

North Carolina Public Health
Annual Report to the N.C. Medical Society
October 2011

From the State Health Director

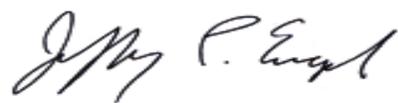
Allow me to express my apologies for my absence at the annual meeting of the North Carolina Medical Society. A professional conflict at another meeting out-of-town has prohibited my attendance at NCMS this year. Nonetheless, I am pleased to provide you with the 2011 Annual Report from the Division of Public Health.

This year, we inaugurated the Healthy North Carolina 2020 Campaign, an effort led by the North Carolina Division of Public Health to improve the overall health of our state. North Carolina perennially ranks in the bottom third of the 50 states for health outcomes. Ranked 35th in the nation in 2010, a great proportion of our poor health stems from poor health choices regarding tobacco and other substance use (and abuse), poor nutrition, and physical inactivity. These behaviors lead to cardiovascular disease and stroke, cancer, obesity, and diabetes - preventable diseases that contribute to the leading causes of morbidity, mortality, and health disparity in our state.

The 2020 Campaign is aimed at reducing preventable illness by implementing evidence-based interventions in the community and the clinic. Community prevention refers to how we, through policy change, can affect our environment to help people "make the healthy choice the easy choice." Examples include expanding sidewalks, greenways and bike lanes, creating smoke-free zones in public places, improving healthier food choices at convenience stores, and restricting sugared beverages in school vending machines. High-impact clinical preventive services examples are improving systems of care that help patients have success controlling hypertension and high cholesterol - two of the leading preventable risk factors of cardiovascular disease.

The practice of prevention, whether in the clinic or the community, will determine the success of the Healthy North Carolina 2020 Campaign. Our continued collaborative work in health care and health promotion will lead North Carolina to become a healthier state.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeffrey P. Engel". The signature is written in a cursive, flowing style.

Jeffrey Engel, M.D.
State Health Director

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A Snapshot of Our State

Source: North Carolina Center for Health Statistics.

A Typical Day in North Carolina: Births 2010		
Category	Average Number	Year Total
Live Births	335	122,302
Births to Teens (Ages 10-14)	0	163
Births to Teens (Ages 15-19)	34	12,303
Low Birthweight Babies	31	11,152
Births to Unmarried Women	141	51,333

A Typical Day in North Carolina: Deaths 2010		
Category	Average Number	Year Total
Deaths	215	78,604
Unintentional Injury Deaths	11	4,130
Cancer Deaths	49	18,013
Homicides	1	536
Suicides	3	1,160
Infant Deaths (< 1 yr old)	2	854

Life Expectancy and Years of Life Lost for North Carolinians

The life expectancy at birth for North Carolinians is 77.3 years, compared with the U.S. average of 77.9 years.¹ This is more than two years greater than the state's life expectancy at birth in 1990 and four years more than the life expectancy in 1980.²

Chronic diseases and injuries are responsible for approximately two-thirds of all deaths in North Carolina, or just over 51,000 deaths each year (Table 1). Cancer, heart disease, chronic lung disease, stroke, and Alzheimer's Disease make up the top five causes of death in the state.

**Table 1: 2010 NC Ten Leading Causes of Death:
Total Deaths and Years of Life Lost***

Rank	Cause	Total Deaths	Average Years of Life Lost	Total Years of Life Lost
1	Cancer	18,013	10.1	182,634
2	Heart disease	17,090	7.2	122,751
3	Chronic lower respiratory diseases	4,490	5.6	25,073
4	Stroke	4,281	5.4	23,094
5	Alzheimer's disease	2,813	0.6	1,779
6	Other unintentional injuries	2,762	21.4	59,172
7	Diabetes	2,036	9.7	19,705
8	Kidney diseases	1,886	6.6	12,399
9	Pneumonia & influenza	1,684	5.2	8,779
10	Motor vehicle injuries	1,368	35.7	48,858
Total Deaths - All Causes		78,604	10.0	786,368

*Based on average U.S. life expectancy of 77.9 years.

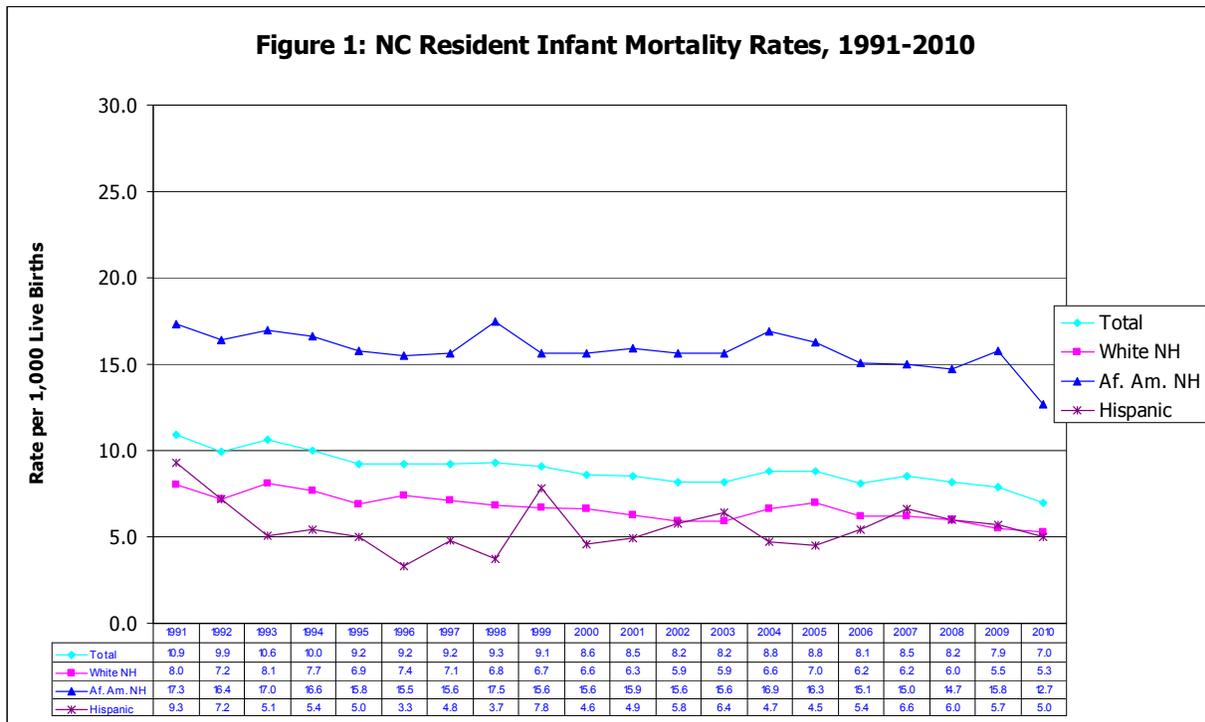
¹Life Expectancy: North Carolina 2007-2009, State-Level. N.C. Division of Public Health, State Center for Health Statistics, 2011. Deaths: Final Data for 2007. National Vital Statistics Reports. 2010; 58(19):1. Available at: http://www.cdc.gov/NCHS/data/nvsr/nvsr58/nvsr58_19.pdf

² National Center for Health Statistics. U.S. Decennial Life Tables for 1979-81, Volume II, State Life Tables, No. 34, North Carolina. January 1986. DHHS Publication No. PHS-86-1151-34. Available at: www.cdc.gov/nchs/data/lifetables/life79ncacc.pdf

North Carolina's Infant Mortality Rate at Lowest Level in History; Minority Rate Down Significantly

North Carolina's overall infant mortality rate dropped again in 2010 to the lowest level in the state's history. The state's overall infant (<1 year old) mortality rate was 7.0 deaths per 1,000 live births, a decline of 11.4 percent from the 2009 rate of 7.9. Over the past 20 years (Figure 1), the infant death rate has fallen from 10.9 per 1,000 in 1991, a decrease of 36 percent.

The non-Hispanic African American rate reached its lowest level ever in 2010, declining by 19.6 percent from 2009 to 2010. Despite such dramatic improvement, African Americans continue to experience rates more than two times (2.4) higher than whites. African American women also continue to experience markedly higher rates of low birth weight babies (14.1%) than whites (7.8%).³



The 2010 Infant Mortality Report also shows that deaths attributed to Sudden Infant Death Syndrome (SIDS) decreased from 98 deaths in children under one in 2009 to 53 in 2010. Deaths from accidental suffocation increased from seven in 2009 to 13 in 2010.

³ A county-by-county listing of final infant death rates and birth characteristics for 2010 is available at <http://www.schs.state.nc.us/SCHS/deaths/ims/2010/>

Immunization

The 2010 National Immunization Survey (NIS) for children aged 19-35 months indicates that North Carolina's children are vaccinated at a higher rate than the national average.

Vaccine	Estimated Vaccine Coverage Percentage	
	North Carolina	National Average
DTaP (4 doses)	87.5±4.2	84.4±1.0
Polio (3 doses)	96.9±2.3	93.3±0.7
MMR (1 dose)	94.5±2.9	91.5±0.7
Hib (3 dose - S)*	92.9±3.3	92.2±0.8
Hepatitis B (3 doses)	93.7±3.2	91.8±0.7
Varicella (1 dose)	94.1±3.0	90.4±0.8
Pneumococcal (4 doses)**	87.5±4.3	83.3±1.0
Hepatitis A (2 doses)**	48.1±6.5	49.7±1.4
Rotavirus (3+ doses)**	69.6±6.2	59.2±1.4
Overall (4:3:1:0:3:1:4 series)***	77.1±5.4	72.7±1.2

*Availability of Hib vaccine was affected by a nationwide shortage from 2007 to 2009.

**Pneumococcal, Hepatitis A and Rotavirus vaccines are not required in North Carolina.

***The overall series (4 DTaP: 3 Polio: 1 MMR: 0 Hib: 3 Hep B: 1 Varicella: 4 Pneumococcal) does not take Hib vaccination coverage into account because of the nationwide shortage.

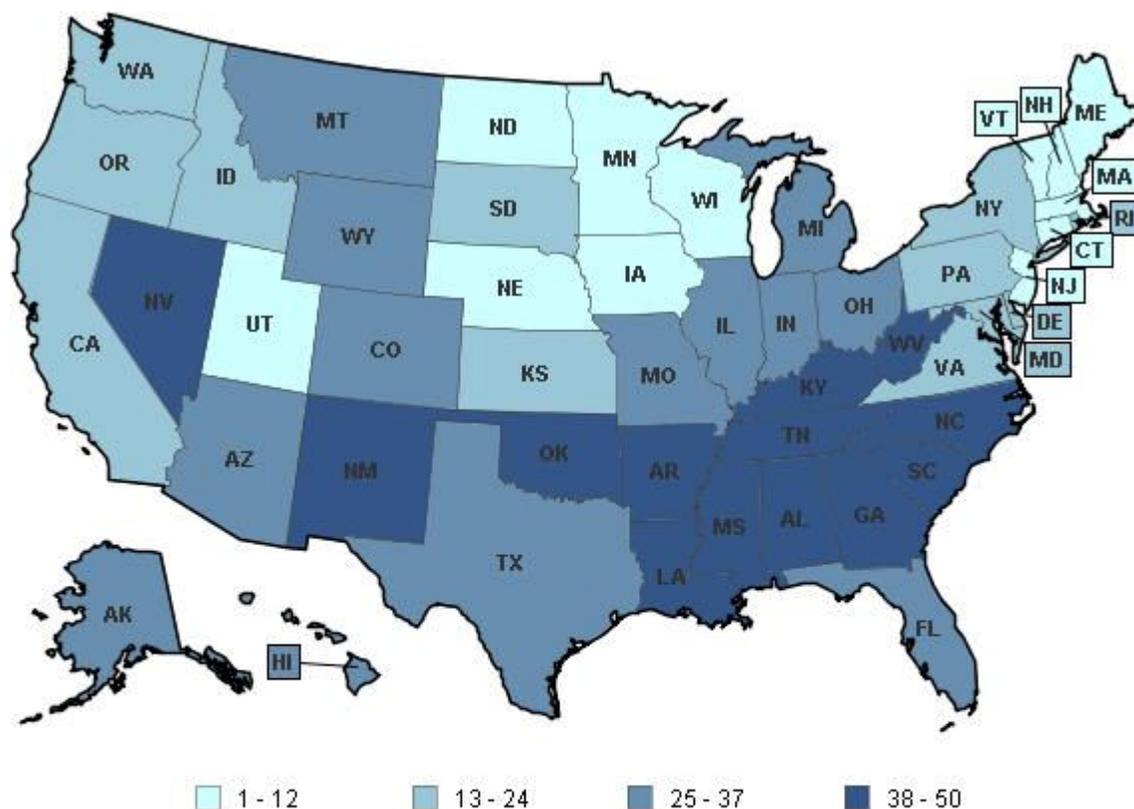
NIS data from 2009 ranked North Carolina fourth in the country for overall vaccination series coverage. This ranking represented the measure for the last year of the state's universal vaccine program. In 2010, North Carolina's ranking fell to 13th.

The Immunization Branch continues to oversee the federally funded Vaccines for Children (VFC) program in North Carolina. The state estimates that approximately 67 percent of children in North Carolina qualify for VFC and are being served by 1,300 public and private health care facilities that participate in the N.C. Immunization Program (NCIP). The North Carolina Immunization Registry (NCIR) is being utilized by 94 percent of program participants.

In fall 2011, the Immunization Branch conducted immunization awareness outreach through media campaigns focusing on immunizations through the lifespan, meningitis vaccination among college students, and influenza prevention.

Kids Count Rankings Show Southern States Lag

North Carolina ranks 38 among the 50 states (1=best, 50=worst) for key indicators of children's health as measured by Kids Count. As recently as 2003, our state was ranked 45 of 50 states. The 10 measures include: percent low birthweight babies; infant mortality rate (< 1 yr); child death rate (ages 1-14); rate of teen deaths (ages 15-19), teen birth rate; percent of children living with parents who do not have full-time, year-round employment; percent of teens not in school and not high school graduates; percent of teens not attending school and not working; percent of children in poverty; and percent of children in single parent families.



KIDS COUNT overall rank (Number) - 2011

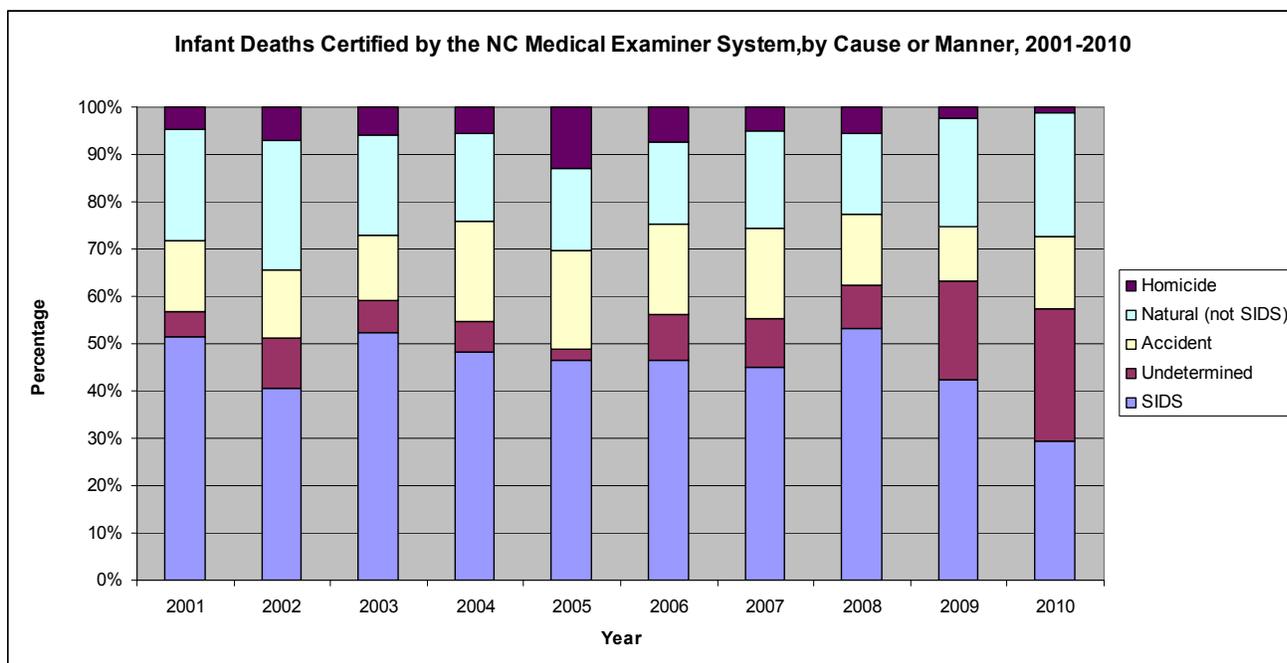
KIDS COUNT Data Center, www.kidscount.org/datacenter
A Project of the Annie E. Casey Foundation

Source:

http://datacenter.kidscount.org/databook/2011/OnlineBooks/2011KCDB_FINAL.pdf

Improving Information about Sudden and Unexpected Infant Deaths

The North Carolina Medical Examiner System has certified an average of 211 infant (< 1 year old) deaths each year over the past 10 years. The majority of these deaths are initially “sudden and unexpected,” with no apparent or known illness, disease or trauma that would cause death. In some cases, the cause of death will become apparent after autopsy. However, in more than 75 percent of the infant death cases, additional information is necessary to properly determine the cause and/or manner of death. Details gathered about the scene, circumstances of the death and relevant history aid in the determination of a classification of a death as Sudden Infant Death Syndrome, accidental asphyxiation while sleeping or even homicide.



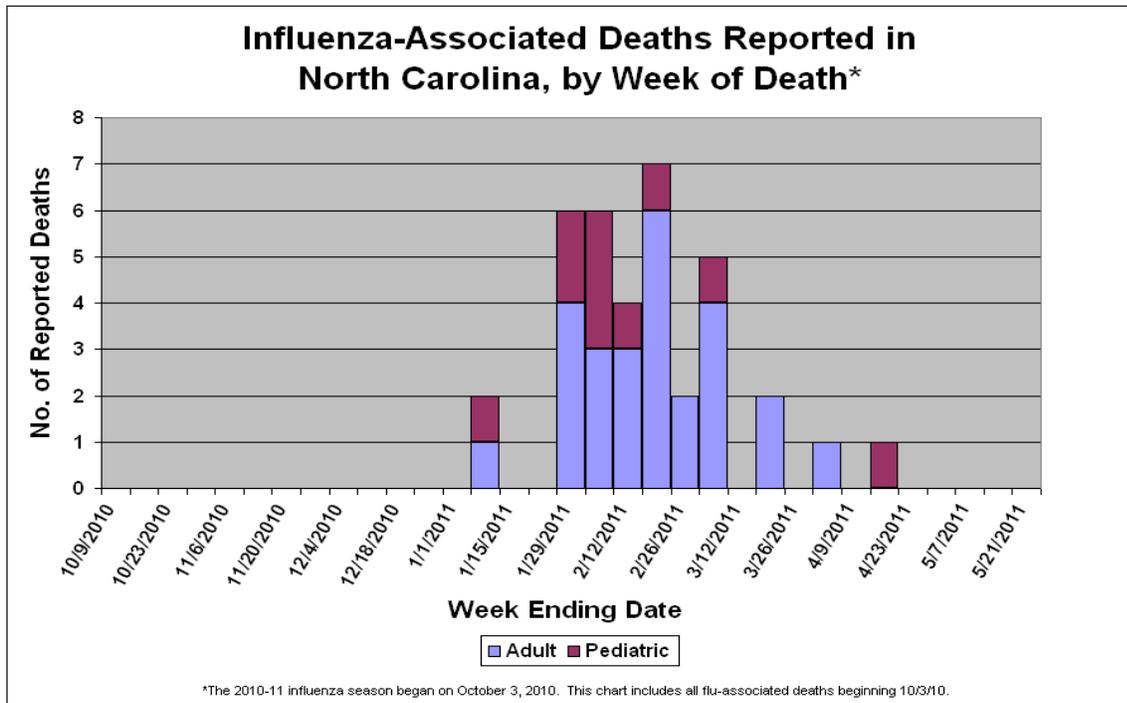
The N.C. Child Fatality Prevention Team (NC CFPT), housed at the Office of the Chief Medical Examiner, has long recognized the information gathered by law enforcement goes beyond aiding in the determination of the cause and manner of death to providing insight into the needs of families, agencies and organizations to reduce risk and prevent child deaths. In 2009 and 2010, the NC CFPT recommended that law enforcement officers receive child death investigation training as part of their initial education.

In 2010, NC OCME/CFPT staff took the lead on this endeavor. Working with the Law Enforcement Training and Standards Commissions at the N.C. Department of Justice, amendments were made to the existing Basic Law Enforcement Training curriculum, required for all new law enforcement officers, to address child death scene and child death investigation process. These changes went into effect in July 2010.

Surveillance

Seasonal Influenza

Influenza continues to be a major cause of illness and death for North Carolinians. Although fewer flu-associated deaths were reported during 2010–11 than during the 2009 H1N1 pandemic, the number of deaths reported among children was actually higher. This underscores the importance of annual vaccination to prevent influenza virus infection and potential severe complications.



The Communicable Disease Branch tracks influenza activity every year through active reporting by more than 90 volunteer sentinel practices, as well as monitoring of hospital ED visits, hospital laboratory data and viral surveillance at the N.C. State Laboratory of Public Health. Doctors and the public are provided with updated information about the types of flu viruses that are circulating, when flu activity has begun in their area, and other facts they need to make informed decisions about treatment and prevention.

Influenza information for the public and providers can be found at www.flu.nc.gov and North Carolina's pandemic influenza plan can be found at <http://www.epi.state.nc.us/epi/gcdc/pandemic.html>.

Infections in Health Care Settings

One of every 20 patients hospitalized in the United States will develop a healthcare-associated infection (HAI) while receiving treatment for other conditions. These infections result in up to 99,000 deaths each year and cost our healthcare system \$28 to \$33 billion annually.

On May 31, 2011, Governor Perdue signed the HAI bill into law. Beginning in January 2012, all North Carolina hospitals will be required to report selected HAIs to the state. Public disclosure of hospital HAI rates is scheduled to begin later in the year.

The North Carolina HAI Prevention Program was formed in 2009 to protect North Carolinians from these devastating infections. The program has a successful relationship with the Statewide Program for Infection Control and Epidemiology at UNC and continues to collaborate with them on many areas related to the surveillance and prevention of HAI. The HAI Prevention Program has four main objectives:

- To conduct statewide surveillance for HAIs
- To provide useful, unbiased information to health care providers and consumers
- To promote and coordinate prevention efforts
- To respond to outbreaks in health care settings

Beginning in 2010, the HAI Prevention Program worked with the North Carolina Center for Hospital Quality and Patient Safety and other partners on a large project to reduce central line-associated bloodstream infections- one of the most common and deadly kinds of HAI that occurs in hospitals. During the first phase of the project, the rate of infections was reduced by 46 percent among the 27 participating facilities. This prevented approximately 126 infections and 18 deaths and saved participating hospitals approximately \$2.5 million.

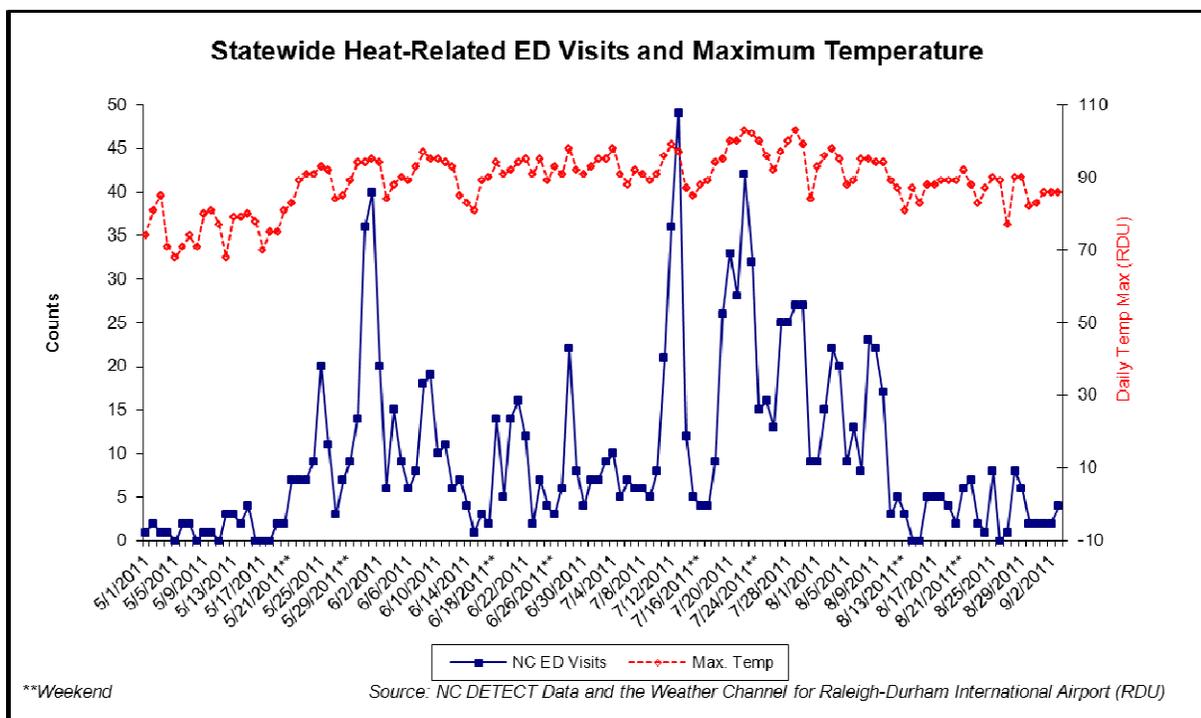
HAIs also occur outside the hospital. In 2010, the Communicable Disease Branch investigated an outbreak of hepatitis B in an assisted-living facility that led to the deaths of six residents. This investigation uncovered major infection control problems and led to the creation of a new law to protect adult care home residents by creating a stronger system of infection control training and oversight.

During the coming year, the HAI Prevention Program will continue to work towards accurately tracking HAIs and promoting evidence-based efforts to prevent these infections. We also will continue to provide 24/7 response to HAI outbreaks wherever they may occur.

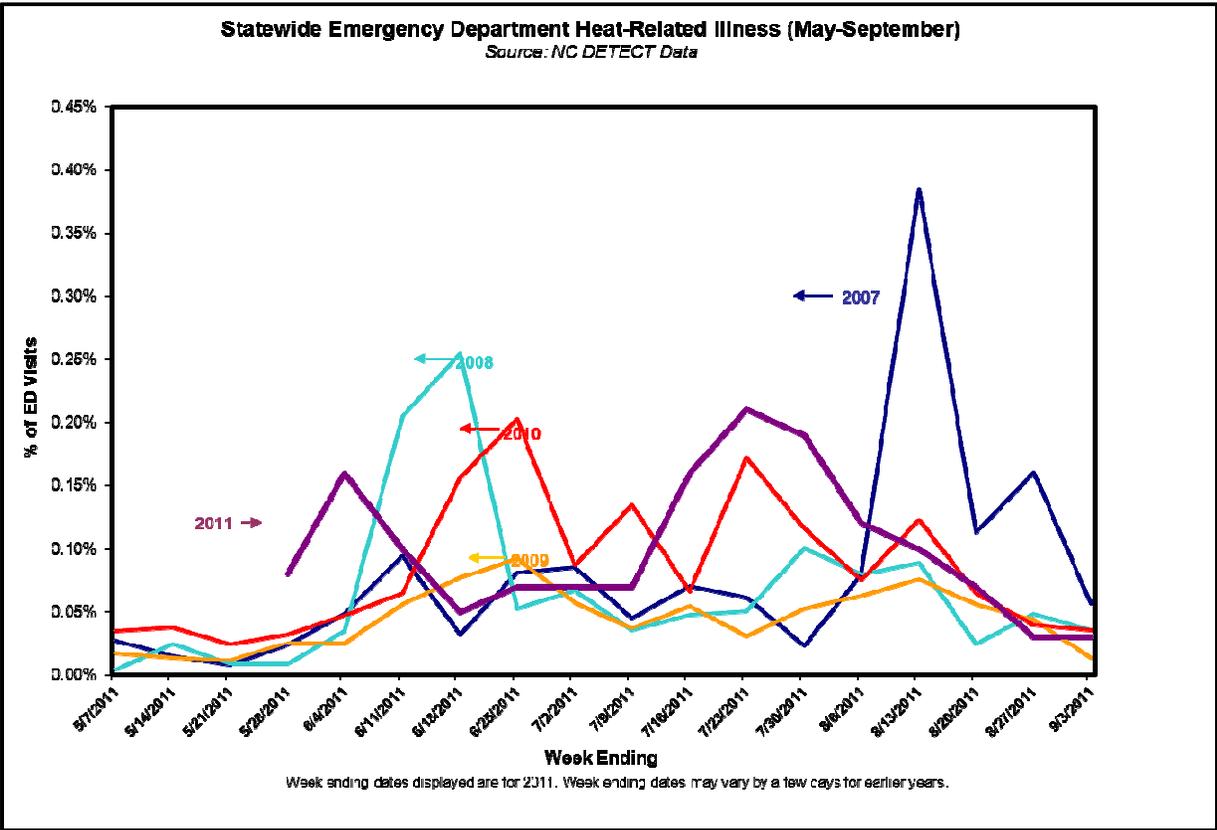
Heat-Related Illness and Injury

The Climate Ready NC Program, initiated in 2011, seeks to measure the impacts of climate change on public health through surveillance of health indicators including, but not limited to, heat illness and death.

From May 1 to Sept. 3, 2011, emergency departments (ED) statewide reported approximately 1,208 heat-related illness visits. According to the data, while proportionally more heat-related ED visits occur when the temperature exceeds 97°F, the majority of heat-related ED visits occur at temperatures below 90°F. This is an important prevention message because the heat index can reach the high 90s or over 100°F while the absolute temperature may be in the 80s.



From 1980-2009, North Carolina recorded 275 heat-related deaths. On average, 18 North Carolinians die from heat annually. The highest number of deaths occurred in 1983 (29) and the lowest number of deaths was one each in 1994 and 2001.



An important pattern to note is the early spike of heat-related illness during late May/early June. The first wave of warmer temperatures may have profound health impacts because acclimation to hotter temperatures has not yet occurred and the public may not be aware of the need for adequate hydration and cooling throughout the spring and summer.

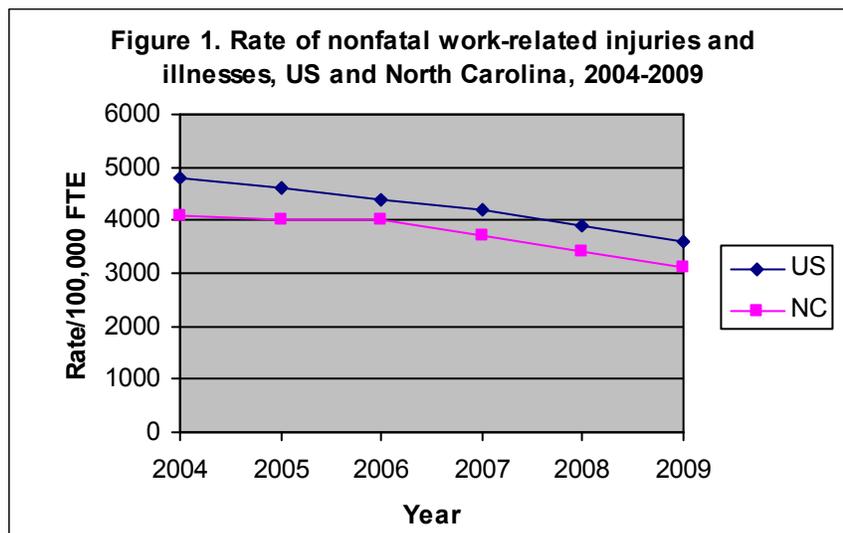
Heat illness prevention information is available at <http://publichealth.nc.gov/chronicdiseaseandinjury/heat.htm>.

Occupational Health Trends 2004 – 2009

Environmental risks to health can occur from exposure to hazardous substances or conditions in the home, in the community, and especially at work. The workplace is a particularly “high-risk” environment because it contains a variety of health hazards and most adults spend a large proportion of their day in this setting. Work-related injury and illness can result in disability, lost wages, and sometimes change in quality of life. It also negatively impacts employer productivity and costs.

The Occupational Surveillance Unit, Occupational and Environmental Epidemiology Branch uses the Council of State and Territorial Epidemiologists (CSTE) *Occupational Health Indicators* (OHIs) to track work-related injuries and illnesses.

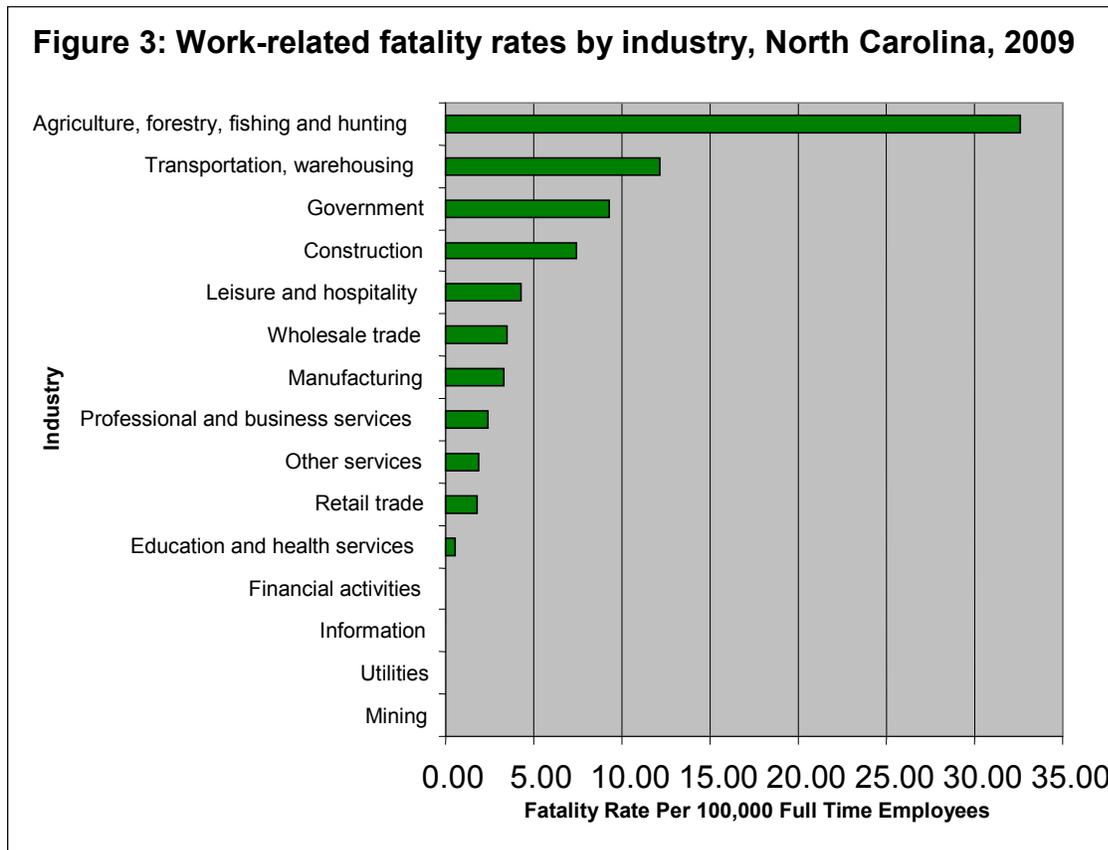
During 2004-2009, reported rates of occupational injury and illness in North Carolina decreased from 4,100 to 3,100 per 100,000 full time equivalent (FTE) workers; representing a 24 percent decrease since 2004 (Figure 1). North Carolina rates have consistently remained lower than the overall national trend.⁴



From 2004 to 2009, there was a decrease in the rates of fatal work-related injuries in North Carolina from 4.8 to 3.3 per 100,000 FTE; this trend represents a 31 percent decline. (FTE = full time equivalent; based on hours worked). In 2004, North Carolina’s rates were in excess of the national average but have been nearly equivalent to the national average since 2005.

⁴ Bureau of Labor Statistics (BLS). Survey of Occupational Injury and Illness. Table 6. Incidence Rates of Nonfatal Occupational Injuries and Illnesses by Industry and Case Types. <http://www.bls.gov/iif/oshstate.htm#NC>.

In 2009 the industry sector, agriculture, forestry, fishing and hunting had the highest fatality rate followed by transportation and warehousing. The 2009 fatality rates by industry are presented in Figure 3.⁵



There is no definitive answer as to why occupational injury and illness rates are decreasing in the state. Strong regulatory programs and improvements in workplace safety by employers and workers may explain these trends; however, employment patterns towards less hazardous work and more recently, economic factors (declines in employment and total hours worked), may also provide explanation for the decrease. Despite declines, more work still needs to be done to help protect the safety of workers and decrease nonfatal and fatal injury and illness rates. This data points to some priority areas for prevention: agriculture, forestry, fishing and hunting, transportation and warehousing. Occupational exposures are determinants of the health of the whole person.

⁵ Incidence Rates of Nonfatal Occupational Injuries and Illnesses by Industry and Case Types.

<http://www.bls.gov/iif/oshstate.htm#NC>.

Bureau of Labor Statistics (BLS). Census of Fatal Occupational Injuries in North Carolina.

<http://www.bls.gov/iif/oshwc/cfoi/tgs/2009/iiffi37.htm>

Bureau of Labor Statistics (BLS). BLS Geographic Profiles of Employment and Unemployment; Employment status of the civilian noninstitutional population by sex, race, Hispanic or Latino ethnicity, marital status, and detailed age, annual averages. <http://www.bls.gov/gps/#tables>

U.S. Census Bureau, Current Population Survey 2009.

HIV Rates Continue Downward Trend; Impact Remains Greatest Among African Americans

During this decade, new reports of HIV reached a peak in 2008 when 1,812 new diagnoses were reported. In 2009, new HIV diagnoses decreased to 1,628. By 2010, preliminary counts indicate an 18 percent decrease in the number of HIV diagnoses being reported, with 1,487 new HIV diagnoses during the year.

Improvement in HIV rates is due to integrated HIV/AIDS prevention and care strategies first introduced at the beginning of the "Get Real Get Tested" campaign in October 2006, which include:

- identify new cases of HIV early
- link newly identified HIV positive individuals into care and treatment programs
- keep HIV positive individuals in care and treatment

The three-year (2008-2010) average rate of diagnosed HIV disease in North Carolina was 17.6 per 100,000 population. The top five counties with highest rates were Edgecombe (41.0 per 100,000), Mecklenburg (38.1 per 100,000), Durham (33.7 per 100,000), Northampton County (31.2 per 100,000), and Wilson (29.0 per 100,000).

Among the HIV disease cases diagnosed in 2010, African Americans represented 66 percent of all cases with a rate of 59.7 per 100,000 adult/adolescent population. The highest rate (94.0 per 100,000) was among adult/adolescent African American males.

Special Projects of National Significance (SPNS – LINK)

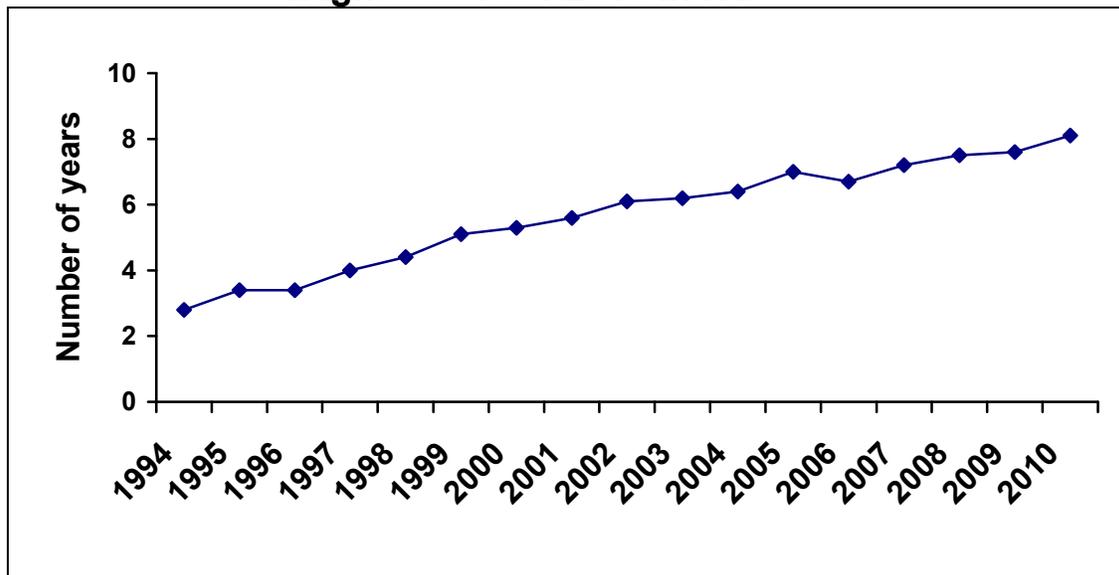
In collaboration with UNC and Duke, the Communicable Disease Branch was awarded a four-year SPNS grant in 2011 to develop and strengthen the linkage to care and treatment for HIV positive people across the state. LINK will provide data collection, evaluation and analysis, enable systems of care to be extended and develop pilot programs of bridge counseling and linkage in partnership with Wake Forest University and East Carolina University. Only seven SPNS awards were made across the country.

Access to HIV/AIDS Care and Treatment

Over the years, North Carolina surveillance data has shown increases in the length of time between an HIV and an AIDS diagnosis. This is expected and generally indicates an improvement in health status (care) for HIV infected persons on a broad level.

Clinical studies (UNC's 052 study) have now proven that early medication treatment for HIV both reduces viral load in the patient and reduces that person's ability to transmit virus to others, providing both individual and a public health urgency to assuring that patients are in care. Continued access to effective drug treatments should further improve health status for infected persons and will receive greater emphasis in the future.

Average* years between HIV & AIDS diagnoses 1994-2010 in NC



*average excludes late testers or persons with an AIDS diagnosis within six months of their initial HIV diagnoses

AIDS Drug Assistance Program (ADAP) Update

In July 2010, the Governor's support of ADAP and her work with the General Assembly allowed \$14M in new money to be appropriated for North Carolina's ADAP during state fiscal year 2010-11. With that funding, 1,800 clients were enrolled into ADAP. These individuals represent a vulnerable population that would not receive support without ADAP.

The SPAP (State Pharmaceutical Assistance Program) was launched in March 2011 and provides "wrap around" service for clients dually eligible for ADAP and Medicare. This program provides savings for ADAP and additional medication benefits for clients.

Best Practice

A new vendor for ADAP, Walgreen's, took over the ADAP contract in June 2011. In an effort to assure that all clients on NC ADAP are remaining in care, Walgreen's periodically provides ADAP staff with a list of people who are authorized but have not recently received a medication dispense. Staff attempts to locate clients by communicating with case management, specialty pharmacy staff, and other providers. Since August 2011, 38 clients deemed "lost to care" were identified. Three Bridge Counselors contacted by ADAP staff located these clients and linked them back into care within 24-36 hours of initial communication. Bridge Counselors acted quickly to engage each client by scheduling medical appointments, labs, and home visits. This practice contributes greatly to clients' quality of life and continuity of care, as well as reducing the potential for virus transmission.

Minority AIDS Initiative (MAI)

North Carolina receives MAI funding from the federal government to target minority audiences who may be in need of assistance because they have fallen out of care, are newly diagnosed with HIV or are in need of access to the AIDS Drug Assistance Program (ADAP). These may be people who cannot be served in ADAP presently (ADAP is only open to 125 percent FPL, others are wait-listed) and efforts are then made to connect them with other resources including pharmaceutical assistance programs. Efforts also include targeted outreach to the MSM (men who have sex with men) population to provide prevention and education opportunities, as well as testing for HIV/STD/Hepatitis C (HCV) and follow up with links to health care.

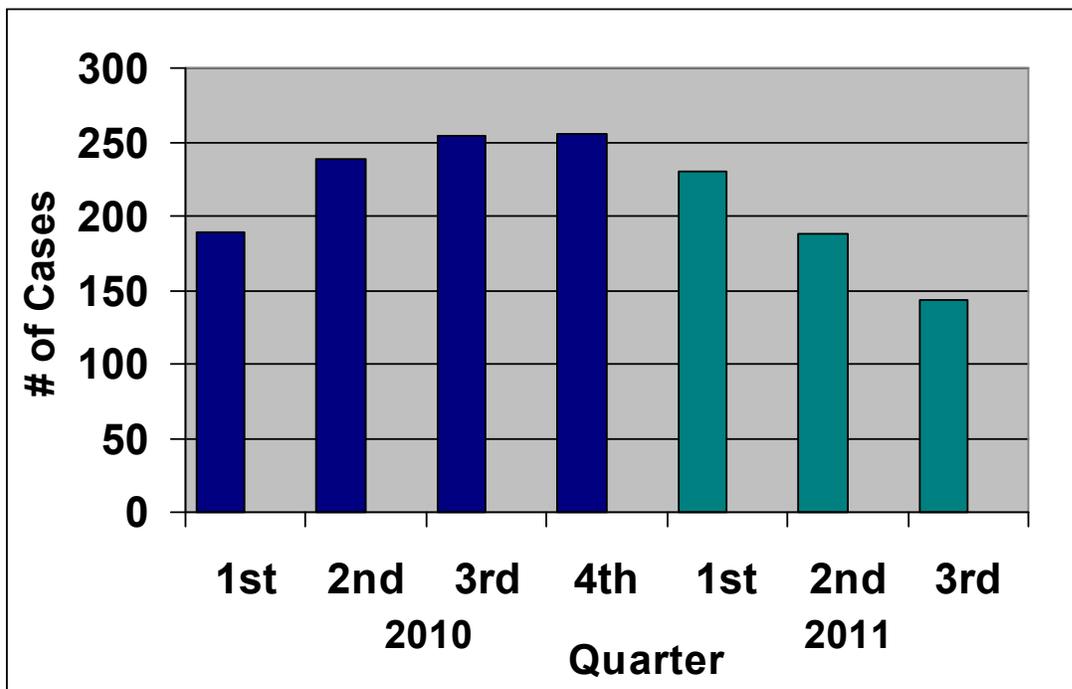
MSM Task Force

MSM Task Forces now exist in seven communities across the state, working in partnerships with Division of Public Health staff, individual providers and community members. Issues of stigma and other social issues that may prevent someone from getting tested and treated have led to the creation of "Safe Spaces" where the target population can speak freely about the challenges of being who they are, find providers who are unbiased, and express concerns and experiences that affect their ability to seek care or reduce risk. In addition to Safe Spaces, the Task Forces have created Health Expo events that offer health information, mini-assessments, service and educational information in non-traditional ways, as this is not a population that is likely to receive annual medical check ups.

Syphilis Epidemic

In 2010, there were 734 cases of early infectious syphilis reported in North Carolina, which represents a 23 percent decrease since 2009. Since January 2011, preliminary estimates indicate almost 383 new cases of early infectious syphilis have been reported. While the epidemic has lessened somewhat since its peak in 2009, the 2010 level of cases remains well above the levels observed in 2008 and clearly proves the need for a sustained prevention and education effort. Cases were reported in 67 of the state's 100 counties in 2010. The greatest impact is being felt in the African American community and among men who have sex with men.

Early Infectious Syphilis Cases by Quarter 2010-2011



*Reported cases for 2011 should be considered preliminary

Program Collaboration and Service Integration (PCSI)

North Carolina was one of five sites chosen nationally for this three-year project that integrates STD, HIV, TB and Hepatitis services to patients at the local level. Four counties are participating based on morbidity: Wake, Buncombe, Pitt and Mecklenburg.

Patients who present with symptoms of a transmissible disease are tested for HIV, syphilis, gonorrhea, chlamydia, Hepatitis C and tuberculosis. PCSI efforts have created STD "express clinics" where clients and their partners can be treated immediately without an appointment or a full exam. As success is demonstrated, the results will be shared statewide.

Protecting the Food Supply in North Carolina

North Carolina has been recognized nationally as an innovative and active state in the area of developing new strategies and best practices to promote food safety. In 2008 the Food & Drug Administration designated North Carolina one of its nine Rapid Response Team States. In 2011, North Carolina received recognition as one of the seven new Foodborne Disease Coordinated Outbreak Response Enhancement (FoodCORE) sites funded by the Centers for Disease Control and Prevention to develop innovations in detecting and responding to foodborne illness outbreaks.

Outbreak Response Activity

From Jan. 1, 2010 – June 30, 2011, the Communicable Disease Branch worked with partners across the state to investigate 121 clusters and possible outbreaks of foodborne diseases, averaging 6.7 major investigations per month.

These followed recognition of clusters of cases through molecular testing (which are reported to the national PulseNet database), and reports of suspected outbreaks at the local and state levels. These investigations resulted in identifying 24 true outbreaks detected and investigated during those 18 months. Many of these investigations involved the new CDC funded FoodCORE team and all of them involved our local health departments in some way.

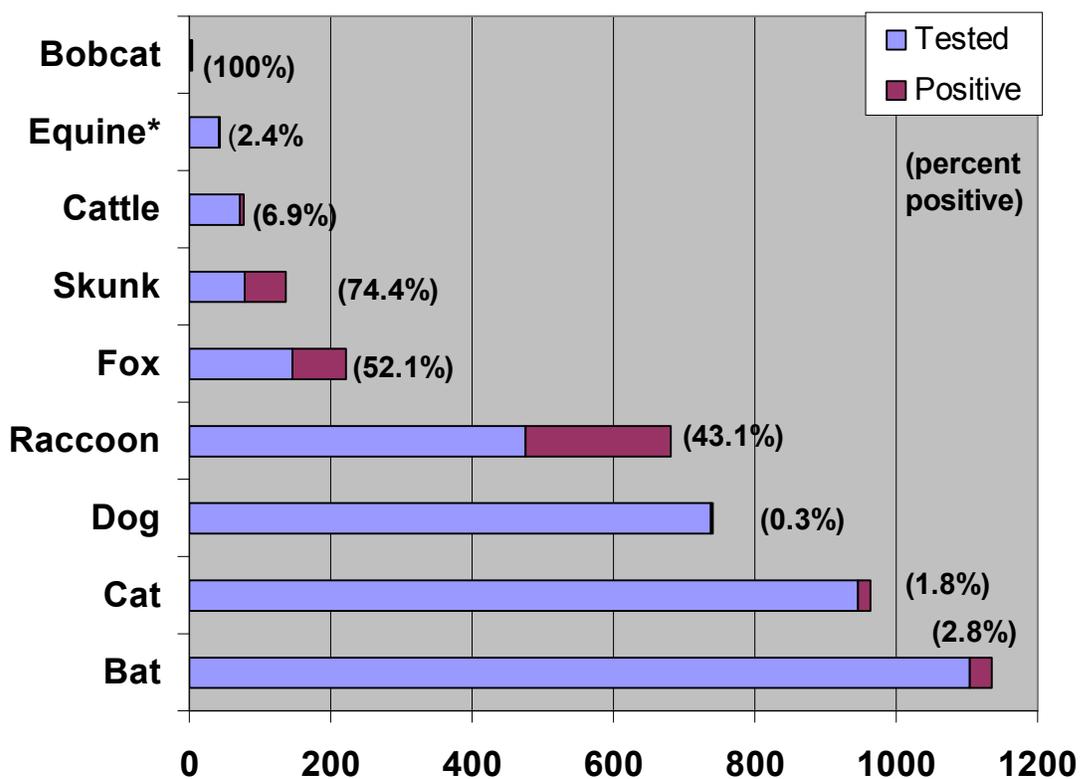
North Carolina employs a collaborative model to prevent foodborne diseases and respond to outbreaks. The N.C. Departments of Health and Human Services and Agriculture and Consumer Services offer centralized laboratory services (for both human clinical and food laboratory sciences), epidemiology support, and coordination of environmental health services with the 85 local health departments. Statewide, the focal point for collaboration on policies and response efforts is the North Carolina Food Safety and Defense Task Force, comprised of members with relevant expertise drawn from the ranks of academia, private industry, state and local government agencies, the law enforcement community, and technical professionals. It is jointly chaired by the Commissioner of Agriculture and the Secretary of of the Department of Health and Human Services through their designees. The Executive Committee members of the state task force also comprise the leadership core of the state Rapid Response Team.

As the focal point for food safety and defense in North Carolina, the Task Force ensures all the significant partners routinely collaborate to implement prevention strategies and effective response whenever a combined intervention is needed. For example, when Castelberry Chili products were suspected of botulism contamination in July 2007, the subsequent recall conducted in North Carolina removed 35,000 cans from 16,000 stores, or about three times as many cans as were removed through the FDA coordinated national recall.

Rabies Surveillance and Testing

In 2010, North Carolina ranked fourth in reported animal rabies cases among 48 states (and Puerto Rico) reporting to the CDC. Animals are submitted for testing to the State Laboratory of Public Health (SLPH) after careful risk assessments by health care providers and animal control in consultation with the Division of Public Health's two public health veterinarians. Among 3,862 animals submitted in 2010, 397 (10.3%) were rabies positive. Positivity rate varied from a low of 6 percent (in January and June) to a high of 14 percent (in April, September and November). Most (94%) were wild mammals (including raccoons, foxes, skunks and bats). Among domestic animals, 17 cats, five cattle, two dogs and one donkey tested positive.

RABIES: Species Testing Positive, North Carolina, 2010
(n = 3,846 tested, 397 positive) Source: SLPH



*one equine was a donkey

In 2010, Veterinary Public Health program personnel responded to more than 3,000 calls related to rabies exposures and risk assessments from health care providers, local health departments, animal control officers, veterinarians and private citizens. The Veterinary Public Health program also monitors hospital emergency department visits reflective of animal bites reportable to local health departments and administration of rabies Post Exposure Prophylaxis (PEP).

Environmental Health Comes to DPH

As of July 1, 2011, the Environmental Health Section was transferred from the Department of Environment and Natural Resources to the N.C. Department of Health and Human Services' Division of Public Health by the N.C. General Assembly.

The Section coordinates environmental health services to the public, county health departments and regulated industries to assess needs and respond to environmental health threats.



Led by Terry Pierce, the Environmental Health Section is divided into two areas: Environmental Health Services and On-Site Water protection. The division is also home to the Office of Education and Training, which provides centralized intern training for newly hired environmental health specialists working for the county health departments and general training for staff. The office also oversees the authorization of all agents enforcing North Carolina environmental health-related rules.

Environmental Health
Section Chief Terry Pierce

REDUCING THE IMPACT OF CHRONIC DISEASE

Diabetes Prevention and Control



In 2010, an estimated 700,000 N.C. adults had diagnosed diabetes. The majority (90% - 95%) of cases were type 2 diabetes. Diabetes prevalence has more than doubled in adults from 4.5 percent in 1995 to 9.8 percent in 2010. About one-third of all persons with diabetes are undiagnosed. In 2010, only 60 percent of adults in North Carolina had been screened for diabetes in the past three years.

The N.C. Diabetes Strategic Plan 2011-2015 reflects the most current thinking on how to prevent and manage diabetes at a population level and addresses policy change at the health care system and community levels. Ongoing programs continue to address the burden of diabetes by conducting interventions that expand access to quality care for people at risk, providing affordable diabetes education classes, and planning evidence-based and best practice interventions with a host of private and public partners. A few examples include:

- Since 2007, the N.C. Division of Public Health has been awarded recognition by the American Diabetes Association for providing diabetes self-management education through partnership with local health departments. Programs are offered in 51 counties and many North Carolinians live within a 30-minute drive to an education class. The program accepts patients with Medicaid, Medicare, and private insurance, as well as the uninsured.
- In 2010, of adults with diagnosed diabetes:
 - 71 percent received a dilated-eye examination within the last year.
 - 64 percent monitored their blood glucose at least once per day.
 - 77 percent received a foot exam within the last year.
 - 88 percent saw a doctor in the last year regarding their diabetes.
 - 74 percent examined their feet daily.
 - 73.8 percent had an A1c test done twice in the past year.
 - 53.7 percent attended a diabetes self-management class.
 - 61 percent received an influenza vaccination within the last year.
- The Diabetes Prevention and Control Branch has partnered with DPH's Physical Activity and Nutrition Branch to conduct Eat Smart Move More Weigh Less for people with and at risk for diabetes in Columbus, Hoke, Robeson and Surry counties.
- The Diabetes Prevention and Control Branch has partnered with Wake Forest University to offer Diabetes Primary Prevention classes in 2012. Wake Forest has an evidenced-based program that demonstrated that people with pre-diabetes can return to a normal blood sugar level and remain there for over a year.

North Carolina's ASTHO Stroke System of Care Plan

North Carolina was one of two states to receive \$80,000 from the Association of State and Territorial Health Officials (ASTHO) to complete a stroke system of care (SSoC) plan for the state. The plan, completed December 31, 2010, builds on the infrastructure already in place through the Stroke Advisory Council (SAC) of the Justus-Warren Heart Disease and Stroke Prevention (HDSP) Task Force.

Through the resources available from the ASTHO grant and the ongoing support of the N.C. Public Health Foundation, the state was able to move rapidly from what had been an incremental approach to the development of a comprehensive plan. Approximately 80 individuals, representing diverse expertise, organizations, and points of view, engaged in the planning process. This large group further divided into five work groups: Prevention/Public Awareness; Pre-Hospital Care; Acute/Subacute Care; Recovery/Transitions of Care; and Telestroke.

Each work group was charged with developing specific recommendations for their area of focus that addressed:

- Needs and gaps in services and resources for N.C. stroke patients and their families;
- Disparities; and,
- Strategies to improve care through evidence-based interventions, when possible, and best or promising practices when more thoroughly tested strategies are not available.

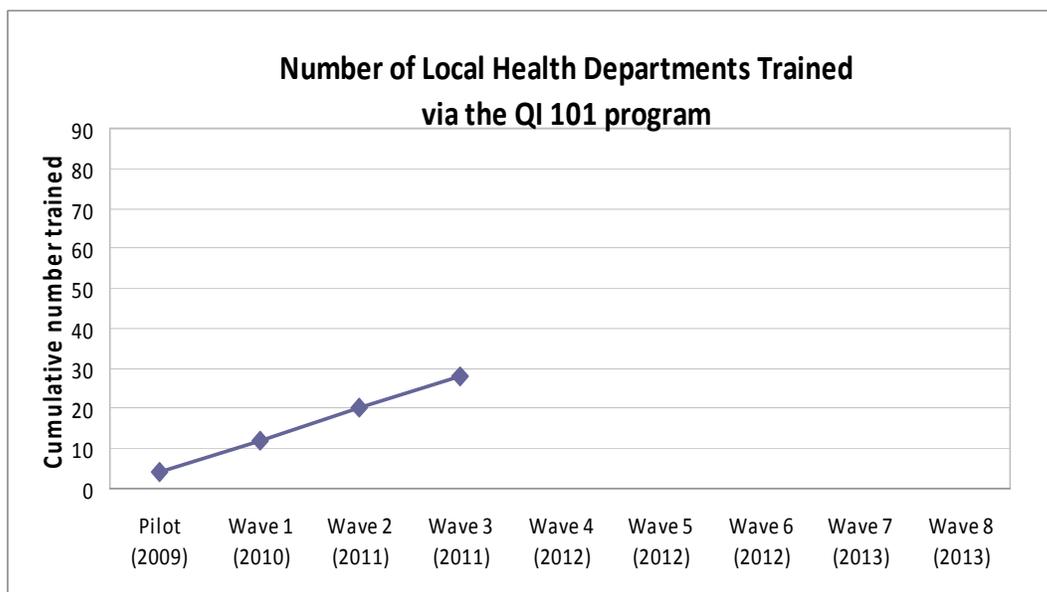
The resulting plan is a comprehensive and integrated approach that addresses identified needs and reduces disparities. A core group of over 40 individuals representing various partner organizations have come together to integrate the recommendations of the SSoC Plan into the next five-year N.C. Cardiovascular State Plan.

Creating 10,000 Public Health Problem Solvers

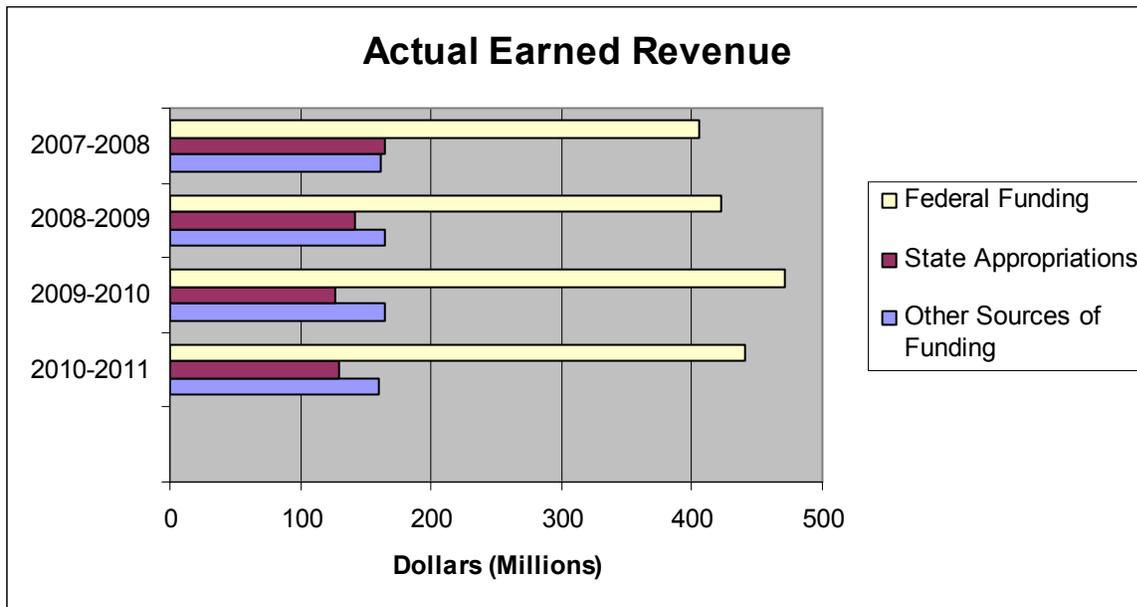
In 2009, the NC Center for Public Health Quality was established to create an infrastructure to support continuous quality improvement (CQI) among all public health professionals in North Carolina. Our vision is that all North Carolina public health agencies will have an embedded culture of CQI that will promote and contribute to the highest possible level of health for the people of North Carolina.

An important focus of the Center is promoting collaboration between public health and health care through jointly conducted efforts to improve health. The Center assures public health departments are “speaking the same language” of quality improvement (QI) as their health care partners and currently offers three training programs to accomplish this goal:

- **Public Health Quality Improvement 101 (PH QI 101)** – an interactive learning program designed to help local health departments (LHDs) improve the quality of the services they provide to their communities through QI.
- **Division of Public Health Quality Improvement 101 (DPH QI 101)** – an interactive learning program designed for Division of Public Health programs to improve the effectiveness and quality of state programs and services.
- **Quality Improvement Advisor Training Program (QIA)** – an advanced training for QI leaders in local health departments and at DPH so that they can independently support CQI within their agency or program.



REVENUE & EXPENDITURES

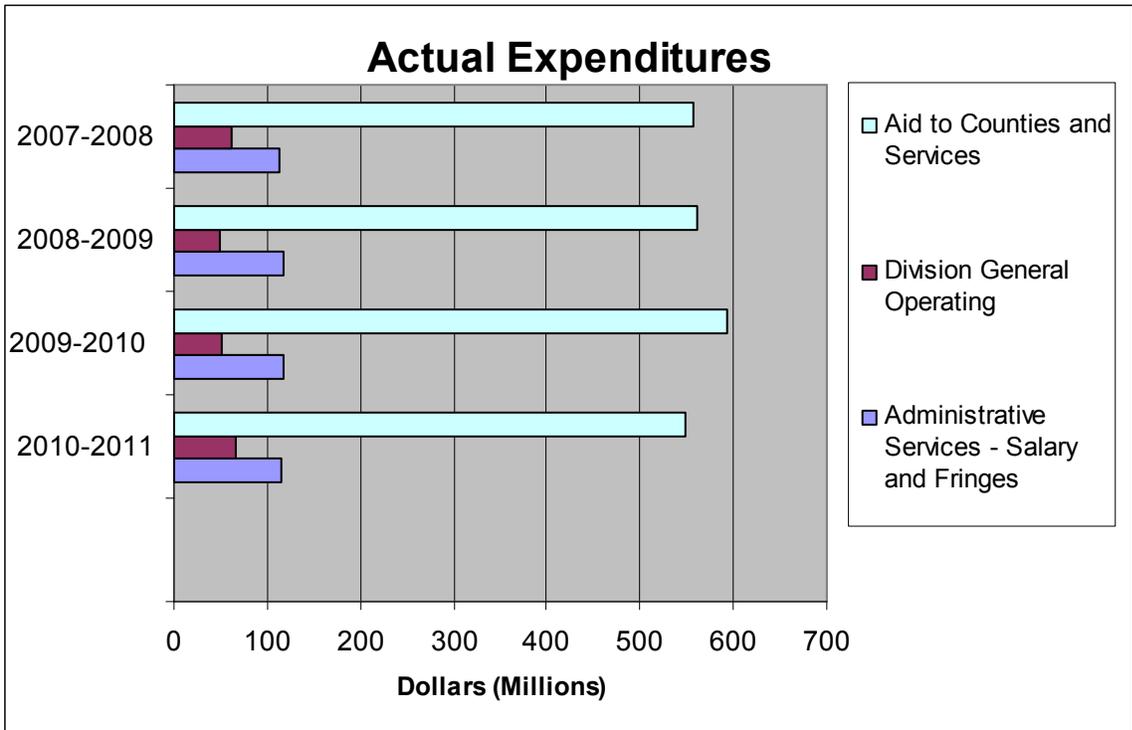


This graph shows Actual Earned Revenue for the past four budget years. In the 2010-11 fiscal year, the total funding for the Division of Public Health was \$729,072,667.

Federal sources are responsible for the majority of funding for the Division, down from \$470.7 million (62%) in 2009-2010 to \$440 million (60.4%) in 2010-2011.

State funding was up slightly during 2010-2011, after a three-year decline. The total state appropriation was \$129 million in 2010-2011, up from \$126 million the previous year. The state appropriation represented 17.7 percent of the Division's total funding in 2010-2011.

Other sources of funding made up 21.8 percent of the Division's funding in 2010-2011. Some examples of these funding sources include private grants, fees, rebates, transfers from other agencies, and permits.



This graph shows the Actual Expenditures of the Division of Public Health for the past four fiscal years, broken down into three categories.

Aid-to-county and services represents the largest expenditure area for the division (75.2%). These expenditures include drug expenses and WIC food expenses, as well as local health department funding.

Division General Operating is 9 percent of the Division’s budget. In 2010-2011, that equaled \$65.6 million. This includes expenditures, e.g. legal services, supplies, equipment, employee travel, repairs, telephone and insurance.

Administrative Services – Salary and Fringes – are made up of the salary, social security, and retirement of all employees in the Division of Public Health. Staff includes those who provide direct client services as well as those who work in program areas, contract and budgeting. In 2010-2011, this category was \$115 million or 15.7 percent of expenditures.