

# Underage Alcohol Consumption

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# The Surgeon General's Call to Action To Prevent and Reduce Underage Drinking - 2007

'Alcohol is the most widely used substance of abuse among America's youth. A higher percentage of young people between the ages of 12 and 20 use alcohol than use tobacco or illicit drugs. The physical consequences of underage alcohol use range from medical problems to death by alcohol poisoning, and alcohol plays a significant role in risky sexual behavior, physical and sexual assaults, various types of injuries, and suicide. Underage drinking also creates secondhand effects for others, drinkers and nondrinkers alike, including car crashes from drunk driving, that put every child at risk. Underage alcohol consumption is a major societal problem with enormous health and safety consequences and will demand the Nation's attention and committed efforts to solve.'

# Overview

- Prevalence of Underage Drinking
  - Sources
  - Data
- Consequences of Underage Drinking
- Costs of Underage Drinking
- Lessons Learned

# Sources of Information

- NSDUH – National and State Data
- YRBS – National and State Data
- OPNAS – State Data

# NSDUH Methodology

- Five year time frame
- In person household Interviews (CAS)
- Direct sample estimates for eight large states
- For smaller states 'small area estimation' employed with sample sizes of 674 to 977 in 2002
- Area or geographic sampling with areas PPS
- Oversampling of youth and young adults
- Yields national and statewide statistical estimates

# YRBS Methodology

- Every two years (Odd years)
- Paper based survey
- Two stage cluster sampling
  - Stage One – School districts selected PPS  
([www.rhrc.org/.../55b%20PPS%20sampling%20technique.doc](http://www.rhrc.org/.../55b%20PPS%20sampling%20technique.doc))
  - Stage Two – Random selection of class period or sections
- Sampling without replacement
- Yields national and statewide statistical estimates

# OPNAS Methodology

- Model/Theory Driven paper based survey
- Convenience sample – based on participating school districts
- Does not yield statistical estimates

# Oklahoma - Estimates of Underage and Young Adult Alcohol Use 2007 (NSDUH)

Measure	12+	12-17	18-25	26+	18+
Past Month Alcohol Use	42.52	14.35	55.33	43.96	45.74
Past Month Binge Alcohol Use	21.21	9.03	37.37	19.86	22.60
Perception of Great Risk of Drinking Five or More Drinks Once or Twice a Week	43.67	39.98	34.07	45.95	44.09



# Oklahoma - Past Year Dependence, Abuse and Treatment (NSDUH)

Measure	12+	12-17	18-25	26+	18+
Illicit Drug Dependence <sup>1</sup>	1.95	2.55	4.97	1.30	1.88
Illicit Drug Dependence or Abuse <sup>1</sup>	2.70	4.54	6.86	1.68	2.49
Alcohol Dependence	3.40	2.10	7.07	2.89	3.55
Alcohol Dependence or Abuse	6.93	4.58	15.89	5.59	7.20
Alcohol or Illicit Drug Dependence or Abuse <sup>1</sup>	8.42	7.32	19.35	6.53	8.54
Needing But Not Receiving Treatment for Illicit Drug Use <sup>1,7</sup>	2.45	4.08	6.45	1.49	2.26
Needing But Not Receiving Treatment for Alcohol Use <sup>8</sup>	6.56	4.40	15.23	5.24	6.80

# High School YRBS – State and National Comparison

Question	Oklahoma 2009	United States 2009
<b>Ever had at least one drink of alcohol on at least 1 day</b> (during their life)	71.4 (67.0–75.5)	72.5 (70.6–74.3)
<b>Drank alcohol for the first time before age 13 years</b> (other than a few sips)	19.4 (16.8–22.4)	21.1 (19.6–22.6)
<b>Had at least one drink of alcohol on at least 1 day</b> (during the 30 days before the survey)	39.0 (35.0–43.1)	41.8 (40.2–43.4)
<b>Had five or more drinks of alcohol in a row within a couple of hours on at least 1 day</b> (during the 30 days before the survey)	24.0 (20.2–28.3)	24.2 (22.6–25.9)
<b>Usually obtained the alcohol they drank by someone giving it to them</b> (among students who currently drank alcohol during the 30 days before the survey)	46.0 (41.0–51.1)	42.2 (40.3–44.1)
<b>Had at least one drink of alcohol on school property on at least 1 day</b> (during the 30 days before the survey)	3.9 (2.9–5.2)	4.5 (3.9–5.1)

# High School YRBS - Trends

Question	2003	2005	2007	2009
<a href="#"><u>Ever had at least one drink of alcohol on at least 1 day (during their life)</u></a>	78.6 (74.5–82.1) 1,237	76.5 (73.3–79.4) 1,558	75.6 (72.8–78.1) 2,573	71.4 (67.0–75.5) 1,389
<a href="#"><u>Drank alcohol for the first time before age 13 years (other than a few sips)</u></a>	26.8 (22.4–31.6) 1,240	25.2 (22.2–28.4) 1,560	23.3 (21.3–25.4) 2,602	19.4 (16.8–22.4) 1,389
<a href="#"><u>Had at least one drink of alcohol on at least 1 day (during the 30 days before the survey)</u></a>	47.8 (44.8–50.7) 1,327	40.5 (37.3–43.9) 1,663	43.1 (39.4–46.9) 2,444	39.0 (35.0–43.1) 1,306
<a href="#"><u>Had five or more drinks of alcohol in a row within a couple of hours on at least 1 day (during the 30 days before the survey)</u></a>	34.0 (30.6–37.6) 1,366	26.6 (23.7–29.8) 1,692	27.9 (24.2–32.0) 2,569	24.0 (20.2–28.3) 1,386
<a href="#"><u>Usually obtained the alcohol they drank by someone giving it to them (among students who currently drank alcohol during the 30 days before the survey)</u></a>	—	—	40.5 (36.9–44.2) 1,057	46.0 (41.0–51.1) 489
<a href="#"><u>Had at least one drink of alcohol on school property on at least 1 day (during the 30 days before the survey)</u></a>	3.2 (2.1–4.9) 1,376	3.8 (2.9–4.9) 1,709	5.0 (3.9–6.3) 2,591	3.9 (2.9–5.2) 1,393

OPNAS - Had alcoholic beverages (beer, wine or hard liquor) to drink - more than just a few sips – in the last 30 days?

Grade	2004	2006	2008
6	9.3	6.0	8.4
8	24.6	19.5	23.4
10	39.4	34.4	35.6
12	49.9	45.7	45.9

OPNAS - How many times have you had 5 or more alcoholic drinks in a row in the last two weeks?

Grade	2004	2006	2008
6	6.8	5.0	4.9
8	15.5	13.0	13.3
10	26.2	22.8	21.8
12	35.6	31.8	29.6

# OPNAS – Needs alcohol treatment.

Grade	2004	2006	2008
6	n/a	1.1	0.9
8	n/a	5.5	4.6
10	n/a	12.1	9.8
12	n/a	15.2	13.2

# Consequences for Youth

- Auto Fatalities (National Vital Statistics System – NVSS)
- Suicide (NVSS)
- Sexual Assault (Uniform Crime Reports – UCR)
- High-Risk Sex
- Health Problems

# Auto Fatalities

**Drinking and Driving.** Motor vehicle crashes are the leading cause of death among youth ages 15 to 20. Adolescents already are at increased risk through their relative lack of driving experience, and drivers younger than 21 are more susceptible than older drivers to the alcohol-induced impairment of driving skills. The rate of fatal crashes among alcohol-involved drivers between 16 and 20 years old is more than twice the rate for alcohol-involved drivers 21 and older.



# Suicide

**Suicide.** Alcohol use interacts with conditions such as depression and stress to contribute to suicide, the third leading cause of death among people between the ages of 14 and 25. In one study, 37 percent of eighth grade females who drank heavily reported attempting suicide, compared with 11 percent who did not drink.

# Sexual Assault

**Sexual Assault.** Sexual assault, including rape, occurs most commonly among women in late adolescence and early adulthood, usually within the context of a date. In one survey, approximately 10 percent of female high school students reported having been raped. Research suggests that alcohol use by the offender, the victim, or both, increases the likelihood of sexual assault by a male acquaintance.

# High-Risk Sex

**High-Risk Sex.** Research has associated adolescent alcohol use with high-risk sex (for example, having multiple sexual partners and failing to use condoms). The consequences of high-risk sex also are common in this age group, particularly unwanted pregnancy and sexually transmitted diseases, including HIV/AIDS. According to a recent study, the link between high-risk sex and drinking is affected by the quantity of alcohol consumed. The probability of sexual intercourse is increased by drinking amounts of alcohol sufficient to impair judgment, but decreased by drinking heavier amounts that result in feelings of nausea, passing out, or mental confusion.

# Alcoholism

Early alcohol use may have long-lasting consequences. People who begin drinking before age 15 are four times more likely to develop alcohol dependence at some time in their lives compared with those who have their first drink at age 20 or older. It is not clear whether starting to drink at an early age actually causes alcoholism or whether it simply indicates an existing vulnerability to alcohol use disorders. For example, both early drinking and alcoholism have been linked to personality characteristics such as strong tendencies to act impulsively and to seek out new experiences and sensations. Some evidence indicates that genetic factors may contribute to the relationship between early drinking and subsequent alcoholism. Environmental factors may also be involved, especially in alcoholic families, where children may start drinking earlier because of easier access to alcohol in the home, family acceptance of drinking, and lack of parental monitoring ([pubs.niaaa.nih.gov/publications/aa11.htm](https://pubs.niaaa.nih.gov/publications/aa11.htm)).

# Consequences for Youth - Data

ALCOHOL CONSEQUENCE									
CONSTRUCT	MEASURE	SOURCE		YEAR					
				2003	2004	2005	2006	2007	
<b>ALCOHOL-RELATED MORTALITY</b>	Rate per 100,000 population of deaths from chronic liver disease per 1000 population	NVSS	OK	9.7	11.0	12.1	12.4		
			Nation	9.5	9.2	9.3	9.2		
		Rate Ratio			1.02	1.20	1.30	1.35	
		Rate per 100,000 population of deaths from suicide	NVSS	OK	13.6	14.4	14.7	15.0	
	Nation			10.8	11.0	11.0	11.1		
	Rate Ratio			1.26	1.31	1.34	1.35		
	Rate per 100,000 population of deaths from homicide	NVSS	OK	6.4	6.3	6.1	6.3		
			Nation	6.1	5.9	6.0	6.2		
Rate Ratio			1.05	1.07	1.02	1.02			
<b>MOTOR VEHICLE CRASHES</b>	Percentage of fatal crashes with an alcohol-impaired driver	FARS	OK	31.3	29.1	29.3	28.0	29.0	
			Nation	30.3	30.4	31.1	31.4	31.5	
		Rate Ratio			1.03	0.96	0.94	0.89	0.92
<b>CRIME</b>	Number of violent crimes (aggravated assaults, sexual assaults, and robberies) reported to police per 100,000 population	UCR	OK			508.6	497.4	499.6	
			Nation			469.0	473.6	466.9	
		Rate Ratio					1.08	1.05	1.10
<b>DEPENDENCE OR ABUSE</b>	Percent of persons aged 12 and older meeting DSM-IV criteria for alcohol abuse or dependence	NSDUH	OK	6.9	7.4	7.9	7.4	6.9	
			Nation	7.5	7.8	7.7	7.6	7.5	
		Rate Ratio			0.92	0.95	1.03	0.97	0.92

# Consequences for Youth - Data

ALCOHOL CONSUMPTION									
CONSTRUCT	MEASURE	SOURCE	YEAR						
			2003	2004	2005	2006	2007	2008	
Current Use	Percentage of persons aged 12 and older reporting any use of alcohol in the past 30 days	NSDUH	OK	42.9	42.6	42.4	41.9	42.5	
			Nation	50.1	50.3	51.8	50.9	51.1	51.6
		Rate Ratio		0.87	0.90	0.82	0.82	0.83	
	Percent of students in grades 9-12 reporting any use of alcohol in the past 30 days	YRBS	OK	47.8		40.5	43.1		
			Nation	44.9		43.3	44.7		
		Rate Ratio		1.06		0.94	0.96		
Percent of persons aged 18 and over reporting any use of alcohol in the past 30 days	BRFSS	OK	43.4	43.0	42.3	41.7	40.9	41.5	
		Nation	59.4	57.1	56.2	55.4	54.8	54.4	
	Rate Ratio		0.73	0.75	0.75	0.75	0.75	0.76	
Current Binge Drinking	Percent of persons aged 12 and older reporting having five or more drinks on at least one occasion in the past 30 days	NSDUH	OK	19.0	20.7	21.4	21.4	21.2	
			Nation	22.6	22.8	22.7	23.0	23.3	23.3
		Rate Ratio		0.91	0.94	0.93	0.91		
	Percent of students in grades 9-12 reporting having five or more drinks on at least one occasion in the past 30 days	YRBS	OK	34.0		26.6	27.9		
			Nation	28.3		25.5	26.0		
		Rate Ratio		1.2		1.04	1.07		
Percent of persons aged 18 and older reporting having five or more drinks on at least one occasion in the past 30 days	BRFSS	OK	13.3	13.0	12.6	13.4	12.4	12.2	
		Nation	16.5	15.1	14.4	15.4	15.8	15.6	
	Rate Ratio		0.81	0.86	0.88	0.87	0.79	0.78	
HEAVY DRINKING	Percent of adults aged 18 and older reporting average daily alcohol consumption greater than 2 drinks (male) or greater than 1 drink (female) per day	BRFSS	OK	4.2	3.7	3.1	3.6	3.5	2.9
			Nation	5.8	4.9	4.9	4.9	5.2	5.1
		Rate Ratio		0.72	0.76	0.63	0.73	0.67	0.57
AGE OF INITIAL USE	Percent of students in grades 9-12 who reported first using alcohol before age 13	YRBS	OK	26.8		25.2	23.3		
			Nation	27.8		25.6	23.8		
		Rate Ratio		0.96		0.98	0.98		
DRINKING AND DRIVING	Percent of students in grades 9-12 who reported riding in a car driven by someone who had been drinking	YRBS	OK	30.6		25.8	26.8		
			Nation	30.2		28.5	29.1		
		Rate Ratio		1.01		0.91	0.92		
	Percent of students in grades 9-12 who reported driving when they had been drinking	YRBS	OK	17.5		12.3	13.3		
			Nation	12.1		9.9	10.5		
		Rate Ratio		1.45		1.24	1.27		
ALCOHOL USE									

# Societal Costs: Shoveling Up

- The National Center on Addiction and Substance Abuse at Columbia University report estimates that Oklahoma spends 11.8% of its state budget to address the societal costs of substance use.
- The State Budget in 2010 is \$5,244,829,734.
- This implies that Oklahoma spends \$618,889,908 annually to 'shovel up' the costs of substance use.

# Societal Costs: Specifics

- Health
- Treatment/Rehabilitation
- Law Enforcement



# Societal Costs: Health Care

- The direct costs of underage drinking due to medical care and loss of work cost the U.S. \$21.1 billion each year, or \$2,094 per year for each youth in the nation (<http://www.cspinet.org/booze/enforcing.htm>).
- The youth population in Oklahoma (10-19) is 497,367 (American Fact Finder)
- Total cost = \$1,041,486,498

# Societal Costs: Alcohol Treatment/Rehabilitation

- Based on the OPNAS it can be estimated that 22,479 youth 18 and under are in need of treatment for alcohol abuse (based on extrapolation of OPNAS data with census information).
- Cost of alcohol treatment is estimated at \$7,000 for one month (<http://www.drug-alcohol-rehabs.org/drug-rehab-cost.html>).
- Total cost of care for this population would be \$157,359,356, if:
  - The resources existed (they don't).
  - All who needed treatment could get it (they won't).

# Societal Costs: Law Enforcement - National

Problem	Cost (Bil)
• Youth Violence	\$31.1
• Youth Traffic Crashes	\$14.9
• Youth Property Crime	\$3.1
• Total	\$49.1

(<http://www.cspinet.org/booze/enforcing.htm>)

# Societal Costs: Law Enforcement

- Oklahoma spends \$490,000,000 on law enforcement related to alcohol use.
- [more to be added]

# Lessons Learned

- Alcohol consumption by youth is a significant problem in Oklahoma and across the United States (CDC 2007)
- Underage alcohol use impacts a large segment of the youth population – reaching almost 50% by age 18 (OPNA).
- Underage alcohol use is a greater problem by many magnitudes than illicit and prescription drug use combined.
- There have been modest reductions in alcohol use by Oklahoma youth though it remains a major problem.
- Prevention is a future oriented activity – you have never ‘won’.
- Unaddressed, underage drinking exacts a tremendous toll on family and state budgets.
- Prevention of youthful alcohol use is amenable to environmental change – changing laws, ordinances and enforcement that impact access to alcohol.

# Environmental Strategies

## ***1. Commercial Availability***

- Ban commercial sales and gifts to minors
- Restrict the location of alcohol outlets
- Restrict alcohol sales at community events
- Restrict the age of alcohol servers and sellers
- Restrict minors' access to bars and nightclubs
- Install and use drivers license scanners
- Regulate home delivery and internet/mail-order sales
- Mandate responsible beverage service programs
- Carry out compliance check programs

# Environmental Strategies

## ***2. Social Availability***

- Restrict noncommercial furnishing of alcohol to minors
- Implement beer keg registration
- Implement 'shoulder-tap' enforcement programs<sup>9</sup>
- Restrict and monitor teen parties at motels and hotels
- Establish alcohol restrictions in public locations
- Apply appropriate penalties to illegal transactions in noncommercial settings

# Environmental Strategies

## ***3. Youth Possession***

- Ban possession by minors in public and private locations
- Use "Cops in Shops" programs sparingly
- Implement and enforce zero-tolerance laws
- Ban false identification
- Apply appropriate penalties to minors in possession