Healthy Androscoggin
Cultural Subpopulation Needs and Resources Assessment:

An Exploration of Substance Use in 18-25 Year Old, Non-Collegiate, Emerging Adults

June 27, 2006

Healthy Androscoggin
Cultural Subpopulations Needs and Resources Assessment
Final Report

Introduction:

Healthy Androscoggin, a community coalition serving Androscoggin County, Maine, conducted an assessment of the cultural characteristics and substance use patterns of the 18-25 year old population, who live or work in the county and who are not enrolled in school on a full-time basis. The coalition chose to study this subpopulation because little is known about the characteristics of this group and few strategies have been tested or proven to work in preventing and reducing substance use for this age group, specifically in a non-college setting.

Executive Summary:

Healthy Androscoggin designed and administered a substance use questionnaire and conducted a series of five focus groups with young adults in Androscoggin County. A total of 218 surveys were completed, 44.2% by women, 54.8% by men, and .9% by those identifying as transgendered. The vast majority of respondents resided in Androscoggin County. The mean age of the group was 20.5 years, and 43.9% of the sample had a high school degree or GED only. A total of 28 individuals attended the focus groups. Participants were recruited from worksites, employment agencies, and through social service organizations. In general, participants reported widespread alcohol, cigarette and drug use in the 18-25 year old cohort.

In our survey, 63.8% of the respondents reported drinking in the last 30 days. On average, respondents reported drinking 6.6 drinks at a sitting. Men drank significantly more than women. Drinkers also reported an average of 10.8 binges (defined as five more drinks at one sitting) over the last 30 days, and men binged significantly more than women. 58.3% of the sample reported smoking tobacco at least once in the last 30 days. On average, smokers reported consuming 11.7 cigarettes per day, and men smoked significantly more cigarettes than women did. The vast majority of smokers reported smoking more than 20 days per month, and women smoked more days than men. 10.1% of the sample also reported using spit tobacco, with more men than women reporting the use of spit tobacco Smokers were statistically more likely to also use spit or chewing tobacco (also known as smokeless tobacco), although the sample of spit tobacco users was small (N=22).

Almost 28% (27.5%) of the sample reported smoking marijuana in the last 30 days. Respondents who smoked marijuana averaged 3.2 days of smoking per month, and on those days, smoked an average of 3.9 times. 10.6% of the sample were heavy users, reporting more than 20 days use in the last month. Other illegal drugs were used, on average, 0.16 days in the last 30, with 7.3% of respondents reporting use.

In addition, characteristics of the group of unemployed, non-school attending students were explored. Seventy respondents, or 32.1% of the sample, reported neither being employed nor attending school. There were marginally more men in the unemployed non-student group than women (53.6% versus 43.5%), although the difference did not reach statistical significance. 68.6% of the unemployed group reported smoking cigarettes in the last 30 days, compared to only 53.4% of the working/school group, a statistically significant difference.

Given that young adults are in a period of transition, often referred to in the literature as 'emerging adulthood', researchers believe that a number of biological and societal influences impact young adults' use and abuse of substances.[1] Whether part of experimentation, coping with instability and stress, or exerting one's new found independence, drug use and drug abuse is highest in emerging adulthood, that is the 18 -25 year old span.[2]

In general the focus group participants reported widespread substance use and noted that minors could purchase alcohol and cigarettes at a variety of sites in the area with little difficulty. They reported alcohol abuse as the most common substance use problem. Marijuana was also perceived to be readily available; participants reported an assortment of illegal drugs are sold in schools, or through friends and acquaintances.

We also discovered that in terms of resources that might help with substance abuse problems, participants in our study had much more confidence in people, and particularly, health professionals, than in written materials or religious sources. Health professionals and friends were most often endorsed as advocates in situations when someone needed assistance with a drug or alcohol abuse problem.

Virtually all participants recalled some drug education during their school years. Many also believed that this education had been ineffective. Respondents recommended that early intervention (before middle school), with parental involvement if possible, would be more effective.

Based upon primary data collected via surveys and focus groups, we recommend that health care providers and coalition leaders working in prevention ask young adults about substance use to help normalize that it is part of normal development, but also help youngsters critically evaluate their use and recognize if it is unhealthy. We also recommend that programs and interventions respect young adults, allow them to generate their own behavior change goals, and be active agents in the change process. We also heard that participation must be voluntary for it to be effective. Peer to peer counseling, providing incentives, using mass media compaigns and starting education efforts earlier may also be helpful in preventing substance abuse.

Background/ Overview:

The subpopulation we sampled was between the ages of 18 and 25, they lived or worked in Androscoggin County and the vast majority were not full time students. The mean age of the group was 20.5 years, and 43.9% of the sample had a high school degree or GED only. For

[1] Arnett, J.J. "The Developmental Context of Substance Use in Emerging Adulthood." Journal of Drug Issues, 2005.
[2] Ibid.

those who were in school, 97.7% were part-time students. 32.1% of the participants neither worked nor were in school at the time the survey was administered, and 29.2% were employed full-time. For those who worked, the average hours per week was 23.2. Almost half (46.7%) of the sample was taking courses or in school at least part time.

The characteristics shared by this group include:

- Low wages: entry-level or unskilled jobs
- Non-traditional student
  Part-time college or working toward GED.
- Communicate via cell phones and computers, not landline phones
- Live with parent(s) or friend(s)
  Many live in several different places between 18 and 25.
- Social life revolves around friends
- Unmarried
- Receive health information/news from sources other than printed literature, for example: TV, radio, internet, friends, etc.

The 18-25 year old population is located throughout Maine with a greater density in the higher population areas (i.e. bigger cities) therefore our study concentrated primarily on the Lewiston/Auburn area though a few of the study participants lived in the surrounding towns. The twin cities of Lewiston and Auburn are Maine's second largest urban center with a combined population of 58,893.[3] This area presents numerous opportunities for social, recreational, cultural and educational opportunities. Auburn and Lewiston are the center of county activities, where the majority of our subpopulation within Androscoggin County live, work, and recreate. We estimate 9-10% of the State of Maine's 18-25 year old population lives in Androscoggin County.

Looking at the geographic and cultural factors of this population there are two major implications for culturally competent services. Based upon our findings, and from a growing body of literature on the topic of 'emerging adulthood,' it is important for preventionists and practitioners to recognize that this 18-25 year old population no longer view themselves as adolescents, but also do not fully view themselves as adults. Arnett (2005) titled this period "emerging adulthood" because this population is growing into adulthood and over the last 50 years the expectation of marriage immediately after high school has lessened and there is a greater need for post-secondary education, thus creating a longer maturation process. [4]

Emerging adults have a strong optimistic bias in general for all risks, which is particularly dangerous whey they use drugs because they do not believe any harm will come of using substances while they are still young according to Arnett.[5] This has serious implications for developing culturally competent services that will appeal to this population and capitalize on their optimism and incredible resiliency in this time of transition. The other implication for

[3] U.S. Census, 2000.
[4] Arnett, J.J. "The Developmental Context of Substance Use in Emerging Adulthood." Journal of Drug Issues, 35(2), 235-253, 2005.
[5] Ibid.

prevention of substance use is to recognize that most young adults are not motivated to change their unhealthy behaviors because they have not experienced any serious negative consequences associated with their substance use.[6] Self-monitoring assessments used repeatedly in settings where health care workers and social service providers have interactions with young adults may be a more culturally sensitive way of meeting young people where they are at and begin to create some awareness of the dangers (health, legal and social) associated with substance abuse.

Findings on Needs, Resources, and Readiness:

Substance use prevalence rates for the past thirty days were measured by self-report in our survey. A total of 63.8% of the sample reported drinking in the last 30 days. Drinkers also reported an average of 10.8 binges (defined as five or more drinks at one sitting) in the past month, and men binged significantly more than women. In the past 30 days, 38.4% of the sample reported bingeing.

Well over half, or 59.9% of the sample, indicated they had used some form of tobacco in the last 30 days and 58.3% reported smoking cigarettes in the past month. The majority of the smokers reported smoking more than 20 days per month, and women smoked more days than men. In other words this is not social smoking, but those who are addicted to tobacco. 10.1% of the sample also reported using spit tobacco (chew, snuff, dip), while not surprisingly men reported more use than women. Cigarette smokers were statistically more likely to also use spit tobacco, although the sample of spit tobacco users was small, with just 22 respondents.

In the last 30 days, 27.5% of the sample reported smoking marijuana and averaged 3.2 days of smoking per month, and on those days smoked an average of 3.9 times. In addition, 10.6% of the sample was heavy marijuana users, reporting more than 20 days use in the last month.

Table 1. Percentage of Respondents Using Specific Drugs in <u>Past 30 Days</u>

Drug	**Percent Using:**
Any Tobacco	59.9%
Cigarette use	58.3%
Alcohol	63.8%
Binge Alcohol Use* (defined as 5 or more drinks in one sitting)	38.4%
Marijuana	27.5%
Any Illicit Drug Use	29%
Any Illicit Drug Use Other than Marijuana	7.3%

[6] Fromme, K. & Brown, S.A. "Special Series: Empirically Based Prevention and Treatment Approaches for Adolescent and Young Adult Substance Use." Cognitive & Behavioral Practice, 7, 61-64.

Other illegal drugs were used on average, 0.16 days in the last 30 days, with 7.3% of the sample reporting illegal drug use. Percentages of respondents reporting use of specific drugs are included in **Table 2** below.

Abuse of prescription drugs was also reported, with 29.9% of the sample acknowledging such use. For those who abused prescription drugs, they averaged 0.21 times/30 days, suggesting that abuse of prescription drugs may be more common in this population than use of illegal drugs. The use of illegal drugs and the illicit use of prescription drugs were also highly correlated.

Table 2: Percentage of Respondents Reporting Lifetime Use of Specific Drugs

LSD	9.3%
Cocaine/crack	22.6%
Ecstasy	21.2%
Methamphetamine	7.4%
Heroin	5.0%
Prescription Drugs	29.9%
Other	12.2%

*Please note: Lifetime use is defined as **any** use, even once, during the course of a respondent's life and not necessarily continuous use.*

Unique Patterns for Prevention

Binge drinking was found to be a unique pattern of substance abuse that has implications for prevention. Specifically, 38.4% of our sample reported binge alcohol use in the past month. Also in the past 30 days, 63.8% of our sample reported drinking alcohol and on average they consumed 6.6 drinks at one sitting. These drinkers reported an average of 10.8 binges (five or more drinks in one sitting) over the last month. This unique pattern of consuming so much alcohol in one sitting, particularly for the males who binged significantly more than women, is important to note.

We discussed binge drinking in our focus groups. Most of the participants were not familiar with the definition of binge drinking, and while aware of risks of over-consumption, were not especially concerned about harming themselves or others. Harm reduction strategies would be one particular approach that may work with this young adult population. It is unrealistic to think that we can end alcohol consumption, but creating messaging and strategies to help young adults to drink less and to recognize when they have consumed too much, would help reduce the potential risk that accompanies binge drinking. Education and outreach as well as a social marketing campaign, may be one prevention strategy for binge drinking. This particular subpopulation is very high tech and computer savvy, so web-based messaging may be most effective at reaching this audience.

We also asked questions about where young adults do the majority of their drinking and who purchased the alcohol they consume. 29.3% of our sample reported drinking in their own home

and 23.3% reporting drinking at a friend's home. Only 2.3% reported drinking at their parent's home. We also found that the majority of the respondents either purchased the alcohol themselves (26%) or a friend bought it for them (30.7%). A total of 4.7% of the sample reported having a stranger buy the alcohol for them, also known as the "shoulder tap" method of obtaining alcohol. In our focus groups we talked about how frequently young adults think "shoulder-tapping" occurs in our area, and we were told it is a fairly common practice. Thus, we may wish to explore strategies to raise awareness about providing alcohol to minors and to work with local law enforcement to increase police patrols of business parking lots where alcohol is sold, as a deterrent.

Finally, we asked young adults (those over 21) if they provided alcohol to minors and 83.8% said they did not while 5.1% said they are generally willing to but didn't in the past two weeks. A total of 11.1% said they had bought for someone under 21 at least once in the past two weeks. 51.4% of our sample reported that it is 'easy or very easy' to get alcohol if you are under 21. Also, 51.6% said it was 'unlikely or very unlikely' to be caught buying alcohol as a minor. Compliance check programs to change cultural norms, to enforce underage drinking laws, and to crack down on underage purchasing of alcohol may change these numbers over time.

Abuse of prescription and illegal drugs was also common, according to participants in our five focus groups. Prescription drugs used illicitly included psychostimulants, anti-psychotics, anti-depressants, benzodiazepines, narcotics, and anti-seizure medications. In particular, participants noted that drugs used for attentional problems and pain relief were sometimes procured from physicians, and then sold at considerable profit to recreational users. At least two focus groups reported that prescription drugs, even when used illicitly, were perceived as safer than "street" drugs. From these discussions, coalition leaders have begun discussing education and awareness raising campaigns to get the word out that prescription drugs can be fatal if misused.

Analysis of Risk and Protective Factors

We examined risk and protective factors that influence substance abuse patterns in the 18-25 year old non-college population based upon some initial assumptions that being employed, having children and being married might all be protective factors. Given our small sample size (N=218), we are not able to make any generalizations but it was interesting to explore the impact of employment, education, and having children on lifetime substance use.

We examined the characteristics of the group in terms of those who were unemployed, and not attending school. Seventy respondents, or 32.1% of the sample, reported neither being employed nor attending school. There were marginally more men in the unemployed non-student group than women (53.6% versus 43.5%), although the difference did not reach statistical significance. 68.6% of the unemployed group reported smoking cigarettes in the last 30 days, compared to only 53.4% of the working/school group, a statistically significant difference. The unemployed group/non-student group also spent more days smoking than the employed/students. In our sample, the unemployed/non-students consumed more alcohol (drinks per sitting) than those who were employed or who were in school (9.9 vs. 5.3 drinks), a statistically significant difference as well.

Comparisons of lifetime use for illicit drugs for non-working/non-student group to the remainder of the sample are listed in **Table 3** below. An asterisk denotes a statistically significant difference. Methamphetamine use was the only statistically significant difference, but is interesting to note that a greater percentage of the unemployed/ non-student sample used these substances than the employed/ students. We should also note that with a small sample, not a great deal can be generalized from the data.

Table 3: Substance Use Comparison of Unemployed/ Non-Student with Employed/ Students

Lifetime Use of a Particular Substance:	Percent of Unemployed/non-student Using (N=70) Using	Percent of Employed/student Using (N=136)
Cocaine	27%	20%
Methamphetamine*	12%	5%
Rx Drugs	33%	28%
Heroin	6%	4%

The impact of educational level and having children in the home on smoking, alcohol consumption and lifetime drug abuse was also explored. In terms of education, there were marginally significant differences in use of illegal drugs by educational level, with the highest rates of use in those who had not completed high school, but were no longer attending (20.0%), and the lowest rates in those who were still in high school. Those who lived off campus but attended classes also had relatively high rates of lifetime use at 18.2%. In the case of prescription drug abuse, there were no significant differences by educational level, although the highest rates of abuse (27.3%) were in college students living off campus but not with a parent or guardian. There were significant differences in self-reported days drinking in the last month, with the highest prevalence in students enrolled in college, but living off campus (77.3%) and the lowest prevalence in those who had high school diplomas but were not in school (59.1%). Across all illegal drug activity, there were differences based on education; the highest rates of illegal drug use tended to be in the group that had dropped out of high school (47.4%), and the lowest in those enrolled in college and living with parents and guardians (26.7%).

Children in the home also had an impact on behavior, with those living with children reporting abstaining from alcohol more often (33.6% without vs. 40.9% with), being non-smoking, and denying illegal drug use, although the last two relationships were only marginally statistically significant. Additional exploration to determine the relationship between education, marital status, and having children in the home as it related to substance use behaviors is needed.

It is also important to note that much of the literature currently published on young adult drinking uses only college students as their population of reference. This is most likely because college students are a very easy group to obtain data from because of the ease of and convenience of survey administration in classroom settings. Comparative research, however,

shows there are a number of differences in the substance use habits of collegian and non-collegian young adults, which raises questions as to what causes these differences, and what methods are most successful at reducing substance use in a non-collegian population.

White, Labouvie, & Papadoratsakis (2005), examined a group of New Jersey adolescents at age 18, and then again at age 21 and then again at 28 or 31 years of age. They compared individuals who attended college for at least two years and were currently enrolled at age 21, and those who had a high school diploma or less and never attended college. Using separate alcohol, cigarette and marijuana questionnaires, differences between the substance use habits of the two groups was analyzed.

These researchers found non-college males' and females' cigarette and marijuana use was significantly higher at all ages than for college students. Also, though alcohol use in college males increase to a much greater extent from age 18 to 21 (and decreased to a much great extent from age 21 to age 30 when compared to non-college males), non-college males' use was higher at all three test dates.[7] Non-collegians were also more likely to experience legal problems as a result of their substance use than their college counterparts. Thus, while it may seem that a college environment fosters an increase in substance use, those not in college are at a much great risk for negative consequences. More research is needed to compare the two populations and to determine what strategies can best impact the reduction of non-collegian young adult substance abuse.

Analysis of Risk and Common Consequences

Our study indicated that this subpopulation does not perceive any great risk associated with substance use. Repeatedly we were told that while a few of their peers may have problems from using substances, but that everyone uses and this was a common theme in all five focus groups. Most held the belief that little damage to one's physical health will result from alcohol or marijuana use in the immediate future and only older adults develop serious health problems as a result of substance use. Most thought they would 'quit' using by the time it would have any ramifications to their own health. This is a potential area for prevention coalitions to develop awareness campaigns and highlight stories of young people who have developed serious health problems as a result of substance abuse.

In general young adults told us they had many more reasons to find substances 'useful' as means of managing stress, fitting in and getting by. Tobacco use was more widely recognized as having negative health effects. Clearly the messages about the dangers of tobacco use, including secondhand smoke, are being heard by this population, due in part to Maine's comprehensive tobacco prevention and control programs.

Marijuana use was considered generally harmless by the majority of the young adults in our focus groups. In fact, there was a common misperception that 'everyone' smokes pot and this is

[7] White, H.R., Labouvie, E.W., Papadaratssakis, V. "Changes in Substance Use during the Transition to Adulthood: A Comparison of College Students and Their Noncollege Age Peers. " Journal of Drug Issues, 35 (2), 281-305, 2005.

one opportunity where a social norming campaign may change those false perceptions that 'everyone' is using. Drug related crime, dating violence, injuries and car crashes were discussed as potential consequences, but overwhelmingly the population demonstrated a real lack of perceived risk of using substances.

Arnett states that many young adults "believe they can get drunk and try various drugs now, if they choose to, with little concern about getting into a car crash, becoming addicted, being arrested, or suffering any of the other negative consequences of substance use."[8] This theme was completely reinforced in our focus group discussion with 18-25 year olds, who do not quite see themselves as adults, but are not longer adolescents. Arnett defines this period of one's life as "emerging adulthood." The theory of emerging adulthood is one way of conceptualizing the developmental characteristics of young people between the ages of 18 and 25. Arnett uses his theory to explain the high rates of substance use for young adults. Substance use is part of young people's identity exploration in emerging adulthood and it may also be a way to self-medicate in a confusing, difficult and stressful period in a person's life. Whether changing jobs, moving apartments, dropping in and out of school, changing love interests/partners, etc., young adults are in a period of major instability. This disruption and potential anguish could lead to increased substance use.

However, young adults also enjoy immense freedom and may also begin to embrace their new found decision-making ability as it may be the first time they are truly free from parental supervision. "They may feel that they have a certain freedom to do things during this age period that will not be acceptable once they reach adulthood," according to Arnett.[9] Whether it is a period of experimentation or the beginning of an addiction is impacted by a wide variety of biological and social factors. Emerging adults may have an optimistic bias and do not want to believe the potential negative effects of drug use is likely to happen to them.[10]

Strengths

This group demonstrated incredible resiliency and creativity in overcoming adversity. They are a self-surviving group. They have developed great skill in getting by, though not necessarily living to their full potential. Almost three-quarters or 72.1% of the respondents to our survey had health insurance and 50.2% have a family medical doctor. 80.6% of our sample had seen a health care provider in the past 12 months so the majority are at least getting some medical attention and this has important implications for self-care. Quite often, however, this group receives its medical care via the emergency room or the FirstCare clinic.

Many in the focus groups told us they feel like they are "not kids anymore, but don't see themselves as adults either."[11] So clearly they are in a transitional state and this has serious implications for their self-identity. Positive reinforcement of their abilities to manage difficult

[8] Arnett, J.J. "The Developmental Context of Substance Use in Emerging Adulthood." Journal of Drug Issues, 35(2), 235-253, 2005.
[9] Arnett, J.J. "The Developmental Context of Substance Use in Emerging Adulthood." Journal of Drug Issues, 35(2), 246, 2005.
[10] Weinstein, N.D. "Optimistic biases about personal risks." Science, 246, 1232-1233, 1989.
[11] Focus group transcript from 5/10/2006.

situations and to cope with stress and uncertainty may go a long way in helping this subgroup learn to respect themselves and to transition into adulthood and in the process engage in less risky behaviors.

A couple of individuals in our focus groups were recovering alcohols and/or addicts. They spoke passionately about the need for social support to be successful in quitting as well as a needing other to hold off on passing judgment or being critical of them. From their own experience (and the experiences of others they know who have substance abuse problems), the key to changing behavior has been continued support from those who can relate. This population wants to be heard and not preached to, so finding programs that focus on harm reduction rather than abstinence will be key to credibility and getting individuals to even consider changing their behaviors.

Substance Abuse Resources Available to Young Adults

The resources available to this subpopulation are local support groups such as Alcoholic Anonymous, Narcotics Anonymous, Tobacco Support Group, as well as hot lines, individual and group counseling, and intensive treatment. Although these services are available, and the support groups and hot lines are even free, they are not being utilized. Many of the young adults told us that the support groups they have tried were not youth friendly and that they had little in common with the people who attended them. An additional implication for prevention providers based upon our finding is to develop 'youth/ young adult' friendly groups and get the word out about the free service.

As a result of this study, Healthy Androscoggin has created an *Androscoggin County Alcohol and Other Drug Resource Guide*. The first printing will occur this summer and we will distribute to many local organizations, businesses, and hang out spots for young adults. We designed the guide with young adults specifically in mind and will also have a web-based version for the technically savvy with internet access. We also hope to create a pocket card for outreach workers to share with youth/ young adults on the streets and talk with them about the dangers of substance abuse.

In terms of resources that might help with substance abuse problems, participants had much more confidence in people, and particularly, health professionals, than in brochures or religious sources. Health professionals and friends were most often endorsed as advocates in situations when someone needed assistance with a drug or alcohol abuse problem.

Barriers to Culturally Competent Services and Readiness to Change

Because few young adults have experienced negative effects of their substance use, they are less motivated to change their behavior. One of the main goals in developing culturally competent services should be to help young adults think differently about their choices. Fromme & Brown (2000) state that to effectively impact the emerging adult, one's approach should generate ambivalence about substance use among this cohort who typically sees little reason to reduce or

stop using substances.[12] In addition to the difficulty to reaching young adults and creating that ambivalence, time and money would be two potential barriers to also overcome when reaching this population.

Culturally sensitive services and programs need to recognize the emerging adult's personal decision and motivations to changing their behavior. Non-confrontational and non-judgmental approaches are absolutely required. We heard very clearly in our discussions with young people that preaching, or talking down to, or using scare tactics with this subpopulation will not work. Most respondents reported that education through law enforcement was not effective, and several participants expressed suspicion of law enforcement agencies in general.

In our sample, respondents indicated they value health professionals and friends' opinions far more than any other source. Strategies and services that capitalize on young people's social connections-- their peer relationships, will be needed to help change the social culture that often promotes drinking/smoking and drug use.

All of the individuals we spoke with in our focus groups were in a pre-contemplative stage in terms of their readiness to change their drinking or drug use. They felt this was true for the majority of their peers. However, a surprising number of respondents, 31.1%, in our survey had made at least one attempt to stop smoking in the past year. We also asked the question do you plan to quit using tobacco in the next 30 days, and 22.1% said yes (compared to 39% who said no, and 39% who said not applicable). The young adults in our assessment were more interested in reducing the amount of tobacco they use or quitting more so than those who use other substances. Again this is likely related to their perception that tobacco is harmful to their health, more so than any other drug.

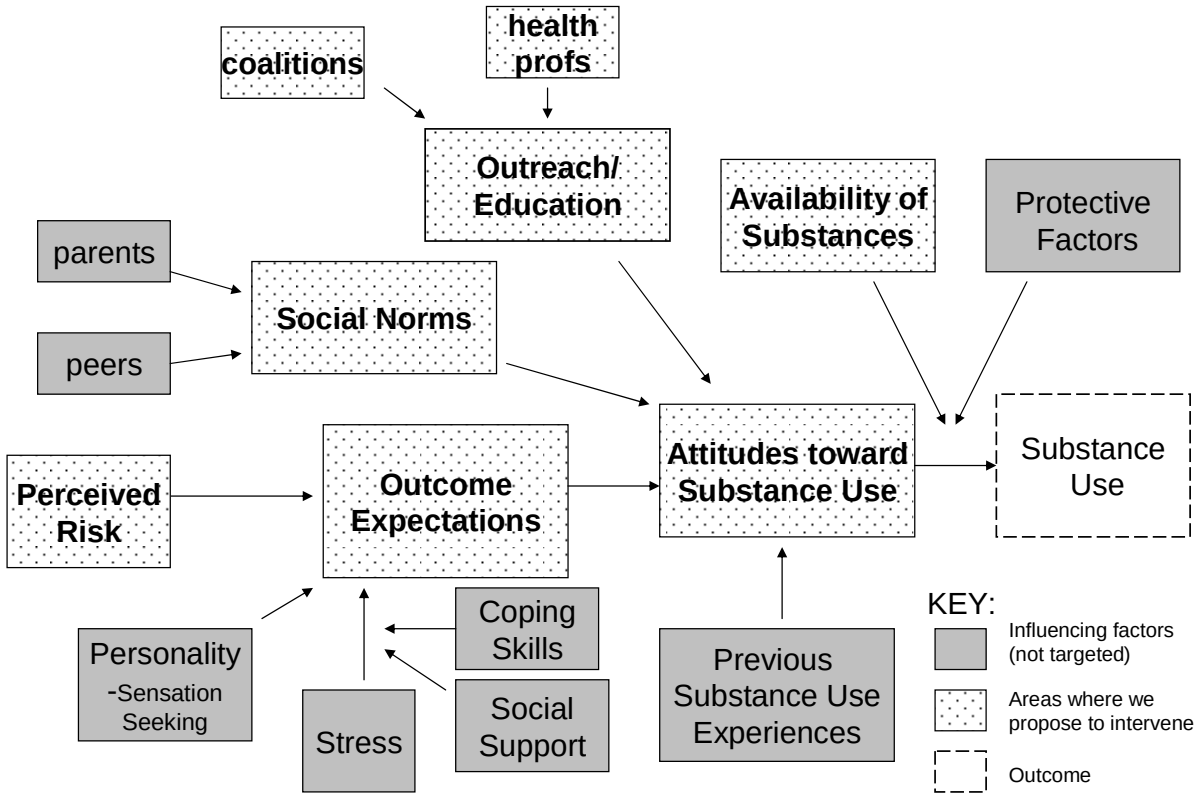
Recommendations:

Based upon our survey data and focus group findings, as well as a review of the existing literature on substance use and the young adult population, we developed a number of recommendations as well as a conceptual model. This model depicts some of the psychosocial factors that influence young adults' substance use behavior and how our proposed strategies and interventions would influence those behaviors. We felt it was important to look at all the risk and protective factors that influence young adult substance use including things like their attitudes about substance use, perception of risk, social norms, availability of substances, coping skills, social support, etc.

Please see the conceptual model on the next page, an explanation of how the model works, then followed by a series of recommendations.

[12] Fromme, K. & Brown, S.A. "Special Series: Empirically Based Prevention and Treatment Approaches for Adolescent and Young Adult Substance Use." Cognitive & Behavioral Practice, 7, 61-64.

Conceptual Model



The model should be read from left to right, where boxes on the left influence the factors to their right and then finally inform one's decision to engage or not engage in substance use. A direct arrow from one box to another represents a direct relationship. An arrow which bisects another arrow represents that a third factor moderates, or changes the intensity of, the relationship between the two directly linked boxes.

Education/Outreach directly affect one's attitudes toward substance use. Coalitions and health professionals are two of many groups that inform young adults about the consequences of engaging in substance use. This education then helps shape the youths' attitudes toward substance use.

Social Norms represent what young adults see as normal expected behavior toward substance use. Social norms are shaped by the media, parents, peers and other influential people in their lives. Peers, in particular, are very influential in forming a young adult's attitude toward substance use. If peers are engaging in this behavior, and find it cool, then their friends are likely to join in. Although parental expectations can contribute to social norms surrounding drug use, peers' influence on social norms are generally thought to be much more influential.

Outcome Expectations are what the young adult thinks the results of his or her behavior will be. A positive outcome expectation is when a person believes that drug use will produce a favorable result. Perhaps he or she thinks that they will get a pleasing high and won't get caught. Or the youth could expect a negative outcome and think that he or she will have a bad reaction to the drug and will likely get caught.

Perceived risk is the youth's view of whether or not taking drugs poses any danger to one's health, getting caught, damaging one's relationships etc. As in the previous example, the youth's perception of the risk of getting caught helps form a negative outcome expectation.

Personality. A young adult's personality may influence how they view their potential drug use outcomes. For example, sensation seeking is a characteristic of a person's personality in which he or she gets a high from taking risks. In this situation, sensation seeking youths may take drugs because of their need to satisfy their risk-taking desire.

In the case of stress, a young adult might believe that taking drugs will result in stress relief, and temporary removal from the hardships of life, and thus his or her outcome expectation from taking drugs is likely to be more positive. However, a stressful situation might not necessarily mean that he or she will turn to drugs for stress relief. Social support and coping skills mediate the relationship between stress and outcome expectations. In other words, the presence of a good social network and strong coping skills could allow a youth to overcome the stressful situation without looking to drugs to relieve the situation.

Previous substance use experiences will also affect one's attitude toward substance use. If someone enjoyed last night's keg party because he or she didn't have a hang over, did not get caught, and were more comfortable in social situations after drinking, then they will be more likely to repeat the behavior than someone who had a miserable time, was sick and got caught.

Outcome expectations, social norms, education/outreach and previous substance use experiences all affect one's attitude toward substance use. These attitudes largely determine whether a person uses substances in the future. However, the youth's attitude alone is not the only determinant of whether or not he or she will use. The availability of drugs and space in which to use drugs may enable a person to carry out their intention to use. On the flip side, the unavailability of drugs and lack of space may foil one's intention to use. Similarly, a person might have a positive attitude toward drug use, but protective factors such as one's responsibility to their job or family limit their ability to use drugs.

Multiple strategies are recommended to help young adults change behavior.

In the conceptual model, the dotted boxes represent the areas in which we propose to intervene through a multi-faceted approach to reduce substance use by the following intervention and strategies:

1. Outreach/Increased Education: We recommend health professionals and social service workers who interact with young adults in medical offices, clinics, home visits, etc. routinely ask their patients about drug use. In our survey, 34% of our sample reported that their health care provider asked about their tobacco use and that 28.8% received information about quitting. However, the percentage of young adults who were asked about their drinking or drug use is far lower; with only 15.5% of the population being asked about decreasing substance use and 15% receiving information to help them do so. Just as we have begun a cultural shift with the health care profession in asking about tobacco use at every visit, we need to create the same awareness level for asking about substance use.

This would increase opportunities for both outreach to young adults and a chance for them to reflect on their substance use habits. Eventually, this will create a culture at the doctor's office

for drug use to be a regular non-stigmatized topic, and gives the user opportunity to re-think his or her decisions.

In a review of prevention and treatment of adolescent substance use, Fromme & Brown 2000 clearly state that addressing alcohol and drug use in contexts that are routine (school, primary care offices), and in ways that do not carry stereotypes and are of minimal effort may be advantageous to youth. They states that youth are very conscious of social evaluation, thereby if we change the extent to which evaluating substance use is 'routinized' in the experimentation phase and within the context of normal adolescent development, then greater opportunities exist to change the paths that young people may be traveling down. This early intervention is key. It should be a routine practice for health care providers to ask about substance use, even have their patients fill out pre-screening questionnaires, and to make the appropriate interventions and referrals when needed. For young adults, this questioning and advising may help a regular user reduce or stop their usage completely before they become dependent and require intensive treatment.

2. Increasing perceived risks: An awareness campaign demonstrating the real and harmful effects of drug use on young adults would increase young adults' perceived risk and help to decrease their optimistic bias, as discussed by Arnett (2005) in his emerging adulthood theory and the connection to increase substance use. Arnett believes young adults have "expectations for life that are so high, they may not see negative consequences as likely to result from their substance use."[13] This sentiment of invincibility was conveyed in the numerous focus groups we held with young adults.

3. Changing social norms surrounding drug use: A social marketing campaign, delivered via the internet or television, that informs young adults about the real numbers of their peers who engage in drug use would demonstrate that not as many people use drugs as young adults think. This makes emerging adults who use, stop and think about their own behaviors and also serves to prevent young adults who are contemplating drug use from engaging in that behavior for the first time. In our focus groups, there was a common misperception that all young people use marijuana. Creating a shift in social norms can encourage young people to re-evaluate their attitudes toward their substance use behavior.

Perkins (2002) reviewed research related to social norms and substance use on college campuses. He indicated that student peer norms was the strongest influences on drinking behavior and interventions that reduce misperceptions of drinking norms had significant positive effects.[14]

4. Decrease availability of substances: We recommend that community coalitions and substance use preventionists work with local law enforcement to decrease young adult's access to drugs by reinforcing laws and conducting compliance checks so that alcohol is not being sold to minors by business, enforcing laws against those who purchase alcohol for minors, and decreasing peer to peer drug sales in schools.

[13] Arnett, J.J. "The Developmental Context of Substance Use in Emerging Adulthood." Journal of Drug Issues, 35(2), 247, 2005.
[14] Perkins, H.W., "Social Norms and the Prevention of Alcohol Misuse in Collegiate Context." Journal of Studies on Alcohol- Supplement.14, 164-172, 2002.

Awareness campaigns about increased enforcement, including positive press for those businesses that abide by the law prohibiting sales to minors, would help change cultural norms surrounding businesses selling alcohol to minors. We were told in our focus groups that it very easy to obtain alcohol and that young people know where they can buy locally. Coalitions can work with local law enforcement to conduct a public awareness campaign that the laws will be enforced and that those who also purchase for minors face serious legal consequences.

5. Create opportunities for young adults to critically examine their substance use via self-assessment and self-monitoring to identify their own patterns of high-risk use.

We recommend using self-assessment questionnaires as a means for young adults to reflect on their use and change attitude toward drugs on their own. Self-assessments that allow users to identify their substance use patterns, and high risk situations related to substance use, would encourage users to critically examine their existing attitudes and resulting behaviors.

Fromme & Brown (2000) believe most young adults are not motivated to change their unhealthy behaviors because they have not experienced any serious negative consequences associated with these behaviors. An individual must be motivated before they become willing to change their patterns of behavior. Because of this, self-monitoring could be especially useful in helping a person begin to understand what high-risk activities they engage in while using alcohol, tobacco or illicit drugs.

Creating opportunities by which young adults can identify their own patterns of use including examining high risk situations, can bring about greater awareness of substance abuse. Either paper or web-based questionnaires could be developed or modified from existing tools (i.e. Customary Drinking and Drug Use Record) to help young folks identify risky substance use and encourage them to seek assistance. In addition, training other young adults to serve as peer to peer counselors may also help with the interpreting results and providing individualized feedback.

6. Create a safe, non-threatening environment and use a nonjudgmental approach to reduce unhealthy substance use.

We recommend creating a non-threatening environment and using a nonjudgmental approach to carry out the aforementioned interventions including:

- Outreach/ Increased Education
- Increasing Perceived Risks
- Changing Social Norms
- Self-assessment Opportunities

This style, framed loosely by motivational interviewing and harm reduction theory, will enable young adults to re-evaluate their substance abuse away from the typical adult stance of “you

should not use drugs." Young adults are struggling with new found freedoms and great instability. Designing interventions and programs that understand their motivations and decision making processes will foster more collaboration from those who are already not sure they are ready to make changes.

Many different methods have been used to reduce substance use in young people. A number of these methods involve harm reduction strategies, where the goal is not to eliminate the behavior entirely but rather to reduce serious negative consequences. In their study of college drinking prevention/intervention programs, Walters, Bennett, and Noto (2000) determined that educational and abstinence- based approaches show the least effectiveness, while interventions that address youth's expectations for alcohol's reinforcing effects, provide coping or other skills to increase self-efficacy for change, and correct perceived norms for heaving drinking appear to be most effective in reducing alcohol use. [15] These strategies may also be effective on non-college populations because they still provide individual feedback and change social norms.

In addition, health care providers and preventionists trained in motivational interviewing strategies would encourage young adults to re-evaluate expected positive outcomes of substance use and to recognize the potential negative consequences of their substance use. "Motivational interviewing is a directive, client-centered counseling style for eliciting behavior change by helping clients to explore and resolve ambivalence."[16] Rather than thinking of motivational interviewing as a counseling approach, we encourage providers to think of it as an interpersonal style of talking with young people about what personal motivations they might have for wanting to quit using substances and to encourage/ monitor that desire to change.

Not only do we recommend a non-judgmental approach, but we also strongly believe that creating a safe physical space for young adults to recreate while attempting to decrease substance should be explored. In fact, focus group participants noted the need for chem-free and/or "safe" spaces for those who trying to abstain or decrease drugs or alcohol. They also reported that a convenient and affordable community gym or fitness center might help both reduce stress, and offer alternative activities to drug use. Because services are expensive, free interventions might be welcome.

Summary and Future Directions

The 18 to 25 year olds sampled for this project report a variety of risk behaviors. Although 36.2% of the sample did not drink, and the majority did not drink often, the frequency of binge drinking in those who did imbibe is high. Similarly, a large proportion of respondents reported smoking cigarettes (58.3%), at least occasionally. The vast majority of those who reported smoking, smoked more than 20 days in the last month, and averaged 11.7 cigarettes per day. In addition, 27.5% of the sample reported using marijuana in the last 30 days.

[15] Walters, S.T., Bennett, M.E., Noto, J.V. "Drinking on campus: What do we know about reducing alcohol use among college students?" Journal of Substance Abuse Treatment 19, 223-228, 2000.
[16] http://motivationalinterview.org/clinical/whatismi.html

Illegal drug use was also common, with approximately a fifth of respondents using cocaine/crack and ecstasy, and almost a third reporting prescription drug abuse. 32.1% of the sample were neither employed nor in school, and drinking and smoking behaviors were more problematic in this group. Focus group participants suggested that alcohol, cigarettes and drugs are widely available to adolescents in the community, and that law enforcement has not been an effective deterrent. Alcohol, marijuana and prescription drugs were identified as specific problems. Focus groups recommended early intervention, peer counseling, increased understanding of risk, chem-free community spaces, and review of the laws governing alcohol, tobacco and marijuana use. They also reported an interest in quitting substances before becoming parents.

This assessment has provided important information about the characteristics of the young adult population in Androscoggin County, ME and we have made suggestions for prevention coalitions and health care providers to be more culturally sensitive to the needs of this group. Additional studies to examine the impact of employment and education on substance use for non-collegian young adults should also be explored. Brown (2002) notes that adolescents who work more than 20 hours a week are more likely to use and abuse drugs, which has substantial relevance to young adults after high school who do not go on to college.[17] Finally, future research is needed to determine if the findings can be generalized to similar parts of the State and if the recommendations set forth in this paper, if implemented, have any impact on helping young adults decrease or eliminate their substance abuse.

[17] Brown, R.T. "Risk Factors for Substance Use in Adolescents" The Pediatric Clinics of North America, 49, 247-255, 2002.

Appendix A: Literature Review

Non-Collegian Early Adult Substance Abuse: Risk and Prevention Factors and Preventative Strategies

Substance abuse by adolescents and young adults is commonly regarded as a major public health concern, with efforts made at all levels of government to curtail these habits before serious problems result. The three leading causes of death among adolescents (accident, suicide, and homicide) are all associated with substance use (Kaye, 2004), and substance use is also associated with other negative health behaviors, especially risky sexual practices (Windle & Windle, 1999). Adolescent (those under 18) substance use has been targeted to a much greater extent than young adult (18-25 year old) substance use because many programs put in place to combat substance use are included in school curriculum. However, once these adolescents leave school, questions arise as to what methods are most appropriate to use to combat these substance use issues.

Many factors can foster drug use, and an equal number can reduce the chances of an individual using a substance (alcohol, tobacco, illicit drugs). These factors can be genetic, social, or psychological (Schydlower, 2002). Generally, those who use substances will seek out others with similar use behaviors, and these individuals also have a more favorable view of these substances than non-users (Windle & Windle, 1999). Clearly, these views facilitate one another in that the more a person uses drugs and interacts with others who do the same, the more favorable their opinions will become of these substances.

Brown (2002) used the biopsychosocial model to explain how risk factors can influence an adolescent's substance use. This explanation is quite effective because it emphasizes how no one specific aspect of an adolescent's life is the sole predictor of drug usage, but it is rather a complex interplay of genetic and environmental factors. Adolescents who score highly on sensation-seeking and risk-taking scales and those who have higher androgen levels may all be more likely to use drugs, and individuals from households where parents drink excessively are also more likely to follow suit (Brown, 2002). Brown (2002) also notes that adolescents who work more than 20 hours a week are more likely to use and abuse drugs, which has substantial relevance to young adults after high school who do not go on to college.

Greydanus & Patel (2005) believe initial drug use results from multiple factors which can be described by the Gateway Model and the Risk Behavior Model, as well as other theories. The Gateway Model states that drug abuse progresses from no use to substances which are easily obtainable and cheap, and then can move to more expensive and powerful drugs which are usually more difficult to acquire. The Risk Behavior Model explains substance use as a way to achieve goals or cope with problems individuals are encountering in their daily lives. These models describe how an adolescent may begin to use drugs, and it is likely many continue to use them, at least recreationally, because these individuals believe the benefits of the drugs (relaxation, euphoria, coping mechanism) outweigh the physical risks (Greydanus & Patel, 2005). By the time these individuals reach young adulthood, however, they may already have become dependent.

Arnett (2005) discussed five factors which he termed "The Age of Identity Explorations," and he believes each of these factors can explain possible reasons for young adult substance use to be higher than other groups. He feels 18-25 year olds no longer view themselves as adolescents, but also do not yet fully view themselves as adults. He titled this period "emerging adulthood," because these people are growing into adulthood as a lessened demand on immediate marriage after high school and a greater need for post-secondary education over the last 50 years has created a longer maturation process.

Emerging adults are freer than both adolescents and young adults to make their own choices. This group is able to more freely experiment with substances which adolescents and adults may feel prohibited from using, generally because of parental supervision or adult societal constraints, respectively (Arnett, 2005). Emerging adults usually feel in-between adulthood and adolescence, and thus fluctuate back and forth within this realm, free to decide whether or not they wish to use substances. Emerging adults also may have a strong optimistic bias; that is, they do not believe any harm will come of using substances while they are still young (Arnett, 2005). However, it is quite likely dependence can result from such experimentation at this age, and thus it is important to reinforce healthy choices to this population, which in many ways is still developing.

Protective factors from substance use include mutual parent-child attachment early in life (Brook, Whiteman, Finch, & Cohen, 2000). Findings indicated this interaction fosters greater responsibility while reducing rebellious and deviant actions during adolescence, and these

personality traits predicted less drug use during young adulthood when compared to individuals who did not have a strong mutual attachment with a parent during adolescence (Brook et al., 2000). Research also showed adolescents who grew up with authoritative parents rather than authoritarian parents demonstrate less drug use as young adults (Greydanus & Patel, 2005). Generally, it appears protective factors must be developed during adolescence.

It is also important to note that much of the literature currently published on young adult drinking uses only college students as their population of reference. This is most likely because college students are once again a very easy group to target. Surveys can be handed out in a classroom setting and data can be gathered without much difficulty. Comparative research, however, shows there are differences in the substance use habits of collegian and non-collegian young adults, which raises questions as to what causes these differences, and what methods are most successful at reducing substance use by this different population.

White, Labouvie, & Papadoratsakis (2005), examined a group of New Jersey adolescents at age 18, and then again at age 21 and around 30 years old (28 or 31 years old). They compared individuals who attended college for at least two years and were currently enrolled at the age of 21, and those who had a high school diploma or less and never attended college. Using separate alcohol, cigarette and marijuana questionnaires, differences between substance use habits of each group was analyzed.

These researchers found non-college males' and females' cigarette and marijuana use was significantly higher at all ages than for college students. Also, though alcohol use in college males increased to a much greater extent from age 18 to age 21, and decreased to a much greater extent from age 21 to age 30 when compared to non-college males, non-college males' use was higher at all three test dates (White et al., 2005). Non-collegians were also more likely to experience legal problems resulting from their substance use than were college students (White et al., 2005).

This may indicate that while it is likely the college environment facilitates drinking behaviors, non-college young adults are still at a much greater risk for negative alcohol behaviors than those who attend college. It is quite possible young adults who attend college are equally likely to experiment with substances than their non-college peers, but are more likely to mature out of these habits as they enter adulthood (White et al., 2005). From this research it is

clear efforts must be made to target this non-collegian population if any more progress is to be made to combat substance abuse.

Many different methods have been used recently to reduce substance abuse in young adults. A number of these methods involve harm reduction strategies. In these cases the goal is not to eliminate the behavior immediately, but rather reduce serious negative consequences which could result from substance use. Fromme and Brown (2000) believe most young adults are not motivated to change their unhealthy behaviors because they have not experienced any serious negative consequences associated with these behaviors. An individual must be motivated before they will become willing to change their patterns of behavior. Because of this, self monitoring and individualized feedback could be especially helpful in allowing a person to begin to understand what high-risk activities they engage in while using alcohol, tobacco, or illicit drugs (Fromme & Brown, 2000). Their study involved young adult participants who completed self-monitoring assessments individually. Cognitive behavior approaches were also used to aide the individuals in developing techniques to avoid peer pressure. This, however, was a pilot study and thus more research would be needed to examine whether individual or group instruction could be most effective for reductions in substance use.

London, England also found harm reduction techniques successful in combating growing drug usage in their dance clubs. Booklets which discussed aspects of drug use were handed out in clubs, and posters were put on display in London's subway and on buses. These booklets and posters examined the medical, social, and legal aspects of drug usage (Branigan & Wellings, 1999). Follow-up questioning demonstrated that the young adults who received information retained the knowledge, and there was very little objection to the posters from the public. Rather than presenting non-use as the norm, this program accepted the fact young adults may use drugs, and instead focused on making an attempt to have them be used in a safer manner.

Attempts have also been made to have primary care physicians work more diligently in acquiring substance use information from their adolescent patients, to allow for early interventions (Kaye, 2004). It is important for these physicians to be able to understand what stage of usage their patients are in. While experimentation is now viewed as a normal part of adolescent development, intervention becomes necessary when excessive use leads to academic, work, family, and/or social problems on a recurrent and persistent basis (Kaye, 2004). This knowledge can be gained using pre-screening questionnaires which a patient can fill out prior to

seeing their physician, and the physician can view these forms and ask more detailed questions regarding the patient's substance use during routine examinations. For young adults, this questioning and advising may help a regular user reduce or stop their usage completely before they become dependent and require an intensive detoxification or residential rehabilitation to reduce their substance use.

A majority of the present research on young adult substance use involves the two main drugs of choice: alcohol and tobacco. In most cases is appears the use of one increases the likelihood of using the other, though presently no research has been able to state exactly why this is so. Mazas, Cofta-Woerpel, Daza, Fouladi, Vidrine, Cinciripini, Gritz, and Wetter (2006) found young men who were current or former smokers were more likely to demonstrate alcohol risk behaviors, especially if they worked in a blue collar job and were paid hourly. This is a very interesting statistic because many young people who do not attend college are likely to be employed in blue collar positions and paid hourly, indicating these young adults should be targeted specifically in an effort to curtail reported at-risk drinking behaviors. More research is needed to determine specific causes of this variation, however.

Irwin also linked alcohol and tobacco in his 2004 editorial published in the *Journal of Adolescent Health*. He highlighted research conducted which showed alcohol use at the age of 15 was highly predictive of young adult smoking habits. He also notes that individuals who drank less and exercised regularly were more likely to attempt to quit smoking as they move into adulthood. Still, this research is only correlative. No study has been able to determine why a person may be more likely to use alcohol if they are a smoker, or vice versa.

Clearly, young adult substance use is a major public health concern within the United States. While it is definitely important to foster protective behaviors during adolescence, it is clear this does not always occur, leaving many individuals regular users by the time they reach young adulthood. Efforts have been placed on harm reduction to reduce negative health consequences which can result from substance use, and also on cognitive behavioral techniques to foster self-monitoring of one's habits. More research is needed on young adult non-collegians to develop better strategies to target this population and the unique challenges they face as the enter adulthood. By combating substance use as early as possible it is much more likely many users will curtail their habits before they become dependent, thus reducing spending on residential treatment and benefiting society as a whole.

References

Arnett, J.J. (2005). The Developmental Context of Substance Use in Emerging Adulthood. *Journal of Drug Issues*, 35(2), 235-253.

Branigan, P. & Wellings, K. (1999). Acceptance of the Harm Minimization Message in London Clubs and Underground System. *Drugs: Education, Prevention, & Policy*, 6(3), 389-398.

Brook, J.S., Whiteman, M., Finch, S., & Cohen, P. (2000). Longitudinally Foretelling Drug Use in the Late Twenties: Adolescent Personality & Social- Environmental Antecedents. *Journal of Genetic Psychology*, 161(1), 37-51.

Brown, R.T. (2002). Risk factors for substance use in adolescents. *The Pediatric Clinics of North America*, 49, 247-255.

Fromme, K. & Brown, S.A. (2000). Special Series: Empirically Based Prevention and Treatment Approaches for Adolescent and Young Adult Substance Use – Introduction. *Cognitive & Behavioral Practice*, 7, 61-64.

Greydanus, D.E., & Patel, D.R. (2005). The Adolescent and Substance Use: Current Concepts. *Current Problems in Pediatric & Adolescent Health Care*, 35, 78-98.

Irwin, C.E. (2004). Tobacco Use During Adolescence and Young Adulthood: The Battle is Not Over. *Journal of Adolescent Health*, 35, 169-171.

Kaye, D.L. (2004). Office recognition and management of adolescent substance use. *Current Opinion in Pediatrics*, 16, 532-541.

Mazas, C.A., Cofta-Woerpel, L., Daza, P., Fouladi, R.T., Vidrine, J.I., Cinciripini, P.M., Gritz, E.R., and Wetter, D.W. (2006). At-Risk Drinking in Employed Men and Women. *Annals of Behavioral Medicine*, 31(3), 279-287.

Schydlower, M. (2002). Adolescent substance use and abuse: current issues. *Texas Medicine*, 98(2), 31-35.

White, H.R., Labouvie, E.W., Papadaratsakis, V. (2005). Changes in Substance Use during the Transition to Adulthood: A Comparison of College Students and Their Noncollege Age Peers. *Journal of Drug Issues*, 35(2), 281-305.

Windle, M. & Windle, R.C. (1999). Adolescent Tobacco, Alcohol, and Drug Use: Current Findings. *Adolescent Medicine: State of the Art Reviews*, 10(1).

Appendix B: Methodology

A questionnaire was developed based upon existing substance use surveys such as the Behavioral Risk Factor Surveillance Survey and Maine's Higher Education Alcohol Prevention Partnership survey. (A copy of the *Androscoggin County Young Adult Health Assessment* can be provided upon request). The survey was administered to 218 young adults, living or working in Androscoggin County who are not enrolled in college on a full-time basis. Survey respondents were recruited at a number of sites including career fairs, local businesses that employ young adults, a community college campus, and a social service agency that works with young people. Survey data was entered into SPSS and analyzed.

Five focus groups were held in the community. Participants were recruited from worksites, employment agencies, and through social service organizations. The focus groups were audio-taped and transcribed. A general thematic analysis was conducted looking for common themes.

For more information contact:

Angela Westhoff, Executive Director
Healthy Androscoggin
300 Main Street
Lewiston, ME 04240
Phone: 207-795-5990

Appendix C:

Acknowledgements and Credits:

Healthy Androscoggin would like to acknowledge several individuals who were members of the Assessment Advisory Team and without their assistance this project would not have been possible.

Kathryn Graffe-Low, Ph.D. Bates College Psychology Professor and Dept. Chair

Brenda Joly, Ph.D., Evaluator and Faculty Member at the Muskie School

Victoria Wiegman, M.Ed., Substance Abuse Counselor for Lewiston School Department

Timothy Cowan, MSPH, Research Consultant, Clinical Development, Health Dialog Analytic Solutions

Alysha Fowler, Androscoggin County citizen and member of the subcultural population

Angela Westhoff, M.A., Executive Director of Healthy Androscoggin

Additional assistance was provided by:

Erin Guay, University of Michigan Graduate Student

Jennifer Rasmussen, Bates College Student

Leah Roberts, Bates College Student

Matthew Capone, Bates College Student

We would also like to thank the Maine Office of Substance Abuse for providing the funding for this project.

Appendix D: Lessons Learned and Unintended Findings

A valuable lesson learned as a result of conducting this research for our coalition has been that it is critical that someone experienced in the Internal Review Board (IRB) process be involved in the project. That is our one overarching recommendation for other coalitions preparing to conduct similar research. It is vitally important that someone at your respective institution be trained in research using human subjects and help prepare the materials for the IRB committee. It will save you time and get your research project in the field that much faster.

Finally, for unintended findings we found that it was particularly interesting that almost three-quarters or 72.1% of the respondents to our survey had health insurance and that 80.6% of our sample had seen a health care provider in the past 12 months. However, only 50.2% have a family medical doctor. Thus the majority of our sample was at least getting some medical attention and this has important implications for self-care. Quite often, however, this group receives its medical care via the emergency room or the FirstCare (walk-in) clinic. Perhaps because young adults are in a period of transition, they no longer see their pediatrician, but have also not found a general practitioner. This highlights the importance of having a "medical home" for young adults to address their health care needs. We cannot depend solely on the medical profession to reach this subpopulation because many do not see the same physician more than once. Thus, it will be critical to train not only health care providers, but also social service workers who interact with young adults regularly, to routinely ask about substance use and to make appropriate referrals.