It's More Than DWI: Reducing Death and Harm From Alcohol in New Mexico

Problem Statement

Alcohol is an intoxicating flammable liquid according to the dictionary. It is also considered a drug. That is a substance other than food intended to affect the structure or function of the body. Addiction to alcohol (and other drugs) is a chronic disease of the brain that is treatable. Chronic diseases last a person's lifetime. They follow a predictable course and have predictable symptoms. Alcoholism is a disease with four symptoms:

Craving – the need to drink

Loss of control – not being able to stop once started

Physical dependence – withdrawal symptoms after stopping

Tolerance – need to drink greater amounts to achieve high.

The risk for developing this disease is influenced both by genetics and lifestyle choices. People who report drinking before age 15 are five times more likely to develop alcohol dependence as adults.

Alcoholism is only one type of alcohol problem. One can drink too much and too often without dependence. Other problems linked to alcohol abuse include not being able to meet work, family, or school responsibilities; DWI arrests and car crashes; and drinking related medical problems. Drinking can make other common problems worse such as high blood pressure and ulcers. Serious damage is caused to babies, if the mothers drink while pregnant.

One of the major problems leading to serious damaging outcomes is binge drinking. For men binge drinking is defined as five or more drinks on a single occasion. For women the limit is four or more. This is the definition of the National Institute for Alcoholism and Alcohol Abuse.

So who binge drinks? – Demographic studies by the Centers for Disease Control and Prevention show that 55 percent of males 18-20 who drink binge. Among females who drink, the rate is 40 percent. For males 21-25, the rate is 60 percent. For females it is 45 percent. For males 26-34 binging among drinkers is 48 percent and for females it is 29 percent. For males 35-54 among drinkers binge drinking is 38 percent and among females the rate is 28 percent. After age 55, binge drinking is less than 20 percent among male drinkers and less than 10 percent among females. (*chart?*)

Among males, Amerinds were more likely to report binge drinking. Hispanic students were more likely to binge drink than other groups.

The Centers for Disease Control and Prevention Behavioral Risk Factor Surveillance System reported in 2007 that binge drinking among US adults has been rising between 1993 and 2007.

Prevalence of Binge Drinking in US, source Centers for Disease Control and Prevention			
	1993	2001	2007
Prevalence	14.2 %	14.3 %	15.5 %
Total Episodes	1.2 B	1.5 B	1.6 B
Episodes per Person	6.3	7.4	7.2

There are many damaging outcomes from binge drinking. It can lead to motor vehicle crashes, interpersonal violence, HIV and STD, unintended pregnancies, fetal alcohol syndrome, and sudden infant death syndrome. Binge drinking was strongly associated with a wide range of risky behaviors. Binge drinkers were more likely to report other substance use. They were more likely to be in a physical fight after drinking. They were more likely to be hit by a boy friend or girl friend. They were more likely to be sexually active and to ride with a drinking driver. Driving themselves after drinking was three times more likely than for non-binge drinkers. Binge drinking can also kill. It kills as many young people as all other drugs combined.

Heavy drinking is also an outcome of binge drinking. Heavy drinking is defined as more than two drinks per day for males and more than one drink per day for females. (National Institute for Alcoholism and Alcohol Abuse) Heavy drinking can lead to alcohol dependence, then to chronic diseases such as cirrhosis of the liver. It can also lead straight to alcohol-related chronic diseases.

Deaths from drug overdoses, a sizeable portion of which are partially attributable to alcohol, have increased in recent years. The average annual alcohol-related deaths in New Mexico for age 15-24 were more than 80. The highest total alcohol-related deaths were from age 45 to 54 – well over 200. Of that group, approximately 125 died from chronic diseases. The second highest total, 170 plus, was for the age range 35-44. Almost 100 deaths were from injury and approximately 75 from chronic diseases. In the range 55-64 over 100 of the 150 deaths were from chronic diseases.

Alcohol also contributes t o violence such as child abuse, homicides, suicides, and personal assault. “The negative consequences of excessive alcohol use in New Mexico are not limited to deaths, but also include domestic violence, crime, poverty, and unemployment as well as chronic liver disease, motor vehicle crashes, and other injuries, mental illness, and a variety of other medical problems.” (source 8)

Among the medical problems caused by alcohol abuse are gastrointestinal diseases, certain cancers, and certain cardio-vascular diseases.

The death rate from alcohol-related chronic diseases in the US fro m 2004 to 2006 was 12.1 per 100,000 population. All but four New Mexico counties had a higher rate than the US. One third of New Mexico counties had rates two times the US rate. McKinley and Rio Ariba counties had rates four times the US rate. Cibola County also had a very high rate.

Alcohol abuse also has serious effects on teen drinkers. Alcohol affects the teen brain. Memory, learning ability, and impulse control can be considerably impaired. Teen drinking greatly increases the risk of addiction. "It has become clear that during adolescence the brain is highly plastic and shaped by experience…. Alcohol appears to interfere with the changes in circuitry that occur during learning."

Dr. Aaron White, Duke University (source 18)

The hippocampus (the brain's learning and memory center) is ten percent smaller in underage drinkers. It also impairs motor coordination. (source 18)

Adolescent drinkers are much more likely t o engage in life altering risky behaviors. Drinkers are five times more likely to have been pregnant or made someone else pregnant. They are four times more likely to have attempted suicide and almost eleven times more likely to have ridden with a drinking driver.

Prevalence

More youth drink alcohol than smoke tobacco or marijuana. It is the most used drug. Underage drinkers consumed more than 20 percent of alcohol sold in New Mexico. This amounted to $200 million in sales.

In 2007, 31 percent of New Mexico high school students reported drinking before age 13. This is the highest prevalence of early drinking in the US. Specifically, 38.4 percent of 9th graders and almost half of 12th graders reported consuming alcohol at least once in the last 30 days. Binge drinking was common among current drinkers. Almost 2/3 reported it. There was no significant difference in prevalence of current or binge drinking between boys and girls.

Usual Beverage Consumed by High School Drinkers in New Mexico, 2007				
Liquor	Beer	Malt Beverage	Other	No Usual
35.6 %	19.9 %	20.4 %	12.3 %	11.9 %

So where do they get it? Seven out of ten high school students who drink do so either at home (20 percent) or at their friends' parents' home (50+ percent).

In the US, 17.6 million people (1 in 12 adults) abuse alcohol or are alcohol dependent. In general, more are men than women. The rate of abuse is highest among young adults 18-19. This behavior cuts across gender, race, and ethnicity.

Prevalence of Excessive Drinking in New Mexico – 18 and over, 2002	
Type of Excessive Drinking	Percentage of 18 and over Population
Any	16.5
Binge	14.4
Heavy	5.1
DWI	2.0
Alcohol Dependence	1.8

Alcohol use and misuse is the third leading cause of preventable death in the US. The New Mexico total alcohol-related death rate has ranked first, second, or third in the US in each of the past 24 years. It has been. First, since 1997. The 2001-2005 rate was 48.4 deaths per 100,000.

The alcohol-related death rate for males is about twice that for females. Native American alcohol-related death rates are two to four times that for whites (both males and females). Hispanic male rates are 1.5 to 2 times the white male death rates. McKinley and Rio Ariba counties have extremely high alcohol-related death rates driven by high death rates in the Native American and Hispanic male populations. The counties with the most deaths related to alcohol for the five year period 2005-2009 are Bernalillo, San Juan, Santa Fe, McKinley, and Dona Ana.

The top ten causes of alcohol-related death in New Mexico in 2007-2009 were:

1. alcohol related liver disease
2. fall injuries
3. motor vehicle crashes
4. poisoning (not alcohol)
5. alcohol dependence
6. suicide
7. homicide
8. alcohol poisoning
9. hypertension
10. alcohol abuse

The 2004 US alcohol-related death rate was 15.2 per 100,000. For the period 2004-2006 all but one New Mexico county had a higher rate than the US as a whole. Fifteen New Mexico counties had rates more than twice the US rate. Alcohol attributable chronic disease death rates for 2001-2005 were 23.8 per 100,000 in New Mexico. That is the highest rate in the US. Alcohol-related chronic disease death rates increase with age.

Trends

Except for DWI deaths, which have gone down significantly, all other types of alcohol-related deaths have remained stable or increased over time. In 2006-2007 only 3.1 percent of persons in New Mexico who needed treatment for alcohol use received it.

Costs

In 2007 the economic costs of alcohol abuse in New Mexico were $2.8 billion.. That is more than $1,400 per person. It is rising. It went up 11 percent from 2006 to 2007.

Cost of Alcohol Abuse, New Mexico, 2007		
Cost Component	**$ in millions**	**Percent of Total Costs**
Health Care Costs		
Prevention and Treatment	83	3
Medical consequences of alcohol consumption	379	14
Productivity Costs		
Lost future earnings due to premature death	559	20
Lost earning – illness	1,342	48
Lost earnings due to crime (incarcerations and victimization)	118	4
Other Social Costs		
Crimes – criminal justice and property damage	84	3
Social Welfare Program Administration	8	0
Motor Vehicle Crashes	231	8
Total Costs	2,804	100

The total economic costs of alcohol abuse were $2.8 billion. Roughly 18 percent of these economic costs of alcohol abuse are borne by state and local government. That was approximately $500 million in 2004. The vast majority of the total costs were due to lost productivity, $2 billion. More than $300 million of the total costs of alcohol abuse resulted from other impacts on society. This does not include the $415 million in health care expenditures (17 percent). Underage drinking costs were $243 million for medical care and work loss. This is $1,168 per year for each New Mexico youth.

Tax revenue covered less than 4 percent of the economic cost of alcohol abuse. The costs of alcohol abuse were 26 times greater than the $97 million in taxes from alcohol sales.

Prevention

There are two complementary strategies for prevention of alcohol-related harm: those aimed at changing individual behavior and those aimed at changing the environment for alcohol use. These strategies usually affect the norms, availability and regulation of alcohol.

	Individual Change	Environmental Change

Focus	Individual behavior	Policy, laws, and norms
Goal	Personal control of alcohol	Community control of alcohol
Tools	Education, treatment, and small group activities	Media and policy advocacy, and social pressure
Who	Professional and client	Shared/community power

Individual Strategies

A primary source of individual behavior is parental influence. Parents generally underestimate the extent of teen drinking. Parental influence and clear disapproval of alcohol is a great deterrent to drinking according to teen surveys. (source 18) It is recommended that parents start talking to kids at about age 8. Teens are most at risk from alcohol between 3 PM and 6 PM if unsupervised. In fact, the single most predictive risk factor for underage drinking is peers who drink.

The most effective individual based prevention intervention is to promote screening and brief intervention for alcohol misuse. It is especially effective when targeted at high risk drinkers such as teens. Several independent expert reviews in the last decade recommend brief intervention as one of the best evidence based strategies for reducing excessive alcohol use. School-based education on the effects of alcohol misuse and policies regarding alcohol use on school property and at school events is another proven strategy.

Environmental Strategies

The logic of environmental strategies is that reducing alcohol availability will reduce consumption, or modify the conditions under which it is consumed, leading to fewer alcohol-related problems. "If successful programs are to be developed to prevent disease and improve health, attention must be given not only to the behavior of individuals, but also to the environmental context within which people live." Institute of Medicine 2009

The advantages of using policy to change the environment start with a broader reach. These programs can reach entire populations and reduce collective risk. Widespread small changes are very effective in reducing collective risk.

Changing the legal, economic, and social "contingencies" of alcohol can lead to important shifts in attitude that are less favorable to alcohol use. The combination of barriers to use and change in norms creates a system that offers fewer opportunities and inducements to abuse alcohol. In addition, the effects are immediate and enduring. Environmental strategies can also offer ease of maintenance and cost effectiveness. They usually require a low level of funding compared to education, service, and therapy efforts.

Common Environmental Influences (American Medical Association)

- availability
- price
- advertising

- promotional activities
- media images
- social norms
- laws that regulate when, where, and how we drink

There are a number of strategies affecting alcohol norms, availability and regulation that have been evaluated by numerous studies. The most rigorously evaluated or science-based strategies for reducing alcohol-related damage are: enforcing minimum purchase age, controlling outlet densities, raising prices, server training, and school-based alcohol policies.

Several independent expert reviews in the last decade have made consistent and clear recommendation regarding the best evidence based strategies for reducing excessive alcohol use and its consequences. The most effective strategy is to increase the alcohol price. This strategy especially impacts the consumption of high-risk groups including underage and chronic heavy drinkers. Increasing the price of alcohol reduces deaths. This was shown by time series data from the state of Alaska.

A second consistently recommended strategy was strictly enforcing regulations to prohibit sales and service to the intoxicated and underaged.

A number of policies have a compelling logic, but haven't been rigorously proven to be effective. They include keg registration, "safe homes coalitions", access control at community events, parent and community education and reinforcement groups and "warn and release" enforcement policies for juveniles.

The Center on Alcohol Marketing and Youth reviewed of the effects of alcohol advertising on youth. That report supports a link between exposure to alcohol ads and both early initiation and higher alcohol consumption. They recommend a number of regulations including the location of ads and restrictions on marketing and promotion of alcohol products, especially energy drink look alikes and sweetened alcohol based beverages know as alcopops.

Another form of environmental strategy is harm reduction. It is based on altering the circumstances of harmful use such as warning, screening, and diversion programs on first arrest.

Communities can achieve more substantial reductions in alcohol use when environmental influences are consistent with and reinforce prevention messages directed at individuals.[10]

Treatment

Even the best prevention and reinforcement programs won't catch all the problems. In these instances, the provision of treatment is useful. The most famous and one of the longest running treatment programs is Alcoholics Anonymous. It is cost effective. In one three year study, it costs 45 percent less than the costs for those who received outpatient

treatment. “If nothing else, AA appears to be as effective as professional outpatient treatment while being considerably less costly in helping at least some individuals with alcohol problems.”[13] The more the member is involved and active in AA and uses strategies taught, the more effective it is. AA-oriented treatment appears to be most useful for outpatients whose social systems support drinking and for those who have relatively low levels of anger. For inpatients who have high dependence on alcohol, aftercare in AA may be most suitable.[13] There are no apparent gender differences in utilization.[12]

Another aspect of the cost effectiveness of treatment in general is that untreated alcoholics use health care and incur costs at a rate about double that of non-alcoholics.[12] Studies show that treated alcoholics use of medical care decreases and medical claims are reduced. Arrests and incarcerations were also reduced.[12] Major studies agree that the more effective modalities of treatment were consistently in the medium to low cost range. Modality and therapist effects have more direct impact on outcomes than treatment settings and type.[12] Therapists who use a non-confrontational approach and engage patients in wanting to change by being empathetic and respectful have better results.[12] The existence of other psychopathology interacts with treatment modality to determine treatment effectiveness. Co-existing depression is a not-uncommon complicating factor which must also be treated.[12]

Pharmacologic approaches appear to be appropriate for select populations only. Disulfuram (a drug that produces nausea after drinking) for long term use is of very limited effectiveness. Naltrexone does reduce craving and drinking days. It is most effective combined with supportive therapy. Insight psychotherapy, confrontational counseling, relaxation training, and general alcoholism education or counseling were strategies of limited effectiveness.[12]

Relapse prevention is another important aspect of treatment. Strategies that teach people how to cope with stressors have shown success in preventing relapse. Interventions focused on modifying thinking relating to slips and teaching how to recover from lapses can be successful.[12]

Behavior contracting is based on operant conditioning. It establishes a contingent relationship between specific treatment goals and desired reinforcers. Behavioral contracts are useful for providing alternative behaviors to drinking. They consistently yielded positive results.[12]

Community reinforcement approaches increase clients’ access to positive activities and make involvement in them contingent on abstinence. These approaches combine many of the components of other behavioral approaches. Some of the largest treatment effects have been associated with community reinforcement. It has been shown that these approaches are successful in helping inpatients and outpatients remain sober and employed. The key appears to be helping the client find and become involved in activities that are more rewarding than drinking.[12]

Social skills training, usually included in broad spectrum or comprehensive approaches, includes skills such as assertiveness. The evidence for the efficacy of social skills training

as part of a comprehensive treatment package is strong. It is second only to brief intervention and motivational interviews. It appears to be particularly appropriate for more severely dependent individuals.[12]

Conclusions

The core concept in dealing with addiction to alcohol (and other drugs) is that it is a chronic disease of the brain that is treatable. In 2002 the New Mexico Department of Corrections reported that 87 percent of prisoners have some kind of problem with alcohol or other drugs. 95 percent of prisoners return to their home communities. If addictions and other health problems can't be addressed while they are prisoners, they will just go back to those communities and repeat the cycle.[20] "Persons with addictions who have been incarcerated account for a major portion of the costs and social consequences of alcohol and other drug use."[20, p16]

The Senate Memorial 18 Drug Policy Task Force found that preventeion and treatment programs related to alcohol and other drug disorders are scattered over 40 agencies and departments in New Mexico. Most county and municipal efforts are not connected to state programs or to each other.[20, p22]

Current budgetary realities in New Mexico include a 61 percent loss of funding in the last year for the Office of Substance Abuse Prevention of the Health and Human Services Department. The Task Force recommends interventions to prevent or delay early use of alcohol through school based, family based, and community based prevention programs.[20, p28]

Other evidence based environmental approaches to reduce alcohol abuse recommended by the Center for Disease Control and Prevention Task Force on Community Preventive Services are: [20, p28]:

1. maintain dram shop liability for alcohol sellers.
2. Maintain limits on hours of sale of alcohol.
3. Regulate alcohol outlet density.
4. Strictly enforce laws prohibiting sale of alcohol to minors.
5. Raise alcohol excise tax.

The Centers for Disease Control and Prevention also says, "Any preventive approaches to reducing excessive drinking (particularly binge drinking) would have an impact on alcohol-related crime levels."[20, p28]

The high proportion of drinking done at home by youth points to the importance of other strategies such as targeting social liability of property owners and parents. Several New Mexico communities have ordinances for this purpose. They are Farmington, Santa Fe, Espanola, and Moriarty.

The priority for prevention must be younger age groups says the Senate Memorial Drug Policy Task Force. They say persons who started drinking before age 14 are more than 6 times as likely as others to become alcohol dependent.[20] They also declare that binge drinking accounts for 90 percent of alcohol consumption in 12 to 20 year olds.[20, p77]

Costs of alcohol-related incidents increased 11 percent from 2006 to 2011 and were associated with an 11 percent increase in alcohol-related deaths.[20, p75].

In New Mexico, alcohol is taxed by volume, not based on price. This tax has not been increased since 1993. Thus the effectiveness of taxation has gone down substantially. The amount collected is $40 million. It mostly goes into the general fund.[20, p74] A 2011 bill analysis by the New Mexico Tax and Revenue Department projected that a statewide increase in the tax of 10 cents per drink would generate $78 million. Since a relatively small number of drinkers consume most of the alcohol, most people would not be particularly affected by such an increase, while those who are heavy drinkers or binge drinkers are disproportionately affected. This is especially true of youth who are more price-sensitive.[20, p80]

An alcohol tax increase has been demonstrated to:

- Decrease impaired driving and crashes.
- Decrease all-cause alcohol related deaths.
- Decrease alcohol-related medical conditions.
- Decrease the spread of sexually transmitted diseases.
- Decrease the rate of severe violence against children.
- Decrease alcohol dependence rates.
- Decrease hospital admissions.
- Decrease rates of certain crimes.
- Decrease the number of suicides in males.

These decreases translate into significant public and private savings.[20, p81]

There are cultural barriers to the effective application of the disease and treatment concept of addiction in New Mexico. Many believe that alcohol behavior is like a rite of passage and it is socially supported. Many feel that the risks are "regrettable but not within reach of being addressed."[20, p 6] Many hold a pervasive view that society's response to criminal behavior associated with alcohol should be punishment.[20, p6]

There is a lack of capacity in New Mexico in terms of human resources, programs, and facilities to manage persons with addiction. The Senate Memorial Drug Policy Task Force estimates we have approximately 50 percent of what is needed.[20] In 2009, the Federal Substance Abuse and Mental Health Ser vices Administration said that on average each dollar invested in treating addiction yields a savings to the public of $12 in medical and criminal justice costs.[20, p6] They also conclude that there is an ongoing need for effective prevention. The financial return on each dollar invested in prevention averages $18. The Senate Memorial Task Force states that during recent budget cycles the state and municipalities have disinvested in prevention and treatment.[20, p6-7]

One of the main recommendations of the Senate Memorial Task Force is a central office and a comprehensive plan with public health goals and much better coordination of programs, services, and planning at all levels that should start now. We need a comprehensive inventory and map of behavioral health and substance use disorder services. We need to concentrate on prevention of alcohol use and abuse by deploying

proven, cost saving strategies. In regard to criminal and civil sentencing, we need to take the opportunity to address substance use disorders, rather than perpetuate them. A large proportion of people jailed have committed crimes tied to alcohol or other drug use. Treatment should always be offered. The Senate Memorial Task Force also recommends country detention centers must have resources and capability to cope safely with abusers of alcohol and other drugs. This includes acute detox facilities, access to mental health and medical treatment, and a release plan that includes a smooth hand-off to follow up treatment.[20, p11]

A study of underage drinking prevention by the New Mexico Interim Legislative Health and Human Services Committee in 2008 declared the need to specifically prohibit *alcohol consumption* by minors. Currently, statues only prohibit *possession*.[19]

This lack of specificity in the laws causes confusion, inconsistency and challenges to prevention, enforcement, and prosecution efforts.[19] The 2008 Interim Committee also concluded that underage drinking prevention needs dedicated funding.

New Mexico ranks 3rd in the US for unmet needs for treatment of alcohol abuse. The rates are especially severe in the 12-17 year old group.[20, p5] The 2011 Senate Memorial 18 Drug Policy Task Force concluded, "The statistics clearly demonstrate that our current investments to treat, to prevent, and to otherwise manage the issues of substance abuse and addiction have been insufficient and largely ineffective with respect to t he magnitude of these problems."[20, p6]

Most studies conclude that a key environmental prevention strategy to prevent early alcohol use and prevent binge drinking is parental involvement. Parents must model responsible behavior. They and we must support after school and alternative activities, particularly during the vulnerable hours of 3 to 7 PM. The fact is that 65 percent of underage youth who drink get it from older friends or brothers and sisters.[16] Reducing binge drinking would significantly cut the three leading causes of death among the youth – motor vehicle crashes, suicides, and homicides.[16]

The most successful prevention needs both individual and environmental approaches. Either alone has serious limitations. An individual centered approach alone can only reach a limited number of youth and families. It may be limited by community culture or conditions. The environmental approach is based on public health principles which emphasize broad physical, social, cultural, and institutional forces. This misses the individual vulnerabilities and needs for specific treatment or prevention attention.

The LWVCNM Drug Policy Committee has concluded that there are barriers to both environmental and individual strategies in New Mexico. There is a strong anti-tax attitude to any tax increase in the legislature and by the governor. The liquor lobby is very well funded and effective. We are a frontier state. Low population density makes it hard to coordinate and conduct programs. Enforcement is difficult and expensive because of low density. There are cultural barriers. There is much resistance to regulating advertising. There is general lack of knowledge and awareness of the impact of alcohol beyond DWI. Most alcohol problems in New Mexico are likely due to excessive drinking among persons who are not alcohol dependent.[9]

We can reduce the burdens of alcohol-related problems in proven successful ways. There are six categories of evidence based interventions:[2]

1. Regulate the physical availability of alcohol.
2. Taxation and pricing.
3. Altering the drinking context.
4. Education.
5. Drinking/driving countermeasures.
6. Treatment and early intervention.

We have made significant progress in reducing alcohol-related motor vehicle crashes according to Jim Roeber of the New Mexico Department of Health. That leaves five more categories to address.