Reducing Substance Use and Improving Mental Health for Adolescents and Young Adults

Chapter 7

Adolescence is a unique developmental period that most youth successfully navigate without significant psychological, social, or health problems. However, adolescence is also the period when threats to mental and physical health increase and lifelong mental health problems begin or emerge.[1] Many adolescents experience difficulty with emotional and behavioral regulation at some level, which has led to the popular mischaracterization of adolescence as a time of "storm and stress." In fact, these challenges are normal and most youth are able to successfully adapt. However, some youth do develop serious problems. Youth who are unable to successfully regulate their emotions and behaviors may develop mental disorders or health conditions characterized by alterations in thinking, mood, behavior, which are associated with distress and impaired functioning (e.g. depression, anxiety, eating disorders, alcohol and drug abuse and dependence, conduct disorders).[2,3]

Adolescence is the period when threats to mental and physical health increase and lifelong mental health problems begin or emerge.

Experimentation with drugs or alcohol, by itself, is not considered a mental health "disorder." Nonetheless, adolescents can sustain injury and death associated with experimentation, and experimentation can lead to more significant problems if it becomes more regular. While occasional use of these substances is not considered a mental health disorder, alcohol and drug abuse and dependence are considered mental health disorders. Nonetheless, substance use, abuse, and dependence are usually discussed as problems separate from other mental health disorders. The Centers for Disease Control and Prevention combines improving mental health and reducing substance use under one health objective.[4] This is because mental health and substance use are very closely related; nearly one in three adults with a mental disorder has a co-occurring substance use disorder; likewise, 40-50% of adults with an alcohol or drug disorder has a co-occurring mental disorder. Co-occurring mental and substance disorders are also seen in youth, particularly in boys with conduct disorder problems.[4] For these reasons, the Task Force chose to focus on substance use, abuse, and dependence and mental health as related, but distinct issues during adolescence. The Task Force studied conduct disorders (e.g. aggression, violence, delinquency), which typically begin during childhood or adolescence, in more depth in another chapter. (See Chapter 8.)

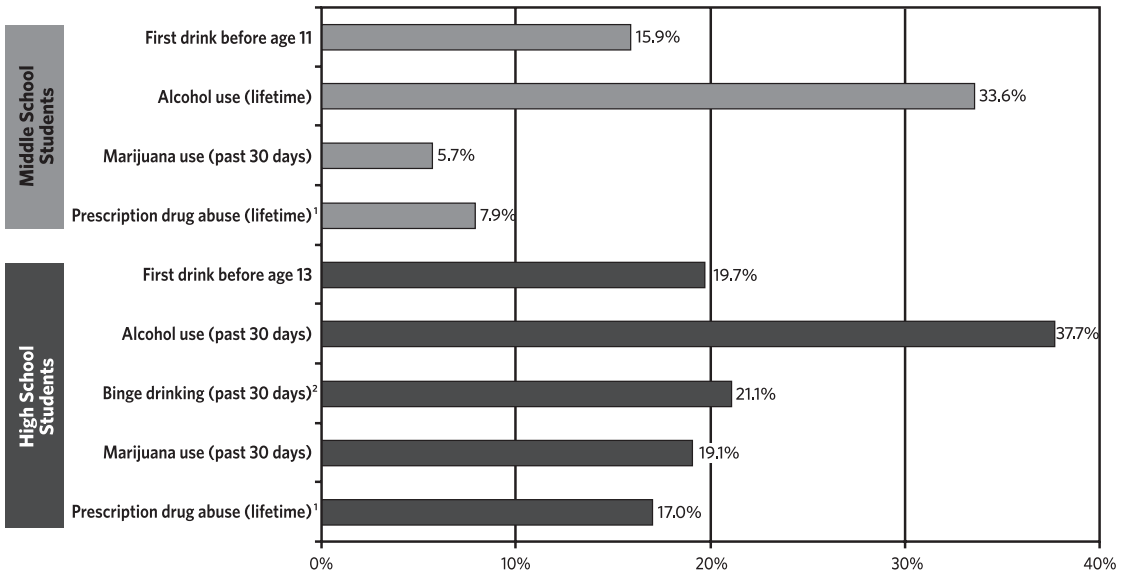
Alcohol and Drug Use and Abuse

Nationally, the use of drugs and alcohol is highest among adolescents and young adults, with drug use peaking for young people ages 18-22, and alcohol use peaking once they reach the age where drinking becomes legal (ages 21-24).[5]

While drinking and use of illicit drugs, or misuse of prescription drugs,[a] is most common among older adolescents and young adults, the use of illicit drugs and alcohol is prevalent at earlier ages. (See Figure 7.1.)

A wealth of research has found that boys are generally more likely to report alcohol and substance use than girls. Research also finds substantial difference in substance use by race and ethnicity. Generally Asian adolescents are least likely to use alcohol and other drugs, followed by African Americans, Hispanics, whites, and American Indians.[b] It is important to note, however, that these patterns vary by other factors such as the particular substance considered, age, and national origin.[6-8]

Figure 7.1
North Carolina Youth Report High Levels of Alcohol and Drug Use



1 Prescription drug abuse measures the percentage of students who report using prescription drugs, such as OxyContin, Percocet, Demerol, Adderall, Ritalin, or Xanax without a doctor's prescription during their life.
2 Binge drinking measures the percentage of students reporting having five or more drinks within a couple of hours.
Note: A smaller percentage of high school students reported using other substances sometime in their lifetime: inhalents (14%), cocaine (7%), heroin (3%), methamphetamines (5%), ecstasy (6%), or steroid pills or shots without a prescription (4%). Less than four percent of middle school students report cocaine or steroid use (they were not asked about other drugs).
Source: North Carolina Department of Public Instruction. North Carolina Youth Risk Behavior Survey, 2007. http://www.nchealthyschools.org/data/yrbs/. Accessed September 28, 2009.

a Throughout this chapter, misuse of prescription drugs, as characterized by taking a dose other than the prescribed amount or taking prescription drugs prescribed for someone else, is included in the terms "illicit drugs" and "other drugs." Misuse of prescription drugs is an understudied problem that has entered the spotlight in recent years. Data on youth use of individual types of prescription drugs, including sedatives, tranquilizers, amphetamines, and steroids have shown declines in recent years, while use of narcotics other than heroin is at near peak historic levels (in particularly Vicodin and OxyContin). Misuse of over-the-counter cough and cold medicines has only recently begun to be measured. (Johnston, LD, O'Malley, PM, Bachman, JG, & Schulenberg, JE. (2009). *Monitoring the Future national results on adolescent drug use: Overview of key findings, 2008* (NIH Publication No. 09-7401). Bethesda, MD: National Institute on Drug Abuse.)
b While some of these differences can be seen in the North Carolina Youth Risk Behavior Survey data, the sample size for some populations is too small to allow for meaningful analysis by race/ethnicity.

Approximately 6.8% of adolescents ages 12-17 in North Carolina reported alcohol or illicit drug dependence or abuse in 2006-2007, with 4.2% reporting alcohol dependence or abuse, and 4.3% reporting illicit drug dependence or abuse.[c] Young adults ages 18-25 are more likely to report alcohol or drug misuse or dependence. Overall, 19.7% of young adults (ages 18-25) in North Carolina reported dependence or abuse of drugs or alcohol, with 15.2% reporting alcohol abuse or dependence, and 8.6% reporting illicit drug use or dependence. In contrast, less than 6% of adults age 26 or older report dependence or abuse of alcohol or drugs.[9]

Consequences of Early and Prolonged Use of Alcohol and Other Drugs

The use, and misuse, of drugs and alcohol while young can have serious, long-term physiological consequences. Research has shown that repeated exposure to drugs or alcohol alters the brain chemistry.[10] This change in brain chemistry makes it more difficult for individuals to make reasoned decisions about future drug use. Children and adolescents are particularly susceptible to changes in brain chemistry, as the brain does not fully develop until around age 25. There is a strong correlation between addiction and the year in which the individual first began using alcohol or drugs. Among adults who first used alcohol at age 14 or younger, 14.7% reported alcohol abuse or dependence in the past year. This compares to only 2.2% of those who reported first drinking at age 21 or older.[5] Similarly, 12.9% of the adults who first tried marijuana at age 14 or younger reported illicit drug dependence or abuse, compared to only 2.7% of adults who first used marijuana at age 18 or older. Not only can the early use and misuse of alcohol and drugs lead to later abuse and addiction, but repeated use has also been shown to affect learning and memory, which can lead to poorer performance in school. Use of alcohol or other drugs is strongly linked to other risky behaviors (as discussed in Chapter 2).

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Not only does the misuse and dependence on alcohol and other drugs have negative consequences for the individual and his or her family, there are also much broader societal implications. Other negative consequences of underage drinking include violence, high-risk sexual activity, injury, and property crime. In 2005, underage drinking cost North Carolina more than $1.2 billion (or $1,705 per youth annually).[11] In addition, 42% of youth in North Carolina's juvenile justice system had substance abuse issues that warranted further assessment or treatment.[12] In North Carolina, approximately 20% of all motor vehicle fatalities involving drivers ages 16-19 involved alcohol in 2007.[13] This increases to more than 35% of all motor vehicle deaths for drivers who are 22 or 23.[14]

c Abuse refers to the misuse of alcohol or drugs (usually in terms of frequency or quantity), which increases the person's risk of adverse outcomes as a result of injuries, motor vehicle accidents, family problems, loss of a job, sexual assault, or other medical conditions. Dependence or addiction is an emotional or physiological dependence on alcohol or drugs that interferes with an individual's ability to control his or her consumption despite serious consequences.

Addiction is a Chronic Illness

Historically, people have viewed addiction as a moral failure and have stigmatized individuals who are not easily "cured" of their addiction.[10] However, more recent research on the brain and on the physiological responses to the use of drugs or alcohol upon people with addiction disorders has helped us recognize that addiction is a chronic disease with no complete cure.[15] There is a strong genetic predisposition to addiction, with genetics accounting for 50%-70% of the risk of addiction.[10] This is similar to the underlying genetic inheritability of asthma, diabetes, and hypertension. As with other chronic illnesses, people with substance abuse disorders have similar treatment adherence and relapse rates. Like other chronic illnesses, addiction can never be completely cured. However, it can be managed so that the individual can live with the underlying addiction disorder while minimizing or eliminating substance use and the adverse medical and societal consequences from that use; this may be particularly true among adolescence with early recognition and treatment.[15]

The mental and emotional well-being of adolescents is an important indicator of success in school and the transition to adulthood.

Mental Health

The mental and emotional well-being of adolescents is an important indicator of success in school and the transition to adulthood. Available data on the mental health status of adolescents in North Carolina can be difficult to access and interpret because there is no uniform system for data collection. Even more importantly, the definition of mental illness can vary dramatically across data sources. The Surgeon General defines mental illness as disorders that are "characterized by alterations in thinking, mood, or behavior (or some combination thereof) associated with distress and/or impaired functioning," such as depression and attention deficit hyperactivity disorder (ADHD), both of which can cause individual behavioral changes.[16] Mental health problems in adolescents refers to the range of diagnosable emotional, behavioral, and mental disorders, including depression, ADHD, anxiety, and eating and behavioral disorders. Serious emotional disturbances (SED) in adolescents are defined as any one of the above disorders "that severely disrupts their daily functioning in the home, school, or community." National data show that at least one in five children and adolescents have a mental disorder, and at least one in ten have a serious emotional disturbance.[17] When the mental health problems of adolescents go untreated, they pose a large burden on families and on society at-large in terms of disability, cost of treatment, and general distress. Further, if there are long delays in treatment, adolescents can experience more severe episodes that are harder to treat, and these disorders are more likely to continue into adulthood.[18]

The estimates of the number of adolescents and young adults in North Carolina with mental health problems vary depending on what conditions are being counted and how the research is conducted. Almost one in four middle school students (23%), 27% of high school students, and 33% of young adults aged 18-25 self-report mild or moderate depression, defined as feeling so sad or depressed for two ore more weeks in a row during the past year that it interfered with

normal activities.[8,19] However, the percentage of adolescents and young adults with clinically diagnosable depression or psychological distress is much lower. The North Carolina Department of Health and Human Services estimates that 10%-12% of children ages 9-17 suffer from SED.[20] Additionally, approximately 17%-18% of young adults age 18-25 report feelings that meet the definition for serious psychological distress.[d,21] Even fewer (7%-8%) have had at least one major depressive episode in the past year.[21]

Consequences of Mental Health Problems During Adolescence

Youth with better mental health are physically healthier and they exhibit more pro-social behavior, improved academic achievement in school, and engage in fewer behaviors that put their health at risk. Conversely, adolescents with symptoms of mental illness are more likely to have academic or social problems in school, be expelled or suspended, become pregnant during adolescence, be convicted of a crime, experiment with alcohol and illegal substances, and commit suicide.[18] Of additional concern is that half of all serious adult psychiatric illnesses start by age 14, and by age 25, three-quarters of them are present. Even so, the majority of mental illness in adolescents goes unrecognized or untreated, leaving youth vulnerable to diminished school success and to social and behavioral impairments during this critical phase of development in their lives.[22]

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Research has repeatedly demonstrated that the mental and emotional well-being of students is an important contributor to academic success.[23] When the mental health needs of school-aged adolescents are not met, the following are likely:

- Decreased test scores
- Increased achievement gap between white and minority students
- Increased retention, suspension, and dropout rates
- Lowered school attendance
- Increased discipline problems in the classroom, which can also have a negative impact on teacher retention

Additionally, more than half of children with behavioral and/or emotional disorders are at risk of dropping out of high school, and only 42% of those remaining will graduate with a high school diploma.[24]

The mental health statistics for adolescents in North Carolina provide a strong rationale for improved, widespread mental health prevention, screening and treatment among teenagers so that mood disorders, alcohol or substance abuse, ADHD, anxiety, eating disorders, disruptive behaviors, and primary risk factors for

d Serious psychological distress is defined as having a score of 13 or higher on the K6 scale. The K6 scale consists of six questions about symptoms of emotional distress experienced by respondents during one month in the prior year at a time when they were feeling their worst emotionally. The scale ranges from 0 to 24 points.

suicide can be identified and treated, which will help create a more positive health trajectory into adulthood for these youth. Most medical experts agree that teenagers need to get regular physical checkups, even though the chance of serious physical illness is low in this age group. In light of the fact that the chance of a mental illness can be as high as 20%, these check-ups provide important opportunities for mental health screening. The Task Force specifically recommended that adolescents receive annual high quality well visits which would include psychosocial screening and specific screening for depression. (See **Recommendation 4.1**.)

North Carolina's Current Substance Use and Mental Health System

In North Carolina the Division of Mental Health, Developmental Disabilities, and Substance Abuse Services (DMHDDSAS) is the lead agency responsible for coordinating substance abuse prevention, treatment, and recovery supports. DMHDDSAS is also responsible for ensuring that the mental health needs of children and adolescents are being met. DMHDDSAS works closely with Local Management Entities (LMEs), which are agencies of local government charged with managing the provision of mental health, developmental disability, and substance abuse services at the local level.

Prevention efforts should be targeted to delay initiation or reduce substance use among youth and young adults [and] to reduce stress, depression, and feelings of isolation among adolescents and young adults.

Prevention

Prevention efforts should be targeted to delay initiation or reduce substance use among youth and young adults. This is particularly important, as the longer that youth delay initiation and the less frequently they engage in these risky behaviors, the lower the likelihood of substance abuse and addiction. Prevention efforts should be multifaceted, with strategies that target all youth and young adults (universal), those at increased risk (selective), and those adolescents and young adults who have started to use or misuse alcohol and other drugs (indicated).[15] In addition, prevention strategies are needed to reduce stress, depression, and feelings of isolation among adolescents and young adults.

There are three primary avenues to provide substance abuse prevention services to adolescents and young adults—through schools, community-based strategies, and public policy approaches. Within each, there are evidence-based programs, policies, and interventions that have been effective in delaying or reducing substance use among youth and young adults. Many of these initiatives have also demonstrated other positive impacts, such as improved mental health, reduced violence, and improved school performance.[e,f,25]

e See Appendix B for information on evidence-based program databases.

f Examples of substance abuse prevention initiatives with other demonstrated positive impacts include: Positive Action, a replicated school-based program that has shown to have positive effects on behavior and academic achievement (http://ies.ed.gov/ncee/wwc/reports/character_education/pa/effectiveness.asp), Family Behavior Therapy, an outpatient program shown to reduce use and initiation of alcohol and drug use and depression (http://www.nrepp.samhsa.gov/programfulldetails.asp?PROGRAM_ID=73), Guiding Good Choices, a school-based initiative shown to reduce initiation of substance use and aid in reducing/preventing delinquency and symptoms of depression (http://www.nrepp.samhsa.gov/programfulldetails.asp?PROGRAM_ID=123), and Life Skills Training, a school-based program designed to reduce substance use, violence, and delinquency (http://www.nrepp.samhsa.gov/programfulldetails.asp?PROGRAM_ID=230).

Elementary, Middle, Secondary, and Post-Secondary Schools

At the elementary, middle, and high school levels, local education agencies (LEAs) have a responsibility for providing substance abuse and mental health education as part of the Healthful Living Standard Course of Study (described more fully in Chapter 5).[g]

While evidence-based substance abuse prevention curricula do exist, a review of North Carolina school districts found that only 24% of districts commonly use evidence-based substance use prevention curricula.[26] Similarly, there are some evidence-based suicide prevention strategies for schools, however, these are not widely used in North Carolina schools.[h] Evidence-based prevention programs typically include social skills or competency-based curricula with a cognitive-behavioral focus, which are interactive in design.[25] Generally, these evidence-based programs take more time to implement than do the traditional content covered during the Healthful Living Standard Course of Study, which is part of the reason so few schools implement these programs.[27]

In addition to including substance abuse prevention and emotional and mental health as subjects in the Healthful Living Standard Course of Study, DPI receives federal money that can be used to support substance abuse and mental health prevention and treatment through the Safe and Drug-Free Schools and Communities funds. These funds can be used to support substance abuse prevention and/or treatment programs, mental health services, violence prevention, counseling and referral for students at risk of violent behavior, and to purchase security equipment or other services that help promote a positive learning environment.[15]

Post-secondary educational institutions are also required to implement substance abuse prevention programs to prevent unlawful use of drugs or alcohol on campus. Further, community colleges, colleges, and universities must prepare and release annual crime data, including information on the number of students who were arrested or disciplined due to the use of illegal drugs or alcohol. However, data suggest that past efforts have not been very effective in reducing heavy drinking or illicit drug use among college age students. More work is needed to implement evidence-based prevention strategies for adolescents and young adults of all ages. Therefore the Task Force recommends:

DPI receives federal money that can be used to support substance abuse and mental health prevention and treatment ... Post-secondary educational institutions are also required to implement substance abuse prevention programs to prevent unlawful use of drugs or alcohol on campus.

g The Healthful Living Standard Course of Study objectives change in each year. For example, in sixth grade, the objectives include understanding tobacco and alcohol advertising and how it is used to try to influence behavior, examining the immediate and long-term consequences of tobacco use and secondhand smoke, and demonstrating the skills needed to refuse alcohol and other drugs. In seventh grade, students are supposed to learn the health risks associated with intravenous drug use, the addictive nature of tobacco, the nature of drug dependence and addiction, and how substance abuse can lead to serious health risks. More information on the Healthful Living Standard Course of Study and Grade Level Competencies for all grades is available online at http://www.dpi.state.nc.us/docs/curriculum/healthfulliving/scos/2006healthfullivingscos.pdf.

h The North Carolina Department of Public Instruction does not keep a list of the various suicide prevention programs used. Current information suggests that evidence-based suicide prevention strategies are not widely used in North Carolina schools (Miller J. Injury and Violence Prevention Branch, North Carolina Department of Health and Human Services. Oral Communication, May 27, 2009).

Recommendation 7.1: Review Substance Use and Mental Health Prevention and Services in Educational Settings

a) The North Carolina General Assembly should direct the State Board of Education, Office of Non-Public Education, North Carolina Community College System, and University of North Carolina System to review their existing substance abuse and mental health prevention plans, programs, and policies, as well as the availability of substance abuse and mental health screening and treatment services, in order to ensure that these educational institutions offer comprehensive substance abuse and mental health prevention, early intervention, and treatment services to students enrolled in their schools. These institutions should submit a description of their prevention plans, programs, and policies; procedures for early identification of students with substance abuse or mental health problems; and information on screening, treatment, and referral services to the Education Cabinet, Joint Legislative Oversight Committee on Mental Health, Developmental Disabilities, and Substance Abuse Services, the Appropriations Subcommittee on Education, and Education Committees upon the convening of the legislative session every other year beginning in 2011.

b) The Department of Public Instruction, North Carolina Community College System, and University of North Carolina system should coordinate their prevention efforts with the other prevention activities led by the Division of Mental Health, Developmental Disabilities, and Substance Abuse Services to ensure the development of consistent messages and optimization of prevention efforts. Prevention efforts should employ evidence-based programs that focus on intervening early and at each stage of development with age-appropriate strategies to reduce risk factors and strengthen protective factors before problems develop.

Prevention of Youth Suicide in North Carolina

In North Carolina, suicide is the fourth leading cause of death among adolescents and young adults ages 15-24, accounting for 117 deaths in 2007.[28] More adolescents die from suicide than from cancer, heart disease, AIDS, stroke, influenza, and pneumonia combined.[29] In North Carolina, 12.5% of high school students reported seriously considering attempting suicide during the past year, and 13.3% report actually attempting suicide in the past year.[8] In 2008, 23.5% of young adults aged 18-25 in North Carolina reported being in a mental health state that was not good, including symptoms of depression, stress, and problems with emotions on three or more days of the past month, all of which can be considered risk factors for suicide.[30]

Addressing the problem of suicide among adolescents and young adults in North Carolina requires increased public awareness of suicide and its risk factors; the development of screening and intervention programs; encouragement of further research related to suicide; and the creation of interagency partnerships involved in suicide prevention and mental health care.[31] In order to address these issues, the North Carolina Department of Health and Human Services, Division of Public Health, Injury and Violence Prevention Branch convened the Youth Suicide Prevention Task Force (YSPTF). Through the collaborative work of agencies, organizations, and individuals with diverse roles and perspectives, the YSPTF developed a plan to prevent youth suicide called *Saving Tomorrows Today: the North Carolina Plan to Prevent Youth Suicide*. The plan lays out a framework of goals and objectives for focused and strategic state and community action around the reduction of the number of youth who attempt or complete suicide. The six goals are the following:

- Promote awareness that suicide is a public health problem that can be prevented.
- Develop and implement community-based suicide prevention programs.
- Promote efforts to decrease access to firearms and other means of self-harm.
- Implement training for recognition of at-risk behaviors and delivery of effective treatments.
- Increase access to mental health and substance abuse services.
- Improve and expand surveillance systems.[29]

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In 2008, the Injury and Violence Prevention Branch received a Federal Garrett Lee Smith Suicide Prevention Grant of $1.3 million to be used over a three year period. The DPH and DPI are currently in year one of the grant and are collaborating to implement a communications campaign, suicide prevention training and curriculum in ten public schools, and community-based suicide prevention training programs. During the next two years of the grant, the project leaders will work with the North Carolina School Health Training Center to deliver "train the trainer" workshops (ASIST Training for Trainers and safeTALK Training for Trainers) with a subsequent evaluation by the UNC Injury Prevention Research Center to achieve some of the goals of the Youth Suicide Prevention Task Force. Full implementation of the *Saving Tomorrows Today: the North Carolina Plan to Prevent Youth Suicide* will require an ongoing commitment and allocation of resource to sustain the benefits of this work.[32] Therefore the Task Force recommends:

Recommendation 7.2: Support the North Carolina Youth Suicide Prevention Plan

The North Carolina Youth Suicide Prevention Task Force along with the Division of Public Health's Injury and Violence Prevention Branch should implement the recommendations in *Saving Tomorrows Today: the North Carolina Plan to Prevent Youth Suicide.* The North Carolina General Assembly should appropriate $112,500[i] in recurring funds beginning in SFY 2011 to the Division of Public Health's Injury and Violence Prevention Branch for 1.5 full-time employees to support this effort.

Community-Based Approaches

DMHDDSAS has two sources of funds to support community-based prevention efforts, federal funds and state funds. The US Substance Abuse and Mental Health Services Administration (SAMHSA) provides funding to DMHDDSAS through the Substance Abuse Prevention Treatment Block Grant (SAPT). DMHDDDSAS channels these funds through the LMEs. These funds are supposed to be used to support need assessments and to implement evidence-based prevention programs, practices, and policies.[15] However, LMEs are not uniformly implementing effective prevention efforts targeting youth and young adults. In addition to the federal funds, the North Carolina General Assembly also appropriated $800,000 over two years (SFY 2006-2007) to support local substance abuse coalitions.[25] These funds were used to build community capacity in eight communities to implement evidence-based prevention strategies. Despite these different funding sources, few communities have implemented comprehensive substance abuse prevention programs targeted to youth and young adults. DMHDDSAS estimates that only about 42,000 of the more than 275,000 youth who were in need of prevention services because of early use or specific risk factors, actually received prevention services in SFY 2007. To encourage the development of more comprehensive prevention plans, the Task Force recommends:

Recommendation 7.3: Develop and Implement a Comprehensive Substance Abuse Prevention Plan

a) The North Carolina Division of Mental Health, Developmental Disabilities, and Substance Abuse Services (DMHDDSAS) should develop a comprehensive substance abuse prevention plan for use at the state and local levels. The plan should increase the capacity at the state level and within local communities to implement a comprehensive substance abuse prevention system, prioritizing efforts to reach children, adolescents, young adults, and their parents. The goal of the prevention plan is to prevent or delay the onset of use of alcohol,

i The Injury and Violence Prevention Branch estimates it would cost $112,500 in salary and benefits to support the one 1.5 full-time employees needed to oversee implementation of the recommendations in *Saving Tomorrows Today: the North Carolina Plan to Prevent Youth Suicide*.

tobacco, or other drugs, reduce the use of addictive substances among users, identify those who need treatment, and help them obtain services earlier in the disease process.

1) **The Division of Mental Health, Developmental Disabilities, and Substance Abuse Services should pilot test this prevention plan in six counties or multicounty areas and evaluate its effectiveness. DMHDDSAS should develop a competitive process and select at least one rural pilot and one urban pilot in the three DMHDDSAS regions across the state. DMHDDSAS should provide technical assistance to the selected communities. If effective, the prevention plans should be implemented statewide.**

2) **The pilot projects should involve multiple community partners, including but not limited to, Local Management Entities, primary care providers, health departments, local education agencies (LEAs), 2- and 4-year colleges, universities, and other appropriate groups.**

3) **The pilots should incorporate evidence-based programs, policies, and practices that include a mix of strategies including universal and selected populations. Priority should be given to evidence-based programs that have been demonstrated to yield positive impacts on multiple outcomes, including but not limited to preventing or reducing substance use, improving emotional well-being, reducing youth violence or delinquency, and reducing teen pregnancy.**

b) **The North Carolina General Assembly should appropriate $1.95 million in SFY 2010 and $3.72 million in SFY 2011 in recurring funds to the North Carolina Division of Mental Health, Developmental Disabilities, and Substance Abuse Services to support and evaluate these efforts.**[j]

Public Policies

Many of the Task Force recommendations have broad policy implications, either for new appropriations, or changes to state regulations or policies (including changes to State Board of Education policies). In addition, there are also legislative changes that can promote prevention activities, including raising the tax on tobacco (see Chapter 10) or alcohol, as well as maintaining the current drinking age of 21.

Similar to research on tobacco taxes (see Chapter 10), research has shown that youth are price sensitive to changes in the costs of alcohol. Increasing the tax on alcohol, particularly malt beverages, would help augment other efforts to

j The appropriation requests were developed by the North Carolina Division of Mental Health, Developmental Disabilities, and Substance Abuse Services as part of the North Carolina Institute of Medicine Task Force on Substance Abuse Services.

reduce youth drinking. Increasing beer or alcohol taxes leads to a reduction in youth consumption.[33] Increasing these taxes can also help raise revenues which could be used for substance abuse prevention and treatment programs. After the inception of the Task Force's work, the North Carolina General Assembly (NCGA) increased the taxes on alcohol products, effective September 1, 2009.[k] This increase is expected to raise approximately $20.4 million in new revenues.[34]

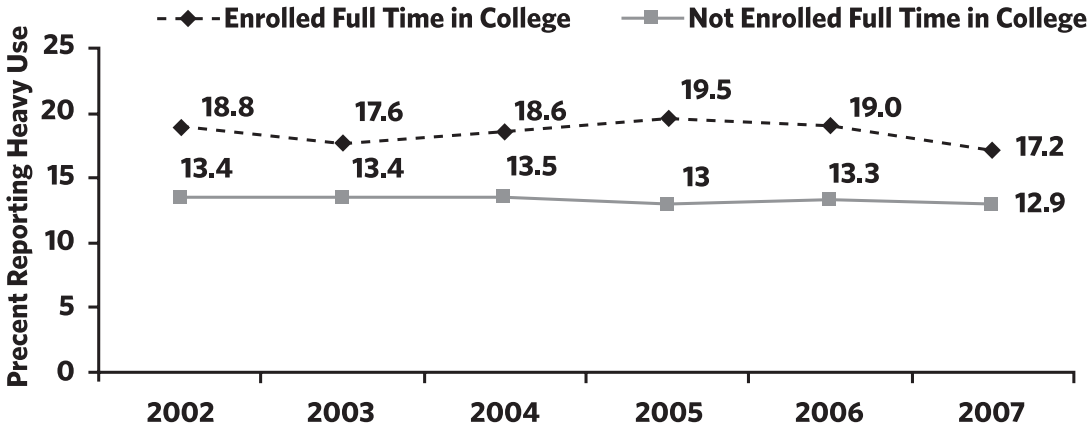
To further support efforts to reduce youth drinking, the Task Force recommends:

Recommendation 7.4: Increase Alcohol Taxes

The North Carolina General Assembly should index excise taxes on malt beverages and wine to the consumer price index so they can keep pace with inflation. The increased fees should be used to fund effective prevention and treatment efforts for alcohol, tobacco, and other drugs.

Underage drinking is particularly problematic on college campuses. National research has shown that underage drinking is prevalent on college campuses, with a higher proportion of college students drinking than those of the same age who are not enrolled on campus.

Figure 7.2
Young Adults (ages 18-22) Enrolled in College are More Likely to Drink Heavily than Their Peers



Note: Heavy alcohol use is defined as drinking five or more drinks on the same occasion on each of five or more days in the past 30 days.
Source: Substance Abuse and Mental Health Services Administration, US Department of Health and Human Services. 2002-2007 National Survey on Drug Use and Health.

k Since the inception of the Task Force's work, the North Carolina General Assembly (NCGA) increased the taxes on alcohol products, effective September 1, 2009. The beer tax was increased by 16%, from 53.177¢ to 61.71¢ per gallon. The NCGA increased the tax on unfortified wine increase by 25% (from 21¢ to 26.34¢ per liter), and the tax on fortified wine by 22% (from 24¢ to 29.34¢ per liter). In addition, the NCGA increased the tax on distilled liquor by 20% (from 25% to 30% excise tax on the distiller's price plus the state ABC warehouse freight and bailment charges and markup for local ABC boards). Section 27A.4 of Session Law 200-451, amending NCGS §105-113.80.

The Task Force considered the recent suggestion by some college presidents to begin a debate about whether to lower the legal drinking age.[l] However, lowering the drinking age has been shown to have adverse impacts both on the use of alcohol among college age students and on motor vehicle fatalities. Studies show the motor vehicle fatalities increased by an average of 10% when the minimum legal drinking age was lowered to 18, and that they declined by 16% when the drinking age was increased to 21.[35,36] Further, while drinking among college students is still prevalent, drinking rates have declined since the minimum legal drinking age was increased to 21.[37,38]

Although the Task Force members were generally supportive of new ideas to prepare young adults to make responsible choices about alcohol use, the Task Force members did not support lowering the minimum drinking age. Therefore, the Task Force recommends:

Recommendation 7.5: Drinking Age Remain 21

The North Carolina General Assembly should not lower the minimum drinking age below age 21.

Early Recognition and Intervention

The cornerstone of North Carolina's efforts to reduce inappropriate use, abuse, and dependence on alcohol and other drugs should be prevention. Similarly, we need to invest more in promoting a sense of connectedness and well-being among our youth, so that we reduce depression, stress, and feelings of isolation. However, no prevention activity will totally eliminate all use of alcohol or other drugs, or feelings of isolation, depression, or stress. Thus, it is important to combine prevention with early recognition and intervention activities.

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Primary care practices are an optimal place to provide early recognition and intervention services. Regular screening of adolescents as part of routine health care, and of adolescents seen with injuries, provide important opportunities to identify adolescents who are using alcohol and other drugs, assess level of use, and provide appropriate intervention or referral. Many people with substance abuse or mental health problems are reluctant to admit they have a problem and thus are unlikely to seek care directly from treatment professionals. Even those who know they have a problem may not seek care because of the stigma attached to this condition.[39,16] Additionally, the cost of specialized treatment services is prohibitive for some people, and, until recently, most insurers did not

l To date, 135 college presidents and chancellors, including the President of Duke University, signed the Amethyst Initiative statement. This statement calls on elected officials to begin a dispassionate debate on the effects of the 21 year-old drinking age and to invite new ideas about the best ways to prepare young adults to make responsible decisions about alcohol. The initiative details and list of all the signatories are available at: http://www.amethystinitiative.org/statement/.

provide the same coverage for mental health and substance abuse services as it did for physical and other health problems.[m]

While many people with behavioral health problems are reluctant to seek care from substance abuse or mental health treatment professionals, most people do seek care from primary care providers throughout the year. In North Carolina, 76.5% of the parents of 14-17 year olds report that their child had a well-child or preventive service check-up in the past year.[40]

While many people with behavioral health problems are reluctant to seek care from substance abuse or mental health treatment professionals, most people do seek care from primary care providers throughout the year.

There is a substantial body of literature that documents the efficacy of early recognition and intervention efforts to reduce use of tobacco, alcohol, and other drugs. In particular the SBIRT program[n]—screening, brief intervention, and referral into treatment has been studied for more than 20 years in different settings and with different populations.[41] This program has been shown to be effective for both adolescents and adults in reducing the use of tobacco, alcohol, and other illicit drugs.[42] Primary care providers who treat adolescents and young adults should screen them to determine if they are using or abusing alcohol or other drugs. Individuals who are identified through screening tools to be at risk or who are using substances should be offered counseling. Those with more significant problems should be referred into more specialized substance abuse treatment services. Studies have shown that for every $1 spent on SBIRT, overall health care costs decline anywhere from $4-$7 due to reduced hospitalization and emergency department costs.[41] The North Carolina Governor's Institute on Alcohol and Substance Abuse, the Area Health Education Centers (AHEC) program and the Integrated, Collaborative, Accessible, Respectful and Evidence-Based care project (ICARE) are currently working together to provide training and technical assistance to North Carolina primary care providers to encourage more practices to implement SBIRT. However, more work is needed to increase the number of primary care practices equipped to identify young people who have problems with tobacco, alcohol, and other drugs.

There is also a need to promote early detection of adolescent mental health problems and appropriate interventions. The mental health statistics for adolescents in North Carolina provide a strong rationale for improved, widespread mental health screening among teenagers so that mood disorders, alcohol or substance abuse, ADHD, anxiety, eating disorders, disruptive

m The North Carolina General Assembly enacted a mental health parity law in 2007, which requires insurers to provide the same coverage of certain mental health disorders as provided for other physical illnesses. Session Law 2007-268. The state statute applies to all groups, including small employers, who purchase insurance through regulated insurance companies. It does not cover group health plans that are self-funded (otherwise known as ERISA plans). This bill did not provide parity for substance abuse services or for all mental illnesses. Until recently, there was no parity for substance abuse services. However, Congress recently passed a mental health and substance abuse parity law that covers all employer groups with 50 or more employees that offer mental health coverage. Under the new statute, group health plans must generally provide mental health and substance abuse coverage in parity with medical and surgical benefits offered. Insurers may not have higher cost sharing or more restrictive treatment limits for mental health or substance abuse services than what is provided generally for other medical and surgical benefits. This new law becomes effective January 1, 2010. 29 USC §1185a, 42 USC §300gg-5.

n For more information on SBIRT, visit the SAMHSA website at http://sbirt.samhsa.gov/index.htm.

behaviors and primary risk factors for suicide can be identified and treated, which will help create a more positive health trajectory into adulthood for our youth. The US Preventive Services Task Force now recommends screening all adolescents for depression in primary care settings, if there is an appropriate treatment system to provide follow-up care for youth identified with mental health disorders.[43] Thus, not only do primary care providers need to learn about evidence-based screening tools for tobacco, alcohol, and other drugs, they also need to learn about appropriate screening tools and intervention for adolescents with depression or other mental health disorders. (See **Recommendation 4.1**.)

Once identified, adolescents with substance abuse or mental health problems need access to appropriate treatment services. The care provided by primary care providers should be coordinated closely with care provided by the behavioral health specialists. However, in our current system, care is often fragmented between those who provide physical health services and those who provide behavioral health services. North Carolina is working to bridge this gap. In one model, primary care providers in pilot sites are trained to provide better mental health services (particularly aimed at depression) and then develop stronger linkages with the local LME for other more specialized behavioral health services. There are six sites covering 12 counties involved in these ICARE pilots.[o] The ICARE partnership, a program seeking to improve collaboration and communication between primary care and behavioral health providers, as well as increase the capacity of primary care physicians to provide appropriate, evidence-based behavioral health services, has developed several models of integrating behavioral health and primary care. In another model, mental health professionals are co-located in the primary care practice (often in pediatric practices).[p] Individuals in need of mental health services can be referred "down the hall" to a mental health provider. There are currently over 50 practices involved in the co-location model. Co-location has been shown to improve outcomes for adolescents with substance use or abuse, increasing the likelihood of abstinence and continued treatment.[44] Integrated approaches also show improvements in behavioral health outcomes.[45] Therefore, the Task Force recommends:

Once identified, adolescents with substance abuse or mental health problems need access to appropriate treatment services. The care provided by primary care providers should be coordinated closely with care provided by the behavioral health specialists.

o The ICARE partnership, a program seeking to improve collaboration and communication between primary care and behavioral health providers, as well as increase the capacity of primary care physicians to provide appropriate, evidence-based behavioral health services, has developed several models of integrating behavioral health and primary care. More information about ICARE is available at: www.icarenc.org.

p Initial funding for co-location of primary care and behavioral health providers was provided by the North Carolina General Assembly in SFY 2007 and SFY 2008, as part of non-recurring funds appropriated to the Office of Rural Health and Community Care (ORHCC) to pilot strategies for the Aged, Blind, and Disabled population. Since that time, ICARE and ORHCC have worked together to support this model.

Recommendation 7.6: Integrate Behavioral Health into Health Care Settings

a) The Division of Mental Health, Developmental Disabilities, and Substance Abuse Services (DMHDDSAS) should work with the Office of Rural Health and Community Care, Governors Institute on Alcohol and Substance Abuse, and Area Health Education Centers (AHEC) to expand the use of Screening, Brief Intervention, and Referral into Treatment (SBIRT) in Community Care of North Carolina (CCNC) networks and other healthcare settings to increase the early identification and referral into treatment of patients with problematic substance use. A similar evidence-based model for screening, brief intervention, and referral to treatment should be identified and expanded to increase the early identification and referral of patients with mental health concerns.

b) The North Carolina Office of Rural Health and Community Care should work in collaboration with the DMHDDSAS, the Governors Institute on Alcohol and Substance Abuse, the ICARE partnership, and other professional associations to support and expand co-location in primary care practices of licensed health professionals trained in providing mental health and substance abuse services.

c) The North Carolina General Assembly should appropriate $2.25 million in recurring funds beginning in SFY 2011 to support these efforts, allocating $1.5 million to DMHDDSAS and $750,000 to the North Carolina Office of Rural Health and Community Care.[q]

Specialized Treatment Services

The LMEs charged with providing substance abuse or mental health services, are not reaching most of the children, adolescents, and young adults in need. Across the state, the LMEs treat approximately 7% of the adolescents estimated to need substance abuse services, and less than half of the children and adolescents estimated to need mental health services. This "penetration rate" varied greatly, with LMEs meeting the needs of between 4%-13% of the adolescents with substance abuse needs, and between 29%-82% of children/adolescents with mental health problems. (See Appendix C, Table 3.) Even when LMEs did report treating children and adolescents, these youth and young adults did not always receive all of the recommended care.

q These appropriation requests were developed by the North Carolina Division of Mental Health, Developmental Disabilities and Substance Abuse Services and the North Carolina Office of Rural Health and Community Care, respectively, as part of the North Carolina Institute of Medicine Task Force on Substance Abuse Services.

LMEs should not be expected to see all of the adolescents estimated to need services because some of these children are receiving care through the private system. As noted earlier, because of changes in federal and state laws, most children with private or public insurance have coverage for mental health services in parity with other medical services. The same can not be said for people with addiction disorders. While Medicaid and NC Health Choice provide coverage for substance abuse screening, counseling, and treatment, private insurance has not historically provided these benefits as part of comprehensive coverage. Although this should change with the federal legislation entitled the Paul Wellstone-Pete Domenici Mental Health Parity and Addiction Equity Act of 2008, which mandates mental health and substance abuse parity for employer groups of 50 or more, there is no state law mandating parity for groups with fewer than 50 employees. Thus, adolescents with substance abuse disorders are less likely than those with mental health problems or general health problems to be able to access treatment services through private providers.

It is important to strengthen the treatment system for adolescents with substance abuse or dependency problems. It is also important to examine the adequacy of the treatment system for adolescents with mental health disorders. To ensure the availability of substance abuse and mental health treatment services for adolescents, the Task Force recommends:

Recommendation 7.7: Ensure the Availability of Substance Abuse and Mental Health Services for Adolescents (PRIORITY RECOMMENDATION)

a) The North Carolina Division of Mental Health, Developmental Disabilities, and Substance Abuse Services (DMHDDSAS) should develop a plan for a comprehensive system that is available and accessible across the state to address adolescents' substance abuse treatment needs. In developing this plan, DMHDDSAS should:

1) Ensure a comprehensive array of local or regional substance abuse services and supports.

2) Develop performance-based contracts to ensure timely engagement, active participation in treatment, retention, and program completion.

3) Ensure effective coordination of care between substance abuse providers and other health professionals, such as primary care providers, emergency departments, or school health professionals.

4) Identify barriers and strategies to increase quality and quantity of mental health and substance abuse providers in the state.

5) **Immediately begin expanding capacity of adolescent substance abuse treatment services.**

6) **Include identification of co-occurring disorders and dual diagnoses, including screening all adolescents with mental health disorders for substance use and abuse and vice versa.**

b) **DMHDDSAS should review the availability of mental health treatment services for adolescents among public and private providers.**

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