



Alcohol Use Among College Students

Results of the 2006 CORE Survey

By Sara Brenner M.P.H.

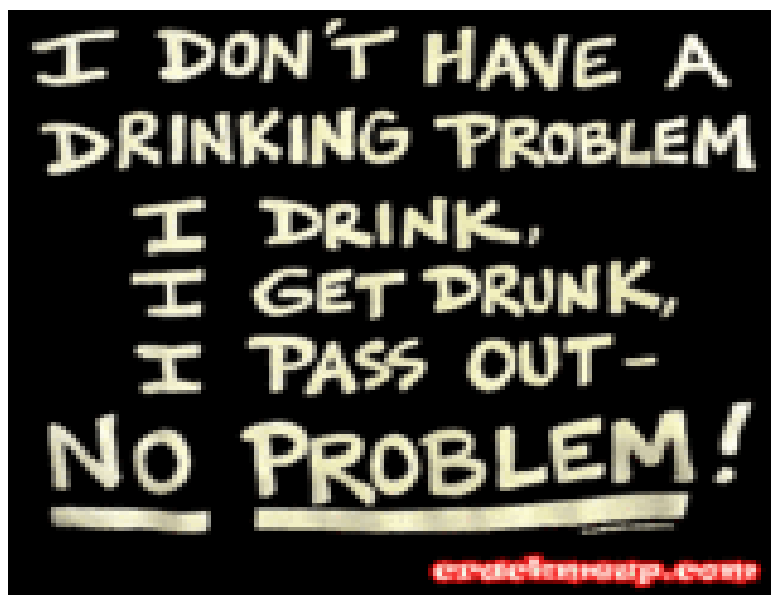
Bacchus hath drowned more men than Neptune.

Dr. Thomas Fuller (1654 – 1734 British physician, preacher, and scholar)



Bacchus by Caravaggio c. 1597; Oil on canvas, 37 3/8 x 33 1/2 in; Uffizi, Florence

Why Care About Alcohol Use Among College Students



But is it a problem?

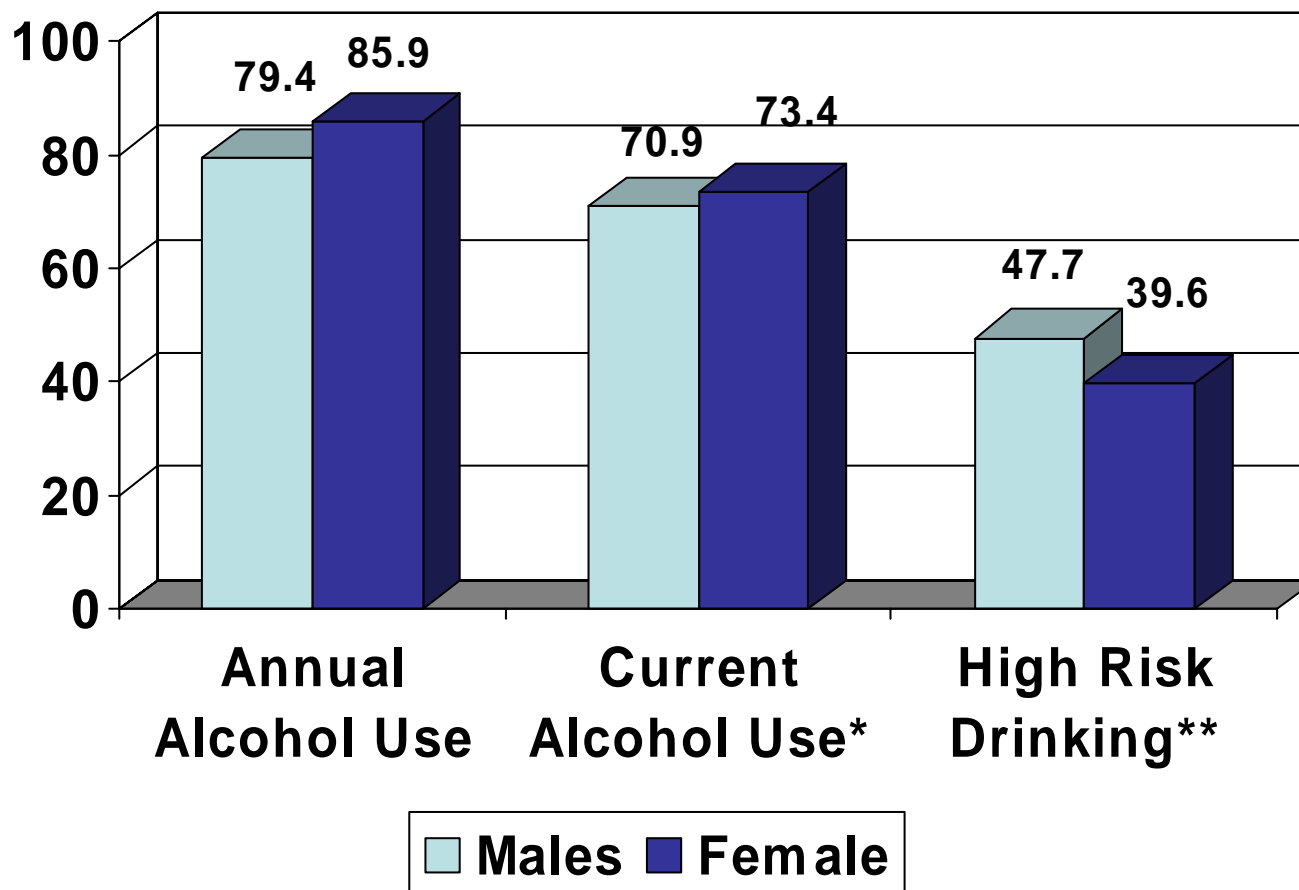
Why Care About Alcohol Use Among College Students

Alcohol Related Negative Consequences	Estimated National Burden on College Students Each Year
Death (ages 18-24) ¹	1,700
Injury (ages 18-24) ¹	599,000
Assault (ages 18-24) ¹	696,000
Sexual Abuse (ages 18-24) ¹	97,000
Unsafe Sex (ages 18-24) ¹	400,000
Academic Problems ^{2,3}	25% of all students
Vandalism ³	11% of all students
Police Involvement ³	5% of all students
Dropout (freshman) ⁴	159,000
Health Problems ⁵	150,000
Suicide Attempts ⁵	1.2-1.5%
Drunken Driving ⁶	2.1 million students
Arrests ⁶	2.2%



Source: Chris Cassatt and Gary Brookins (2006) Shoe. <http://www.comicspage.com/comicspage/main>.

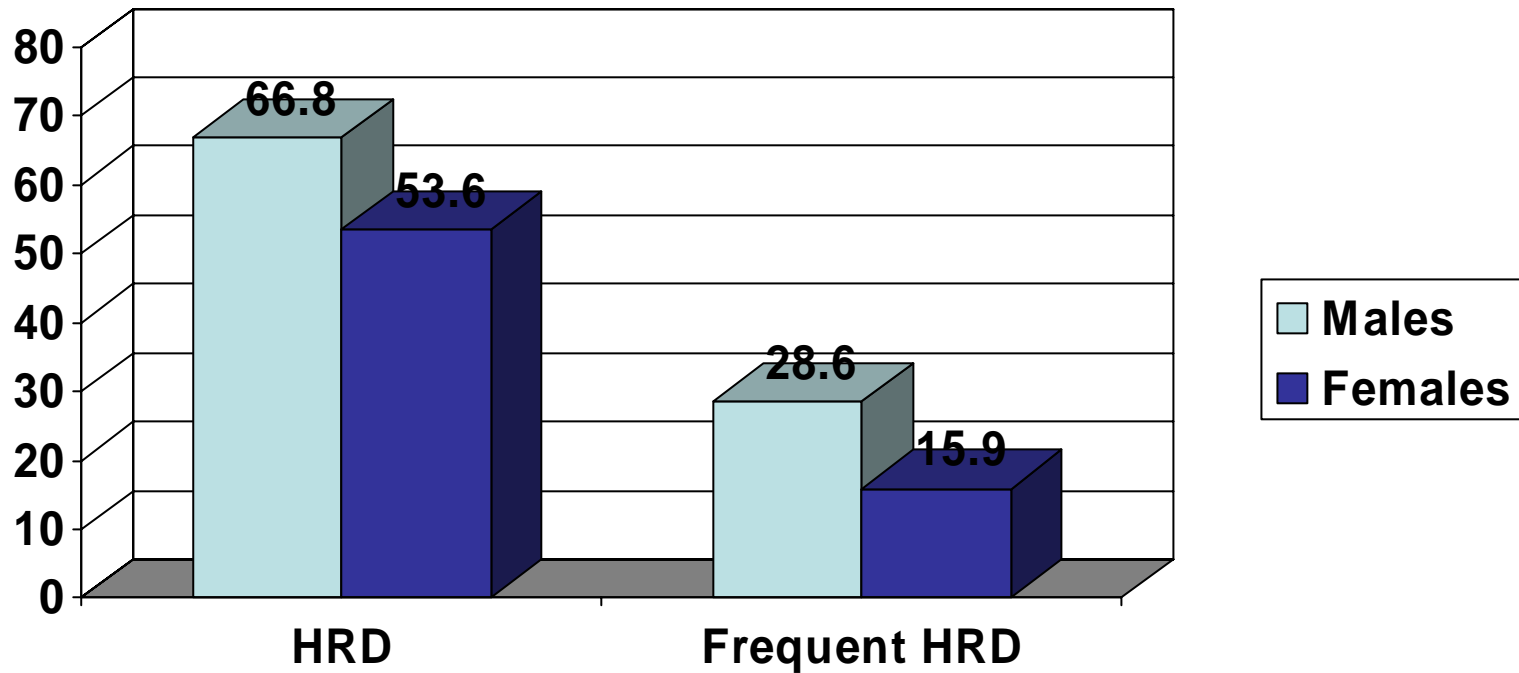
Alcohol Use Measures



* Any alcohol consumption in the previous 30-day period

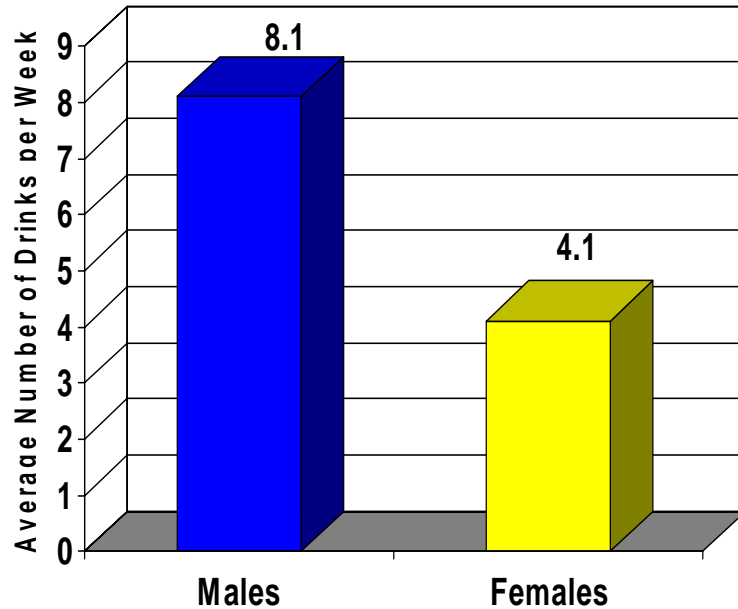
** Five or more drinks on a single occasion in the previous 2 weeks

HRD Among Current (30-Day) Drinkers

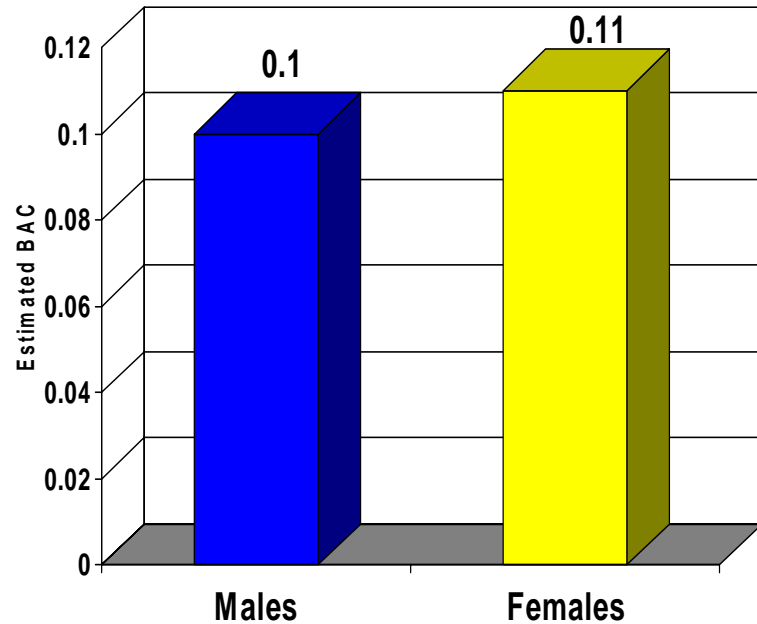


Average Number of Drinks per Week Compared to Average Estimated BAC at Last Socializing Occasion

Average Number of Drinks consumed in a week



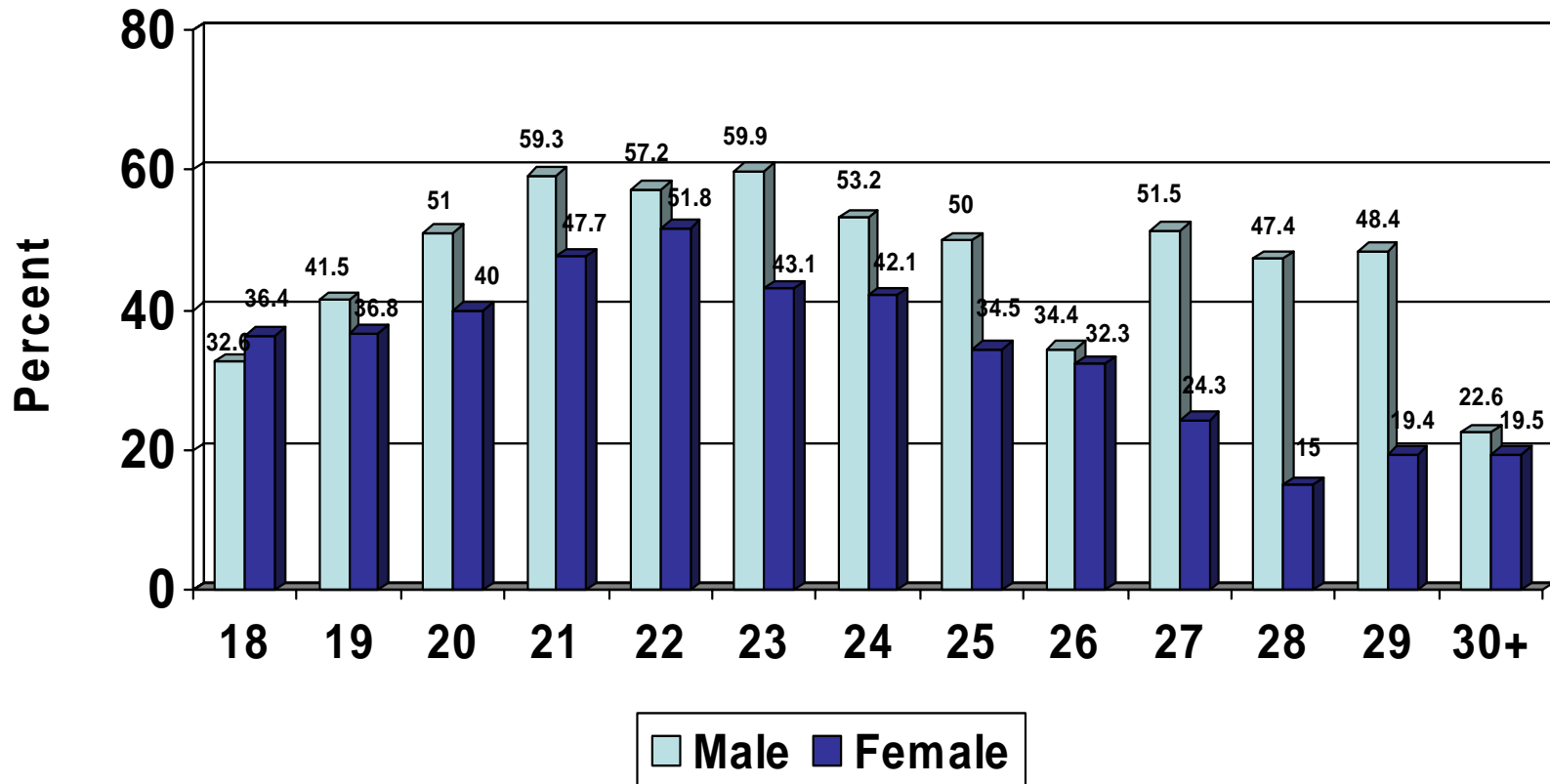
Mean Estimated BAC



High Risk Alcohol Longitudinal Data

- 6 out of the 8 schools that participated in both the 2005 and 2006 CORE survey had a decrease in their HRD rates (5+ drinks in one sitting in the previous 2 week period).
- Range in 2005 27.8 - 58.6
- Range in 2006 31.3 - 45.6

Percent of Students who engage in HRD by Age and Gender



Estimated Blood Alcohol Content (eBAC)

(most recent drinking occasion)

- Calculated value is estimated based on
 - Gender
 - Weight
 - How much alcohol consumed at the most recent drinking occasion (based on standard drink sizes)
 - Over how many hours that alcohol was consumed
- Research indicates that students tend to over pour drinks so value probably an underestimate⁷
- Other factor that effect BAC which are not taken into account by calculation include:
 - Alcohol tolerance
 - Amount of food in the digestive tract

What Is a Standard Drink?

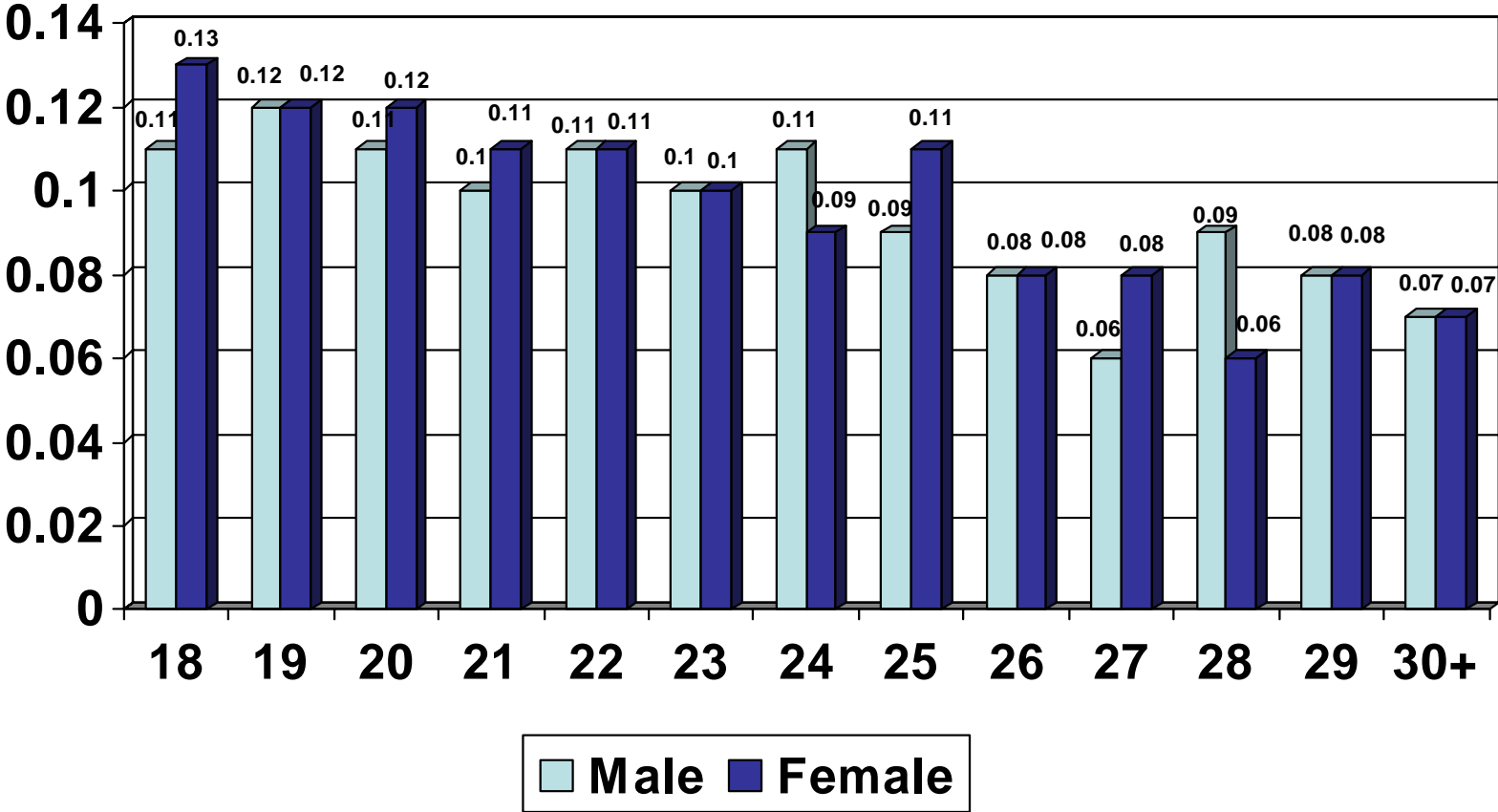


12 oz. beer = 5 oz. wine = 1 to 1-1/2 oz. hard liquor

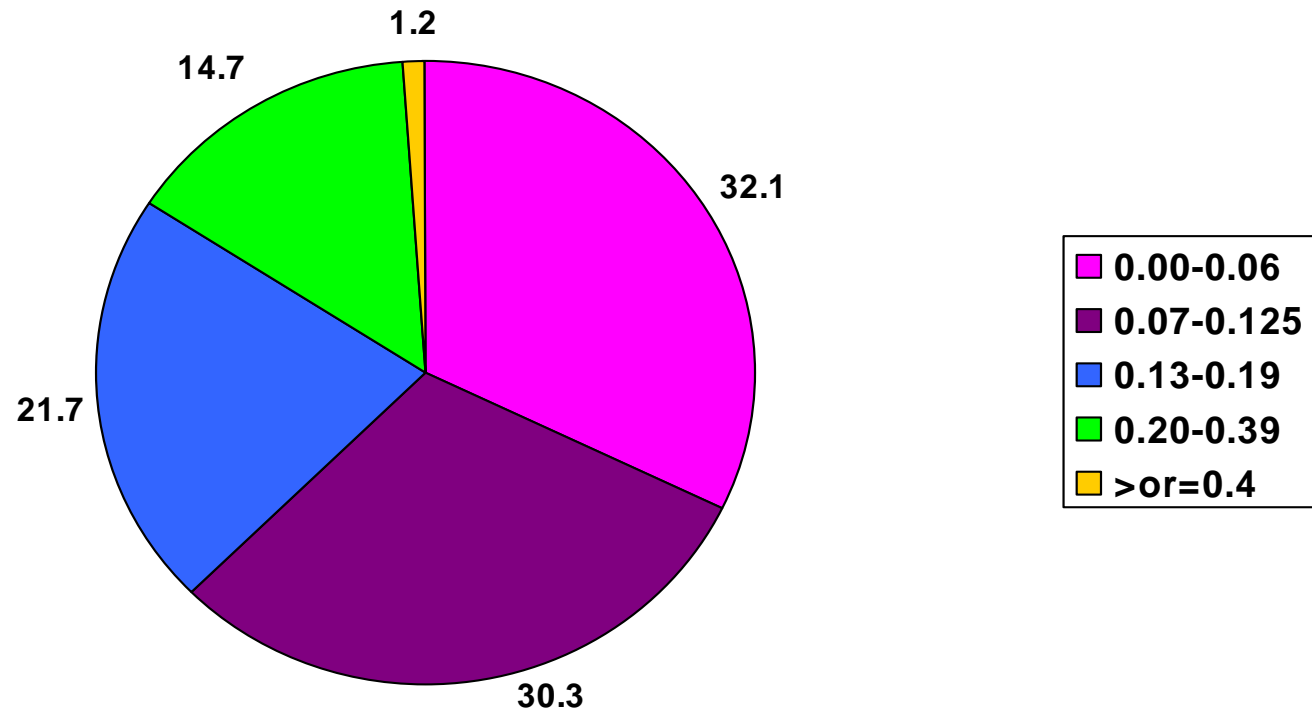
eBAC expected effects

Students Calculated BAC Range	Expected Effects
00 -.01	No effects
.02 -.06	Euphoric, social, talkative, fewer inhibitions
.07 -.125	Felt excited, emotional, less rational, had slowed reactions
.13 -.19	Felt confusion, had impaired balance and movement, slurred speech, nausea and vomiting possible
.20 -.29	Had sever motor impairment (staggering and falling). Risk of asphyxiation due to vomiting.
.30 -.39	Stupor and loss of consciousness (potential alcohol poisoning)
0.40 and above	Onset of coma, and possible death due to respiratory arrest

eBAC by Age and Gender



Percent of students who were at designated eBAC on the previous drinking occasion



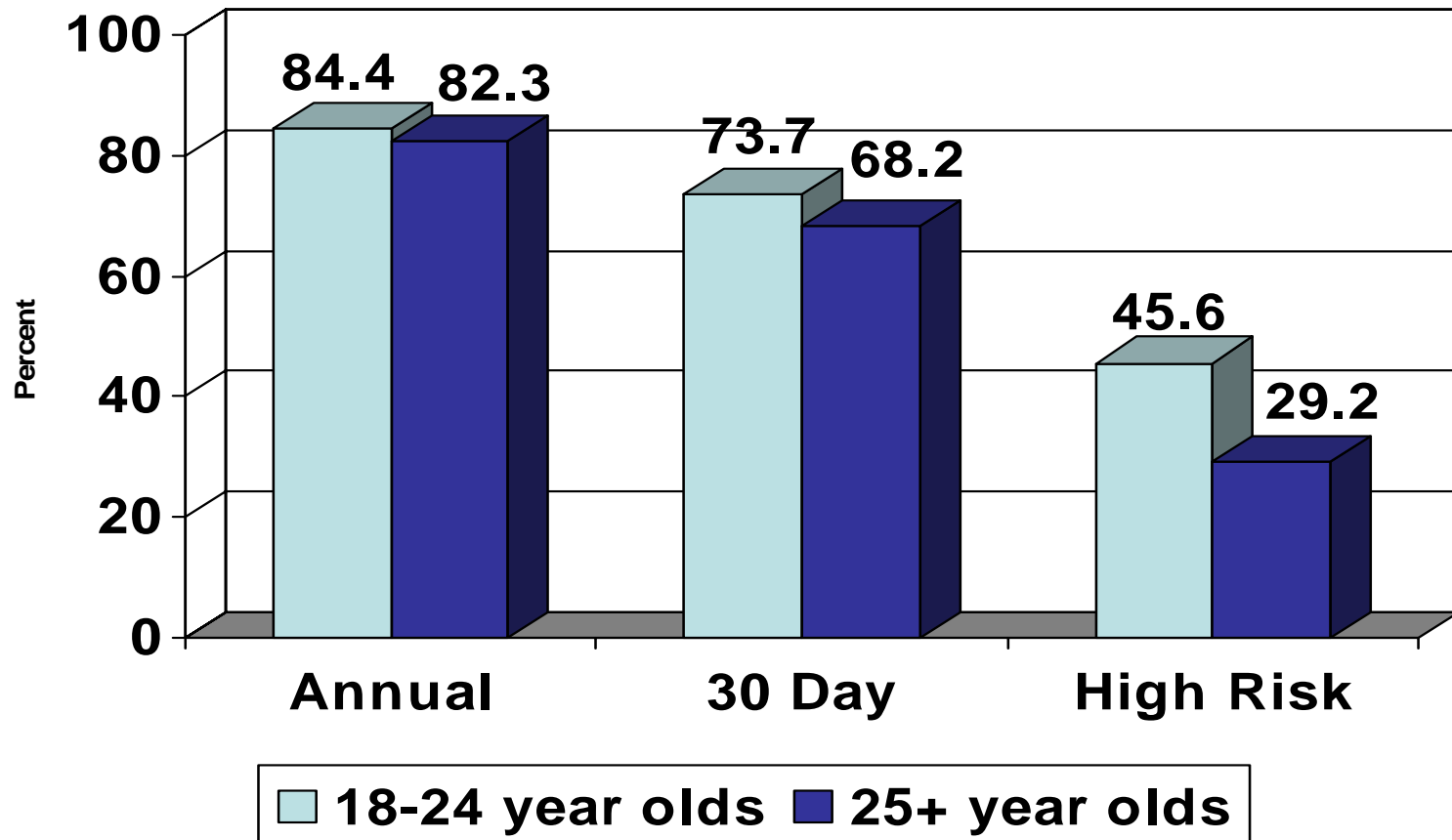
67.9% were at 0.07BAC or above

37.6% were at 0.13BAC or above

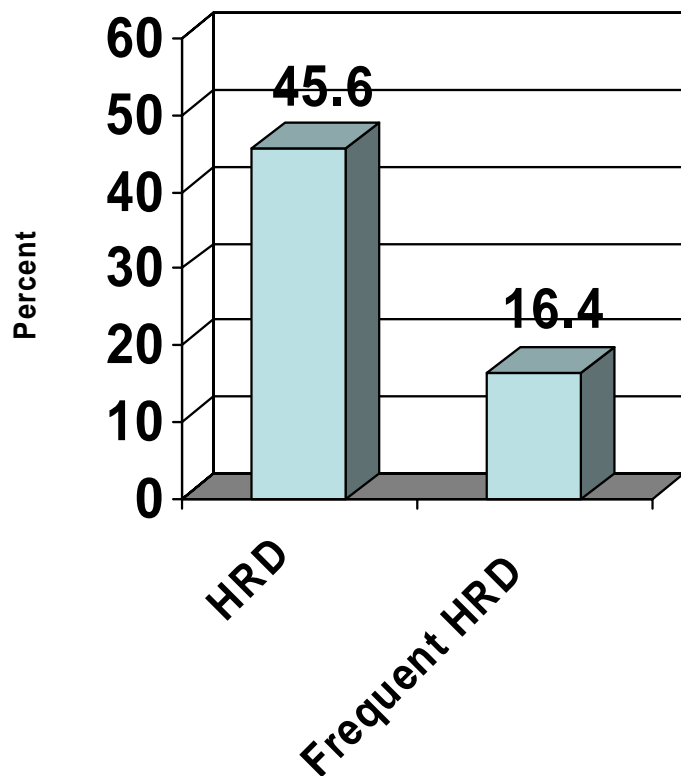
Population Risk

- 12 schools represent a total of 73,842 students.
- Extrapolating, 886 (1.2%) of our full-time undergraduate students in our 12 schools had a BAC that was in the range of coma and death due to respiratory failure on their last partying occasion.
- Even at a BAC of .25, students are at increased risk of asphyxiation from choking on vomit.

Alcohol Use by Age Groupings



High Risk Alcohol Use (18-24 year olds)

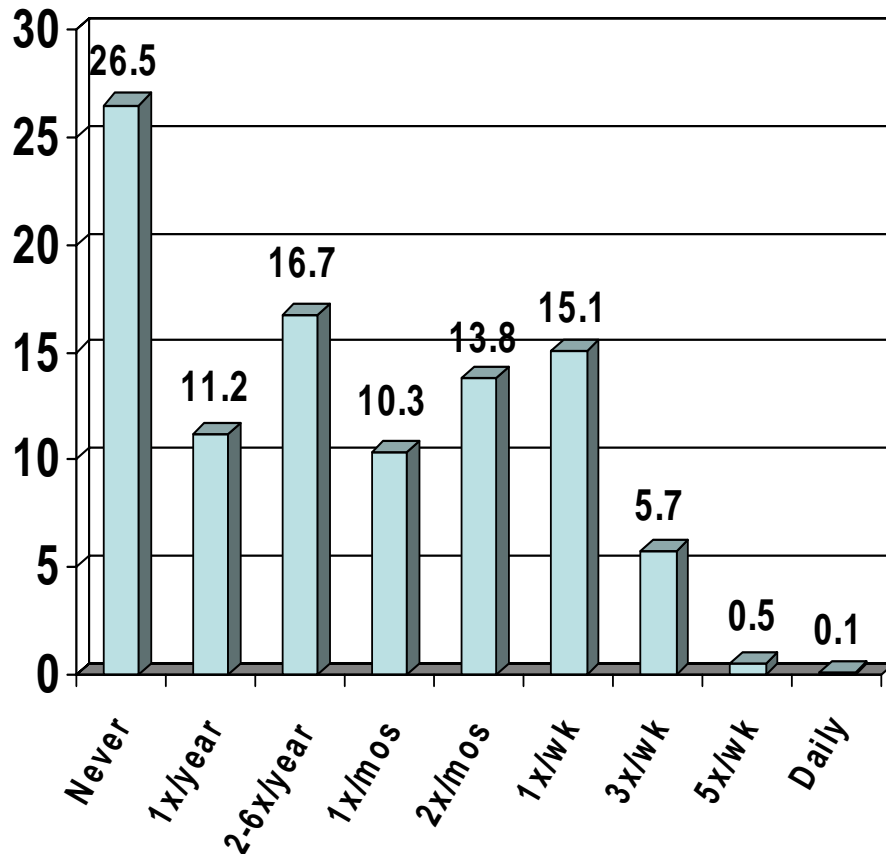


45.6% of 18-24 year olds engaged in any high risk drinking* and almost 1 in 6 (16.4%) were frequent high-risk drinkers**

*5 or more drinks on a single occasion in the previous two weeks.

**defined as 3 or more times in the previous 2 week period.

Number of times intoxicated in the previous year



- 21.4% of students report that they are intoxicated once a week or more.
- 73.5% of student report that they have been intoxicated at least once in the previous year

Alcohol Measures Observations

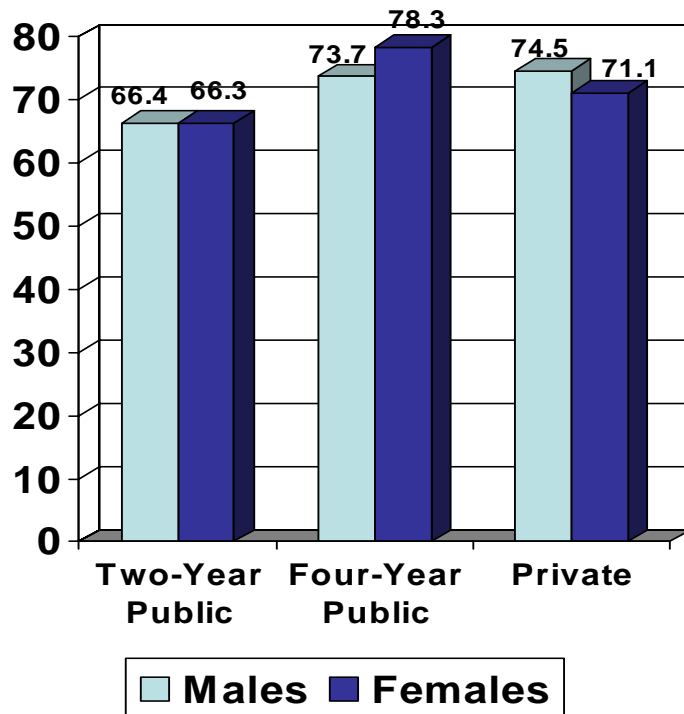
- Males and females consume any alcohol (annually and 30-day) at a similar rate, but males tend to engage in high risk drinking at a higher rate.
- Younger students (18-24) tend to have higher rates of alcohol use across all measures compared to older students (25+), but the highest rates of HRD occur in students 21-24 years old.
- Males drink almost twice as many drinks weekly compared to females.
- Across all measures of alcohol use, males tend to consume more alcohol and engage in riskier drinking practices, except for BAC.
- Females and those age 20 and younger, on last drinking occasion have a higher average estimated BAC than their male and of age counterparts.

Institutional Alcohol Use Measures

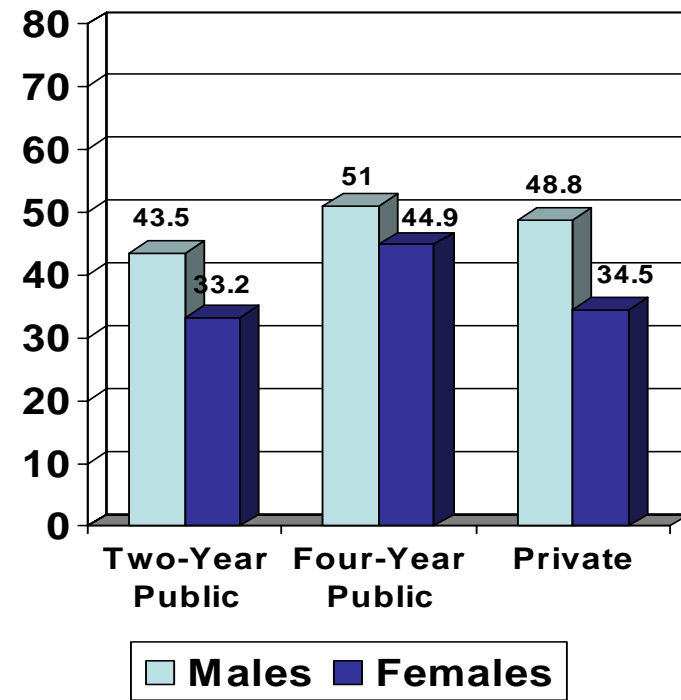
Alcohol Measure	Mean across 12 schools	Range among 12 schools
30 Day Use	72.4	60.1 - 82.0
High Risk Drinking (HRD) (5+ drinks on a single occasion in past 2 weeks)	42.8	31.3 - 54.5
Frequent High Risk Drinking (3 or more x in previous 2 weeks)	14.8	8.4 – 20.6

Current 30-Day Alcohol Use versus High Risk Drinking Institutional Differences

Current Drinking



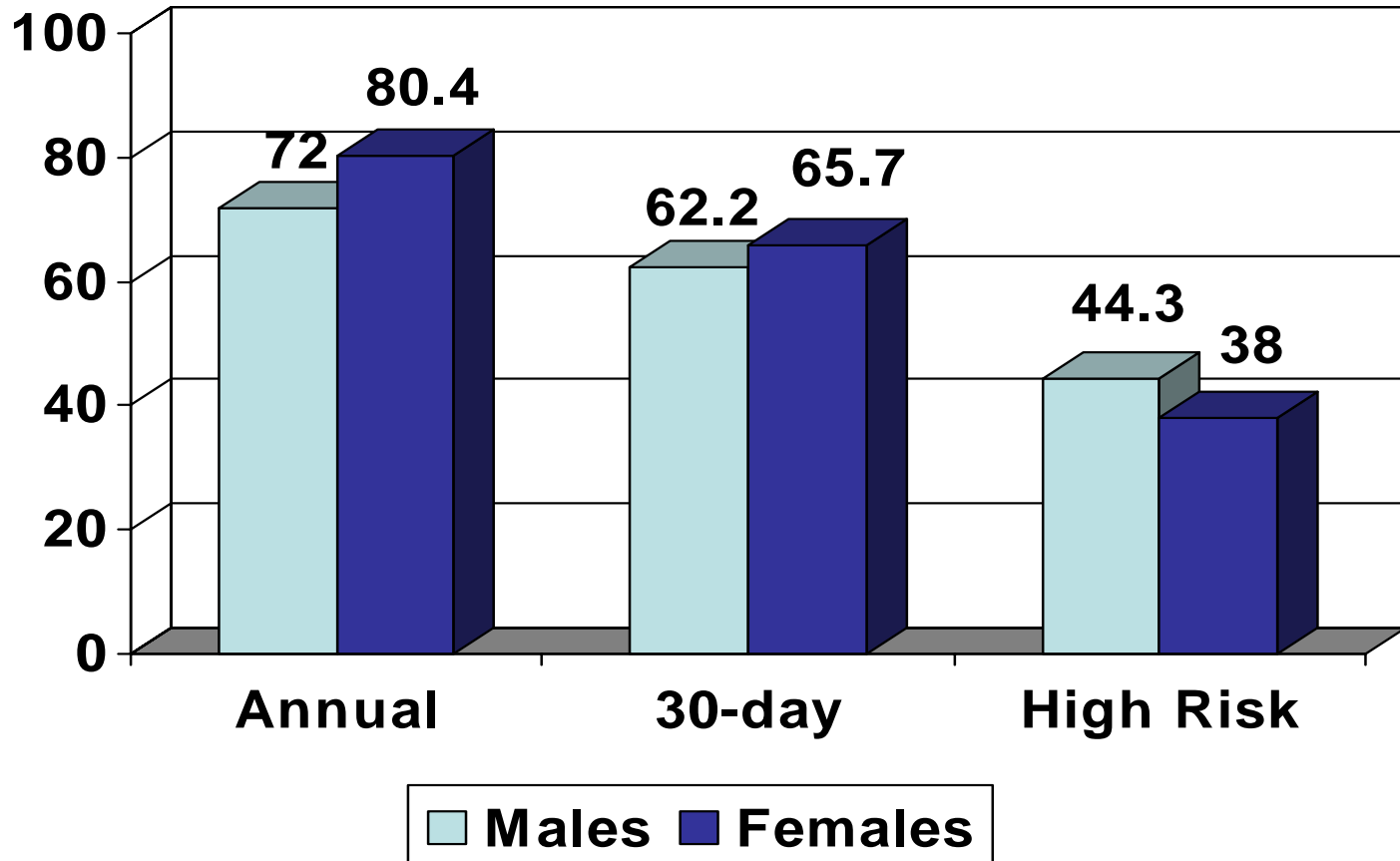
High Risk Drinking



Institutional Observations

- Four year public schools have the highest rate of alcohol use across all measures (annual use, 30-day use and HRD), while two year schools have the lowest.
- The schools where rates of alcohol use in the past 30 days are high are also more likely to have higher rates of high risk drinking.

Underage Alcohol Use



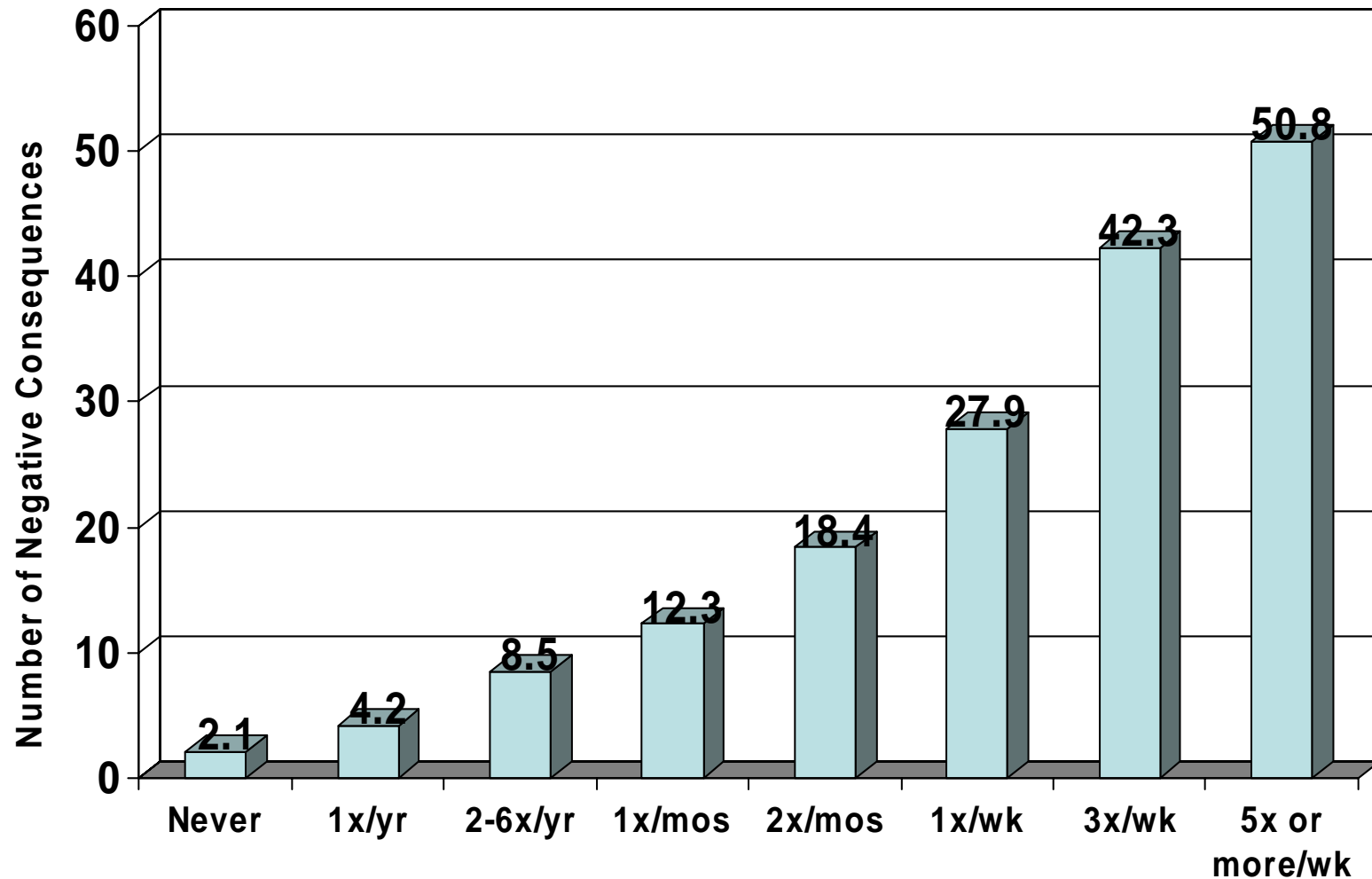
Where are underage students drinking?

(among students who have consumed alcohol in the previous 30 days)

Place of Alcohol Consumption	School Type		
	2 year public N=672	4 year public N=1193	Private N=350
On campus	7.0	23.6	26.6
Residence hall	13.7	63.1	73.1
Fraternity/Sorority	16.2	48.1	20.3
Bar/restaurant	33.2	39.3	34.3
Residence	74.0	72.5	63.7
Car	26.9	25.2	24.0
Private party	84.1	90.5	82.6
Other	26.8	26.4	27.4

Negative Consequences and Alcohol Use

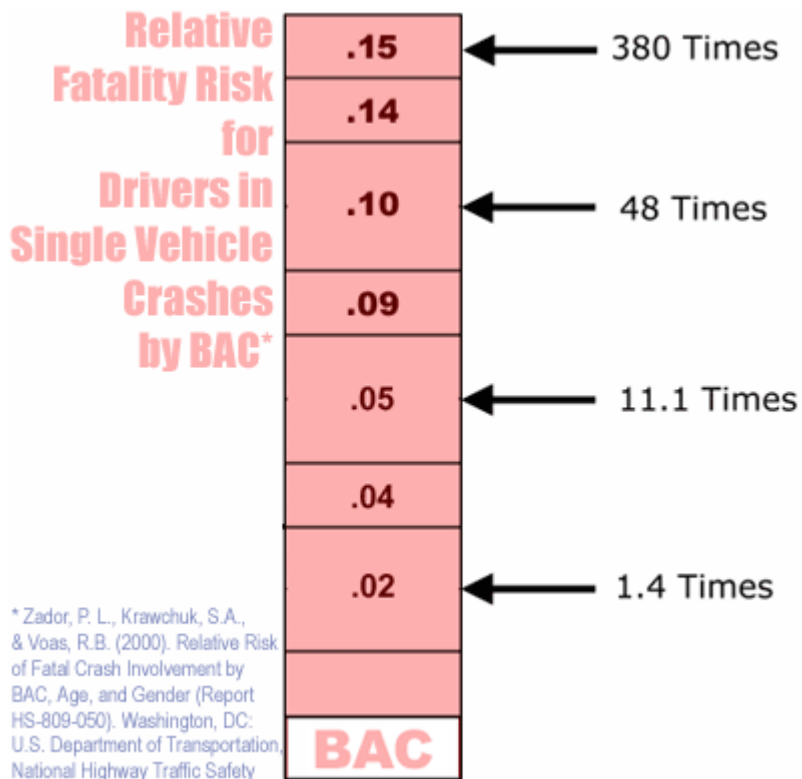
(by Number of Times Intoxicated in the Previous Year)



High Risk Drinking (HRD) and selected consequences

Negative Consequences	All students	Non HRD	HRD (5+ drinks in previous 2 weeks)
Driven	27.7	18.1	54.5
Argument	32.9	22.2	63.2
Poor test or project	23.8	14.5	48.6
Missed class	29.7	18.0	62.1
Been taken advantage of sexually <small>(includes males and females)</small>	9.3	6.5	16.9
Been taken advantage of sexually <small>(females only)</small>	11.3	7.4	17.2 – HRD at least once 25.8 – HRD two or more times

BAC and Driving Impairment



- 54.5% of high risk drinkers say that they have driven while intoxicated at least once in the previous year.

Alcohol Use and Nausea and Vomiting



Among current alcohol users

- 67.9% have gotten nauseated or vomited at least once in the previous year.
- 44.1% have more than once.
- Among those who engage in HRD, 80% have gotten nauseated or vomited at least once in the previous year.

Alcohol Related Negative Consequences Observations

- Those who report having been intoxicated 5 or more times in the previous year experienced 25 times the number of negative consequences due to the alcohol or drug use compared to those who had never been intoxicated.
- No matter what alcohol use measure you use, those who consume more alcohol are at greater risk of experiencing alcohol-related consequences.

With all these negative consequences
why do students drink?



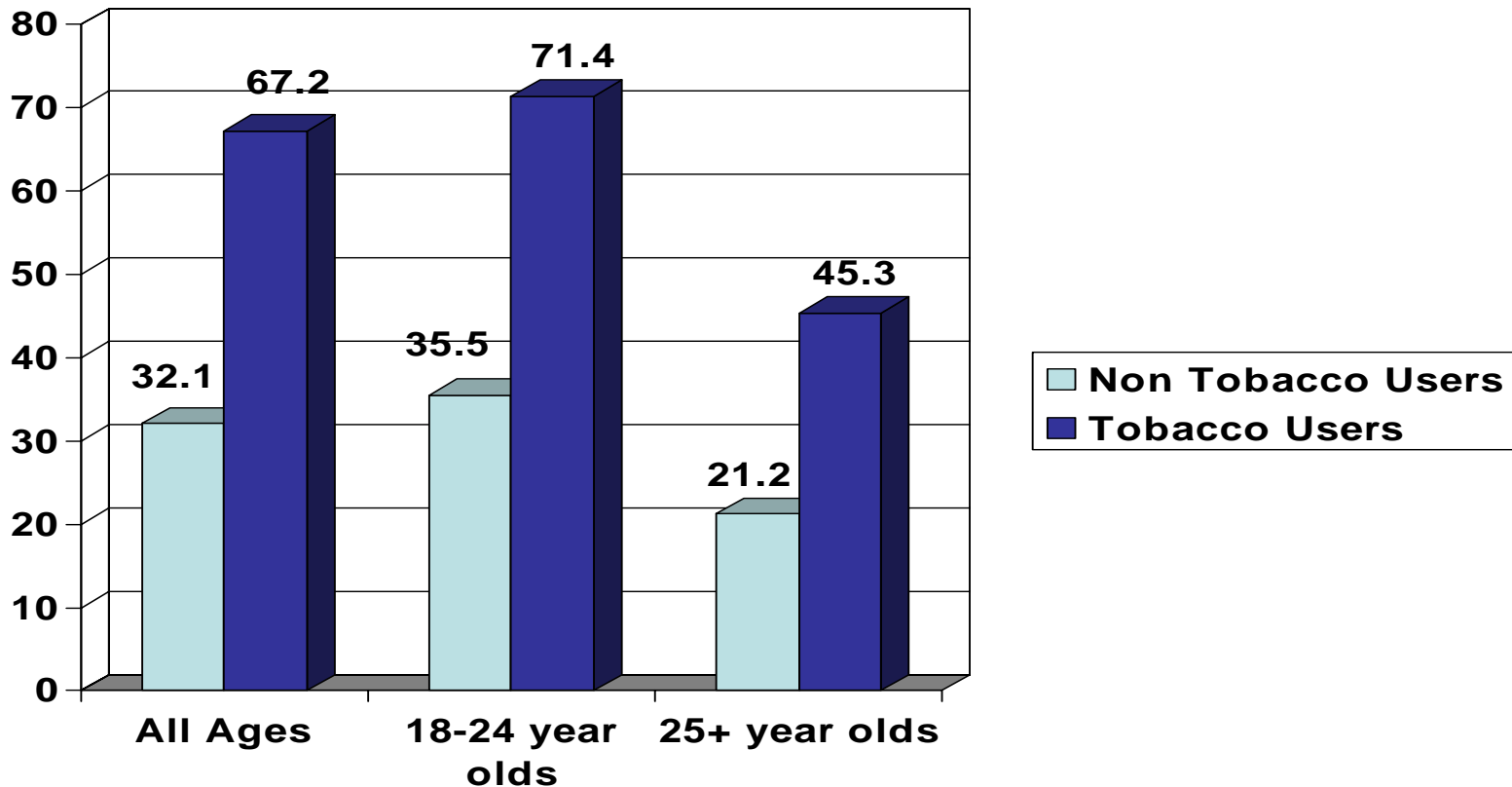
Source: <http://www.comicspage.com/comicspage/main>.

What can those who advocate and work with college students do?

Use of whole systems comprehensive, integrated programs with multiple complementary components (programs, policies and enforcement) that target:

- (1) individuals, including at-risk or alcohol-dependent drinkers.
- (2) the student population as a whole.
- (3) the college and the surrounding community

Tobacco Use and High Risk Alcohol Use



Perhaps the most valuable result of all education is the ability to make yourself do the thing you have to do, when it ought to be done, whether you like it or not; it is the first lesson that ought to be learned; and however early a man's training begins, it is probably the last lesson that he learns thoroughly.

Thomas H. Huxley



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- 2) Hingson R. Heeren T. Winter M. Wechsler H. (2005) Magnitude of alcohol-related mortality and morbidity among U.S. college students ages 18-24: changes from 1998 to 2001. *Annual Review of Public Health*. 26:259-79.
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