

SUBSTANCE USE AND ABUSE IN DURHAM COUNTY



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Duke Center for Child and Family Policy

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DURHAM TOGETHER FOR RESILIENT YOUTH (T.R.Y.)

VISION

Healthy Resilient Youth in a Drug-Free Community

MISSION

TRY prevents substance abuse among youth and adults by reducing community risk factors through advocacy, education, policy change, mobilization and action.

ACTION

Is based on the Strategic Prevention Framework (Assessment, Capacity, Planning, Implementation, Evaluation, Cultural Competency and Sustainability) and the Seven Strategies for Community Change: 1. Providing Information, 2. Enhancing Skills, 3. Providing Support, 4. Enhancing Access/Reducing Barriers, 5. Changing Consequences, 6. Physical Design and 7. Modifying/Changing Policy

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Learn more at DurhamTRY.org

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Executive Summary

According to the North Carolina (N.C.) Division of Mental Health, Developmental Disabilities and Substance Abuse Services, approximately 18,000 adults and 1,000 children in Durham County abused or were addicted to illegal drugs, prescription medications, or alcohol in 2012(1). Substance abuse not only impacts the individual and his/her family, but also the community.

This report compiles information from a variety of agencies and sources on how substance use and abuse is affecting Durham County. This report follows a strategy suggested by the National Institute of Drug Abuse for community surveillance. By examining information from a variety of sources such as law enforcement agencies, treatment providers, information on self-reported prevalence of use, drug seizures, and motor vehicle accidents, a better understanding of the substance use problem in the community becomes apparent.

Health Related Outcomes

Substance use and abuse affects injury rates, death rates, decision making, physical health and mental health. One indicator that is useful for tracking trends is emergency room visits related to substance use. Between 2010 and 2012, there were over 3,000 admissions a year for Durham residents to the emergency department for substance-related conditions. For adults, there was an increase of 11.6 percent in the number of admissions between 2010 and 2012. During this same time period, the number of admissions for juveniles increased 64.7 percent. The number of deaths related to substance use increased 33 percent from 2004-06 which averaged 34.3 deaths to 2009-11 which averaged 45.7 deaths per year. During this same time period, deaths associated with prescription drugs were up 75 percent, with alcohol were up 30 percent, with heroin up 17 percent, and with cocaine down 10 percent. A third indicator is the number of new transmissions of HIV related to injection drug use. This is an important indicator because Durham County consistently ranks as one of the top four counties in the state with the highest HIV rate. Fortunately, it appears that injection drug use is not as directly related to new HIV infections as it had been in the early 1990s. Of the 73 newly diagnosed cases in 2011, fewer than five were thought to be transmitted through injection drug use. It is worth noting that the mode of transmission was missing for one-third of the new cases in 2011. Also, because substance use may increase risky behaviors such as sexual practices, it may indirectly affect HIV transmissions.

Social Services

National data suggest that substance abuse is associated with child maltreatment and placement of children into foster care. While we do not have data to illustrate the impact of substance use on all child maltreatment in Durham County, we do know that, in 2008, 40 percent of children were placed in foster care due their parent's drug or alcohol abuse as a primary or contributory factor. Data from the Department of Social Services show that the number of substantiated cases where substance abuse was indicated decreased by 85 percent between 2006 and 2007. Since 2007, the number of substantiated cases has remained relatively the same.

Homelessness

The number of homeless individuals in Durham County has increased 45 percent based on three-year moving average, from 466 individuals in 2001-2003 to 675 in 2010-2012. In 2012 about 47 percent of the homeless were identified as having a substance use problem.

Substance Use and Law Enforcement

Many individuals abusing substances come to the attention of law enforcement and the court system. The total number of arrests for sales of drugs in Durham was down 36 percent from an average of 469 in 2000-2002 to 303 in 2009-2011. During this same time period, arrests for possession of drugs were down 4 percent, juvenile arrests for alcohol-related charges were down 57 percent and for drug-related charges were down 36 percent. However, calls to service related to substance use was up 35 percent from 417 in 2000-2003 to 561 in 2010-2012. Calls to service for alcohol-related incidents peak during late Friday and Saturday nights and early Saturday and Sunday mornings. Calls to service related to drugs are more frequent midweek in the late afternoon—peaking Wednesdays from 3pm-6pm.

Arrests for adults driving under the influence were down 33 percent from an average of 705 in 2004-2006 to 473 in 2009-2011. Total number of alcohol-related crashes was down 2 percent from 290 in 2004-2006 to 285 in 2009-2011. However, the average number of deaths related to alcohol crashes increased from 4.3 in 2004-2006 to 6.0 in 2009-2011. Because the numbers of deaths are small, it is difficult to determine if this is a trend or a spurious event, but because of the severity, it is worth watching.

Durham Public Schools reported that students' possession of a controlled substance made up 41 percent of all reportable offenses on school grounds. Not surprisingly, reportable offenses for alcohol or other substances are more likely to occur on high school grounds than middle school grounds.

Around 36 percent of prison inmates from Durham and 40 percent of inmates in the Durham County jail were convicted of a drug offense. Over 60 percent of prison inmates needed substance abuse treatment. The data of youth involved with juvenile justice mirror the findings in the adult system—with an estimated 43 – 56 percent in need of substance abuse treatment.

Prescription Drugs

Prescription drugs are emerging as a public health threat. In 2011, 16 Durham residents died from overdoses to prescription drugs. From 2004-2011, 29 percent of toxin-related deaths were attributable to prescription drugs (42 percent were due to alcohol, 21 percent from cocaine and 6 percent from heroin). In 2011, according to data from the Youth Risk Behavior Survey, 5.3 percent of middle school students reported taking a prescription drug without a doctor's prescription and 21.7 percent of high school students reporting doing this.

Alcohol

While the rate of binge and heavy drinking in Durham is similar to the state rate, the consequences of the behavior may seriously impact health. According to data from the Behavioral Risk Factor Surveillance Survey (BRFSS) in 2011, 15.5 percent of Durham residents reported binge drinking and 4.5 percent reported heavy drinking. Drinking also impairs the driver's ability to safely operate a vehicle. In 2011, there were 12 fatal car accidents in Durham County and one-third (four accidents) were related to alcohol. Moreover, according to the 2010 BRFSS, 2.3 percent of Durham residents report having driven after having had too much to drink.

Smoking

Smoking is the leading cause of preventable death. Lung cancer is the most common form of cancer nationally and in Durham, and smoking is an attributable cause of lung cancer. In 2011, approximately 12.4 percent of Durham residents were current smokers and 8.9 percent reported smoking every day. Smoking during pregnancy can harm the unborn child. North Carolina has seen a decline in smoking during pregnancy since 1998. The percent of women who smoke during pregnancy is lower in Durham than in the rest of the state (5.6 percent vs. 10.9 percent in 2011). However, the percent of minority women who smoke during pregnancy in Durham in recent years has increased.

Youth and Substance Use

Substance use is prevalent among our youth, yet comparable to the state rates. Results from the Youth Risk Behavior Survey suggest that 27 percent of middle school students have ever had a drink of alcohol. Among high school students, 36 percent reported having a drink of alcohol in the past 30 days and 32 percent reported using marijuana in the past 30 days. Compared to 2009, high school students in 2011 were more likely to report drinking and using marijuana on school property.

Supply of Illicit Substances

The supply of drugs and alcohol in our community helps to identify trends in the abuse and use of the substances. In general, the amount of drugs seized in the last six months in the Triangle area seems to be relatively low, but that does not necessarily mean the drugs are not available in high quantities. The price of the substances tends to directly impact demand. The Durham County Sheriff's Office reports that the price of heroin in 2013 is lower than it was in 2006, while the price of crack has remained relatively constant at \$20 a rock (1 rock=1 dose). Marijuana and many prescription drugs like Oxycodone, Oxytocin, Vicodin and Percocet are priced low (\$3 - \$20/dose). The price of high-grade marijuana has increased slightly since 2010. Liquor is managed by local Alcohol Beverage Control (ABC) Boards. Since 2009, approximately \$20 million has been spent on liquor in Durham County each year. This is up from \$17.8 million (in 2012 dollars) in 2008.

Treatment Services in Durham County

In 2012 Durham County transitioned from a Local Management Entity (LME) for managing behavioral health treatment (The Durham Center) to a Managed Care Organization (MCO), Alliance Behavioral Healthcare. Alliance Behavioral Healthcare does not provide services but refers and connects individuals to services in Durham County.

The Durham County Criminal Justice Resource Center (CJRC) partners with Alliance Behavioral Healthcare and Drug Treatment Court to provide direct services to individuals who are incarcerated or have criminal histories. When The Durham Center transitioned from a Local Management Entity to an independent Managed Care Organization (MCO), several changes occurred within the CJRC, as previously they had shared and operated various services for the Durham Center. After the end of fiscal year 2012, the Durham Assessment Team and Court Screenings services ended due to changing budget priorities for Alliance Behavioral Healthcare. CJRC operates Durham Drug Court, and between October 2011 and June 2012, Drug Treatment Court served 47 offenders.

Among youth in treatment for substance use, 78 percent used marijuana in the past year, 50 percent used tobacco, and 56 percent used alcohol. Adults in substance use treatment reported using tobacco (68%), alcohol (54%), cocaine (47%), marijuana (45%), other opiates (15%), heroin (13%), OxyContin (6%), benzodiazepine (5%), and over the counter drugs (2%).

How to Use this Report

For this report to be most useful in understanding how substance use is affecting Durham and for planning prevention and intervention efforts, it is important for community members to read, reflect, and communicate with others about the report. Community members will have additional information to contribute, such as changes in policies, programs, practices and funding that are causing shifts in trends.

Introduction to the Surveillance Network

Substance abuse affects many aspects of society, including but not limited to: health care, crime rates, unemployment, education, and family life. Many of us have seen unpleasant evidence through our personal experiences and from the experiences of family and friends. While agencies and individuals in our community are making real strides in addressing issues related to substance abuse, our community's responses are often hampered by our collective difficulty to view these issues comprehensively. Looking in isolation at each problem caused by substance abuse is often inadequate to capture the distinctions required to shape effective local strategies. It is the Surveillance Network's desire that both citizens and agencies come to understand the full scope of problems associated with substance abuse and not only the problems plaguing "their" organization and/or community.

The National Institute of Drug Abuse's Community Epidemiology Work Group (NIDA-CEWG) developed the model Substance Abuse Surveillance Network to generate information that would help communities address the wide range of problems caused by substance abuse(2). This report builds on the Durham County 2007 and 2010 reports (3, 4).

What are Surveillance Networks?

The National Institute on Drug Abuse defines a surveillance network as follows:

"Community Epidemiology Surveillance Networks are multi-agency work groups with a public-health orientation which study the spread, growth, or development of drug abuse and related problems. The networks have a common goal - the elimination or reduction of drug abuse and its related consequences" (5).

The network creates a resource-sharing system for different kinds of groups, including but not limited to: public health officials, law enforcement agencies, hospitals, and schools. It could include businesses, churches, and other civic organizations. This information can be supplemented with the results of local household surveys that provide community estimates of specific behaviors among subpopulations. Representatives from all respective agencies meet regularly to discuss data implications and create a standard template for data reporting.

After completing the report from accumulated data, the team disseminates the results to vast audiences. In order to disseminate the results to the maximum number of stakeholders, the results should be distributed frequently in a format that is easily understandable. This includes providing both quantitative and qualitative information.

Surveillance networks have long been used by major cities in the U.S. such as Boston and New York, to name a few (2). These networks are able to identify current patterns of drug abuse and identify emerging trends such as a new (or revival of an old) drug to a community.

The network's objectives are designed to focus on problems specific to a particular area. NIDA lists the following objectives in their model description:

- 1) Identify drug abuse patterns in specific geographic areas;
- 2) Identify changes in drug abuse patterns with the aim of finding patterns and trends over time;
- 3) Detect emerging substance abuse trends and consequences for the community; and
- 4) Distribute all acquired information to as many bodies as possible for policy use, research, general public knowledge, and prevention strategies.

The Benefits of Surveillance Networks

Substance abuse is a dynamic problem. Over time, changes occur in the types of substances, the populations most affected by different drugs, and the locations where the drugs are bought and sold. Thus, in order to use community resources efficiently, it is important to identify the “problem” as precisely as possible and then choose the appropriate intervention strategy for the community. Surveillance networks are designed to help communities target resources as efficiently as possible.

Surveillance networks are particularly efficient at identifying trends early as the problem is emerging. With substances, early detection is imperative because addiction and dependency spread rapidly with time, furthering associated problems (health, crime, etc.). Early detection helps all sectors mobilize resources for prevention and allows treatment professionals, law enforcement, and medical professionals to get a better idea about the kinds of problems they are likely to face.

The other advantages of a network go beyond simply providing accurate data. For the most part, they are inexpensive and self-sustaining. A few committed members from each organization can easily gather data for comparison and analysis. In addition, most network members are already likely to be already engaged in prevention. Therefore, the network exposes members to more perspectives, information, and immediate feedback about changes that may be occurring.

As new members are added to the network, the community gains additional information. At the local level, sharing information across agencies allows for trends to be identified early and appropriate strategies to be developed in a timely fashion. On a broader level, networks can share information with other communities, such as effective interventions and strategies. For example, if a network established in Pleasantville had successfully halted the introduction of drug “x” into its community, this approach becomes a case study when that drug is identified as an issue in Durham or other surrounding counties.

In summary, surveillance networks are inexpensive, efficient, and accurate. The initial implementation requires little, aside from a place to meet and community members' time. Networks help identify problems that are endemic to a particular area and, in turn, provide exactly the form of data that is needed to address a problem as complex as drug and substance abuse.

Understanding the Community and the Community's Needs

The next section of the report begins with a description of the demographics of Durham County.

Following a description of who lives in Durham, the report examines the various health-related datasets that demonstrate how the community is affected. These include emergency department visits, deaths reported by the state medical examiner, and HIV and injection drug use.

The next section of the report focuses on data provided by law enforcement agencies. This includes calls to police for domestic violence cases, arrests related to possession and sales of illicit substances, as well as liquor law violations and drunk driving, substance use among adjudicated youth, and arrests on public middle school, public high school and college campuses.

The next section discusses the prevalence of alcohol as well as some of the harms most directly associated with drinking, such as deaths related to drinking and driving in Durham County. Much of the information regarding the prevalence of heavy drinking comes from the Behavioral Risk Factor Surveillance Survey.

The following section focuses on the prevalence of smoking and other use of tobacco products and the associated dangers.

The next section focuses on the prevalence of substance-related behaviors among middle and high school students. This information comes from the Youth Risk Behavior Survey.

The next section focuses on services that are available for Durham residents. This information provides some insight into those needing substance abuse treatment.

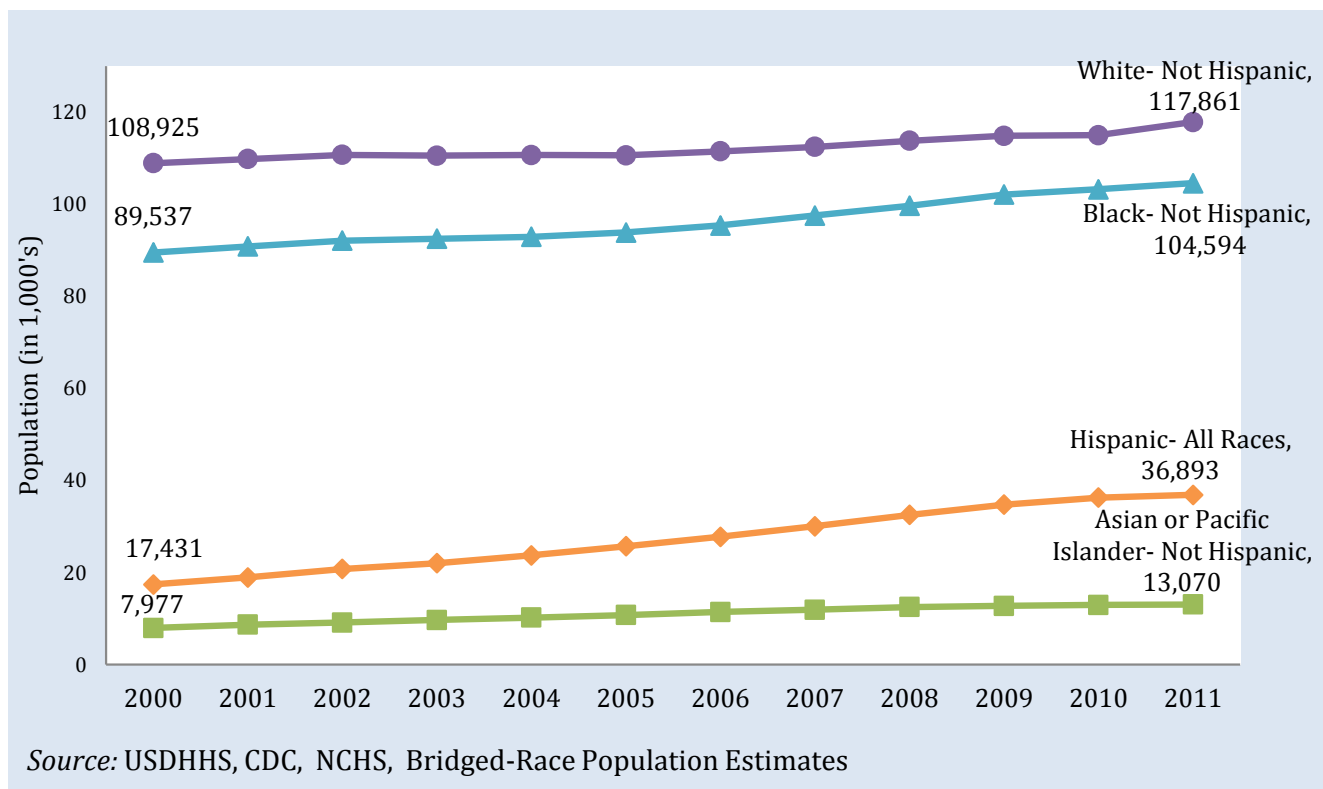
The last section of the report describes the supply of drugs in Durham County. The U.S. Office of National Drug Control Policy considers Durham County to be part of the Atlanta High Intensity Drug Trafficking Area. This section provides insight from federal agencies that are conducting surveillance on what drugs are flowing through the community. Also included is the price of illicit drugs in Durham County.

Demographics of Durham County

Understanding the demographics of a community is helpful for understanding the population's needs. This information can be helpful in planning prevention and services. According to the 2010 U.S. Census, the estimated population of Durham County in 2011 was 273,392 (6). Children under the age of 18 account for 22.7 percent of Durham's population (vs. 23.7% in N.C.), while those over the age of 65 account for 10.0 percent (vs. 13.2% in N.C.) (6).

Durham is particularly diverse when compared to N.C. as a whole. According to projections of the 2010 Census, in 2011 half of Durham was White (53.5%), relative to 72.1 percent of N.C.; 38.5 percent African-American, relative to 22.0 percent of the state; 13.5 percent Hispanic or Latino origin, compared to 8.6 percent in N.C.; and 4.7 percent Asian, relative to 2.3 percent in the state (6). Moreover, 14.0 percent of people in Durham reported being foreign born which is nearly double the statewide figure of 7.4 percent (6, 7).

Figure 1 shows how the population of Durham County has grown from 2000 to 2011. Over this time the population of Durham County grew by about 22 percent. While the total population in each of the racial and ethnic populations has increased, the growth in the Hispanic population has grown from 8 percent of the population to 13 percent (a 112 percent growth rate) (8).



[Figure 1]
Durham County population growth by race/ethnicity, 2000-2011

Durham is generally better educated and slightly wealthier than the rest of the state. A larger percent of Durham residents over the age of 25 have a Bachelor's degree or higher (44.3% relative to 26.5% for the state), and slightly fewer have not completed high school (13.0% relative to 16.0% for the state) (6). The median income in Durham is above the state average; the percent of Durham residents living in poverty is also slightly above the state average (17.1% vs. 16.1%) (6).

Scope of the Problem in Durham County

An estimated 17,910 adults and 1,208 adolescents residing in Durham County abuse substances and need treatment (1).

In 2010, the Durham County Health Department with Partnership for a Healthy Durham conducted the Community Health Assessment. During this assessment, a Community Health Opinion Survey was completed by randomly-selected Durham County households(9). In this survey there were several questions related to mental health and substance abuse; specifically respondents were asked to look at several lists and rank their top three neighborhood concerns. For example, one question had a list of 16 risky behaviors. Respondents were told, *"Please look at this list of risky behaviors. Keeping in mind yourself and the people in your neighborhood, pick the top unhealthy behaviors that have the greatest effect on quality of life in Durham County. Please choose up to 3(9)."* The four most popular responses were related to mental health and substance abuse: drug or prescription medication abuse (39%), alcohol abuse (35%), violent behavior (33%), and reckless/drunk driving (29%).

Tracking the Problem

Health-related Outcomes

Emergency Department Visits

Indicators:

- Number of emergency department visits related to substance use
- Rate of emergency department visits per 10,000 individuals

Relevance: Emergency department visits are a good indicator of health crises that are caused by substance abuse. Most people will try to avoid going to the emergency department for drug-related issues because of the illegality of the substance use or because of the cost of the service. Thus, typically only severe cases are seen. A sharp change in emergency department visits can indicate that a new substance has been introduced into a community (and thus many people are trying it) or the purity of a substance has changed (and experienced users are taking potentially life-threatening doses of the substance).

Data: The data come from the N.C. Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT) (10). This tool is designed to provide timely statewide detection of public health events. Hospitals report information daily to the system to allow for early detection of potential epidemics or public health concerns.

NC DETECT provided the Center for Child and Family policy with data for 2010 to 2012, by age (under 18, over 18 and total) for Durham County residents. Data that were provided for the 2010 substance abuse report is not comparable to data that were provided this year, as the ICD9 codes used to define substance abuse has changed. The codes used in this report are '291'-'292.99', '303'-'305.03', and 'V79.1'.

Disclaimer: "The NC DETECT Data Oversight Committee does not take responsibility for the scientific validity or accuracy of methodology, results, statistical analyses, or conclusions presented." The NC DETECT Data Oversight Committee (DOC) includes representatives from NCDPH, UNC NC DETECT Team and N.C. Hospital Association.

Findings:

Table 1 provides the number of admissions by age that is available for 2010 to 2012. There were approximately 12.5 percent more hospital admissions related to substance use in 2012 relative to 2010. For adults, there was an increase of 11.6 percent in the number of admissions between 2010 and 2012. During this same time period, the number of admissions for juveniles increased 64.7 percent.

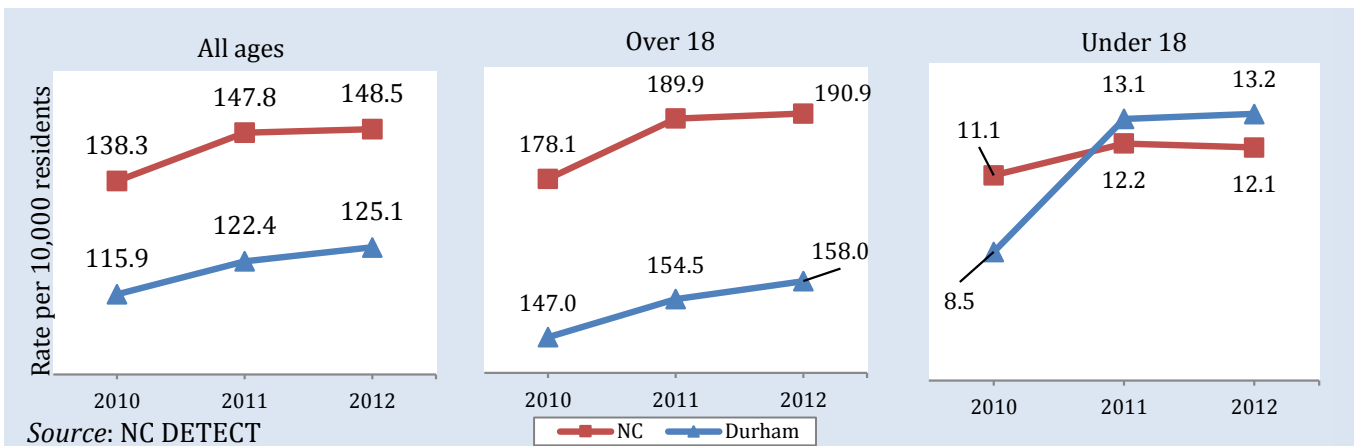
[Table 1]

Number of substance use-related admissions of Durham County residents to emergency departments, 2010 – 2012.

Year	All Ages	Over 18	Under 18
2010	3110	3059	51
2011	3346	3265	81
2012	3499	3415	84

Source: NC DETECT

The rate of admissions, per 10,000 population, increased 8 percent between 2010 and 2012. The rate of admissions for juveniles under 18 increased 55.3 percent, while rate for adults aged 18 and older increased 7.5 percent. Figure 2 provides information on emergency room admissions rates from 2010 - 2012.



[Figure 2]

Rate of total emergency department admissions related to substance use for Durham County and N.C. per 10,000 residents, 2010 – 2012, for all ages, adults over 18, and juveniles under 18.

Deaths Reported by the N.C. Office of the Chief Medical Examiner

Indicators:

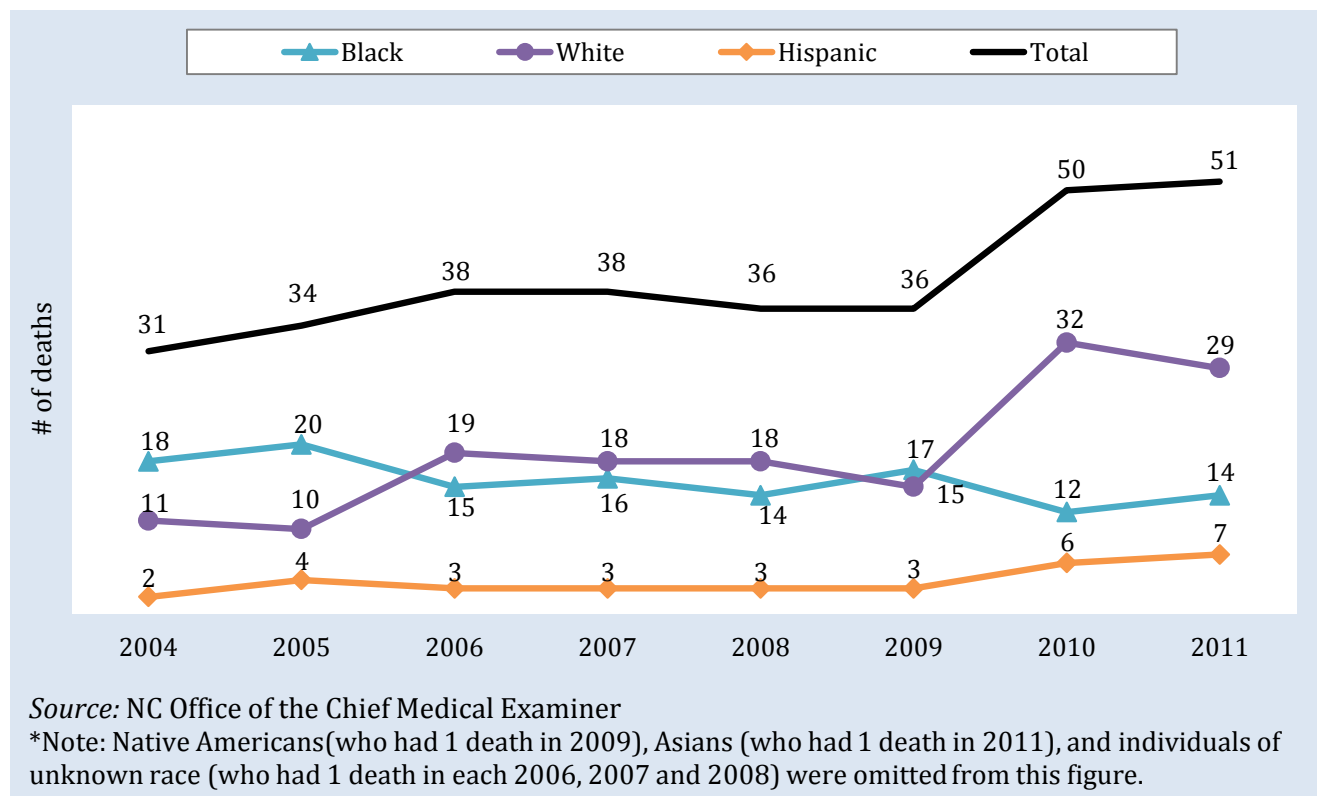
- Number of deaths related to toxins identified by the N.C. Office of the Chief Medical Examiner (N.C. OCME)
- Number and percent of toxin-related deaths by type of substance

Relevance: In N.C. from 1999-2011 there has been a 300 percent growth in the number of deaths from unintentional poisoning. Ninety-one percent of unintentional poisonings were caused by over-the-counter drugs, prescriptions or illicit substances (11). Deaths examined by the medical examiner provide insight into the types of drugs that individuals are abusing. Changes in the number of substance use-related deaths in a community are most likely when a drug is first

introduced into a community or when there is a change in the purity of a drug that is commonly used. Information from the medical examiner give us a sense of the demographics of populations most at risk as well as the types of dangerous drugs that are in the community.

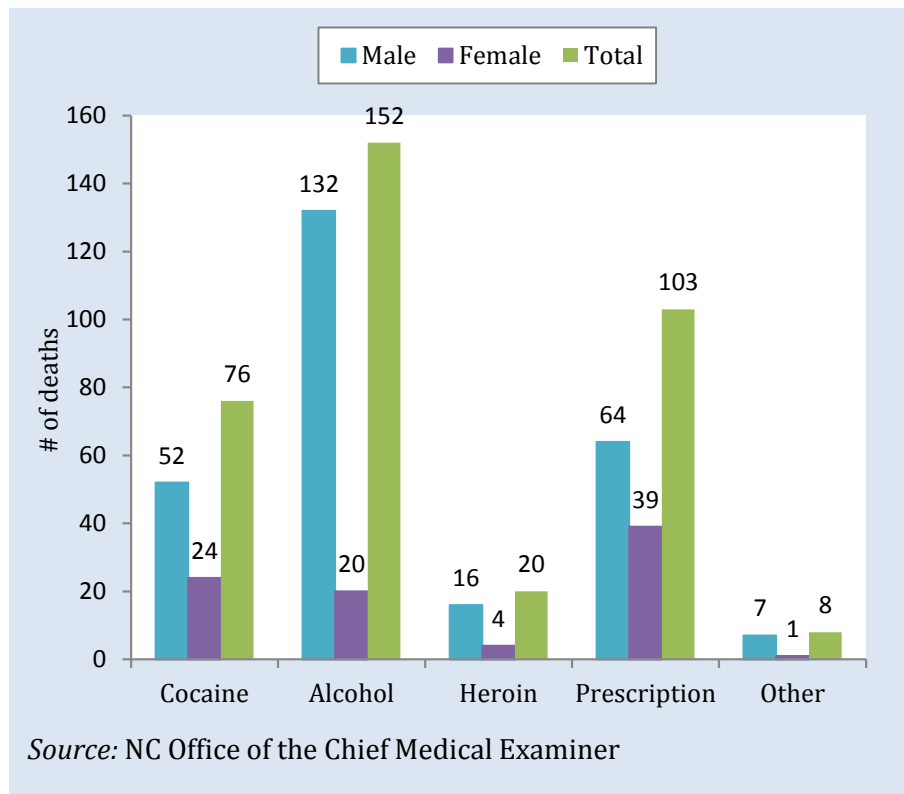
Data: Data were provided by the N.C. Office of the Chief Medical Examiner. Please note that ten deaths related to Carbon Monoxide poisoning were omitted. Individuals include Durham County residents regardless of whether the death occurred in a different county. Although race and ethnicity are not mutually exclusive (that is, someone can be both White and Hispanic or Black and Hispanic), in these data, there was no one who had both Hispanic ethnicity and a race listed. Deaths from toxins include intentional suicides or homicides, natural causes, or undetermined causes but are more likely to be unintentional overdoses (11).

Findings: Figure 3 examines the number of toxin-related deaths among Durham County residents from 2004-2011. Across all eight years, about 40 percent of deaths are African Americans, 48 percent Whites, 10 percent Hispanics, and less than 2 percent are Native Americans, Asians, and individuals of unknown race/ethnic origin. Although the numbers fluctuate some from year to year, and while there is not strong upward or downward trend, in 2010 and 2011 there was an increase in the number of deaths in White residents. Across the six years, males constituted 75 percent of deaths from toxins and females 25 percent.



[Figure 3]
Number of deaths related to toxins for Durham County residents, 2004-2011

The N.C. Office of the Chief Medical Examiner lists toxins that are either the primary or a contributing factor in the individual's death. The drugs were coded into the following five categories: alcohol, prescription drugs¹, cocaine, heroin, and other. Figure 4 provides insight into the relative contributions of various substances that have been the primary or contributing cause of death for Durham residents. Alcohol was the most frequently mentioned toxin in 48 percent of Durham resident toxin-related deaths. Alcohol was followed by prescription drugs (33%), cocaine (24%), heroin (6%), and other (3%). Please note that multiple drugs may be listed in a single death so the total will not necessarily be 100 percent.

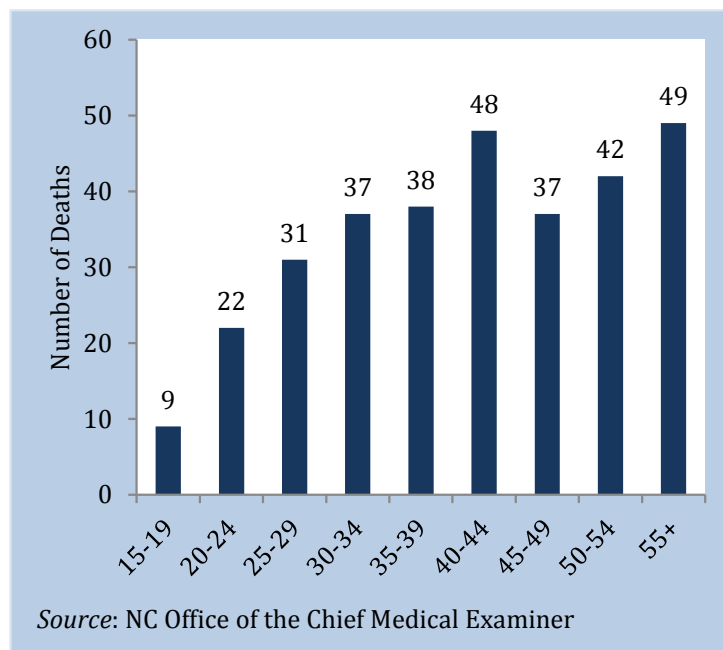


[Figure 4]
Drugs mentioned in deaths involving toxins for Durham County residents during eight years, 2004-2011

The substances associated with deaths differed for males and females. Alcohol was observed in 56 percent of male deaths related to toxins, relative to only 26 percent of female deaths. Conversely, prescription drugs were noted in 50 percent of female toxin-related deaths, but only 27 percent of male toxin-related deaths (however, because males had more toxin-related deaths than females, more males had prescription drugs listed as a factor in their death than females). The proportion of deaths with cocaine (22% males vs. 31% females) or heroin (7% males vs. 5% females) listed as a factor were similar for males and females.

¹ The following drugs were coded as prescription drugs: Acetaminophen, Alprazolam, Amitriptyline, Amlodipine, Buprenorphine, Bupropion, Carisoprodol, Chlordiazepoxide, Citalopram, Clonazepam, Codeine, Cyclobenzaprine, Diazepam, Diltiazem, Diphenhydramine, Fentanyl, Gabapentin, Hydrocodone, Memantine, Methadone, Metoprolol, Morphine, Oxycodone, Oxymorphone, Paroxetine, Pentobarbital, Phenobarbital, Promethazine, Propoxyphene, Propranolol, Quetiapine, Sertraline, Temazepam, Tramadol, Trazodone, Venlafaxine, Zolpidem.

Age is an important factor to consider when understanding how substance use is affecting the community. Figure 5 examines toxin-related deaths by age for Durham residents. The figure demonstrates that toxin-related deaths have been spread across age groups over the last eight years. Examining data over an eight-year period (2004 to 2011), the largest number of deaths occurred in older individuals (ages 55+) and individuals ages 40-44 (see Figure 5).



[Figure 5]
Deaths related to toxins by age for Durham County residents during eight years, 2004-2011.

The N.C. Office of the Chief Medical Examiner identifies the manner in which the individual died. Across 2004-2011, of the 314 deaths related to toxins, 204 were accidental (65%), 48 were suicides (15.3%), 27 were natural deaths (9%), 26 were homicides (8%), and nine were undetermined (3%). For Blacks, Whites, and Hispanics, accidental deaths were more frequent than the other manners combined. More Blacks died as a result of a homicide (14) than individuals of the other racial and ethnic groups (2 White, 8 Hispanic, and 2 individuals of unknown racial and ethnic background). More Whites died as a result of suicide (37) than Black (9) or Hispanic (2) individuals.

HIV and Injection Drug Use

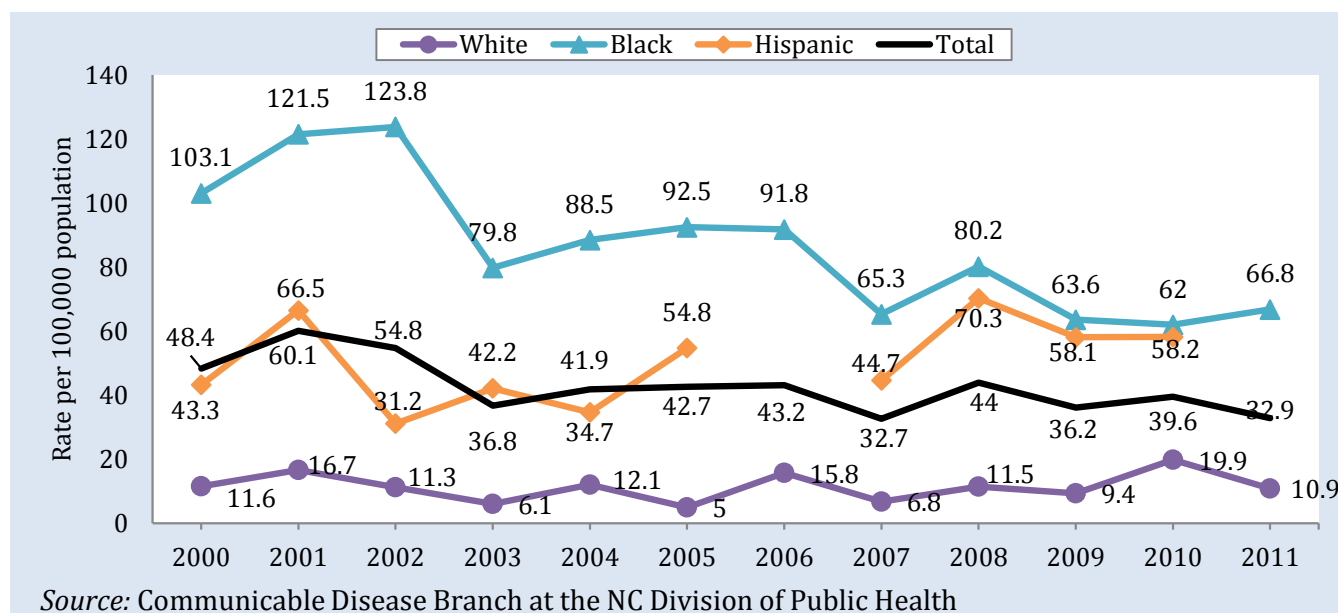
Indicator:

- The number of new HIV cases related to injecting substances (or “men having sex with men (MSM) or injection drug use (IDU)”)

Relevance: One way that HIV is spread is through injection drug use. HIV rates in Durham County have been alarmingly high for well over the past decade.

- In 2009-2011, Durham County had the fourth highest HIV infection rate among N.C. counties(12). The average rate of newly diagnosed HIV infections per 100,000 people was higher in Durham than N.C. (29.2 vs 16.4, respectively) (12). Fortunately the Durham County rate has declined over the last three years from 35.8 in 2006-2009 (13).

- Among Durham residents from 2007-2011, HIV was the seventh leading cause of death for those aged 20-39 and the eighth leading cause of death among individuals aged 40-64 (14).
- In Durham, males are living with HIV at a greater rate than females. In 2011, the HIV rate (per 100,000) for males was 50.8 compared to 17.0 for females (15). According to the most recently available data (2003-2007), injection drug use was the source of infection for approximately 9% of males and 7 percent of females in Durham County (16). This number may underestimate the risk of injection drug use because individuals may underreport illicit activities.
- African-Americans are disproportionately affected by HIV. The rate of new HIV infections per 100,000 people in 2011 was 10.9 for Whites, and 66.8 for African-Americans (15). For Hispanics there were fewer than five new cases of HIV diagnosed in 2011. Figure 6 shows HIV rates by race since 2000.



[Figure 6]

New HIV infection rates in Durham County, by race, 2000-2011

Data: Data on HIV and AIDS incidence and rates in Durham County come from the HIV/STD Prevention and Care Epidemiology Division in the N.C. Public Health Department. In the 2008 HIV/STD Surveillance Report, HIV and AIDS data are presented differently than in previous years. Previous reports included breakdowns of new HIV cases related to substance use by gender and race/ethnicity—these data are not available for recent years.

Findings: Progress has been made in Durham to lower the number of newly acquired HIV cases related to substance use. Table 2 shows the total number of newly reported cases of HIV by year since 2000 (15). The N.C. Public Health Department tracks newly reported cases by how the disease was acquired (men having sex with men (MSM), injection drug use (IDU), blood products, pediatric cases, no identified risk (NIR), heterosexual transmission). Some men who have sex with

men also engage in injection drug use. For the purposes of the numbers presented below, MSM/IDU and IDU were both presented. If the number of cases was less than five, the total number was not reported that year.

During the years 1983-1994, 40 percent of newly reported HIV cases were related to injection drug use, relative to less than 7 percent for years 2000-2011, indicating that the total number of HIV cases per year related to substance use has decreased [for more detail see (3)]. During the years 1995-1999, there were approximately 27 new cases each year, relative to less than five cases per year since 2005 [see (3)]. When examining this decrease, it is important to note that, on average, one-third of new HIV cases do not have an identified mode of transmission reported.

[Table 2]

Number of new HIV cases by year and mode of exposure in Durham County, 2000-2011

Mode of Exposure	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11
Injection drug use	11	6	11	6	8	<5	5	5	<5	<5	<5	<5
Men having sex with men or injection drug use	<5	<5	<5	<5	<5	0	<5	0	<5	<5	<5	0
Total number of new HIV cases	93	116	107	73	84	86	89	69	95	80	88	73

Source: Communicable Disease Branch at the N.C. Division of Public Health

Substance Abuse and Social Services

Substantiated Cases in DSS

Indicator:

- Number of substantiated cases where substance abuse was indicated
- Number of children in substantiated cases where substance abuse was indicated

Relevance: Parents who abuse substances are more likely to abuse or neglect their children (17). Neglect may arise because the parent is spending time seeking drugs or is incapacitated due to inebriation. Abuse may be more likely due to the specific effect of the drug on the parent's decision-making process. For example, common side effects of drugs like cocaine may include depression, hallucinations, and paranoia. These effects can last hours during the high or longer if they are the effects of withdrawal (18). Parents who have been investigated for child maltreatment may be at increased risk of losing parental rights.

Data: The Department of Social Services (DSS) tracks the number of cases that are substantiated and reports when substance abuse was indicated as a maltreatment type in these cases.²

Findings: While we do not have data to illustrate the impact of substance use on all child maltreatment in Durham County, we do know that, in 2008, 40 percent of children were placed in foster care due their parent’s drug or alcohol abuse as a primary or contributory factor (3). From 2006 to 2007 the number of substantiated cases where substance abuse was indicated decreased by 85 percent (from 20 to 3) (see Table 3). After 2007, the number of cases remained under five per year (with the exception of 2010, which had six substantiated cases where substance abuse was indicated). In 2008 and 2011 there were no substantiated cases that had substance abuse indicated. Each case could have more than one child involved; see Table 3 for the number of children for each year. DSS also reports the number children involved in a substantiated case that later enter foster care. In 2008 one child, who was part of a substantiated case investigate in 2006, entered foster care. That same year four children from a substantiated case that was investigated in 2007 entered foster care. In both 2009 and 2012, one substantiated case had one child enter foster care in the same year.

[Table 3]

Number of substantiated cases and number of children in substantiated cases where substance abuse was indicated in Durham County, 2006-2012

Year investigation was completed	Number of cases substantiated where substance abuse was indicated*	Number of children in cases that were substantiated where substance abuse was indicated
2006	20	28
2007	3	7
2008	no substantiated cases with substance abuse indicated	
2009	4	6
2010	6	13
2011	no substantiated cases with substance abuse indicated	
2012	2	12

* Note that cases may include multiple children

Source: N.C. Division of Social Services

² A substantiated case is one in which “the allegation of maltreatment or risk of maltreatment was supported or founded by State law or State policy.”

See <http://www.acf.hhs.gov/sites/default/files/cb/cm11.pdf> for more information.

Homelessness

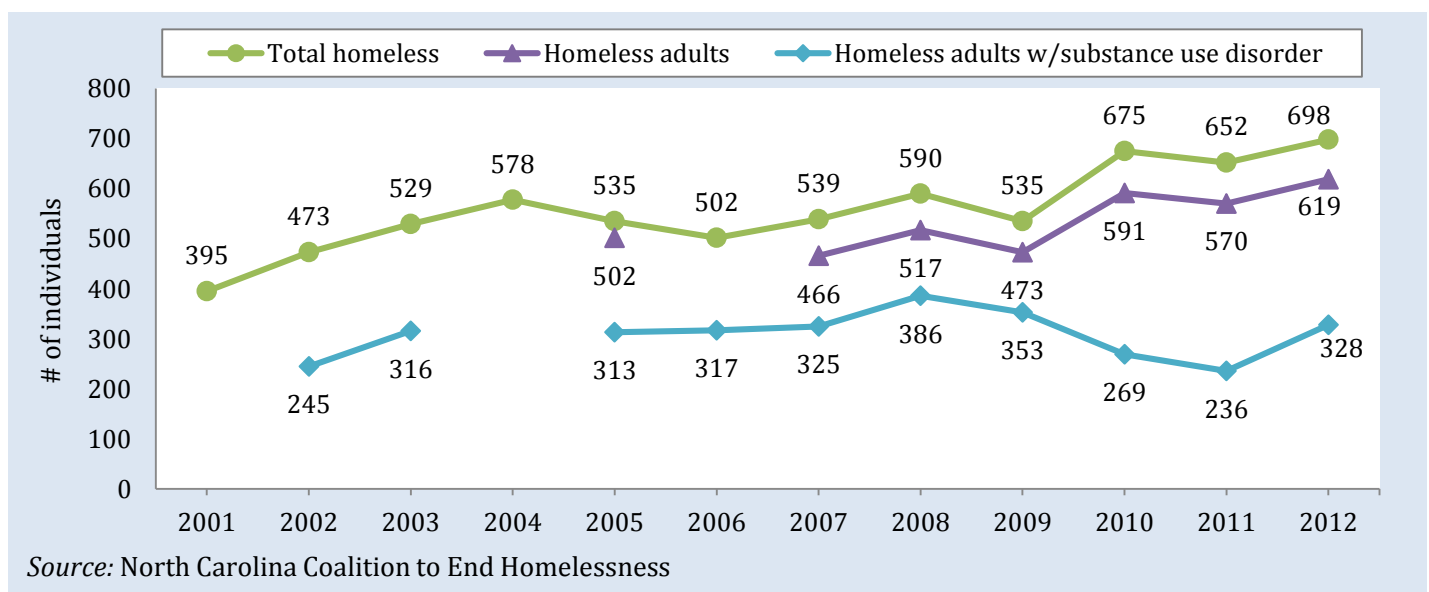
Indicator:

- Number of homeless individuals who are substance abusers

Relevance: Durham is involved in an ambitious plan to address homelessness. Knowing the changing substance abuse patterns among the homeless population is essential when planning to meet the treatment and housing needs of that population. Both treatment and enforcement planners will be able to use this information.

Data: Each year, the Durham Affordable Housing Coalition leads a concerted effort to count the homeless individuals in Durham County on a given day. This involves a) teams of individuals going out into the streets in the early hours of the morning to count homeless individuals (people living under viaducts and bridges, in the woods, in abandoned houses, etc.), and b) agencies that submit information regarding the number of homeless individuals receiving services for emergency relief and transitional shelter. For recent years, the data are available online through Durham Opening Doors Homeless Prevention & Services (19). Older data were made available by Lloyd Schmeidler. Please note that the different sources sometimes had slightly different counts.

Findings: The most recent year available, 2012, marks the year with the highest number of homeless individuals in Durham with 698. While this is only 7 percent higher than the number of homeless in 2011, it is 30 percent higher than the number in 2009. While the number of individuals with a diagnosable substance use disorder dropped to 236 in 2011, in 2012 this rose to 328. This is a 39 percent increase in the number of homeless individuals with a substance use disorder (see Figure 7). In fact, 47 percent of homeless adults in Durham County have a substance use disorder (19, 20).



[Figure 7]
Substance Use Among the Durham Homeless Population, 2001-2012

Substance Abuse and Law Enforcement

Domestic Violence and the Durham Police Department

Indicator:

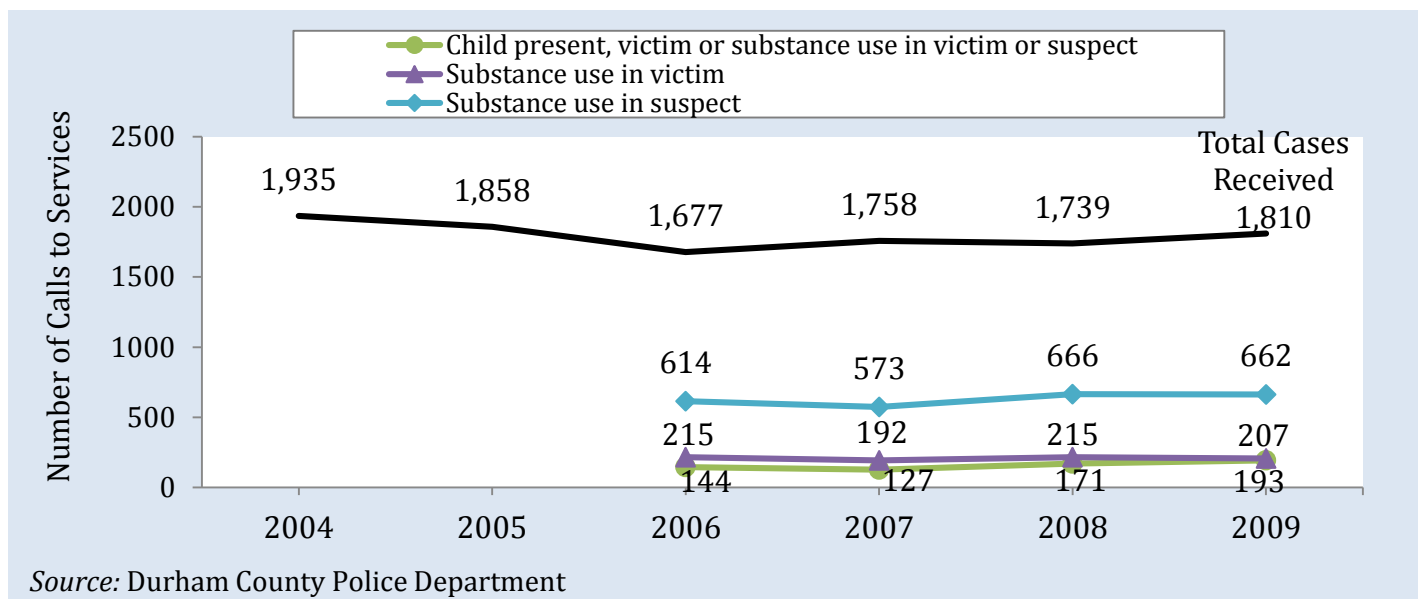
- The number and percent of domestic violence cases involving alcohol or illicit substances.

Relevance: In the U.S., roughly one in four women will be affected by domestic violence during their lifetime (21). In 2012 there were 122 homicides related to domestic violence in N.C. and four in Durham (22). (In 2011 Durham had 10 homicides related to domestic violence but fewer in 2008 (4), 2009 (4) and 2010 (3)).

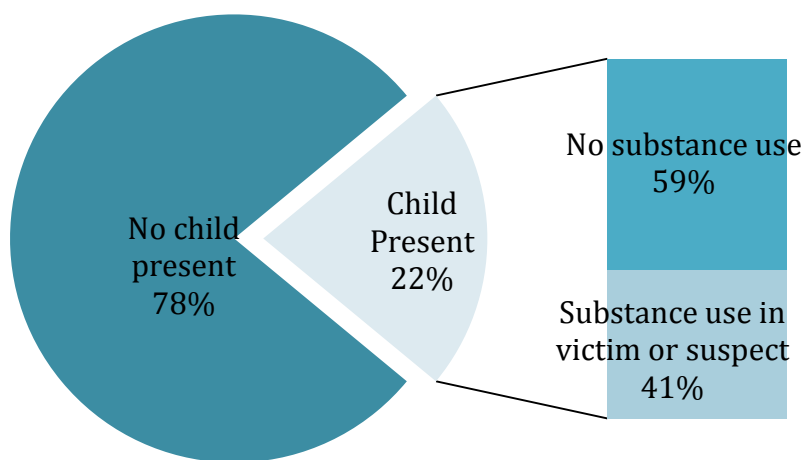
Domestic violence is defined as the willful abusive behavior resulting in assault or battery against an intimate partner. For some individuals, the use of alcohol and drugs promotes aggression and impulsive behaviors. Substance abuse may result in the batterer misinterpreting a comment or action from a spouse or child, leading to outbursts and lashing out (23). Together, these side effects of alcohol and drug use may increase the likelihood of domestic violence.

Data: Data were provided via personal communication in April 2010 by the Durham City Police Department. The Durham City Police Department no longer collects this information, so data are only available for the years 2004 to 2009. In 2004, the Durham Police Department began tracking the number of calls to service for domestic violence cases. In 2005, they began to track detailed information on the calls to which they responded to in order to identify repeat offenders. Beginning in 2006, the police began tracking whether the alcohol or substance user was the suspect or the victim.

Findings: From 2004-2009, the Durham Police Department has averaged about 1,800 calls to service for domestic violence each year. Figure 8 summarizes how substance use has been involved in these cases. In approximately one-third of these cases, the suspect has abused alcohol or an illicit substance and about 12 percent have involved substance use by the victim.



[Figure 8]
Number of calls to service for the Durham Police Department for domestic violence cases, by type, 2004-2009



Source: Durham Police Department

[Figure 9]
Durham County Police Department calls to service for domestic violence by presence of children and substance use (n=6,984), 2006-2009

Children are particularly vulnerable in situations involving domestic violence, substance use, or both. The police may need to work with social services if they suspect that the child may be harmed. From 2005-2009, approximately 22 percent of calls to service involved children and 9 percent of the calls for domestic violence involved both children and substance use. Between 2006 and 2009, of the 6,984 case investigated by the Durham Police Department, a child was present in 1,544 cases (22% of all cases investigated) (see Figure 9). Of these, 635 cases had substance abuse reported in either the victim or suspect (9% of all cases reported, and 41 percent of cases where a child was present). Among the domestic violence calls where a child was present (22%), 41 percent involved substance use by either the suspect or the victim.

Arrests in Durham County Related to Alcohol and Illicit Substances

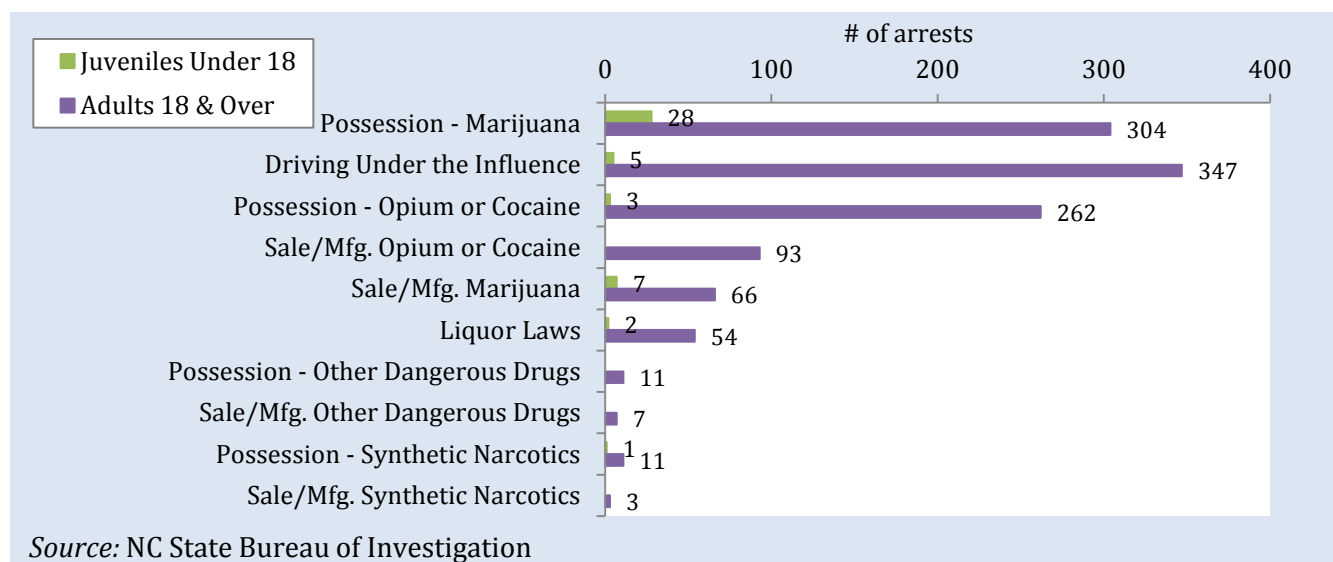
Indicators:

- Number/rate of arrests for possession and sales of illicit substances.
- Number/rate of arrests for liquor law violations.
- Number/rate of arrests for driving under the influence.

Relevance: Arrests related to alcohol and illicit substances provide a sense of the various illegal behaviors related to substances. It is important to note that the number of arrests may fluctuate based on real changes to the number of violations being committed as well as the resources that are devoted to policing a particular issue. In order to make the best use of information from arrests, it is desirable to have qualitative information from local law enforcement agents who can help explain if policing strategies have varied during the time frame of observation or if there are real changes occurring in the number of violations being committed.

Data: Data are provided by the State Bureau of Investigation. Local law enforcement agencies voluntarily report information. Data are available online from the N.C. Department of Justice and from the N.C. Uniform Crime Reporting (UCR) Program (24). Arrests related to substance use include possession or sales/manufacturing of a) marijuana, b) opium or cocaine, c) synthetic narcotics, and d) other dangerous drugs – as well as driving under the influence and liquor law violations.

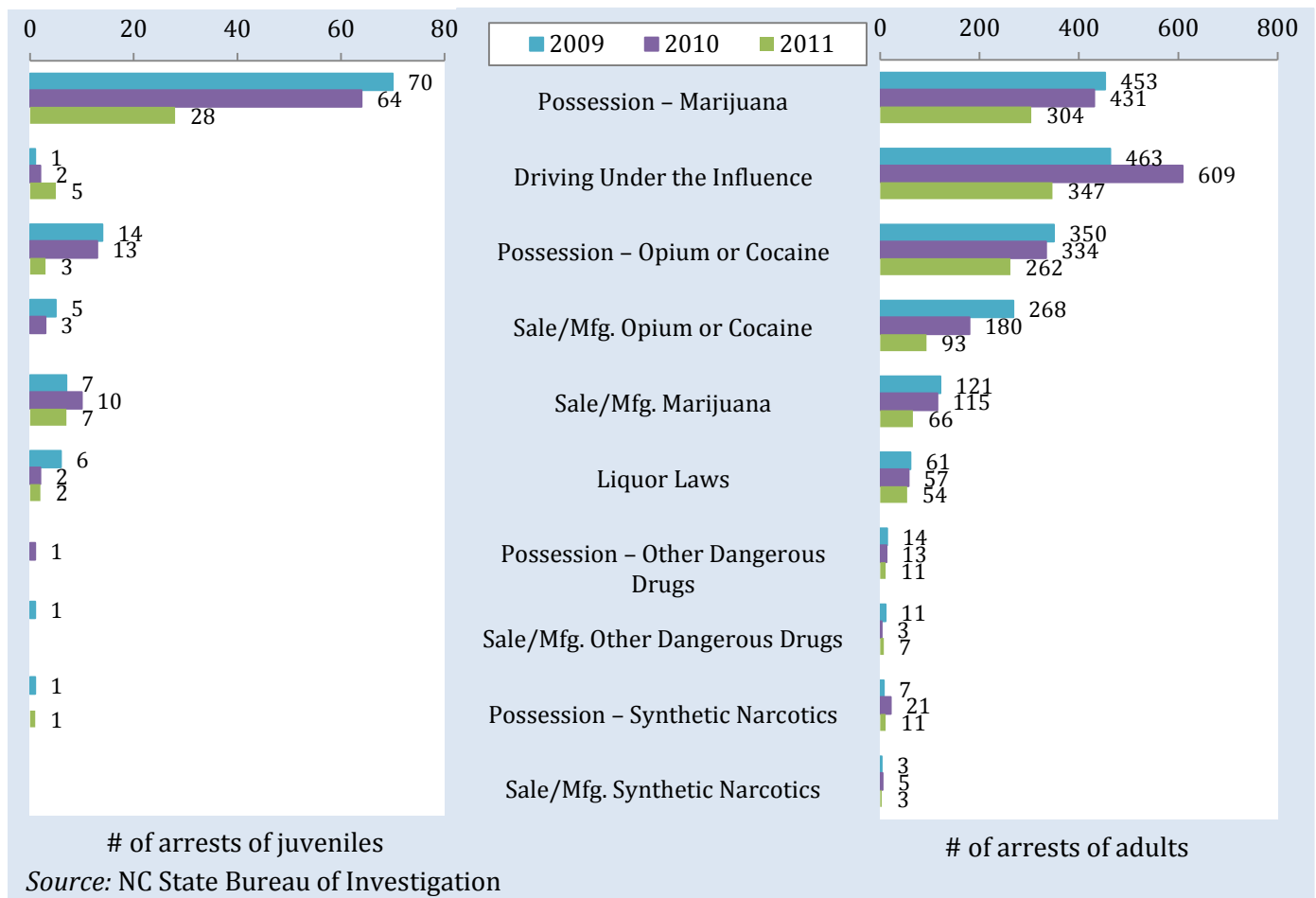
Findings: In Durham County in 2011, possession of marijuana (28 arrests) was the primary reason youth under the age of 18 were arrested for violations related to substance use. Sales/manufacturing of marijuana (seven arrests) and driving under the influence (five arrests), followed a distant second to marijuana charges (see Figure 10).



[Figure 10]

Arrests for possession or sales of illicit substances, driving under the influence, or liquor law violations by age, 2011

The arrests of juveniles for violations related to substance use have declined since 2009 in Durham County (see Figure 11). For adults in Durham County during 2011, the largest substance use-related reason for arrest was driving under the influence (347 arrests), which was closely followed by possession of marijuana (304 arrests). There were also a relatively large number of arrests for possession of opium or cocaine (262 arrests). There were less than 100 arrests for sales/manufacturing of opium or cocaine (93 arrests), and sales/manufacturing of marijuana (66 arrests). For adults in Durham County, the number of arrests in 2011 was fewer compared to 2009 and 2010 for most substances (see Figure 11).



[Figure 11]

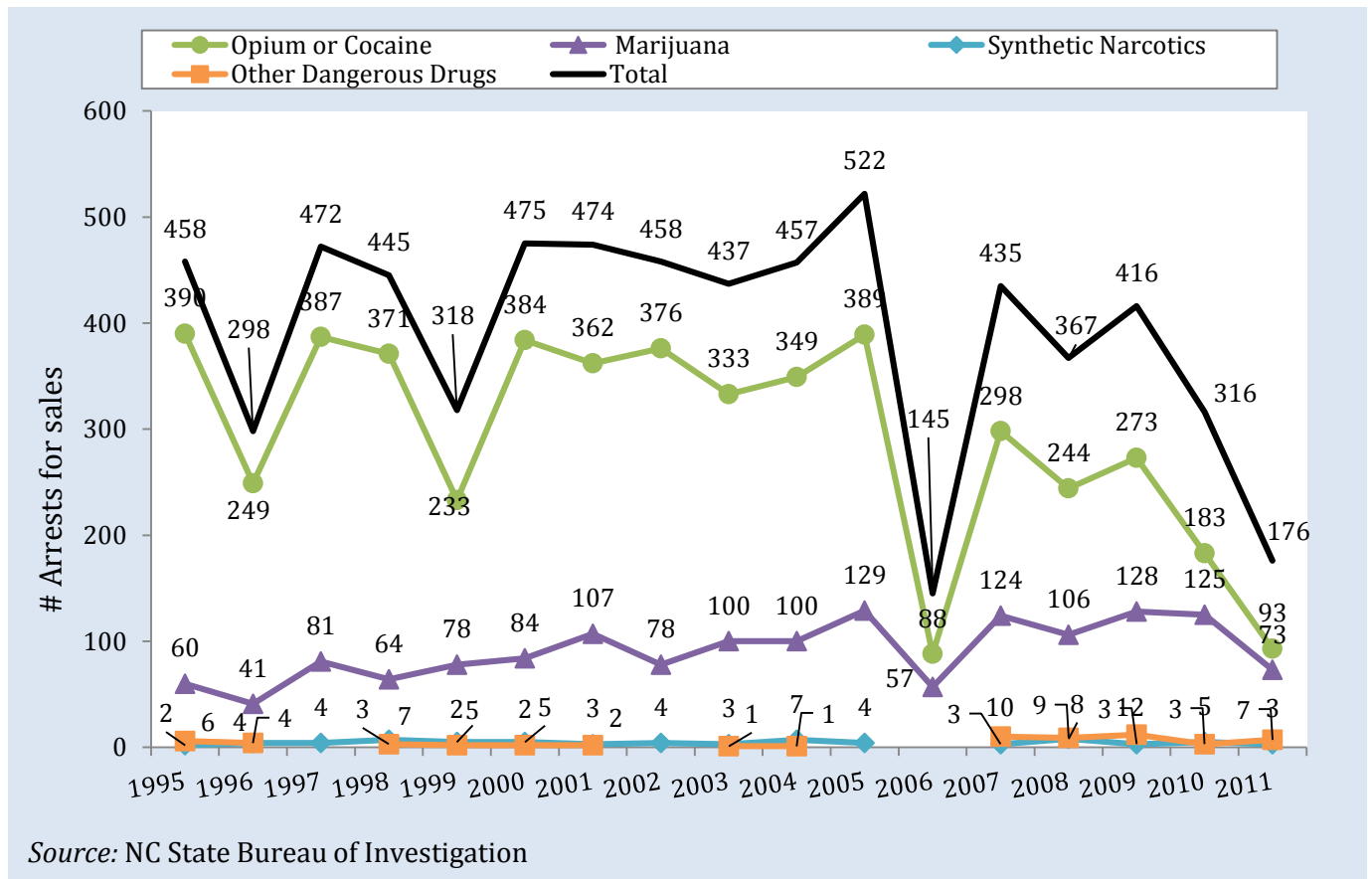
Arrests for possession or sales of illicit substances, driving under the influence, or liquor law violations for juveniles 18 and under and adults, 2009-2011

Arrests for possession and sales of illicit substances over time

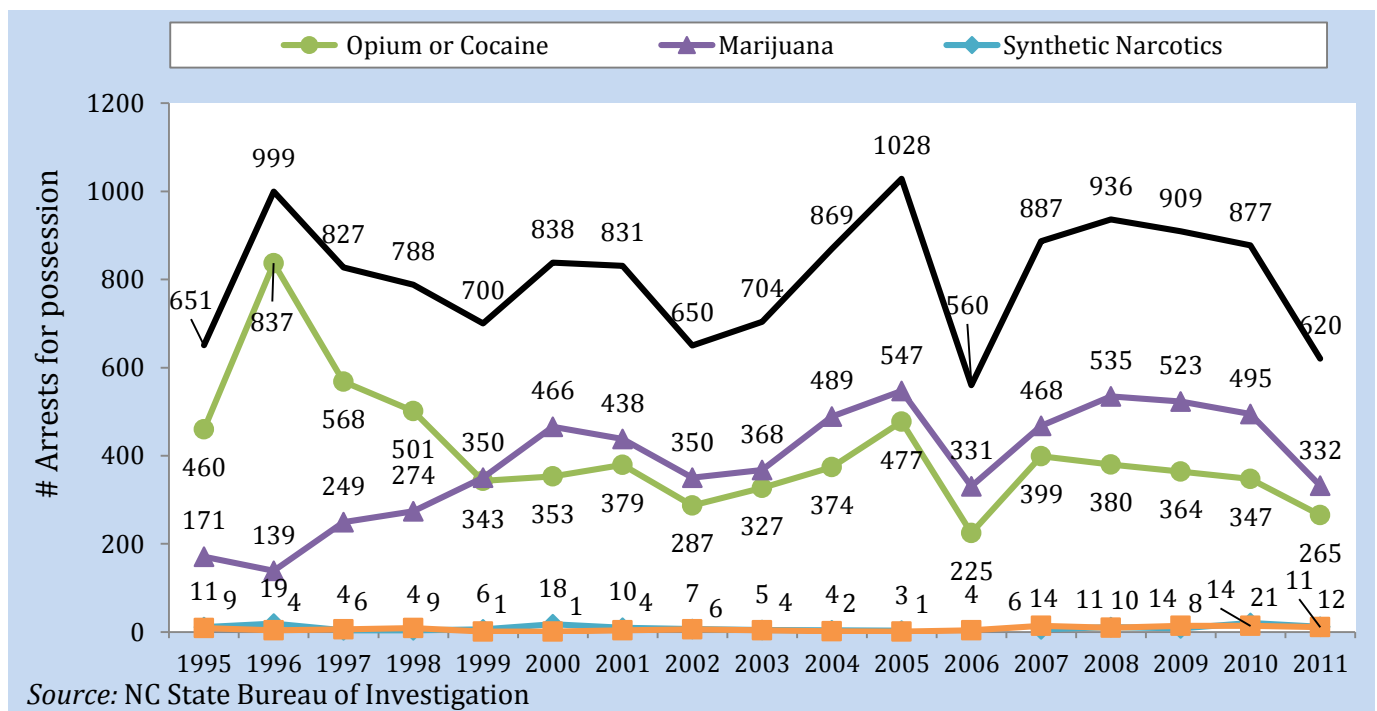
Overall, the time trends in arrests for different substances are difficult to determine because it appears that the data on arrests related to substances may have been inaccurately or incompletely reported in 2006. Arrests are markedly down in 2011. It appears that, on average, the number of arrests for sales of opium or cocaine since 2007 has been declining (517 in 2008 and 2009

compared to 276 in 2010 and 2011) (see Figure 12). Similar to the pattern observed in sales, arrests for possession of opium or cocaine has been declining since 2007 (744 in 2008 and 2009 compared to 612 in 2010 and 2011) (see Figure 13).

While arrests for sales/manufacturing and possession of opium and cocaine appear to be down, the story differs for marijuana sales. Arrests for sales/manufacturing were similar in 2008-2009 and 2010-2011 (234 vs. 198). However, arrests for possession of marijuana declined during the same years from 1058 to 827.



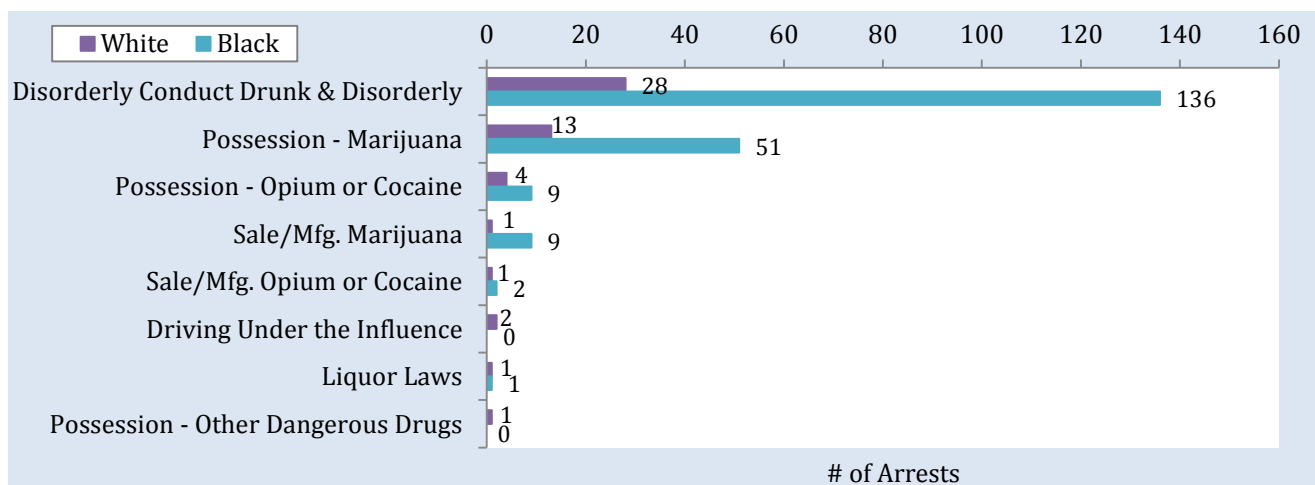
[Figure 12]
Arrests for sale of drugs in Durham County, 1995-2011



[Figure 13]
Arrests for possession of illicit substances in Durham County, 1995-2011

Arrests among juveniles by race

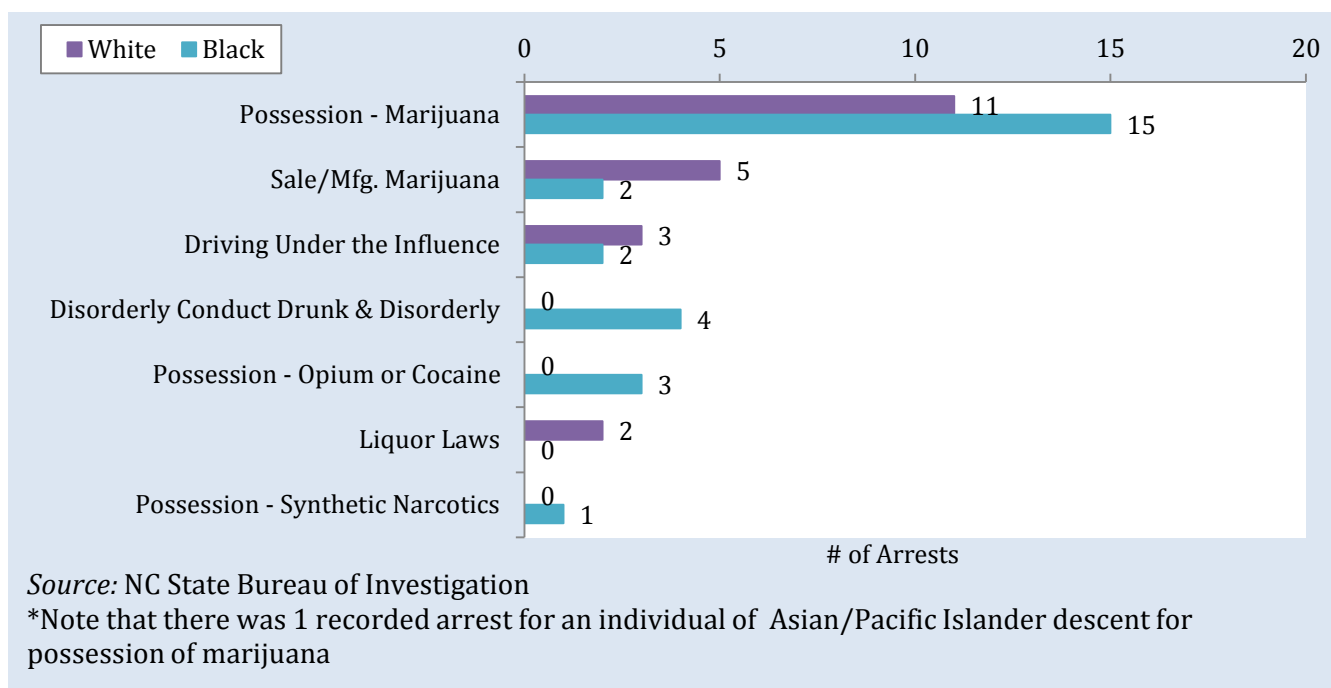
Figures 14 and 15 show arrests related to substance use in 2010 and 2011 respectively for juveniles in Durham by race. It is worth noting that the official reports indicate much fewer arrests for juveniles in 2011 relative to 2009 and 2010.



Source: NC State Bureau of Investigation

*Note that there was 1 recorded arrest for an individual of Asian/Pacific Islander descent for possession of marijuana

[Figure 14]
Arrests in Durham County of juveniles for possession or sale of illicit substances, driving under the influence, or liquor law violations by race, 2010



[Figure 15]
 Arrests in Durham County of juveniles for possession or sale of illicit substances, driving under the influence, or liquor law violations by race, 2011

Substance Use among Prison Inmates

Indicators:

- Number and percent of inmates entering prison who had a drug offense on commitment.
- Number of inmates entering prison whose most serious offense on commitment was drug related.
- Number and percent of inmates entering prison with a need for substance use treatment.
- Drug of choice as identified by inmates.

Relevance: Prison inmates represent a portion of the population that tends to have high rates of substance use issues. For example, in 2004, according to a national sample, about 17-18 percent of state and federal inmates committed their current offense to obtain money for drugs (25). Moreover, about a quarter to a third of convicted inmates stated that they had their most recent offense while under the influence of drugs. Most importantly, over half of federal and state inmates reported being addicted to, or of having abused, drugs and alcohol.

The high needs of this population warrant the attention of the treatment community. Effective treatments offer hope of reducing recidivism as well as helping these members of our community return to a productive, independent life (26).

Data: The data were provided by the N.C. Department of Corrections. Department of Corrections staff administer the Substance Abuse Subtle Screening Inventory (SASSI) to individuals entering prison in order to identify those who need treatment. Results from the screening tool are used to make referrals to treatment.

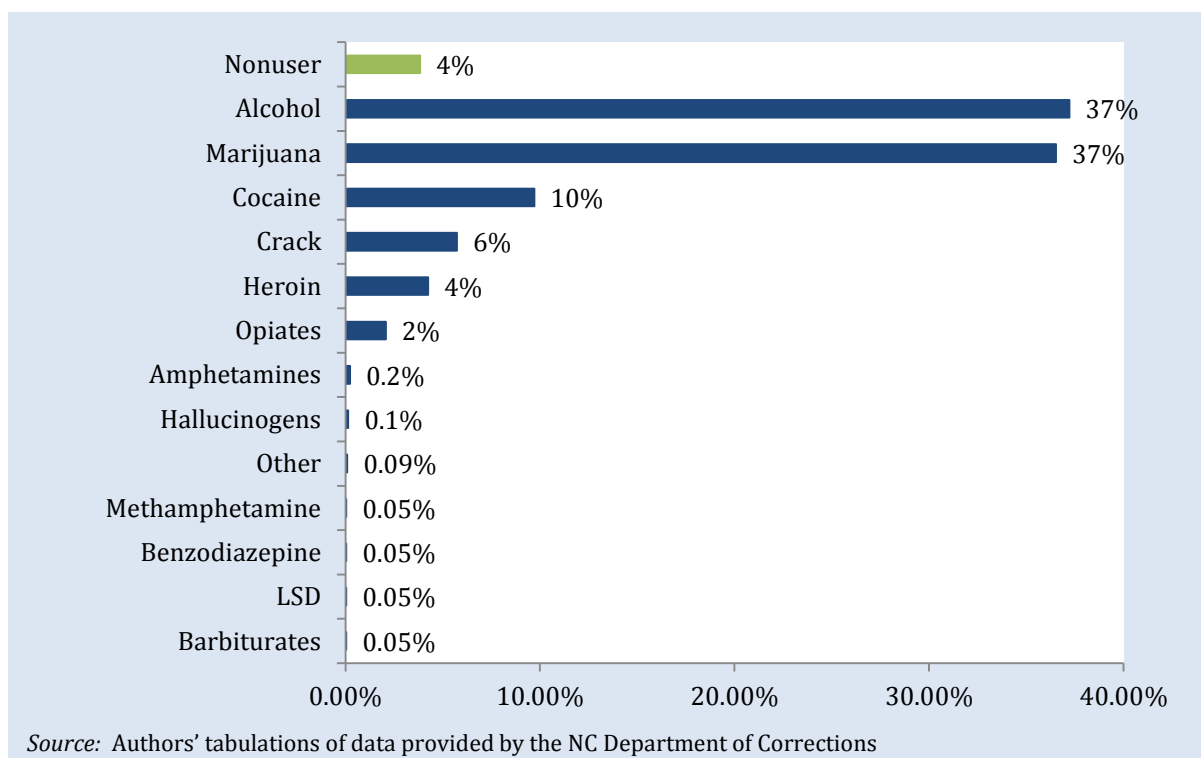
Findings: Between 2009 and 2012, 2,493 Durham residents entered prison. Over one-third of Durham residents who entered prison had at least one drug offense at the time of conviction and slightly more than a quarter of them had a drug offense as the most serious offense at the time of conviction (see Table 4). Moreover, results of the SASSI indicated that 60 percent of Durham residents entering prison needed substance abuse treatment. Among Durham residents under the age of 18 who entered prison between 2009 and 2012, two had an arrest related to substance use; and 26 of the 28 were identified as needing substance use treatment.

[Table 4]

Prison entries and drug offenses among Durham residents, 2009-2012

Age at entry	All entries to prison	Entries with at least 1 drug offense on commitment		Entries where drug offense was the most serious offence on commitment		Entries with substance use treatment need*	
	#	#	%	#	%	#	%
All Ages	2493	908	36.4	685	27.5	1500	60.2
13-17	28	2	7.1	0	0	26	92.9
18 and above	2465	906	36.8	685	27.8	1474	59.8
<i>Source:</i> Authors' tabulations of data provided by the N.C. Department of Corrections							
<i>Note:</i> *Substance use need was determined by scoring a three or higher on the Substance Abuse Subtle Screening Inventory (SASSI)							

Upon entry, prisoners are asked to name their drug of choice. Relatively few of the 2,493 prisoners indicated that they did not use any substance (4%). Prisoners' most commonly-mentioned substances were marijuana (37%) and alcohol (37%). Approximately 16 percent named cocaine (10%) or crack (6%) as their drug of choice. A small percent of prisoners named heroin (4%), opiates (2%), amphetamines (0.2%), hallucinogens (0.1%) or other drugs as their drug of choice (Figure 16).



[Figure 16]

Drug of choice among prisoners from Durham County, 2009-2012. Note numbers are rounded to nearest percent.

Substance Abuse among Durham County Jail Inmates

Indicator:

- Number and percent of jail inmates with drug, alcohol, or driving while intoxicated charges.

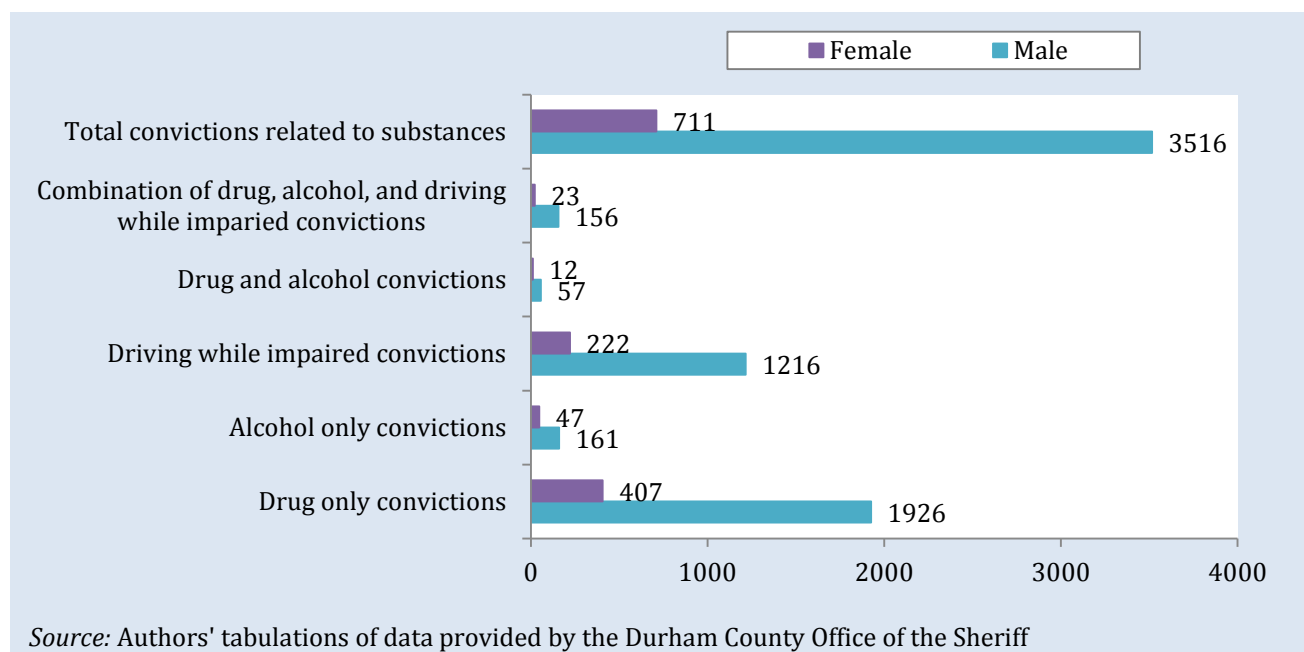
Relevance: According to a national study, incarceration expenses in local jails cost an average of about \$20,000 year (27, 28). While the costs of treatment vary, it is estimated that every \$1 spent on substance use treatment saves \$3 in societal costs. Closely examining repeat substance use offenders and the resources allocated for treatment of these individuals may play an important role in saving county dollars. Many individuals are arrested for acts not directly related to substance use but may have a substance use disorder. At the same time, individuals arrested for an act related to substance use (ex. possession of drug paraphernalia) may or may not have a substance use disorder. This indicator directly measures the number and percent of jail offenders in need of treatment.

Data: The Durham County Sheriff's Office maintains a public database on inmates (29). Reports are publically available online for inmates who were confined in the last 24 hours, the last 30 days or who are currently in a Durham jail. The data provides information on each inmate's name, date confined, date released, statute description (reason they are confined), bond type and bond

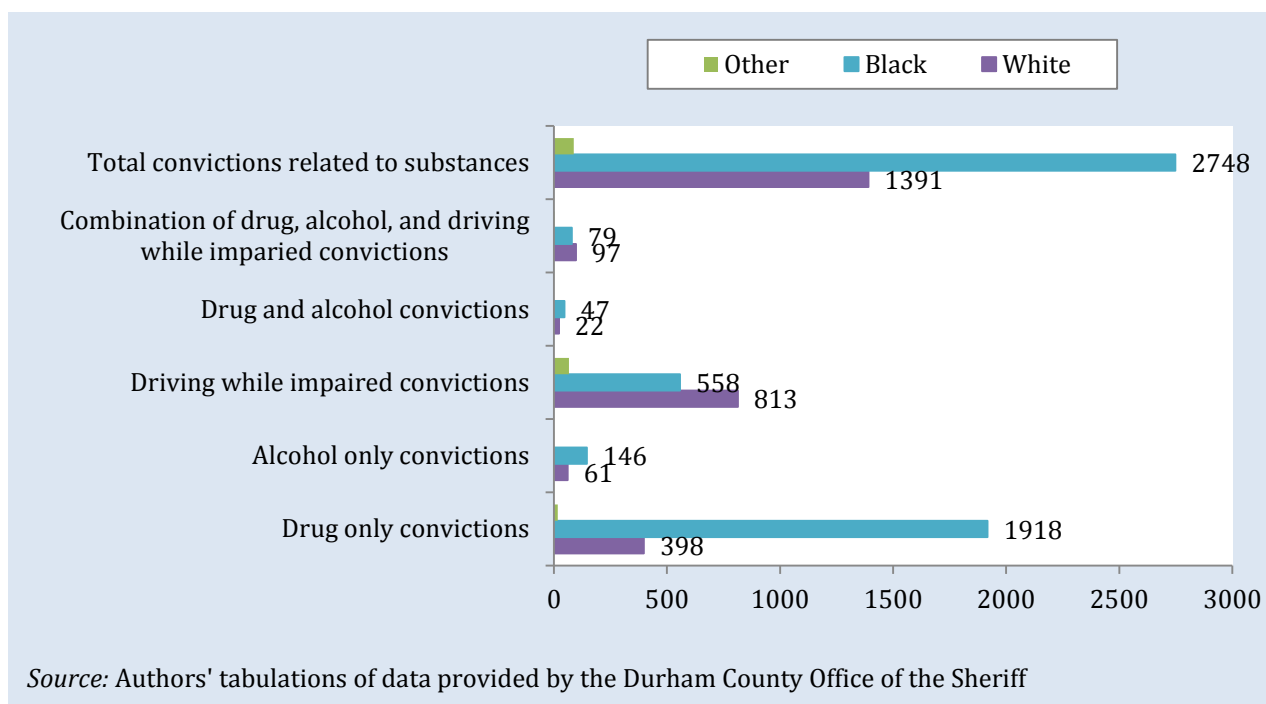
amount. In addition, the website allows one to click on each inmate's name and learn information regarding the inmate's race, gender, birthdate and photo. However, it does not appear that ethnicity is captured. The Durham County Sheriff's Department provided us with data on all inmates confined in the Durham County Jail during 2012, including data on age and sex.

Data were coded by statute description as being related to a) controlled substance; b) alcohol and/or c) driving while impaired.

Findings: There were 8,693 inmates in the Durham County Sheriff's Office data during the 2012 calendar year, 29 percent were white and 70 percent were black, and 78 percent were male and 22 percent were female. Of these inmates, 40 percent (3,469) had at least one jail sentence for a conviction related to substance use (either driving while impaired, alcohol-related, or drug-related). Of those with a jail sentence related to substance use, 35 percent were white and 63 percent were black, and 83 percent were male and 17 percent were female. During the 2012 calendar year, inmates served a total of 12,414 different jail sentences for various convictions. Roughly one-third of the jail sentences that were served during 2012 (34% or 4,227 sentences) were related to alcohol or drug convictions. Of those sentences, 2,333 (55%) had a drug-related conviction, 208 (5%) had an alcohol-related conviction, and 69 (2%) had both drug- and alcohol-related convictions. In addition, 1,438 sentences were due to a driving while impaired conviction (34%) and 179 sentences were a combination of drugs, alcohol, and driving while impaired convictions (4%). Figures 17 and 18 present charges by gender and race.



[Figure 17]
Number of jail sentences related to substance use by gender, 2012



[Figure 18]
Number of jail sentences related to substance use by race, 2012

Substance Abuse among Adjudicated Juveniles

Indicators:

- Number and percent of youth involved with the juvenile justice system who are in need of treatment.

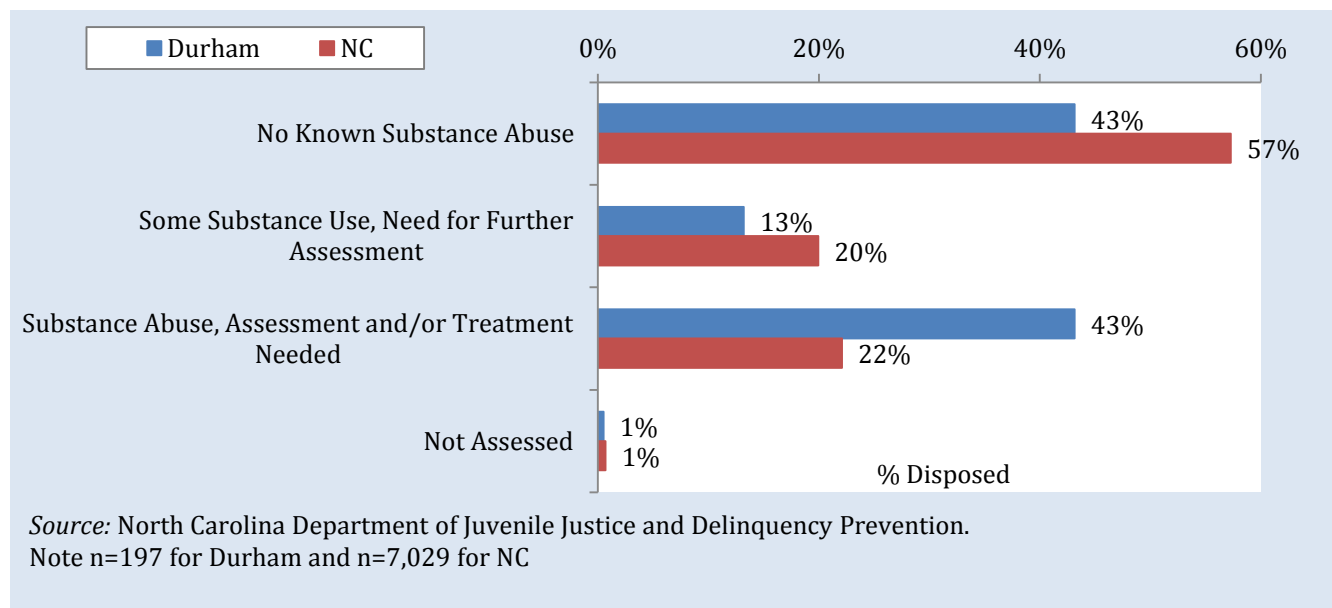
Relevance: According to national estimates, youth who are in residential custody are more likely than the general population to use alcohol or drugs. Among youth in custody, 74 percent tried alcohol (vs. 56 percent), 84 percent tried marijuana (vs. 30 percent) and 50 percent tried another illicit substance (vs. 27 percent) (30). Juveniles in custody not only have higher prevalence of having tried substances, but they also report high levels of use near the time of being placed into custody, with 59 percent saying that they were drunk or high on drugs at least several times a week in the months immediately before being taken into custody.

Juveniles who are in custody represent a special population because prior delinquency is associated with future delinquency and criminal behavior. Moreover, individuals who were involved in the juvenile justice system struggle during the transition to adulthood. These individuals are less likely to complete high school or college, have greater difficulty earning employment, and have greater residential instability (31, 32). One researcher estimates that the societal savings of preventing a 14-year-old, high-risk juvenile from a life of crime is between \$2.6 and \$5.3 million (33).

Data: Data were provided by the N.C. Department of Juvenile Justice and Delinquency Prevention (N.C.DJJD). The N.C. DJJD conducts a needs assessment with youth at their disposition. In 2012, the assessment rate for disposed youth was 99 percent in Durham and statewide, indicating that most youth were assessed. The assessment is designed to determine the types of services, supports, and supervision the youth will need in various settings (social, family, school, etc.). Included in this needs assessment are substance use problems.

Findings: In 2012, according to the N.C. DJJD, 43 percent of the 197 youth that were disposed in Durham were identified as abusing substances and/or in need of treatment or assessment relative to 22 percent of youth disposed statewide (see Figure 19). However, a lower percentage of youth in Durham were identified as needing further assessment for substance use services (13 percent in Durham vs. 20 percent in N.C.). Although it is difficult to determine why disposed youth in Durham have a higher need for substance use services than similar youth statewide, it is clear that nearly a half of these youth are in need of treatment.

While there have been slightly fewer youth disposed each year since 2008 both statewide and in Durham County, the overall percentage of disposed youth needing treatment services remained relatively constant.



[Figure 19]
Needs assessment of disposed youth in Durham County and N.C., 2012

Substance Abuse in Durham Public Schools

Indicator:

- Number and rate of reportable offenses for possession of an illicit substance or alcohol on school property.³

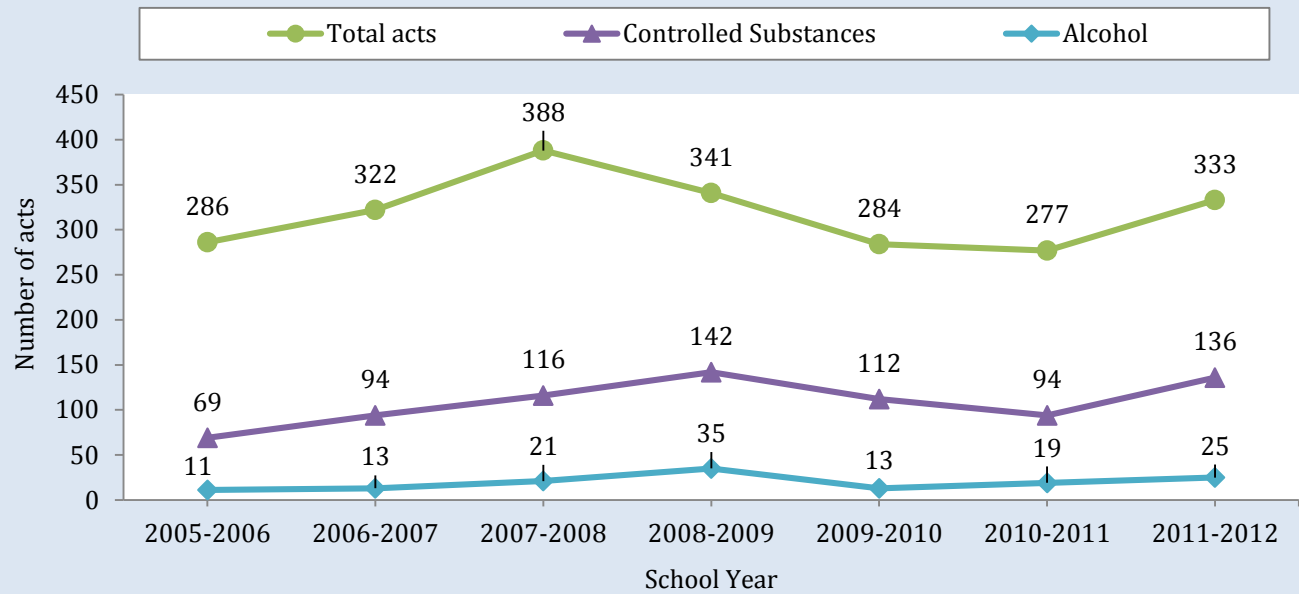
Relevance: Drug patterns may vary by school and by neighborhood. Drug epidemics can spread across schools and neighborhoods. School officials need to know which drugs to look for in their schools. School-generated information that tracks changes across schools can inform law enforcement and treatment planning.

Schools are required to report possession of alcohol and illicit substances on school property. Unfortunately, we cannot distinguish whether the incident involved a youth at the school or someone else on school property. Nonetheless, the reported offenses for illicit possessions provide a picture of where illicit substances are physically available.

Data: Since 1995, schools in N.C. have been required to report on 17 different offenses that occur on school property, including possession of alcohol and illicit substances. Data are available from the N.C. Department of Public Instruction (34).

Findings: Durham Public Schools reported that students' possession of a controlled substance made up 41 percent (136 incidents) and possession of alcohol made up 8 percent (25 incidents) of the 333 reportable incidents on school grounds in the 2011-2012 school year (34). Figure 20, shows the total number of acts committed on school grounds, and the number of these that were controlled substances- and alcohol-related in Durham County Public Schools since the 2005-2006 school year. Table 5 lists average rates of reportable offenses related to alcohol or illicit substances on Durham's middle or high school grounds. Not surprisingly, high schools have a higher rate of reportable offenses.

³ Three-year averages were used because the number of offense in any one year is typically small. A single event that generated several arrests may skew the data. Thus, three-year averages would be more stable. Schools that did not have three or four years of data are not included in the table.



Source: Authors' tabulations of data available from the NC Department of Public Instruction

[Figure 20]

Reportable offenses on school grounds in Durham Public Schools, total offenses and offenses related to alcohol and controlled substances between 2005-2006 and 2011-2012 School Year

[Table 5]

Reportable offenses on school grounds in Durham middle and high schools, average 2009-2010, 2010-2011, 2011-2012

		Average # of offenses for possession of:			Average rate of offenses per 1,000 students		
		Alcohol	Substance	Alcohol or Substance	Alcohol	Substance	Alcohol or Substance
Durham Public Schools	31969.7	19.0	114.0	133.0	0.6	3.6	4.2
Durham Middle Schools combined	6016.0	6.3	15.3	21.7	1.1	2.5	3.6
Durham High Schools combined*	9806.7	12.3	96.0	108.3	1.3	9.8	11.0

Source: Authors' tabulations of data available from the N.C. Department of Public Instruction.

*Includes one 6th-12th grade school.

Arrests on College Campuses

Indicators:

- Arrests for liquor law violations on college main campuses.
- Arrests for drug violations on college main campuses.

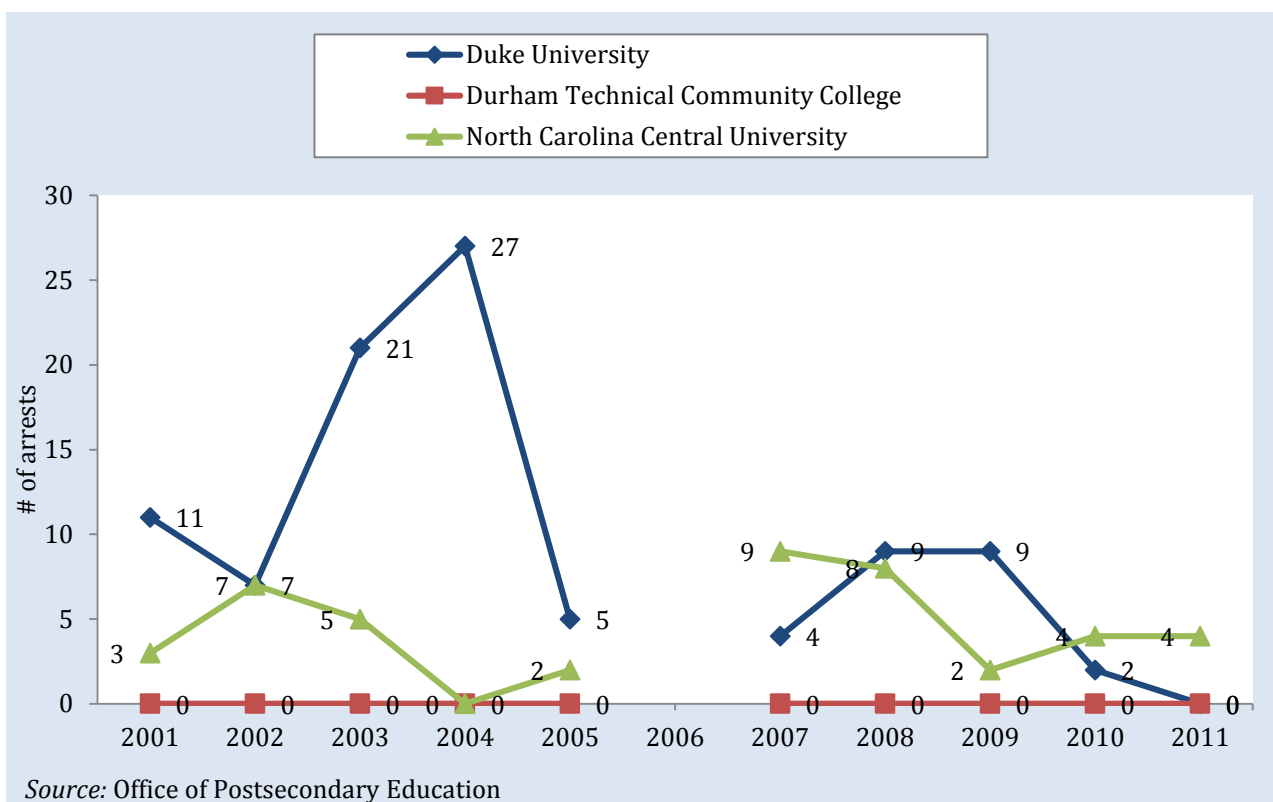
Relevance: Arrests on specific college campuses for liquor law and drug violations provides a sense of whether – and the extent to which – these events are occurring. When interpreting changes in arrest rates, it is important to note that arrests can vary based both on the prevalence of a particular crime as well as the resources devoted to policing a crime.

Data: The Office of Postsecondary Education (OPE) of the U.S. Department of Education provides information regarding arrests on college campuses through its Campus Security Data Analysis Cutting Tool. All postsecondary institutions that receive Title IV funding (the federal student aid programs) are required to annually submit crime statistics. Data come from the OPE Campus Security Statistics website database (35).

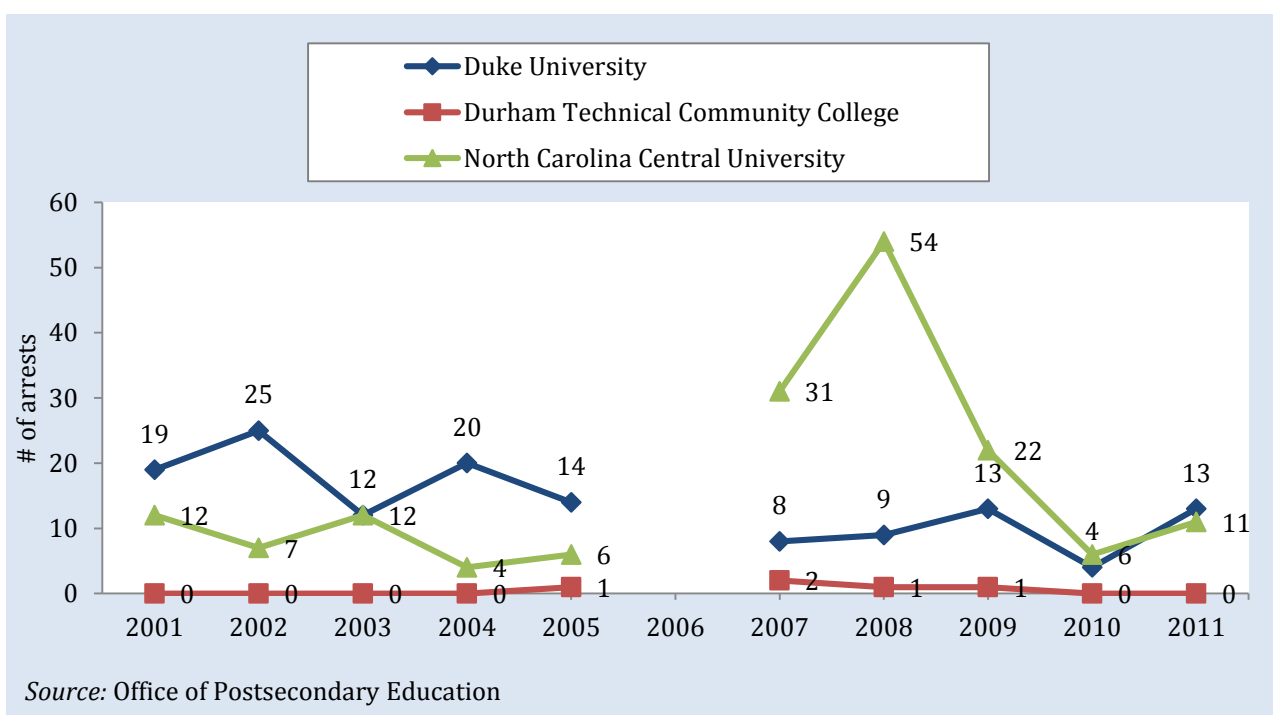
Findings: There are three main college campuses in Durham. Colleges and universities include:

- Duke University, a private institution that provides four-year degrees as well as advanced degrees that enrolled about 15,400 students in 2011.
- Durham Technical Community College awards two-year degrees to students and enrolled approximately 5,200 students in 2011.
- N.C. Central University, a historically Black university that enrolled about 8,300 students in 2011.

Figures 21 and 22 show the number of arrests for liquor law violations and drugs that occurred at these postsecondary institutions from 2001-2011 (no data are available for 2006). Duke University had a relatively large number of arrests (27) in 2004 for liquor law violations but none in 2011. The only reported arrests for liquor law or drug violations on the campus of Durham Technical Community college were one in 2005, two in 2007, and one in 2008 and 2009 each. While N.C. Central University appeared to have an increase in arrests for drugs in recent years with six arrests in 2005, 31 in 2007, and 54 in 2008, the number of arrests decreased to 22 in 2009, six in 2010, and 11 in 2011.



[Figure 21]
Arrests for liquor law violations on college campuses in Durham: 2001-2011



[Figure 22]
Arrests for drugs on college campuses in Durham: 2001-2011

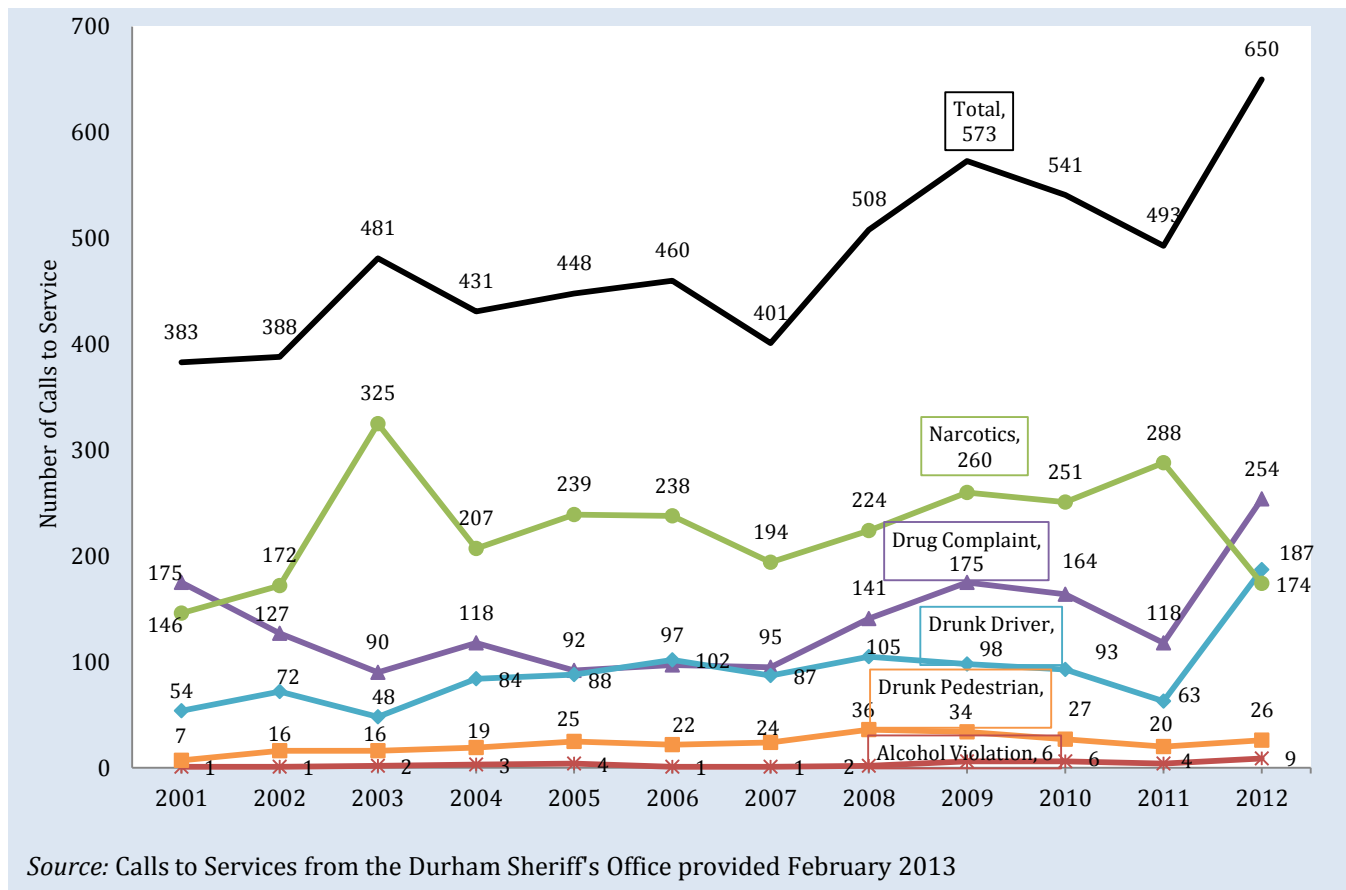
Substance-Related Calls to Service to the Durham Sheriff's Office

Indicators: Calls received by the Durham County Sheriff's Office for the following violations:

- Narcotics
- Drug Complaint
- Drunk Driver
- Drunk Pedestrian
- Alcohol Violation

Data: The Durham Sheriff's Office collects information on calls to service by various complaints. The data provide information on location and date. Currently this is one of the best sources of information on location and date of crimes related to substance use.

Findings: Figure 23 provides information on calls to service to the Durham County Sheriff's Office for potential violations related to controlled substances. From 2011 to 2012 there was approximately a 32 percent increase in the number of complaints related to controlled substances. Narcotics complaints were down 40 percent and drug complaints were up 115 percent during this time period.



[Figure 23]
Durham County Sheriff's Office Calls to Service for Various Violations Related to Substances, 2001-2012

Figure 24 examines the time and day of calls to service. Figures 25 and 26 examine this same data separately for drug- and alcohol-related offenses. Calls to service are highest from 3-6 pm on Wednesdays—which is largely attributable to drugs rather than alcohol. Calls to service for alcohol are high during late Friday and Saturday night and early Sunday mornings. Currently we cannot distinguish between officer-initiated and general public-initiated calls. A better indicator might be limiting the analysis to public-initiated calls, because this will not vary based on fluctuations in law enforcement resources.

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
12a.m.-2:59a.m.	125	42	38	45	80	85	129
3 a.m.-5:59a.m.	42	9	12	9	16	20	45
6a.m.-8:59a.m.	17	52	46	49	68	48	12
9a.m.-11:59a.m.	19	94	136	168	160	124	33
12p.m.-2:59p.m.	38	148	171	214	196	153	57
3p.m.-5:59p.m.	45	114	214	279	246	172	75
6p.m.-8:59p.m.	64	96	159	191	217	160	125
9p.m.-11:59p.m.	63	71	112	143	180	182	149
Legend							
	0-50						
	51-100						
	101-150						
	151-200						
	201-250						
	251-300						

[Figure 24]

Heat map of time and day for calls to service related to drugs and alcohol for all years, 2001-2012

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
12a.m.-2:59a.m.	42	17	21	29	48	58	59
3 a.m.-5:59a.m.	15	5	7	4	6	9	14
6a.m.-8:59a.m.	8	44	42	45	61	39	6
9a.m.-11:59a.m.	14	87	126	157	149	114	23
12p.m.-2:59p.m.	23	129	163	201	178	138	32
3p.m.-5:59p.m.	18	85	192	256	213	149	43
6p.m.-8:59p.m.	21	64	131	147	189	110	66
9p.m.-11:59p.m.	17	42	76	117	142	112	61
Legend							
	0-50						
	51-100						
	101-150						
	151-200						
	201-250						
	251-300						

[Figure 25]

Heat map of time and day for calls to service related to drugs for all years, 2001-2012

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
12a.m.-2:59a.m.	83	25	17	16	32	27	70
3 a.m.-5:59a.m.	27	4	5	5	10	11	31
6a.m.-8:59a.m.	9	8	4	4	7	9	6
9a.m.-11:59a.m.	5	7	10	11	11	10	10
12p.m.-2:59p.m.	15	19	8	13	18	15	25
3p.m.-5:59p.m.	27	29	22	23	33	23	32
6p.m.-8:59p.m.	43	32	28	44	28	50	59
9p.m.-11:59p.m.	46	29	36	26	38	70	88
Legend							
	0-15						
	16-30						
	31-45						
	46-60						
	61-75						
	76-90						

[Figure 26]

Heat map of time and day for calls to service related to alcohol for all years, 2001-2012

Next steps: The data provided by the Sheriff's office include information on the date and location of the call. These data could be analyzed to examine space and time trends. An analysis similar to the Durham Bulls Eye, which was designed to focus on areas with violent crime, could examine where drug crimes are most likely to occur.

Prescription Drugs

Prescription Drug Use in Durham County

Indicators:

- Number of prescription drug-related deaths.
- Prevalence of prescription drug use in Durham County Middle and High School students from the Youth Risk Behavior Survey (YRBS).

Relevance: Prescription drug abuse is a growing problem across the country, in part due to misperceptions about safety and increasing availability of medications (36). Use of prescription pain-relief drugs without a doctor's prescription is the second most common form of illicit drug use in the U.S. (37). Prescription drug abuse includes non-medical use, misuse, and abuse of medications (7). Approximately 20 percent of individuals aged 12 and older have misused or abused prescription drugs at least once in their lifetime (36). They are also the most commonly abused illicit drugs by high school seniors (36). The risks associated with abusing prescription drugs are addiction, withdrawal symptoms, adverse health effects, and overdose. Unintentional drug overdose deaths in the U.S. have become such a problem that the Centers for Disease Control and Prevention (CDC) has defined prescription drug overdoses as an epidemic (38). In fact, since

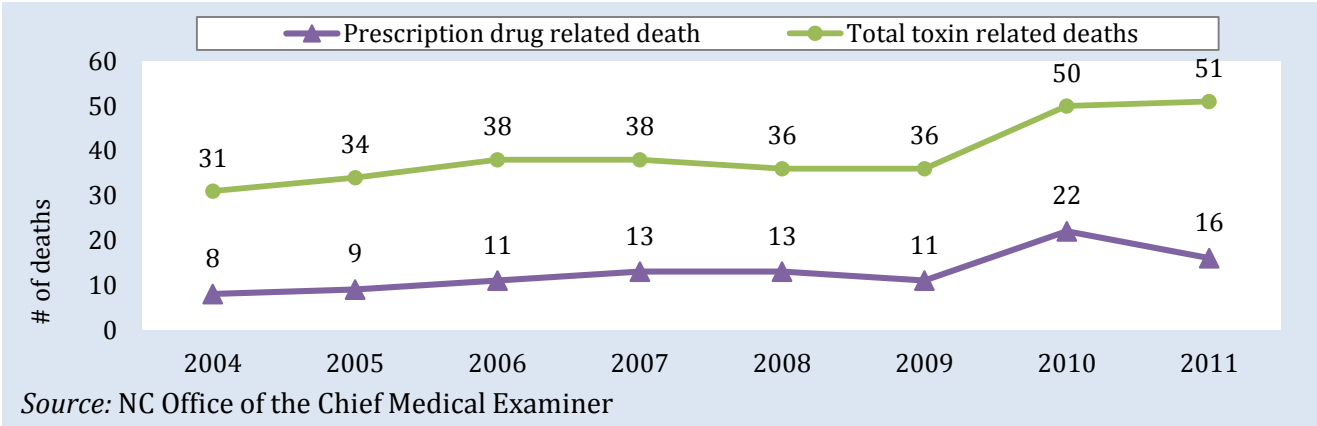
1999, unintentional overdose deaths involving opioid pain relievers have outnumbered deaths involving heroin and cocaine (39).

Data: Data about deaths were provided by the N.C. Office of the Chief Medical Examiner. Individuals include Durham County residents; however, the death may have occurred in another county. See below for a list of prescription drugs listed by NCOME.⁴

Data about youth use of prescription drugs come from the Youth Risk Behavior Survey (YRBS). The YRBS was developed by the CDC to monitor health-risk behaviors as well as various conditions such as obesity and asthma. This survey is conducted at the national, state, and local levels. Since 2007, Durham has conducted the YRBS with middle and high school students. The 2009 and 2011 data were provided by the Durham County Public Health Department, including all statistical significance tests results (40, 41). Differences between 2011 and 2009 percentages were considered statistically significant at a 95 percent confidence interval. Differences between 2007-2011 high school data were not analyzed because the 2007 sample included mostly ninth grade students.

Findings:

Figure 27 presents the total number of deaths related to prescription drugs. In 2011 there were 16 deaths related to prescription drugs. Of these, 25 percent of deaths related to prescription drugs were female, 75 percent were male. In 2011 deaths by race/ethnicity were: 48 percent were white, 40 percent black, 10 percent Hispanic, <2 percent Asian, Native American, and Unknown combined.



[Figure 27]
Number of deaths related to prescription drugs, Durham County, 2004-2011

⁴ The following drugs were coded as prescription drugs: Acetaminophen, Alprazolam, Amitriptyline, Amlodipine, Buprenorphine, Bupropion, Carisoprodol, Chlordiazepoxide, Citalopram, Clonazepam, Codeine, Cyclobenzaprine, Diazepam, Diltiazem, Diphenhydramine, Fentanyl, Gabapentin, Hydrocodone, Memantine, Methadone, Metoprolol, Morphine, Oxycodone, Oxymorphone, Paroxetine, Pentobarbital, Phenobarbital, Promethazine, Propoxyphene, Propranolol, Quetiapine, Sertraline, Temazepam, Tramadol, Trazodone, Venlafaxine, Zolpidem.

Table 6 provides information on prescription drug use among middle school and high school students. Five percent of middle schools and 22 percent of high school students have ever taken prescription drugs without a doctor's prescription.

[Table 6]

Prevalence of prescription drug use among Durham middle and high school students in 2007, 2009 and 2011

Have you ever taken a prescription drug such as OxyContin, Percocet, Demerol, Adderall, Ritalin, or Xanax without a doctor's prescription?	2007 (% yes)	2009 (% yes)	2011 (% yes)	Sig difference between 2009 & 2011
Middle School	3.9	3.3	5.3	no significant difference
High School	12.7	17.1	21.7	no significant difference
<i>Source: Durham Youth Risk Behavior Survey</i>				

Alcohol

Prevalence of Binge and Heavy Drinking among Adults

Indicators:

- Number and percent of individuals who have participated in binge drinking in the past 30 days.
- Number and percent of individuals who report heavy drinking.

Relevance: Alcohol abuse is associated with binge drinking (adults having five or more drinks on one occasion), heavy drinking (averaging more than one drink per day for women or two drinks per day for men), and underage drinking. In addition, alcohol consumption during pregnancy has been shown to have serious consequences for young children.

Data: Survey research on alcohol consumption in Durham County comes from the Behavioral Risk Factor Surveillance System (BRFSS) published by the CDC and available from the N.C. State Center for Health Statistics (42). Data should be interpreted with caution as the number of respondents to the BRFSS Alcohol questions is small, and some answers had less than 50 respondents answer yes. Findings from the 2011 BRFSS are not comparable to results from previous years due to changes in the weighting methodology and the question wording. Therefore, the results for 2011 are presented separately from the figures that track change over time.

See http://www.cdc.gov/brfss/annual_data/annual_2011.htm for more detailed information about these changes.

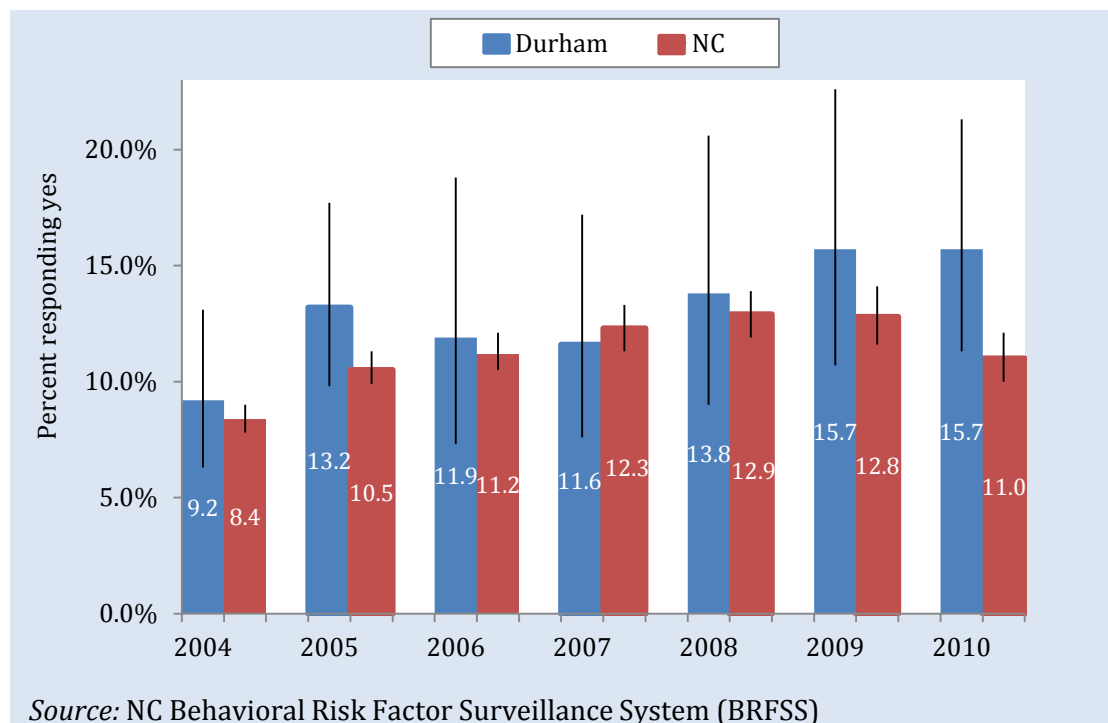
Findings: Using binge drinking and heavy drinking as measures to assess potentially unhealthy behaviors, there are few differences between Durham residents and the rest of the state (see Figures 28 and 29). Binge drinking among Durham residents was similar to that of the rest of the state (15.7% vs. 11.0%). According to the 2010 BRFSS, in Durham County 22.3 percent of males and 9.5 percent of females reported binge drinking. A smaller percentage reported heavy drinking (4.4% of males and 3.8% of females) (42). The overall rate of binge drinking did not differ by race (White vs. minorities) (see Table 7). Among Durham residents, heavy drinking does not differ by gender or race (42).

[Table 7]

Alcohol consumption among Durham County and NC adults, 2010

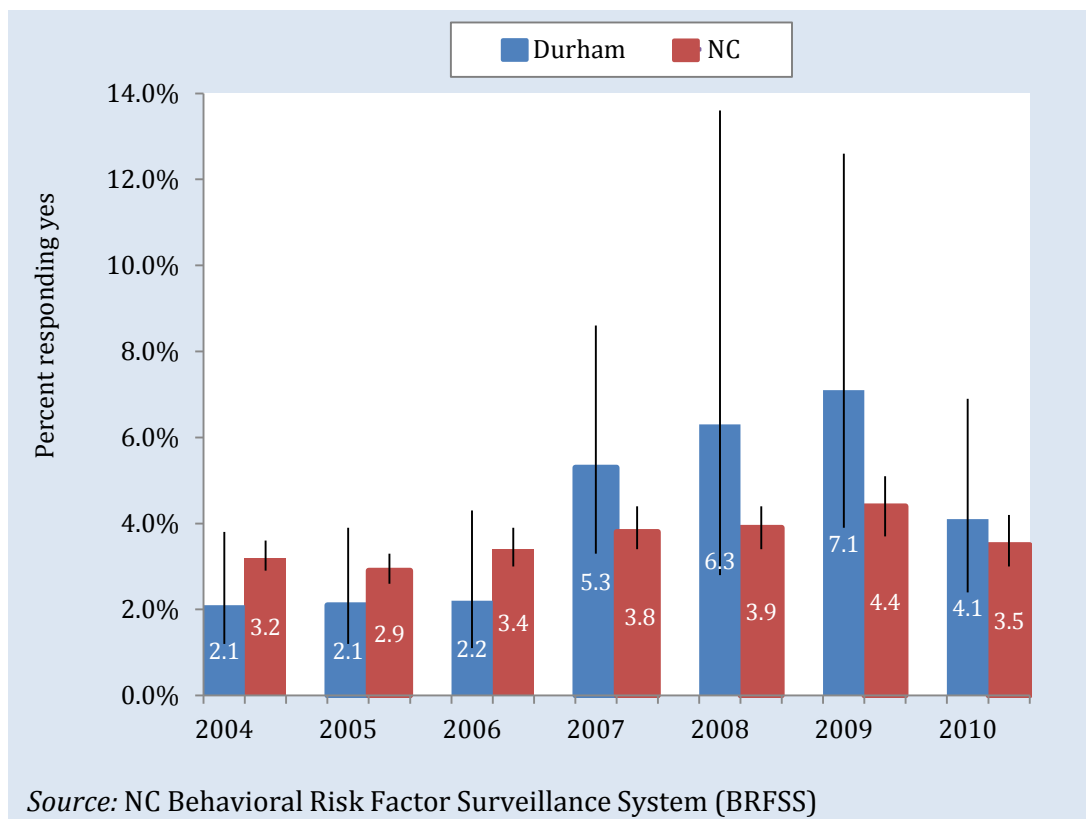
	Durham				N.C.	
	n	Mean (%)	CI (95%)		Mean (%)	CI (95%)
Binge Drinking in last 30 days (5 or more drinks)						
Yes	502	15.5	10.0-23.1		15.2	14.1-16.5
Heavy drinkers (adult men having more than two drinks per day and adult women having more than one drink per day)						
Yes	502	4.5	2.7- 7.7		5.6	4.9- 6.5

Source: NC Behavioral Risk Factor Surveillance System (BRFSS).



[Figure 28]

Durham County and N.C. respondents who reported they had five or more drinks on one or more occasions in the past month (binge drinking), 2004-2010



[Figure 29]

Durham County and N.C. adult men having more than two drinks per day and adult women having more than one drink per day (heavy drinking), 2004 -2010

Drinking and Driving in Durham

Indicators:

- Percent of motor vehicle accidents involving alcohol.
- Number and percent of fatal crashes involving alcohol.
- Percent of non-fatal motor vehicle accidents involving alcohol.
- Rate of impaired driving convictions.
- Rate of arrests for DUI by State Bureau of Investigation.
- Percent of Durham residents self-reporting driving after having consumed too much alcohol.

Relevance: Drinking and driving is a burden to society. The annual cost of alcohol-related crashes is more than \$51 billion dollars in the U.S. (43). In addition, according to a review of the literature by the National Highway Traffic Safety Administration, across the U.S. in 2011 (44):

- 7 percent of all traffic crashes were alcohol related.
- 31 percent of fatal crashes were alcohol related.
- There is one alcohol-impaired driving fatality every 53 minutes.

- 16 percent of children aged 0-14 years who died in a motor vehicle accident died in alcohol-related crashes.
- 50 percent of the children killed in alcohol-related deaths were passengers in vehicles with drivers who had been drinking.
- 32 percent of deaths in drivers aged 21-24 years old had a blood alcohol content (BAC) of .08 or higher.
- Drivers with a BAC of .08 or higher involved in fatal crashes were seven times more likely to have a prior conviction for driving while impaired (DWI) than were drivers with no alcohol.

In 2010:

- Alcohol involvement — either for the driver or for the pedestrian — was reported in 47 percent of the traffic crashes that resulted in pedestrian fatalities. In 33 percent of pedestrian deaths, the pedestrian had a .08 BAC or higher.
- In 48 percent of pedestrian deaths among individuals aged 21-24 years, the pedestrian had a .08 BAC or higher.

In 2011 in N.C. (45):

- Nearly a third of all fatal crashes occurring in N.C. involved alcohol.
- A reportable crash was 1.7 times more likely to be serious enough to cause injury if alcohol was involved.
- Crashes involving injury were six times more likely to include a fatality if alcohol was involved.
- While one of every 20 crashes involved alcohol, one of every three fatal crashes and one of every 12 non-fatal injury crashes involved alcohol.

Data: The data come from the N.C. Alcohol Facts website(46). This website includes information on impaired driving cases from the N.C. Administrative Office of the Courts (AOC) and motor vehicle crashes from the N.C. Division of Motor Vehicles for the years 2000-2011. Arrests for driving under the influence are collected by the State Bureau of Investigation (SBI). The Federal Bureau of Investigation coordinates a national effort to collect arrest data in a consistent format from all law enforcement agencies across the country. Beginning in 1973, law enforcement agencies across N.C. have voluntarily submitted information to the SBI on specific crimes committed in their area of jurisdiction on arrests by age, gender, and race of the perpetrator. For Durham, the Durham Police Department, County Sheriff's Office, Eno River State Park, N.C. Central University, and Duke University each report arrests. Self-report data on drinking and driving come from the BRFSS.

Findings: While drinking and driving is a problem in most communities, Durham is in line with N.C. averages. In 2011 in Durham County, 3.9 percent of all reported crashes were related to alcohol, compared to 5.1 percent in N.C. (45). There has been a slight decrease compared to the rise seen in 2008 (3.7%, 3.8%, and 3.9% for years 2009-2011 compared to 4.3 in 2008). A small number of these crashes resulted in fatalities.

The number of fatal crashes in Durham County has not changed much since 2004; however, the percent of fatal crashes related to alcohol has increased since 2004 (see Table 8). Exceptions include 2010, which had a larger number of crashes, and 2009, which had a small percentage of fatal crashes which were related to alcohol.

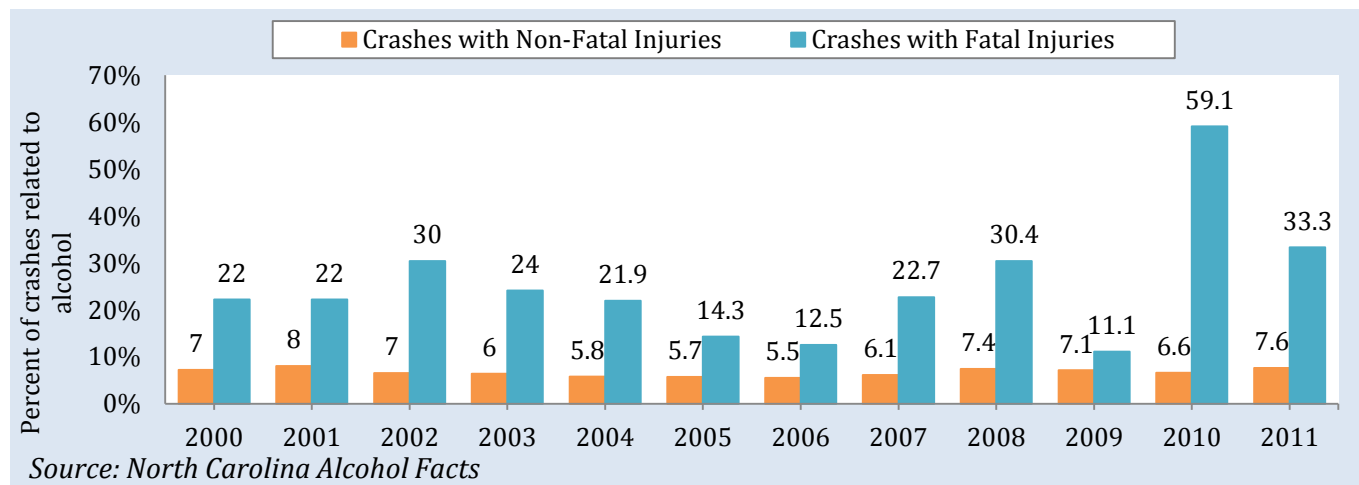
[Table 8]

Total crashes and fatal crashes in Durham County related to alcohol, 2004-2011

	2004	2005	2006	2007	2008	2009	2010	2011
Total Crashes	8,510	8,366	7,650	7,654	7,459	7,424	7,234	7,725
Total Crashes related to alcohol	283	300	287	261	318	276	276	304
Fatal Crashes	31	21	22	21	23	16	21	12
Fatal Crashes related to alcohol	7	3	3	5	7	2	12	4
% of total crashes related to alcohol	3.3%	3.6%	3.8%	3.4%	4.3%	3.7%	3.8%	3.9%
% of fatal crashes related to alcohol	22.6%	14.3%	13.6%	23.8%	30.4%	12.5%	57.1%	33.3%

Source: N.C. Alcohol Facts

Of all the crashes that resulted in injuries in Durham County, alcohol played a major role. According to the N.C. Division of Motor Vehicles, 33.3 percent of these fatal accidents involved alcohol in 2011, which is similar to N.C. (32.6%) (45). Approximately 242 injuries in Durham County in 2011 were related to traffic accidents involving alcohol. Looking at Figure 30, since 2000, of all reported crashes with fatal injuries, a higher percentage of these crashes were related to alcohol compared to the percentage of crashes with non-fatal injuries that were related to alcohol. For example, in 2011, 33.3 percent of crashes that resulted in a fatal injury were related to alcohol, while only 7.6 percent of crashes with a non-fatal injury were related to alcohol.



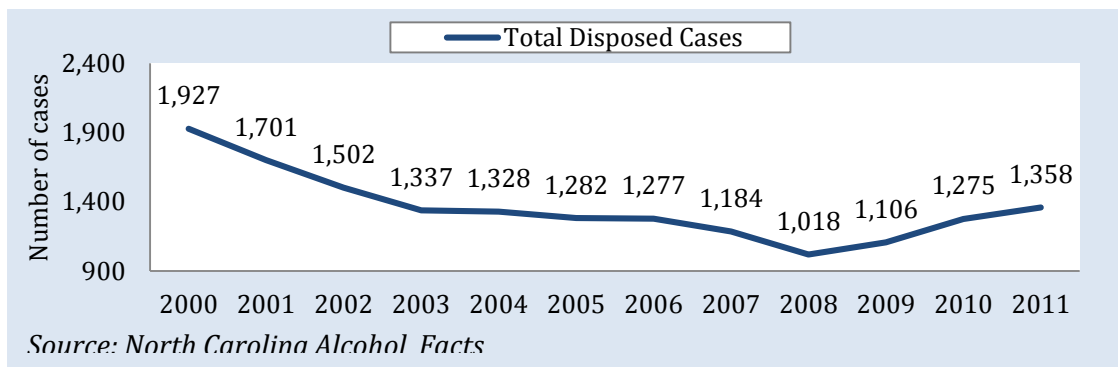
[Figure 30]

Percent of crashes with non-fatal and fatal injuries that were related to alcohol in Durham County, 2000-2011

In N.C., drinking-driving charges fall into five categories in the judicial system:

- Misdemeanor Aid and Abet Impaired Driving.
- Misdemeanor Drive after Consuming.
- Misdemeanor Driving While Impaired.
- Misdemeanor DWI Commercial Vehicle.
- Felony Habitual Impaired Driving.

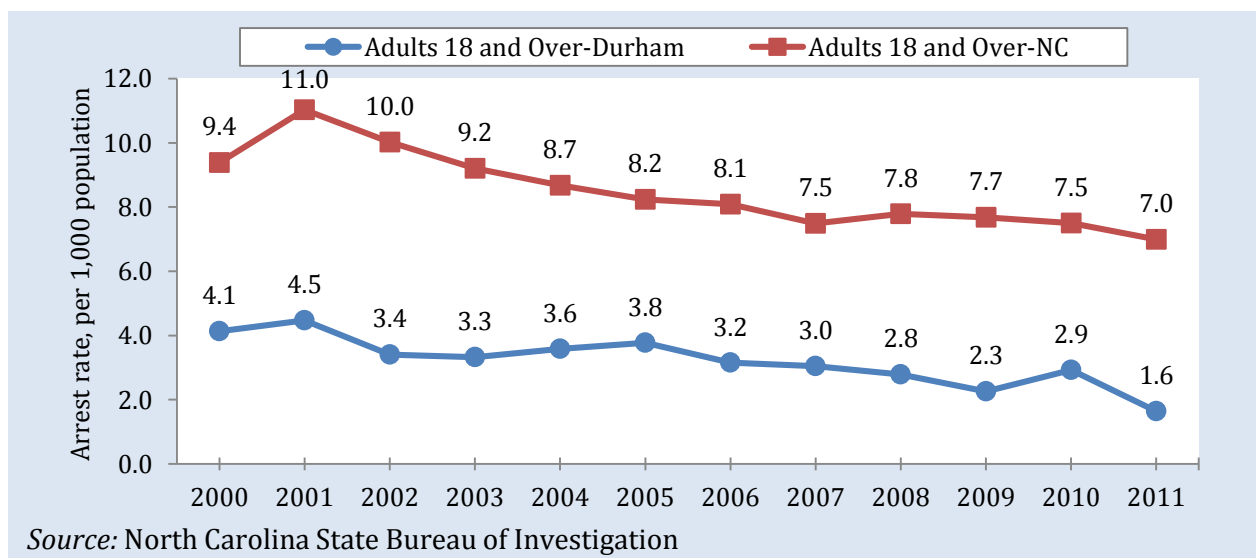
Each impaired driving charge is a cost to the judicial system in Durham County. Since 2000, the number of disposed impaired cases has declined, although the number has been rising slightly since 2008 (see Figure 31).



[Figure 31]

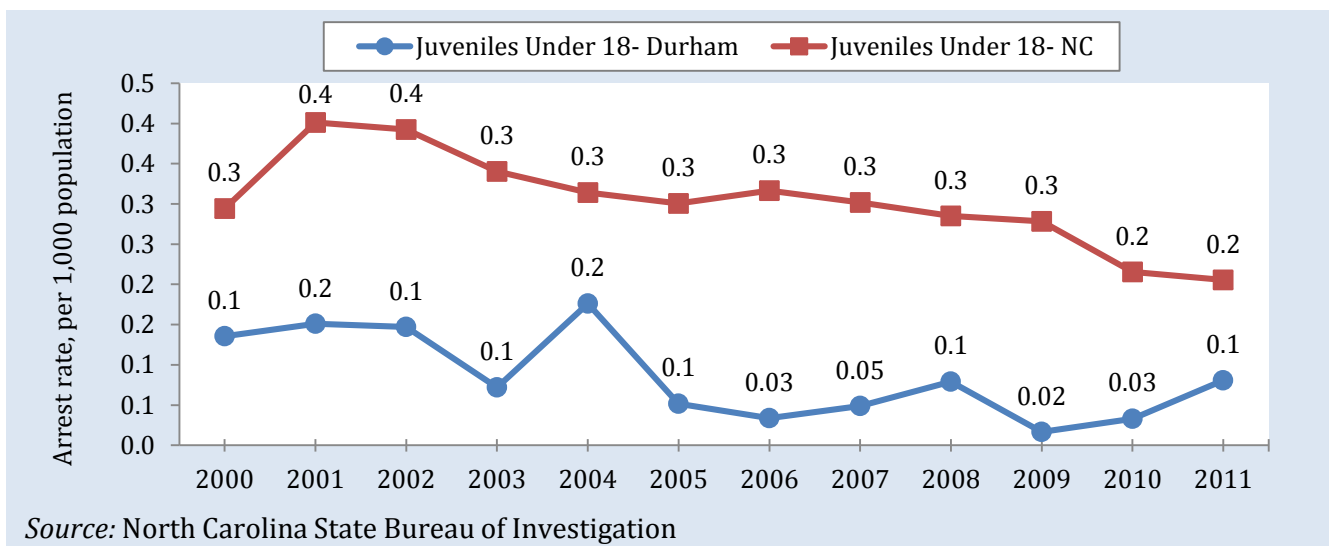
Disposed impaired driving cases in Durham County, 2000-2011

Arrest rates for driving under the influence have also been on the decline since 2000 – both for adults and juveniles in Durham County as well as N.C. (24). For both adults and juveniles, arrest rates are lower in Durham County compared to N.C.. Rates for juveniles are much lower. See Figures 32 and 33 for arrest rates in adults and juveniles in both Durham County and N.C..



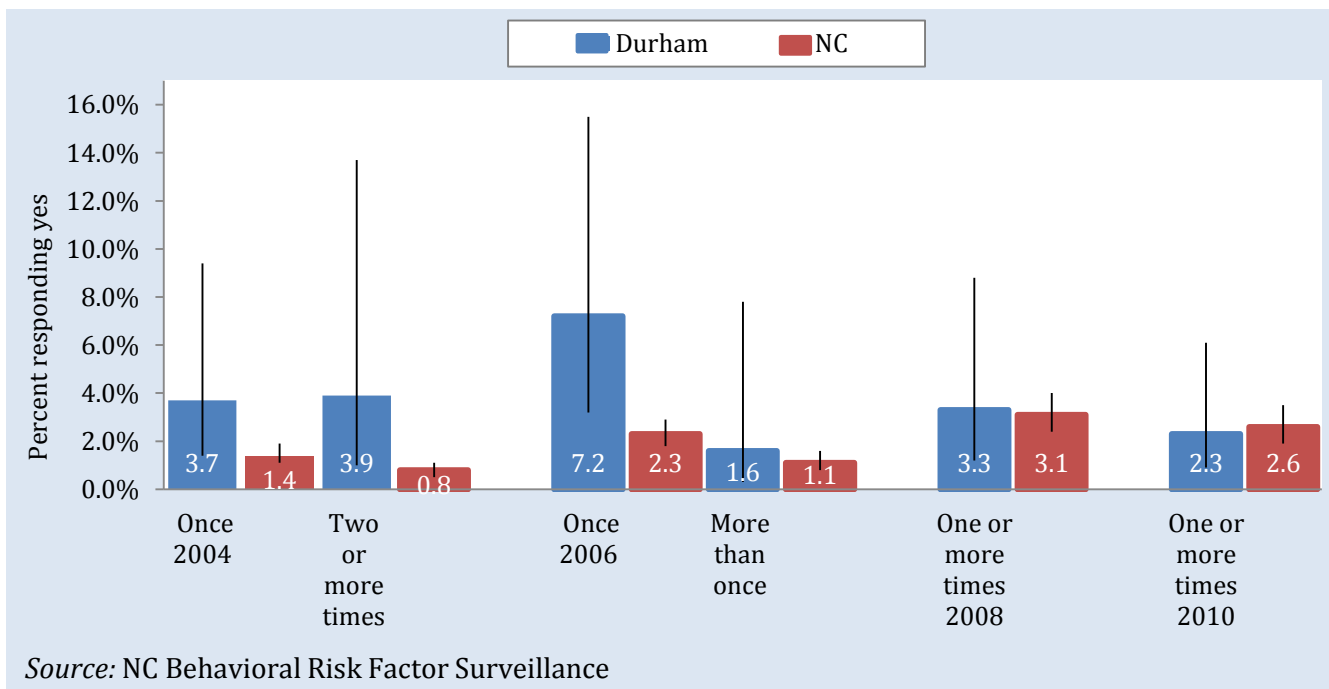
[Figure 32]

DUI arrest rates in adults in Durham County and N.C., 2000-2011



[Figure 33]
DUI arrest rates in juveniles in Durham County and N.C., 2000-2011

Based upon statistics regarding alcohol-related crashes and injuries, the number of court cases for drinking and driving, and the number of arrests for drinking and driving, Durham seems to be in line with, or performing slightly better than, the state of North Carolina. However, it is interesting to note that while the number of disposed cases and DUI arrests has been on the decline, the percent of fatal crashes related to alcohol has seen a slight increase. In 2010, self-reported drinking and driving in Durham residents was similar to N.C. respondents (see Figure 34 for self-reported drinking and driving).



[Figure 34]
Percent population who reported driving after drinking too much in Durham and N.C., 2004-2010

Smoking

Prevalence of smoking among adults and long-term health consequences

Indicators:

- Number of adults (individuals age>18) who smoke
- Percent of pregnant women who smoke
- Rate of lung and bronchial cancer deaths (long-term indicator)

Relevance: Smoking is the leading cause of preventable death. According to the CDC, “more deaths are caused each year by tobacco use than by all deaths from human immunodeficiency virus (HIV), illegal drug use, alcohol use, motor vehicle injuries, suicides, and murders combined” (47). Across the nation, approximately 20 percent of deaths each year are attributable to smoking or secondhand smoke (47, 48).

The following is a partial list of the negative consequences of tobacco use:

- **Cancer:** Cancer is a leading cause of death in the U.S., N.C., and Durham.
 - Lung cancer is the most common form of cancer in both males and females. Smoking is an attributing factor in the majority of lung cancer deaths (90 percent for males and 80 percent for females).
 - Smoking increases the risk of a variety of cancers, including cancer of the oral cavity, pharynx, larynx, esophagus, lung, bladder, stomach, cervix, kidney, and pancreas, as well as myeloid leukemia.
- **Coronary Heart Disease and Stroke:** Coronary heart disease is the leading cause of death and stroke, and it is the third leading cause of death in the U.S.
- **Other Health Effects**
 - Smoking leads to reproductive health problems:
 - Reduces women’s fertility.
 - Leads to complications in pregnancy, premature birth, low-birth-weight infants, still birth, and infant death.
 - Decreases the immune system’s ability to fight infections leading to:
 - More missed work.
 - Higher rates of medical care use.
 - More admissions to the hospital.

Data: Survey research on smoking behavior in Durham County comes from the Behavioral Risk Factor Surveillance System (BRFSS) published by the CDC and available from the N.C. State Center for Health Statistics. Data on a mother’s smoking during pregnancy come from the N.C. Vital Statistics, Volume 1: Population, Births, Deaths, Marriages, Divorces and is accessed from the N.C.

State Center for Health Statistics. These data are collected from birth certificates of all babies born who are residents of Durham County. Additional information on mother's smoking status comes from the Basic Automated Birth Yearbook (BABY Book), various maternal and infant variables such as age, race, birth order, birth weight, and number of prenatal visits, as well as medical conditions of the mother, the labor/delivery, and the newborn.

Findings from the 2011 BRFSS are not comparable to results from previous years due to changes in the weighting methodology and the question wording. Therefore, the results for 2011 are presented separately from the figures that track change over time.

See http://www.cdc.gov/brfss/annual_data/annual_2011.htm for more detailed information about these changes.

Findings:

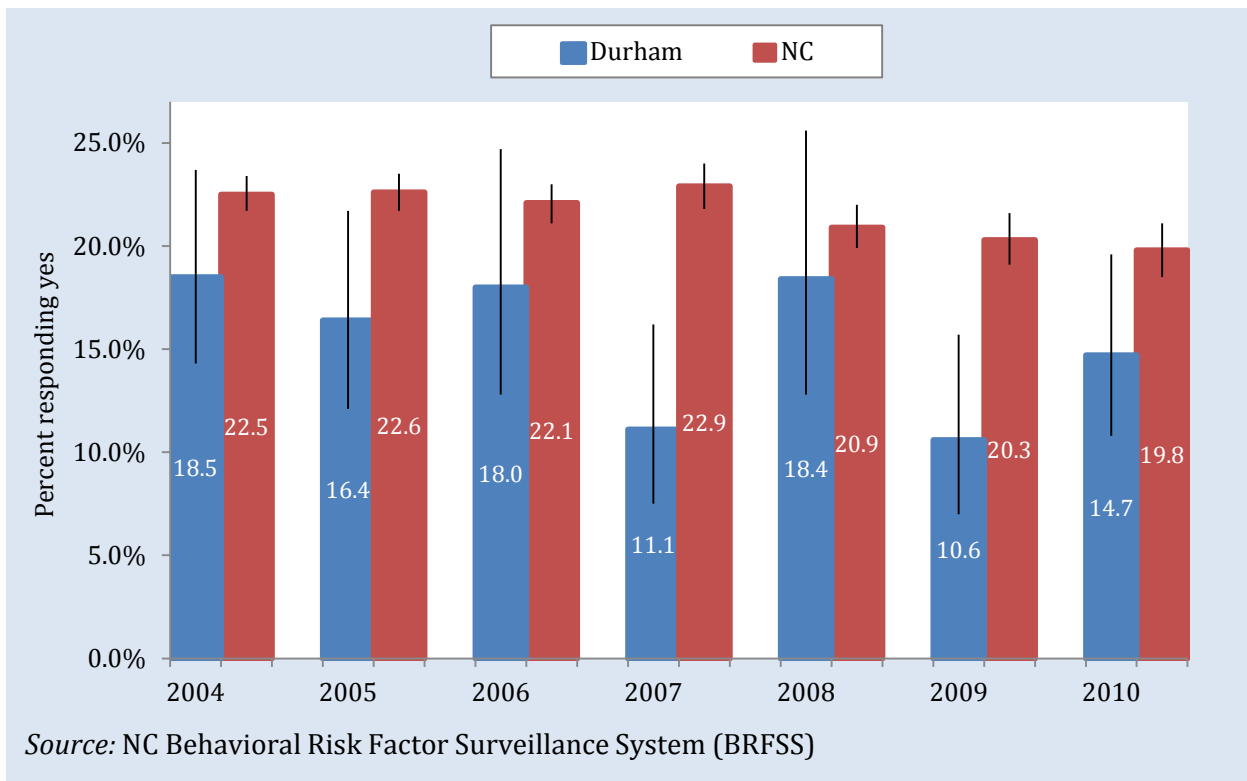
Smoking in Adults

According to data from the BRFSS, approximately 12.4 percent of Durham residents over the age of 18 were current smokers in 2010 (see Table 9) (42). In 2011, 8.9 percent of respondents reported smoking every day (see Table 9). Figures 35 and 36 show these data from 2004 to 2010. For smoking rates in males and females see Figure 37, for smoking rates in minorities and whites see Figure 38.

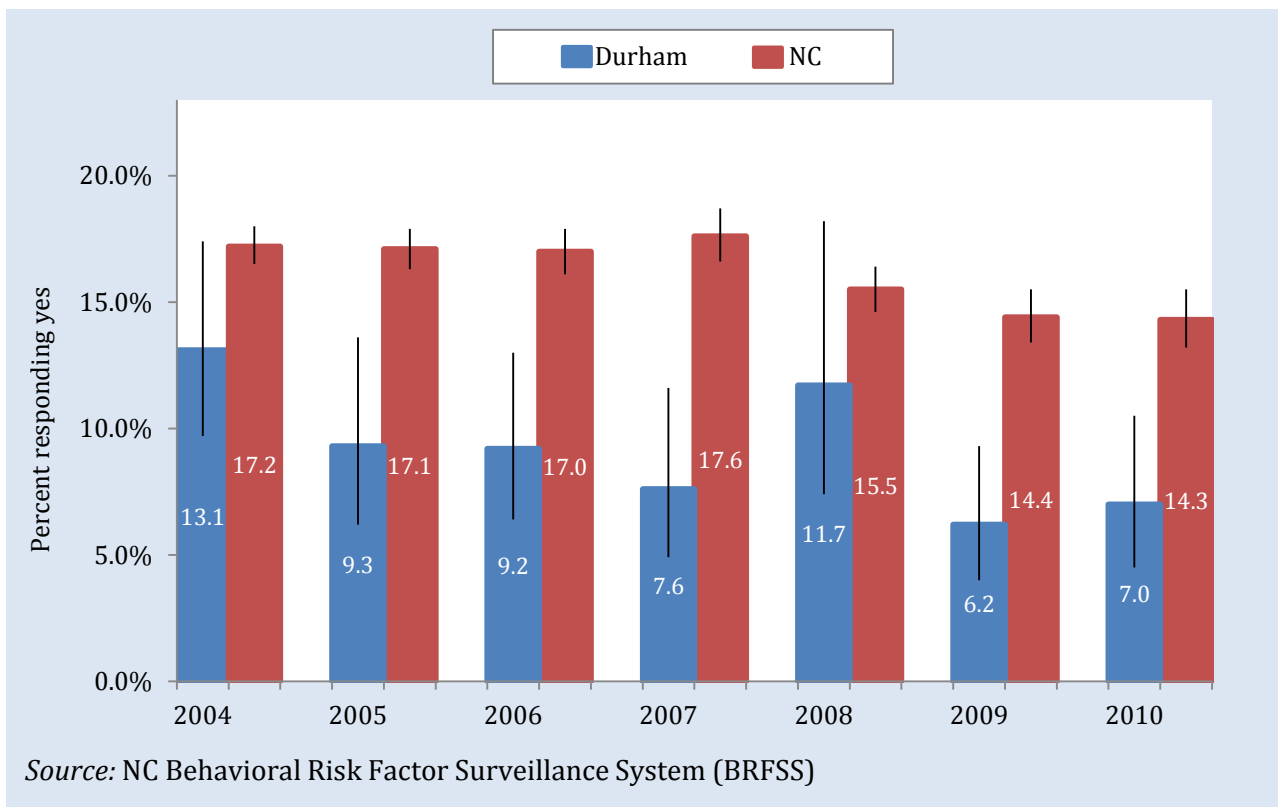
[Table 9]

Smoking status of adults in Durham and N.C., 2011

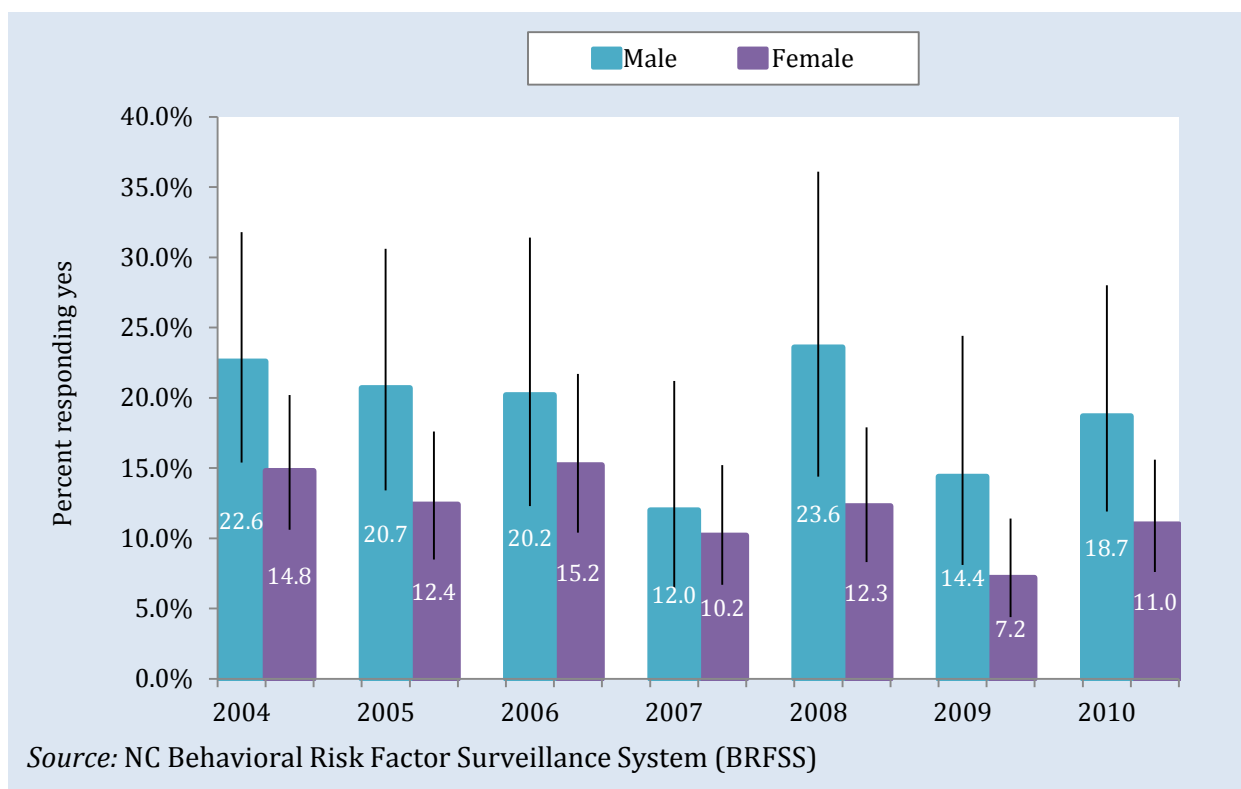
	Durham		N.C.	
	Mean	Confidence Interval	Mean	Confidence Interval
Adults who are current smokers (%)	12.4	8.1-18.6	21.8	20.5-23.1
Four levels of smoking status (%)				
Smoke every day	8.9	5.2-14.9	15.6	14.5-16.8
Smoke some days	3.5	1.9- 6.5	6.1	5.4- 7.0
Former smoker	19.3	14.2-25.7	24.8	23.6-26.0
Never smoked	68.3	60.4-75.2	53.4	51.9-54.9
<i>Source:</i> N.C. Behavioral Risk Factor Surveillance System (BRFSS)				



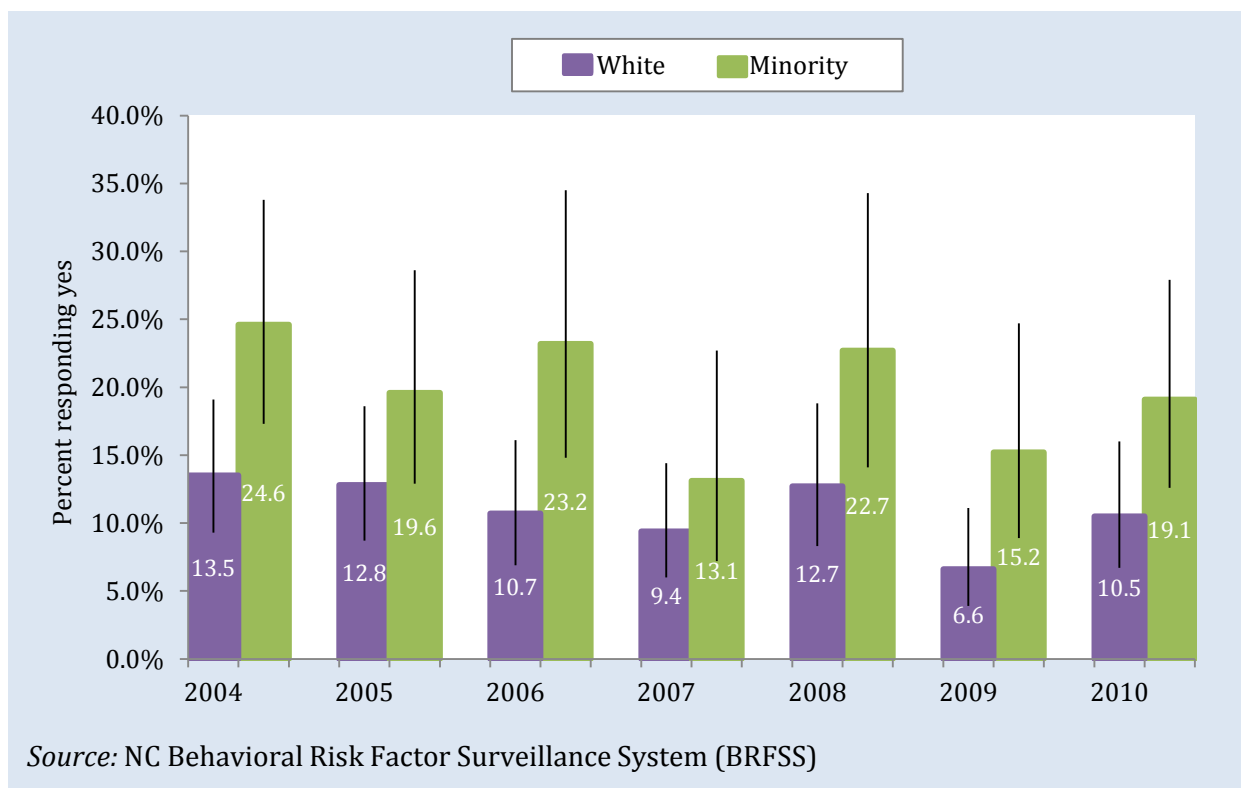
[Figure 35]
Percentage of adults reporting they are current smokers in Durham and N.C., 2004 - 2010



[Figure 36]
Percentage of adults reporting smoking every day in Durham and N.C., 2004 - 2010



[Figure 37]
Percent of Durham County adults who report currently smoking, male vs. female, 2004 - 2010



[Figure 38]
Percent of adults in Durham who report currently smoking, White vs. Minority, 2004 - 2010

Smoking Related Deaths

According to data from the 2013 County Health Data Book, cancer was the leading cause of death for Durham residents between 2007 and 2011 (49). The leading type of cancer was lung cancer (trachea, bronchus, and lung) (see Table 10). The next leading type of cancer was breast cancer in females and prostate cancer in males (breast cancer rate=25.7; prostate cancer rate=31.6). However, lung cancer rates were still 1.9 and 1.5 times higher than breast and prostate cancer rates during 2007 and 2011. The only group in which lung cancer was not the leading cause of death was for African-Americans, non-Hispanic (prostate cancer rate=56.0; lung cancer rate=54.4). From 2007-2011, the Durham County and state death rates for cancers of the trachea, bronchus, and lung were similar (Durham – 49.2 vs. N.C. – 54.5) (49).

[Table 10]

Cancer death rates in Durham County, 2007-2011 average

	White, non-Hispanic rate	African American, non-Hispanic rate	Hispanic rate	Male rate	Female rate	Overall rate
All cancer	173.9	216.7	55.3	236.8	150.4	184.5
Trachea, bronchus, and lung	47.7	54.4	N/A	66.2	37.2	49.2
<i>Source: 2013 County Health Data Book: 2007-2011 N.C. Resident Race/Ethnicity-Specific and Sex-Specific Age-Adjusted Death Rates</i>						

Smoking in Pregnant Women

Whether the mother smoked during pregnancy is recorded on the newborn's birth certificate and is available from Vital Records from the N.C. State Center for Health Statistics. In 2010 N.C. revised the birth records, making tobacco use not comparable with prior years (50).

In 2011, the N.C. State Center for Health Statistics began reporting more categories of races and ethnicities; Table 11 has data from 2011. In 2011, 5.6 percent of pregnant women in Durham smoked. This compares with 10.9 percent of pregnant women across the state.

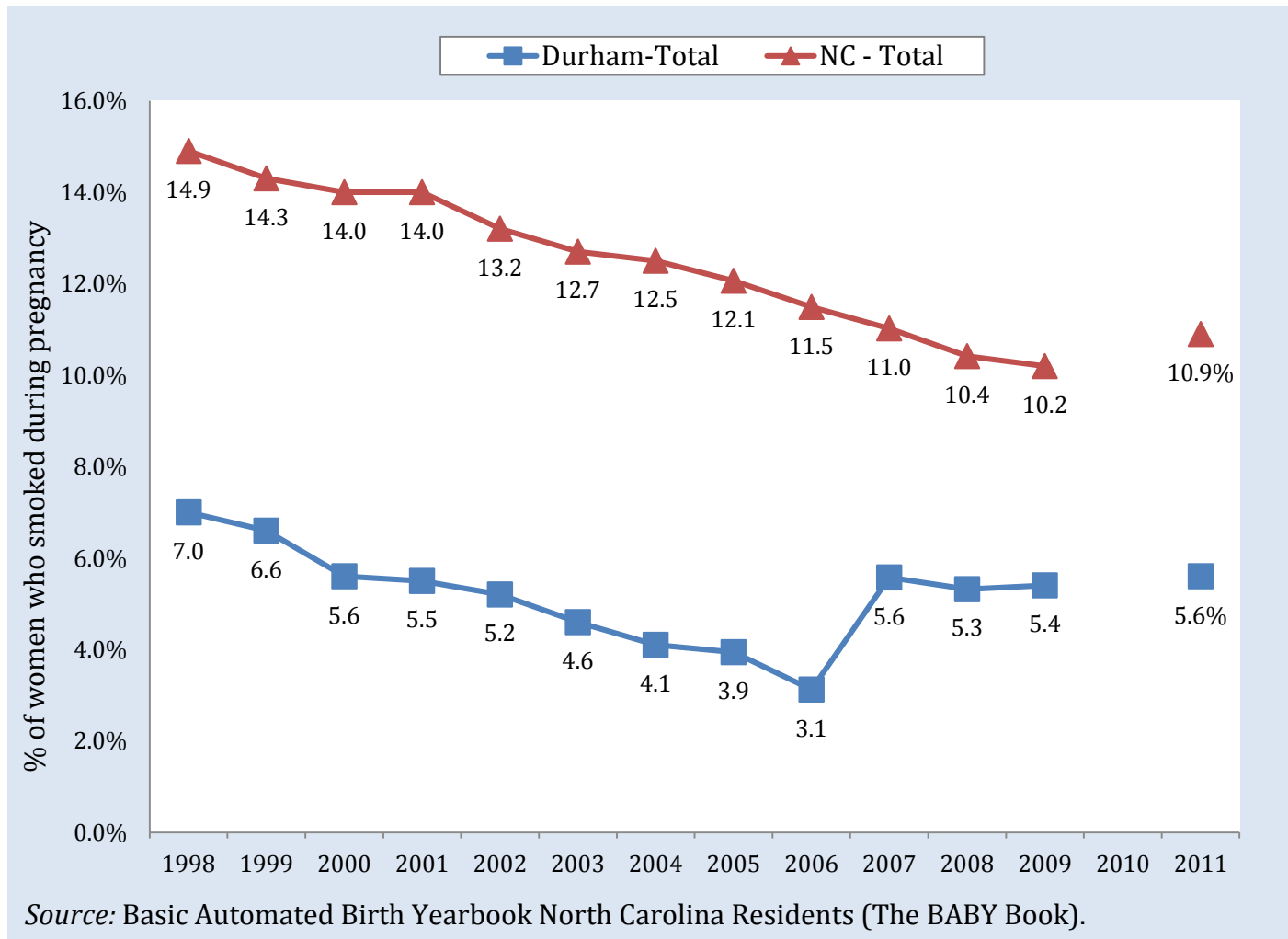
[Table 11]

Percent of mothers who smoked during pregnancy in Durham and N.C., 2011

	2011
Durham-Total	5.6%
Durham-White, non-Hispanic	4.3%
Durham-African-American, non-Hispanic	10.7%
Durham-Other, non-Hispanic	1.7%
Durham-Hispanic	1.3%
N.C.-Total	10.9%
N.C.-White, non-Hispanic	14.0%
N.C.-African-American, non-Hispanic	10.3%
N.C.-Other, non-Hispanic	7.5%
N.C.-Hispanic	1.7%
<i>Source: 2011 Basic Automated Birth Yearbook N.C. Residents (The BABY Book).</i>	

Figure 39 shows the percent of pregnant women who reportedly smoked during pregnancy from 1998 to 2011 (51). Due to N.C. adapting the 2003 revision of the U.S. Standard Certificate of Live Birth in August of 2010, data on tobacco use were not reported in 2010.

Over time, there has been a decline in the percentage of pregnant women smoking in both Durham and the state. However, the number of Durham County's pregnant women who smoke has increased since 2006. This increase is in part driven by the increase in smoking rates of pregnant minority women in Durham County. In fact, in Durham County, minority women are more likely than white women to have reportedly smoked during pregnancy. This is different when compared to the state data (see reference (3) for more information on this trend between 1998 and 2009).



[Figure 39]
Percent of mothers who smoked during pregnancy in Durham and N.C., 1998-2011

Quitting Smoking

When an individual stops smoking, he or she will experience immediate benefits such as reduced risks of stroke, coronary heart disease, and many cancers (52). When pregnant women quit by the first trimester of pregnancy, the chance of having a low-birth-weight baby is the same as for nonsmokers.

Resources for Quitting

QuitNow NC! is a statewide tobacco use cessation partnership that provides resources to help North Carolinians quit tobacco. They refer individuals to QuitlineNC, a statewide support service to help any N.C. resident quit tobacco use. Services are available for free by telephone and on the web. The QuitlineNC website (<http://quitlinenc.org/home>) provides not only coaching for users who want to quit, but also information for health care providers and individuals looking to support tobacco users who are quitting, as well as information about community resources. The BRFSS asks respondents whether they are aware of the QuitNow NC! or the QuitlineNC.org website. Table 12 shows the Durham respondents' answers from 2009 -2011. Before 2009 they only asked this question of people who reported being current smokers; in 2009 they asked the question of everyone.

[Table 12]

Durham residents who are aware of the QuitlineNC website or QuitNow NC!, 2009-2011

	Total respondents	Yes (%)	C.I. (95%)
2009	381	42.6	35.3-50.2
2010	567	43.0	37.1-49.2
2011	261	40.5	31.4-50.3

Source: N.C. Behavioral Risk Factor Surveillance System (BRFSS)

Network of Care for Children & Family Services. Network of Care is a “No Wrong Door” online information place for the individuals, families, and agencies looking for resources. This online community provides critical information, communication, and advocacy tools with a single point of entry. The website contains a search tool for smoking cessation services available in Durham.

(<http://durham.nc.networkofcare.org/family/home/index.cfm>)

National: http://www.cdc.gov/tobacco/quit_smoking/index.htm

Quit lines:

1-800 QUIT NOW (1-800-784-8669)

Available 24 hours a day, 7 days a week

Available in English, Spanish, and other languages

For deaf/hard-of-hearing: TTY 1-877-777-6534

Quit line for pregnant smokers:

American Legacy Foundation 1-866-667-8278

Available Monday-Friday 8 a.m. - 8 p.m.

Spanish interpreters and materials are available

Youth and Substance Use

Prevalence of substance-related risk behaviors among middle and high school students

Indicator:

- Prevalence of various substance-related risk behaviors in Durham County middle and high school students from the Youth Risk Behavior Survey (YRBS).

Relevance: The Monitoring the Future (MTF) survey has been collecting information on drug, alcohol, and cigarette use and related attitudes among adolescent students nationwide since 1975. The 2011 survey results show that cigarette smoking is at its lowest point in the history of the survey; there have also been drops in inhalant use, use of ecstasy (MDMA), cocaine use, as well as binge drinking and daily alcohol use. Despite these positive findings, there are some areas of concern. For instance, youth are using other forms of smoked tobacco at rates higher than cigarettes, marijuana use has increased, synthetic marijuana is a new concern, and use of prescription drugs (i.e., Vicodin, OxyContin) has increased (53).

There are a number of consequences to substance use and abuse in youth. These affect the youth themselves, families, and the communities in which they live. Substance abuse among youth can result in academic problems, health and mental health problems, and involvement with the juvenile justice system, to name a few (54).

Data: Data come from the Youth Risk Behavior Survey (YRBS). The YRBS was developed by the Centers for Disease Control to monitor health-risk behaviors as well as various conditions such as obesity and asthma. This survey is conducted at the national, state, and local levels. Since 2007, Durham has conducted the YRBS with middle and high school students. 2009 and 2011 data were provided by the Durham County Public Health Department, including all statistical significance tests results (40, 41). Differences between 2011 and 2009 percentages were considered statistically significant at a 95 percent confidence interval. Differences between 2007-2011 high school data were not analyzed because the 2007 sample included mostly 9th grade students.

Findings: The YRBS is only a small sample of students throughout the county. From these data, it appears that alcohol and marijuana are the most common substances used by students in the YRBS sample. See Tables 13 and 14 for means for a variety of risk behaviors reviewed in the YRBS data for Durham County middle and high school students. In 2011, there were no statistically significant changes from the 2009 to the 2011 YRBS in substance abuse indicators in middle school students. However, high school students' past 30-day use was statistically significantly higher in 2011 vs. 2009 in the areas of: drinking alcohol on school property; marijuana use on school property; ever using any form of cocaine; ever using inhalants; ever using steroids; and ever using methamphetamines.

[Table 13]

Prevalence of activities related to substance use among Durham middle school students in 2007, 2009 and 2011

	2007 (% yes)	2009 (% yes)	2011 (% yes)	Sig difference between 2009 & 2011
Have you ever had a drink of alcohol, other than a few sips?	30.3	32.8	27.1	no significant difference
Drank alcohol that someone gave you during the past 30 days?	6.2	7.2	5.2	no significant difference
Have you ever used marijuana?	15.4	13.3	9.0	no significant difference
During the past 30 days, did you use marijuana?	7.4	4.8	4.0	no significant difference
During the past 30 days, did you use marijuana on school property?	3.3	2.9	1.7	no significant difference
Have you ever used any form of cocaine, including powder, crack, or freebase?	3.9	2.8	2.3	no significant difference
Have you ever sniffed glue, breathed the contents of spray cans, or inhaled any paints or sprays to get high?	16.3	12.2	8.2	no significant difference
Have you ever used steroid pills or shots without a doctor's prescription?	3.2	2.0	2.9	no significant difference
Have you ever taken a prescription drug such as OxyContin, Percocet, Demerol, Adderall, Ritalin, or Xanax without a doctor's prescription?	3.9	3.3	5.3	no significant difference
During the past 12 months, has anyone offered, sold, or given you an illegal drug on school property?	11.4	10.6	9.1	no significant difference
<i>Source: Durham Youth Risk Behavior Survey</i>				

[Table 14]

Prevalence of activities related to substance use among Durham high school students in 2007, 2009 and 2011

	2007 (% yes)	2009 (% yes)	2011 (% yes)	Sig difference between 2009 & 2011
Drank alcohol during the past 30 days? ^a	28.8	42.5	36.0	no significant difference
During the past 30 days did you ever have five or more drinks of alcohol in a row, that is, within a couple of hours? ^b	11.2	21.0	20.6	no significant difference
During the past 30 days, did you have at least one drink of alcohol on school property? ^c	8.0	6.1	14.0	increased 7.9%
Have you ever used marijuana? ^d	35.2	44.8	45.7	no significant difference
During the past 30 days, did you use marijuana? ^e	23.6	29.4	31.5	no significant difference
During the past 30 days, did you use marijuana on school property? ^f	9.5	6.5	13.6	increased 7.1%
Have you ever used any form of cocaine, including powder, crack, or freebase?	7.0	4.3	12.9	increased 8.6%
Have you ever sniffed glue, breathed the contents of spray cans, or inhaled any paints or sprays to get high?	15.9	9.4	16.1	increased 6.7%
Have you ever used steroid pills or shots without a doctor's prescription?	6.3	3.1	9.6	increased 6.5%
Have you ever used Methamphetamines?	4.7	3.5	12.4	increased 8.9%
Have you ever taken a prescription drug such as OxyContin, Percocet, Demerol, Adderall, Ritalin, or Xanax without a doctor's prescription?	12.7	17.1	21.7	no significant difference
During the past 12 months, has anyone offered, sold, or given you an illegal drug on school property?	37.1	34.3	30.3	no significant difference
Source: Durham Youth Risk Behavior Survey ^a During the past 30 days, on how many days did you have at least 1 drink of alcohol? ^b During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours? ^c During the past 30 days, on how many days did you have at least one drink of alcohol on school property? ^d During your life, how many times have you used marijuana? ^e During the past 30 days, how many times did you use marijuana? ^f During the past 30 days, how many times did you use marijuana on school property? ^g During your life, how many times have you used methamphetamines?				

Youth Perception of Risk of Illicit Substances

The perception of risk of using illicit substances plays a role in whether or not a youth engages in substance use. Youth who perceive a low risk of harm are more likely to use illicit substances (55, 56). Since 2002 in the nation, the perception of risk of harm from drinking alcohol has increased in youth, while binge drinking rates in youth decreased (57). While the perception of risk in alcohol has increased, the perception of risk of marijuana decreased and rates of smoking marijuana increased. Youth in N.C. have similar perceptions of risk (58). The Substance Abuse and Mental Health Services Administration (SAMHSA) sponsors The National Survey on Drug Use and Health (NSDUH). NSDUH asks adolescents aged 12 to 17 “how much people risk physical and other harm when they drink five or more alcoholic drinks once or twice a week, use marijuana once or twice a week, use cocaine once or twice a week, use LSD once or twice a week, and use heroin once or twice a week. Response choices are (1) no risk, (2) slight risk, (3) moderate risk, and (4) great risk” (57). Data are not available at the county level at this time. However, tracking perception of risk of substance use in Durham County youth could enhance surveillance of substance use in youth. Additionally, agencies working on substance use prevention in the community can use the information to target prevention messages and anti-use campaigns.

The Supply of Illicit Drugs

While the main purpose of this report is to focus on substance use and abuse in Durham, N.C., understanding the broader context of the state’s and surrounding areas’ supply of drugs improves our understanding of potential trends in the Durham area. This section of the report primarily summarizes information in the 2010 Atlanta High Intensity Drug Trafficking Area (HIDTA) (HIDTA) drug market analysis.

The Atlanta HIDTA includes the Atlanta metropolitan area as well as eight counties in North Carolina —Alamance, Durham, Guilford, Johnston, Randolph, Wake, Wayne and Wilson counties (59). The interstate highways connect Atlanta to the U.S. southern border that is shared with Mexico. The Raleigh Durham area is well connected to Western routes to the west coast (Interstate 40) and the north east cities including D.C., Baltimore, Philadelphia and Boston (Interstates 85 and 95).

Drug Seizures in N.C. and the Atlanta HIDTA

The U.S. Department of Justice National Drug Intelligence Center collects information on drugs seized throughout the Atlanta HIDTA (see Table 15) (60). Data beyond the 2010 report are not available because the National Drug Intelligence Center (NDIC), that produced the reports, closed in June 2012 (59). This information provides a sense of some drugs such as cocaine, methamphetamine, heroin and marijuana that are found in the communities. While very small amounts may have been seized in the Triangle during these six months, this does not mean that these drugs aren’t available in high quantities. Drug seizures reflect various law enforcement

operations, including routine traffic stops and searches as well as undercover operations. Undercover operations sometimes take weeks, months, or even years of ground work before making a big seizure.

[Table 15]

Atlanta High Intensity Drug Trafficking Area (HIDTA) drug seizures in 2009

	N.C. Triangle (kgs)	Total for the Atlanta HIDTA (kgs)
Powder Cocaine	94.3	1755.9
Crack Cocaine	0	0.7
Ice Methamphetamine	3.1	351.0
Powder Methamphetamine	0	12.4
Marijuana	837.5	9,166
Hydroponic*	0.1	1,703
Heroin	1.3	9.8
GHB (gamma hydroxybutyrate)	10,174	10,329
MDMA (in dosage units)	79	77,052
Source: Atlanta High Intensity Drug Trafficking Area. Note: Total include drug seizures from several initiatives including a) Dekalb, GA, b) Metro, c) Expanded Operations, d) N.C. Triangle and e) Domestic Highway Drug Enforcement. *Hydroponics are materials for growing plants in nutrient-rich solutions rather than soil.		

Another data collection effort on drug seizures is the national seizure system that collects information on methamphetamine laboratory seizures (see Table 16). In general, methamphetamine production in the Atlanta HIDTA is considered to be low to moderate. The decrease in methamphetamine lab seizures from 2005 to 2006 is likely to be a consequence of measures that restricted the accessibility of over-the-counter medications such as Sudafed®, that contain ingredients for methamphetamine production like pseudoephedrine. The Department of Justice notes that the majority of laboratories seized in the Atlanta HIDTA region were in N.C.

[Table 16]

Methamphetamine laboratory seizures in N.C. and the Atlanta HIDTA, 2004-2009

Area	2004	2005	2006	2007	2008	2009
N.C. counties in the Atlanta HIDTA (Alamance, Durham, Guilford, Johnston, Randolph, Wake, Wayne, Wilson)	5	9	7	8	8	19
N.C. (all counties)	241	174	88	70	89	91
Atlanta HIDTA (all counties)	34	38	21	11	12	26
Source: Atlanta High Intensity Drug Trafficking Area						

According to the National Drug Intelligence Center, most of the marijuana available in the Atlanta HIDTA is grown in either Mexico or Canada. However, some is locally grown. The severe drought in 2007 damaged many of the marijuana plants. Fluctuations in the number of plants eradicated

reflect both resources for eradication as well as the number of plants. Therefore, it is important to note that changes in the number of plants may not reflect changes in the supply of the drug (see Table 17).

[Table 17]

Cannabis Plants Eradicated at Outdoor and Indoor Grow Sites in Georgia and N.C., 2004-2009

	Outdoor					
	2004	2005	2006	2007	2008	2009
GA	18,122	27,067	64,995	11,851	47,607	43,880
NC	32,572	68,491	99,379	15,115	103,711	64,555
Total	50,694	95,558	164,374	26,966	151,318	108,435
	Indoor					
	2004	2005	2006	2007	2008	2009
GA	616	642	1,610	9,585	2,840	5,836
NC	3,393	2,391	2,110	1,253	1,489	2,739
Total	4,009	3,033	3,720	10,838	4,329	8,575
Source: Domestic Cannabis Eradication/Suppression Program						

Price of Drugs in Durham County

Indicator:

- The price for a specific quantity of a given drug.

Relevance: The price of illegal drugs is the result of supply and demand. Rising prices result from a decrease in supply which is usually caused by more effective drug enforcement efforts. Increases in price may increase street crime (ex. addicts may need more money to meet their needs), or medical needs (ex. price affects drug quality, which in turn affects the medical problems that are being seen). Decreasing prices can lead to more users, users purchasing larger doses, and increased drug purity, which will also affect prevention, treatment, and medical resources. One of the benefits of the surveillance system is that, by sharing information, the community will be in a better position to respond to such changes.

Data: Data were provided via personal communication with the Durham County Sheriff's Office in March 2013.

Findings: The price of heroin appears to have dropped from \$20 for a dose in 2006 to \$10-\$15 for a dose in 2010 and did not change in 2013. The price of cocaine has doubled since 2006, from approximately \$35 per gram to \$70 per gram. However, the price of crack cocaine appears to have remained relatively constant over this time period. The price of high-grade marijuana has slightly increased from \$350 to \$450 an ounce in 2010 to \$500 an ounce in 2013. On a per-dose basis, low grade marijuana is relatively cheap at \$3 a dose relative to other drugs such as ecstasy (\$7-\$10 per dose), and heroin (\$10-15 per dose). See Table 18 for a listing of prices and information about various drugs.

[Table 18]

Drug prices in Durham 2006, 2010, and 2013

Drug	2006 Notes	2006	2010	2013
Heroin	It is sold on the street after being cut and packaged in bindles. Bindles vary in purity from 0.1 gram heroin to as little as .04 grams and can be cut with a variety of substances, including lidocaine, caffeine, lactose, acetaminophen, or others. One bindle is approximately one dosage unit. Ten bindles are a bundle.	1 bindle \$20 10 bindles \$150	1 bindle \$10 - \$15 1 ounce \$2,800	1 bindle \$10 - \$15 1 ounce \$2,800
Cocaine	On the streets of Durham, cocaine is usually cut with a variety of substances and then sold. The actual amount that the buyer receives is often less than advertised. 3.5 grams=an eightball 4.5ounces=a "biggie" eight	1 ounce \$1,000 3.5 grams \$125 4.5 ounces \$4,000-\$4,500	1 gram \$50 1 ounce \$1,000 - \$1,400	1 gram \$70
Crack	1 kilogram of cocaine can be purchased for between \$18,000 and \$20,000. When this same amount of cocaine is cooked into crack, it can generate as much as \$100,000 on the street. 1 gram of cocaine produces five dosage units of crack. 1 dosage unit=a rock	1 rock \$20	1 rock \$20 (.3 of gram) 1 ounce \$1,000 - \$1,400	1 rock \$20 (.3 of gram) 1 ounce \$1,000 - \$1,400
MDMA (Ecstasy)			1 pill \$7-\$10	1 pill \$7-\$10
Methamphetamine			1 gram \$50 1 ounce \$1,400.00	1 gram \$50 1 ounce \$1,400.00
Marijuana-Low Grade			1 gram \$3-\$7 1 ounce \$180 - \$200	1 gram \$3-\$7 1 ounce \$180 - \$200
Marijuana-High Grade			1 gram \$15 - \$20 1 ounce \$350 - \$450	1 ounce \$500
Oxycodone, Percocet, Endocet, OxyContin, Vicodin			\$1 for every milligram 10mg=\$10 20mg=\$20	\$1 for every milligram 10mg=\$10 20mg=\$20
Hydrocodone			\$1 for every milligram	\$1 for every milligram
Source: Durham County Sheriff's Office				

Alcohol Beverage Control Board of Spirituous Liquor to the General Public

Indicators:

- **ABC gross sales:** Sales by the local Alcoholic Beverage Control board of spirituous liquor to the general public; spirituous liquor to mixed beverage permits such as restaurants and clubs (where applicable); and wine (except that there were no reported wine sales in 1980-1983 and 1985).
- **ABC State Excise Tax:** Excise tax collections remitted to the Department of Revenue for the general fund, based on collections made during the fiscal year
- **ABC Local Government Distributions:** The portion of net profit from ABC stores which is distributed to the general fund of the county or municipal government, as determined by the local ABC board. The difference between this amount and net profits (the difference can be a positive or negative amount) constitutes retained earnings for the local ABC board.
- **ABC Rehabilitation Contribution:** Bottle charges of one cent on each bottle containing 50 milliliters or less and five cents on each bottle containing more than 50 milliliters, remitted to county commissioners for treatment of alcoholism and substance abuse, or for research or education on alcohol and substance abuse. (Does not include collections of the additional five cents per bottle tax imposed August 1, 1983. Those proceeds are credited to the general fund of the local government and are included local government distributions.)
- **ABC Reserve for Law Enforcement:** Amount remitted by the local ABC board for law enforcement, which must be at least 5 percent of receipts. These funds can be used to employ an ABC officer or contract with local law enforcement officials.
- **ABC Alcohol Education and Research Contribution:** Amount remitted by the local ABC board directly or to the county commissioners for treatment of alcoholism or substance abuse, or for research or education on alcohol or substance abuse.

Relevance: In North Carolina, local communities determine whether or not spirituous liquor can be sold in the county (and if not the county, then the township or city). If spirituous liquor can be sold in the community then a local Alcohol Beverage Control (ABC) board is established. Each ABC Board has a chairperson and two to six board members who are appointed by their governing authority. The Board has authority to set policy and adopt rules that conform to the rules laid out by the ABC Laws and Commission Rules.

Local ABC Boards can either employ local ABC law enforcement officers or make other provisions to enforce ABC laws. The Durham County ABC is overseen by the Durham County ABC Board, a five-member board appointed by the County Commissioners. The ABC Board members are the policymakers for ABC stores and ABC law enforcement (61). No state funds are used to establish or operate local ABC boards in N.C.. Revenue generated through the sales of spirituous liquor is contributed to the state, county, and city.

Data: The website “Log into NC” compiles data from a variety of sources by county and year (62). Information on ABC sales and revenue come from the Department of Commerce.

Findings: Figure 40 presents information on gross sales of spirituous drinks. All dollars are presented in 2012 dollars to account for inflation.

In 2012, there were approximately \$20.0 million in gross sales of spirituous liquor (see Figure 40) in Durham County. Almost 6 percent of these dollars go to Durham County and City for a total of \$1.13 million.

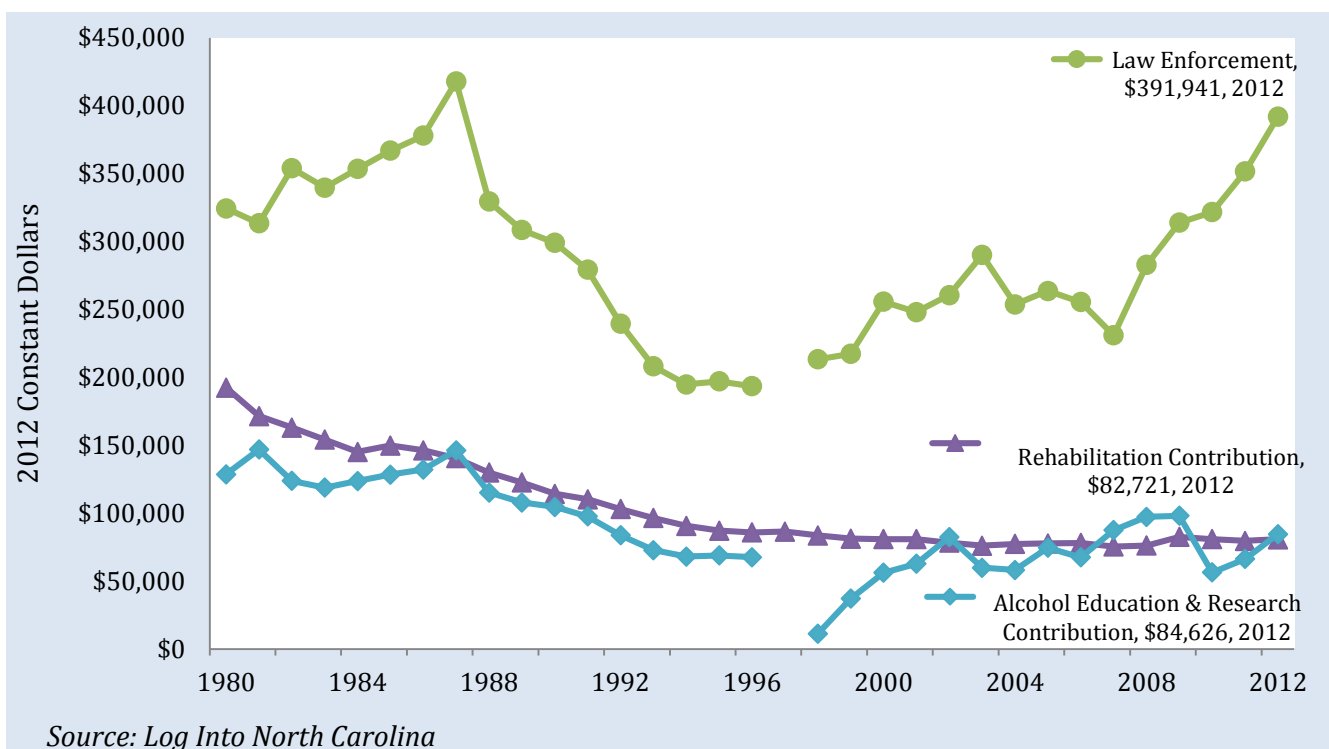


[Figure 40]
Sales by the local Alcoholic Beverage Control board of spirituous liquor to the general public, 1980-2012

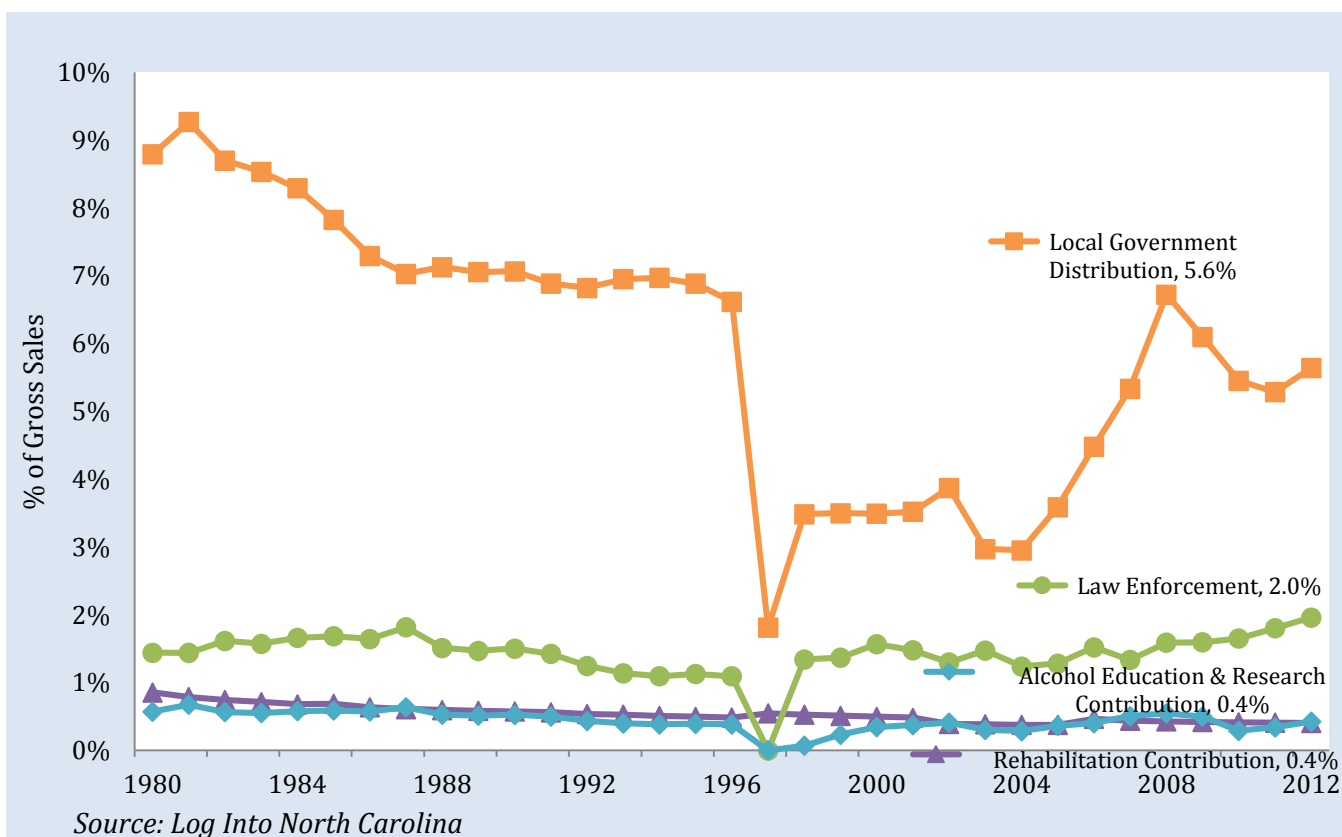
Figures 41 and 42 look more closely at the distribution of revenue from ABC sales locally. Currently, about 6 percent of gross sales are given to local government. This is up from about 2-4 percent in the late 1990s to early 2000s, but down from about 8-9 percent in the early 1980s.

ABC law enforcement activities include inspecting ABC outlets such as restaurants and night clubs and enforcing the state’s alcohol, tobacco, bingo, and gambling laws. Alcohol law enforcement would make arrests for things such as fictitious IDs, driving while under the influence of a substance, and alcohol and controlled substance violations to name a few.

The amount of money and the percent of gross sales available for rehabilitation from the ABC funds has been steadily declining. In 1980 there was approximately \$192,000 available for rehabilitation (in 2012 dollars) compared to approximately \$81,000 in 2012. This represents a drop from about 0.9 percent of gross sales in 1980 to about 0.4 percent in 2012.



[Figure 41]
County Dollars gained from ABC profits by allocation



[Figure 42]
Percent of Gross Sales given to specific county activities

Good Neighbor Initiative

Durham Together for Resilient Youth (Durham TRY) is a non-profit organization that formed in 2003 and held its first meeting in 2005 (63). Durham TRY works to prevent substance abuse among youth and adults in Durham County by reducing community risk factors through advocacy, education, policy change, mobilization, and action. Durham TRY collaborates with many influential key stakeholders in the community, such as youth, parents, community organizations, faith organizations, schools, health care providers, businesses, law enforcement, local government, academic institutions for research, substance abuse agencies, the media, youth-serving organizations, and volunteer organizations. Durham TRY facilitates and coordinates a number of initiatives for youth and adults in the community. For more information, visit <http://www.durhamtry.org/>.

In 2012 Durham TRY initiated the Good Neighbor Campaign. The Good Neighbor Campaign seeks to prevent the sale of alcohol products to underage youth by increasing accountability for those who sell alcohol. The first phase involves working with convenience stores; the second phase will include working with grocery stores and restaurants; the third phase will be working with bars; and the fourth phase will be working with event centers to limit drinking cup size.

During phase one, which is currently underway, Durham TRY partners with local convenience stores. The convenience stores complete the Good Neighbor Checklist. This is a non-legally binding pledge that the store owner will comply with laws against selling alcohol or lottery tickets to those under 21 or tobacco to anyone under 18, helping to provide a safer environment for the community. The pledge includes training employees in alcohol sales laws, ensuring that customers' ages are checked, reducing in-store advertising for alcohol products, and that no more than 10 percent of windows are covered with signage advertising alcohol products. Durham TRY will publish a list of "Good Neighbor Stores" to community members on a monthly basis (website) and semi-annually (news ad). Currently there are 89 convenience stores, gas stations, and grocery stores that have completed and signed the pledge, out of approximately 200 in Durham County. An additional 35 restaurants and bars have signed the pledge.

The Good Neighbor Campaign also works for policy change in the community. For example, promoting a city policy to reduce alcohol outlet density (number of alcohol outlets in a given area) and supporting increasing the current \$50 citation and fine for loiterers. In fact, because of the Good Neighbor Campaign and TRY, the Durham City Council has been reviewing its policies for approvals for permits to sell beer and wine and how to legally reduce alcohol density.

The Good Neighbor Campaign is also working with the N.C. Alcohol Beverage Commission, the organization in charge of issuing permits to sell alcohol products. N.C. ABC Attorney Mike Herring has issued a statement that (when there is a problem location in Durham) he "will grant a temporary permit to [this] new applicant only if they sign the Good Neighbor Checklist. If they do not sign the Good Neighbor Checklist, their permit will be pulled immediately(64)."

Treatment Services in Durham County

In 2012 Durham County transitioned from having a local management entity (LME) for managing behavioral health treatment (The Durham Center) to a managed care organization (MCO) (Alliance Behavioral Healthcare). Alliance Behavioral Healthcare manages the public mental health, intellectual/ developmental disability, and substance abuse services for the 65,000 citizens of Durham, Wake, Cumberland and Johnston counties (65). The Alliance does not provide services, but refers individuals to services and supports delivered by a network of private providers who contract with Alliance. Alliance connects individuals to an array of services available for adolescents and adults in Durham County (information is available on Alliance Behavioral Healthcare's website at <http://www.alliancebhc.org/>).

Adolescents Receiving Treatment Services

Indicators:

- Number and percent of youth receiving outpatient and residential services through the public mental health system relative to need for treatment.
- Drug mentions of Durham adolescents (aged 12-17 years) who are treated for substance abuse or mental health issues.

Relevance: Substance use providers have unique insight into the substances that youth are using locally. Better planning for prevention and access to services can occur by knowing how many youth need treatment and by knowing local trends in use patterns.

Data: Data for this report come from NC Treatment Outcomes and Program Performance System (NC-TOPPS) regarding patients receiving treatment from July 1, 2010, through June 30, 2011, fiscal year 2011 (FY11). Treatment agencies serving youth in more intensive and comprehensive services are required to submit outcome data at the start of the services ("initial" data) and after three months, six months, and every six months thereafter ("update" data) into NC-TOPPS:

1. Adolescents in substance abuse treatment (aged 12-17), initial interviews (n=78), and
2. Adolescents in mental health treatment (aged 12-17), initial interviews (n=494).

Findings: An estimated 1,208 adolescents in Durham County need substance abuse treatment. Treatment providers in Durham's LME network served 147 adolescents (12 percent in need) in FY11(1). Data of youth paying out of pocket or using private insurance for services are unavailable.

See Table 19 for demographics of youth in treatment, submitted in NC-TOPPS' database. It is interesting to note that African-American males comprise the majority of clients served in organizations that reported data.

[Table 19]

NC-TOPPS Gender and Race/Ethnicity of adolescents in substance abuse and mental health treatment in Durham County, FY11

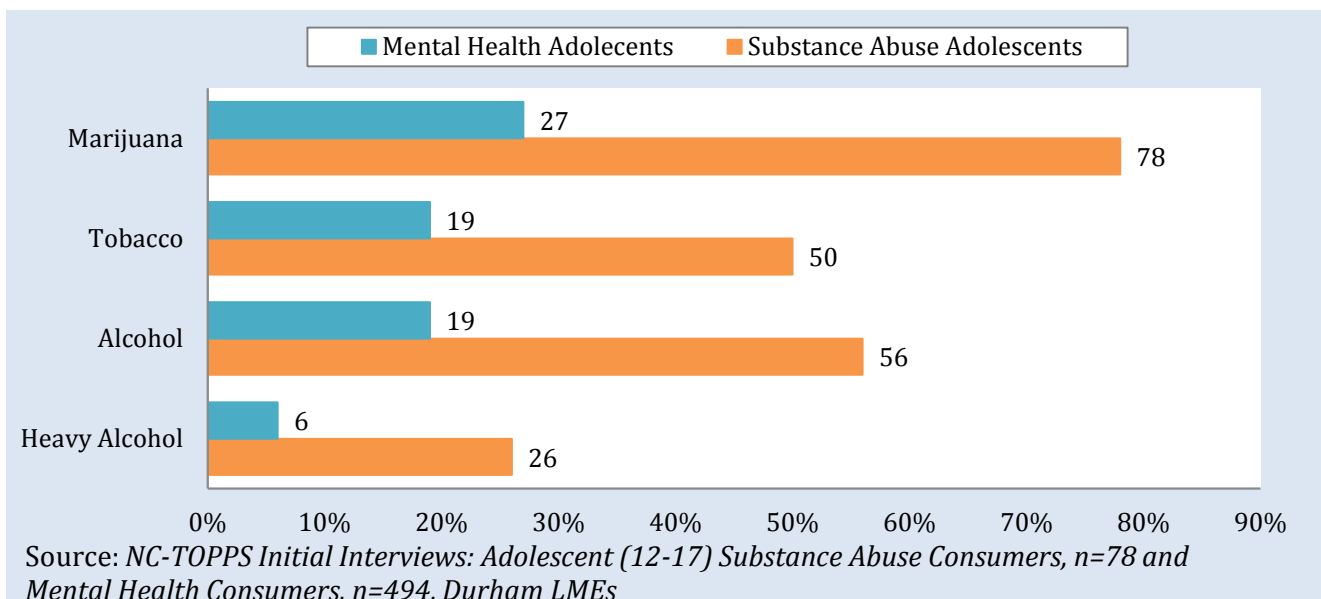
		Substance use tx	Mental health tx
Males	Total percent	86%	56%
	African-American	55%	41%
	White	15%	7%
	Other	15%	7%
Females	Total percent	14%	44%
	African-American	9%	32%
	White	1%	5%
	Other	4%	7%
Male & Female	Hispanic Origin	19%	12%
Source: NC-TOPPS Initial Interviews: Adolescent (12-17) Substance Abuse Consumers, n=78 and Mental Health Consumers, n=494, Durham LMEs. Note: Hispanic Origin could be more than one race			

Adolescents and illicit substances

Among adolescents receiving mental health services in Durham, 23 percent reported using illicit substances other than tobacco or alcohol; 27 percent reported using tobacco or alcohol. This was comparable to similar youth in the rest of the state, at 24 and 28 percent respectively). When asked to report the types of illicit drugs used in the past 12 months, the most commonly cited was marijuana (27 percent). Fourteen percent of adolescents in mental health treatment were receiving services for both mental health and substance abuse. Of adolescents in substance abuse treatment, 13 percent were receiving substance abuse services only and 87 percent were receiving substance abuse and mental health services (see Figure 43 for a description of substances used in the past 12 months).

Among adolescents receiving treatment for substance abuse in Durham, clients reported using the following in the past 12 months:

- Marijuana - 78 percent
- Cocaine - 8 percent
- Benzodiazepine - 9 percent
- OxyContin - 8 percent



[Figure 43]

NC-TOPPS self-reported drug use in the past 12 months by adolescents in substance abuse and mental health treatment in Durham County, FY11

Adults Receiving Treatment Services

Indicators:

- Number and percent of adults receiving outpatient and residential services through the public mental health system relative to need for treatment.
- Number of adult admissions for substance-related crises.
- Drug mentions of Durham adults who are treated for substance abuse.

Relevance: Data from the NC Treatment Outcomes and Program Performance System (NC-TOPPS) provide information on individuals in public mental health treatment for substance abuse. In particular, this is a good source of information on the types of drugs that individuals in Durham are exposed to and their treatment needs.

Data: Data for this report came from NC-TOPPS regarding patients receiving treatment from July 1, 2010, through June 30, 2011, fiscal year 2011 (FY11) (66-69).

Treatment agencies serving adults in more intensive and comprehensive services are required to submit outcome data at the start of the services (“initial” data) and after three months, six months, and every six months thereafter (“update” data) into NC-TOPPS. Two NC-TOPPS reports were examined:

1. Adults in substance abuse treatment, initial interviews (n=609), and
2. Adults in mental health treatment, initial interviews (n=1,122).

Findings: An estimated 17,910 adults in Durham County need substance abuse treatment. Treatment providers in Durham’s LME network served 2,276 adults (13 percent in need) in FY11 (1). Data on adults paying out of pocket or using private insurance for services are unavailable.

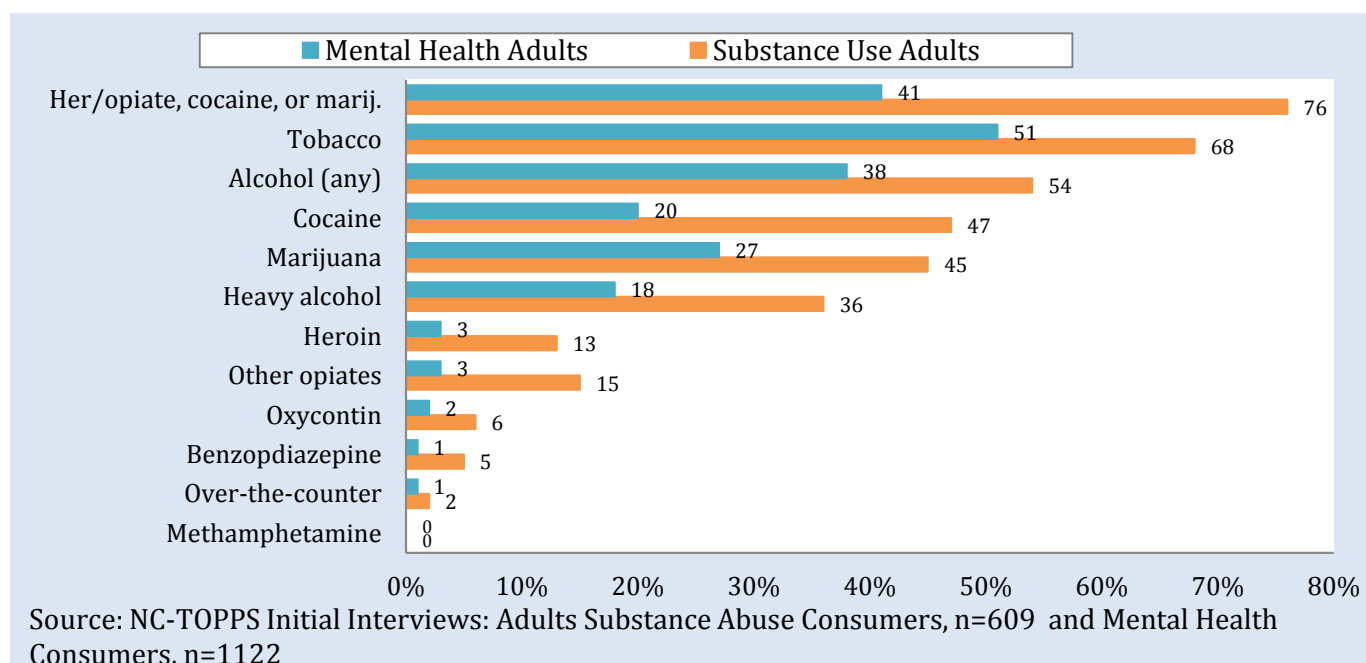
See Table 20 for age, gender, and race descriptions of initial interviews from NC-TOPPS data. The percent of adults reporting that they are of Hispanic origin is smaller than that seen in adolescents receiving treatment. Figure 44 indicates the types of substances being used in the past 12 months by those receiving treatment.

[Table 20]

NC-TOPPS Gender and Race/Ethnicity of adults in substance abuse and mental health treatment in Durham County, FY11

		Substance use tx	Mental health tx
Males	Total percent	49%	36%
	African-American	31%	26%
	White	15%	8%
	Other	3%	2%
Females	Total percent	51%	64%
	African-American	34%	49%
	White	16%	13%
	Other	1%	2%
Male & Female	Hispanic Origin	4%	3%

Source: NC-TOPPS Initial Interviews: Substance Abuse Consumers, n=609 and Mental Health Consumers, n=1122, Durham LMEs. Note: Hispanic Origin could be more than one race



[Figure 44]

NC-TOPPS self-reported drug use in the past 12 months by adults in substance abuse and mental health treatment in Durham County, FY11

Substance Use Treatment Services for Individuals Involved in Delinquent or Criminal Activities

As described throughout this report, many individuals with substance use needs are involved with our law enforcement agencies.

When The Durham Center transitioned from a local management entity (LME) to an independent managed care organization (MCO), several changes occurred within the Criminal Justice Resource Center (CJRC), as previously it had shared and operated various services for the Durham Center.

The Criminal Justice Resource Center

The Criminal Justice Resource Center (CJRC) was a Durham County government agency that: (1) delivered quality rehabilitative services to help offenders and at-risk youth become productive successful citizens; (2) supervised and monitored high-risk offenders residing in Durham County; and (3) supported the criminal justice system at-large through collection and dissemination of criminal and treatment histories (70). From 1994 through 2012 the Criminal Justice Resource Center collaborated to provide direct services to individuals who were incarcerated or had criminal histories. After the end of fiscal year 2012, the Durham Assessment Team and Court Screenings services ended due to changing budget priorities for Alliance Behavioral Healthcare (71).

One of the largest services provided by the CJRC was substance abuse treatment. In fiscal year 2012, CJRC provided the following services: (note that some individuals may be treated in more than one program so these numbers can be added to reach the total number served):

- 282 clients received substance abuse treatment, including 88 percent of community- based corrections clients.
- 437 jail inmates through the Substance Abuse Treatment and Recidivism Reduction (STARR) program (47 percent were court ordered and 74 percent graduated), which is a cooperative effort between CJRC and the Durham County Office of the Sheriff. STARR is an intensive chemical-dependency treatment program for criminal offenders. Individuals who successfully complete STARR can participate in STARR GRAD, an additional four- week program.
- 245 inmates through STARR GRAD (55 percent were court ordered and 62 percent graduated).

Drug Treatment Court

Durham County operates a drug treatment court, designed to provide treatment services to chemically-dependent, non-violent offenders by holding these offenders responsible for complying with court-ordered treatment plans. An overarching goal of the drug treatment court is to help offenders recover from their addiction by providing the appropriate services and, in turn,

help reduce the recidivism rate. Evidence suggests that drug treatment courts are effective at reducing recidivism rates (72). According to the CJRC website, “In July 2011, CJRC assumed operation of the Adult Drug Treatment Court for Durham after all funding for drug courts was eliminated in the state budget. Drug Treatment Court provides for the engagement of court-ordered treatment services to offenders whose adjudication was a direct result of drug dependencies (73).” Between October 2011 and June 2012, drug treatment court served 47 offenders. “Of the 47, 4 graduated and 2 are employed, 4 were discharged for medical reasons, 10 were terminated for non-compliance with program rules, and 29 remain active program participants (71).”

Discussion

This report used numerous data sources provided by state and community organizations to demonstrate the ways in which substance use affects not only Durham residents but also the public organizations that serve the community. Numerous studies have examined the national costs of substance use and the potential savings derived from treatment. Although estimates of the exact benefit-to-cost ratio vary, there is little controversy that the benefits far exceed the costs (72, 74). Studies have estimated a cost savings of 7:1, which means for every \$1 spent on treatment, the community saves \$7. Societal cost savings of substance use treatment include reduced crime, higher employment, and reduced dependence upon public systems

Many of the harms from substance use in Durham County occur because of misuse and abuse of legal substances such as alcohol, tobacco products, and prescription drugs. One local effort to curb alcohol and tobacco misuse is the Good Neighbor Program, which works with local alcohol retailers to stop the sale of alcohol and tobacco products to minors. Other local programs address the increasing trend of prescription drug misuse and abuse. Operation Medicine Drop, a collaborative program between Safe Kids North Carolina and local law enforcement agencies including the Durham Police Department (DPD) and the Durham Sheriff's Office, has installed a permanent drop box in the lobby of the DPD for individuals to dispose of unused medication anonymously and safely (75). In one day over 34,000 pills, as well as needles, creams, and other medications were collected (76). This program gives Durham residents a safe option for disposing of medication.

For this report to be most useful in understanding the issues in Durham, it is important for a broad range of community members to read and reflect upon the report. Each community agency has a unique vantage point of the problem. In addition, keeping abreast of state trends helps to identify what might be an emerging problem in North Carolina. It is important to support those agencies that provide information or perform services.

Appendix

Summary of change over time in substance use indicators in Durham, N.C.

Numbers based on administrative data fluctuate. A three-year moving average is used to smooth these fluctuations. Ideally, we would have taken a base-year score from 2000, 2001 and 2002 and a current score from 2010, 2011, and 2012. Percent change is calculated as current year-base year divided by the base year.

Durham County Indicators	First 3-year average available	Last 3-year average available	% Change
Deaths	2004-2006	2009-2011	
Total deaths related to substance use	34.3	45.7	33.0%
Deaths associated with alcohol	17.7	23.0	30.2%
Deaths associated with cocaine	10.3	9.3	-9.7%
Deaths associated with heroin	2.0	2.3	16.7%
Deaths associated with prescription drugs	9.3	16.3	75.0%
HIV and Injection Drug Use	2000-2002	2009-2011	
Number of cases of HIV related to IDU	9.3	<5	
Homelessness in Durham	2002-2003*	2010-2012	
Total number of homeless	501.0	675.0	34.7%
Number of homeless with a substance-use disorder	280.5	277.7	-1.0%
Arrests in Durham County	2000-2002	2009-2011	
Total number of arrests for sales of drugs	469.0	302.7	-35.5%
Total number of arrests for possession of drugs	773.0	802.0	3.8%
Total number of juvenile arrests for alcohol-related charges†	14.0	6.0	-57.1%
Total number of juvenile arrests for drug-related charges‡	118.0	76.0	-35.6%
Total number of adult arrests for alcohol-related charges†	822.0	530.3	-35.5%
Total number of adult arrests for drug-related charges‡	1123.3	1028.7	-8.4%
Calls to service to the Durham County Sheriff's Office	2001-2003	2010-2012	
All calls related to drugs and alcohol complaints	417.3	561.3	34.5%
Calls related to drug complaints only	345.0	416.3	20.7%
Calls related to alcohol complaints only	72.3	145.0	100.5%
Automobile crashes in Durham County	2004-2006	2009-2011	
Total number	8175.3	7461.0	-8.7%
Total crashes related to alcohol	290.0	285.3	-1.6%
Number of crashes related to alcohol that were fatal	4.3	6.0	38.5%
Number of crashes related to alcohol that were non-fatal	140.0	135.7	-3.1%
Drinking and Driving in Durham	2000-2002	2009-2011	
DUI arrests for adults	704.7	473.0	-32.9%
DUI arrests for juveniles	7.7	2.7	-65.2%
DUI arrest rate for adults	4.0	2.3	-43.2%
DUI arrest rate for juveniles	0.1	0.04	-69.9%

Durham County Indicators cont...	First 3-year average available	Last 3-year average available	% Change
Percent of pregnant women who smoke	2000-2002	2007-2009	
All women	5.4	5.4	0.0%
White women	3.5	2.9	-18.9%
Minority women	7.7	9.2	19.0%
Alcohol Beverage Control Board of Spirituous Liquor Sales to the General Public	2000-2002	2010-2012	
Gross sales to the general public	\$17,733,333	\$19,666,667	10.9%
Notes: *Substance use among homes was not collected in 2001 so a two-year average was used. † Includes arrests for DUI. ‡ Includes both charges for sale and possession.			

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