SUBSTANCE USE AND ABUSE IN DURHAM COUNTY

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Duke Center for Child and Family Policy

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Prepared by
Kelly Evans, MPH
Elizabeth Gifford, Ph.D.
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, mobilization and action.

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Meredith Weinstein, Juvenile Justice Institute, NCCU
L’Tanya Gilchrist, Community Health Worker, Dept. of Health
Kenisha Bethea, Duke Community Health
Ann Oshel, Alliance Behavioral Health

Youth Coalition Leaders
Bands Against Destructive Decisions B.A.D.D.
Jaylan Burton
Jordyn Burton
Diamond Estes
Oscar Hernandez
Ricky Jefferson
Angie Mejia

NCCU C3 and CollegeTRY Leaders
Amber Esters
Marcus Williams
Angel Whitehead
Osaffo James
Jasmine Patterson

Learn more at DurhamTRY.org
SUCCESS! Over 100 cases (16-17 year olds) have been diverted since September 2014. Communicated Operation Medicine Drop to over 18,000 citizens; 3 permanent drop boxes were purchased. Engaged Durham Congregations in Action as advocates (trained 45 church leaders) Over 2,000 pieces of information distributed. Trained over 40 parents through the Sheriff’s Department CHOICES program. NEW: 18-21 Diversion program Champions: Mayor Bill Bell, All District Partners Against Crime, Superior Court Judge Marcia Morey, Durham County Crime Cabinet and Captain Aleem Rahiem.

SUCCESS! Over 400 businesses have signed up to be part of the Good Neighbor Business Network (GNBN). Partners include 100% the Family Fare convenience stores in Durham and NC. GNBN Action: Chairman Gardner banned Vape and Powdered Alcohol in NC. GNBNs now include Pharmacies and Health Hub Barbershop and Salons. First annual Jump into Spring held promoting health at FF convenience stores. The Durham News ads (2) reached over 750,000 citizens. Champions: Nancy Kneepkens, District 2 Community, Katrina McCoy, Media, Mindy Solie District 3 Community, Darian Boone, Health Hub. B.A.D.D. Youth Coalition, College TRY Coalition.

SUCCESS! 500+ reached during Recovery Month Celebration; 1,000 FASD, Tobacco and Drug use prevention materials provided to Duke OB GYN Clinics. Champions: Youth and parents, Dr. Rhonda Karg RTI, Dr. Ty Ridenour RTI, Dr. Aaron White, NIH (Training), Dr. Kathy Sulik, Professor of Cell and Developmental Biology (Training), Dr. Geeta Swamy, Director OB GYN

SUCCESS! PARENT: Safe Homes - Parents agree to a non-legally binding pledge to monitor, properly store and/or dispose of prescription drugs (Lock it! Drop it!), to monitor or lock up alcohol (Talk It Up. Lock It Up!™) and not provide or purchase alcohol, tobacco or other drugs for minors. Durham parents have signed by over 2,500 residents. Home medication lock boxes were given free of charge to 100+ residents. TRY provided monthly Tips for the Talk (16) Topics Champions: Parents and Youth; Mina Forte Ferguson, Durham Public Schools, PBIS and Michelle Lynn, Director of Duke Division of Community Health and Cindy Haynes, Duke Division of Community Health, Jude Johnson-Hostler, NCDHHS

SUCCESS! LAW - Community Relations Diversion

SUCCESS! GOVERNMENT - Policy Change

SUCCESS! HEALTH - Screening Brief Intervention SU & Health

SUCCESS! MEDIA - Community Reach

SUCCESS! SCHOOL - 11 School Based Bands Against Destructive Decisions (BADD) coalitions have been installed. 280 students trained through Driver Education classes (Drunk, Drugged, Distracted Driving). School suspension policy changed for Tobacco “refer to counseling”. Conducted SAMHSA Town Halls, Above the Influence and Kick Butts events. BADD trademarked and adopted by NIDA for National Drug Facts Week as spotlight partner. Over 3,000 students reached through various strategies. Students placed over 7,500 stickers on alcohol products warning adults not to provide to minors. College TRY - North Carolina Central University Coalition - 325 students trained on the college and community, SPF and Environmental Strategies. Provided monthly training to RAs (1300+ students); Conducted 3 College training programs. Launched tobacco surveillance with team of 10. Champions: Elementary, Middle, High School Staff and Youth, Dr. Meredith Weinstein, NCCU Associate Director Juvenile Justice Institute, Alumni Amber Esters


SUCCESS! EDUCATION - Community leaders, Youth Team Leaders, Parents
Acknowledgements

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Dennis M Falls– NC DETECT, UNC DEM Carolina Center for Health Informatics Staff

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Executive Summary

Substance abuse not only impacts the individual and his/her family, but also the community. Using a strategy suggested by the National Institute of Drug Abuse for community surveillance, this report compiles information from a variety of agencies and sources on how substance use and abuse is affecting Durham County. A better understanding of the substance use problem in the community becomes apparent by examining information from multiple sources such as law enforcement agencies, treatment providers, and information on self-reported prevalence of use, drug seizures, and motor vehicle accidents.

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 2014, there were over 3,000 visits a year for Durham residents over six years of age to the emergency department for substance-related conditions. For all age groups, children between 6 and 17 years of age, young adults 18-24 years of age, and adults over 25, there was a decrease in the number of visits between 2010 and 2014, a 25 percent decrease overall. The number of deaths related to toxins increased from 2004-06, which averaged 16.7 deaths, to 2011-13, which averaged 22.0 deaths per year. During this same time period, deaths associated with prescription drugs increased from 8.3 to 13.0. Deaths related to other substances also increased: from 0.7 to 4.3 for alcohol, from 2.0 to 5.7 for heroin, and no change for cocaine. Prescription drug misuse and abuse is emerging as a public health threat. In 2013, prescription drugs were either a primary or contributory factor in the death of 16 Durham residents. From 2004-2013, 56 percent of toxin-related deaths listed prescription drugs as a primary or contributing cause of death (11 percent were related to alcohol, 32 percent were related to cocaine and 17 percent were related to heroin). 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 was not as directly related to new HIV infections as it had been in the early 1990s. Of the 75 newly diagnosed cases in 2013, fewer than five cases were reported as being transmitted through injection drug use. It is worth noting that the mode of transmission was missing for one-third of the new cases in 2013. Also, because substance use may increase risky behaviors such as sexual practices, it may indirectly affect HIV transmissions.
Homelessness

The number of homeless individuals in Durham County increased by 50 percent from 501 individuals in 2002-2003\(^1\) to 738 in 2012-2014. In 2014, about 37 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 criminal court system. The total number of arrests for sales of drugs in Durham decreased from an average of 469 in 2000-2002 to 157 in 2011-2013. During this same time period, arrests for possession of drugs were down slightly; juvenile arrests for alcohol-related charges and for drug-related charges were also down. However, calls to service related to substance use was up by 38% from 417 in 2000-2003 to 577 in 2012-2014. 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 nearly 50 percent, from 705 in 2004-2006 to 348 in 2011-2013. Total number of alcohol-related crashes remained relatively constant (290 in 2004-2006 vs. 289 in 2011-2013). The average number of deaths related to alcohol crashes remained similar from 4.3 in 2004-2006 to 4.0 in 2011-2013.

The data describing youth who were involved with juvenile justice indicate that youth are in need of treatment or further assessment —with an estimated 64 percent in need of substance abuse treatment or assessment.

Alcohol

While the rate of binge and heavy drinking in Durham is similar to the North Carolina State rate, the consequences of the behavior may seriously impact health. According to data from the Behavioral Risk Factor Surveillance Survey (BRFSS) in 2013, 11.9 percent of Durham residents reported binge drinking and in 2012 4.7 percent reported heavy drinking. Drinking also impairs the driver’s ability to safely operate a vehicle. In 2013, there were 24 fatal car accidents in Durham County and two of these accidents were related to alcohol.

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 2013, approximately 14.6 percent of Durham residents were current smokers and 8.6 percent reported smoking every day. Smoking during pregnancy can harm the unborn

\(^1\) Substance use among homeless was not collected in 2001 so a two-year average was used
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 (5.2 percent vs. 10.3 percent in 2013).

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. The authors of this report welcome feedback and insight from community members regarding the content of this report.
Summary of Change Over Time in Substance Use Indicators in Durham, N.C.

The table below summarizes the key indicators examined in this report. Because many of the numbers are based on relatively small samples, we use a three-year average to examine change over time. A three-year average helps to smooth spurious fluctuations that occur from year-to-year.

Ratio of change is calculated as: (most recent years)/(earliest years)

<table>
<thead>
<tr>
<th>Durham County Indicators</th>
<th>Average of 3-years (earliest available since 2000)</th>
<th>Average of 3-years (most recent available)</th>
<th>Ratio of Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deaths</td>
<td>2004-2006</td>
<td>2011-2013</td>
<td></td>
</tr>
<tr>
<td>Total deaths related to substance use</td>
<td>16.7</td>
<td>22.0</td>
<td>1.32</td>
</tr>
<tr>
<td>Deaths associated with alcohol</td>
<td>0.7</td>
<td>4.3</td>
<td>6.50</td>
</tr>
<tr>
<td>Deaths associated with cocaine</td>
<td>7.0</td>
<td>7.0</td>
<td>1.00</td>
</tr>
<tr>
<td>Deaths associated with heroin</td>
<td>2.0</td>
<td>5.7</td>
<td>2.83</td>
</tr>
<tr>
<td>Deaths associated with prescription drugs</td>
<td>8.3</td>
<td>13.0</td>
<td>1.56</td>
</tr>
<tr>
<td>HIV and Injection Drug Use</td>
<td>2000-2002</td>
<td>2011-2013</td>
<td></td>
</tr>
<tr>
<td>Number of cases of HIV related to IDU</td>
<td>9.3</td>
<td>&lt;5</td>
<td>-</td>
</tr>
<tr>
<td>Homelessness in Durham</td>
<td>2002-2003*</td>
<td>2012-2014</td>
<td></td>
</tr>
<tr>
<td>Total number of homeless</td>
<td>501.0</td>
<td>738.3</td>
<td>1.47</td>
</tr>
<tr>
<td>Number of homeless with a substance-use disorder</td>
<td>280.5</td>
<td>286.0</td>
<td>1.02</td>
</tr>
<tr>
<td>Arrests in Durham County</td>
<td>2000-2002</td>
<td>2011-2013</td>
<td></td>
</tr>
<tr>
<td>Total number of arrests for sales of drugs</td>
<td>469.0</td>
<td>157.3</td>
<td>0.34</td>
</tr>
<tr>
<td>Total number of arrests for possession of drugs</td>
<td>773.0</td>
<td>662.3</td>
<td>0.86</td>
</tr>
<tr>
<td>Total number of juvenile arrests for alcohol-related charges†</td>
<td>14.0</td>
<td>5.7</td>
<td>0.40</td>
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<tr>
<td>Total number of juvenile arrests for drug-related charges‡</td>
<td>118.0</td>
<td>45.3</td>
<td>0.38</td>
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<tr>
<td>Total number of adult arrests for alcohol-related charges†</td>
<td>822.0</td>
<td>390.3</td>
<td>0.47</td>
</tr>
<tr>
<td>Total number of adult arrests for drug-related charges‡</td>
<td>1123.3</td>
<td>774.3</td>
<td>0.69</td>
</tr>
<tr>
<td>Calls to service to the Durham County Sheriff’s Office</td>
<td>2001-2003</td>
<td>2012-2014</td>
<td></td>
</tr>
<tr>
<td>All calls related to drugs and alcohol complaints</td>
<td>417.3</td>
<td>577.0</td>
<td>1.38</td>
</tr>
<tr>
<td>Calls related to drug complaints only</td>
<td>345.0</td>
<td>400.3</td>
<td>1.16</td>
</tr>
<tr>
<td>Calls related to alcohol complaints only</td>
<td>72.3</td>
<td>176.7</td>
<td>2.44</td>
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<tr>
<td>Automobile crashes in Durham County</td>
<td>2004-2006</td>
<td>2011-2013</td>
<td></td>
</tr>
<tr>
<td>Total number</td>
<td>8175.3</td>
<td>7986.7</td>
<td>0.98</td>
</tr>
<tr>
<td>Total crashes related to alcohol</td>
<td>290.0</td>
<td>289.3</td>
<td>0.998</td>
</tr>
<tr>
<td>Number of crashes related to alcohol that were fatal</td>
<td>4.3</td>
<td>4.0</td>
<td>0.92</td>
</tr>
<tr>
<td>Number of crashes related to alcohol that were non-fatal</td>
<td>140.0</td>
<td>143.0</td>
<td>1.02</td>
</tr>
<tr>
<td>Drinking and Driving in Durham</td>
<td>2000-2002</td>
<td>2011-2013</td>
<td></td>
</tr>
<tr>
<td>DUI arrests for adults</td>
<td>704.7</td>
<td>347.7</td>
<td>0.49</td>
</tr>
<tr>
<td>DUI arrests for juveniles</td>
<td>7.7</td>
<td>2.7</td>
<td>0.35</td>
</tr>
<tr>
<td>DUI arrest rate for adults</td>
<td>4.0</td>
<td>1.6</td>
<td>0.40</td>
</tr>
<tr>
<td>DUI arrest rate for juveniles</td>
<td>0.1</td>
<td>0.04</td>
<td>0.30</td>
</tr>
</tbody>
</table>

Notes: *Substance use among homeless was not collected in 2001 so a two-year average was used.
† Includes arrests for DUI. ‡ Includes both charges for sale and possession.
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 at each problem caused by substance abuse in isolation 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—not just 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. This report builds on the Durham County 2007, 2010, and 2013 reports.

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."  

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. 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 provides treatment professionals, law enforcement, and medical professionals the time to gain more knowledge of 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 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 by substance misuse and abuse. 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 arrests related to possession and sales of illicit substances, as well as liquor law violations, drunk driving, substance use among adjudicated youth, and arrests on college campuses.

The next section discusses the prevalence of alcohol in Durham, as well as some of the consequences 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 final section focuses on the prevalence of smoking and other use of tobacco products and the associated dangers.
Demographics of Durham County

Understanding the demographics of a community is helpful in 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 2013 was 288,243. Children under the age of 18 account for 22.1 percent of Durham’s population (vs. 23.2 percent in North Carolina), while those over the age of 65 account for 10.6 percent (vs. 14.3 percent in North Carolina).

Durham is particularly diverse when compared to North Carolina as a whole. According to projections of the 2010 Census, in 2013 half of Durham was White (53.1 percent), relative to 71.7 percent of North Carolina. Durham is 38.7 percent African-American, relative to 22.0 percent of the state. 13.5 percent of Durham’s population is of Hispanic or Latino origin, compared to 8.9 percent in North Carolina. 4.8 percent of the population is Asian, relative to 2.6 percent in the state. Moreover, 13.9 percent of people in Durham reported being foreign-born which is nearly double the statewide figure of 7.6 percent.

Figure 1 shows how the population of Durham County has grown from 2000 to 2013. From 2000 to 2013, projections from the 2010 Census suggest that the population of Durham County grew by about 28 percent. While the total population in each of the racial and ethnic populations has increased, the Hispanic population has grown from 8 percent of the population to 13 percent.

![Figure 1](image)

**Figure 1**
Durham County population growth by race/ethnicity, 2000 – 2013

*Source: USDHHS, CDC, NCHS, Bridged-Race Population Estimates*
Durham is generally better educated and slightly wealthier than the rest of the state. While a larger percent of Durham residents over the age of 25 have a Bachelor’s degree or higher (45.1 percent relative to 27.3 percent for the state), slightly fewer have not completed high school (13.1 percent relative to 15.1 percent for the state). While 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 (18.5 percent vs. 17.5 percent).

**Scope of the Problem in Durham County**

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. In this survey there were several questions which included mental health and substance abuse issues; specifically respondents were asked to look at several lists and rank their top three health problems. For example, one question had a list of over 20 health issues. Respondents were told, "Keeping in mind yourself and the people in your neighborhood, I would like for you to name the most important health problems (that is, diseases or conditions). You can choose up to 3." The most popular response was addiction to alcohol, drugs, or medication (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 (ED) 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 used 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) (North Carolina Division of Public Health, Carolina Center for Health Informatics). NC DETECT is available at [http://www.ncdetect.org/](http://www.ncdetect.org/). 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 2014, by age group (6-17, 18-24, and 25+) for Durham County residents. The ICD9 codes used in this report to define substance use are '291' - '292.99' or '303' - '305.03' or '305.20' - '305.99' or 'V79.1'. Data that were provided for reports prior to the 2013 substance abuse report are not comparable to data that were provided for this and the 2013 report, as the ICD9 codes used to define substance abuse changed. Rates were calculated using Bridged-Race Population Estimates available from [http://wonder.cdc.gov/bridged-race-population.html](http://wonder.cdc.gov/bridged-race-population.html).

Disclaimer: “The North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT) is an advanced, statewide public health surveillance system. NC DETECT is funded with federal funds by North Carolina Division of Public Health (NC DPH), Public Health Emergency Preparedness Grant (PHEP), and managed through a collaboration between NC DPH and the University of North Carolina at Chapel Hill Department of Emergency Medicine’s Carolina Center for Health Informatics (UNC CCHI). 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 the NC DPH, UNC NC DETECT Team and NC Hospital Association.” The NC DETECT Data Oversight Committee (DOC) includes representatives from the NCDPH, UNC NC DETECT Team and NC Hospital Association.

**Findings:** Table 1 provides the number of ED visits by age that is available for 2010 to 2014. There were approximately 26.5 percent fewer ED visits related to substance use in 2014 relative to 2010 for all individuals aged 6 and above. For adults over 25, there was a decrease of 22.3 percent in the number of visits between 2010 and 2014. During this same time period, the number of visits for individuals aged 18-24 decreased 55.1 percent, and the number of visits for individuals aged 6-17 decreased 68.3 percent.

[Table 1]
Number of substance use-related visits of Durham County residents to emergency departments by age, 2010 – 2014.

<table>
<thead>
<tr>
<th>Year</th>
<th>6-17</th>
<th>18-24</th>
<th>25+</th>
<th>Total for Ages 6 and older</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>60</td>
<td>459</td>
<td>3724</td>
<td>4243</td>
</tr>
<tr>
<td>2011</td>
<td>102</td>
<td>490</td>
<td>4069</td>
<td>4661</td>
</tr>
<tr>
<td>2012</td>
<td>104</td>
<td>484</td>
<td>4257</td>
<td>4845</td>
</tr>
<tr>
<td>2013</td>
<td>59</td>
<td>390</td>
<td>3841</td>
<td>4290</td>
</tr>
<tr>
<td>2014</td>
<td>19</td>
<td>206</td>
<td>2892</td>
<td>3117</td>
</tr>
</tbody>
</table>

Source: NC DETECT
The rate of ED visits per 10,000 population decreased 32.6 percent between 2010 and 2014 for all individuals aged 6 years and older. The rate of visits for children between 6 and 17 years old decreased 70.8 percent, the rate for young adults between 18 and 24 years old decreased 53.6 percent, and the rate for adults over 25 years of age decreased 30.2 percent. Figure 2 provides information on emergency room visit rates from 2010 - 2014.

![Figure 2](image)

**Rate of total emergency department visits related to substance use for Durham County per 10,000 residents by age, 2010 – 2014.**

**Deaths Reported by the NC Office of the Chief Medical Examiner**

**Indicators:**
- Number of deaths investigated by the NC Office of the Chief Medical Examiner (NC OCME)
- Number and percent of toxin-related deaths by type of substance

**Relevance:** In N.C. from 1999-2011 the number of deaths from unintentional poisoning tripled. Ninety-one percent of unintentional poisonings were caused by over-the-counter drugs, prescriptions or illicit substances. Deaths investigated by the medical examiner provide insight into the types of drugs that individuals are accessing and abusing in the community and whether certain segments of the population are more at-risk of death from specific drugs. Changes in the number of substance use-related deaths in a community are especially likely when a drug is first introduced into a community or when there is a change in the purity or composition of a drug that is commonly used.
**Data:** Data were provided by the NC OCME. Individuals include Durham County residents; however, the death may have occurred in another county in North Carolina. 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 Hispanic ethnicity that had a race listed. Only completed cases, where a substance was determined to primarily or additively cause death, were included. Deaths from toxins include accidental, suicides, or undetermined manners which are thought to most likely to be unintentional overdoses.⁹

**Findings:** Figure 3 examines the number of toxin-related deaths of Durham County residents from 2004-2013. Across all ten years, the composition of Durham residents who died from toxin related causes was 40 percent Black, 55 percent White, 4 percent Hispanic, and 2 percent Native American, Asian, and individuals of unknown race/ethnic origin combined. Across the six years, males comprised 62 percent of deaths from toxins and females 38 percent (201 total deaths, 124 males and 77 females).

![Figure 3](image_url)

**Source:** NC Office of the Chief Medical Examiner

*Note: Native Americans (who had 1 death in each 2009, 2013), Asian (who had 1 death in 2013) and individuals of unknown race (who had 1 death in 2006) were omitted from this figure*

[Figure 3]
Number of deaths related to toxins for Durham County residents by race, 2004-2013

The NC OCME lists toxins that are either the primary or a contributing factor in the individual’s death. For this study we code the drugs into the following five categories for
analysis: alcohol, prescription drugs\(^2\), cocaine, heroin, and other. Figure 4 provides insight into the relative contributions of various substances that are the primary or contributing cause of death for Durham residents. Of the 201 total deaths related to toxins between 2004 and 2013, prescription drugs are the most frequently mentioned toxin—mentioned in 56 percent of Durham residents who died from toxin-related deaths. Prescription drugs are followed by cocaine (32%), heroin (17%), alcohol (11%), and other (8%) (See Figure 4). Please note that multiple drugs may be listed in a single death so the total exceeds 100 percent.

[Figure 4]
Drugs causing or contributing to deaths involving toxins for Durham County residents during 10 years by gender, 2004-2013

While a large number of males died from toxin-related deaths, the proportion of male and female deaths related to each toxin was similar. One exception is heroin, which was noted in 21 percent of male toxin-related deaths and only 10 percent of female deaths. Prescription drugs were noted in 62 percent of female toxin-related deaths and 52 percent of male toxin-related deaths. Alcohol was detected in 12 percent of male deaths related to toxins, relative to 9 percent of female toxin-related deaths. Cocaine was noted in 33 percent of male toxin-related deaths and 30 percent of females.

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

\(^2\) The following drugs were coded as prescription drugs: Amitriptyline, Amlodipine, Baclofen, Benzodiazepines, Buprenorphine, Bupropion, Carisoprodol, Citalopram, Codeine, Cyclobenzaprine, Diltiazem, Fentanyl, Fluoxetine, Gabapentin, Hydrocodone, Lamotrigine, Memantine, Methadone, Metoprolol, Mirtazapine, Morphine, Nortriptyline, Oxycodone, Oxymorphone, Paroxetine, Pentobarbital, Phenobarbital, Pregabalin, Promethazine, Propoxyphene, Propranolol, Quetiapine, Sertraline, Tramadol, Trazodone, Venlafaxine, Zolpidem
figure demonstrates that toxin-related deaths have been spread across age groups over the last ten years. Examining data over a ten-year period (2004 to 2013), the largest number of deaths occurred in older individuals (ages 55+) and individuals ages 30-34.

[Figure 5]

Deaths related to toxins by age for Durham County residents during 10 years, 2004-2013
The NC OCME certifies the manner of death. Across 2004-2013, of the 201 deaths related to toxins, 156 were accidental (77.6%), 36 were suicides (17.9%), and 9 were undetermined (4.5%). For Blacks, Whites, and Hispanics, accidental deaths were more frequent than the other manners combined. Of the 36 deaths that were a result of suicide, a little over 70 percent of deaths were individuals identified as White (26 deaths); the remaining individuals were identified as Black (10 deaths).

Prescription Drug Related Deaths in Durham County

Indicators:
- Number of prescription drug-related deaths.

Relevance: Although prescription drug deaths were described above, because this is growing public health concern, a separate section is included. Prescription drug abuse includes non-medical use, misuse, and abuse of medications. Prescription drug abuse is a growing problem across the country, in part due to misperceptions about safety and increasing availability of medications. An estimated 20 percent of people age 12 and older misuse or abuse prescription drugs at least once in their lifetime. Prescription drugs are also one of the most commonly abused illicit drugs by high school seniors. 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, stating that 44 people die from overdose of
prescription painkillers every day. In fact, since 1999, unintentional overdose deaths involving opioid pain relievers have outnumbered deaths involving heroin and cocaine.

**Data:** Data about deaths were provided by the NC OCME. Individuals include Durham County residents; however, the death may have occurred in another county. See footnote 2 above for a list of prescription drugs listed in cases from the NC OCME.

**Findings:** Figure 6 presents the total number of deaths related to prescription drugs. In 2013, there were 16 deaths related to prescription drugs, and a total of 119 deaths between 2004 and 2013 were related to prescription drug use. Of all deaths between 2004 and 2013, 42.5 percent of deaths related to prescription drugs were female. During the ten years between 2004 and 2013, deaths by race/ethnicity were: 64.6 percent White, 31 percent Black, <1 percent Hispanic, <4 percent Asian, Native American, and Unknown combined.

**HIV and Injection Drug Use**

**Indicator:**
- The number of new HIV cases related to injecting substances (or MSM/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 2011-2013, Durham County had the fourth highest HIV infection rate among N.C. counties. The average rate of newly diagnosed HIV infections per 100,000 people was higher in Durham than N.C. (25.7 vs. 15.0, respectively) Fortunately, the Durham County rate has declined over the last six years from 35.8 in 2006-2009.
• Among Durham residents from 2009-2013, HIV was the seventh leading cause of death for those aged 20-39, compared to the fourth leading cause of death from 2000-2004.17, 18

• In Durham, males are living with HIV at a greater rate than females. In 2013, the HIV rate (per 100,000) for males was 56.2 compared to 11.4 for females.19 According to the most recently available data (2003-2007), injection drug use was the source of infection for approximately 9 percent of males and 7 percent of females in Durham County.20 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 2013 was 9.6 for Whites, and 67.1 for African-Americans.19 Figure 7 shows HIV rates by race since 2000.

![Figure 7](source)

New HIV infection rates in Durham County, by race, 2000-2013

**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 2000.19 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 2000-2013, indicating that the total number of HIV cases per year related to substance use has decreased [for more detail see reference 3] During the years 1995-1999, there were approximately 27 new cases each year, relative to less than five cases per year since 2005 [for more detail see reference 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>
<thead>
<tr>
<th>Table 2</th>
</tr>
</thead>
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<tr>
<td>Number of new HIV cases by year and mode of exposure in Durham County, 2000-2013</td>
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</tbody>
</table>

<table>
<thead>
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<th>Mode of Exposure</th>
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<th>'02</th>
<th>'03</th>
<th>'04</th>
<th>'05</th>
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<td>Injection drug use</td>
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<td>6</td>
<td>11</td>
<td>6</td>
<td>8</td>
<td>&lt;5</td>
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<td>&lt;5</td>
<td>&lt;5</td>
<td>&lt;5</td>
<td>&lt;5</td>
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<tr>
<td>Men having sex with men or injection drug use</td>
<td>&lt;5</td>
<td>&lt;5</td>
<td>&lt;5</td>
<td>&lt;5</td>
<td>0</td>
<td>&lt;5</td>
<td>0</td>
<td>&lt;5</td>
<td>&lt;5</td>
<td>&lt;5</td>
<td>0</td>
<td>&lt;5</td>
<td>&lt;5</td>
<td>&lt;5</td>
</tr>
<tr>
<td>Total number of new HIV cases</td>
<td>94</td>
<td>118</td>
<td>108</td>
<td>73</td>
<td>85</td>
<td>84</td>
<td>89</td>
<td>68</td>
<td>96</td>
<td>82</td>
<td>86</td>
<td>68</td>
<td>71</td>
<td>75</td>
</tr>
</tbody>
</table>

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

Substance Abuse and Social Services

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 the North Carolina Coalition to End
Homelessness. Older data were made available by Lloyd Schmeidler. Please note that the different sources sometimes had slightly different counts.

**Findings:** The most recent years available, 2013 and 2014, mark the years with the highest number of homeless individuals in Durham, with 759 and 758, respectively. While this is only 8.6 percent higher than the number of homeless in 2012, it is 42 percent higher than the number in 2009. While the total number of homeless has increased, the number of homeless who reported substance use disorders has decreased. In the most recent year, 2014, 37 percent of homeless adults in Durham County have an addiction illness. See Figure 8.

![Figure 8](image)

*Source: Point in time data from the North Carolina Coalition to End Homelessness and the Ten Year Plan to End Homelessness*

Substance use among the Durham homeless population: 2001-2014
Substance Abuse and Law Enforcement

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. 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. 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 2013, possession of marijuana (40 arrests) was the primary reason youth under the age of 18 were arrested for violations related to substance use. Sales/manufacturing of marijuana (6 arrests) and possession of opium or cocaine (5 arrests) followed a distant second to marijuana charges. During that same time for adults, the largest substance use-related reason for arrest for adults in Durham County was possession of marijuana (363 arrests), which was closely followed by driving under the influence (344 arrests). There were also a relatively large number of arrests for possession of opium or cocaine (245 arrests). There were less than 100 arrests for sales/manufacturing of opium or cocaine (69 arrests), and sales/manufacturing of marijuana (59 arrests) (see Figure 9).

The number of arrests of juveniles for violations related to substance use has slightly increased since 2011 in Durham County, with arrest for possession of marijuana the largest number of arrest each year. For adults in Durham County, the number of arrests in 2013 was similar compared to 2011 and 2012 for most substances (see Figure 9).
Arrests for possession or sales of illicit substances, driving under the influence, or liquor law violations for juveniles 18 and under and adults, 2011-2013

**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 2013. 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 143 in 2012 and 2013) (see Figure 10). 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 527 in 2012 and 2013) (see Figure 11). A similar decline is seen in arrests for marijuana sales/manufacturing and possession (234 in 2008-2009 vs. 141 in 2012-2013 for sales and 1058 in 2008-2009 vs. 778 in 2012-2013 for possession).
[Figure 10]
Arrests for sale of drugs in Durham County, 1995-2013

[Figure 11]
Arrests for possession of illicit substances in Durham County, 1995-2013
**Arrests among juveniles by race**

Figures 12 and 13 show arrests related to substance use in 2012 and 2013, 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.

![Figure 12](image1)

**Arrests in Durham County of juveniles for possession or sale of illicit substances, driving under the influence, or liquor law violations by race, 2012**

![Figure 13](image2)

**Arrests in Durham County of juveniles for possession or sale of illicit substances, driving under the influence, or liquor law violations by race, 2013**

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

Source: NC State Bureau of Investigation
Substance Abuse among Adjudicated Juveniles

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

**Relevance:** Youth who come into contact with law enforcement for criminal and/or delinquent behaviors are at risk for a number of bad outcomes including failure to complete high school and difficulty maintaining employment.\(^2^4\) One risk factor that is of higher prevalence among youth who become involved with the juvenile justice system relative to their peers who are not involved with the juvenile justice system is substance use.\(^2^5\) A few studies have examined the effect of substance use treatment on youth with varying degrees of involvement in the juvenile justice system and have found encouraging results that substance use treatment can reduce the use of both substance use and criminal involvement.\(^2^6\)

**Data:** Data were provided by the N.C. Department of Public Safety, Division of Adult Correction and Juvenile Justice. The N.C. Department of Public Safety conducts a needs assessment with youth at their disposition. In 2014, all youth who were disposed completed the needs assessment. 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 2014, according to the N.C. Department of Public Safety, 33 percent of the 124 youth that were disposed in Durham were identified as abusing substances and/or in need of treatment or assessment relative to 20 percent of youth disposed statewide (see Figure 14). Additionally, a higher percentage of youth in Durham were identified as needing further assessment for substance use services (31 percent in Durham vs. 23 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 about two-thirds of these youth are in need of treatment or further assessment.
Since 2008 there have been slightly fewer youth disposed each year both statewide and in Durham County, but the overall percentage of disposed youth needing treatment services remained relatively constant (see Figure 15).

[Figure 14]
Needs assessment of disposed youth in Durham County and N.C., 2014

[Figure 15]
Percentage of youth identified as abusing substances and/or in need of treatment or assessment between 2008 and 2014 in Durham County and N.C.
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.27

**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 15,500 students in 2013.
- Durham Technical Community College awards two-year degrees to students and enrolled approximately 5,600 students in 2013.
- N.C. Central University, a historically Black university that enrolled about 8,100 students in 2013.

Figures 16 and 17 show the number of arrests for liquor law violations and drugs that occurred at these postsecondary institutions from 2001-2013 (no data are available for 2006). Duke University had a relatively large number of arrests (27) in 2004 for liquor law violations but only 2 in 2013. 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 a decrease in arrests for drugs in 2010 and 2011 (6 and 11 respectively) the number of arrests rose in 2012 and 2013.
[Figure 16]  
Arrests for liquor law violations on college campuses in Durham: 2001-2013

[Figure 17]  
Arrests for drugs on college campuses in Durham: 2001-2013

Source: Office of Postsecondary Education
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 18 provides information on calls to service to the Durham County Sheriff’s Office for potential violations related to controlled substances. From 2013 to 2014, there was approximately a 14 percent decrease in the number of complaints related to controlled substances. Additionally, narcotics complaints were down 12 percent over this same time period.
Figure 19 examines the time and day of calls to service. Figures 20 and 21 examine this same data separately for drug- and alcohol-related offenses. Calls to service are highest from 12-9 pm on Wednesdays and Thursdays—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.

![Figure 19](image)

**Legend**

- 0-50
- 51-100
- 101-150
- 151-200
- 201-250
- 251-300

**Heat map of time and day for calls to service related to drugs and alcohol for all years, 2001-2014**

<table>
<thead>
<tr>
<th>Time</th>
<th>Sunday</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
</tr>
</thead>
<tbody>
<tr>
<td>12a.m.-2:59a.m.</td>
<td>52</td>
<td>22</td>
<td>29</td>
<td>33</td>
<td>54</td>
<td>68</td>
<td>74</td>
</tr>
<tr>
<td>3 a.m.-5:59a.m.</td>
<td>20</td>
<td>7</td>
<td>9</td>
<td>7</td>
<td>6</td>
<td>12</td>
<td>18</td>
</tr>
<tr>
<td>6a.m.-8:59a.m.</td>
<td>8</td>
<td>49</td>
<td>62</td>
<td>56</td>
<td>77</td>
<td>52</td>
<td>9</td>
</tr>
<tr>
<td>9a.m.-11:59a.m.</td>
<td>20</td>
<td>115</td>
<td>174</td>
<td>196</td>
<td>191</td>
<td>151</td>
<td>29</td>
</tr>
<tr>
<td>12p.m.-2:59p.m.</td>
<td>30</td>
<td>163</td>
<td>209</td>
<td>241</td>
<td>226</td>
<td>178</td>
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<tr>
<td>3p.m.-5:59p.m.</td>
<td>26</td>
<td>102</td>
<td>229</td>
<td>295</td>
<td>248</td>
<td>170</td>
<td>59</td>
</tr>
<tr>
<td>6p.m.-8:59p.m.</td>
<td>31</td>
<td>78</td>
<td>170</td>
<td>179</td>
<td>223</td>
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</tr>
<tr>
<td>9p.m.-11:59p.m.</td>
<td>27</td>
<td>45</td>
<td>89</td>
<td>133</td>
<td>155</td>
<td>128</td>
<td>78</td>
</tr>
</tbody>
</table>

![Figure 20](image)

**Legend**

- 0-50
- 51-100
- 101-150
- 151-200
- 201-250
- 251-300

**Heat map of time and day for calls to service related to drugs for all years, 2001-2014**
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.

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), which is published by the CDC and available from the N.C. State Center for Health Statistics. Data should be interpreted with caution as the number of respondents to the BRFSS Alcohol questions was small, and some answers had fewer than 50 respondents answer yes. Findings from the 2011-2013 BRFSS are not comparable to results from previous years due to changes in the weighting.
methodology and the question wording. Therefore, only the results for 2011-2013 are presented. See reference 4 for results for previous years.

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 Figure 22). Binge drinking among Durham residents was similar to that of the rest of the state (11.9% vs. 11.2%).

![Bar Chart](Fig 22)

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), and adult men having more than two drinks per day and adult women having more than one drink per day (heavy drinking), 2011-2013. *Data for Durham County in 2013 for Heavy Drinking was suppressed because it did not meet statistical reliability standards.

**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 $519 billion dollars in the U.S.\textsuperscript{29} In addition, according to a review of the literature by the National Highway Traffic Safety Administration, across the U.S:

In 2013:\textsuperscript{30}

- 31 percent of fatal crashes were alcohol related.
- There is one alcohol-impaired driving fatality every 52 minutes.
- 17 percent of children aged 0-14 years who died in a motor vehicle accident died in alcohol-related crashes.
- 61 percent of the children killed in alcohol-related deaths were passengers in vehicles with drivers who had been drinking.
- 33 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 six times more likely to have a prior conviction for driving while impaired (DWI) than were drivers with no alcohol.

In 2013:\textsuperscript{31}

- Alcohol involvement — either for the driver or for the pedestrian — was reported in 49 percent of the traffic crashes that resulted in pedestrian fatalities. In 34 percent of pedestrian deaths, the pedestrian had a .08 BAC or higher.
- In 45 percent of pedestrian deaths among individuals aged 21-24 years, the pedestrian had a .08 BAC or higher.

In 2013 in N.C.:\textsuperscript{32}

- Nearly a third of all fatal crashes occurring in N.C. involved alcohol. (28%)
- A reportable crash was 1.7 times more likely to be serious enough to cause injury if alcohol was involved.
- Crashes involving injury were 4.5 times more likely to include a fatality if alcohol was involved.
- While one of every 20 crashes involved alcohol, 2 of every 7 fatal crashes and one of every 13 non-fatal injury crashes involved alcohol.

Data: The data come from the N.C. Alcohol Facts website.\textsuperscript{33} 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 2000-2013. 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 2013 in Durham County, 3.5 percent of all reported crashes were related to alcohol, compared to 4.9 percent in N.C. There has been a slight decrease compared to the rise seen in 2008 (3.9%, 3.4%, and 3.5% for years 2011-2013 compared to 4.3% in 2008). A small number of these crashes resulted in fatalities. See Table 3.

**Table 3**
Total crashes and fatal crashes in Durham County related to alcohol, 2004-2013

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Crashes</td>
<td>8,510</td>
<td>8,366</td>
<td>7,650</td>
<td>7,654</td>
<td>7,459</td>
<td>7,424</td>
<td>7,234</td>
<td>7,725</td>
<td>8,039</td>
<td>8,196</td>
</tr>
<tr>
<td>Total Crashes related to alcohol</td>
<td>283</td>
<td>300</td>
<td>287</td>
<td>261</td>
<td>318</td>
<td>276</td>
<td>276</td>
<td>304</td>
<td>275</td>
<td>289</td>
</tr>
<tr>
<td>Fatal Crashes</td>
<td>31</td>
<td>21</td>
<td>22</td>
<td>21</td>
<td>23</td>
<td>16</td>
<td>21</td>
<td>12</td>
<td>22</td>
<td>24</td>
</tr>
<tr>
<td>Fatal Crashes related to alcohol</td>
<td>7</td>
<td>3</td>
<td>3</td>
<td>5</td>
<td>7</td>
<td>2</td>
<td>12</td>
<td>4</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>% of total crashes related to alcohol</td>
<td>3.3%</td>
<td>3.6%</td>
<td>3.8%</td>
<td>3.4%</td>
<td>4.3%</td>
<td>3.7%</td>
<td>3.8%</td>
<td>3.9%</td>
<td>3.4%</td>
<td>3.5%</td>
</tr>
<tr>
<td>% of fatal crashes related to alcohol</td>
<td>22.6%</td>
<td>14.3%</td>
<td>13.6%</td>
<td>23.8%</td>
<td>30.4%</td>
<td>12.5%</td>
<td>57.1%</td>
<td>33.3%</td>
<td>27.3%</td>
<td>8.3%</td>
</tr>
</tbody>
</table>

*Source: N.C. Alcohol Facts*

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 23).
Disposed impaired driving cases in Durham County, 2000-2013

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. 23 For both adults and juveniles, arrest rates are lower in Durham County compared to N.C. Rates of driving under the influence are lower for juveniles than for adults. See Figures 24 and 25 for arrest rates in adults and juveniles in both Durham County and N.C.

DUI arrest rates in adults in Durham County and N.C., 2000-2013

DUI arrest rates in juveniles in Durham County and N.C., 2000-2013
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.”\(^{34}\) Across the nation, approximately 20 percent of deaths each year are attributable to smoking or secondhand smoke.\(^{35}\)

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.
  - Smoking is an attributing factor in the majority of lung cancer deaths.\(^ {34}\)
  - 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.\(^ {34}\)

- **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.\(^ {34}\)

- **Other Health Effects**\(^ {34}\)
  - 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.\(^ {28}\) 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.\(^ {36}\) 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.\(^{37}\)

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 14.6 percent of Durham residents over the age of 18 were current smokers in 2013 (see Table 4). In 2013, 8.6 percent of respondents reported smoking every day (see Table 4).

[Table 4]

<table>
<thead>
<tr>
<th>Smoking status of adults in Durham and N.C., 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults who are current smokers (%)</td>
</tr>
<tr>
<td>-------------------------------------</td>
</tr>
<tr>
<td>Durham</td>
</tr>
<tr>
<td>N.C.</td>
</tr>
<tr>
<td>Four levels of smoking status (%)</td>
</tr>
<tr>
<td>Smoke every day</td>
</tr>
<tr>
<td>Smoke some days</td>
</tr>
<tr>
<td>Former smoker</td>
</tr>
<tr>
<td>Never smoked</td>
</tr>
</tbody>
</table>

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

**Smoking Related Deaths**

According to data from the 2015 County Health Data Book, cancer was the leading cause of death for Durham residents between 2009 and 2013.\(^{38}\) The leading type of cancer was lung cancer (trachea, bronchus, and lung) (see Table 5). The next leading type of cancer was breast cancer in females and prostate cancer in males (breast cancer rate=23.7; prostate cancer rate=24.7). However, lung cancer rates were still 1.5 and 2.5 times higher than breast and prostate cancer rates during 2009 and 2013. From 2007-2011, the Durham County and state death rates for cancers of the trachea, bronchus, and lung were similar (Durham – 46.5 vs. N.C. – 51.6).\(^{38}\)
[Table 5]
Cancer death rates in Durham County by race/ethnicity, 2009-2013 average

<table>
<thead>
<tr>
<th></th>
<th>White, non-Hispanic rate</th>
<th>African American, non-Hispanic rate</th>
<th>Hispanic rate</th>
<th>Male rate</th>
<th>Female rate</th>
<th>Overall rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>All cancer</td>
<td>161.2</td>
<td>215.2</td>
<td>59.8</td>
<td>218.2</td>
<td>149.3</td>
<td>176.5</td>
</tr>
<tr>
<td>Trachea, bronchus, and lung</td>
<td>44.6</td>
<td>53.5</td>
<td>N/A</td>
<td>61.6</td>
<td>35.8</td>
<td>46.5</td>
</tr>
</tbody>
</table>

*Source: 2015 County Health Data Book: 2009-2013 N.C. Resident Race/Ethnicity-Specific and Sex-Specific Age-Adjusted Death Rates*

*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.37

In 2011, the N.C. State Center for Health Statistics began reporting more categories of races and ethnicities; Table 6 has data from 2011-2013. In 2013, 5.2 percent of pregnant women in Durham smoked. This compares with 10.3 percent of pregnant women across the state.

[Table 6]
Percent of mothers who smoked during pregnancy in Durham and N.C. by race/ethnicity, 2011-2013

<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Durham-Total</td>
<td>5.6%</td>
<td>6.8%</td>
<td>5.2%</td>
</tr>
<tr>
<td>Durham-White, non-Hispanic</td>
<td>4.3%</td>
<td>5.3%</td>
<td>4.6%</td>
</tr>
<tr>
<td>Durham-African-American, non-Hispanic</td>
<td>10.7%</td>
<td>13.2%</td>
<td>9.3%</td>
</tr>
<tr>
<td>Durham-Other, non-Hispanic</td>
<td>1.7%</td>
<td>0.7%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Durham-Hispanic</td>
<td>1.3%</td>
<td>1.0%</td>
<td>1.4%</td>
</tr>
<tr>
<td>N.C.-Total</td>
<td>10.9%</td>
<td>10.6%</td>
<td>10.3%</td>
</tr>
<tr>
<td>N.C.-White, non-Hispanic</td>
<td>14.0%</td>
<td>13.5%</td>
<td>13.0%</td>
</tr>
<tr>
<td>N.C.-African-American, non-Hispanic</td>
<td>10.3%</td>
<td>10.2%</td>
<td>9.8%</td>
</tr>
<tr>
<td>N.C.-Other, non-Hispanic</td>
<td>7.5%</td>
<td>7.8%</td>
<td>7.8%</td>
</tr>
<tr>
<td>N.C.-Hispanic</td>
<td>1.7%</td>
<td>1.8%</td>
<td>1.7%</td>
</tr>
</tbody>
</table>

*Source: 2011, 2012, 2013 Basic Automated Birth Yearbook N.C. Residents (The BABY Book).*
Figure 26 shows the percent of pregnant women who reportedly smoked during pregnancy from 1998 to 2013.\textsuperscript{37} 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 North Carolina. However, the number of Durham County’s pregnant women who report smoking has increased from the low observed in 2006 (3.1%) to between 5 and 7 percent in subsequent years.

![Graph showing percent of mothers who smoked during pregnancy in Durham and N.C., 1998-2013. Source: Basic Automated Birth Yearbook North Carolina Residents (The BABY Book).]
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. 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. 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.
References


