

Underage Drinking

Implications for Health & Recovery Services Administration

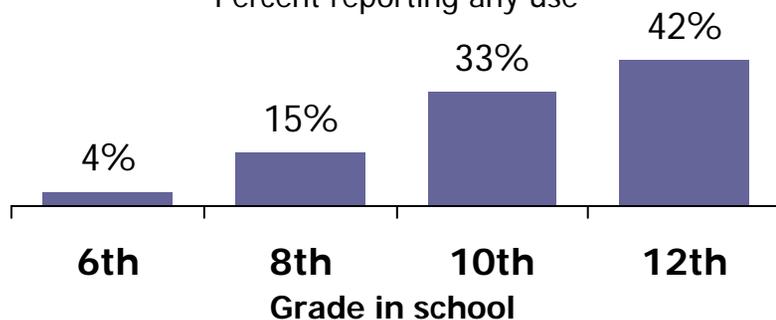
Michael Langer
Prevention & Treatment Supervisor
June 2008

Prevalence Data

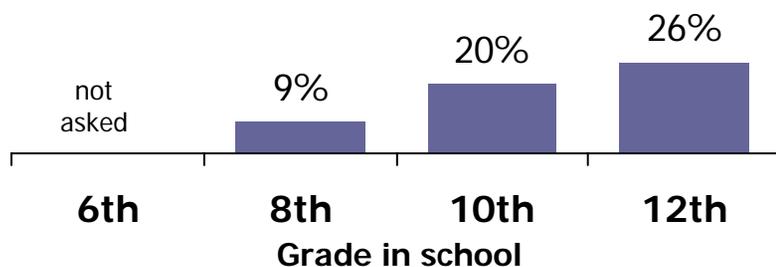
Washington State

Alcohol use in the past 30-days

Percent reporting any use



Binge Drinking in the past 2 weeks

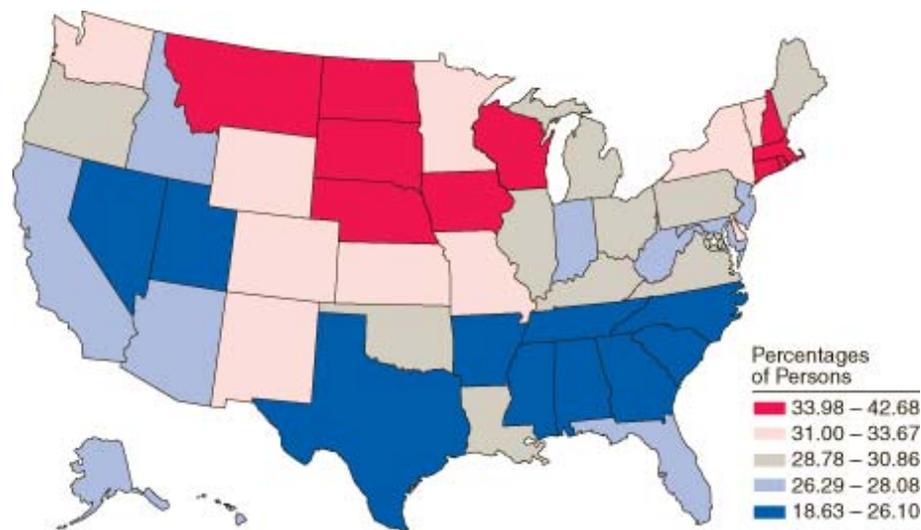


Source: Healthy Youth Survey, 2006. www.AskHYS.com

National Comparison

Percentages of Persons Aged 12 to 20 Reporting Past Month Alcohol Use.

By State: 2003 and 2004



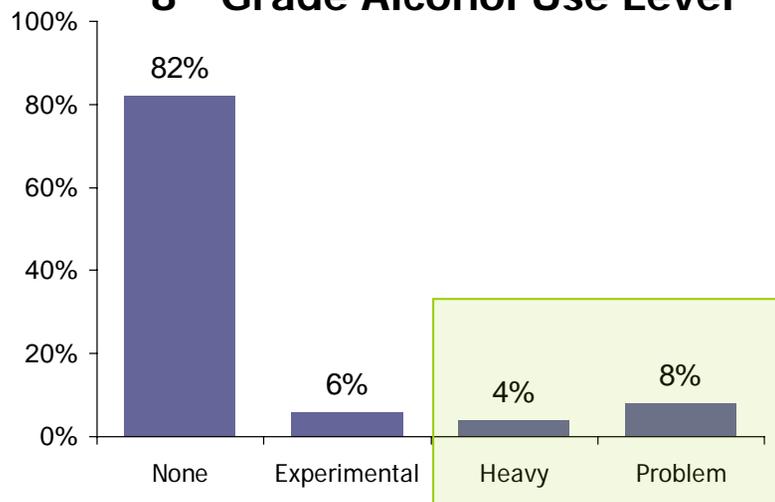
Source: SAMHSA, 2002, 2003, and 2004 NSDUHs.

www.oas.samhsa.gov/2k6/stateUnderageDrinking/underageDrinking.htm

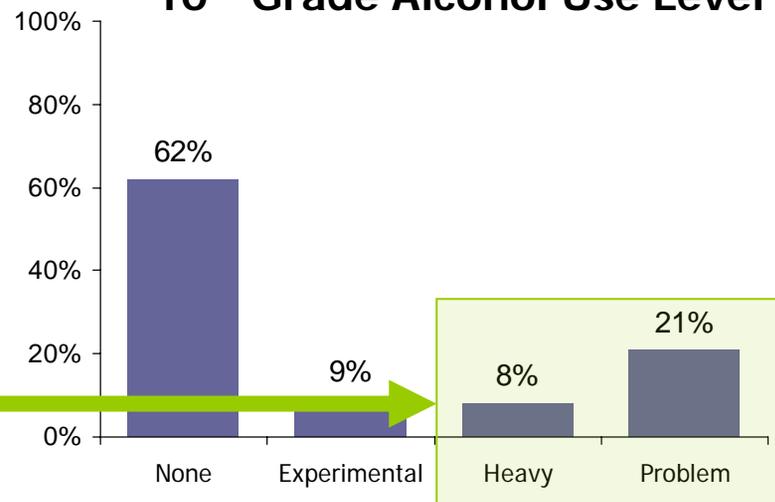
Prevalence Data

Between 8th and 10th grade, heavy drinking doubles and problem drinking nearly triples.

8th Grade Alcohol Use Level



10th Grade Alcohol Use Level



- None: no drinking in the past 30 days.
 - Experimental: 1-2 days drinking, and no binge drinking in the past 30 days.
 - Heavy: 3-5 days drinking, and/or one binge in the past 30 days.
 - Problem: 6+ days drinking, and/or 2+ binge in the past 30 days.
- (binge drinking is defined as 5 or more drinks (male) and 4 or more drinks (female) in one session)*

Alcohol & The Adolescent Brain

Adolescence is a time of heightened risk-taking as well as opportunities and freedom for life-changing choices and actions.

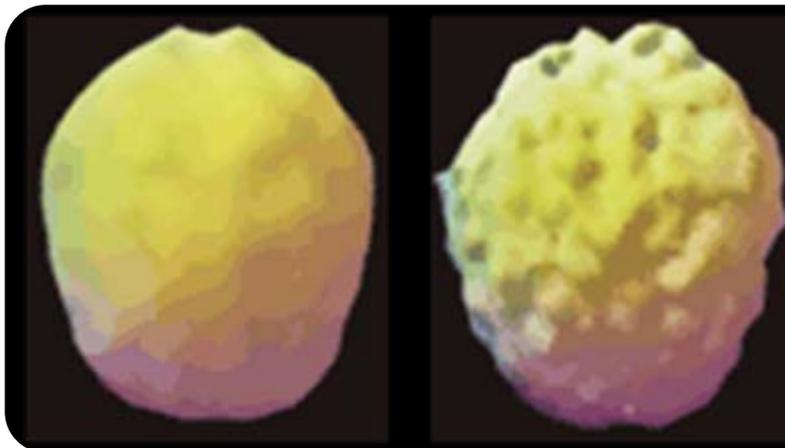
“Adolescents make a lot of decisions that the average 9-year-old would say was a dumb thing to do.”

Ronald Dahl, *U of Pittsburgh Med School*
(*NYAS Mag. Nov 2003*)

The human brain does not fully develop until about age 25.

The last part to develop is the pre-frontal cortex which controls judgment.

Alcohol impairs adolescent brain development.



These SPECT images show functional activity levels in the brain of a healthy nondrinker (left), and that of a sober 21-year-old with a four-year history of heavy alcohol use (right). The “holes” indicate areas of reduced brain activity.

Dr. Daniel Amen; www.amenclinic.com

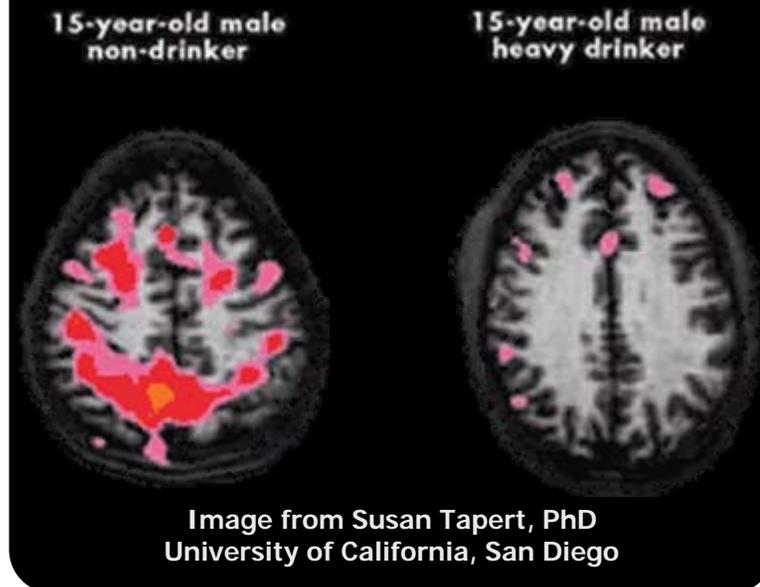
Alcohol & The Adolescent Brain

Recent research has focused on the effects of alcohol use on the developing brain.

Drinkers vs. non-drinkers: AMA research findings

- Adolescent drinkers scored worse than non-users on vocabulary, general information, memory, memory retrieval and at least three other tests
- Verbal and nonverbal information recall was most heavily affected, with a 10 percent performance decrease in alcohol users
- Significant neuropsychological deficits exist in early to middle adolescents (ages 15 and 16) with histories of extensive alcohol use
- Adolescent drinkers perform worse in school, are more likely to fall behind and have an increased risk of social problems, depression, suicidal thoughts and violence
- Alcohol affects the sleep cycle, resulting in impaired learning and memory as well as disrupted release of hormones necessary for growth and maturation
- Alcohol use increases risk of stroke among young drinkers

The brain images below show how alcohol may harm teen mental function. Compared with a young non-drinker, a 15 year-old with an alcohol problem showed poor brain activity during a memory task. This finding is noted by the lack of pink and red coloring.



Why the Concern About Drinking?

In addition to the medical consequences, the social consequences of adolescent alcohol use are expensive

Increased risk of:

Being the victim of a crime

Getting into a fight

Sexual abuse

Suicide

Impaired driving

Unintended pregnancy

Unprotected sex

Low academic performance

Poor attendance at school/work

Drowning

...and...

Dependency

Early Use Increases Dependence

First use of alcohol at ages 11–14 greatly heightens the risk of progression to the development of alcohol disorders and therefore is a reasonable target for intervention strategies that seek to delay first use as a means of averting problems later in life.

David J. DeWit, Ph.D. et al. American Journal of Psychiatry, May 2000; 157: 745-750.

Table. Dependence and, Among Dependents, Duration of Longest Dependence Episode and Number of Dependence Symptoms According to Age Started Drinking: National Epidemiologic Survey on Alcohol and Related Conditions*

Age Started Drinking, y	Ever Drank, No. (%) (N = 26 829)	Dependence, %					
		Never	Lifetime†	Within 10 y†	Before Age 25 y†	Past Year	≥2 Episodes
<14	1380 (5)	53	47	27	33	13	15
14	956 (4)	55	45	28	31	12	11
15	1516 (6)	62	38	26	27	10	9
16	2925 (11)	68	32	21	22	10	8
17	2761 (10)	72	28	19	19	8	7
18	5834 (22)	85	15	10	10	4	3
19	2063 (8)	83	17	10	11	4	5
20	1978 (7)	89	11	6	6	3	3
≥21	7416 (28)	91	9	4	2	2	2

* $P < .001$ for all. P values refer to bivariate relationships between age started drinking and alcohol dependence outcomes tested using χ^2 analysis.

†From Kaplan-Meier survival analysis.

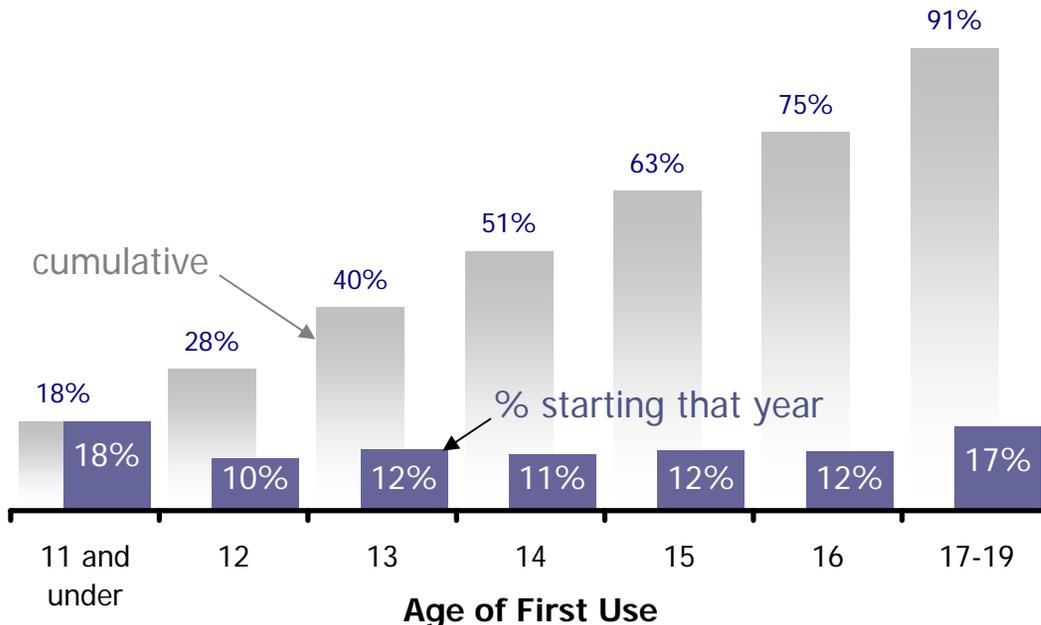
Hingson, R. W. et al. Arch Pediatr Adolesc Med 2006;160:739-746.

Treatment Data

Publicly funded treatment patients report alcohol use starting in adolescence. In the 2005-07 biennium, 37,254 patients listed alcohol as their primary substance.

Age of First Use by Publicly-Funded Patients Who Report Alcohol as Primary Substance

N=37,254, 2005-07 Biennium



Of those patients...

- Nearly 1 in 5 reported using while 11 years old or younger.
- Half began using alcohol by age 14 (8th grade).
- 91% started using before age 20.

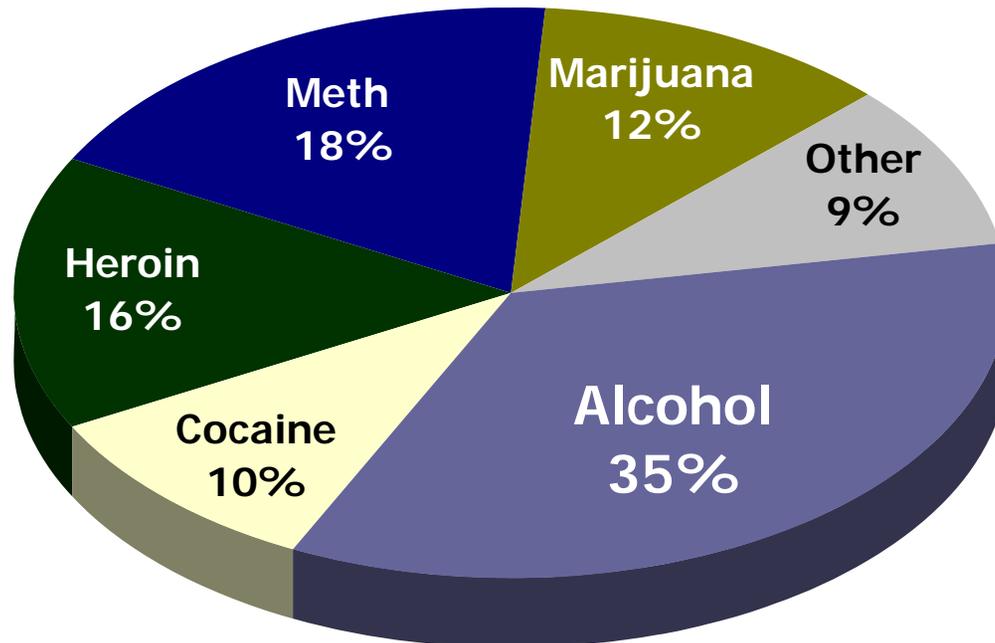
The public is paying for adults to be treated for a disease that is preventable by delaying the age of first use.

Treatment Expansion

Alcohol is the primary drug of our costliest patients.

Median age of first alcohol use: 14

Primary Substance
Adult Treatment Expansion Patients
FY2007 - N=25,069



Moving Forward

Future initiatives must be developed to increase the investment in those evidence-based programs shown to have a proven cost benefit and proven to reduce youth substance abuse.

Summary of Benefits and Costs for Common Evidence Based Prevention Programs (2003 Dollars)

Program	Benefits	Costs	Benefits per Dollar of Cost	Benefits Minus Cost
Strengthening Families Program for Parents and Youth 10-14	\$6,656	\$851	\$7.82	\$5,805
Guiding Good Choices (formerly PDFY)	\$7,605	\$687	\$11.07	\$6,918
Project Northland	\$1,575	\$152	\$10.39	\$1,423
Life Skills Training (LST)	\$746	\$29	\$25.61	\$717

Source: Steve Aos, Roxanne Lieb, Jim Mayfield, Marna Miller, Annie Pennucci. (2004) Benefits and costs of prevention and early intervention programs for youth. Olympia: Washington State Institute for Public Policy. #04-07-3901

Copies of the WSIPP report are available at <http://www.wsipp.wa.gov/>

Moving Forward

HRSA support for cost-neutral policy changes.

Environmental Change

To reduce underage drinking, we must challenge the community environment. It's not enough to target youth. To make a lasting difference, we also need to change the behavior and attitudes of adults, because they are the ones who control the supply, enforce the laws, and set the norms for acceptable behavior.

Reduce the Social Availability of Alcohol to Minors

Challenge Norms Condoning Underage Drinking

Restrict Marketing & Promotion of Alcohol to Minors

Holding youth solely responsible for underage drinking is like blaming fish for dying in a polluted stream.

- Laurie Lieber, *Marin Institute*



Model Alcohol Advertising Policies

The Center for Alcohol Marketing and Youth provides guidance on model laws for States to enact.

Model Law	Washington State
1. Prohibit False or Misleading Alcohol Advertising	I
2. Prohibit media targeting minors	--
3. Prohibit Images of Children in Alcohol Advertisements	BP
4. Prohibit Images or Statements that Associate Alcohol with Athletic Achievement	BP
5. Prohibit Images or Statements that Portray or Encourage Intoxication	BP
6. Establish Explicit Jurisdiction Over In-State Electronic Media	I
7. Restrict Outdoor Alcohol Advertising in Locations Where Children Are Likely to Be Present	--
8. Prohibit Outdoor Alcohol Advertising Near Schools, Public Playgrounds and Churches	I
9. Restrict Alcohol Advertising on Alcohol Retail Outlet Windows and Outside Areas	--
10. Prohibit Alcohol Advertising on College Campuses	--
11. Restrict Sponsorship of Civic Events	--
12. Limit Giveaways (Contest, Raffles, etc.)	--

BP: all elements of the best practice are present; I: at least one but not all elements of the best practice is present;

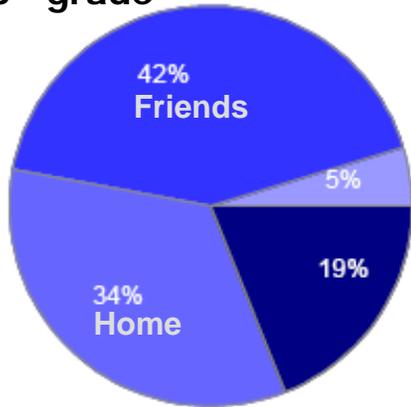
--: the state does not address the regulatory category, the law lacks any of the elements of best practices, or the law is unenforceable (e.g., unconstitutional).

Availability

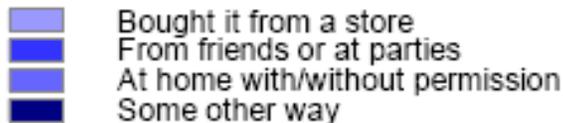
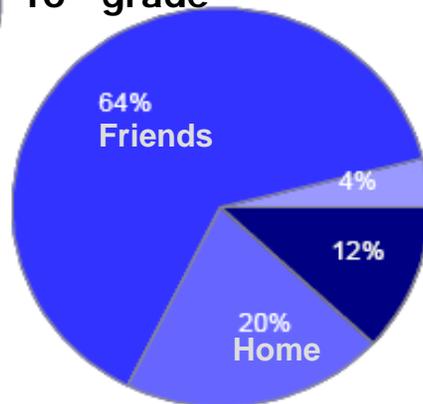
Where do Kids Get Alcohol?

Source reported by students who used alcohol

8th grade

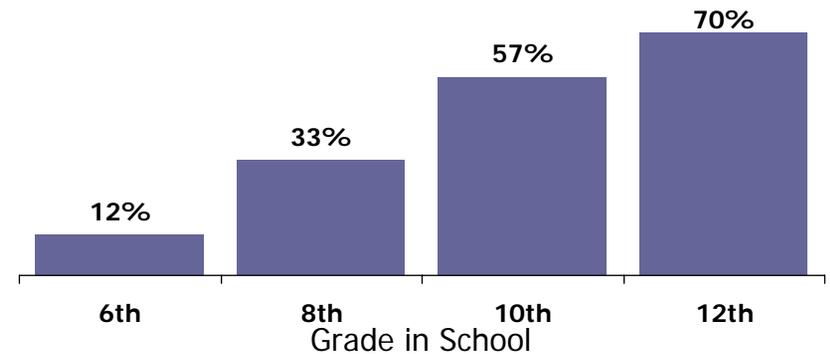


10th grade



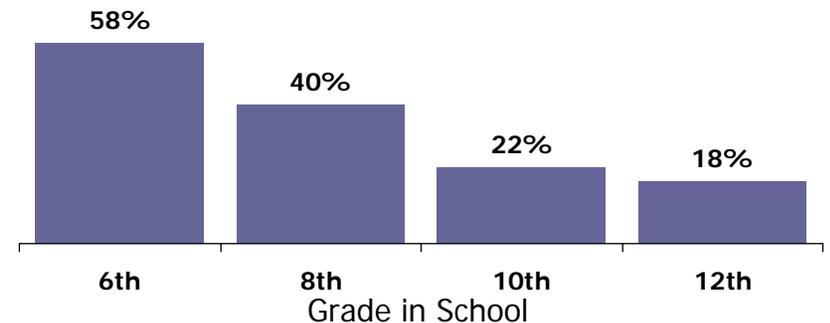
Students Say Alcohol is Available

Percent reporting alcohol is easy to get



Students Not Afraid of Getting Caught

Percent reporting that police would catch them

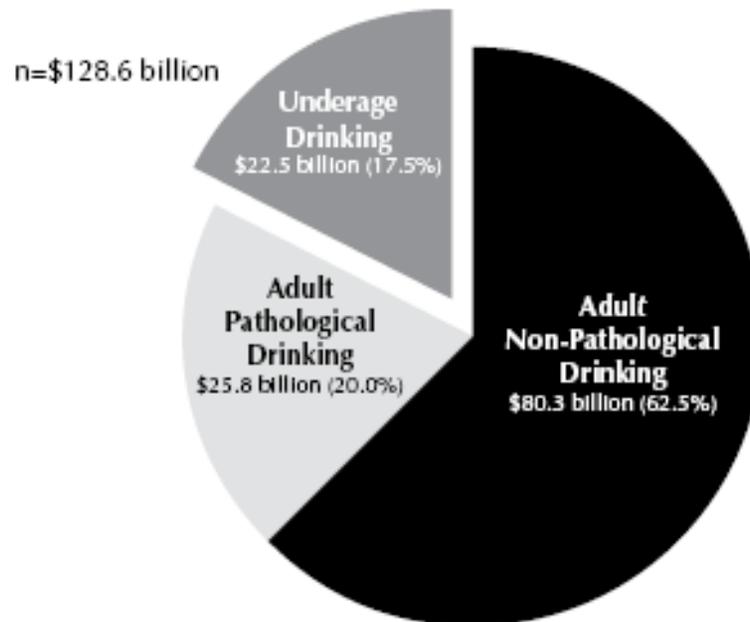


Countering Market Forces

Nearly one-fifth of alcohol income is from underage drinking.

While most alcohol purchased is consumed by adults, underage drinkers represent a significant proportion of the market.

Underage Drinking Accounted for 17.5% of the Cash Value of Total U.S. Consumer Expenditures for Alcohol in 2001.



Source: Foster, S., et al., "Estimate of the Commercial Value of Underage Drinking and Adult Abusive and Dependent Drinking to the Alcohol Industry," *Archives of Pediatrics and Adolescent Medicine* 160, May 2006.