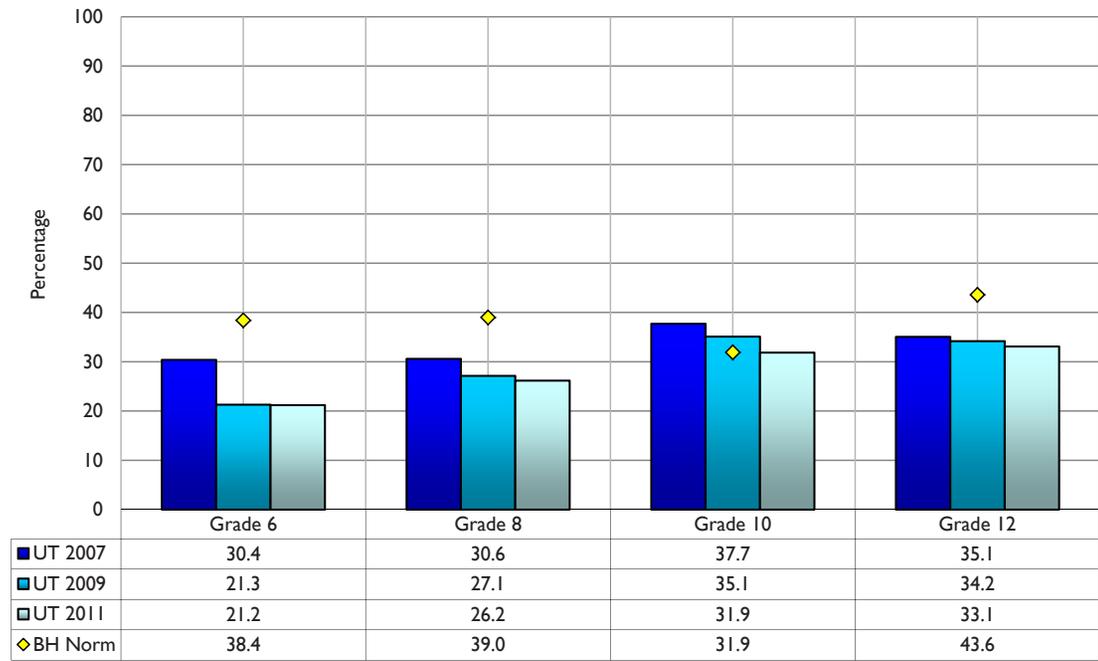
Source: United States Census Bureau

Individual Level Indicators: Rebelliousness

Data regarding rebelliousness are available through the SHARP survey for youth in grades 6, 8, 10, and 12. The survey contains a rebelliousness risk factor scale comprised of three items (“I do the opposite of what people tell me, just to get them mad,” “I like to see how much I can get away with,” “I ignore rules that get in my way”). Scale scores are used to classify youth as higher or lower risk using grade specific cut points that predict substance use and problem behaviors. Figure 5.4 presents the percentages of youth in Utah that were categorized as higher risk on the rebelliousness risk factor scale by grade. In addition to state and LSAA level data, Bach Harrison provides a national norm estimate that is based on eight states that administer a statewide survey with Bach Harrison. Overall, a smaller percentage of youth in Utah are classified as higher risk for rebelliousness than for the 8-state BH norm. The exception to the rule was 10th graders who were at or above the BH norm for all three survey years between 2007 and 2011. Regional level data for the rebelliousness risk factor scale are available by grade on the Utah State Epidemiological Outcomes Workgroup Online Data System (indicators.bach-harrison.com/utsocialindicators) by choosing the “Youth Rebelliousness” indicator.

Figure 5.4:

Percentage of Youth Identified as Higher Risk for Rebelliousness by Grade, Utah vs. BH Norm (2007-2011)

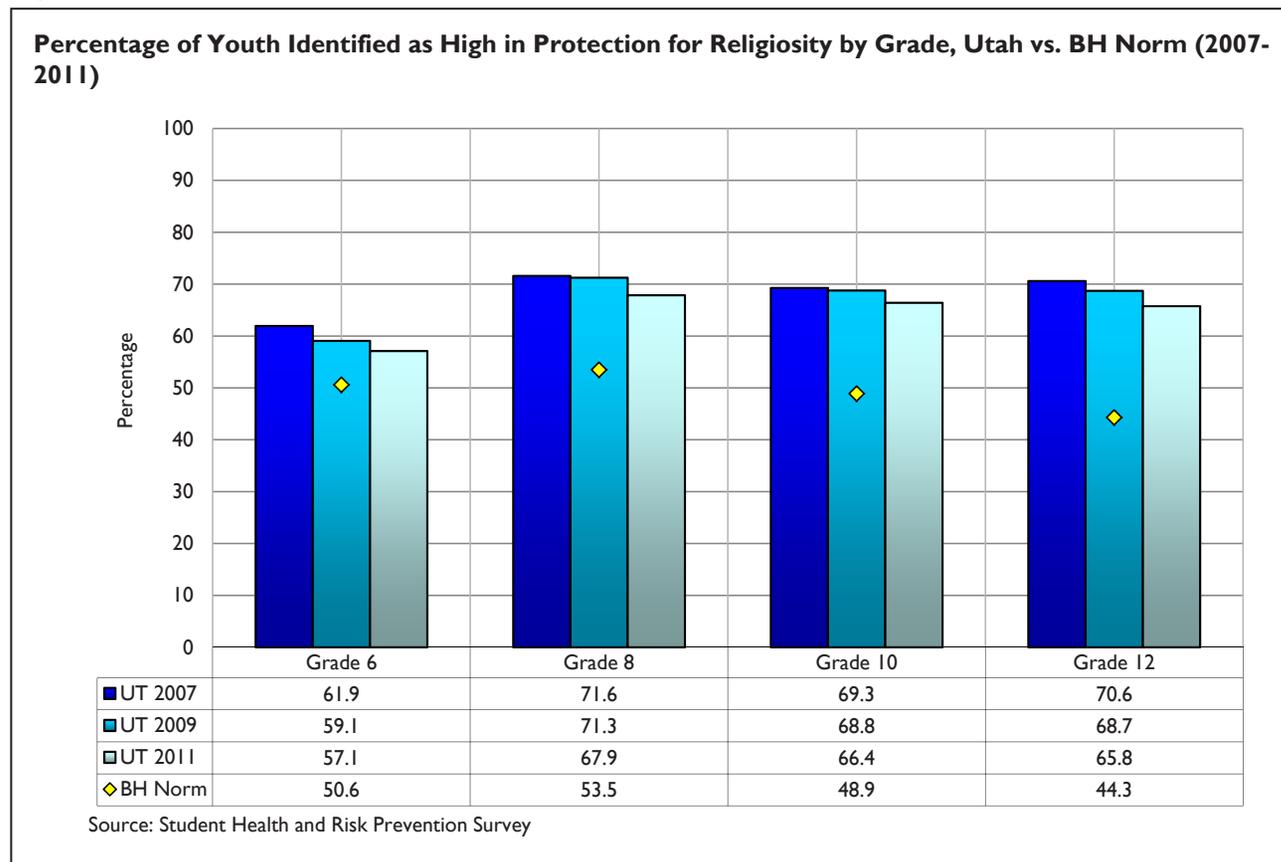


Source: Student Health and Risk Prevention Survey

Individual Level Indicators: Religiosity (Protective)

Data regarding religiosity are available through the SHARP survey. The survey contains a measure of religiosity as a protective factor by asking “How often do you attend religious services or activities?” Figure 5.5 presents the percentages of youth in Utah that were categorized as high in protection for religiosity by grade. A larger percentage of Utah youth are classified as high in protection for religiosity across all grades and years. Regional level data for the religiosity protective factor are available by grade on the Utah SEOW Online Data System by choosing the “Youth Religiosity” indicator.

Figure 5.5:



Relationship Level Indicators: Adverse Childhood Experiences

Adverse childhood experiences (ACEs) such as abuse, neglect and major family disruptions have been linked to a variety of negative physical and mental health outcomes including substance abuse and mental health disorders⁹. Furthermore, the literature on ACEs clearly illustrates that ACEs have a cumulative impact; that is, the greater number of ACEs an individual endures during their childhood, the greater likelihood of negative health outcomes. In 2009, the Centers for Disease Control and Prevention developed an 11-question module for the BRFSS to measure ACEs which was available for states to include in their state BRFSS administrations. The ACEs module including retrospective questions asking about whether individuals experienced (or how often) each of the following: living with a mentally ill person, living with someone who used/abused drugs, living with someone who abused alcohol, living with someone who served time in jail or prison, domestic violence, verbal abuse, physical abuse, being touched sexually, having to touch an adult sexually, rape, and divorce or separation of parents. For each respondent, an ACE score can be calculated by adding the number of ACEs they experienced during their childhood as a measure of cumulative ACEs.

In 2010, the ACEs module was included in the administration of the Utah BRFSS. Table 5.7 presents the percentage of respondents who indicated experiencing each type of ACE during their childhood, while Table 5.8 presents the percentage of participants who fall into three ACE score levels. An examination of the data shows that verbal abuse was by far the most commonly reported ACE, while rape was the least reported. Some types of ACEs are equally common across males and females (physical abuse, witnessing domestic violence, divorce, and verbal abuse). However, ACEs of a sexual nature were reported by females at much higher rates than males. While almost half of Utahns reported experiencing zero ACEs during their childhood, approximately 60% experienced at least one ACE. In terms of high risk cumulative ACE scores, about 10% of the sample indicated having 5 or more ACEs, with a slightly larger percentage of females indicating an ACE score of 5 or greater. While the data on ACEs are limited only to this one year, they represent a potentially promising tool for the prevention field to examine in the future in addressing both substance abuse and mental health disorders.

Relationship Level Indicators: Adverse Childhood Experiences, Cont.

Table 5.7:
Percent of Respondents Indicating Adverse Childhood Experiences, by Gender (2010)

Indicator	Male	Female	Total
Verbal abuse	37.4%	38.3%	37.9%
Physical abuse	17.7%	16.5%	17.1%
Touched sexually by an adult	5.9%	12.0%	9.0%
Made to touch an adult sexually	4.6%	9.7%	7.3%
Raped	0.8%	5.0%	2.9%
Witness domestic violence	12.2%	12.6%	12.4%
Parents divorced or separated	20.6%	18.1%	19.3%
Lived with someone who spent time in jail/prison	8.1%	4.1%	6.1%
Lived with someone who was mentally ill	19.7%	22.3%	21.0%
Lived with someone who abused alcohol	14.9%	17.8%	16.4%
Lived with someone who used/abused drugs	14.5%	9.7%	12.0%

Source: Utah Behavioral Risk Factor Surveillance System Survey

Table 5.8:
Percent of Respondents Indicating Three Levels of Adverse Childhood Experience Scores, by Gender (2010)

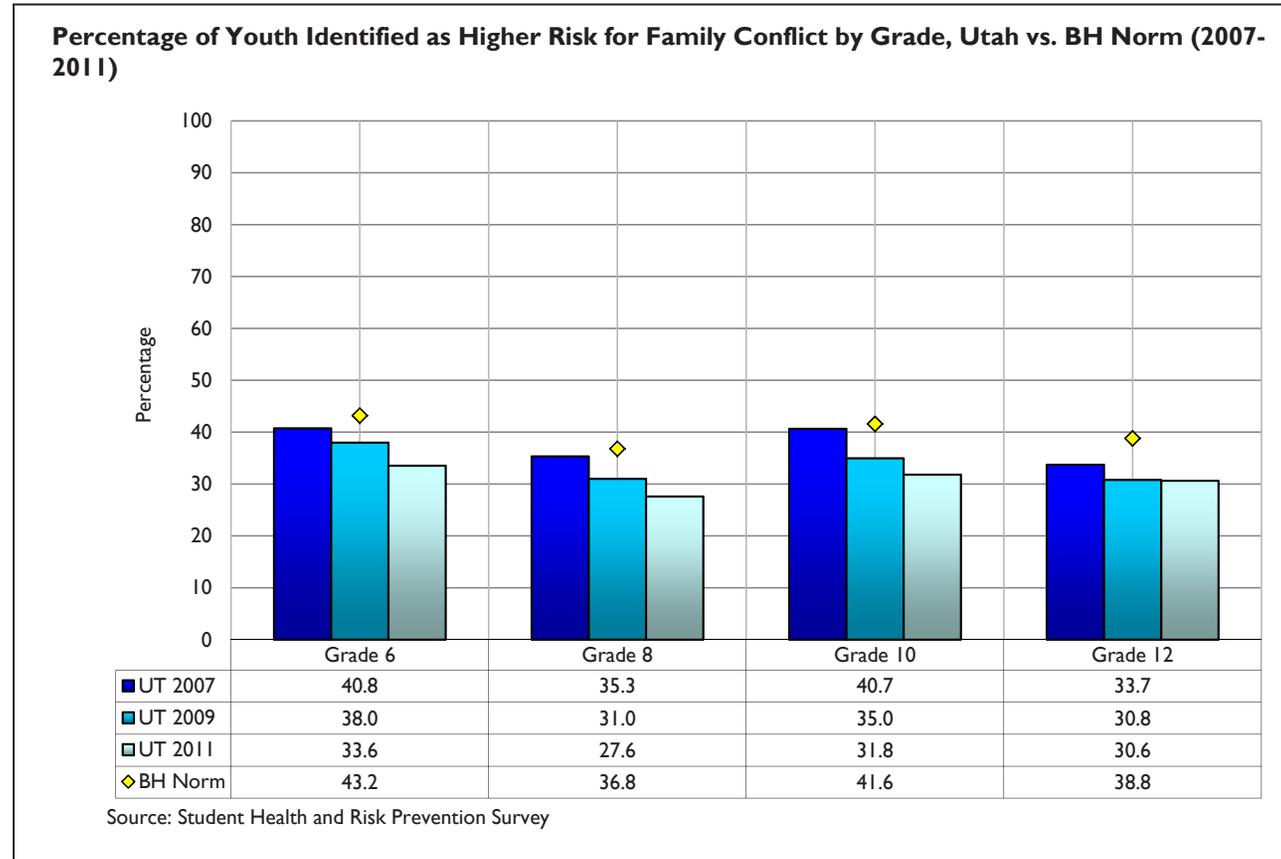
ACE Score	Male	Female	Total
0 ACEs	40.3%	41.9%	41.1%
1-4 ACEs	50.9%	46.8%	48.8%
5 or more ACEs	8.7%	11.3%	10.1%

Source: Utah Behavioral Risk Factor Surveillance System Survey

Relationship Level Indicators: Family Conflict

Data regarding family conflict are available through the SHARP survey. The survey contains a family conflict risk factor scale comprised of three items (“People in my family often insult or yell at each other,” “We argue about the same things in my family over and over,” “People in my family have serious arguments”). Scale scores are used to classify youth as higher or lower risk using grade specific cut points that predict substance use and problem behaviors. Figure 5.6 presents the percentages of youth that were categorized as higher risk on the family conflict risk factor scale by grade. A decreasing trend in youth classified as higher risk for family conflict is seen in grades 6, 8 and 10 from 2007 to 2011. Additionally, a smaller percentage of youth in Utah are classified as higher risk for family conflict than for the 8-state BH norm. Regional level data for the family conflict risk factor are available by grade on the Utah SEOW Online Data System by choosing the “Youth Family Conflict” indicator.

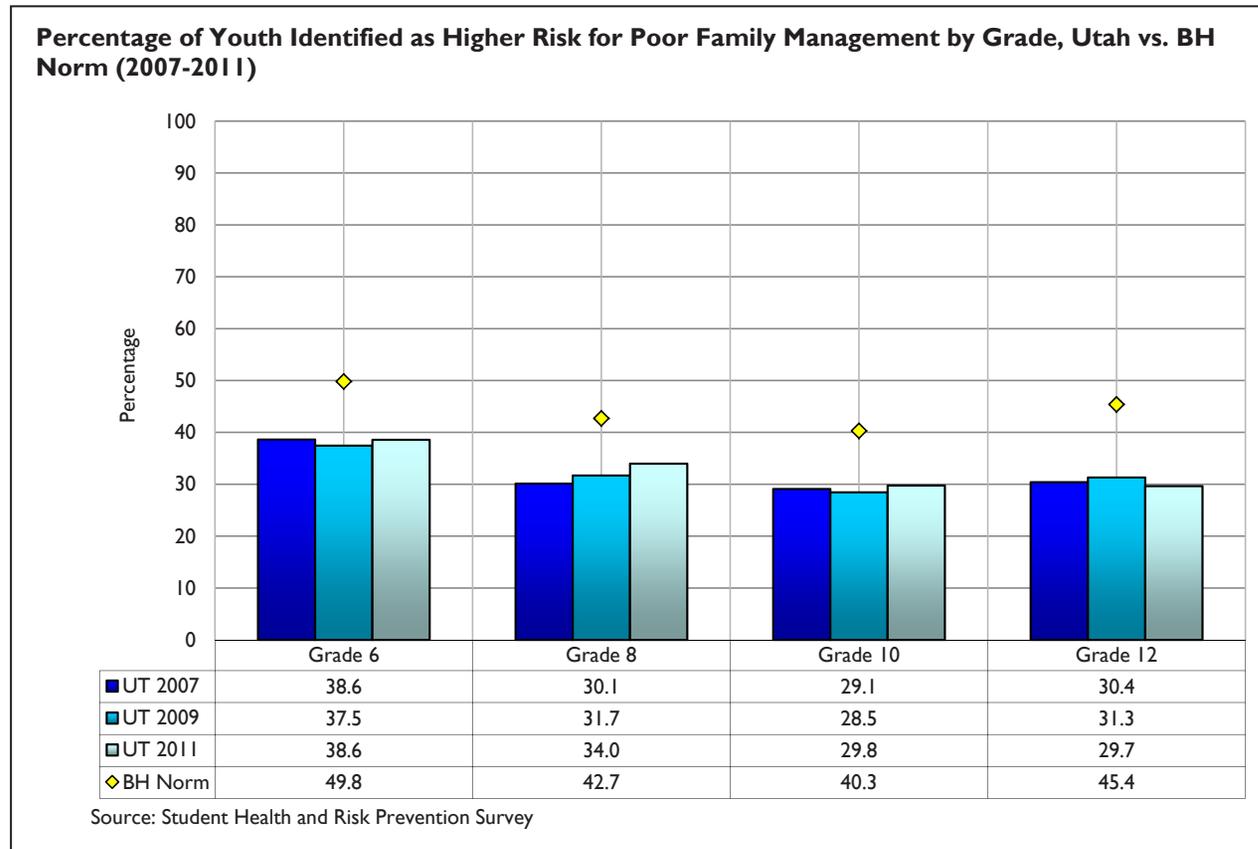
Figure 5.6:



Relationship Level Indicators: Inconsistent Parenting/Lack of Discipline

Data related to inconsistent parenting and lack of discipline are available through the SHARP survey. The survey contains a poor family management risk factor scale comprised of eight items (e.g., “The rules in my family are clear,” “If you drank alcohol without your parents’ permission, would you be caught by your parents,” “Would your parents know if you did not come home on time”). Scale scores are used to classify youth as higher or lower risk using grade specific cut points that predict substance use and problem behaviors. Figure 5.7 presents the percentages of youth that were categorized as higher risk on the poor family management risk factor scale by grade. Overall, a smaller percentage of youth in Utah are classified as higher risk for poor family management than for the 8-state BH norm. Regional level data for the poor family management risk factor are available by grade on the Utah SEOW Online Data System by choosing the “Youth Poor Family Management” indicator.

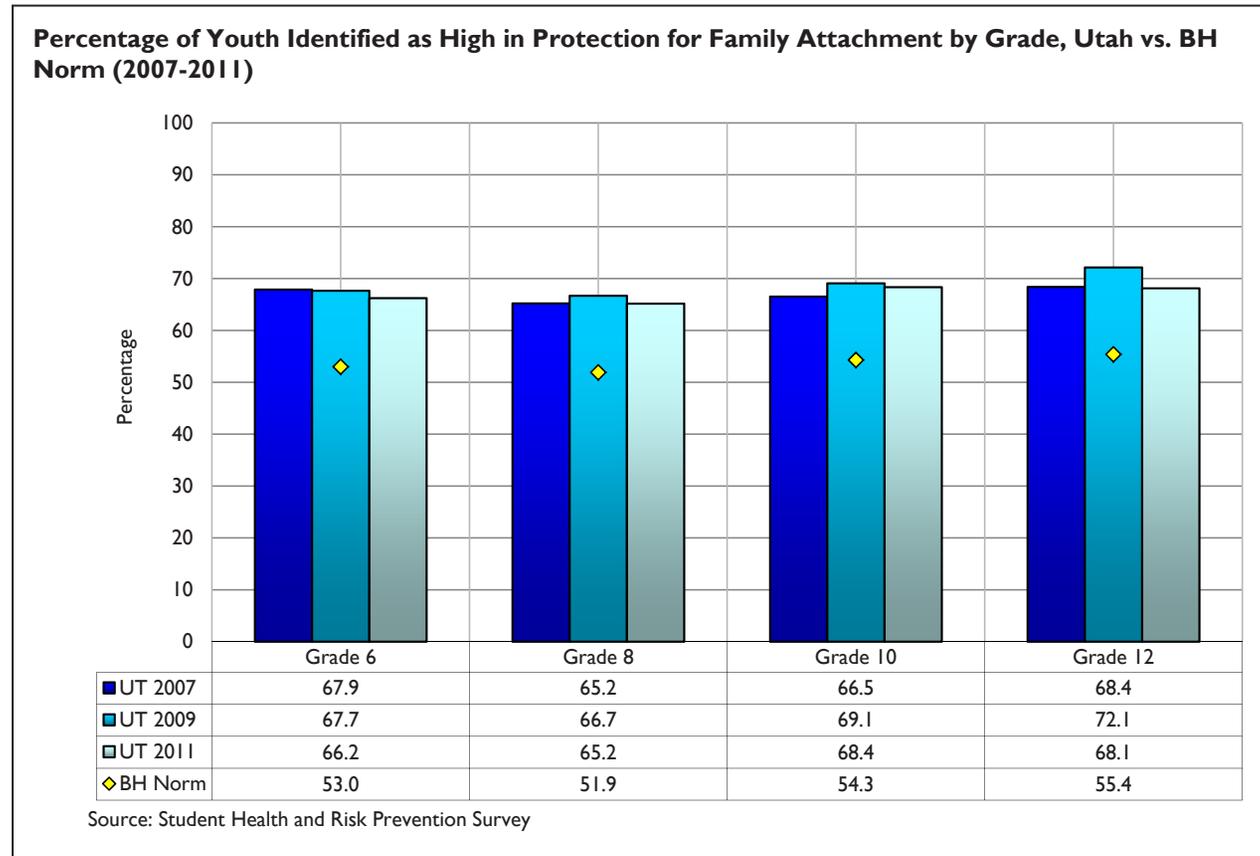
Figure 5.7:



Relationship Level Indicators: Parent Support and Bonding (Protective)

Data related to parent support and bonding are available through the SHARP survey. The survey contains a family attachment protective factor scale comprised of four items (“Do you feel very close to your mother,” “Do you share your thoughts and feelings with your mother,” “Do you feel very close to your father,” “Do you share your thoughts and feelings with your father,”). Scale scores are used to classify youth as high in protection using grade specific cut points that predict substance use and problem behaviors. Figure 5.8 presents the percentages of youth that were categorized as high in protection on the family attachment protective factor scale by grade. Overall, a greater percentage of youth in Utah are classified as high in protection for family attachment than for the 8-state BH norm. Regional level data for the family attachment protective factor are available by grade on the Utah SEOW Online Data System by choosing the “Youth Family Attachment” indicator.

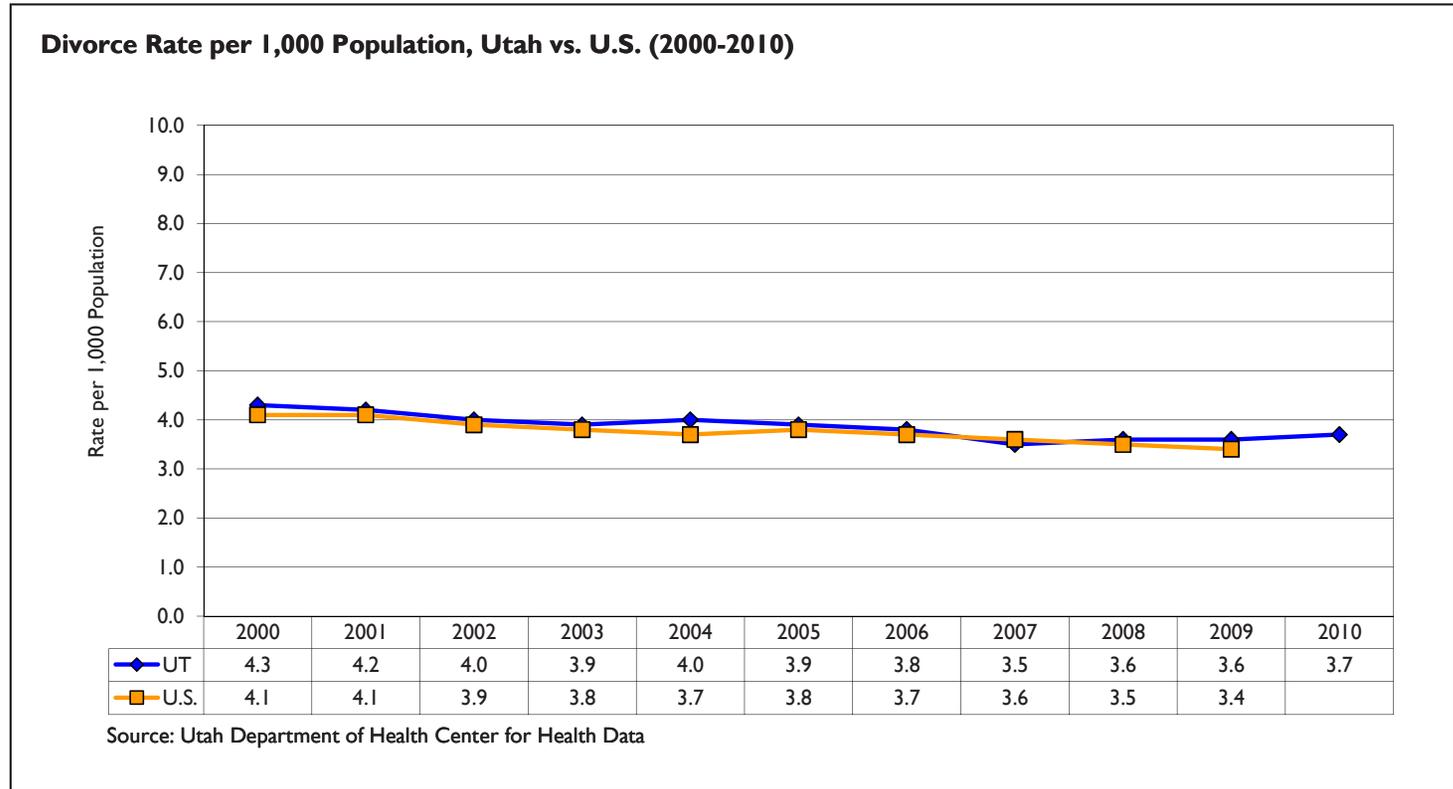
Figure 5.8:



Relationship Level Indicators: Divorce

As seen in Figure 5.9, the rate of divorce in Utah is very similar to the U.S. rate of divorce. Overall, there has been a small decline in the divorce rate since 2000, but rates have remained relatively stable since 2006.

Figure 5.9:



Relationship Level Indicators: Divorce by LSAA

Table 509 presents divorce rates from 2009 and 2010 by LSAA. The range of divorce rates across Utah regions from 2009 to 2010 was .6 divorces per 1,000 population (Summit in 2009) to 5.4 (Tooele in 2010). Regions with higher than state rates of divorce across both 2009 and 2010 include Central, Four Corners, Northeastern, Salt Lake, Tooele, and Weber-Morgan.

Table 5.9:
Divorce Rate per 1,000 Population by LSAA (2009-2010)

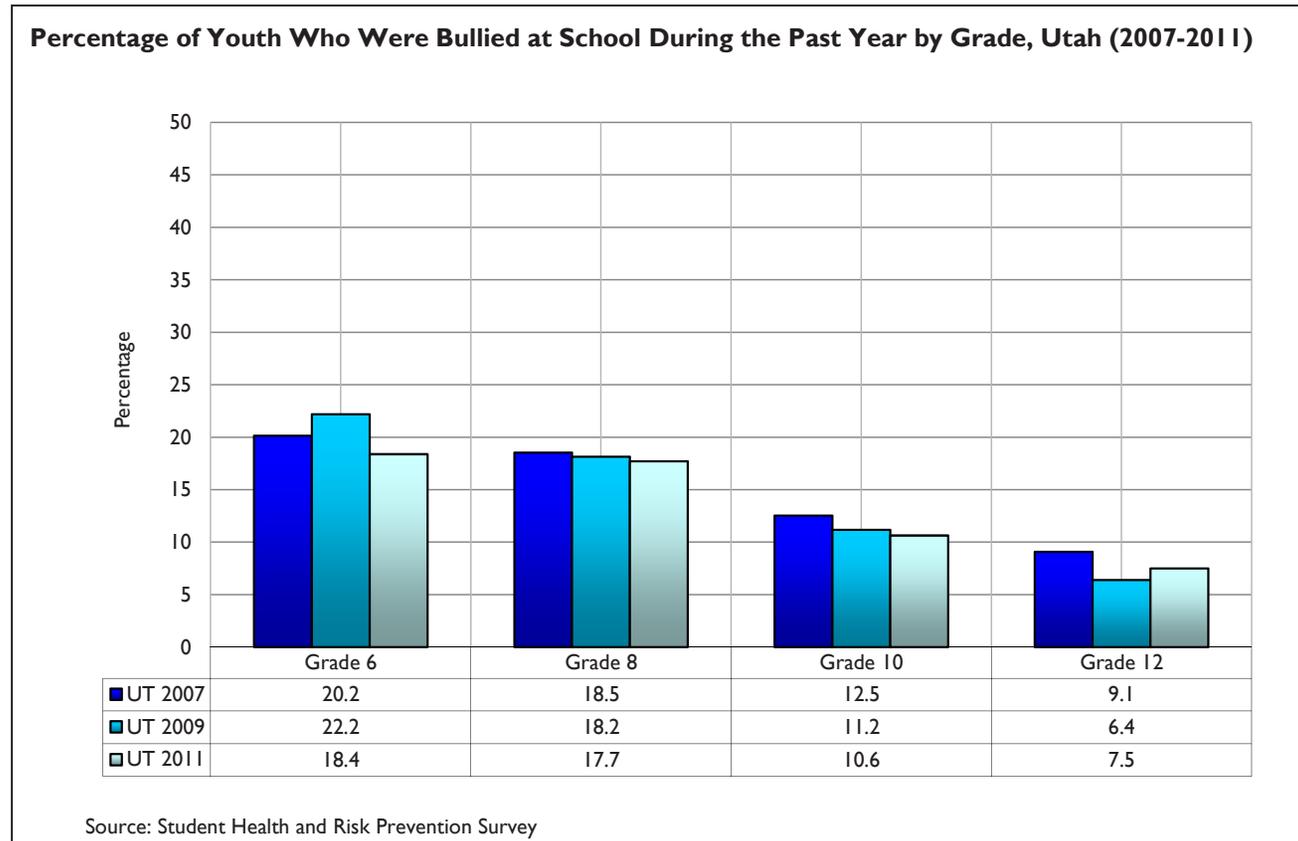
Local Substance Abuse Authority (LSAA)	2009	2010
Bear River District	2.8	2.5
Central Utah	3.9	4.4
Davis County	3.3	3.7
Four Corners District	5.3	5.2
Northeastern District	5.1	4.1
Salt Lake County	3.8	3.9
San Juan County	1.5	2.3
Southwest District	3.6	3.5
Summit County	1.5	0.6
Tooele County	4.4	5.4
Utah County	3.2	3.4
Wasatch County	2.9	2.7
Weber and Morgan Counties	4.2	4.1
State of Utah	3.6	3.7

Source: Utah Department of Health Center for Health Data

Relationship Level Indicators: Bullying

Data regarding the prevalence of bullying are available through the SHARP survey. The survey contains an item that asks youth whether they have been bullied by another student on school property in the past year. As seen in Figure 5.10, bullying appears to be much more common in younger students with 6th and 8th grade students reporting that they were victims of bullying much higher rates than 10th and 12th graders. Unfortunately, no national comparison data are available to better understand rates in Utah vs. the U.S. Regional level data for bullying are available by grade on the Utah SEOW Online Data System by choosing the “Youth Bullied at School” indicator.

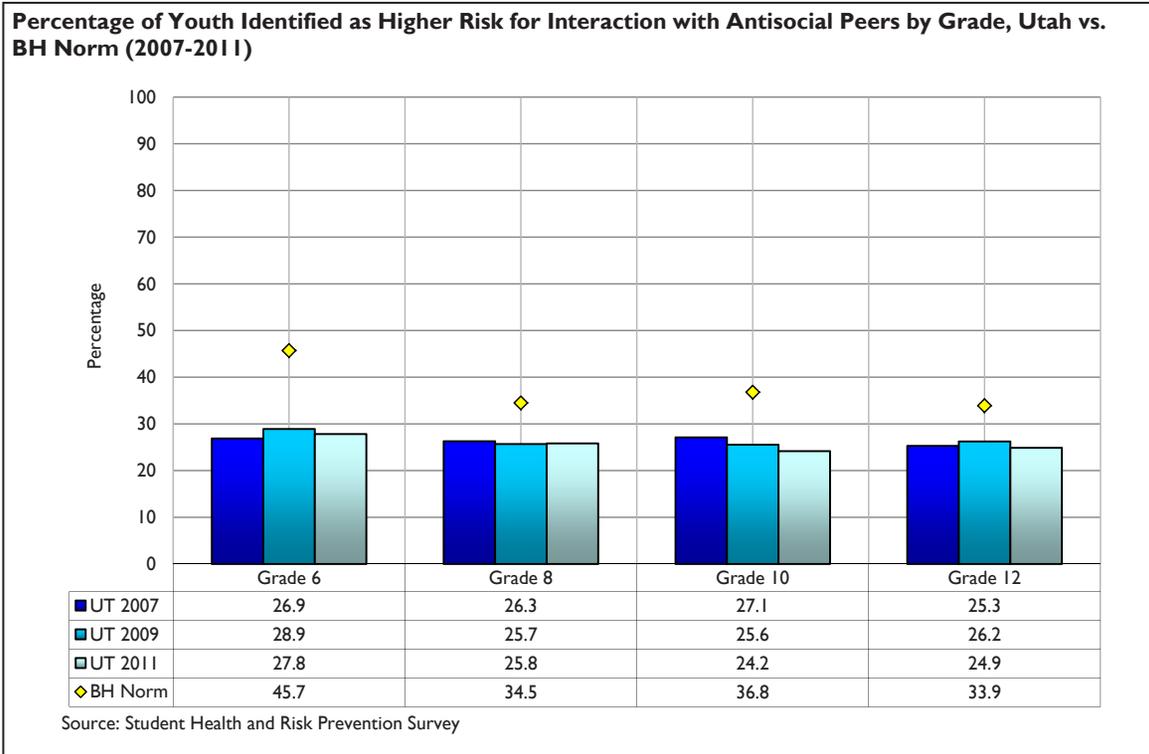
Figure 5.10:



Relationship Level Indicators: Association with Deviant Peers

Data related to the association with deviant peers are available through the SHARP survey. The survey contains an interaction with antisocial peers risk factor scale comprised of six items asking whether each of the following was true of their four best friends during the past year (“suspended from school,” “carried a handgun,” “sold illegal drugs,” “stole a vehicle,” “been arrested,” “dropped out of school”). Scale scores are used to classify youth as higher or lower risk using grade specific cut points that predict substance use and problem behaviors. Figure 5.11 presents the percentages of youth that were categorized as higher risk on the interaction with antisocial peers factor scale by grade. Consistent with most of the other risk factor data, a smaller percentage of youth in Utah are classified as higher risk than for the 8-state BH norm. Regional level data for the interaction with antisocial peers risk factor are available by grade on the Utah SEOW Online Data System by choosing the “Youth Interaction with Antisocial Peers” indicator.

Figure 5.11:



Community Level Indicators: Chronic Community Disorganization and Stress

See Reported Violent Crime indicator in the alcohol consequences section (page 2.46), and Reported Property Crime indicator in the illicit drug consequences section of report (page 4.37).

Community Level Indicators: Poor Grades & Achievement

Data regarding poor grades and school achievement are available through two scales on the SHARP survey. The academic failure risk factor scale is comprised of two items (“Are your school grades better than the grades of most students in your class,” “Putting them all together, what were your grades like last year”), while the low commitment to school risk factor scale comprised of six items (e.g., “How interesting are most of your courses to you,” “How often did you hate being in school,” “How many whole days of school have you missed because you skipped or cut”). Scale scores for each scale are used to classify youth as higher or lower risk using grade specific cut points that predict substance use and problem behaviors. Figure 5.12 and 5.13 present the percentages of youth that were categorized as higher risk on the academic failure and low commitment to school risk factor scales by grade. For both indicators, a smaller percentage of youth in Utah are classified as higher risk for family conflict than for the 8-state BH norm. Regional level data for both risk factors are available by grade on the Utah SEOW Online Data System by choosing the “Youth Risk of Academic Failure” or “Youth Low Commitment to School” indicator, respectively.

Figure 5.12:

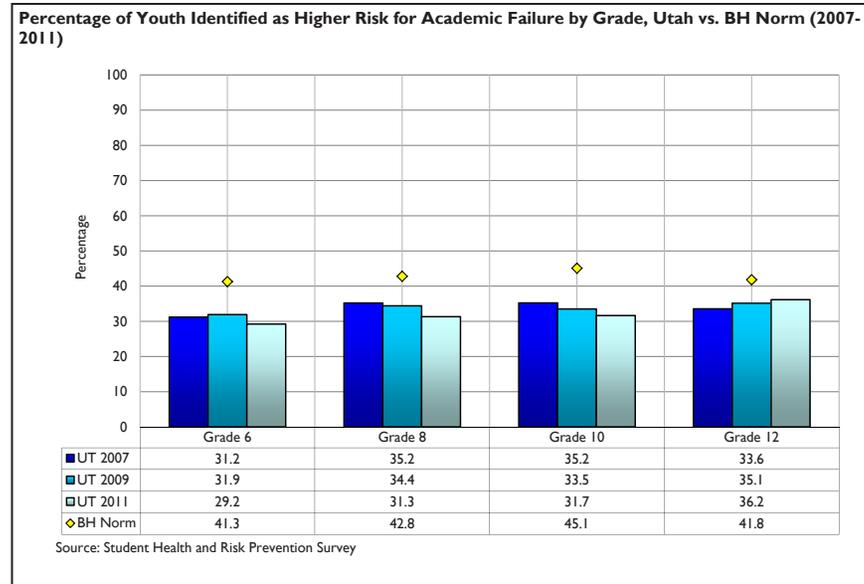
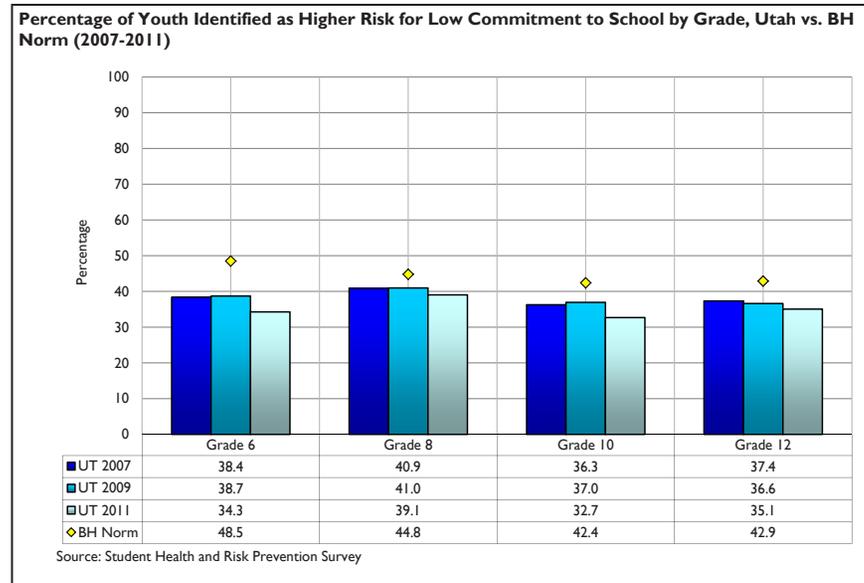


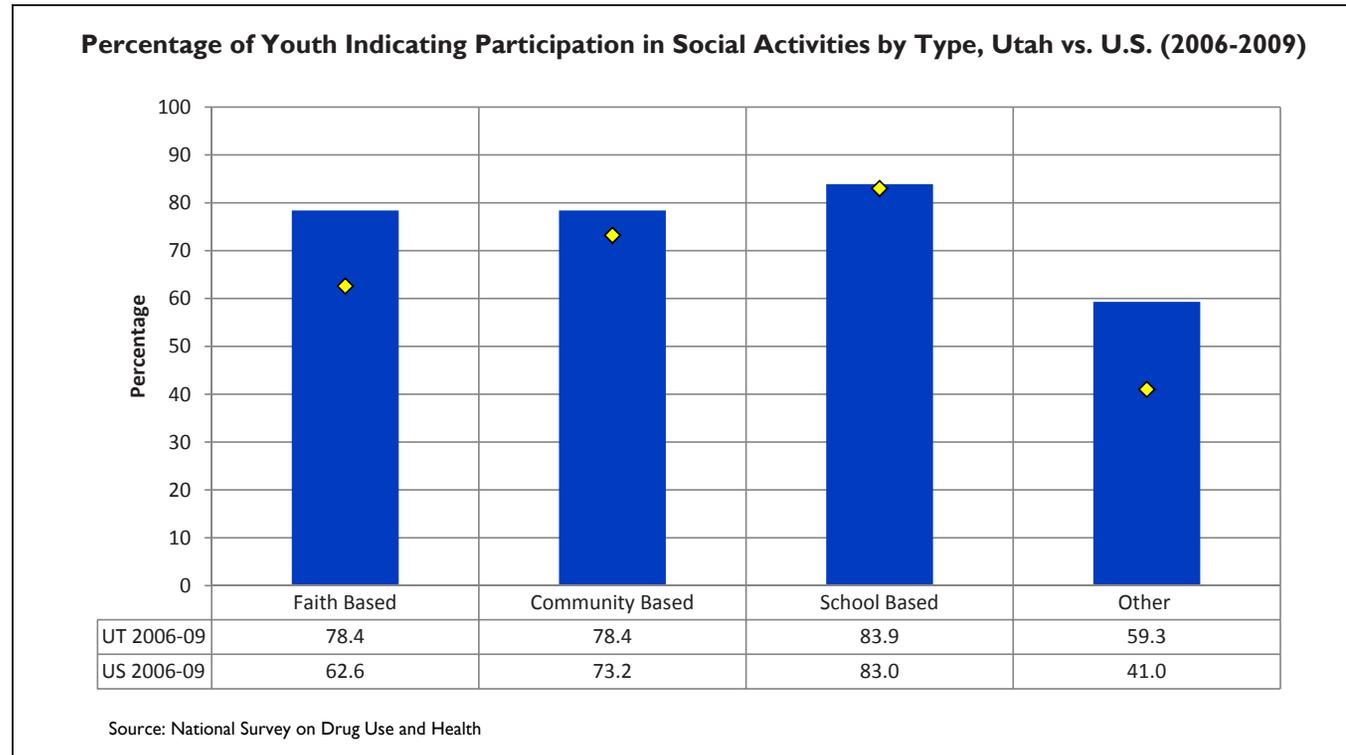
Figure 5.13:



Relationship Level Indicators: Participation in Social Activities (Protective)

Data related to participation in social activities by youth are available through the National Survey on Drug Use and Health. The survey contains four items asking about youth participation in various context-based social activities in the past year. Specifically, the survey asks participants (ages 12-17) whether they have participated in school based, faith based, community based or other social activities. Figure 515 presents data comparing Utah youth to the U.S. regarding participation in social activities. Utah youth clearly are more likely to participate in faith based and other social activities than their national counterparts, but have similar levels of school based and community based social activities.

Figure 5.14:



References and Appendices



References and Appendices Contents:

References Cited in the Utah Epidemiology Profile

Appendix A: Data Sources

Appendix B: Additional Information for Utah-Specific Data Sources

Appendix C: BRFSS Substance Use Estimate Data Tables
with Confidence Intervals

Appendix D: NSDUH Substance Use Estimate Data Tables
with Confidence Intervals

References

Alcohol Consumption

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Alcohol Consequences

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8. Centers for Disease Control and Prevention. (2009). National Vital Statistics Reports, Deaths: Final Data for 2006. http://www.cdc.gov/NCHS/data/nvsr/nvsr57/nvsr57_14.pdf

Shared Risk and Protective Factors

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National Data Sources

Alcohol Epidemiologic Data System (AEDS)

Description: Per capita consumption of absolute alcohol has been used historically as an indicator of overall drinking within a state and has been shown to be correlated with many types of alcohol problems. The indicator is consistently defined and readily available from archival data for all states and for many years.

Sponsoring Organization/Source: National Institute on Alcohol Abuse and Alcoholism

Data used in report: Total sales of ethanol in beer, wine, and spirits per year, estimated in gallons of ethanol, per 10,000 population age 14 and older

Geographic Level: national and state

Availability: Available through State Epidemiological Data System (SEDS)

Years Available: 1990-2010 (2008 for U.S.)

Demographic Categories: NA

Limitations: Findings regarding the association between per capita alcohol consumption and negative consequences have been inconsistent. Average consumption levels may not be sensitive in identifying areas with a high prevalence of heavy use where there are also high rates of abstinence. Estimates may be inflated due to consumption by non-residents (e.g., tourists and other visitors). Untaxed alcohol (e.g., products that are smuggled or homemade) are not captured in this indicator.

Behavioral Risk Factor Surveillance System (BRFSS)

Description: BRFSS is an annually conducted telephone health survey system, tracking health conditions and risk behaviors in the US yearly since 1984. BRFSS asks adults (18 and older) to respond to questions about health-related issues. Included in the BRFSS survey are questions about current alcohol consumption and tobacco use.

Sponsoring Organization/Source: Centers for Disease Control and Prevention

Data used in report: Alcohol dependence or abuse, adult current drinking, adult heavy use, binge drinking, adult cigarette use, daily cigarette use

Geographic level: National and state

Availability: <http://apps.nccd.cdc.gov/brfss/>

Years Available: 1984-2011

Demographic Categories: BRFSS data allow comparison across gender, age, and racial groups.

Limitations: BRFSS is a telephone survey subject to potential bias due to self-report, non-coverage (households without phones), and non-response (refusal/no answer). Estimates for subgroups may have relatively low precision (i.e., large confidence intervals). The sampling and weighting methodology for the BRFSS was changed for the 2011 administration. As a result, the CDC cautions against directly comparing data from 2011 and beyond to data that was collected prior to 2011.

Drug Abuse Warning Network (DAWN)

Description: DAWN is a public health surveillance system that monitors drug-related deaths investigated by medical examiners and coroners, and drug-related visits to hospital emergency departments. DAWN includes illegal drugs, prescription and over-the-counter medications, dietary supplements, non-pharmaceutical inhalants, alcohol in combination with other drugs, and alcohol alone.

Sponsoring Organization/Source: Substance Abuse and Mental Health Services Administration (SAMHSA)

Data used in report: Drug related deaths and suicides

Geographic level: national, state and county

Availability: <http://www.samhsa.gov/data/DAWN.aspx>

Years Available: 2003-2010

Demographic Categories: Various

Limitations: Not all drugs reported to DAWN are confirmed by toxicology. There are many possible sources for drug use information including toxicology testing, clinical assessment and diagnoses, reports by patients, their friends, or families. Testing protocols vary across hospitals, clinicians, and patients.

Fatality Analysis Reporting System (FARS)

Description: FARS is a national database of fatal motor vehicle accidents maintained by the National Highway Traffic Safety Administration. It includes information about fatal accidents in which alcohol was involved.

Sponsoring Organization/Source: National Highway Traffic Safety Administration

Data used in report: alcohol related motor vehicle crash fatalities

Geographic level: national, state, and county

Availability: www.fars.nhtsa.dot.gov/main/index.aspx; also available through SEDS

Years Available: 1994-2009

Demographic Categories: Age by Gender (of persons killed)

Limitations: Using FARS, it is possible to calculate the rate of alcohol-related fatal motor vehicle accidents for the nation and for each state. Though FARS data are helpful in understanding the rate of alcohol-related motor vehicle deaths, comparisons between state and national levels should be made with caution as data submissions to the FARS database are done on a voluntary basis and may not include all fatal motor vehicle accidents within a state or the nation. Another consideration when using FARS data is the fact that the NHTSA estimates driver BAC for cases missing data regarding actual BAC levels. This leads to discrepancies between FARS estimates of alcohol related motor vehicle crashes and state agency developed estimates of these events. Thus, estimates from the Utah Department of Public Safety and estimates from FARS are not consistent with one another.

Monitoring the Future Survey (MTF)

Description: MTF is a national survey conducted annually to track changes in the drug consumption patterns of 8th, 10th, and 12th grade students throughout the US. Student respondents report on their lifetime, annual, and monthly use of a wide variety of substances, including alcohol, heroin, cocaine, marijuana, and methamphetamine. Findings from MTF are compared to the SHARP data to allow comparisons between national trends and state or county data. Comparisons between the two surveys should be interpreted with caution (especially at smaller sub-state levels), however, because the SHARP data are not completed using a random sample of Utah schools.

Sponsoring Organization/Source: National Institute on Drug Abuse

Data used in report: Lifetime and 30 day substance use rates for nation

Geographic level: national

Availability: www.monitoringthefuture.org/data/data.html

Years Available: 1991-2011

Demographic Categories:

Limitations: Respondents are sampled randomly from schools throughout the country, and no state data are available. The MTF, like all of the survey data available presented in this epi profile report is collected through self-report, and is subject to potential bias due. Results from MTF are released annually and data sets are publicly available.

National Survey on Drug Use and Health (NSDUH)

Description: The NSDUH is a national survey funded by the Substance Abuse and Mental Health Services Administration (SAMHSA) designed to track changes in substance use patterns for US residents 12 year of age and older. The survey asks respondents to report on past month, past year, and lifetime use of substances including alcohol, tobacco, marijuana, cocaine, and other illicit drugs. Additionally, the NSDUH asks respondents whether they had received treatment for drug abuse or drug dependence during the past year.

Sponsoring Organization/Source: Substance Abuse and Mental Health Services Administration (SAMHSA)

Data used in report: Prevalence rate of drug dependence or abuse, alcohol dependence or abuse, marijuana use, other illicit drug use

Geographic level: National and state

Availability: National and state reports are available at <http://oas.samhsa.gov/nsduh.htm>; also available through SEDS

Years Available: 1994-2010 for national trends, 1991-2010 for state trends

Demographic Categories: Age

Limitations: State-level prevalence rates are based on statistical algorithms, not on data collected within specific states. State-level estimates for most states are based on relatively small samples. Although augmented by model-based estimation procedures, estimates for specific age groups have relatively low precision (i.e., large confidence intervals). The estimates are provided directly

by SAMHSA and raw data that could be used for alternative calculations (e.g., demographic subgroups) are not available. The estimates are subject to bias due to self-report and non-response (refusal/no answer). There is usually a two-year delay between the time data are gathered and the time when data are made available to the public.

National Vital Statistics System (NVSS)

Description: NVSS is a data set that provides information on mortality rates by cause of death. Data on deaths throughout the country are provided to the CDC by health departments in the 50 states and US territories. Age-adjusted death rates for deaths due to disease and events associated with alcohol, tobacco, and other drugs can be computed for the nation and each state, and comparisons can be made across gender and racial groups. Age-adjusted death rates for deaths due to disease and events associated with alcohol, tobacco, and other drugs can be computed for the nation and each state, and comparisons can be made across gender and racial groups.

Sponsoring Organization/Source: National Center for Health Statistics, Center for Disease Control

Data used in report: rate of ischemic-cerebrovascular disease, homicides, suicides, lung cancer, lung disease, illicit drug deaths, cardiovascular disease, and chronic liver disease

Geographic level: National, state and limited county

Availability: <http://www.cdc.gov/nchs/fastats/default.htm>; also available through SEDS

Years Available: 1999-2007

Demographic Categories: Age, gender, race

Limitations: There is variability in the procedures used within and across each state to determine cause of death. For NVSS mortality data available through the SEDS, county level data is only available for counties with populations over 100,000. Additionally, there is typically a three-year gap or longer between the time data are collected and the time when data are made publicly available.

Uniform Crime Reporting Program (UCR)

Description: The UCR is a national database maintained by the FBI that records information on the rates of property crimes, violent crimes, and drug related crimes throughout the US. The UCR data are voluntarily submitted by law enforcement agencies on a county-by-county basis by each of the 50 states. UCR data allows for comparisons of overall crime rates between Utah and the entire US, and comparisons of crime rates for juveniles versus adults.

Sponsoring Organization/Source: Federal Bureau of Investigation (FBI)

Data used in report: Reported violent crimes, reported property crimes

Geographic level: national, state, and county

Availability: County levels available at <http://www.icpsr.umich.edu/NACJD/ucr.html>; also available through SEDS at <http://www.epidcc.samhsa.gov/default.asp>

Years Available: 1994-2007

Demographic Categories: NA

Limitations: UCR data are publicly available with a two-year lag from the time data are collected until they are made publicly available. States are not required to submit crime information to the FBI, rather data submission is voluntary. Therefore, the level of reporting varies considerably from county to county (county to county) and state to state. Although most police departments do report UCR data, there are a few jurisdictions each year for which data are not provided. The FBI uses a statistical algorithm to estimate arrests for counties for which reporting is particularly poor, however county to county comparisons should still be interpreted with caution.

Web-based Injury Statistics Query and Reporting System (WISQARS)

Description: WISQARS is an interactive database system that provides customized reports of injury-related data. Calculates the years of potential life lost (YPSS) which emphasizes premature mortality by giving a larger computational weight to youthful deaths. Provides US injury mortality data: charts of deaths by common causes of death, years of potential life lost (premature death) by specific causes of injury mortality and common causes of death. Also provides national estimates of nonfatal injuries treated in US hospital emergency departments.

Sponsoring Organization/Source: National Center for Injury Prevention and Control, Center for Disease Control

Data used in report: Years of potential life lost for several causes of mortality, Top 10 and 20 causes of death in Utah.

Geographic level: national and state

Availability: <http://www.cdc.gov/injury/wisqars/index.html>

Years Available: 1999-2010

Demographic Categories: race, sex, age group, cause of death

Limitations: Unknown

Utah Data Sets

Student Health and Risk Prevention (SHARP) Survey

Description: The SHARP Survey is designed to assess Utah student's involvement in a specific set of problem behaviors, as well as exposure to risk and protective factors that predict problem behaviors in adolescents. The SHARP surveys 6th, 8th, 10th, and 12th grade students on a biennial basis, typically to more than 40,000 students enrolled in Utah public schools.

Organization/Source: Utah Department of Human Services, Division of Substance Abuse and Mental Health

Data used in report: Youth 30 day alcohol use, alcohol dependence or abuse, youth percent cigarette use, youth 30 day marijuana use, percentage of youth who are in need for alcohol or drug treatment.

Geographic level: Local Substance Abuse Authority and state level reports available.

Availability: <http://www.dsamh.utah.gov/sharp.htm>

Years Available: 2005-2011 (biennially)

Demographic Categories: grade, gender and race/ethnicity

Limitations: Sample sizes and response rates vary across Local Substance Abuse Authorities (LSAA) and school districts. As a result some LSAA level data must be interpreted with caution when response rates or sample sizes warrant. As with other survey data presented in this epidemiological profile report, the SHARP is subject to potential bias due to the self-report nature of the data.

Utah Crash Summary Report Data, Utah Department of Public Safety

Description: The Utah Crash Facts Reports describe trends and effects of traffic crashes in Utah. Data from the summary are derived from Utah crash reports completed by law enforcement officers who investigate crash scenes. Crash reports are forwarded to the Utah Department of Public Safety for central collection. Data compiled by the Utah Department of Public Safety are entered into the national Fatality Analysis Reporting System (FARS).

Sponsoring Organization/Source: Utah Department of Public Safety

Data used in report: rate and percentage of alcohol impaired injury and fatal crashes

Geographic level: county and state

Availability: <http://publicsafety.utah.gov/highwaysafety/publications.html>

Years Available: 1998-2010

Demographic Categories: age, gender, BAC level, DUI convictions, etc.

Limitations: Data reflect police reporting of alcohol involvement in crashes. Officers are likely to report alcohol involvement only overt signs of alcohol use are available at the scene of the accident.

Utah Department of Health, Prescription Pain Medication Management and Education Program

Description: In July 2007, the Utah State Legislature appropriated funding to the Utah Department of Health (UDOH) to establish to a two-year program to reduce deaths and other harm from prescription opiates. The Prescription Pain Medication Management and Education Program goals were to 1) reduce the number of deaths due to prescription medications by 15% by 2009 2) improve understanding of occurrence of deaths related to prescription pain medications and understanding of prescribing patterns and other risk factors that increase risk of death, and 3) provide recommendations regarding use of the CSD to identify risks and potentially to prevent deaths due to prescription pain medications. Drug overdose deaths were obtained from the Medical Examiner's database.

Sponsoring Organization/Source: Utah Department of Health
Data used in report: BRFSS prescription pain medication supplement module (reasons for using prescribed and non-prescribed pain medication); number of accidental or undetermined intent drug poisoning deaths

Geographic level: state

Availability: <http://health.utah.gov/prescription/html/publications.html>

Years Available: 2008 for reasons of use, 1999-2008 for medical examiner's database

Demographic Categories: none

Limitations: Many items contained in the prescription pain medication BRFSS supplement were dependent on skip patterns that limited the sample sizes associated with the items. Sample sizes associated with some items are very small, which may affect the reliability of the estimates. Medical Examiner drug poisoning deaths data reflects data queried using search terms associated with drug overdose or poisoning by Department of Health staff of Medical Examiner data. Counts and rates of death, therefore, are dependent on the particular search terms used for the query process for a given year. Counts and rates may vary from earlier or future years as the search terms used are updated and enhanced.

Utah Higher Education Health Behavior Survey

Description: The Utah Higher Education Health Behavior Survey has several objectives: 1) assess the prevalence of alcohol, tobacco, and other drug (ATOD) use on Utah campuses, 2) measure the need for substance abuse treatment by college students, 3) gain information about health and safety issues facing college students, 4) measure students' perception of substance abuse prevention and policies on campus, 5) measure the levels of selected risk factors for substance abuse, and 6) compare the results across survey administrations (2003, 2005, and 2007). The 2007 Survey was completed by over 10,000 students from nine public colleges.

Sponsoring Organization/Source: Utah Department of Human Services, Division of Substance Abuse and Mental Health

Data used in report: lifetime, annual, and 30-day prevalence, for a variety of substances including: tobacco, alcohol, marijuana, and other drugs; need for alcohol or drug treatment.

Geographic level: state

Availability: http://www.dsamh.utah.gov/higher_ed.htm

Years Available: 2003-2007 (biennially)

Demographic Categories: gender, ethnicity, age

Limitations: As with other survey data presented in this epidemiological profile report, the Utah Higher Education Health Behavior Survey is subject to potential bias due to the self-report nature of the data.

Utah Indicator Based Information System for Public Health (IBIS)

Description: Utah has developed an internet portal that hosts data from several different sources through which data are available to the public and to researchers. Utah-specific data accessed for this profile report using IBIS include the following:

1. Utah Behavioral Risk Factor Surveillance System, Office of Public Health Assessment, Utah Department of Health
2. Utah Death Certificate Database, Office of Vital Records and Statistics, Utah Department of Health
3. Utah Emergency Department Encounter Database, Bureau of Emergency Medical Services, Utah Department of Health
4. Utah Pregnancy Risk Assessment Monitoring System (PRAMS), Utah Department of Health

Sponsoring Organization/Source: Utah Department of Health

Data used in report: smoking during pregnancy, alcohol use during pregnancy, cirrhosis deaths, alcohol dependence and abuse, alcoholism deaths, homicide deaths, suicide deaths, accidental

drowning deaths, accidental fall deaths, drug poisoning deaths, emergency department encounters for drug poisoning, ischemic cerebrovascular disease deaths, lung cancer deaths, cardiovascular deaths, lung disease deaths, accidental fire deaths by Local Substance Abuse Authority.

Geographic level: Varies depending on source data.

Availability: <http://ibis.health.utah.gov/home>

Years Available: Varies depending on source data.

Demographic Categories: Varies depending on source data.

Limitations: Varies depending on source data.

Additional Information for Utah-Specific Data Sources

Utah Death Certificate Database

Death certificates in Utah are required to be filed by funeral directors. Funeral directors obtain demographic information from an informant, a close family member of the decedent. The cause of death is certified by the decedent's physician or the physician that attended the death. Accidental and suspicious deaths are certified by the Medical Examiner. Death certificate data go through extensive edits for completeness and consistency. The Office of Vital Records and Statistics does annual trainings for funeral directors and local registrars.

When death certificates are received the cause of death literals are keyed into software locally by Office of Vital Records and Statistics (OVRs), then shipped to the National Center for Health Statistics where they are machine coded into ICD-10 codes. NCHS returns the ICD-10 codes to OVRs where the death records are updated.

Utah Emergency Department Encounter Database

The Emergency Department Encounter Database (ED) contains the consolidated information on complete billing, medical codes, personal characteristics describing a patient, services received, and charges billed for each patient emergency department (ED) encounter. The Bureau of Emergency Medical Services/Office of Health Care Statistics receives quarterly Emergency Department Encounter Data from hospitals in various formats and media. The data are converted into a standardized format. The data are validated through a process of automated editing and report verification. Each record is subjected to a series of edits that check for accuracy, consistency, completeness, and conformity with the definitions specified in the Utah Hospital Emergency Patient Encounter Data Submittal Manual. Records failing the edit check are returned to the data supplier for corrections of comment.

Coverage and Validity of Diagnosis Codes: Since the data come from the billing forms, all visits or encounters have a diagnosis code making coverage great. There is some difference of opinion regarding whether some providers may emphasize diagnosis codes that yield higher reimbursements. The hospital and ED data are considered "Administrative Data" because they were created for use in billing and remittance of payment. As such, they were not constructed for public health surveillance purposes primarily, and are weak in some areas, such as external cause of injury and race or ethnicity. But, in general, they are extremely valuable and reasonably complete and valid.

Utah Pregnancy Risk Assessment Monitoring System (PRAMS)

PRAMS, the Pregnancy Risk Assessment Monitoring System, is a surveillance project of the Centers for Disease Control and Prevention (CDC) and state health departments. PRAMS collects state-specific, population-based data on maternal attitudes and experiences before, during, and shortly after pregnancy

PRAMS was initiated in 1987 because infant mortality rates were no longer declining as rapidly as they had in prior years. In addition, the incidence of low birth weight infants had changed little in the previous 20 years. Research has indicated that maternal behaviors during pregnancy may influence infant birth weight and mortality rates. The goal of the PRAMS project

is to improve the health of mothers and infants by reducing adverse outcomes such as low birth weight, infant mortality and morbidity, and maternal morbidity. PRAMS provides state-specific data for planning and assessing health programs and for describing maternal experiences that may contribute to maternal and infant health.

Utah Medical Examiner Database

Utah has a state-wide, centralized medical examiner system that has statute mandated jurisdiction over sudden and unexpected deaths. The database contains 113 variables including demographic information about the decedent, toxicological, laboratory, and autopsy examination results.

Utah Student Health and Risk Prevention (Prevention Needs Assessment) Survey

The Utah Department of Human Services, Division of Substance Abuse and Mental Health has conducted a prevention needs assessment survey for youth across the state on a bi-annual basis starting in 2003, with the latest administration occurring in the spring of 2013. The 2013 data was not available at the time of writing for this report, but should be available via the DSAMH website (<http://www.dsamh.utah.gov/sharp.htm>) in the summer of 2013. The PNA survey measures youth substance use rates in a variety of substance categories as well as antisocial behaviors such as theft, violence, and school suspension. The survey is based on the Risk and Protective Factor Model of Youth Problem Behavior (Hawkins, Catalano, & Miller, 1989), and also contains several scales measuring various risk and protective factors associated with substance use and other problem behaviors (e.g., school dropout, delinquency, etc.).

Utah Higher Education Health Behavior Survey

The Utah Department of Human Services, Division of Substance Abuse and Mental Health and the Utah Department of Health have collaborated to conduct a prevention needs assessment survey for the higher education population across the state on a bi-annual basis from 2003 to 2007. Like the youth-oriented PNA Survey, the higher education survey is based on the Risk and Protective Factor Model of Youth Problem Behavior (Hawkins, Catalano, & Miller, 1989). The survey measures substance use rates in a variety of substance categories, antisocial behaviors, and risk and protective factors relevant to the higher education population that are associated with substance use.

Appendix C: BRFSS Substance Use Estimate Data Tables with Confidence Intervals

The Behavioral Risk Factor Surveillance System Survey (BRFSS) provides 95% confidence intervals (CI) for estimates of substance use at the state level. While the estimates provided in the main body of this epidemiological profile report represent the best single value estimates of substance use based on the data collected from the state BRFSS samples, each estimate is inherently prone to random error due to sampling. Logically, use rates obtained from a sample of individuals in the population (through a random or any other sampling method) will rarely, if ever, exactly match the actual use rates of the entire population simply as a result of sampling error (no sample is ever 100% representative of the population of interest). To account for sampling error, a CI can be calculated that identifies the possible range of values that the true population use rate falls within based on data collected from the sample. For the BRFSS 95% CI are provided for each substance use estimate for the state of Utah. CI are not provided for U.S. estimates of substance use by the BRFSS. A 95% CI indicates that based on the data collected, there is a 95% probability that the true use rate of the population falls within the range of the interval. For example, the BRFSS estimate of 30 day alcohol use for the State of Utah in 2008 was 25.4%, with a CI range from 23.9-27.0%. These statistics indicate that the best single value estimate of 30 day alcohol use is 25.4% (based on the 2008 BRFSS sample for Utah), and that there is a 95% probability that the actual use rate for the State of Utah falls between 23.9% and 27.0%.

The tables that follow present state level estimates of substance use from the BRFSS with 95% confidence intervals included. These tables are provided to enhance the ability of those who use the data in this report to judge the reliability of comparisons in substance use rates between Utah and the U.S. and across years within Utah from the BRFSS.

Table C.1: Percentage (with confidence intervals*) of Adults Indicating Any Alcohol Use in Past 30 Days, Utah vs. U.S. (2004-2011)

	2004	2005	2006	2007	2008	2009	2010	2011
UT	28.8 (27.2-29.8)	27.3 (25.7-28.9)	26.4 (24.8-28.0)	27.5 (25.7-29.3)	25.4 (23.9-27.0)	28.5 (24.5-27.0)	25.0 (23.4-26.2)	29.5 (28.4-30.6)
U.S.	56.9	55.6	55.2	54.8	54.5	54.4	54.6	57.1

Behavioral Risk Factor Surveillance System, State Epidemiological Data System

*Confidence Intervals not available for U.S. data

Table C.2: Percentage (with confidence intervals*) of Adults Indicating Heavy Alcohol Use in Past 30 Days, Utah vs. U.S. (2004-2011)

	2004	2005	2006	2007	2008	2009	2010	2011
UT	2.8 (2.2-3.4)	2.9 (2.3-3.5)	2.4 (1.8-3.0)	2.5 (1.9-3.1)	3.1 (2.4-3.7)	3.0 (2.5-3.4)	3.1 (2.5-3.6)	4.1 (3.6-4.6)
U.S.	4.9	4.9	4.9	5.2	5.1	5.1	5.0	6.6

Behavioral Risk Factor Surveillance System, State Epidemiological Data System

*Confidence Intervals not available for U.S. data

Table C.3: Percentage (with confidence intervals*) of Adults Indicating Binge Drinking in Past 30 Days, Utah vs. U.S. (2004-2011)

	2004	2005	2006	2007	2008	2009	2010	2011
UT	9.3 (8.3-10.3)	8.3 (7.1-9.5)	9.3 (8.1-10.5)	9.8 (8.4-11.2)	8.2 (7.2-9.2)	8.8 (7.9-9.7)	8.7 (7.8-9.6)	12.0 (11.1-12.8)
U.S.	14.9	14.4	15.4	15.7	15.6	15.8	15.1	18.3

Behavioral Risk Factor Surveillance System, State Epidemiological Data System

*Confidence Intervals not available for U.S. data

Table C.4: Percentage (with confidence intervals*) of Adults Indicating Cigarette Use in Past 30 Days, Utah vs. U.S. (2004-2011)

	2004	2005	2006	2007	2008	2009	2010	2011
UT	10.5 (9.5-11.5)	11.5 (10.3-12.7)	9.8 (8.6-11.0)	11.7 (10.3-13.1)	9.3 (8.2-10.4)	9.8 (8.9-10.7)	9.1 (8.2-10.0)	11.8 (11.0-12.7)
U.S.	20.9	20.6	20.1	19.8	18.4	17.9	17.3	21.2

Behavioral Risk Factor Surveillance System, State Epidemiological Data System

*Confidence Intervals not available for U.S. data

Appendix D: NSDUH Substance Use Estimate Data Tables with Confidence Intervals

The National Survey of Drug Use and Health (NSDUH) provides 95% confidence intervals (CI) for estimates of substance use and estimates of substance abuse or dependence at the state level. While the estimates provided in the main body of this epidemiological profile report represent the best single value estimates of substance use based on the data collected from the state NSDUH samples, each estimate is inherently prone to random error due to sampling. Logically, use rates obtained from a sample of individuals in the population (through a random or any other sampling method) will rarely, if ever, exactly match the actual use rates of the entire population simply as a result of sampling error (no sample is ever 100% representative of the population of interest). To account for sampling error, a CI can be calculated that identifies the possible range of values that the true population use rate falls within based on data collected from the sample. For the NSDUH 95% CI are provided for each substance use estimate for the state of Utah. CI are not provided for U.S. estimates of substance use or for Utah in 2007 by the NSDUH. A 95% CI indicates that based on the data collected, there is a 95% probability that the true use rate of the population falls within the range of the interval. For example, the NSDUH estimate of 30 day marijuana use for the State of Utah in 2006 was 4.3%, with a CI range from 3.5-5.4%. These statistics indicate that the best single value estimate of 30 day marijuana use was 4.3% (based on the 2006 NSDUH sample for Utah), and that there is a 95% probability that the actual use rate for the State of Utah falls between 3.5% and 5.4%.

The tables that follow present state level estimates of substance use from the NSDUH with 95% confidence intervals included. These tables are provided to enhance the ability of those who use the data in this report to judge the reliability of comparisons in substance use rates between Utah and the U.S. and across years within Utah from the NSDUH.

Table D.1: Percentage (with confidence intervals*) of Respondents Classified as Dependent or Abusing Alcohol, Utah vs. U.S. (2003-2010)

	2003	2004	2005	2006	2007	2008	2009	2010
UT	6.9 (5.7-8.3)	6.3 (5.1-7.8)	7.3 (6.1-8.6)	7.4 (6.3-8.7)	6.6 (5.4-7.9)	6.4 (5.4-7.6)	6.0 (5.0-7.2)	5.7 (n/a)
U.S.	7.6	7.6	7.7	7.7	7.6	7.4	7.4	7.3

National Survey on Drug Use and Health, State Epidemiological Data System

*Confidence Intervals not available for U.S. data

Table D.2: Percentage (with confidence intervals*) of Respondents Indicating Marijuana Use in Past 30 Days, Utah vs. U.S. (2003-2010)

	2003	2004	2005	2006	2007	2008	2009	2010
UT	4.0 (3.2-5.0)	4.2 (3.4-5.3)	4.8 (3.9-5.9)	4.3 (3.5-5.4)	4.2 (3.4-5.2)	4.3 (3.5-5.3)	3.6 (2.8-4.5)	3.7 (n/a)
U.S.	6.2	6.1	6.0	6.0	5.9	6.0	6.4	6.8

National Survey on Drug Use and Health, State Epidemiological Data System

*Confidence Intervals not available for U.S. data

Table D.3: Percentage (with confidence intervals*) of Respondents Indicating Any Illicit Drug Use (other than Marijuana) in Past 30 Days, Utah vs. U.S. (2003-2010)

	2003	2004	2005	2006	2007	2008	2009	2010
UT	3.7 (3.1-4.6)	4.1 (3.4-4.9)	4.2 (3.5-5.1)	3.9 (3.1-4.8)	3.4 (2.7-4.4)	3.1 (2.4-4.0)	3.8 (3.0-4.8)	3.7 (n/a)
U.S.	3.7	3.6	3.6	3.8	3.8	3.6	3.5	3.6

National Survey on Drug Use and Health, State Epidemiological Data System

*Confidence Intervals not available for U.S. data

Table D.4: Percentage (with confidence intervals*) of Respondents Meeting Criteria for Drug Dependence or Abuse, Utah vs. U.S. (2003-2010)

	2003	2004	2005	2006	2007	2008	2009	2010
UT	2.9 (2.3-3.5)	3.2 (2.7-3.8)	3.5 (2.9-4.2)	3.1 (2.5-3.8)	2.9 (2.3-3.6)	3.0 (2.4-3.8)	3.0 (2.4-3.7)	3.0 (n/a)
U.S.	3.0	3.0	2.9	2.8	2.8	2.8	2.8	2.8

National Survey on Drug Use and Health, State Epidemiological Data System

*Confidence Intervals not available for U.S. data