Prevent Excessive Drinking; Maine’s Youth and Future Generations

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Excessive alcohol consumption negatively impacts the population of Maine. It leads to: increased alcohol related crime and motor vehicle accidents (MVAs), decreased workplace productivity, and increased healthcare spending. These problems cost Maine and its taxpayers a significant amount of money to fix. Recently Maine’s debt was reconciled with a liquor revenue bond, however we believe this will only contribute to the long term fiscal problems.

Alcohol consumption patterns of young adults and adolescents are slightly higher when compared to national patterns. Additionally excessive alcohol use is a problem for Mainers that spans generations. Young adults and adolescents are likely to engage in binge drinking and continue this learned behavior into adulthood; we interpret this to mean a lack of effectiveness preventing generations from compounding the problem. Individuals 18-25 year olds are at the greatest risk for binge drinking and heavy alcohol consumption, thus we aim to target this age group as well as younger and heavily impressionable age groups with our proposed policies.

Foremost: You, the legislature need to make it illegal for a minor to consume alcohol at home in the presence of the minor’s parent, legal guardian, or custodian. Information will be provided to community youth, networks, parents and schools to pledge support for this legislative change. In addition to changing the alcohol culture in Maine’s laws we aim to target the problem as follows:

- **Individual Parent Engagement** – Through public service announcements, radio advertisements, and mailers we will inform parents about why stopping underage drinking is important and how to effectively manage rules in the home to prevent it.
- **Community Programs** – Joining volunteer leaders with law-enforcement will strengthen the community with two specific goals of stopping the sale of alcohol to anyone under 21 years old and preventing drinking and driving in adolescents.
- **Appropriate Health Management** – Healthcare providers in Maine will have direct cost-effective training on how to identify and appropriately manage patients with problematic alcohol consumption patterns in order to provide more effective care.
- **Student Networks** – Student led networks through social media will align with national Students Against Destructive Decisions and directly reach adolescent peers to increase the awareness of the risks associated with drinking and eventually decrease harmful behaviors among Maine’s youth.
- **Education Development** – We will provide schools with evidence-based guidance on successful prevention programs in order for them to in turn develop their own successful programs that are population and age appropriate to their unique school in order to maximize results. Schools will in turn be responsible for tracking the effectiveness and positive impact on their interventions.
Description of the State

Maine is located in the northeastern corner of the United States sharing borders with Canada, New Hampshire, and the Atlantic Ocean (Figure 1). Although the largest New England state, it’s the most sparsely populated state east of the Mississippi River.

![Figure 1. Geographical location of Maine in the Northeast](image)

Both geographical location and demographics may influence binge drinking. In 2013, the Substance Abuse and Mental Health Services Administration (SAMHSA, 2015) found that the geographical Northeast had the largest percentage of people reporting alcohol use in the last month. SAMHSA reported that from 2012-2013, youths were among the most likely to be current alcohol and binge drinkers. Sharing a border with Canada where the legal drinking age is 18 increases the availability of alcohol resulting in higher risk of excessive use.

The sociopolitical structure also influences its citizens’ health behaviors. According to the U.S. Census Bureau, Maine had a 2014 population estimate of 1.3 million people, 95% of whom were white (compared to the U.S. average of 77.4%), putting Maine in the highest quintile of states for having non-Hispanic whites (Figure 2) and the state with the largest percentage of whites in the country (Figure 3). According to the second CDC Health Disparities and Inequalities Report (CHDIR), the prevalence of binge drinking is significantly higher among non-Hispanic whites than any other race/ethnicity category. Thus, Maine’s high percentage of non-Hispanic whites constitutes a very large population at risk (Kanny, Liu, Brewer, & Lu, 2013).
From 2008 to 2013, the percentage of those between 18 and 25 years old reporting having engaged in binge drinking in the past month remained steady at 42-45%. Concurrently, binge drinking remained at 20-21% for Mainers 26 years and older. These statistics show not only that Maine’s youths are following in the footsteps of older generations, but that any recent attempts at curbing alcohol use have been largely ineffective.
A longitudinal study conducted by Cerda, Diez-Roux, Tchetgen, Gordon-Larsen, and Kiefe (data 1985 to 2006) resulted that long-term exposure to poverty leads to higher rates of drinking. Maine’s economy is mostly based in the service sector, with 14% of its population living below the poverty line according to 2013 U.S. Census data, making it among the poorest states. Additionally, according to the U.S. Census data from 2008 and the Kaiser Family Foundation, Maine citizens received the second largest percentage of food stamps in the country (Figure. 4) and had the second highest enrollment in Medicaid in 2007 (Figure. 5). The CHDIR demonstrated that those who consume alcohol and had a household income of less than $25,000/year reported the highest frequency and intensity of binge drinking (Kanny, Liu, Brewer, & Lu, 2013). Therefore, Maine’s large population living below the poverty line are at greater risk of alcohol abuse than their well-to-do counterparts.

![Figure 4. Percentage of Households per State Receiving Food Stamps in 2008](image1.png)

![Figure 5. Medicaid Enrollment as a Percentage of Total Population by State in 2007](image2.png)

Although Maine was historically the home of prohibition, recent government actions have aimed to increase the sale of alcohol within the state (Appleton, 1886). Maine is one of 18 states that controls alcohol sales and sets uniform prices for all agency stores. In 2013, Maine’s Legislature’s Appropriations Committee estimated that Maine lost about $30 million per year in liquor sales to New Hampshire. Under Governor Lepage, Maine has reduced prices of more popular
liquors in order to regain sales lost to New Hampshire, which is projected to more than double profits from alcohol sales in Maine (Cousins, 2014). Rather than discouraging the consumption of alcohol, the current administration has decreased prices in an effort to increase sales and encourage the use of alcohol to citizens (Thistle, 2014). While these conditions may foster a more favorable economic environment, it will likely negatively impact health outcomes for the state at large.

**Morbidity, mortality and healthcare cost from excessive alcohol consumption**

Excessive alcohol consumption is not only problematic in Maine, but is also an imminent and costly issue for the entire nation. Alcohol-related crimes, motor vehicle accidents, losses in work productivity, and health care expenses averaged $224 billion in 2006, three-quarters of which was attributable to binge drinking, (see Figure 6) (CDC, 2014). In a study conducted by Sacks and colleagues, underage drinking alone cost $24.3 billion, $3.8 billion from healthcare cost, $13.7 billion from lost of labor/productivity, and $6.8 billion from alcohol-related crime, motor vehicle accidents, fire losses and fetal alcohol syndrome costs (Sacks, Gonzales, Bouchery, Tomedi, & Brewer, R 2015). Drinking is also the leading cause of premature mortality and fourth leading preventable cause of death in the US, killing about 88,000 people annually.

![Prevalence of Binge Drinking Among Adults, 2014](image)

*Figure 6. Prevalence of Binge Drinking Among Adults in 2014 (CDC)*

A 2014 national survey on behavior health trends by SAMHSA found that 1 in 9 individuals ages 12 to 17 and more than half of individuals ages 18 to 25 were current alcohol users. These percentages hold steady and 18-25 year olds remain at greatest risk of binge drinking and heavy alcohol use than any other age group, as seen in Figures 7-9 (Hedden, Kennet, Lipari, Medley, & Tice, 2015). It is therefore not surprising that alcohol use is a major contributor to the leading cause of mortality among youth and young adults in the nation - unintentional injuries from motor vehicle
accidents. In 2007, 23% of fatal car crashes were alcohol related among 16-20 year-olds, and 41% were alcohol related in 21-24 year-olds (Blum & Qureshi, 2011).

Figure 7. Past month binge alcohol use in people aged 12 years or older, 2002-2014 (SAMHSA)

Figure 8. Past month heavy alcohol use in people aged 12 years or older, 2002-2014 (SAMHSA)

Figure 9. Current, binge, and heavy alcohol use in 12-20 years old, 2002-2014 (SAMHSA)
Figure 10. Prevalence of any drinking in the United States 2012 (U.of Washington, 2015)

Figure 11. Adult who binge or heavy drinking in Maine in 2016 (County Health Ranking & Roadmap)
The estimated healthcare, productivity and other costs of excessive alcohol consumption is lower in Maine compared to the national median even though it’s one of the highest alcohol consumption state (Sacks et al., 2013; Figure 12) and remains a major concern and burden as Maine is the fifth highest spender in healthcare cost with almost $2000 more per capita than the national average in 2009 (Maine: $8,521 vs nation: $6,815) (Cuckler et al., 2011). The SAMHSA reported that the majority of substance abuse medical cost including inpatient and outpatient care ($308.2 million) is attributed to alcohol use with estimated $188.6 million in morbidity cost due alcohol and drug abuse and $240.9 million due to mortality cost from alcohol alone. Prevalence of drinking, binge drinking and heavy drinking are all relatively high in Maine compared to certain states (Figure 6, 10-11). Other alcohol related costs in Maine include fires costing $9.5 million and motor vehicle accidents costing an estimated $53.0 million in 2010 (Roger, Sorg, & Wren, 2013).

Most concerning are the alcohol consumption patterns of individuals of adolescent and young adult ages, which has slightly higher but overall similar findings as nationwide (Figures 13-15). In 2014, Maine drivers between ages of 21 to 24 years old had the highest alcohol related MVA rate, followed closely by 16 to 20 year-olds, who had the highest alcohol related MVA fatalities (DHHS, 2015). These statistics have been trending upward since the last report from 2008-2011. Furthermore, research has linked drinking at a young age to potential interference with normal brain development, increasing the risk of developing alcohol use disorders, risky/reckless behaviors, poor grades, and mental health consequences (including social problems, depression, and suicidal thoughts) in adolescents and young adults, all of which may lead to further alcohol consumption issues. Excessive alcohol consumption is clearly a problematic issue for these age groups and need the proper treatment early on to prevent negative consequences. However, only 8.6% or roughly 6000 individuals over the age of 12 received treatment per year from a national survey (SAMHSA, Behavioral Health, 2015; Figure 16).
Maine has also been in extreme Medicaid debt, which accumulated to nearly $500 million from 2009-2012 due to expansion of patient eligibility under MaineCare. With hospitals being the state’s largest employer, this debt has led to increased unemployment, reduced benefits, and delays on long-planned health service projects (Bouchard, 2012). Previously mentioned that only a sliver of individuals over age of 12 actually receive proper treatment for recovery, leaving the rest of the population, especially adolescents and young adults, to be at higher risk for alcohol related abuse, vehicle accidents, risky sexual behaviors, criminal activities and incarceration. Overall, neither has Maine or the nation’s excessive alcohol consumption significantly decreased over the last decade but rather been negative impact on the younger generation while continuing to immensely increase the cost of healthcare.

Figure 13. Maine’s percentage of binge alcohol between individuals aged 12-20 compared to national percentage from 2012-2013 (SAMHSA, 2009 to 2013)

Figure 14. Adolescents aged 12-17 in Maine and nationally who perceived no greater risk from having 5 or more drinks once or twice a week from 2009-2013 (SAMHSA, 2009 to 2013)
Figure 15. Alcohol consumption per person aged 14 years old and over (in gallons) (source: CDC, 2014)

Source: Alcohol Epidemiologic Data System (7)

Figure 16. Past-year alcohol use treatment among those aged 12 or older with alcohol dependence or abuse in Maine
How Can You Fix It?

We propose several interventions to reduce underage drinking. At the individual level, we propose providing education to parents of adolescents on setting clear and strict rules against drinking along with effectively talk about alcohol abuse. A 2010 study found that whether or not adolescents talked with their parents about substance abuse, they tended to abstain from alcohol consumption if they perceived that their parents would not allow them to drink while at a friend’s house (Williams, Kittinger, Eller, & Nigg, 2010). With this in mind, we recommend helping parents to more effectively communicate strict rules surrounding alcohol. Williams and colleagues suggest that “parents should enforce strict rules regarding alcohol use, a factor that has been shown, in this study and others, to be of utmost importance in preventing alcohol use and subsequent alcohol-related problems” (2010, p. 147). In order to reach parents, television public service announcements (PSAs) and commercial advertising would air with suggestions on how to communicate strict no-drinking rules. We would request data from local cable companies about popular watch times and channels/programs among parents of adolescent and air the PSA’s during these times. Additional instructional advertisements would be aired on radio stations/shows popular with parents during major commute times. We also propose that educational pamphlets be mailed by the Department of Education to parents and guardians of all adolescents enrolled in public and private schools. We propose that these pamphlets also contain contact information of school counselors for parents to confer and determine ways to communicate effectively with their children about alcohol consumption. We hope, as a consequence of educating parents, the number of alcohol-related MVA’s among adolescents would be significantly reduced one year after implementation.

At the community level, we propose a three-year pilot program to be conducted in 10 Maine communities to address community policies/practices around underage access to alcohol use. We would model this pilot program after a similar intervention known as The Communities Mobilizing for Change on Alcohol (CMCA) program, conducted in 15 communities in Minnesota and Wisconsin in 2011, which addressed policies and practices to reduce underage access to alcohol, alcohol consumption, and alcohol-related problems. Community organizers can worked with local public officials, law enforcement, alcohol merchants, media, schools, and other groups to reduce youth access to alcohol. As a result, alcohol merchants changed their practices and reduced sales of alcohol to minors, media coverage of alcohol-related issues increased, and law-enforcement agencies increased checking for proof of legal age, resulting in an increase in DUI arrests among 18-20 year olds (Wagenaar, Murray & Toomey, 2000; Kelly-Weeder, Phillips & Rounseville, 2011).

We propose that the 10 communities with the highest rates of adolescent, alcohol-related MVAs each be assigned an official project leader, who would be chosen from existing community leaders volunteering for the position. They would work with law-enforcement to ensure that merchants are updated on current laws and regulations and review their compliance with refusing
sales to minors. We would also seek to work with police to place speed limit monitors and police watch stations in areas with the highest rates of underage, alcohol-related MVAs. A cost-benefit analysis would be performed to identify the most cost-efficient public advertisements, so that parents, merchants, and law enforcement departments would be informed of the pilot program and its aims. We also propose utilization of social media hubs, such as community Twitter or Facebook accounts, to disseminate program information. Additionally, leaders within the youth community, including school-based political and community service clubs, would be enlisted to maintain a presence on social media hubs to keep members duly informed. Through this intervention, it is our hope to see similar reductions in underage access to and consumption of alcohol to that of the CMCA communities in Minnesota and Wisconsin. The rates of access and consumption would be measured in the same manner used by Wagenaar, Murray & Toomey (2000): collection of annual arrest and quarterly traffic crash data over 5 years prior to and 5 years during the intervention. We would also suggest monitoring for reductions in rates of unplanned pregnancies, and alcohol related problems such as suicide and depression, as these all tend to be negative consequences to underage drinking.

As another intervention, we hope to reach healthcare providers, who are among the most influential members of their communities. We propose a Resident and Attending Training Program (RATP) requirement to be included in all MD, NP, and PA orientations and annual education programs at public healthcare facilities allowing organizations to directly target providers. In a similar, brief, cost-effective training program known as the RTP on Addition, administered by Gunderson, Levin and Owen (2008), resident physicians attended group therapy sessions, an AA meeting, met with rehab program clients, and had small group discussions with Hazelden New York program staff about the 12-Step model, levels of care, group process, and spirituality. Results showed that physicians who went through this training increased their adherence to National Institute on Alcohol Abuse and Alcoholism (NIAAA) and US Preventive Services Task Force (USPSTF) screening recommendations to quantify routine and heavy episodic drinking among current drinkers (Gunderson et al., 2008) – outcomes which are recommended by these institutions as a secondary method for prevention in medical settings (Kelly-Weeder, Phillips, & Rounseville, 2011). We propose that the RATP program take providers employed at public healthcare facilities through a similar course, including attending AA meetings, meeting with rehab program clients, and receive training in communication with drug and alcohol addicted patients and proper documentation of these discussions. The facilities would have one year to initiate the program and would be mandated to continue it for all incoming practitioners. Facilities would provide practitioners a list of approved local AA groups to visit. It is our hope that, by mandating an RTAC program, practitioners would increase their screening for problematic alcohol consumption, which would be measured by the rate of documented provider adherence to NIAAA and USPSTF screening recommendations. We believe this would indirectly reduce the overall rate of excessive alcohol consumption by empowering providers with the ability to screen, treat, and refer patients appropriately.
We believe that communities could benefit from the creation of new networks to help involve the youth in efforts to reduce underage drinking. We propose that communities, which struggle most with underage drinking, from social media-based, student-led coalitions against drunk driving. Students who have already demonstrated effective leadership within their schools can be selected to help form networks for cost-efficient, peer-to-peer support in making healthy choices. Because we are already using social media to facilitate other interventions, we propose that the same social media platforms be used to spread the word about the establishment of such networks. We propose the creation of individual, community-specific Facebook, Twitter, and Instagram accounts for each peer-led coalition against drunk driving. The peer support networks would then be encouraged to use their social media accounts to align with other state and nation-wide Students Against Destructive Decisions (SADD) groups to bridge the gap between all the youth in the movement against overconsumption. In Massachusetts, the Saving Lives Project fostered similar coalitions and networks; within five years, there was a 33% reduction in fatal car crashes, which was a 42% greater decline than areas of the state that did not have the program in place (Kelly-Weeder, Phillips, & Rounseville, 2011); we project similar outcomes. Effectiveness can be measured by polling high-school students before and after the intervention, to quantify the number of students who express feeling supported by peers to make healthy choices regarding alcohol consumption.

Using schools to target youths is an important way to positively affect the health and safety of the greater community, as schools have the unique ability to provide compulsory drug prevention classes, make trained counselors available to affected students, and enforce school policies on alcohol use (CARS, 2006). Existing research suggests that for school-based programs to work, they must offer an evidence-based foundation, include developmentally appropriate information and provide social resistance skills training (Dusenbury & Falco, 1995). Previous studies have shown that school-based programs, with teacher-delivered, personality-targeted interventions, have significantly reduced alcohol consumption and binge-drinking rates in adolescents. Some of the most effective school programs include Seattle Social Development Project, Raising Healthy Children, Project Northland, and the Midwestern Prevention Project. For high-school level students specifically, the most promising program is the Project Toward No Drug Abuse (Stigler, Neusel, & Perry, 2004). We propose the adoption of a school-based program, with a teacher-delivered, personality-targeted intervention, to target our high-risk, adolescent students. To give school systems in Maine a kick start, we will compose an abbreviated literature review presenting which programs have worked in the past. We propose that high school and middle school guidance counselors work together with school psychologists to select an existing program that they feel will work best for their students, then present it to faculty and make adjustments as needed. It is imperative that this intervention be a team effort among all adults who influence adolescents in the school system on a regular basis. By choosing an existing effective, age-appropriate program, Maine can expect a significant reduction in alcohol use among youths. Similar programs have wielded a 40% reduction in alcohol consumption and 55% reduction in binge drinking rates (Kelly-Weeder, Phillips, & Rounseville, 2011), and we believe that Maine can expect similar results. We
also expect that alcohol-related problems for adolescents, such as school absences, suspensions, low GPAs, and reportable encounters with law enforcement, will show statistically significant reductions 1 year after program implementation, as tracked by school counselors.

Finally, we propose a significant change to legislation for underage drinking in Maine. Currently, it is legal for a minor to consume alcohol in a home with the presence of the minor’s parent, legal guardian, or custodian (Office of the Revisor of Statutes, 2016); such legislative provisions are commonly referred to as “Social Host Laws.” Some believe that allowing minors to drink alcohol under adult supervision teaches them responsible drinking. However, according to a 2011 study in the Journal of Studies on Alcohol and Drugs, “youths who were allowed to drink with an adult present had increased levels of alcohol use and were more likely to have experienced harmful consequences by the ninth grade.” We propose a repeal of Title 28-A, §2081, Exception 2, which explicitly allows for minors to consume alcohol in the presence of a guardian. We request the support of Maine’s legislature in our recommendation to remove this exception from the law. To demonstrate solidarity in wanting this change in legislature, we propose that our newly formed network between the community youth and SADD, Mother’s Against Drunk Driving, and other parents and school officials be educated on the harmful effects of current legislation and ask that they rally together to insist upon this change. By repealing this provision, Maine would no longer subliminally encourage adolescents to drink underage and would likely see a significant decrease in alcohol use by underage drinkers.

Recognizing drinking as a problem and working to prevent it from materializing in future generations, Maine can lead the nation in combatting excessive alcohol consumption. Drinking costs money and lives and is taking Maine’s ability to grow economically, thus investment on preventive measures will clearly be a positive influence on the future population. We ask that our legislative groups in Maine designate 10 million dollars towards the initiation of our proposed interventions, which utilize the entire spectrum of prevention in order to span a broad scope of the community and ultimately create a large impact. Modeling after successful programs, these interventions will effectively use resources and will pay off in the future. The state of Maine pays $215.74 million each year for health care directly related to alcohol abuse, making $20 million a small price to pay for positive results that will reduce overall spending and stop the negative consequences of excessive drinking in order to provide a brighter future for the current and coming generations.
References


